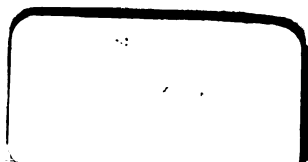




3 2044 107 273 831



JUN 10 1961

THE

MATERIA MEDICA

OF THE HINDUS,

COMPILED FROM SANSKRIT MEDICAL WORKS,

BY

UDOY CHAND DUTT,

Civil Medical Officer.

WITH A GLOSSARY OF INDIAN PLANTS,

BY

GEORGE KING, M. B., F. L. S.

SUPERINTENDENT, ROYAL BOTANICAL GARDEN, CALCUTTA.

AND THE AUTHOR.

CALCUTTA:

THACKER, SPINK & Co.

1877.

ECON

RS

153

.D88

Econ

QK

99

.I4

D88

1877x

PREFACE.

THIS work is not a literal translation of any particular treatise, but a compilation from standard Sanskrit medical works, arranged somewhat upon the plan of Waring's Manual of Therapeutics, and intended to give a concise exposition of the Materia Medica of the Hindus. Dr. Wise, in his Commentary on the Hindu system of Medicine, has given a pretty full and accurate account of the Anatomy, Surgery and Pathology of the Hindus. With regard to his work I may here repeat what I have stated in the preface to my translation of the Nidāna, "That the natives of India cannot be too grateful to him for the trouble he has taken in bringing to light the contents of their ancient medical works, and establishing their right position in the history of Medicine." The scope and plan of his book did not, however, admit of his treating of Sanskrit Materia Medica in the manner of modern works on the subject. I have, therefore, undertaken to publish this work under the impression that it will prove an acceptable contribution to the history of drugs, and will form a basis for further researches on indigenous medicines.

In the first part of the work I have given an account of the mineral medicines used by the Hindus, the mode in which they are prepared for use, their chemical composition, and the principal combinations in which they are employed in different diseases. With regard to the Vegetable Materia Medica, I have endeavoured to give the correct scientific names of the plants described, by procuring the drugs through practising kavirajas or native physicians, and having them identified in the Royal Botanic Gardens.

In describing the general properties of individual articles I have not followed the Sanskrit texts literally. Sanskrit writers, under this head, after recounting their sensible properties, enter into minute details regarding their cooling or

heating effects on the system, and their special influence on the humours which are supposed to support the machinery of life, namely, air, bile, phlegm and blood. These details are not so much the result of observation and experience as the outcome of an erroneous system of pathology and therapeutics. I have, therefore, selected for notice such portions of the texts as relate to the practical use of the drugs and their tangible effects on the system. This latitude in departing from the texts, has enabled me to bring together in one place, useful hints regarding the uses of particular drugs from different Sanskrit treatises on therapeutics. I have occasionally added remarks on their history and economic uses where I thought I had new or additional information to afford on the subject. These remarks are for the most part based on personal knowledge.

In describing the preparation and uses of medicines employed in different diseases I have confined myself strictly to the texts of the authors whom I have quoted, and have given the original Sanskrit verses in foot-notes. I have not incorporated with them the results of modern researches on indigenous drugs, or my personal experience of their use. These I have reserved for a future essay. My object here has been to show the extent of knowledge attained by Hindu physicians by their own practice and observation.

In the selection of the prescriptions for illustrating the uses of medicines in individual diseases I have, as a rule, given preference to such recipes as are commonly used by native physicians. Where there are several well-known medicines of similar composition and use, I have described in detail only one, and given under it the names of the others with a brief allusion to their composition. My main object in including the names of the principal or generally known preparations of the Hindu *Materia Medica* in the text and index, is to enable the practitioner of European Medicine to get an idea of their nature and composition when he comes to hear of their having been used by patients who had been under native treatment before coming under his care, as is very often the case. The list is by no means

an exhaustive one, nevertheless I have, at the risk of being tedious, endeavoured to include under some head or other most of the combinations which were pointed out to me by experienced native physicians, as generally used in practice.

In detailing the uses of particular combinations of medicines, Sanskrit writers are, sometimes, in the habit of indulging in exaggerated statements. Thus for example a medicine, which is really used in a special disease, say jaundice, is described in the chapter devoted to the treatment of this disease, but a host of other diseases may also be recited as cured by it. Native physicians who regard these writings as sacred, explain these irrelevant statements by saying that they are secondary uses. I have, for the most part, omitted them in my translations of the texts, hence their English renderings will sometimes appear deficient or incomplete.

The names of the works given below the Sanskrit texts merely shew that those texts are to be found in them, and not that they were originally composed by the authors or compilers of those books. The combinations or formulæ generally used, are to be found in most compilations, and it is not always practicable to trace them to their original sources. In quoting these authorities I have, as a natural consequence of the principle upon which the prescriptions were selected, had to give preference to works that are used as text books by native physicians.

The number of Sanskrit medical works, and especially of small compilations on the treatment of diseases, is too numerous and indefinite to admit of detailed enumeration here. The enquirer after them is sure to find, in different parts of the country or seats of learning, many little manuals, essays and digests of which he did not hear before. It would seem that in the absence of printing, teachers of medicine used to prepare small compilations containing such prescriptions as they were in the habit of using, for the guidance of their pupils, who copied them for personal use. These manuals are often dubbed with fancy names, and have more or less circulation according to their merit or the extent of influence of their authors. There are

however a few works which owing to their comprehensive character, ancient date, or real merit, are well known throughout India. I will here notice them briefly.

The two works called Charaka Sanhitá and Susruta A'yurveda are the oldest and most celebrated treatises on Hindu medicine now extant. An older work called A'yurveda is mentioned in both these works as having formed a part of the Atharva Veda. It is said to have been originally composed by Brahmá, the creator, and to have consisted of a thousand chapters and a hundred-thousand *slokas*. Afterwards, in consideration of the short lives and small intellects of human beings, it was abridged into eight chapters as follows :—

1. *Salya* or surgical treatment.
2. *Sálakya* or diseases of the head, eyes, ears and face.
3. *Káyachikitsá* or treatment of general diseases.
4. *Bhutavidyá* or diseases caused by evil spirits.
5. *Kaumdra-bhritya* or the treatment of infants and of the puerperal state.
6. *Agada* or antidotes to poisons.
7. *Rasáyana* or medicines which promote health and longevity.
8. *Vájikaruna*, or aphrodisiacs.

The A'yurveda with a hundred thousand *slokas* is probably a myth, but the abridged A'yurveda with its eight divisions seem to have had a real existence, although it is not available in the present day. It probably became obsolete after the works of Charaka and Susruta were composed.

Charaka is generally believed to be older than Susruta and consequently to be the oldest work on Sanskrit Medicine now extant. In the introduction to this work it is said that A'treya, a learned devotee, taught the holy A'yurveda to six pupils ; namely, Agnivesa, Bhela, Játukarna, Parásara, Háríta and Kharapáni. Agnivesa first wrote a treatise on medicine, and afterwards Bhela and others followed, each producing a separate work and thereby acquiring great renown. The work of Agnivesa was regarded as the best. It was edited or corrected by Charaka in whose name it is now current. At the end of each book

of this work it is said, that this *tantra* or scientific treatise was composed by Agnivesa and corrected by Charaka. A later writer Vāgbhatta in his introduction to his *Ashtāṅga-hridaya-saṁhitā* says, that that work had been compiled from the treatises of Agnivesa, Hārīta, Bhela, Sāsvata, Susruta, Kavala, and others. From this it would seem that the six disciples of A'treya, mentioned in Charaka, were not mythical beings, but authors of books, for two of them, namely, Agnivesa and Bhela are mentioned by Vāgbhatta. It would appear also that at the time Vāgbhatta lived, Agnivesa's work was not called by the name of Charaka, and Susruta had also been written. Hence it follows that Charaka's edition of Agnivesa, that is the work now called Charaka, was probably edited after Susruta had been written. A'treya is said to have lectured somewhere near the Himalaya, and his name occurs very frequently in the Vedas. His father Atri was a renowned sage, and the author of a law treatise which is current in his name. There is no clue to the nativity of Charaka, but Drīdhabala, who added some chapters to his work, calls himself a native of Panchanada or the Panjab.* Susruta, on the other hand, is said to have been written in Benares. From the facts detailed above it is clear that the work called Charaka was composed at a very early age. I will not attempt to hit at the century before Christ in which it was probably written as it is a question which can be best discussed by professed antiquarians. I may notice, however, that the book is composed in an antiquated style and appears to have been written before the spread of the Puranic form of Hinduism, as the names of modern gods and goddesses do not occur in it, and the author does not, at the commencement of the work, offer his salutations to any mythological deity, as is usual with later writers. Beef was not then, apparently, a forbidden food, for Charaka speaks of it as an article of diet that should not be taken daily.†

* बभ्रुवर्धनोऽहमस्मि ज्ञातः पञ्चनदे पुरे । जला बहुभ्यस्मन्मथ्यो विषेवाञ्च
बभ्रुवर्धनम् । सप्तदशोपधाध्यायेः विद्विषस्यैरपूरयत् ।

त्रेधाध्यायचरकं विद्विष्यताम् ।

† कुर्विंशति विद्यानां शीकरं नयनमिदम् । जटस्नानं दधि च माषाश्च
अवकाशं न शीयेत् । चरकस्य ज्ञानं ज्ञानाधिपतीवाध्यायः ।

The work next in point of age, namely, *Susruta*, is more systematic in its arrangement, contains better details of anatomy and pathology, and shews on the whole a more advanced state of knowledge, both of general principles and of details of treatment.

The origin of the *Susruta A'yurveda* is thus described in the introduction to that work. *Dhanvantari*, the surgeon of heaven, descended upon earth in the person of *Diva dása*, king of Benares, for the purpose of teaching surgery along with the other branches of medical knowledge by which the gods preserve themselves from decline, disease and death. *Susruta* and other pupils besought him for instruction in surgical knowledge. *Dhanvantari* asked them what they wished to learn. The pupils replied "you will be pleased to make surgical knowledge the basis of your instruction, and to address your lectures to *Susruta*, who will take notes." *Dhanvantari* replied, "be it so. For surgery is the first and most important part of the *A'yurveda*, inasmuch as the healing of wounds was the first necessity for the medical art among the gods on account of their battles with the demons. Besides surgical treatment effects rapid cures, has recourse to instruments, mechanical appliances, caustics and the actual cautery and is intimately connected with the other branches of medical science." Accordingly we find that *Susruta* devotes the greater portion of his work to such subjects as anatomy, surgical instruments and operations, inflammation and surgical diseases, care of the king and his troops in the battle-field, obstetrical operations, poisons, etc.

The general diseases such as fever, diarrhoea, chest diseases, etc., are treated of in the last book called "*Uttara-tantra*," but there are reasons for believing, that this portion did not originally form a part of the work, but was subsequently added by some writer with the object of giving completeness to it. This is evident from several reasons. The very name *Uttara* "supplemental" is enough to suggest the idea of its being an after thought, if not a subsequent work. Had it been an integral part of the original treatise, it would have been included in the original scheme. But at the end of the first chapter of the first book an analysis of the contents of the entire work is given

wherein it is said that this work consists of five parts containing 120 chapters in all.* This is followed by a line to the effect that in the Uttara-tantra the remainder of the subject will be described. This last line, however, is evidently an interpolation, for if the original writer of the work had divided his book into six parts, he would not have said that it consisted of five parts. Besides the Uttara-tantra has a separate introduction in which the writer says it is compiled from the works of learned sages on the six divisions of *Káyachikitsá* or the treatment of general diseases, and from the work of Videhidhipa on *Sálakya Sástra* or diseases of the head, eyes, ears and nose.

If therefore we leave out of consideration the Uttara-tantra of Susruta, the work resolves itself mainly into a treatise on the principles of medicine as bearing on surgical diseases. It would thus appear that from a very early age, Hindu medical practitioners were divided into two classes, namely, *Salya chikitsaka* or surgeons and *Káyachikitsaka* or physicians. The surgeons were also called *Dhanvantaryia sampradáya* after *Dhanvantari* the reputed teacher of *Susruta*, or from *Dhanvantari* the mythological surgeon of the gods. This division existed before the work of *Charaka* was compiled, for as pointed out by *Kavirája Brajendra-kumar Sen Gupta*, *Charaka*, like our modern physicians, refers his readers to surgeons when surgical aid is necessary, as for example in the passage quoted below. † We may conclude, therefore, that *Charaka* is the oldest treatise on Medicine and *Susruta* the oldest treatise on Surgery now extant.

These two works, namely, *Charaka* and *Susruta* mark the highest phase of development of the Hindu system of Medicine

* वीजं चिकित्सितस्यै तत्प्रभावेन प्रकीर्तितं । सर्वं च मध्याय शतमस्य
व्याख्या भविष्यति । तच्च सर्वं च मध्याय शतं पञ्चसु स्थानेषु । तत्र सूत्रस्थान
निदान शारीर चिकित्सित कल्पेऽर्थे वशात् संविभज्योत्तरे तन्मे शेषानर्थान्
व्याख्यास्यामः । सुश्रुतः प्रथमाध्यायः ।

† तत्र धन्वन्तरौवानामधिकाः क्रियाविधौ वैद्यनां कृतबोधाणां श्रवणोपन
रोपणे ।
चरकचिकित्सितस्याः सुश्रुताध्यायः ।

in ancient times. Their comprehensive character and superior merit probably led, in course of time, to the extinction of the manuscripts of authors who had preceded them. Succeeding writers and practitioners came to regard these works as of divine origin and beyond the criticism of man. Accordingly they dared not add to or amend what these ancient sages had recorded regarding the general principles of medicine and special pathology, but confined their labours to making better arranged and more compendious compilations for the use of students, and to explaining or dilating upon the texts of Charaka and Susruta, while in the matter of surgical practice, there has been a gradual decline in knowledge and experience till at the present day an educated surgeon of the Dhanvantariya sampradāya is a phenomenon unknown in Hindustan.

The next compilation on Hindu Medicine is said to be the *Ashtāṅga-hridaya-saṁhitā* by Sinha Gupta Sena Vāgbhatta. This work is a mere compilation from Charaka and Susruta methodically arranged. It contains little or nothing that is original or that is not to be found in the works from which it was compiled. This circumstance, together with the fact of Vāgbhatta being always mentioned by later writers as an old authority, seems to show that his work was compiled not long after those of Charaka and Susruta. Like these two writers he does not mention the use of mercury in the treatment of diseases.

Next in point of age, are the two works called respectively the *Nidāna* by Mādhava Kara and *Chakradatta-saṅgraha* by Chakrapāṇi Datta. The first is a concise treatise on the causes, symptoms and prognosis of diseases, compiled from various authors, and has been used from a long time as the text-book on pathology by students of Hindu Medicine throughout India. Professor Wilson is of opinion that "the Arabians of the eighth century cultivated the Hindu works on Medicine before those of the Greeks; and that the Charaka, the Susruta, and the treatise called *Nidāna* were translated and studied by the Arabians in the days of Harun and Mansur (A. D. 773), either from the originals, or more probably from translations made at a still earlier period into the language of Persia."

The treatise called *Chakradatta-sangraha*, describes in detail the treatment of diseases arranged in the order in which they are described in the *Nidāna* of *Mādhava Kara*, and to which it is a companion volume. Its author deals chiefly with vegetable drugs. He gives a few prescriptions containing mercury, in which this metal is mixed with sulphur and vegetable substances, but the preparations of mercury produced by sublimation and chemical combination with salts, etc., were unknown to him. It would appear, therefore, that mercury was just coming into use in his time. He does not mention opium, so that his work, and consequently the *Nidāna*, must have been composed before the introduction of this drug into India by the Mussulmans.

The last great work on Hindu Medicine is that called the *Bhāvaprakāsa*, compiled by *Bhāva Misra*. It is a comprehensive treatise, compiled from the works of preceding authors, with much additional information on the properties of drugs, accounts of new drugs, and of some new diseases, as for example the syphilis introduced into India by the Portuguese and described in this work under the name of *Phiringi-roga*. By the time this work was composed, opium had been largely employed in practice, the use of mercury had extended to almost all diseases, various preparations of gold, silver, tin, copper, orpiment, arsenic, etc., had come into fashion, superseding to a considerable extent the vegetable drugs of the older writers; in short Hindu pathology and therapeutics had reached their acme. Dr. Wise says that the *Bhāvaprakāsa* was composed about three hundred years ago. It cannot, at any rate, be a much older work. China root, called *Chob-chini* in the vernacular, is described in it. According to *Fluckiger* and *Hanbury* the use of this drug as a remedy for syphilis was made known to the Portuguese at Goa by Chinese traders, about (A. D. 1535). Hence the *Bhāvaprakāsa* must have been compiled after this period.

Besides the systematic treatises on the description and treatment of diseases above noticed, there are several works in Sanskrit devoted especially to the description of the synonyms and properties of individual medicines and articles of diet. The oldest treatise on this subject is the one called *Rājanirghantu*. It is generally

ascribed to Dhanvantari, but Pundit Madhusudan Gupta estimated the age of this work at 600 years. As both mercury and opium are mentioned in this treatise, it cannot be older. Some later compilations on this subject are in general use at the present day. In the North-West Provinces, the Nirghantu, compiled by Madanapāla, is generally perused by students. In Bengal, a very superficial compilation, under the name of Rājavallabha, is in currency. In Orissa, a superior work, called Satkantha-ratnābharana, is used.

The progress of chemistry or rather of the art of calcining, subliming and of otherwise preparing mineral substances for medical use, was comparatively slow in the early ages. Susruta used the natural salts, such as chloride of sodium, impure carbonates of potash and soda, borax, etc.; he employed iron in anæmia, and briefly referred to the supposed properties of silver, copper, tin, lead and the precious stones, but he gave no detailed instructions regarding their calcination, preparation or administration in special diseases. Chakradatta gives some processes for reducing to powder iron, copper and talc, and a few prescriptions containing these remedies. The oldest work containing a detailed account of the calcination or preparation of the different metals (such as gold, silver, iron, mercury, copper, tin and lead), for internal use, with formulæ for their administration, is I believe a concise treatise on medicinal preparations by Śaṅgadhara. Opium and pellitory root are mentioned in this work, hence it must have been compiled during the Mussulman period. Since then a host of works on metallic preparations and combinations have been prepared both in Bengal and the North-West Provinces, and mineral medicines have been largely adopted in the treatment of diseases. The more important parts of the information contained in these works are embodied in the Bhāvaprakāśa and the two works on inorganic medicines generally used in Bengal, namely, Rasendra-chintāmani and Rasendra-sārasaṅgraha. As observed on page 54, most of the mineral medicinal preparations of the Hindus consist of their few metallic remedies combined or mixed together in an endless variety of forms. Nevertheless we cannot help admiring the ingenuity and boldness of the Hindu physicians, when we find that they were freely and properly using such powerful drugs as

arsenic, mercury, iron, etc., while the Mussulman Hakims around them, with imperial patronage and the boasted learning of the west, recording such remarks regarding them as the following :—

“Soomboolkhar, ‘the white oxide of arsenic.’ There are six kinds of this, one named Sunkia, the third Godanta, the fourth Darma, the fifth Huldea. The Yunani physicians do not allow this to form a part of their prescriptions, as they believe it destroys the vital principle. The physicians of India, on the contrary, find these drugs more effectual in many disorders, than others of less power, such as the calx of metals. For this reason too I am in the habit of seldom giving these remedies internally, but I usually confine my use of them to external application and as aphrodisiacs which I prescribe to a few friends, who may have derived no benefit from Yunani prescriptions. It is better however to use as few of them as possible.”¹

“Para, ‘Mercury.’ It is very generally used throughout India in many ways, both in its native and prepared state, but in the latter we ought to be very cautious, for it is seldom sufficiently killed or removed from its native state, in which it is a dangerous drug.”²

“Loha, ‘iron.’ It is commonly used by physicians in India, but my advice is to have as little to do with it as possible.”³

At the end of the present work is appended a glossary of Indian plants described by Sanskrit writers. In the body of the work I have selected for notice only such drugs and plants as have some definite use in a particular disease, or class of diseases. Numerous other plants used in medicine incidentally, or for economic purposes, are mentioned by Sanskrit writers, but these are not of sufficient importance in a medicinal point of view to deserve detailed notice in a work of this sort. I had prepared an alphabetical list of these plants with their vernacular and scientific names for my personal use. Dr. King kindly undertook to revise this glossary for me, and, at his suggestion, it is printed as an appendix to this work.

1. Taleef Shareef, translated by George Playfair, page 99.

2. Idem, page 26.

3. Idem, page 146.

The Bengali equivalents of the Sanskrit terms in the glossary have been taken mainly from Sir Rájá Rádhákánta Deva's Encyclopædia of Sanskrit learning entitled the *Sabdakalpadruma*. The Hindi names have been obtained from the vernaculars given in the *Bhāvaprakāśa* ; the *Amrita-ságar*, a Hindi translation of a treatise on Sanskrit medicine ; and the *Kesava-binoda-bhāśá Nirghantu*, a Hindi treatise on therapeutics translated from the Sanskrit by Pandit Kesava-prasáda Dvivedi of the Agra College.

The scientific equivalents of these Sanskrit and vernacular terms have been gleaned chiefly from Roxburgh's *Flora Indica*, Jameson's Report on the Botanical garden of the North-West Provinces for 1855, O'Shaughnessy's *Bengal Dispensatory*, Powell's Report on Panjab Products, etc. The translations of these writers have been verified, whenever it was practicable to do so, by identifying the plants in the Royal Botanic Gardens. The rest have been given chiefly on the authority of Roxburgh after carefully comparing his descriptions with the characters assigned to them by Sanskrit writers. Some plants, the identification of which was doubtful, have been omitted from the list. The scientific names of many of these plants have been ascertained for the first time, by Dr. King, after examination of specimens procured by me. Dr. King has also furnished the recent botanical names of numerous plants the old names for which have now become obsolete. With regard to the spelling of the Sanskrit and vernacular terms, I should mention that professor H. H. Wilson's system of transliteration, or as it is now sometimes called the Hunterian System, has been adopted, so far as is necessary to arrive at the correct pronunciation of the words, but the minute distinctions between the two varieties of the dental and palatal S, the four varieties of N, and the long and short sounds of some of the vowels, which are not always practically observed in pronouncing them, have not been insisted upon in correcting the proof-sheets. The vernacular terms have been for the most part, spelt as they are written in standard Bengali and Hindi dictionaries. The spoken language varies so much in different parts of the country and among different classes of people, that it would be hopeless to attempt any thing like a complete

vocabulary of names as pronounced by the people of the different provinces of which Hindi and Bengali are the vernaculars.

One great peculiarity of the Sanskrit language consists in its having numerous synonyms for material objects, and medicines form no exception to this rule. Almost all well-known plants have several synonyms, and some have as many as twenty to forty names ; gulancha has thirty-nine, chebulic myrobalan thirty, the lotus thirty-eight, with half as many for its varieties, and so on. Native physicians learn these synonyms by rote, just as they do their grammars and dictionaries. Sanskrit medical works, like most other works in the language, are composed in rhyme, and any one of the numerous synonyms of a drug may be used to designate it in prescriptions containing the article according to the fancy of the writer and the necessities of metrical composition. Many names again are common to numerous articles, and it is often impossible without the help of annotations to make out which drug is meant by a particular term. In the absence of any scientific description of plants, however, these synonyms sometimes serve to describe their prominent characters, and thus prove an aid to their identification. In the glossary appended to this work, I have not attempted to give a complete list of all these synonyms. As a general rule I have given only the principal or current name of each plant. Some plants have however more than one well-known and currently-used names. In such instances I have given those names in the first column only, with a reference to the synonyms under which their vernacular and Sanskrit equivalents have been given.

I avail myself of this opportunity, publicly to tender my cordial thanks to those gentlemen who have assisted me in carrying this work through the press. To Dr. George King, Superintendent of the Royal Botanic Gardens, I feel myself particularly beholden. He has helped me most materially in a variety of ways, and has thereby enabled me to avoid many errors and mistakes. On many occasions he has spent hours in identifying various drugs for me ; and he has revised nearly all the last proofs, before the sheets were printed. The recent names of plants in the glossary are entirely due to his pen, and they entailed on him considerable and tedious labour. Without these names I should

have been obliged to content myself with the old names, gleaned from the works of Roxburgh and others, which are now only tolerated as synonyms, and which would have seriously impaired the usefulness of the glossary as a work of reference. I am indebted to him, likewise, for his permission to allow Babu Prasanna Kumar Sen, overseer of the Royal Botanic Gardens, to assist me in my enquiries, and this has enabled me to solve many a doubtful point in the translation of the scientific names of plants into the vernacular. During the absence of Dr. King from the Gardens, Mr. S. Kurz cordially helped me whenever I had occasion to seek his aid in identifying native medicines.

Dr. Norman Chevers kindly corrected for me some of the forms, and put me in the proper way of doing this work. Rai Kánái Lál Dey Bahadur has, at considerable sacrifice of his valuable time, analyzed the mineral substances and preparations, the chemical composition of which has been described in the first part of this work. Most of these preparations have now for the first time been analyzed by him. To Dr. Rájendralála Mitra, I am indebted for valuable advice regarding the plan of getting up this work, and for explanations of some obscure questions regarding the history of Indian medical works.

To Kaviráj Binod Lál Sen, my grateful acknowledgments are due for the very liberal manner in which he has furnished me with lists of medicines generally used in practice, supplied me with specimens of native medicines, and practically shewn and explained to me the processes by which metallic medicines are prepared in the dispensary under his charge. His cordial assistance has enabled me to bring out this work with greater confidence than if I had had to depend upon my knowledge of Sanskrit books alone.

✱ Kaviráj Brajendra Kumár Sen Gupta, son of the late learned Hárádhan' Sen Gupta, the leading native physician of his time in Calcutta, and latterly physician to his Highness the Maharaja of Kashmere, has interpreted for me the meanings of many obscure passages in Sanskrit, furnished me with specimens of drugs from his dispensary, supplied me with a list of the preparations ordinarily used by him in practice, and cordially rendered me such other assistance as I had occasion to seek from him.

THE MATERIA MEDICA OF THE HINDUS.

INTRODUCTION.

MATERIAL OBJECTS AND CLASSIFICATION OF MEDICINES.

CHARAKA divides material objects into three classes, namely, mineral, animal and vegetable. Minerals consist of gold, silver and other metals ; diamond, emerald and other gems ; realgar, orpiment and other ores; and the various sorts of earths. Vegetables are divided into four classes, namely, *Vanaspati*, *Vriksha*, *Virudh* and *Oshadhi*. Those plants which produce fruits, without first showing their flowers, are called *Vanaspati*. Plants which produce fruits from flowers, which are known by their flowers and fruits, and which wave small branches from their trunks, are called *Vriksha*. Plants which during their growth are supported by other plants, are called *Virudh*, *Pratánavatya* or *Valli*. Lastly, those grasses, etc., which die after maturing their fruits, are called *Oshadhi*. Animals are divided into four classes, namely, *Jaráyuja* or mammalia, *Andaja* or oviparous, *Svedaja* or those produced from animal excretions, as parasites, etc., and *Udbhijja* or those produced under ground or from vegetable matter, as for example *Indragopa*, a sort of red insect.

All parts of vegetables may be used in medicine, namely, Root, as of *Chitrāka* (*Plumbago Zeylanica*).

Underground stem, as of *Surana* (*Amorphophallus campanulatus*).

Leaves, as of *Vásaka* (*Justicia Adhatoda*).

Fruits, as the three Myrobalans.

Flowers, as of *Dhātaki* (*Woodfordia floribunda*).

Extract, as Catechu, Opium, etc.

Bark, as of *Kurchi* (*Holarrhena antidysenterica*).

Wood, as of *Dárvi* (*Berberis Asiatica* or *aristata*).

Gum, as Myrrh, Assafoetida, etc.

Sometimes the entire plant is used as *Kañtakdri* (*Solanum Xanthocarpum*).

The skin, hair, wool, nails, horns, hoofs, milk, bile, honey, fat, marrow, blood, flesh, urine, fæces, semen, bones and nerves of animals are all used in medicine.

Susruta divides remedial agents into two classes, namely, *Pārthiva* or material and *Kālakṛita* or effected by time, such as wind, sun-shine, shade, moon-light, darkness, heat, cold, rain, day and night, changes of the moon, months and seasons of the year, etc. These are all said to affect the humours of the body, and, through them, the diseases caused by their derangement. The influence of these agents, if properly regulated or availed of, sometimes cures diseases, without the aid of material remedies.

Sanskrit writers do not agree in the mode in which they classify medicines when describing their properties. Charaka divides medicines into fifty classes, according to their supposed action on the different organs of the system, or on particular symptoms of disease. These classes are as follows :—

1. जीवनीय *Jivantiya*—Medicines which prolong life.
2. वृंहणीय *Vrinhantiya*—Medicines which promote nutrition and increase corpulency.
3. लेखनीय *Lekhantiya*—Medicines which thin the tissues, or reduce corpulency.
4. भेदनीय *Bhedantiya*—Promote excretions.
5. सन्धानीय *Sandhāniya*—Promote the union of fractured or divided parts. [power.
6. दीपनीय *Dīpaniya*—Increase the appetite and digestive
7. बल्य *Balya*—Increase strength. Tonics.
8. वर्ण्य *Varnya*—Improve the complexion.
9. कण्ठ्य *Kanṭhya*—Improve the voice, or cure hoarseness.
10. हृद्य *Hridya*—Promote cheerfulness or relish.
11. तृप्तिघ्न *Triptighna*—Remove a supposed phlegm which causes a sense of satiety.
12. अर्शोघ्न *Arsoghna*—Cure piles.
13. कुष्ठघ्न *Kuṣṭhaghna*—Cure skin diseases.
14. कण्डूघ्न *Kandūghna*—Cure pruritus.

15. कृमिघ्न *Krimighna*—Cure worms.
16. विषघ्न *Vishaghna*—Act as antidotes to poisons.
17. स्तन्यजनन *Stanyajanana*—Promote secretion of milk.
18. स्तन्यशोधन *Stanyasodhana*—Improve the quality of milk.
19. शुक्रजनन *Sukrajanana*—Increase the secretion of semen.
20. शुक्रशोधन *Sukrasodhana*—Purify the semen.
21. स्नेहोपयोग *Snehopayoga*—Emollients.
22. स्वेदोपयोग *Svedopayoga*—Diaphoretics.
23. वमनोपयोग *Vamanopayoga*—Emetics.
24. विरेचनोपयोग *Virechanopayoga*—Purgatives. [enemas.
25. आस्थापनोपयोग *A'sthāpanopayoga*—Medicines for use in
26. अनुवाहनोपयोग *Anuvāsānopayoga*—Medicines for oily
enemas. [from the nose.
27. शिरोविरेचनोपयोग *Sirovirechanopayoga*—Promote discharge
28. चर्द्दिनिग्रहण *Chhardinigrahaṇa*—Relieve vomiting.
29. तृष्णानिग्रहण *Trishnānigrahaṇa*—Relieve thirst.
30. हिक्कानिग्रहण *Hikkānigrahaṇa*—Relieve hiccup.
31. श्लेष्मसंग्रहणीय *Purishasangrahanīya*—Render the fæces con-
sistent. [fæces.
32. पुरीषविरजनीय *Purishavirajanīya*—Alter the colour of the
33. मूत्रसंग्रहणीय *Mutrasangrahanīya*—Reduce secretion of
urine.
34. मूत्रविरजनीय *Mutravirajanīya*—Alter colour of urine.
35. मूत्रविरेचनीय *Mutravirechanīya*—Increase secretion of
36. काशहर *Kāśahara*—Cure cough. [urine.
37. श्वासहर *Śvāsahara*—Cure difficult breathing or asthma.
38. शोथहर *Sothahara*—Cure anasarca or swellings.
39. ज्वरहर *Jvarahara*—Febrifuges.
40. श्रमहर *Śramahara*—Remove fatigue. [body.
41. दाहप्रशमन *Dāhaprasamana*—Relieve burning or heat of
42. शीतप्रशमन *Śtāpurasamana*—Relieve sense of coldness.
43. ऊर्ध्वप्रशमन *U'darddhaprasamana*—Cure urticaria. [limbs.
44. अङ्गमर्दप्रशमन *Angamarddāprasamana*—Relieve pain in the
45. मूत्रप्रशमन *Sulāprasamana*—Cure pain in the bowels.
46. शोथितस्थापन *Sonitasthāpana*—Styptics.
47. वेदनास्थापन *Vedanāsthāpana*—Anodynes.
48. संज्ञास्थापन *Sanjñāsthāpana*—Restore consciousness.

49. प्रजास्थापन *Prajāsthāpana*—Cure sterility.

50. वयःस्थापन *Vayahsthāpana*—Prevent the effects of age.

Susruta divides medicines into thirty seven classes, named after the first article of each class. The medicines included in each class have certain common properties, such as acidity, sweetness, astringency, etc., are often used in combination, and can be substituted for one another. This has the advantage of bringing analogous substances under one head, but numerous medicines come to be written under two or more heads. The *Nighaṇṭu* and some other works on the properties of medicines adopt the following classification in describing them :—1. Strongly scented substances. 2. Moderately scented substances. 3. Weak scented substances. 4. Extracts. 5. Precious stones. 6. Metals. 7. Sweet plants. 8. Acid plants. 9. Potherbs. 10. Bitter herbs. 11. Flower plants. 12. Fruit-bearing creepers. 13. Root-stocks. 14. Large trees. 15. Middle sized trees. 16. Small trees or shrubs. 17. Creepers. 18. Corn and Pulses. 19. Cooked food. 20. Different sorts of water. 21. Fluids as milk, honey, etc. 22. Necessaries of life, such as baths, dress, ornaments, etc. 23. The influence of the elements and imponderables, etc.

THE PROPERTIES OF MATERIAL OBJECTS AND THE ACTION OF MEDICINES ON THE HUMAN SYSTEM.

MATERIAL objects, according to Sanskrit writers, have six sorts of tastes, twenty sorts of qualities, and two sorts of forces in them. The six tastes are sweet, acid, salt, bitter, acrid and astringent. The twenty qualities of objects are as follows :—Heavy, light, soft, dull, oily, consistent, watery, hot, fixed, sharp, tremulous, delicate, demulcent, smooth, harsh, transparent, hard, pungent, coarse and cold. The two forces are heating and cooling. All substances are supposed, after digestion, to assume one or other of three sorts of properties : thus sweets and salts are supposed to be turned after digestion into sweets ; acids, into acids ; and bitters, acrids and astringents, into acrids. Besides the above properties, each medicine has a special action of its own. It is that quality which shews itself superior to the usual properties of taste, force, and result of assimilation ; as for example, *Danti* (*Baliospermum Montanum*), which though similar in properties to *Chitraka* (*Plumbago*

Zeylanica), yet, unlike the latter, acts as a purgative. This result is owing to its special action, the nature or ultimate cause of which is beyond the comprehension of the Gods themselves.

The various actions of medicines on the human system are described in considerable detail. All diseases being supposed to be caused by derangement of the humours, namely, wind, bile, phlegm, blood, etc., all medicines are likewise supposed to have some influence upon one or other of these humours. Susruta divides medicines into two classes, with reference to their action on the humours, namely, *Sansamana* and *Sansodhana*. *Sansamana* are medicines which rectify the deranged state of the humours and calm their excited action, without promoting the excretions. *Sansodhana* are medicines which remove collections of bad humours and discharge them by the excretions. The first is subdivided into three orders, namely, medicines influencing wind, bile and phlegm, respectively. The second includes emetics, purgatives, errhines and other depuratories. Sárangadhara and other writers describe the actions of medicines in further detail and mention the following classes :—

दीपन *Dīpana* are medicines which promote appetite, but do not aid in digesting undigested food.

पाचन *Pāchana* are medicines which assist in digesting undigested food, but do not increase the appetite. Some medicines have both these properties, that is, they are appetizers as well as digestives.

अनुबोधन *Anulomana* are medicines which digest the humours and set them free, that is, promote excretions and favour their discharge.

विरेचन *Virechaka* or purgatives are described under three heads, namely, **अंसन** *Sransana*, **भेदन** *Bhedana*, and **रेचन** *Rechaka*. Those medicines which hurry the chyle or materials for digestion, without allowing them to be properly digested, are called *Sransana*, as for example the pulp of *Cassia fistula*. Those medicines which set free scybala and other contents of the intestines, and discharge them from the bowels, without producing watery stools, are called *Bhedana*, as for example *Katuki* (*Pricorrhiza Kurroa*). Those medicines which cause the discharge of the digested or undigested contents of the

intestines in a liquid form, are called *Rechaka*, as for example, *Trivrit* (*Ipomœa Turpethum*). These last again are subdivided into three orders, namely, *mridu* or mild, *madhyama* or intermediate, and *krura* or drastic.

वमन *Vamana* or emetics are medicines which cause emesis of bile, mucus and other contents of the stomach.

क्षेदन *Chhedana* are medicines which remove by force as it were and discharge from the body adherent phlegm or other humours. Emetics, expectorants, errhines, caustics, etc. would probably come under this head. Black pepper and alkaline ashes are given as examples of this class of medicines.

लेहण *Lekhana* or attenuants remove bad humours and altered constituents of the body by thinning them gradually and thus clearing the system of them. Warm water, honey, barley, etc. are examples of this class.

Medicines which promote the secretion of perspiration, urine, and milk are called, respectively, **स्वेदन** *Svedana*, **मूत्रज** *Mutrala* and **स्तन्यजनन** *Stanyajanana*.

प्रमाधि *Pramāthi* are medicines which facilitate the exit of collected secretions from their tubes or receptacles, as for example *Vacha* (*Acorus Calamus*).

प्राहि *Grāhi* or inspissants are medicines which from their stomachic, digestive and heating qualities, dry the fluids of the body.

स्तम्भन *Stambhana* or constipators are medicines which from their drying, astringent and cooling qualities, and from their easy digestibility, increase the air and retain the secretions, as for example *Indrayava* (seeds of *Holarrhena antidysenterica*).

अभिष्यन्दि *Abhishyandi* are substances which from their emollient qualities or heaviness, retain the secretions and cause heaviness and fulness of the body, as for example, *Dadhi* or curdled milk.

रसावन *Rasadyana* or alternative tonics are medicines which prevent or remove the effects of age, increase the vigour of healthy persons and cure the ailments of the sick.

बल्य *Balya* or tonics are medicines which increase strength.

वृंहण *Vrinhana* are medicines which promote nutrition and increase the bulk of the body.

वाजीकरण *Váji'karana* or aphrodisiacs are medicines which increase the sexual powers.

विष *Visha* or poisons are said to be endowed with the following qualities, namely, व्याघातो *Vyavády'*, that is affecting the entire system, as for example, opium and hemp. सूक्ष्म *Sukshma* that is, penetrating into the minutest pores of the body. विट्वादि *Vitási*, that is drying the humours, depressing the system and causing relaxation of the joints, as for example betel-nuts. आग्नेय *A'gneya*, that is, heating or stimulant. मदावह *Madávaha*, that is, depriving men of their senses and enveloping their minds in darkness as spirituous liquors. Taken in large doses, poisons destroy life, but, judiciously used, they act as curatives and restore health, even in dangerous diseases.

Nine active or virulent poisons are mentioned by most writers, namely *vatsandbha*, *háridra*, *saktu*, *pradipana*, *sauráshtrika* *sringi*, *kálakuta*, *haláhala*, and *brahmaputra*. These cannot all be identified at present. Most of them are apparently varieties of aconite, (see page 97). The following seven drugs are described, as minor poisons, viz., opium, *gunjá* (seeds of *Abrus precatorius*), *datura*, roots of *Nerium odorum* (*karavirá*), and *Gloriosa superba* (*lánguli*) and the milky juices of *Calotropis gigantea* (*arka*) and *Euphorbia neriifolia* (*snuhi*). The mineral poisons mentioned in Susruta are *phendama bhasma* or white arsenic, and *haritála* or orpiment. Of animal poisons, the poison of the serpent is the only one used in medicine.

WEIGHTS AND MEASURES.

THE scales of weights and measures used in ancient days differed in different parts of the country. Separate scales are described by modern compilers, under the names of *Mágadhi*, *Kálinga*, *Cháraka*, *Sausruta*, etc. The number of *gunjás* making a *tolá* varies in these scales from forty to ninety-six. The scale of weights and measures in ordinary use in Bengal, at the present day, has the *gunjá* (seed of *Abrus precatorius*) for its lowest weight. The *gunjá*, however, is divided into fractional parts by other seeds, thus eighteen mustard seeds, four grains of paddy, three grains of

barley and two grains of wheat are respectively said to be equal to one *gunjá* गुञ्जा. This scale is as follows :—

- 6 *Gunjás* make one *áná*.
- 12 *Gunjás* make one *máshá* माषा.
- 8 *Máshás* or 16 *ánás* make one *tolá* तोलक.
- 8 *Tolás* make one *pala* पल.
- 8 *Palas* or 64 *tolás* make one *seer* शराव.
- 2 *Seers* make one *prastha* प्रस्थ.
- 8 *Seers* make one *áḍhaka* आडक.
- 32 *Seers* make one *drona* द्रोण.
- 100 *Palas* or $12\frac{1}{2}$ *seers* make one *Tulá* तुला.

In the scale above described ninety-six *gunjás* make one *tola*. It would seem, however, that in ancient days Susruta's scale of forty *gunjás* to a *tolá* was in general use, for the doses of powders, confections, decoctions, etc. given in the older works, are considered monstrous for the present age, and much smaller doses are given in practice. Orthodox physicians explain the large doses by saying that they were intended for a superior race of men of ancient days. The subject is involved in much obscurity and this is scarcely the place to discuss it thoroughly. In giving the doses of medicines described in this work, I will state the quantities now prescribed by native physicians in current weights, hence they will differ from the Sanskrit texts from which the prescriptions will be translated.

There is a peculiarity in fluid measures which must also be noticed in order to prevent misapprehension of the Sanskrit texts. When a fluid article is ordered in measures of a *prastha* or two *seers* and upwards, twice the quantity mentioned should be taken. Thus if in a preparation it is stated, take of solid paste of certain substances one seer, oil two seers, and water eight seers, the quantities actually taken are solid paste one seer, oil four seers and water sixteen seers. In measures below two seers or in those indicated by *pala* such as eighty *palas*, sixty *palas* etc, the quantities are not doubled.

The doses of medicines are not fixed. They are regulated by the age, strength, and digestive power of the patient, the nature of the illness, the state of the viscera and humours, and lastly by the properties of individual drugs.

Supposing the full dose of a medicine for adults to be two *tolás*, the doses for children of different ages would be as follows :— For infants a month old, one *gunjá*, and an additional *gunjá* for each additional month. For children a year old, the dose would be one *máshá* or twelve *gunjás*, and an additional *máshá* for every year, till the full dose of sixteen *máshás* or two *tolás* is reached at the sixteenth year. From sixteen to seventy the full dose should be used, after which it should be again gradually reduced. When infants are unable to take decoctions and other bulky medicines, their nurses are made to take them. Sometimes small quantities of medicines are applied to the nipples, and the infants made to suck them.

Medicines may be administered during four periods of the day, namely, sunrise, mid-day, evening and night. Sometimes they are administered frequently. Morning is regarded as the best time for administering such medicines as purgatives, emetics, decoctions and pills which are generally given once daily. When no specific direction is given regarding the time of administration, morning must be taken for granted. Very often one sort of medicine is given in the morning and another in the afternoon. Some medicines for dyspepsia are given before, along with, and after meals.

FORMS OF MEDICINES.

चूर्ण Churna or powders are prepared by pounding dry substances in a mortar with a pestle and passing the powder through cloth.

स्वरास Svarasa or expressed juice is prepared by pounding fresh vegetables in a mortar, expressing the juice and straining it through cloth.

कल्क Kalka or paste is prepared by grinding dry or fresh vegetable substances on a stone with a muller, and then making a thin paste, with the addition of water when necessary.

क्वाथ Kvátha or decoctions are, as a general rule, prepared by boiling one part of vegetable substances with sixteen parts of water, till the latter is reduced to one-fourth. The medicines should first be pounded small, then boiled over a slow fire, and the

decoction strained through cloth. When decoctions are prepared with dry substances, eight parts of water are recommended to be used. Decoctions are administered with the addition of salt, honey, sugar, treacle, alkalies, clarified butter, oil, or some medicinal powders.

धातु *Phāṇṭa* or infusions are prepared by steeping one part of powdered herbs in eight parts of hot water, for twelve hours during the night. They are administered in the same way as decoctions.

शीतकषाय *Sitakashāya* or cold infusion is prepared by steeping one part of a drug in six of water for the night, and straining the fluid in the morning.

पानीय *Pānīya* is a weak form of decoction prepared by boiling one part of medicinal substances in thirty-two of water till the latter is reduced to one-half. This preparation is usually taken *ad libitum* for appeasing thirst or some such object.

प्रमथ्या *Pramathya* is a sort of decoction in which the medicines are first reduced to a pulp and then boiled in eight parts of water till the latter is reduced to one-fourth. It is administered with the addition of honey.

मन्थ *Mantha* is an emulsion of medicines in fine powder with four parts of cold water.

क्षीरपाक *Kshīrapāka* or decoction in milk. The proportions in this preparation, are one part of medicine, eight of milk and thirty-two of water. The materials are boiled together, till the water is evaporated and the milk alone remains; the decoction is then strained.

यवगु *Yavagu*. Sometimes medicines are added to powdered rice, wheat, barley, etc., and boiled with water into a gruel which is taken as aliment. The proportion of water in this preparation is six to one of solid materials. This preparation is called *Kalka-sādhya-yavagu* or gruel made with medicinal paste, in contradistinction to another form called *Kvātha-sādhya-yavagu* or gruel made with a decoction of medicines, for which last see *Oryza sativa*.

अवलेह *Avaleha* or extract. To prepare it, decoctions, after being strained, are again boiled down to the consistence of a thick extract. This extract, when properly made, does not readily dissolve in water, can be drawn out into wires, and will receive

impressions of coins on its surface. Extracts are administered with the addition of sugar, decoctions, or powders.

वटिका *Vatiká* and **गुड़िका** *Guḍiká* or pills and boluses. These are usually prepared by reducing a decoction of vegetable substances to a thick consistence and then adding some powders for making a pill-mass. Sometimes pill-masses are made of powdered medicines with the addition of treacle or honey. -

मोदक *Modaka* are boluses prepared by adding powders to cold syrup and stirring them together till uniformly mixed. No boiling is required in this preparation.

खण्डपाक *Khaṇḍapáka* or confections. These are made by adding to syrup medicines in fine powder and stirring them over the fire till intimately mixed and reduced to proper consistence. Honey is often subsequently added to confections. Syrup may be made with sugar and water or milk or the strained decoction of some medicinal substance. Confections should be of the same consistence as extracts above described.

भावना *Bhāvaná* or maceration of powders in fluids. Powders, and especially mineral substances, are often soaked in various fluids, such as expressed juice of herbs, decoctions, etc., and then dried. For this process the quantity of fluid added to the powder should be sufficient to cover it. The mixture is then allowed to dry in the sun. A single operation of this sort is completed in twenty-four hours, but the process is generally repeated from three to seven times, and often with a variety of fluids, so that the resulting mass combines in it the active principles of various drugs.

पुटपाक *Putapáka* or roasting. In this process vegetable drugs are reduced to a paste which is wrapped up in *jamvu* or *vaṣapaṭra* (leaves of *Eugenia Jambolona* and *Ficus Bengelensis*), firmly tied with fibres of some sort, covered with a layer of clay from half to one inch in thickness and roasted in cowdung fire. When the layer of clay assumes a brick-red colour on the surface, the roasting is known to be completed. The ball should now be withdrawn from the fire and broken, and the juice of the roasted drug expressed and administered, with the addition of honey or such other adjuncts as may be directed. Sometimes the roasted drug itself is given in the form of a powder or pill.

सन्धानवर्गः *Sandhānavarga* or products of acetous fermentation.

कान्जिका *Kānjika*. This is a sour liquid produced from the acetous fermentation of powdered paddy. Two seers of powdered *śus dhān* (paddy grown in rainy season), are steeped in eight seers of water and laid aside in an earthen pot for fifteen days and upwards, when the mixture undergoes acetous fermentation. The resulting fluid is called *Kānjika* or *Dhānyāmla*, that is, the acid produced from paddy. *Kānjika* is a clear transparent fluid with an acid taste and vinous smell. It is cooling, refrigerent, and useful as a drink in fever, burning of the body, etc. It is sometimes applied externally upon the principle of wet-sheet packing, cloth steeped in the fluid being wrapped round the body for relief of high fever and heat of body. It is also used as a vehicle for other medicines and for preparing decoctions, oils, etc. Other grains besides paddy are sometimes used for acetous fermentation. If mustard or the seeds of *Raphanus sativus* (*mulaka*) are added to paddy, the resulting fluid is called *Sintāki*. If the husked grains of barley are boiled and steeped in water, the resulting acid liquor is called *Sauvira*. When the husks of fried *māshakalāya* (pulse of *Phaseolus Roxburghii*) and barley are boiled together for acetous fermentation, the acid is called *Tushāmvu*. *A'rndla* is a sour gruel made from fermentation of boiled rice. A mixture called *Sukta* or *Chukra* is thus prepared :—Take of treacle one part, honey two parts, *kānjika* made as above described, four parts, whey eight parts, mix together in a clean earthen pot, and bury the pot in a heap of paddy for three days. The properties of these preparations are similar, they being regarded as cooling, refrigerent, diuretic, and useful in nervous diseases, rheumatism, dyspepsia, indigestion, urinary diseases, intoxication from spirituous drinks, etc. What is ordinarily spoken of as conjee water in English, is a decoction of rice and not the *kānjika* of Sanskrit *Materia Medica*.

द्रवक *Drāvaka* or distilled mineral acids. Several formulæ are given in different works for the preparation of mineral acids. A number of mineral substances or salts are heated in a retort and the distilled fluid collected in a glass receiver. The test of acids is said to be their property of dissolving a cowrie or shell

thrown into them. The following are two examples of the compositions used for preparing mineral acids.

सुवपद्रवक *Svalpadrāvaka*. Take of alum, chloride of ammonium, borax, sulphide of antimony, impure carbonates of potash and soda called *yavakshāra* and *svaryikākshāra*, and rock salt, each eight tolās, nitre six tolās, orpiment four tolās ; powder, mix and rub them together repeatedly with lemon juice and dry. Introduce the mixture into the receptacle of a distilling apparatus, and distill over the fire. The dose of the acid thus distilled is two drops. It should be taken with six grains of long pepper. One week's use of this medicine is said to cure spleen disease, dyspepsia, etc.

सङ्खद्रवक *Sankhadrāvaka*. For this preparation take of sulphate of iron thirty-two tolās, alum and rock salt sixteen tolās each, nitre one hundred and twenty-eight tolās, powder, mix and distill the mixture from a glass retort. The dose of this acid is said to be twelve minims. The tongue should be anointed with clarified butter before using this medicine. It should not also touch the teeth.

आसवारिष्ट *Asava* and *arishṭa* or medicated spirituous liquors. These are prepared from honey and treacle, with the addition of various medicinal substances. They are all steeped in water and aid aside in earthen jars for vinous fermentation. The proportion of the different ingredients, as a general rule, is as follows :— Water thirty-two seers, treacle twelve seers and a half, honey six seers and a quarter, medicinal substances one seer and a quarter, in powder or decoction. When raw vegetables are used for fermentation, the resulting fluid is called *A'sava*. When the decoction of drugs only is added, the fermented liquor is called *Arishṭa*. These preparations combine the properties of spirituous drinks and those of the drugs used in preparing them. They are heating, stimulant, easily digested and stomachic. The preparation called *Drākshārishṭa* is made with honey, sugar and decoction of raisins, with the addition of a few aromatics, (see *Vitis vinifera*). Its action must be analogous to that of wines. It is used as a stimulant in exhausting diseases.

उत तैलवोर्विष्टिः Medicated oils and *Ghrītas*. These are decoctions of vegetable drugs in oil or *ghrita* (clarified butter) and form a prominent feature of native practice. They are prepared in

great varieties and are extensively used in almost all sorts of diseases. The *ghritas* are chiefly used internally, and the oils are rubbed on the body. They are prepared by boiling vegetable drugs in *ghrita* or oil, with the addition of water or other fluids such as *kāñjika*, milk or a decoction of drugs, etc. As a general rule, the proportion of the different ingredients used is as follows :— Medicinal substances, in form of paste, one part, *ghrita* or oil four parts, water or other menstruum sixteen parts. When the fluids used are thick, such as decoctions or the expressed juice of vegetables, the proportion of solid paste is reduced from one-fourth to one-sixth and one-eighth respectively of the oil or *ghrita*. Sometimes no solid paste is used at all.

If more than one variety of fluid is ordered, then up to four sorts the usual proportion of four of fluid to one of *ghrita* or oil is observed, and these are boiled separately with each fluid ; but, when the number of fluids exceeds four, each of the fluids ordered is taken in quantity equal to the oil or *ghrita*, and the whole boiled together.

वृत्तपाक *Ghritapāka* or preparation of medicated *ghrita*. The *ghrita* or clarified butter is first of all heated on a fire so as to deprive it of any water that may be mixed with it. A little turmeric juice is then added to purify it, as it is said, but the object, I suppose, must be to colour it. *Ghrita* thus purified is placed on a fire in an earthen, copper, or iron pan and melted with a gentle heat. Then the medicinal paste and fluids to be used are added, and the whole boiled together till the watery parts are all evaporated and the *ghrita* is free from froth. It is then strained through cloth and preserved for use. *Ghrita* thus prepared should be imbued with the colour, taste and odour of the medicines with which it has been boiled. It is recommended that the preparation of *ghrita* by boiling be not completed in one day, and that the medicines be allowed to remain in contact with the butter for some time, so that their active principles may be thoroughly extracted. The boiling process is carried on to three degrees, called, respectively, *mridu*, *madhyama* and *khara pāka*. In the first, the boiled paste is somewhat soft ; in the second, it is dry and just soft enough to be made into pills with the fingers. In the third form, it is turned hard and

dry. The intermediate form is preferred for internal administration and injection into the rectum, while the over-boiled form is used for external application. The under-boiled form is said to be suitable for use as snuff.

तेजपाक *Tailapāka* or medicated oils. In preparing these, sesamum oil should be used unless otherwise specified. Sesamum oil, before being boiled with medicinal substances, is coloured and purified as follows :—First of all it is heated to deprive it of any water that may be mixed with it; then the following substances are steeped in it for twenty-four hours, viz., madder one sixteenth part in weight of the oil, turmeric, wood of *Symplocos racemosa* (*lodhra*), tubers of *Cyperus rotundus* (*mustaka*), a bark called *naliká*, the three myrobalans, root of *Pavonia odoráta* (*bálá*) and the tender shoots of *Pandanus odoratissimus* (*ketaki*), each one sixty-fourth part in weight of the oil. These ingredients in fine powder should be soaked in the oil, with the addition of an equal quantity of water for a day. The mixture should then be boiled till the water is evaporated, and finally strained. To the oil thus prepared, medicinal substances, in the form of paste, decoction, etc., are added in the same proportions as for the preparation of *ghritapāka*. They are then boiled together till the watery parts are all evaporated. When cool, the oil is strained through cloth so as to separate the solid particles. Some medicinal oils, and especially those used in the treatment of nervous diseases, rheumatism, etc., are subjected to a third process of boiling with various aromatic and fragrant substances. This is called the *Gandha pāka* or boiling for rendering the oil fragrant. The following substances, or as many of them as are available, are used for scenting medicated oils, namely, cardamoms, cinnamon, cloves, fenugreek seeds, saffron, leaves of *Cinnamomum Tamala*, white sandal wood, aloes wood, *jatāmansi* root, *Curcuma Zedoaria* (*sati*), *Cyperus rotundus* (*mustaka*), *kakkola* (an aromatic seed,) resin of *Pinus longifolius* (*gandhavarajá*), storax, long pepper root, root of *Andropogon muricatus* (*usira*), *nakhi* (*Unguis odoratus*),* pouch of civet cat (*khaṭṭási*), camphor,

* This *nakhi* according to Rumphius who describes ten kinds of the odiferous onyx which serve as the basis of the principal perfumes in the Indian islands, (Herb. Amb. ii. c. 17) is the operculum or lid of the shells of *Purpura* and *Murex*. This being flat and something like a nail explains the origin of its name.—*Royle's Antiquity of Hindu Medicine*, page 144.

musk, *Permelia perlata* (saileya,) root of *Aplotaxis auriculata* (kushṭa), seeds of *Abelmoschus moschatus* (latākasturi), etc.

For four seers of oil, one tola of each of the above ingredients should be taken, with the exception of camphor which should be four tolas. These ingredients, with the exceptions noticed below, are reduced to a paste with water and added to the oil, which is then boiled with an equal quantity of water till the latter is evaporated, and lastly strained. Camphor, musk, storax and the substance called *nakhi* should be added after the process of boiling is finished, and the oil strained. Oils for rheumatism and nervous diseases, are sometimes rendered fragrant by the addition of camphor alone.

Castor oil and mustard oil are sometimes used in the preparation of medicated oils. The proportions of oil, medicinal substances and fluids are the same as with sesamum oil, but the preliminary preparation of these oils is different. Mustard oil is purified by being boiled with the following ingredients, namely, emblic myrobalan, turmeric, tubers of *Cyperus rotundus* (mustaka), root-bark of *Egle Marmelos* (vilva), pomegranate bark, flowers of *Mesua ferrea* (nāgakesara), Nigella seeds, root of *Pavonia odorata* (bālā), the bark called *nalikā*, and belleric myrobalan, two tolās each, and madder sixteen tolās, for four seers of oil. These should be boiled together with sixteen seers of water, till the latter is all evaporated, and the oil should then be strained. It is now fit for being boiled with medicinal substances, the process for which is the same as for sesamum oil above described.

For purifying castor oil, the following ingredients are used, namely, madder, tubers of *Cyperus rotundus* (mustaka), coriander, the three myrobalans, leaves of *Sesbania aculeata* (vajjayanti), *Pavonia odorata* (hrivera), wild dates, tender red buds of *Ficus Bengalensis* (vaṭasunga), turmeric, wood of *Berberis Asiatica* (dāruharidrā), the bark called *nalikā*, ginger and the shoots of *Pandanus odoratissimus* (ketaki), each half a tolā for four seers of oil. Castor oil should be boiled with equal parts of whey and *kānjika* (fermented paddy water) along with the above ingredients.*

* The processes above described, for the preliminary purification of oils before being boiled with medicinal substances are not adopted by the physicians of upper India. They are not mentioned by the ancient writers and are the inventions of recent Bengali authors.

ON THE DIFFERENT MODES IN WHICH MEDICINES
ARE APPLIED.

BESIDES being taken internally, medicines are applied in various other ways, such as by injections into the rectum, urethra and female organs ; application to the nose ; to the mouth ; to the eyes ; to the skin in the shape of plasters, ointments, oils and fumigations, and to the lungs by inhalation.

वस्तिकर्मा *Vastikarma* or injections into the rectum, were thrown in by means of a tube with a membranous bag tied to its end. The bag was recommended to be made of the bladder of some animal, such as bull, goat, etc. It was filled with the fluid to be injected and tied to one end of a tube, about eight inches long and with a tapering rounded extremity for introduction into the rectum. Injections into the urethra and vagina were thrown in by similar contrivances, the tubes being adapted in length and thickness to the passages for which they were intended.

फालवर्ती *Phalavarti* or suppositories were recommended to be made of the size of the patient's thumb. They were smeared with clarified butter and introduced into the rectum. The following is an example of a suppository. Take of assafoetida and rock-salt equal parts and make a suppository with honey, for use in tympanitis.

नस्य *Nasya* or the application of medicated substances to the nose, forms a prominent feature of native therapeutics. Two primary classes of medicines for this organ are recognized, namely *Sirovirechana* or medicines causing a flow of secretion from the nose and thus relieving cerebral congestion, and *Vrinhana* or medicated oils applied to the nose with the object of cooling the head and relieving affections of the neck and chest. For clearing the head and promoting discharge from the nose, the expressed juice of pungent drugs is poured into the nose, drop by drop, or powders are blown into the nostrils by means of a tube. The former process is called *Avapiḍa* and the latter, *Pradhamana*. For cooling the head and relieving affections of the upper part of the body, various medicated oils are used. In one form of snuff called *Pratimarsha*, two or three drops of medicated oil are

directed to be snuffed up the nostril till they reach the throat, when they should be expectorated and not swallowed. In another form of application called *Marsha* about a drachm of oil is recommended to be gradually poured into each nostril from a spoon or shell.

कवच Kavala. Liquids used as gargles are so called. Sometimes a mixture of liquid and solid substances or solid balls of medicine are taken into the mouth and retained in it till they bring on a discharge from the nose and eyes. This mode of application is called **गण्डुष Gandusha**. When powders or thick solutions are applied to the teeth and gums with the finger, the process of medicament is called **प्रतिहार Pratisāraṇa**.

शिरोवस्ति Sirovasti, etc. or applications to the head. Oils or other fluids are applied to the head in four different ways. The first form called *Sirovasti*, consists in tying a piece of leather four and a half inches in breadth all round the head, luting its lower margin to the skin by a paste of the pulse called *māshakalāya* and then filling the cavity thus formed on the top of the head with lukewarm oil. The oil is directed to be retained till relief of pain, or till there is discharge from the eyes and nose. It should then be removed and the head washed with warm water. This sort of medication is said to be useful in severe headache and shaking of the head. In the second form, oil or other fluid is poured in a stream on the head. This is called *Parisheka*. In the third form, called *Pichu*, cotton soaked in oil is applied to the scalp; and in the fourth, called *Avyanga*, the oil is simply rubbed on the head.

Applications of liquids and medicated oils to the ears are used in diseases of the head as well as of the ears. The external meatus is filled with the fluid which is allowed to remain in it from one to twenty minutes and is then withdrawn.

नेत्रकर्मा Netrakarma or applications to the eyes receive various names according to the nature of the substances used and the manner in which they are applied. Pouring of drops into the eyes is called *A'shotana*. A poultice enclosed within a piece of cloth and applied over the lids is called *Pinḍa*. A paste applied to the lids is called *Viḍḍalaka*. Medicines applied to the margin of the lids or to the conjunctiva with the finger or a metallic probe are called *Anjana*. These last may be in the shape of powder or liquid or they

may be made into sticks or pills which are rubbed with water before use. The probe for applying medicines to the margin of the lids should be six inches long with a rounded bulbous end. It may be made of gold, silver, copper, iron or stone. For habitual use of collyria a lead probe is preferred. When medicines are applied not only to the lids but also to the conjunctiva up to the margin of the cornea, the finger is recommended to be used, as it is soft and safe.

Applications to the skin. These consist of *ghritas*, oils, plasters, poultices, baths and hot applications for inducing perspiration. Medicated *ghritas* and oils have been already described. They are for the most part rubbed all over the body, except those intended for local ailments. Plasters called प्रलेप *Pralepa* are applied moist and cold. प्रदेह *Pradeha* or poultices are applied moist and hot. They are also thicker than plasters.

स्वेदन *Svedana* or application of heat to the skin for inducing perspiration is carried out in four different ways, namely :—

1. तापस्वेद *Tāpasveda* or the application of dry heat by means of heated plates, bricks, sand, cloth or the palm of the hand only. These are recommended to be heated by catechu-wood fire.

2. उष्णस्वेद *Ushmasveda* or the application of hot steam. This is effected in various ways. The part to be heated is covered with wet cloth. Bricks, stones or iron plates are made red hot and sprinkled over with *kānjika* or some decoction, and are then applied to the part to be heated; or an earthen pot with a small opening in the side is filled with hot water or decoction of some drugs, a tube is adjusted to the hole in the pot and the steam is applied to the covered body through it. A third method consists in heating the ground by burning catechu-wood over it, and after removing the fire, sprinkling some decoction over the spot and making a bed of castor oil leaves on it. The patient is to lie on this bed and cover himself with a blanket. Or the ground may be covered with a thick layer of boiled pulse such as *māshakalāya* and a bed made over it for the patient.

3. उपनाहस्वेद *Upandhasveda*. This means the application of heat by hot medicinal substances in the form of decoctions, pastes, or plasters, or of fomentation by cloth wrung out of hot fluids ;

or heat may be applied by enclosing hot medicinal substances or pastes within a cloth bag and applying the latter to the skin.

4. **द्रवस्नाने** *Dravasveda*. This means the hot hip-bath and hot bath with warm water or decoctions. Milk, broth, oil, *kānjika* etc. may also be used for baths. The patient should sit in a tub with the fluid up to his navel, and which should also be poured over his body from above the shoulders, so as to bathe him thoroughly. The tub should be made of wood, silver, copper or iron, of square form and twenty-six fingers in measurement in all directions, that is in height, length and breadth. After the application of heat, the patient should take a hot bath, eat light food and keep himself covered in bed. If too much heat has been applied, and the patient suffers from pain in the joints, thirst, langour or giddiness, then he should be treated by cooling applications. The region of the heart, scrotum and eyes should be heated with great care and to a mild degree only.

धूमपान *Dhumapāna* or inhalations. Tapers or pastilles made of medicinal substances are set fire to, and their fumes inhaled through a tube by the mouth or nose. Pastilles for inhalation are thus prepared : a reed, half a cubit in length, is smeared or laid over with a paste of the drugs to be used, to two-thirds of its extent and is dried in the shade. When dry, the reed is withdrawn from the paste, leaving it in the form of a hollow tube. This is smeared with clarified butter and lighted. The lighted extremity is introduced into one end of the inhaling tube and the fumes drawn in by the other end through the mouth or nose, as the case may be, and emitted again through the mouth. In affections of the throat and chest, inhalation through the mouth is recommended, while in diseases of the head, eyes or nose, the fumes are drawn in through the nose. The tube for inhalation may be metallic or made of wood or ivory. Its length varies from two cubits to half a cubit, and its calibre should be sufficient to allow a large pea to pass through. The shorter tubes are used in administering expectorant and emetic fumes. Inhalations are useful in cough, asthma, catarrh, pain in the neck or head, etc. They may be used for soothing the air passages, for promoting discharge from them, for the relief of cough, or for inducing vomiting. Another form of inhalation, called *Samana*,

is recommended to be used daily after washing the face, bathing, breakfast, etc. The pastille for this was made of cardamoms and other aromatic substances. This sort of smoking is not seen in the present day. Probably it was in vogue before the introduction of tobacco and has been displaced by the latter.

धूपन *Dhupana* or fumigations were employed for ulcers and skin diseases. The pastilles for these are made as for inhalation. They are lighted and placed inside two earthen pots, placed face to face. A hole is made in the upper pot and a tube adjusted to it. The free or open end of the tube is now directed to the affected part and the fumes allowed to spread over it. Incenses and tapers composed of various medicinal substances are also burnt in rooms occupied by the sick, for removing unpleasant smells and supposed evil spirits.

क्षारकर्म *Kshārakarma* or caustic applications. The ancient physicians of India, like their modern representatives, preferred opening abscesses by caustics, to incising them with the lancet. Hence caustics were described as superior to the lancet, inasmuch as, in addition to opening abscesses, they purified them by removing the derangement of the humours. The ashes of the following plants were used for the preparation of caustics, namely :—

पाटला *Pāṭalā*.—*Stereospermum suaveolens*.

कुटजा *Kuṭaja*.—*Holarrhena antidysenterica*.

पलाश *Palāsa*.—*Butea frondosa*.

अश्वत्थ *Aśvakarna*.—*Shorea robusta*.

पारिभद्र *Pāribhadra*.—*Erythrina Indica*.

विभिक्तक *Vibhīṭaka*.—*Terminalia Bellerica*.

कारण्य *A'ragvadha*.—*Cassia fistula*.

लोद्रा *Lodhra*.—*Symplocos racemosa*.

अर्क *Arka*.—*Calotropis gigantea*.

सुहि *Snuhi*.—*Euphorbia neriifolia*.

अपामार्ग *Apāmārga*.—*Achyranthes aspera*.

करञ्ज *Karanja*.—*Pongamia glabra*.

वासक *Vāsaka*.—*Justicia Adhatoda*.

कदलि *Kadali*.—*Musa sapientum*.

चित्रक *Chitraka*.—*Plumbago Zeylanica*.

पूति *Putika*.—*Cæsalpinia Bonducella*.

- देवदारु *Devadāru*.—*Cedrus Deodara*.
 वास्कोता *A'sphotā*.—*Vallaris dichotoma*.
 करवीर *Karavira*.—*Nerium odorum*.
 सप्तपर्षि *Saptaparni*.—*Alstonia scholaris*.
 नन्धारि *Gambhāri*.—*Gmelina arborea*.
 गुग्गु *Gunjā*.—*Abrus precatorius*.
 कोषातकी *Koshātaki*.—*Luffa pentandra*.

The roots, stems and leaves of these plants or of such of them as are available, are cut into pieces and burnt in a pit. The ashes are then collected and boiled in six times their weight of water till the solution becomes transparent, red, pungent and soapy to the feel. It should then be strained and again put on fire and the following substances added, namely, ashes of *Euphorbia nerifolia* (*snuhi*), and the burnt powders of bivalve and conch shells. The mixture should be constantly stirred and boiled till it is of a thick consistence. The proportion of shell-lime added varies from one fourth to one-eighth or one-sixteenth part of the solution. Caustics of three strengths are thus obtained. Sometimes orpiment and realgar are added to increase their strength.

The part where the caustic is to be applied, should first be cleaned and rubbed. The caustic should then be applied with a probe. It should be allowed to remain in contact with the skin for such time as is occupied in uttering a hundred words and then removed. The skin becomes black from the application, when it is dressed with a paste of acids, clarified butter and honey. For hastening the removal of the slough, a paste or poultice composed of sesamum seeds, liquorice root, lemon juice and *kānjika* should be applied. Caustics are applied to external piles, sinuses, fistulæ in ano, abscesses, warts, tumours, leprous patches, etc.

— — —

THE

MATERIA MEDICA OF THE HINDUS.

PART I.

INORGANIC MATERIA MEDICA.

GENERAL REMARKS ON MINERAL MEDICINES.

MINERAL or inorganic medicines are generally described under five heads, namely, *Rasa* or mercury which forms a class by itself; *Uparasa* or metallicores and earths, *Dhātu* or metals, *Lavana* or salts, and *Ratna* or precious stones. The metals used in Sanskrit medicine are mercury, gold, silver, copper, tin, zinc, lead, iron, bell-metal, and brass. The *Uparasas* used are sulphur, talc or mica, two sorts of iron pyrites called *Svarnamākshika* and *Tāramākshika*, loadstone, orpiment, realgar, sulphate of copper, sulphate of iron, cinabar, minium or red lead, sulphuret of lead, calamine (*kharpara*), *Silājatu* (a bituminous substance containing iron), alum, borax, chalk, calcined cowries and conch shells, *Gairika* a sort of red mountain earth or ochre, *Kankushṭa* a sort of mountain earth, *Saurāshṭri* a fragrant earth from Surat, sand, clay, etc.

The precious stones described are, 1 *Hiraka*, diamond; 2 *Górutmat*, emerald; 3 *Pushparāga*, topaz; 4 *Mánikya*, ruby; *Indranila*, sapphire; 6 *Gomeda*, a yellow gem of the colour of fat; 7 *Vaidurya*, a gem of a dark blue colour, the lapis lazuli; 8 *Mauktika*, pearls; 9 *Vidruma*, corals. Collectively they are called *Navaratna* or the nine gems. *Rājavarta*, an inferior kind of diamond from Virat, and *Vaikránta*, another inferior kind of diamond, are sometimes used instead of diamond.

Salts.—Of these the following are noticed by most writers, viz., *Saindhava*, rock salt; *Sámbara*, Sambar lake salt; *Sauvarchala*, sonchal salt; *Bit*, black salt; *Sámudra*, sun-dried sea salt, commonly known as *Karkach*; *Audbhida*, a saline efflorescence on *reh* lands; *Pánsuja* or salt obtained from saline earth; *Yavakshára*, impure carbonate of potash; *Sarjikákshára*, impure carbonate

of soda; *Sarvakshāra*, mixed ashes of several plants; *Narasāra* chloride of ammonium; *Soraka*, nitrate of potash, and *Tankana*, borax. The term *Ushara* is applied to saline earth.

Metals and metallic compounds are subjected to a so-called process of purification in order to get rid of their impurities or deleterious qualities. If used in an unpurified state, they are supposed to induce certain diseases or morbid symptoms. The metals, for the most part, are purified by repeatedly heating their plates and plunging them in the following fluids, namely, oil, whey, sour conjee, cow's urine and the decoction of a pulse called *kulattha* (*Dolichos uniflorus*). Another method of purification consists in soaking the plates of heated metals in the juice of the plantain-tree.

Metals and metallic compounds are reduced to powder by various processes. The operation is called *māraṇa*, which literally means killing or destruction of metallic character but practically a reduction to powder, either in the metallic state, or after conversion into an oxide or a sulphide. Various processes for the calcination of different metals are described in Sanskrit works on the subject. I will not burden these pages with a detailed account of these but shall only describe modes of preparation followed at the present day.

Although the Hindus had made some successful efforts in preparing a certain number of chemical compounds such as perchloride of mercury, sulphides of copper and silver, oxide of tin, some acids, alkalies, etc., yet their chemical operations were of a very rude and primitive character. The apparatus employed by them consisted of crucibles of different sorts, glass bottles and earthen pots arranged for sublimation of volatile compounds, retorts for distillation, sand and vapour baths, etc. The furnace for heating metals is usually a pit in the ground called *गजपुटः Gajaputa*. It is made one and a quarter cubits in depth, length and breadth. This is filled with dried balls of cowdung. The metals or metallic compounds to be roasted are enclosed in a covered crucible and placed in the centre of the pit within the balls of cowdung, which are then set fire to and allowed to burn till consumed to ashes.

मुशयान्त्रम्. *Mushāyantra* or crucibles, are recommended to be made of husks of rice two parts, earth from ant-hills, iron rust, chalk and human hair cut into small bits, one part each. These are rubbed

together into a paste with goat-milk, and made into crucibles which are dried in the sun. Practically, however, goldsmith's crucibles or common earthen cups are used. The compounds to be roasted are placed in one crucible, this is covered with a second, and the two are luted together with clay.

वायुस्नानम्. The sand-bath called *Vālukā yantra* is made by filling an earthen pot with sand and heating it over the fire. Metallic preparations sublimed within glass bottles are heated in sand-baths.

दोहास्नानम्. When medicines, tied in a piece of cloth or other material, are suspended and boiled in a pot of water, the apparatus is called *Dolā yantra*. The steam-bath called *Svedana yantra* is got up by covering the mouth of a pot of boiling water with a piece of cloth, placing the medicines to be heated by steam on this cloth, and then covering them with another pot.

For the sublimation of metals and metallic preparations, two sorts of apparatus are used. The first, called **उर्ध्वपातनयन्त्रम्** *Urdhha-pātana yantra*, consists of two earthen pots placed one above the other with their rims luted together with clay. The lower pot containing the medicine is put on fire while the upper one is kept cool with wet rags. The sublimate is deposited in the interior of the upper pot. Sometimes the lower pot is covered with a concave dish and water poured into its hollow to keep it cool and changed as often as it gets hot. The second plan consists in placing the medicines to be sublimed in the bottom of a glass bottle which has been strengthened with layers of clay and cloth wrapped round it, and then exposing it to heat in a sand-bath. The sublimate is deposited in the neck of the bottle, whence it is extracted by breaking the latter.

तिर्यक्पातनयन्त्रम् *Tiryak pātana yantra*. This apparatus means the adjustment of retorts and receivers for sublimation and distillation. At the present day glass retorts of European manufacture are used. Country-made glass retorts are also available.

SULPHUR.

Sans. गन्धक Gandhaka.

Four varieties of sulphur are mentioned by Sanskrit writers, namely, red, yellow, white and black. Of these the red and black are not now available. The yellow variety or vitreous sulphur is called *āmlā-sār*, because its semi-transparent crystals resemble the translucent ripe fruits of the *āmalaki* (*Phyllanthus emblica*). It is preferred for internal use in combination with mercury. The white variety or ordinary roll sulphur is inferior to the yellow, and used for external application in skin diseases.

Sulphur is purified by being washed in milk. It is first dissolved in an iron ladle smeared with butter and then gradually poured into a basin of milk. When cool and solidified it is fit for use. Dose twelve to twenty-four grains with milk or other vehicle.

Sulphur is described as of bitter, astringent taste, with a peculiar strong smell. It increases bile, acts as a laxative and alterative, and is useful in skin diseases, rheumatism, consumption, enlarged spleen etc. In combination with mercury it is used in almost all diseases. The circumstance of its readily combining with and fixing metallic mercury, has led to its extensive use in combination with that metal.

In skin diseases sulphur is used both internally and externally. Internally it is given with milk or in the shape of a sulphurated butter, prepared from milk boiled with the addition of sulphur. The butter thus obtained is called *Gandha taila*, and is taken internally, and applied externally, in skin diseases.¹ Sulphur and *yavakshāra* (an impure carbonate of potash), mixed with mustard oil, is applied in pityriasis psoriasis etc.² Sulphur enters into the composition of a large number of applications for skin diseases, the following is an example.

1. गन्धकैश्च । आरसंज्ञाने पञ्चसि दत्त्वा गन्धकजं रजः । तज्जातद्वयिजं
चर्पिर्गन्धकैश्च वदन्ति हि । गन्धकैश्च गन्धतुण्डं हन्ति वेपथुश्च मन्थनात् ॥ चन्द्रेह-
मञ्जरी ।

2. गन्धपाषाणचूर्णेन ववचारेण मेषितम् । शिष्णुगार्धं गन्धकायु कटुतैश्च
कुतेन वा ॥ चक्रः ।

Ādityapāka taila.¹ Take of sesamum oil four seers, madder, the three myrobalans, lac, turmeric, orpiment, realgar and sulphur equal parts, in all one seer. Mix and expose to the sun. This oil is useful in eczema, scabies etc.

In rheumatism it is used in combination with bdellium, as in the following, called *Sinhanāda guggulu*.² Take of sulphur eight tolās, bdellium eight tolās, decoction of the three myrobalans seventy-two tolās, castor oil thirty-two tolās, mix and boil together in an iron vessel till reduced to the consistence of a confection. Dose about one drachm twice daily. It is useful in chronic rheumatism, lameness, cough, asthma, and skin diseases.

MERCURY.

Sans. पारद *Pārada*. रस *Rasa*.

Mercury, though not mentioned by Charaka* and Susruta, has in later days come to be regarded as the most important medicine in the Hindu Pharmacopœia. *Pārada* literally means that which protects, and mercury is so called because it protects mankind

1. आदित्यपाकं तैलम् । मज्जिषा लिफला वासा निशा विद्यावनम्बकैः ।
सूर्यतैलौषमादित्यपाकं पाणाहरं परम् ॥ चक्रः ।

2. सिंहनादगुग्गुलुः । पचत्यं कषायस्य लिफलायाः सुचूर्णितम् । सौमन्विक
पच्यैकं कौशिकस्य पचन्तथा । कुष्ठं चित्ततैलस्य सर्जमादाय वलतः । पाचयेत्
पाचविहैद्यः पाले कौहमने इदं ॥ हन्ति वातं तथा पित्तं क्षेपणं चक्षु-
पकुताम् । श्वासं सुदुर्जयं हन्ति काशं पञ्चविधं तथा ॥ कुष्ठानि वातरक्तञ्च युष्मा-
न्मूकोदराणि च । आमवातं ज्वरेदेतदपि वैद्यविवर्जितम् ॥ चक्रः ।

* There is a passage in Charaka in the chapter on *Kushta* or skin diseases which some physicians construe into a recommendation for the use of mercury. It is this सस्य व्याधिनिवाशन मद्रात कुष्ठो रसश्चुनिष्ठहीतम्. It may be translated as follows. Reduced mercury which cures all diseases should be taken by those affected with skin diseases. The term *rasa*, however, signifies mercury as well as many other things, such as myrrh, sulphur, gold etc., and since Charaka does not mention *pārada*, the principal name for mercury, it is doubtful if he really meant mercury by the term *rasa*. Supposing, however, he did mean mercury, its use was at all events, in his time, confined to skin diseases only.

from all sorts of diseases. It is said that the physician who does not know how to use this merciful gift of God is an object of ridicule in society.

Good mercury is said to be bright like the mid-day sun externally, and of a bluish tinge internally. Mercury of a yellowish-white, purple, or variegated colour should not be used in medicine. Mercury, as met with in commerce, contains several sorts of impurities, such as tin, lead, dirt, stone, etc. If administered in an impure state it is said to bring on a number of diseases; hence it is purified before use. Various processes for purifying mercury are described in books. At the present day the following is generally adopted by *Kavirâjas*. Mercury is first rubbed with brick-dust and garlic, then tied in four folds of cloth and boiled in water over a gentle fire for three-hours in an apparatus called *Dolâ yantra*. When cool, it is washed in cold water and dried in the sun. Some practitioners use betle-leaves instead of garlic for rubbing the mercury with. Mercury obtained by sublimation of cinnabar is considered pure and preferred for internal use.¹ Cinnabar is first rubbed with lemon juice for three hours, and then sublimed in the apparatus called *Urddhapâtana yantra*. The mercury is deposited within the upper pot of the apparatus, in form of a blackish powder. This is scraped, rubbed with lemon-juice and boiled in water, when it is fit for use. A peculiar form of mercury called *Shadguna bali jârîta rasa*² is thus prepared. A little sulphur is placed in an earthen pot, and over it some mercury. The pot is heated in a sand-bath, and, as the sulphur begins to melt, cautiously and gradually more of it is added to or placed over the mercury, altogether to the extent of six times the weight of the

1. हिङ्गुबोक्षरसः । जम्बीरनिम्बुनीरेष मर्हितं हिङ्गुं दिनम् । अर्द्धपातन-
जम्बोषं पात्रः स्थापितो बोक्षरसः । कक्षुसैर्नामवस्त्राद्यैर्निर्घृत्तो रसकर्मणि ॥

रसेन्द्रसारसंपदः ।

2. कक्षुगुञ्जवनिजारितरसः । क्षुद्रभाण्डे रसं जला वायुकायनमध्यगं ।
कक्षुगुञ्जं मन्थकं तत्र क्षिपेदस्यात्सकं घनैः । तैश्चक्षुषो यदा मन्थयन्तोऽवतारयेत्
हृतं । स्थाप्य भोते षड्मे मन्थे स्फोटयित्वा रसं गमेत् । सर्वरोगेषु दातव्यो रसो
स्थापनिसूदनः ॥

रसेन्द्रसारसंपदः ।

mercury. When the whole is melted like oil the pot should be quickly removed from the fire, and cooled till the mass is consolidated. It should then be broken, and the mercury extracted from within the mass. Mercury thus obtained is said to be superior to all other forms, but it is not much used at present.

The purified metal obtained by the processes above mentioned is employed for the preparation of mercurial compounds. Four preparations of mercury are described in books, namely, black, white, yellow, and red, called respectively, *krishna*, *sveta*, *pita* and *rakta bhasmas*.

1. *Krishna bhasma*. The black preparation is the black sulphide of mercury, made by rubbing together and dissolving over the fire three parts of mercury with one of sulphur.¹

2. *Rasakarpura*. The white preparation is the *Rasakarpura* or perchloride of mercury. Several processes are given for preparing it; one is as follows.² Take of mercury and chalk equal parts, and rub them together till the globules disappear. Rub this mixture of chalk and mercury with *pānsu* (salt obtained from saline earth) and the juice of *Euphorbia nereifolia* (*snuli*) repeatedly. Enclose in a covered crucible and heat it within a pot full of rock salt. The perchloride of mercury will be deposited in the shape of a pure white powder under the lid of the crucible. The *Bhāvaprakāśa* gives the following process for its preparation.³ Take of purified

1. कृष्णभस्म । लोहचालेऽथवा ताप्ते पथैर्न शुद्धमन्यकम् । नृदग्निना कृते तस्मिन् शुद्धसूतं पकृतवन् ॥ क्षिप्त्वा चालयेत् किञ्चित् लोहदार्ढ्या पुनः पुनः । नोमने कदलीपत्रं तस्योपरि च चालयेत् ॥ रसेन्द्रसारसं पक्वः ।

2. श्वेतभस्म । पिष्टं पांशुपटु त्रिमासं मसं वज्रप्रभुना नैकयः कृतं घातनतः कटीकवर्धितं तत् संपुटे रोधयेत् । अन्तःस्थं सवषस्य तस्य च तले प्रज्वाल्य वज्रं हठात् वचं पाश्चात्पेन्दुक्रुद्धवचं मस्योपरि स्थं यनैः ॥ रसेन्द्रसारसं पक्वः ।

3. अथ कर्पूररसस्य विधिः । तत्र पारदस्य संक्षिप्तशोधनं कर्तव्यम् ।

शुद्धकृतस्यं कुर्वात् प्रत्येकं नैरिकं सुषोः । रुटिकां कटिकां तद्वत् स्फटिकां विष्णुवक्त्रं च । वज्रोक्तं चारुवचं भास्वरप्रकटितकाम् । सर्वाख्येतानि संचूर्ण्य वाक्वा चापि शोधयेत् । एभिश्चूर्णैर्बुधं कृतं वायद्यामं विनर्हयेत् । तच्चूर्णवर्धितं सूतं स्वादीनध्ने परिधिषेत् । तस्या स्वाद्यां दुधे स्वादीनपरी धारयेत् समान् ।

mercury, *gairika* (red-ochre), brick dust, chalk, alum, rock salt, earth from ant-hill, *kshāri lavana* (impure sulphate of soda) and *bhānda-ranjaka*, or red earth used in colouring pots, in equal parts, rub together and strain through cloth. Place the mixture in an earthen pot, cover it with another pot, face to face, and lute the two together with layers of clay and cloth. The pots so luted are then placed on fire, and heated for four days, after which they are opened, and the white camphor-like deposit in the upper pot is collected for use.

3. *Pita bhasma*. The yellow preparation called *Pita bhasma*¹ is directed to be prepared as follows. Take of mercury and sulphur equal parts, rub them together for seven days with the juice of *bhumyāmalaki* (*Phyllanthus neruri*) and *hastisundi* (*Heliotropium Indicum*). Place the mixture in a covered crucible, and heat it in a sand-bath for twelve hours. The result will be a yellow compound.

4. *Rakta bhasma*. The red preparation called *Rakta bhasma* or *Rasa sindura*² is prepared in a variety of ways. The following is one of them. Take of mercury and sulphur equal parts, rub together with the juice of the red buds of *Ficus Bengalensis* (*vata*) for three days successively, introduce the mixture within a bottle and heat it in a sand-bath for twelve hours. A red deposit will adhere below

सम्पन्नकुटितलदा स्रग्देनबोर्धम् । संशोष स्रग्देनो भूयः संशोष स्रग्देत् ।
सम्पन्नं विमोष स्रग् तां स्वासीं सुखां विचारयेत् । अग्नि निरन्तरं दद्यात् वाक्-
हिनचतुष्टयम् । अक्षारोपरितयन् रणेद्यन्नादहर्निशम् । शनैरद्वाडेद् वन्न
मूर्ध्स्यासीनतं रसम् । कर्षूरवत् सुविषमं ऋज्जीवाद् युष्यवसरम् ॥ भावप्रकाशः ।

1 पीतभस्म । रसगन्धौ समौ कृत्वा हस्तिशुल्बीस्रग्देदृक्म् । मूषालिङ्गरसैः पिष्ट्वा
पर्वणं दिनसप्तकम् । विषय बालुकावन्ने मूषायां सञ्चिच्छेत् तत् । दिनमेकं
ददेदग्निं बन्दं बन्दं निघावधि । एवं निष्पाद्यते पीतः पीतः सूतस्तु ऋज्यते ॥
रसेन्द्र सारसंपद्मः ।

2 रक्तभस्म वा रससिन्दूरः । पञ्चमात्रं रसं शुद्धं तावन् मातृगुणं गन्धकम् ।
विधिवत् कज्जलीं कृत्वा मूषोपाक्षरपरिधिः ॥ भावनां कृतवत् दत्त्वा स्वासी-
मध्ये निधापयेत् । विरज्य कवची बन्धं बालुकाभिः प्रपूरयेत् ॥ दत्त्वा तदग्ने
बन्धमग्निं पचेद्ग्राहचतुष्टयम् । जायते रससिन्दूरं तद्व्याख्यसञ्चिभम् । अह-
सानविशेषं करोति विविधान् शुभान् ॥
रसेन्द्रसारसंपद्मः ।

the neck of the bottle. It is taken out in the shape of dark red shining scales.

The four preparations of mercury above mentioned, though described in most works on metallic medicines, are not, practically used in the treatment of disease under these names. In the present day the yellow preparation is not in use. The white form called *Rasakarpura* is now prepared, not according to the processes described in Sanskrit works, but by subliming the black sulphide of mercury with common or rock salt. In this form it is largely manufactured and sold in all the bazars. The red preparation is better known as *Rasa sindura*; and the black one as *Rasa parpati*. In fact, practically, prepared mercury means the red preparation or *Rasa sindura* and this is the form in which it is largely used. Besides this, the black and red sulphides of mercury are also used internally. The black sulphide is prepared by rubbing together equal parts of sulphur and mercury till the globules disappear. It is called *Kajjali*.¹ The red sulphide or cinnabar is called *hingula*. These four preparations, namely, cinnabar, the black sulphide called *Kajjali*, the red preparation called *Rasasindura*, and the *Rasakarpura* of the bazar, are the four principal forms in which mercury is used in Hindu medicine; that is, they constitute the basis of all the formulæ containing mercury.

Mercury is said to be imbued with the six tastes, and capable of removing derangements of all the humours. It is the first of alterative tonics. Combined with other appropriate medicines it cures all diseases, acts as a powerful tonic and improves the vision and complexion.

In fevers of all descriptions, mercury is extensively used in combination with aconite, croton seed, *datura*, and other medicines. The following are a few illustrations.

Hingulesvara. Take of cinnabar, aconite, and long pepper, equal parts, rub together in a mortar and make into pills about

१ कज्जलिका । शुद्धं सूतं तथा गन्धं चक्षुःतावद्विषहं नेत् । सूतं न दृश्यते वायुं
किन्तु कज्जलसङ्गमेत् ॥ एषा कज्जलिका स्वाता इन्द्राणी वीर्यवर्द्धिनी । नानादु-
षान्मोहेन सर्व्वव्याधिविनाशिनी ॥ रसेन्द्रवारसंयुतः ।

four grains each. They are given, beaten up with a little honey, in ordinary remittent fever.¹

*Taruna jvarári.*² Take of mercury, sulphur, aconite and croton seeds, equal parts, rub together with the juice of *Aloe Indica* and make into four grain pills. These pills act on the bowels and relieve fever. They are administered with sugar and water.

In diarrhoea and dysentery, mercury is used in a great variety of forms. The following are a few examples.

*Vajrakapṭa rasa.*³ Take of mercury, sulphur, opium, *mocha-rasa*, (gum of *Bombax Malabaricum*), the three myrobalans, ginger, black pepper, and long pepper, in equal parts, powder and mix. Soak the powder in the juice of the leaves of *Cannabis sativa* (*Vijayá*) and *Verbesina calendulacea* (*bhringardja*) seven times and make into six grain pills. This medicine is administered with honey in obstinate chronic diarrhoea. Dose grains four to twenty-four.

*Rasa parpati.*⁴ This is prepared by melting together a mixture of equal parts of sulphur and mercury in an iron ladle, smeared with *ghee* (clarified butter). The melted fluid is poured on a piece of plantain leaf, placed on a ball of cowdung. It is then pressed

1 हिङ्गुशेखरः । तृत्यांशं सह्येत् सङ्घे पिप्पलीहिङ्गुसं विषम् । द्विगुणं मधुना देयं वातज्वरविस्तृते ॥ भैषज्यरत्नावली ।

2 तरुज्वरारिः । अवपाकं गन्धं विषं पारदञ्च तृत्थं कुमारोत्तरसेन पिष्टम् । अस्य द्विगुणा हि सितोदकेन स्वातो रसोऽयं तरुज्वरारिः । दातव्य एषोऽह्नि पञ्चमे वा षष्ठेऽथवा सप्तमे एव वापि । जाते विरेके विजितज्वरः स्वात् पटोचसुगन्धान्निषेवनेन ॥ भैषज्यरत्नावली ।

3 वज्रकपाटरसः । पारदं गन्धकं चैवाहिफेन सह नीयकम् । लिफटुं लिफलाक्षैव सममेकलकारयेत् । भङ्ग भङ्ग इवैवेतत् भावयेच्च पुनः पुनः । रक्तित्वं ततश्चैव मधुना सह मज्जयेत् । असाध्यो मङ्गली हन्ति रसो वज्रकपाटकः ॥ भैषज्यरत्नावली ।

4 रसपर्पटी । पूर्वोक्तौ द्विविधयोऽसौ समानौ रसगन्धकौ । सङ्घर्षं कृत्वा मधुना चूर्णं कुर्याद्विद्वान् ॥ ततो वदरवज्जिखे जीह्वपाले इवीकृतम् । नोनवोपरि सज्जितकदलीपलपातनात् । कुर्याच्च पर्पटाकारं तस्य रक्तीदृशं क्रमात् ॥ हाद्व-रक्तिका यावत् प्रबोधः प्रहराजितः ॥ चिकित्सारत्नः ।

by another ball of cowdung, enclosed in plantain leaf. When cool, the black sulphide of mercury is obtained in the shape of round disks. It is much used alone, or with the addition of other medicines, in chronic diarrhoea. Other varieties of *Parpati* or mercurial preparations in shape of disks are prepared with the addition of iron, gold, copper etc, and used in this complaint, as for example, *Svarna parpati*, *Panchāmrita parpati* etc. The preparation of the former will be described under the head gold. The latter is thus prepared.

Panchāmrita parpati.¹ Take of sulphur eight tolás, mercury four tolás, prepared iron two tolás, prepared talc one tolá, prepared copper half a tolá. Rub together in an iron mortar, melt in an iron ladle and prepare disks like those of *Rasa parpati*, above described. Dose four grains with honey and *ghee*, to be gradually increased to sixteen or eighteen grains. *Parpatis* of different sorts when given in cases of diarrhoea with anasarca are conjoined with a milk diet, water and salt being prohibited.

Mahāgandha rasa.² Take of mercury and sulphur each two tolás, and make a *Parpati* as before described. Take of nutmegs, mace, cloves, and *nim* leaves, each two tolás, powder them well, mix together, and inclose the mixture within bi-valve shells. Cover the shells with a layer of clay and roast in fire. When cool, extract

1 पञ्चाङ्गतपर्यटी । अष्टौ गन्धकतोलका रसद्वयं चोष्टं तद्वर्णं शुभम् ।
 चोष्टार्द्धं च वराभक्तं सुविमलं ताप्यं तदभ्राह्मिकम् ॥ पाले मौक्तिके च मर्हन्-
 विभौ चूर्णीकृतश्चैतः । द्रव्यं वादर वज्रिनातिशयदुना पाकं विदित्वा दधे ॥
 रक्षाया लघु ढाकवेत् पटुरियं पञ्चाङ्गता पर्यटी । अघाता क्षौद्रहताग्निता प्रति-
 दिनं युक्ताह्वं दधितः ॥ लोहे मर्हन्योगतः सुविमलं भक्ष्यं क्रिया चोष्टवत् ।
 युक्ताष्टावचना त्रिकं त्रियुचितं सप्ताहमेवं भजेत् ॥ शैवच्छरत्नावली ।

2 महानग्न्यक्तम् । रसनग्न्यक्तयोर्पात्रं कर्षमेकं सुयोधितम् । ततः कज्ज-
 रिकां कृत्वा न्युपाकेन योधयेत् ॥ जातीफलं तथाकोषं खड्गारिष्टपलके ।
 एतेषां कर्षमालेख चूर्णेन सह मर्हयेत् ॥ युक्ता न्यहे पुनः स्यात् पटुपाकेन
 साधयेत् । युक्ताह्वप्रसाधेन वटिकां कारयेद्बुधः ॥ एतत् प्रोक्तं कुमारार्चां
 रसत्वाय महोपधम् । अर्घ्योन्नं दीपनञ्चैव बलवर्धप्रसादनम् ॥ दुर्गारिष्टहृषीरोनं
 जयेच्चैव प्रवाहिकाम् । सूतिकाक्षं जयेदेतदपि वैद्यविधिर्जितम् ॥ रसेन्द्रसा-
 रसं सहः ।

the medicine from the shells. It is administered in doses of about four grains in the acute diarrhoea of children.

Pándusudana rasa.¹ In jaundice, mercury is used along with other alteratives and purgatives, as in the following, called *Pándusudana rasa*. Take of mercury, sulphur, prepared copper, croton seeds and bdellium, equal parts, rub them together with *ghee* and make into two-grain pills. They are given with the juice of *nim* bark and honey in jaundice. Acids and cold water for drinking should be avoided.

In affections of the lungs mercury is used in a variety of combinations. The following are a few illustrations.

Rasendra gudiká.² Take of purified mercury two tolás. Add to it one tolá of the juice of *jayanti* leaves (*Sesbania Egyptica*) and of fresh ginger, rub together till the mixture thickens, then soak it in the juice of *Jussiaea repens* (*kanchata*) and *Solanum Indicum* (*vrihati*) respectively for twenty-four hours. Take of purified sulphur eight tolás and soak in the juice of *Verbesina calendulacea* (*bhringarója*). When dry, mix the sulphur with the mercury, and rub together with sixteen tolás of goat-milk till the mass is fit for being made into pills. Dose about four grains, to be taken with goat-milk and juice of ginger. This pill is useful in bronchitis and cough generally.

Rájamrigánka rasa.³ Take of *Rasa sindura* three parts, prepared gold and copper one part each, realgar, orpiment and sulphur

1 पाण्डुसूदनरसः । रसं गन्धं चतुर्णां तान् जवपालश्च युग्युक्तुम् । रसांश्च
माषाण्डयुक्तान् युक्तिकान् कारयेद्विषम् ॥ रसैकां चाद्वेक्षित्वं पाण्डुशोथोप-
शान्तये । शीतलश्च जवं चाण्डं वर्जयेत् पाण्डुसूदने ॥ रसेन्द्रवारदं पदः ।

2 रसेन्द्रयुक्तिका । कथं शुद्धरसेन्द्रस्य सरसेन जवाङ्गदोः । शिवाद्यां चत्त-
वेत्तावद्यावत् मिश्रं घनं ततः ॥ जलकषां काकनाची रसाभ्यां भावयेत् पुनः ।
सौगन्धिकपत्रं भङ्गसरसेन विभावितम् ॥ चूर्णितं रससंयुक्तमजाक्षीरपल्लवे ।
चक्षितं घनपिबन्तु युक्तीं स्निग्धकषायवत् ॥ क्वादौ शिवमभ्यर्च्य द्विजातीन्
परितोष्य च । जीर्णोद्योभक्षणेदेकां क्षीरमांशरसाशनः ॥ सर्वरूपं च
कायं रक्तपित्तजरोचकम् । अपि वैद्ययतैश्च क्लृप्तमनुपितं निवर्धयति ॥ चक्रः ।

3 राजनृगाङ्गरसः । रसमजलयो भागा भागैकं हेमभक्षकम् । चतुर्ताण्डस्य

two parts each and mix. Introduce the mixture into the cavities of *couries*, close their openings with borax reduced to a paste with goat-milk, roast the shells in closed crucibles and take out the medicine when cold. Dose about four grains, with two grains of long and two of black pepper, honey and clarified butter. It is said to be useful in phthisis, and chronic bronchitis with fever.

In diseases of the nervous system, several combinations of mercury with gold, iron, talc, etc. are used, such as, the *Chaturmukha rasa*, *Chintamani chaturmukha*, *Yogendra rasa* etc. They are all similar in composition, with but slight variation in the proportions of the active ingredients and their adjuncts.

*Chintamani chaturmukha*¹ is thus prepared. Take of the red preparation of mercury called *Rasa sindura* two tolás, prepared talc two tolás, prepared iron one tolá, prepared gold half a tolá, rub them together with the juice of *Aloe Indica* and make into two-grain pills. This medicine is said to be useful in nervous diseases, insanity, cephalalgia, deafness, noise in the ears, paralysis of the tongue, diseases of the female and urinary organs, phthisis, fever etc. It improves nutrition, increases the appetite and strength, and brightens the complexion.

As an alterative tonic the red preparation of mercury, or *Rasa-sindura* already described, is much used in a variety of diseases.

भागैकं शिवागन्धकताम्रकम् ॥ प्रतिभागद्वयं शुद्धमेकीकृत्य विमर्शयेत् । वराटीं
पूरवेत्तेन अजलीरेण टङ्कयन् ॥ पिष्ट्वा तेन घृतं दध्ना मृदायुजे तत् निघाषयेत् ।
शुण्ठं नजमुटे पाण्यं चूर्णयेत् स्नाकशीतकम् ॥ रसो राजस्यनाङ्गोऽयं चतुर्गुणः
चक्षुषः । दशपिण्डिकं औष्ठैर्मरिचैकोनविंशतिम् ॥ सप्तैर्हृपवेद् वैदेया
वातश्लेष्मने चये ॥ भैषज्यरत्नावली ।

1 चिन्तामणिचतुर्गुणः । सर्वैकं रससिन्दूरं तल्लयं घृतमभ्यक्षन् । तदर्धं
सप्तौष्ठस्य सूर्यपाण्यं क्षिपेद्बुधः ॥ कन्दारसेन सम्मिश्रय्य शुक्लाभानां वटीकुरेत् ।
चतुष्पानादिकं दद्यात् शुद्धा दोषवशावकम् ॥ हृन्ति पित्तालकं वायुं केवलं पित्त-
संयुतम् । कृष्णासमरुचिं दाहं बालिभान्ति शिरोऽपहृन् ॥ प्रमेहं कर्णनादश्च
जङ्घनद्वन्द्वकृताम् । वाधीर्वं गर्भिणीरोगमश्मरीकृतिकायम् ॥ प्रदरं शोष-
रोगश्च कृष्णाण्यं प्लवकायकम् । वसवर्षाग्निदः सस्मत् कान्तिपुटिप्रदायकः ॥
चिन्तामणिचतुर्गुणं चिन्तामणिचिन्तामरः ॥ रसेन्द्रसारसङ्ग्रहः ।

Two other forms of this medicine in common use are called *Shad-guna balijārita rasa sindura* and *Svarna sindura* respectively.

Shadguna balijārita rasa sindura is thus prepared. Take of mercury and sulphur equal parts, and prepare *Rasa sindura* as already described by sublimation in a glass bottle. On the second day, mix this *Rasa sindura* with an equal quantity of sulphur and again sublime the compound. Repeat the process in this way, six times. This preparation is considered superior to the ordinary *Rasa sindura*.

*Svarna sindura*¹ is thus prepared. Take of fine leaf gold one tolá, purified mercury eight tolás, mix together by rubbing in a mortar, add twelve tolás of sulphur and again rub together, till the mass is of a dark colour. Sublime in a glass bottle on the sand-bath. The three forms of *Rasa sindura* above mentioned are said to cure all sorts of diseases, but are particularly used in chronic fever, catarrh and cough of children, mental and bodily debility, anæmia etc.

Mercury is used in syphilis both externally and internally. Syphilis and its treatment by mercury are described only in recent compilations, such as the *Bhavaprakāsa*. The following are a few illustrations of its use in this disease.

Saptasāli vati.² Take of mercury and catechu each half a tolá, pellitory root one tolá, honey one and a half tolá. Rub together till the globules of mercury disappear, and divide into seven pills or boluses. One pill is administered every morning with

1. सार्धं सिन्दूरः । सूक्ष्मपत्रं सुवर्चस्य सुगुणं कोकसन्निभम् । शुद्धकृतपत्रे
केन विसर्जयेद्बलतो भिषक् ॥ सार्धं पत्रं मन्त्रकञ्चु कृत्वा कञ्जसिकां ततः । निवेष्ट्य
काचपूष्पाञ्च इडायां परिनेष्टयेत् ॥ तां कर्पटै र्जुदा चैव कटिकाभिः समन्ततः ।
सत्यग्निबध्य बलेन संपूज्येयं सहोमवा ॥ वायुकायन्मनप्रेयं तां सज्जिबध्य सजा-
हितः । पत्रेद्वाद्यवासांस्तु निःसम्पाते सुनिर्जने ॥ एकाकी पाकविहैदयः
स्वाङ्गयितुं सहसरेत् । सार्धं सिन्दूरमिच्छेत् सर्व रोगनिघ्नं दनम् ॥ सञ्जिप्तसारः ।

2. सप्तसाक्षिवटी । पारददण्डकानः स्नात् कदिरदण्डसंमितः । अकरा-
करधवापि पात्र दण्डदण्डोन्मितः । दण्डदण्डोन्मितं यौष्टं चक्षुः सर्वज्ञ निशि-
पेत् । संमर्दं तस्य सर्वस्य कुर्यात् सप्तवटीर्भिषक् । स रोगी भक्षयेत् प्रातः
एकैकं कञ्जना वटीम् । वर्जयेद्विषयं फिरङ्गस्य नश्यति ॥ भावप्रकाशः ॥

water in primary syphilis. Acids and salt should not be taken after the use of this medicine.

*Rasa karpura*¹ or corrosive sublimate as sold in the bazars is recommended to be given in a single dose of eight grains. The medicine is enclosed in a ball of wheat-flour and covered with powdered cloves. It is swallowed with water so as not to touch the teeth. Salts and acids are forbidden to be taken after the use of this medicine. As the *Rasa karpura* of the bazars is not a pure perchloride of mercury, but is a mixture of calomel and corrosive sublimate in indefinite proportions, the patient sometimes escapes after this dose. When, however, it contains more of corrosive sublimate than of calomel, intense salivation, gastritis and even death may result. When such doses of poisonous remedies are recommended in standard works it is no wonder that we should occasionally come across cases of dreadful salivation, induced by native treatment. The circumstance of wheat-flour being used as a covering to the poison may act as an antidote to some extent. In secondary syphilis *Rasa karpura* is given in small doses in combination with cloves, saffron, sandal wood, and musk.

For external application, about a drachm of mercury is recommended to be rubbed between the palms with the juice of the leaves of *Sida cordifolia* (*bátyálaka*) till the globules of mercury are no longer visible. The palms are then to be warmed over the fire till perspiration breaks out from them.²

1. रसकपूरप्राशनेविधिः । फिरक्क संज्ञकं रोगं रसः कपूरं संज्ञकः । अवश्यं नाशयेदतदुचुः पूर्वविहितकाः । चिह्नते रसकपूरप्राशनेविधिरुत्तमः । कनेन विधिना खादेन्मुखे शोधं न विन्दति ॥ योधूनचूर्णं सजीव विदध्यात् सूक्ष्म-
कूपिकात् । तन्मध्ये निक्षिपेत्सूतं चतुर्थं क्षिपितं भिषक् ॥ ततस्तु घुटिकां कुर्वा-
द्यावा न दृश्यते वहिः । सूक्ष्मं चूर्णं अवक्लृप्तं तां वटीमवधूषयेत् ॥ दन्तसर्षो
यवा न स्नात् तथा तामलभाणि गिषेत् । ताम्बूलं भक्षयेत् पञ्चाध्याकाञ्चवयान्
लजेत् । अममातपसध्वानं पिबेवात् स्त्रीनिषेवनम् ॥ भावप्रकाशः ।

2. पीत पुष्प वचापत्ररसैट्कमितं रसम् । हस्ताभ्यां मर्दयेत्तावद्यावत्
सूतो न दृश्यते । ततः संक्षेदयेत्तानेवं वासरसप्तकम् । त्वजेऽक्षयश्चमस्त्व
फिरक्कस्य नश्यति ॥ भावप्रकाशः ।

For fumigation in primary syphilis, about half a drachm of the black sulphide, mixed with one fourth part of wheat-flour, is employed daily for seven days in succession.¹ In secondary syphilitic eruptions the following composition is used for fumigation. Take of cinnabar one tolá, realgar half a tolá, powder and mix. About fifteen grains of this is used at a time. Powders for fumigation are heated over a fire of jujube tree wood, and the vapour is applied to the skin under cover in a closed room.

Mercury enters into the composition of several applications for skin diseases, as in the following. Take of cinnabar, sulphur, red oxide of lead, rock salt, seeds of *Cassia tora* (*chakramarda*), *babering*, *Cleome felina* (*svarnakshiri*), and the root of *Aplotaxis auriculata* (*kushta*) in equal parts. Powder them, and reduce to a thin paste with the juice of *datura*, *nim* or betle leaves. This application is said to cure ringworm, eczema, prurigo, psoriasis etc.²

For lice in the hair, mercury rubbed with *datura* or betle leaf is recommended to be applied to the scalp.³

ARSENIC.

THREE compounds of arsenic are used in Hindu medicine, namely, arsenious anhydride or white arsenic, red sulphide of arsenic or realgar, and the yellow sulphide or orpiment. Of these three, orpiment and realgar have been used in medicine from a very remote period, and are indigenous to India. Native white arsenic is not met with in India. It is brought from Burmah, China and

1. घृणप्रयोगः । पारदः कर्षभाजः स्थाप्तावानेव हि गन्धकः । तच्छुभा-
चाक्षनात्माः स्फुरिषाः कुर्वति कर्ष्णबोजम् । तस्याः सप्तवटीः कुर्वाणानिधूषं
प्रयोजयेत् । दिनानि सप्त तेन स्थात् पितृकान्तो न संशयः ॥ भावप्रकाशः ।

2. हेमचोरी विकृष्टानि दरदकृन्मकं तथा । दद्रुप्तः कुठ सिद्धूरं सर्वान्येकल
मर्दयेत् । धत्तुरनिम्बताम्बूषीपलानाम् स्वरसैः प्रथक् । कस्य प्रलेपनात्त्रेण
वासाद्द्रुविचरिषाः । कच्छू चरकसचैव प्रथमं बान्ति वेगतः ॥ शार्ङ्गधरः ।

3. रघेन्द्रेण समामुक्तो रसो धुस्तूरपत्रकः । ताम्बूलपत्रको वापि लेपो
युक्तविनाशनः ॥ चक्रः ।

the Persian gulf. It is not mentioned in the more ancient Sanskrit works, neither in the list of metallic ores, where orpiment, realgar etc. are described, nor in any prescription for the treatment of diseases. In compilations of a later date, however, such as the Bhāvaprakāsa, and the Tantras, it is recommended as a powerful medicine for fever, and is now much used as such.

In these later works white arsenic is called by several names, such as सङ्खविष *Sankha visha*, शम्बरक्षार *Sāmbala kshāra*, जेनामल *Phenāsma bhasma*, and दारुमुच *Dārumuch*. None of these terms, however, is to be found in standard lexicons, such as Wilson's Sanskrit-English Dictionary, or Sir Rājā Rādhākanta Deva's Sabdakalpadruma. *Phenāsma bhasma* is mentioned by Susruta in his chapter on poisons, where he says, it and *haritāla* (orpiment) are the two mineral poisons,* but it is very doubtful if Susruta meant any native white arsenic by it. The derivation of the term implies that it was obtained by roasting some sort of stone or ore. White arsenic was obtained artificially in ancient days by roasting orpiment (see orpiment), and probably this preparation was called *Phenāsma bhasma*. At a later period imported white arsenic had been used in medicine under the designations of *sambalakshāra*, *dārumuch*, and *sankha visha*.

WHITE ARSENIC.

Sans. सङ्खविष *Sankha visha*. दारुमुच *Dārumuch*. शम्बरक्षार *Sāmbala kshāra*.

WHITE Arsenic is sold in the bazars under the names of *Sunka bish*, *Suffed sambul* and *Darumuch*. It is purified by being soaked in lemon juice or the juice of the plantain tree. It is chiefly used in fever, for which it is now preferred to the other compounds of arsenic, and is employed alone as also in a great variety of combinations. The following are a few illustrations.

Jvara brahmāstra.¹ Take of white arsenic two tolās, soak it in cow's urine for three days, and afterwards in the juice of

* जेनामलकहरितालश्च द्वेधातु विषे। Susruta. kalpasthāna. chapter II.

1 ज्वरमङ्गाक्षः । विपरीतं समानं च युग्मवर्षं सुयोगमन् । आनीतं सञ्चकं

Celsia Coromandeliana (*kokasima*), for one day, and then wash in cold water. Take a small quantity, the weight of a mustard, (about one-ninth of a grain), and administer within a lump of sugar in intermittent fever before the paroxysm comes on. Thus taken for three days, it cures recent and chronic fevers, ague and remittent fever. It is called *Jvara brahmāstra* or the weapon which infallibly destroys fever.

Dārubrahma rasa.¹ Take of white arsenic, cinnabar, *datura* seeds and long pepper, equal parts, and make into four-grain pills with lemon juice. They are given with the juice of *tulsi* (leaves of *Ocimum sanctum*) in remittent fever with shivering, incoherent speech or wandering, profuse perspiration or much heat of body, difficult breathing, etc. The dose of arsenic in this medicine is very large and may induce unpleasant symptoms.

Chandesvara rasa.² Take of mercury, sulphur, aconite, prepared copper and white arsenic, equal parts, rub together with the juice of fresh ginger for six hours, then soak in ginger-juice and dry, successively for seven days. Afterwards soak in the juice of *Vitex nigundo* (*nirgundi*) for seven days, make into pills about a grain each, and administer with the juice of fresh ginger. Along with this medicine, inunction with oil, cold bathing and nourishing animal food should be used.

देवि तोलक द्वयं समितम् ॥ स्वप्नमोमूलमानीय शरावेस्थापयेद्दुषः सम्बलं तत्र
संक्षिप्य दिवसत्रयमेव च ॥ तत उद्धृत्य देवेशि कुक्षिशिखारवेण च । स्थापयेद्दिन-
मेकान्तु ततः स्वप्नजलेन च । संशोध्य स्थापयेद्देवि निर्मलेकाचपात्रके । एकसंप्र-
धानं तत् प्वरागमनपूर्वतः ॥ फेणोमध्यगतं क्षया भक्षेत्स्थिरमानसः । कथवा
त्रकैराद्रावैः पीत्वारोगी सुखीभवेत् । एवं दिनत्रयं भुक्त्वा सुष्यते प्वरसङ्कटात्
जीर्णं प्वरे तथावाते कल्पप्वरे पिबेत्ततः निश्चितं प्वरसुक्तः स्यात् सत्यं सत्यं न
संशयः । तन्मोक्तः ॥

1 दाहमक्ष वा कर्षिकरसः । रसजं सङ्गविषस्यैव कण्ठा धुक्षु रवीकैः । अम्बी-
राणां त्रैवैर्हं द्विगुणं परिभाष्यतः । गन्धपलातुपानेन कर्णिकाणां कुष्ठान्तकतः ॥

संक्षिप्तसारः ।

2 चण्डे श्वररसः रसं गन्धं विषं ताम्रं साम्बलं चारमेव च । आर्द्रं कस्य रसे नैव

ORPIMENT.

Sans. हरिताल, Haritāla.

ORPIMENT occurs in two forms, namely, in smooth shining gold-coloured scales called *Vansapatric haritāla*, and in yellow opaque masses called *Pinda haritāla*. *Vansapatric haritāla* is preferred for internal use as an alterative and febrifuge. *Pinda haritāla* is chiefly used as a colouring ingredient in paints, and for sizing country paper. Most of the older Sanskrit MSS. are written on paper prepared with *haritāla*, to preserve them from the ravages of insects, and this it does most effectually.*

नर्द्दे वामनालकम् ॥ रसेनापि च तेनास्य भावयेत् सप्तवारकम् । निर्मूलीसुर-
सेनापि भावयेत् सप्तधा पुनः ॥ शुक्लार्द्धमाणा वटिका शुक्लार्द्धकरसेनै ।
मूलादेव व्यरं हनि तैसाभ्यङ्गं समाचरेत् । सुशीतलज्जसेनानं तैसलत्सादि
मोजनम् । चण्डेश्वरो रसो नाम सर्व रोगकुशान्तकम् ॥ संक्षिप्तसारः ॥

* Babu Rājendralāla Mitra gives the following interesting account of arsenicised paper in his report on Sanskrit manuscripts, published in the Proceedings of the Asiatic Society, for March 1875.

"The manuscripts examined have mostly been written on country paper sized with yellow arsenic and an emulsion of tamarind seeds, and then polished by rubbing with a conch-shell. A few are on white Kāsmiri paper, and some on Palm-leaf. White arsenic is rarely used for the size, but I have seen a few codices sized with it, the mucilage employed in such cases being acacia gum. The surface of ordinary country paper being rough, a thick coating of size is necessary for easy writing; and the tamarind-seed emulsion affords this admirably. The paper used for ordinary writing is sized with rice gruel; but such paper attracts damp and vermin of all kinds, and that great pest of literature, "the silver-fish" thrives luxuriantly on it. The object of the arsenic is to keep off this insect, and it serves the purpose most effectually. No insect or worm of any kind will attack arsenicised paper, and so far the MSS. are perfectly secure against its ravages. The superior appearance and cheapness of European paper has of late induced many persons to use it instead of the country arsenicised paper in writing puthis; but this is a great mistake, as the latter is not near so durable as the former, and is liable to be rapidly destroyed by insects. I cannot better illustrate this than by referring to some of the MSS. in the Library of the Asiatic Society. There are among them several volumes written on foolscap paper, which dates from 1820 to 1830, and they already look decayed, mouldering, and touched in several places by silver-fish. Others on John-letter paper which is thicker, larger and stouter, are already so far injured that the ink has quite faded, and become in many places illegible, whereas the MSS. which were originally copied on arsenicated paper for the College of Fort William in the first decade of this century, are now quite as fresh as they were when first written, I

Haritāla is purified for internal use by being successively boiled in *kānjika*, the juice of the fruit of *Benincasa cerifera* (*kushmānda*), sesamum oil, and a decoction of the three myrobalsans, for three hours in each fluid. Some physicians, probably to save time, mix all these fluids together, and boil the orpiment in the mixture for three hours only. The dose of orpiment thus purified is from two to four grains.

Several methods of roasting orpiment are described. The *Bhāvaprakāsa* recommends that orpiment should be powdered and made into a ball with the juice of *Boerhaavia diffusa* (*punarnavā*) and placed in the centre of a pot full of the ashes of that plant. The pot should be now covered with a dish, luted with clay, and heated over a fire for twenty hours. When cool the ball of roasted orpiment is taken out from the pot and reduced to powder. Another process is as follows. Take of purified orpiment and *yavakshāra*, equal parts, rub them together with the juice of *Vitex Negundo* (*nirgundi*), and roast the mixture in a closed crucible. The resulting compound from both these processes is described as a white camphor-like substance.

A specimen of roasted orpiment supplied to me by an up-country physician was analyzed and found to contain but a small proportion of white arsenic. Bengali physicians do not prepare this drug from a superstitious notion that the man who roasts orpiment dies very soon. They purchase it from *Fakirs* or religious mendicants. It is said that some specimens of roasted orpiment are highly poisonous, and contain a large proportion of white arsenic. The quality of the drug would no doubt vary according to the method in which it is prepared.

Orpiment is said to cure fevers and skin diseases, to increase strength and beauty, and to prolong life. In fever it is used in combination with mercury, aconite, etc. The following is an illustration.

have seen many MSS. in private collections which are much older, and still quite as fresh. This fact would suggest the propriety of Government records in Mofussil Courts being written on arsenicised paper instead of the ordinary English foolscap, which is so rapidly destroyed both by the climate and also by white-ants. To guard against mistake I should add here that the ordinary yellow paper sold in the bazars is dyed with turmeric, and not at all proof against the attack of insects."

*Vetāla rasa.*¹ Take of purified mercury, sulphur, orpiment, aconite, and black pepper, equal parts. First rub the mercury and sulphur together, then add the other ingredients in fine powder, and make into two-grain pills. They are given with the juice of fresh ginger in remittent fever with affection of the brain.

*Vidyādhara rasa.*² Take of mercury, sulphur, prepared copper, iron pyrites, realgar and orpiment equal parts, rub them together and soak the mixture in a decoction of long pepper and in the milky juice of *Euphorbia nereifolia* (*vajri*). Make into pills about six grains each. These pills are given with honey in enlarged spleen and other enlargements of the abdominal viscera.

*Tālakesari rasa.*³—Orpiment forms the active ingredient of several pills for skin diseases, of which this is an example. Take of orpiment, realgar, iron pyrites (*svarnamāṁśhika*), mercury, borax, and rock salt, one part each, sulphur and burnt conch-shell two parts each, rub them together for a day with lemon juice, then add to the mass one-thirtieth part of its weight of aconite, and mix. Dose, five to ten grains with butter. After it, powdered seeds of *Vernonia anthelmintica* (*vāṁkuchi*), two drachms should be taken with honey and ghee. This medicine is useful in all sorts of chronic skin diseases. The above formula is taken from the *Bhāvaprakāśa*. Śārāṅgadharma gives a similar prescription under the name of *Mahātālesvara*.

1. वेतावरसः । रसं गन्धं विषं तावत् सरिवश्च समंशिकम् । शिवावां मर्ह-
वेतावत् वावत् चञ्जलवसिधम् ॥ गुडामात्रं प्रयोक्तव्यं हरेद्वाद्यसंयमम् ।
वाध्यावाध्यं निहन्त्यायु सजिपार्तं सुदारुचम् ॥ आग्नेयं विप्रदेहेषु मोक्षयसे
देहिम् । दातुमर्हति वेतावत् वसदूतनिवारकम् ॥ भैषज्यरत्नावली ।

2. विद्यावररसः । गन्धकं तावत् तावत् सूतं तावत् मनःशिला । शुष्कतृण-
तृणां मर्हन्तु भावनेहिमम् ॥ पिप्पल्याः सक्तवायेष वज्जीवीरेष भावयेत् ।
निष्काशं मयनेत्, यौष्ट्रेः श्लिष्टयुष्मादिकं जयेत् ॥ रसेन्द्रसार संपदः ।

3. तावत्वेरी । तावतायशिला सूतटङ्ग्याः विन्धुसंयुताः । गन्धको द्विगुणः
सूतात् शङ्खसूत्रं तत्समम् ॥ जम्बीराङ्गिर्दिनं दद्यात् लिङ्गदंशं विषं क्षिपेत् ।
अस्य भावद्वयं चादेन्नाहिपीडतसंयुतम् ॥ मध्याह्न्येवाङ्गुलीबीजकर्मं शिवात् ततः
परम् । तान्त्रिकेय्यरत्नाभावं सर्वकुष्ठहरो रसः ॥ भावप्रकाशः ।

Orpiment forms an ingredient of several external applications for skin diseases. Thus, take of orpiment, wood of *Berberis lycium* (*dāruharidrā*), seeds of *Raphanus sativus* (*mulaka*), wood of *Pinus Deodara* and betle leaves, each two tolās, burnt conch-shell half a tolā, beat them together with water into a thin paste. This paste is an useful application in psoriasis.¹

The use of orpiment as a depilatory was known to the ancient Hindus. It enters into the composition of numerous formulæ for the removal of hair. The following are examples.² Take of conch-shell-lime, soaked in the juice of plantain tree, and of orpiment, equal parts, make them into a paste with the aid of water, and apply it to the part from which the hair is to be removed. Or take of conch-shell-lime two parts, orpiment one part, realgar half a part, *sarjikākshāra* (impure carbonate of soda) one part, rub together with water, and apply.

REALGAR.

Sans. मनःशिला, Manahsilā.

REALGAR is purified by being rubbed with the juice of lemons, or of ginger. It is used internally in fever, skin diseases, cough, asthma, etc, and externally in skin diseases. In fever, it is generally used in combination with mercury, orpiment etc. The following is an illustration.

*Chandesvara rasa.*³ Take of realgar, mercury, sulphur, and aco-

1. दावींमूलकनीजानि तालकं सुरदाह च । तास्मूलपत्रं सर्वाणि कार्ष्णि-
काणि पृथक् पृथक् ॥ यक्षचूर्णं शानमात्रं सर्वाग्येकत्र चूर्णयेत् । लेपोऽं
वारिणा पिष्टः सिद्धः नाशः परः ॥ शार्ङ्गधरः ।

2. यक्षचूर्णस्य भागौ द्वौ हरितालश्च भागैकम् । मनःशिलाचार्द्धभागो
सर्जिका चैक भागिका ॥ लेपोऽयं वारिपिष्टस्तु केशान्तत्पात्र दीयते । मनसा
लेपमुक्त्वा च सप्तनेत्रं प्रयुक्त्वा । निर्मूलकेशस्यानं स्यात् क्षपणस्य शिरो यथा ॥
शार्ङ्गधरः ।

3 चण्डेश्वर रसः । सर्वांशं योजयेत् सङ्गे रसं गन्धं शिलां विषम् । निर्मूलकी
सरसैर्भाष्यं त्रिवारं चार्द्राद्भवैः । शुद्धैकं भवेत् प्रतिः ऊवरं हन्ति
महोद्भनम् ॥ रसेन्द्रसारसंग्रहः ।

nite, equal parts, soak in the juice of *Vitex Negundo* (*nirgundi*), and of fresh ginger, three times respectively, and make into two-grain pills. This medicine is useful in remittent fever.

Svāsa kuthāra rasa.¹ Take of realgar, mercury, sulphur, aconite, borax, each one part, black pepper seven parts, ginger, and long pepper, three parts each, rub them together with water, and make into four-grain pills. They are said to be useful in asthma with cough, and in remittent fever with cerebral complications. In coma from remittent fever, these pills are powdered and used as snuff for rousing the patient. They are also used in this manner in cephalalgia, hemicrania, ozæna, etc.

Realgar enters into the composition of numerous applications for skin diseases. Realgar mixed with the ashes of *Achyranthes aspera* (*apāmārga*) is applied to patches of leucoderma or white lepra. In leprous ulcers a liniment composed of realgar, orpiment, black pepper, sesamum oil and the juice of *Calotropis gigantea* is used.²

Chandraprabhá varti.³ Realgar enters into the composition of several applications for the eye : the following is an example. Take of realgar, galena, conch-shell lime, seeds of *Moringa pterygosperma* (*sveta maricha*), long pepper, liquorice and the kernel of belleric myrobalan, equal parts, rub them together with goat's milk, dry the mixture and make into small pastils or pencils. These are rubbed with a little honey and applied to the eyes as a collyrium in affections of the internal tunics, tumors or other growths, night-blindness etc.

1 श्वासकुठाररसः । क्षतं गन्धं विषञ्चैव टक्कनञ्च मनःशिला । एतानि
टक्कनास्त्रानि सरिचं तच्चतुर्थं चम् । त्रिकटु त्रिगुणञ्चैव खल्लोपिष्टा विचूर्णयेत् ।
रसः श्वासकुठारोऽयं श्वाससर्वेन्द्रियरामहः ॥ रसेन्द्रसारसंयुतः ॥

2. मनःशिलाञ्च सरिचानि तैश्च माकैः पयः कुष्ठहरः प्रदेहः ॥ चक्रः ॥

3 चन्द्रप्रभावर्तिः । अञ्जनं श्वेतसरिचं पिप्पली मधुवटिका । विभीतकस्य मध्यन्तु
बहुनाभि र्मनःशिला ॥ एतानि सप्तभागानि अजाषीरेण्यपेक्षयेत् । आवागुम्फां
मतां वर्तिं नेत्रेषु च प्रयोजयेत् ॥ अर्जुदं पटलं काचं तिमिरं रक्तराजिकाञ्च ।
अभिमांसं मरुञ्चैव बभरात्नौ न पश्यति ॥ वर्तिचन्द्रप्रभा नाम जाताम्बुजमपि
शोधयेत् ॥ चक्रः ॥

An oil for application to fistulous sores is prepared as follows. Take of sulphur, realgar and turmeric, eight tolas each, mustard-oil one seer, juice of *datura* leaves one seer, water four seers; boil together in the usual way.¹

IRON.

Sans. लौह, Lauha.

THREE varieties of iron are used in Hindu Medicine, namely, *Kānta lauha* or cast-iron, *Mandura* or iron rust, and *Lauhasāra* or salts of iron produced by iron being kept in contact with vegetable acids. The form of cast iron used in the manufacture of pans for boiling milk is considered superior to all others for medicinal use. The small particles of iron which are scattered around when hot iron is beaten on the anvil, are called *mandura*. They are allowed to remain in contact with the earth till they become very rusty and brittle, when they are considered fit for use. The properties of *mandura* are said to be analogous to those of cast iron. *Lauhasāra* or the granules produced on iron plates, smeared with vegetable acids, are also used in medicine. This variety of iron is said to be especially useful in diarrhoea, chronic bowel-complaints, dyspepsia and nervous diseases.

Cast iron is purified by beating it into thin plates, heating the plates in fire and sprinkling them with cow's urine, sour conjee, oil, and a decoction of the pulse of *Dolichos uniflorus* (*kulattha*), seven times in succession. The plates are reduced to powder by pounding them in an iron mortar, rubbing them with cow's urine, and roasting the powder in a covered crucible repeatedly till it is reduced to a fine impalpable powder, that will float on water and will not irritate the eyes when applied to them. It is usual to rub the iron with cow's urine and roast it about a hundred times in succession. In some cases it is recommended that iron should be thus roasted repeatedly for a thousand times. *Mandura* is purified and prepared for uselike cast iron. Prepared iron is a fine impalpable

1 चूर्णेन गन्धकविला रजनीभवेन छद्मं यत्नेन कटुतैद्यप्यष्टकं त । चतस्र
पञ्चदशत्यभिदं विपक्वं गार्हो जवेत् विरभवावपि कर्षजातान् ॥ भावप्रकाशः ।

powder of a reddish grey or brick-dust colour. On chemical analysis it is found to be a mixture of the proto and peroxide of iron. Dose grains six to twelve.

Iron, it is said, increases strength, vigour and longevity, cures all sorts of diseases and is the best of tonics. When gold and silver are not available, iron is substituted for them. It is used in painful dyspepsia, chronic fever, phthisis, anasarca, piles, enlarged spleen and liver, anæmia, jaundice, obesity, urinary diseases, diseases, of the nervous system, skin diseases etc. When iron is administered, the following articles of diet should be avoided, namely, *kushmānda* (fruit of *Benincasa cerifera*), sesamum oil, *kulattha* (pulse of *Dolichos uniflorus*), mustard, wines and acids.

In chronic fever with anæmia, debility, emaciation, enlarged spleen or other complications, several preparations of iron are used, such as the *Vrihat sarvajvara hara lauha*, *Chandanādya lauha*, etc.

Vrihat sarvajvara hara lauha.¹ Take of purified mercury and sulphur, prepared copper, iron pyrites, talc, gold and orpiment,

1. दृढत्वसर्वस्वरहर औषधम् । पारदं गन्धकं शुद्धं ताम्रं मालिकान्नधनम् ।
 हिरण्यं हरिताम्यञ्च कर्षभेकं पृथक् पृथक् ॥ सतकालं पचं देवं सर्वमेकीकृतं
 शुभम् ॥ वक्ष्यमानौषधैर्भाष्यं प्रत्येकं दिनसप्तकम् ॥ कारवेक्षु रसेनापि दशमुख
 रसेन च । पर्यट्टकवागेन काधेन त्रैफलेन च ॥ शुद्धाः स्वरसेनापि नागवल्ली
 रसेन च । काकमाचोरसेनैव निर्गुच्छाः स्वरसेन च । पुनर्नवार्द्रकाण्डोभिर्भावनं
 परिकल्प्य च ॥ रक्तिकादिक्रमेणैव वटिकां कारवेक्ष्विच ॥ पिप्पली शुद्धं बुक्ता
 वटिका वीर्यवर्द्धिनी ॥ स्वरमटविधं हन्ति चिरकाटसहस्रवम् । विविधं
 वारिदोषोत्थं नानादोषोद्भवन्तथा ॥ सततादि स्वरं हन्ति साध्यासाध्यमवापि
 वा । क्षयोद्भवञ्च घातुस्थं कामशोकमवं तथा ॥ भूतावेश स्वरं हन्ति कृच्छ-
 दोषमवन्तथा । अभिघात स्वरश्चैव अभिचार सस्रज्वलम् ॥ अभिग्यासं महाघोरं
 विषमञ्च त्रिदोषजनम् । शीतपूर्व्यं दाहपूर्व्यं विषमं शीतमं स्वरम् ॥ प्रलेपकस्वरं
 घोरं सर्द्धनारीश्वरं तथा । श्लेष्मस्वरं तथाकाशं चातुर्थकविपर्यवम् ॥ पाण्डु
 रोगान् गन्धान् सर्वाङ्गान् अग्निमान्द्रं महागदम् । एतान् सर्वाङ्गान् निहन्त्याप्य
 पचात्तेनात्रसंशयः ॥ शाल्यञ्च तक्रसहितं भोजवेदिसंयुतम् । ककारपूर्व्यकं
 सर्वं वर्जनीयं विशेषतः ॥ मैथुनं वर्जयेत्तावत् यावच्च वक्ष्वान् भवेत् । सर्वं स्वर
 हरं चेह सप्तपानं प्रकल्पयेत् ॥
 भैषजग्रन्थावली ।

each two tolás, prepared iron eight tolás, mix them together, and soak the mixture for seven days, in each of the following fluids, viz, fresh juice of the leaves of *Momordica Charantia* (*káravella*), decoction of *dasamula* or ten roots (see *Hedysarum Gangeticum*), decoction of *parpata* (*Hedyotis biflora*), and of the three myrobalans, fresh juice of *guruchi*, (*Tinospora cordifolia*), of betel leaves, of *kákamáchi* (*Solanum nigrum*), of *nirgundi*, (*Vitex Negundo*), of *punarnavá* (*Boerhaavia diffusa*) and of ginger. Divide the mass into two-grain pills, and administer with long pepper and treacle. The dose of the medicine may be gradually increased. It is used in all sorts of intermittent fevers, in emaciation, wasting, hectic fever, enlarged spleen, anæmia, loss of appetite etc. A light diet consisting of fine rice and poultry meat should be adopted during the use of this medicine, and all undigestible food should be avoided.

Chandanádya lauha.¹ Take of red sandal wood, *Pavonia odorata* (*bálá*), *Cissampelas hernandifolia* (*páthá*), *Andropogon muricatus* (*usir*), long pepper, chebulic myrobalan, emblic myrobalan, ginger, *Nymphæa cyanea* (*nilotpala*), *Chavica officinarum* (*chai*), *Plumbago Zeylanica*, (*chitraka*), and *baberung* seeds, each one part, prepared iron twelve parts, rub them all together. Dose about ten grains to be taken with the fresh juice of *Tinospora cordifolia* (*guruchi*) and *Hedyotis biflora* (*parpati*). This medicine is said to cure all sorts of chronic intermittent fever and fever with enlarged spleen.

Vishamajvarántaka lauha.² This is another compound metallic preparation containing iron and much used in chronic fever. To

1. चन्दनाद्यौहम् । रक्त चन्दनसुखीरे पाठोशीरकषायिवा । नागरोत्पल
धात्रीभिस्त्रिभेदेन समन्वितः । औहं निहन्ति विविधान् समस्तान् विषमज्वरान् ॥

रसेन्द्र सारसंयुतः ।

2. विषमज्वरान्तकौहम् । हिङ्गुलसम्भवं स्रुतं गन्धकेन सुकज्जसौमम् । पर्य-
टीरसवत्यायं स्रुतांघ्रिहेमभक्तकम् ॥ औहं ताम्रमभक्तञ्च रसस्य द्विगुणं तथा ।
पङ्कजं गैरिकञ्चैव प्रभावञ्च रसार्जकम् ॥ सक्ता शङ्खं शुक्तिभक्त्य प्रदेयं रसपादिकम् ।
सक्ताष्टहे च संख्याय पुटपाकेन साधयेत् ॥ भक्षयेत् प्रातश्चत्याय द्विगुणाफल-
मानतः ॥ अतुषानं प्रयोज्यं कषाहिङ्गुससौजवम् । ज्वरमष्टविधं हन्ति वात-
पित्तकफोज्ज्वलम् ॥ श्लोहानं यकृतं शुक्लं बाध्यासाध्यमवापि वा । सन्ततं सतता-
खञ्जं विषमज्वरनाशनम् ॥ भैषज्यरत्नावली ।

prepare it, take of mercury obtained by sublimation of cinnabar, and sulphur, each one tola. Rub them together and melt over the fire in an iron ladle as in the preparation called *Rasaparpati*, described under mercury. Then take of prepared gold, one quarter of a tola, prepared iron, copper, and talc, two tolas each, prepared tin, red ochre, and corals, half a tola each, roasted pearls, conch-shell and bi-valve shell, each a quarter of a tola. Beat all these ingredients together into a mass with the aid of water. Inclose the mass within bi-valve shells, cover the shells with a layer of clay and roast them lightly in cow-dung fire. This medicine is given in doses of four grains with the addition of long pepper, rock salt and assafoetida, each four grains, and a little honey. It is taken once daily in the morning and is said to be useful in chronic fever, spleen and liver diseases etc.

Several preparations of iron are used in piles, such as the *Mána surandya lauha*, *Arsari lauha*, *Agnimukha lauha* etc. The first mentioned compound is prepared as follows.

Mána surandya lauha.¹ Take of the root-stocks of *Colocasia Indica* (*mána*) and *Amorphophallus campanulatus* (*surana*), of the roots of *Ipomæa Turpethum* (*trivrit*) and *Baliospermum montanum* (*danti*), marking nuts, the three myrobalans, black pepper, long pepper, ginger, seeds of *Embelia Ribes* (*babering*), root of *Plumbago Zeylanica* (*chitraka*) and the tubers of *Cyperus rotundus* (*mustaka*), equal parts, prepared iron in quantity equal to all the above ingredients. Powder and mix. Dose about a scruple. This medicine is said to be useful in piles with constipation.

Lauhasava.² Take of powdered iron, of the three myrobalans,

1. मानसूरबाद्यबौहम् । मानसूरबमद्वातलिङ्गोद्यमनितम् । त्रिकलव-
वसायुक्तबौहोर्नामनाशनम् ॥ भैषज्यरत्नावली

2. बौहावयम् । बौहसूत्रं त्रिकटुकं त्रिकलाह वसानिकान् । विक्कं पिलकं
हसं चतुःपचनितं शुषकम् । चूर्णीकृत्य ततः बौहं चतुःपट्टपचं क्षिपेत् ।
इत्याह शुषकस्य तत्र जवह्रोचद्वयं तथा । इतभाह्वे विनिक्षिप्य निदध्या-
न्नावसानिकम् । बौहावयमिदं सर्वं : पित्तेहृत्त्रिकरं परम् । पाण्डुशतपुष्पाणि
जठराय्यमेषां रुजम् । कुट्टीहानयं ककुषु काव चासं भगन्दरम् । करोचकम्
पह्वीं हृद्रोमम् विनाशयेत् ॥ चार्कचरः ।

ginger, long pepper and black pepper, *ajwain*, *babering* seeds, plumbago root, and tubers of *Cyperus rotundus* (*mustaka*), each thirty-two tolas, honey eight seers, treacle twelve and a half seers, water one hundred and twenty-eight seers. Powder the solid ingredients and steep them in the honey and water in an earthen jar smeared with *ghee*, for a month, or till complete fermentation takes place. This iron-wine is said to be tonic and stomachic, and useful in anæmia, spleen, anasarca, ascites, enlargements of the abdominal viscera, piles etc.

A'malakṛ̥ḍya lauha.¹ Iron enters into the composition of several medicines for hæmorrhagic diseases, such as the *Khandakṛ̥ḍya lauha*, *Sudhānidhi rasa*, *A'malakṛ̥ḍya lauha* etc. We will here transcribe the mode of preparing the last which is the simplest and shortest. Take of emblic myrobalan and long pepper, each one part, sugar two parts, prepared iron four parts, powder and mix them together. Dose six to twelve grains in hæmoptysis, hæmaturia etc., with suitable adjuncts.

Guda mandura.² A preparation nearly similar to the above and called *Guda mandura* is used in dyspepsia. It is composed of old treacle, emblic and chebulic myrobalans one part each, and iron rust three parts. These are rubbed together with honey and *ghee*, and made into boluses about a drachm each. One of these is taken in divided doses before, along with, and after meals, in dyspepsia with pain after digestion.

Vidyādharaḍbhra.³ Take of *babering* seeds; tubers of *Cyperus rotundus* (*mustaka*), the three myrobalans, *gulanchara*, root of

1. आमलकाद्यौहम् । आमलापिप्पलीचूर्णं तस्यैवा सितवा सङ् । रक्तपित्त-
हरं औहं योगराजमिति स्मृतम् । उष्णाम्निदीपनं वक्ष्यं चाक्षपित्तनिवारणम् ।
पित्तोत्थानपि वातोत्थानं निहन्ति विविधान् मदान् । रसेन्द्रसारसंयुतः ।

2. गुडमण्डूरम् । गुडामलकपञ्चानां चूर्णं मलेकयः पलम् । लिपयं औह-
किट्टक तत्सर्वं मधुसर्पिषा ॥ समलोह्य समजीवादिद्वयमालम्ब्यतः । आदि-
मध्यावसानेषु भोजनस्य निहन्ति तत् ॥ अक्षय्यं अरत्यस्यैव पित्तं सुदारयत् ।
परिणाम सत्त्वश्च नृवं संवत्सरोत्थितम् ॥ भावप्रकाशः ।

3. विद्याधराक्षः । विट्कुलस्य लिपयवा गुडूची दन्ती हरहृदिकटुलवङ्ग ।
मलेकमेवा पिप्पुभागचूर्णं पञ्चानि चत्वार्यव सोमस्य । नोमूलशुक्लस्य पुरातनस्य

Baliospermum montanum (danti), of *Ipomœa Turpethum* (trivrit), of *Plumbago Zeylanica* (chitraka), ginger, long pepper and black pepper, each two tolás, prepared iron thirty-two tolás, old iron rust thirty-two tolás, prepared talc eight tolás, purified mercury one tolá and a half, sulphur two tolás. Rub together the sulphur and mercury, then mix them with the other ingredients, add sufficient *ghee* and honey, and rub them together for twelve hours. Preserve the confection in an earthen pot smeared with *ghee*. Dose from ten to thirty grains with milk or cold water. This medicine is used in chronic dyspepsia, especially in that form of the disease in which the pain comes on after digestion is completed, and in chronic fever, diarrhoea, phthisis etc.

Naváyasa lauha.¹ In anæmia iron is much used in a variety of forms. The following compound powder called *Naváyasa lauha* is a popular and well known medicine. To prepare it take of ginger, long pepper, black pepper, the three myrobalans, *babering* seeds, tubers of *Cyperus rotundus* (*mustaka*) and plumbago root, each one part, prepared iron nine parts, powder the ingredients and mix. Dose four grains, gradually increased to eighteen grains, to be taken with honey and *ghee*. This medicine is used in anæmia, jaundice, piles, heart disease etc. It is given on the first day in four-grain dose. Every second day the dose is increased

ब्रह्मवर्चसनामि शिराटिकायाः । कण्ठाभ्यर्च्यैष पर्वविशुद्धमिन्द्रियस्य कृत्वा-
जतीव सूतात् । पादोनक्षत्रं स्वरसेन खल्वे शिवातले मन्युमनीदस्य ।
विशेष पञ्चादतिगुह्यगन्धपाषाणवर्च्येन पिबून्मि तेन । युक्ता ततः पूज्यं-
कांश्चि दत्त्वा सपिर्मधुभ्यां परिमर्दय्य यत्नात् । निघापयेत् क्षिग्विगुह्य भाग्ये ततः
प्रयोज्योऽस्य रसोत्तमस्य । प्राङ्माषकोद्वावय वातयो वा गवां पयो वा शिशिरं जलं
वा । पिबदयं योगैः प्रभूतकालप्रगटानन्ददीपनेषु । योगेषु हन्यात् परि-
नाममूत्रं मूत्रं तथाश्चद्रवसंज्ञकम् । यज्ज्वलन्पित्तं यक्ष्णीं प्रष्टव्यं जीर्णज्वरं
छोदितपित्तकुष्ठम् । न सन्ति ते यानि निहन्ति रोगान् योगोत्तमः सम्यगु-
प्राप्त्यनानः ।
रसेन्द्रसार संपदः ।

1. नवावसंख्यम् । तदुपचरितकलामुसविद्वज्जचितकाः समाः । नवायो-
रजसो भानासमूहं मधुवर्षिषा । मन्वेत् पाण्डुहृद्रोगकुमार्यः काम-
सापहम् ॥
अक्षः ।

by two grains till the maximum quantity is reached. The above preparation with the addition of one part of the watery extract of *gulanha* is called *Guduchyādi lauha*,¹ and is given in burning of hands and feet and in diseases supposed to be caused by deranged air.

Mahāsvāsdri lauha and *Pippulādi lauha*² are the two forms in which iron is used in asthma. They are similar in composition. The former is thus prepared. Take of prepared iron four tolās, prepared talc one tolā, honey and sugar four tolās each, the three myrobalans, liquorice root, raisins, long pepper, kernel of jujube fruits, bamboo-manna, *tdlisapatri* (leaves of *Pinus Webbiana*), *babering* seeds, cardamoms, root of *Aplotaxis auriculata* (*kushtha*), and flowers of *Mesua ferrea* (*nāgakesara*), each one tolā, powder and rub them together in an iron mortar. Dose about one scruple, to be taken with honey two or three times a day.

In enlarged spleen *Rohitaka lauha* is the favourite form in which iron is used. It will be described under *Rohitaka* (*Amoora Rohitaka*). In enlarged liver the following called *Yakridari lauha*³ is used. Take of prepared iron, talc and copper, each four tolās, root of *Citrus Bergamia* (*limpāka*) eight tolās, burnt deer-skin eight tolās,

1. शुद्धादिबौहम् । शुद्धीकारसंयुक्तं लिङ्गलवणस्य रजः । वातरक्तं निवृत्त्याय सर्व्ववातहरं परम् ॥ रसेन्द्रवारसंयुहः ।

2 महाश्वारिबौहम् । सर्व्वद्वयं बौहवूर्ध्वं सर्वाङ्गं मध्यमेव च । शिताकर्णद्वय-
श्चैव मधुकर्णद्वयं तथा । लिङ्गला मधुनं द्राक्षा कषा कोशास्त्रिवंशजा । तामी-
यपत्रं वैकुण्ठमेवा पुष्करकेशरम् ॥ एतानि क्षण्यवूर्ध्वानि सर्वाङ्गं च समं यिकम् ।
बौहे च बौहदण्डेन मर्द्दयेत् प्रहरद्वयम् । ततो मातृं विहेत् चोद्रेतेष्वा दोष-
वनावसम् । रदं स्वाशारि बौहम् महाश्वारं विनाशयेत् ॥ काशं पञ्चविधश्चैव
रक्तपित्तं सुदारयन् । एवञ्च क्षयञ्चैव तथैव साक्षिपातिकम् । निहन्ति नात्र
सन्नेहो भास्वरलसिर्दं च ॥ भेषजप्रस्तावयो ।

3. वज्रदरिबौहम् । द्विकर्षं बौहवूर्ध्वं च मध्यमापि तथैव च । कर्णद्वयं
क्षतं ताम्रं लिङ्गाकाङ्क्षित्वचः पत्रम् । क्षुणाजिनपत्रं भक्ष सर्व्वमेकलकारवेत् ।
नवयुक्ता प्रमाथेन वटिकां कारलेज्जिवत् । वज्रद्विहोदरं हन्ति कायवायु
हृदीमकम् । काशं श्वासं चरं हृन्नाहववर्णान्निवर्त्तनम् । वज्रदरिबिदं बौहं
वासुधुक्विनाशनम् ॥ रसेन्द्रवारसंयुहः ।

rub them together with water and prepare a pill-mass. Dose grains nine to eighteen in enlarged liver, spleen, jaundice etc.

In anasarca, iron is given in combination with carbonate of potash, as in the following called *Tryushandī lauha*.¹ Take of *yavakshāra* (impure carbonate of potash), ginger, long pepper and black pepper, one part each, iron four parts. Make into six-grain pills with water.

In erysipelas, carbuncles and boils the following called *Kālagñirudra rasa*² is recommended. Take of mercury, sulphur, prepared talc, iron, iron rust, and iron pyrites, each one part, rub them together with water, and roast the mixture within a covered crucible; when cool add to it one-tenth part of its weight of aconite, mix intimately, and divide the mass into twenty-two grain pills.

In urinary diseases the following, called *Meha mudgara rasa*,³ is used. Take of *rusot*, black salt, wood of *Berberis Asiatica* (*dāruharidrā*), root of *Ægle Marmelos* (*bilva*), *Tribulus terrestris* (*gokshura*), pomegranate seeds, chiretta, long pepper-root, long pepper, black pepper, ginger, the three myrobalans and root of *Ipomœa Turpethum* (*trivrit*), each one toḷā, prepared iron fifteen toḷās, bdellium eight toḷās, mix them together and beat into a uniform mass with *ghee*. Dose twenty-two grains with water or goat's milk. This medicine is said to be useful in gonorrhœa, strangury, chronic fever, anæmia, jaundice etc.

1 लूयवादिनीहम् । अमोरजसूयस्य यावन्मूत्रं चूर्णं क्षपीतं लिफकारवेन
शोधं निहन्त्यात् बह्वशा नरस्य बवाभनिर्हन्त्यदीर्घवेनम् ॥ रसेन्द्रसारसंघः ।

2 काशान्निवह्ररसः । सूतकाशान्निवह्रानां भक्षकाशान्निवह्रन्यकम् । भूष-
रास्ते पुटे पचाद्दिनैकं तद्विपाचयेत् । दशमांशं विभं योक्तं माषमात्रस्य
बधयेत् । रसः काशान्निवह्ररसं दद्यादेन विस्पर्धयेत् ॥ रसेन्द्रसारसंघः ।

3 केहसहररसः । रसाञ्जनं विहं दाद्विस्मगोक्षुरदाक्षिणाः । भूनिष्ठ
पिण्डबोमूत्रं लिफटुलिफकारलिहत् । प्रत्येकं तोषकं देवं शौहचूर्णं तत्
वमम् । प्रत्येकं शुम्भुसुं दत्वा हतेन पटिकां कुर ॥ माषैकप्रमिताचेवं केह-
सहररसज्जनी । शीघ्रहृन्नाचेन शोकनिवारकारिणी ॥ अनुपातं प्रबोक्तव्यं
शानीदुर्गं जलस्य वा । विद्वन्नेहं निहन्त्यायु बूलजस्य हृषीकस्य ॥

रसेन्द्रसारसंघः ।

*Vrihat Somanātha rasa.*¹ Take of mercury obtained by subliming cinnabar and purified with the juice of *Erythrina Indica* (*pāri-bhadra*), and of sulphur, rubbed with the juice of *Salvinia cucullata* (*Leandā*) each one part, prepared iron four parts, prepared talc, tin, silver, *kharpara* or calamine, iron pyrites, and gold, each half a part. Rub them together with, and soak in the juice of *Aloe Indica* (*ghritakumāri*) and *Hydrocotyle Asiatica* (*mandukaparni*) and divide into four-grain pills. They are administered with honey in diabetes and other urinary diseases, female complaints etc. A preparation similar to the above in composition, and called *Somesvara rasa* is given in leucorrhœa and other female complaints. Besides the preparations mentioned above numerous other combinations of mercury, iron and talc with the addition of gold, silver, copper etc, in varying proportions and combinations, are described under different names. In fact the three first mentioned drugs constitute the basis of the great majority of the pills used by *Kavirājās*.

Iron forms an ingredient of hair dyes. The following is an illustration. Take of powdered iron two tolās, mangoe stones five tolās, chebulic and emblic myrobalans two tolās each, belleric myrobalan one tolā, rub them together with water in an iron vessel and steep for one night. This paste is applied to grey hairs for turning them into black.²

1 वृहत्सोमनाथरसः । हिक्कुळात् सन्नाहं मूतं पालिधारसं मर्हितम् । रण्णा-
शोषितं मन्थञ्च तेनैव वज्जली कृतम् ॥ तद्वद्विगुणं कौहं कन्यारसवि मर्हितम् ।
अश्वकं वज्जकं रोषं अपरं माषिकं तथा ॥ सुवर्णञ्च सर्वं सर्वं प्रत्येकञ्च रसार्ध-
कम् । तत्सर्वं कन्यकाद्रावेर्भवेद्भावेत्तथा । भेषपथीरसेनैव वर्तते गुञ्जादवा
हितम् । मधुना मन्थयेद्वापि सोमरोग निवृत्तये । प्रमेहं विंशतिं हन्ति
वज्जमूलञ्च सोमगम् । मूलातिसारकञ्च सत्पाषातं सुदारणम् । मूतदोषं वज्ज-
विधं प्रमेहं मधुसङ्गकम् । हस्तिमेहमिच्छुमेहं काशमेहं विनाशयेत् । ऋहे
वस्य यतं स्त्रीणां विद्यते च व्यवधिनिः । न तस्य विज्जयैथिल्यं शुक्रक्षयो न
जायते । अज्जिञ्च कुरुते दीप्तिमन्मपित्तञ्च नाशयेत् । वातिकं पित्तकं चैव
शैथिल्यं सोमनाथकम् । नाशयेत् वज्जमूलञ्च प्रमेहमपि कृत्यतः । रसेन्द्रारसं यद्वहः ।

2 कौहचूर्णस्य कर्पेण दशाहं चूतमज्जतः । धालीफलद्वयं पयोद्वेतयैकं विधी-

SULPHATE OF IRON.

Sans. काशीय *Kásisa*.

NATIVE sulphate of iron is indigenous to India, and has been used in medicine from a very ancient age. Two sorts of sulphate of iron are mentioned, namely, *Dhátukásis* or green variety and *Phushpa kásis* or yellowish variety. The latter is evidently sulphate of iron, covered with the basic sulphate of the sesquioxide from absorption of oxygen. It would seem that the ancient Hindus did not know sulphate of iron, as an iron compound. It is neither described as a tonic nor used in combination with iron like iron pyrites and iron rust. It is seldom used internally. I have met with only one prescription by Chakradatta, who recommends a linctus composed of sulphate of iron and pulp of wood apple, in hiccup.¹

Externally, it is used in skin diseases along with other medicines. Thus take of sulphate of iron, gall-stone of cows (*gorochand*), *rusot* and orpiment, equal parts and beat into to a paste with *kányika*. It is useful in intertrigo, pruritis etc.²

Kásisádyataila.³ Take of sesamum oil four seers, water sixteen seers, sulphate of iron, wood of *Withania somnifera* (*asvagandh*), bark of *Symplocos racemosa* (*lodhra*), root of *Pothos officinalis* (*gajapippali*) each sixteen tolás. Beat the solid ingredients into a paste and boil it with the oil and water in the usual way. This oil is recommended to be applied to the genitals and the breasts with the view of strengthening these parts.

तकम् । पिष्ट्वा कोहमे भास्वे स्थापयेद्विधिं वासवेत् । लेप्थोयमचिराद्वन्ति पक्षितं
नात्र संशयः । भावप्रकाशः ।

1. हिक्काश्लासे अवलेहः । काशीयं दधिनामच हिक्काश्ला मधुसंयुताः । चक्रः

2. काशीयं रोचनातुल्यं हरिताकं रसाञ्जनम् । अम्बुपिष्टेः प्रलेपोयं
दृढकण्ठहि पुतयोः ॥ चक्रः ।

3. काशीयाद्यतैलं । काशीयहृत्तरगन्ध्या यावरगजपिप्पलीविपक्वेन । तैलेन
वान्ति उद्धिं स्नानकक्षैवराक्षसिक्कानि ॥ चक्रदत्तः ।

IRON PYRITES.

Sans. स्वर्णमाक्षिक *Svarnamākshika*, तारमाक्षिक *Tāramākshika*.

IRON pyrites is met with in many parts of India, and has been used in medicine from a very remote period. It occurs in two forms, namely, in dark yellow nodules with a golden lustre, and in silvery radiated crystals. The former is called *Svarnamākshika* and the latter *Tāramākshika*. The ancients supposed that they contained gold and silver respectively, in combination with other ingredients, and possessed in part the properties of those precious metals.* Chemically iron pyrites consists of bisulphide of iron. It is purified by being boiled in lemon juice with one-third of its weight of rock-salt in an iron vessel, till the pot turns red hot. It is reduced to powder by being rubbed with oil or goat's urine and then roasted in a closed crucible. Iron pyrites thus prepared has a sweetish bitter taste. It is considered as tonic, alterative and useful in anæmia, urinary diseases, ascites, anasarca, prurigo, eye diseases etc. As an alterative tonic it is generally used in combination with other medicines of its class, such as iron, talc, mercury etc. The following is an example. Take of prepared iron, sesamum seeds, long pepper, black pepper and ginger, each one part, iron pyrites five parts. Beat into a mass with honey. Dose about half a drachm in advanced anæmia.¹

In diseases of the pregnant state the following called *Garbha-vinoda rasa*² is much used, as an alterative tonic. Take of iron pyrites and cinnabar, each four tolás, ginger, long pepper and black pepper, each three tolás, cloves and mace, each six tolás, beat them

* न केवलं स्वर्णरूपयुक्तास्मापिजबोर्न ता इव्यान्तरस्य संसर्गात् सन्प्रत्योऽपि युक्तास्तयोः॥
भावप्रकाशः॥

1. स्वर्णमाक्षिकं अवस्ति बहुप्रपञ्चकोटभागैः सखैः सप्त माक्षिकधातुपूर्वेण ।
तैर्बोद्धः सोऽद्भुतोऽनुतक्रः पाण्डुरासवे दूरगतेपि यस्तः ॥ चक्रः ॥

2. गर्भविनोदरसः । त्रिभागं त्रिकटुदेवं चतुर्भागश्च हिकुटुबन् । जातोऽपि
कवकश्च प्रत्येकश्च त्रिकार्णिकम् । सुवर्णमाक्षिकश्चैव पञ्चाङ्गं प्रशिपेद्बुधः । जलेन
मर्द्दयित्वा च चम्पात्पावटीकता । निहन्ति गर्भिणी रोगं भास्वरस्त्रिभिरं यथा ॥

रसिन्द्रसारसंग्रहः ।

together with water and divide into pills about four grains each. One pill to be taken twice daily.

GOLD.

Sans. सुवर्ण, *Suvarna.*

GOLD enters into the composition of a large number of medicines for various diseases. Pure leaf-gold is used. It should be free from admixture of copper and silver, of a red colour when exposed to heat, and of saffron colour when rubbed on touchstone. It is purified by heating its leaves and cooling them alternately with *kánjika*, oil, cow's urine, butter-milk and a decoction of horsegram. Gold is reduced to powder by being rubbed with mercury and exposed to heat in a covered crucible with the addition of sulphur. Two parts of mercury and one of leaf-gold are rubbed together into a mass with lemon juice and placed in a crucible with three parts of sulphur. The crucible is then covered and exposed to heat. This process of mixing the gold with mercury and exposing to heat is repeated fourteen times, when the gold completely loses its metallic character. In books it is stated that the gold should be rubbed with mercury only the first time, and that in roasting it afterwards sulphur alone should be placed in the crucible with the gold, but *Kavirāja* Binod Lal Sen tells me that he reduces gold to powder by mixing it with mercury every time it is roasted, and that he repeats the process till the gold is reduced to a dark brown impalpable powder. This powder of gold appears to undergo little change from its metallic state, for on being rubbed on an agate mortar it produces a brilliant yellow stain like that of massive gold, when it is rubbed on touchstone for ascertaining its purity.

Gold thus prepared for medicinal use is considered a valuable tonic and alterative. It is said to increase strength and beauty, to improve the intellect and memory, to clear the voice and to increase the sexual powers. It is used in fever, consumption, insanity, diseases of the nervous system and urinary organs, impotence, etc. Dose, one to two grains.

*Jayamangala rasa.*¹ Take of mercury obtained by sublimation, of cinnabar, sulphur, borax, prepared copper, tin and iron pyrites, rock-salt, and black pepper, prepared iron and silver, each one part, prepared gold two parts, powder them well, mix and soak the mixture three times respectively in the juice of *datura* leaves, and leaves of *Nyctanthes Arbor-tristis* (*séphdlika*), in the decoction of the ten roots, called *dasamula*, and of chiretta. Divide the mass into four-grain pills. They are taken with cumin-seed powder and honey. This medicine is used in old chronic fevers of all sorts and is said to be a powerful tonic and alterative, that may be administered with suitable adjuncts in many diseases.

*Mrigānka rasa.*² Take of mercury one part, prepared gold one part, sulphur and pearls each two parts, borax one-fourth part, rub them together and beat into a ball with *kānjika*. This is dried, enclosed in an earthen crucible and exposed to heat within a pot of rock-salt in the manner of a hot sand-bath for twelve hours. When cool the ball is taken out from the crucible and reduced to powder. It is administered in doses of one to four grains with about a scruple of black pepper in phthisis. Two other preparations used in this disease, and called *Pottali hemagarbha rasa*, and *Ratnagarbha pottali rasa*, respectively, are similar in composition to the *Mrigānka rasa*. They contain mercury, sulphur, gold, pearls, borax etc, in varying proportions.

1 जयमङ्गलरसः। हिङ्गुलस्यैवं कृतं गन्धकं टङ्कचं तथा। ताण्डं वज्रं नाचिकञ्च सैन्धवं सरिवं तथा। सज्जं समं समान्मूल द्विगुणं सखेभक्तकम्। तद्वर्जं कान्तसौहृदस्यैवमसापि तत्समम्। एतत्सर्वं विचूर्ण्यैव भावेत् कनकद्रवैः। शेफालिदलैश्चापि दधनूत्तरसेन च। किराततिक्तकाशैः त्रिवारं भावेत् सुधीः। भावयित्वा ततः काष्ठांशुसहस्रविंशति वटीं। अक्षुपानं प्रयोज्यं ज्वरक-मधुसंयुतम्। जीर्णज्वरं महाज्वरं चिरकालं ससङ्गमम्। ज्वरमपविषं हन्ति साध्यासाध्यमसापिवा। पृथक् दोषाश्च विविधान् समस्तान्निषमज्वरान्।

रसेन्द्रसारसंघः।

2 मृगान्करसः। साद्रसेन समं हेमं मौक्तिकं द्विगुणं भवेत्। गन्धकस्तु सख-सेन रसपादस्तु टङ्कचः॥ सर्वं तद्गोचकं कृत्वा चाक्षिणेन विधोषयेत्। भावेत् सवचपूष्यं च पचेद्यामचतुष्टयम्॥ मृगान्कसङ्गसो ज्ञेयं रोमराज निरुक्तम्॥

रसेन्द्रसारसंघः।

Svarna parpati.¹ Take of mercury eight tolās, gold one tolā, rub them together, then add sulphur eight tolās and mix. Melt the mixture over the fire in an iron ladle smeared with *ghee*, and press the melted fluid between cow-dung balls enclosed in plantain-leaves in the manner described under *Rasa parpati*, so as to make thin round disks of it. This medicine is used like *Rasa parpati* in chronic diarrhœa, and anasarca. Milk diet is enjoined, and water and salt are prohibited. Dose grains two, gradually increased to grains ten in the course of twenty-one days, to be again gradually reduced to the original dose of two grains in another three weeks. Another preparation of the sort called *Vijayaparpati* contains diamond, pearls, silver, copper, and talc, in addition to gold, sulphur and mercury. It is used in the same cases as the *Svarna-parpati* above described.

Gold is much used as an alterative tonic. Prepared gold in doses of two grains daily with the addition of honey, *ghee* and emblic myrobalan, or root of *Acorus Calamus* (*vacha*) is recommended to be taken for a lengthened period.² It is also given to infants under an impression that it will impart strength and beauty to their frames. The following composition is recommended for them. Take of powdered gold, root of *Acorus Calamus* (*vacha*) and *Aploluxis auriculata* (*kushtha*), chebulic myrobalans, and leaves of *Herpestes Monniera* (*brimhi*) equal parts, powder and mix. Dose two grains with honey and *ghee*. It is recommended to be given to feeble infants a few days after birth.

The principal alterative tonic of the Hindu Materia Medica is the preparation popularly called *Makaradhvaja*. To prepare it, take

१ स्वर्णपर्णटी । रसोत्तमं पक्वं शुद्धं हेमतोत्तमकंसुतम् । विद्यावां मह्येत्
तावत् वाग्देहत्वमानतम् ॥ गन्धकस्य पञ्चसूक्तमयःपाले ततो हरे । मह्येदेह-
पाविध्यं वावत् कण्ठवतां ब्रजेत् ॥ ततः परं विद्यानक्षः पर्णटीं कारवेत्-
सुयोः । रत्निकादिश्लेष्मैवैव जोजवेदहपानतः । पङ्कषीं विविधां हन्ति हृष्या
सर्वज्वरापहा ॥ रसेन्द्रसारसंपङ्कः ।

२ मध्यामककषूचस्य सुवर्णस्येति तत्तदम् । प्राश्नारिचक्रीतोऽपि सञ्चते
प्राश्नसंशयात् । यचावतं सुवर्णस्य मधुना सह संलिहेत् । सञ्चरं प्रमुञ्चानः
शुतिपारो भवेन्नरः ॥ सन्देशमङ्गनी ।

of leaf-gold one tolá, mercury eight tolás, beat into a mass, then add sulphur sixteen tolás, and rub together till the mass becomes black. Rub this mass repeatedly with the juice of the red cotton flower and of *Aloe Indica*, and dry. Now take a bottle with a flat bottom, wrap it with layers of cloth and clay to strengthen it, and dry. Place the mixture of gold, mercury and sulphur at the bottom of the bottle, insert it in a sand-bath up to its neck and cover the mouth lightly with a piece of chalk. Apply heat gently at first. When the process of sublimation commences the heat should be increased, and the chalk-stopper removed. The sulphur now burns with its characteristic blue flame at the mouth of the bottle and a red sublimate collects below its neck. The narrow neck of the bottle is apt to be closed with sulphureous deposits and when there is this tendency, it should be cleared with an iron rod. The sublimation is over in the course of about nine hours. When done the bottle is broken, and the sublimate extracted from its neck in the shape of shining dark red scales. In this process the sulphur and mercury are sublimed in the form of red sulphide, and the gold remains at the bottom of the bottle. The latter may be used again in the preparation of *Makaradhvaja* or converted into powdered gold. *Makaradhvaja* is administered in doses of one grain daily with honey or other suitable adjuncts in nervous debility, weakness of brain from excessive mental labour, habitual costiveness, general debility, female complaints after delivery, spermatorrhoea etc.

Chandrodaya makaradhvaja.¹ When *Makaradhvaja* is adminis-

१ चन्द्रोदयमकरध्वजः । पञ्चं चतुर्लक्षं दलं रसेन्द्रात् पञ्चाष्टकं गोक्षयनस्य च ।
 शोथेः सुकापासमन्त्रैश्च नैः सर्वं विमर्शयिष्ये कुमारिकाङ्गिः । यत्काचकूपे
 निहितं प्रगाढं चतुर्लक्षं दलं द्रव्यसत्तमम् । पञ्चेत् क्रमान्मो विमतास्त्वयन्मो ततो
 रजः पञ्चारागदयन् । निम्बश्च चैतस्य पञ्चं पञ्चानि चत्वारिंशत्पूरजस्तथैव ।
 जातोक्तं सोषयन्निन्द्रुष्यन् । कस्तूरिकाया इहयाथ एकः । चन्द्रोदयोर्ध
 क्वचितोऽस्य भाषोभुक्तो हिवह्नीदल मध्यवर्ती । सदोन्मदानां प्रमदाशतानां गन्धो
 दिक्तं स्वाधयत्यवश्यम् । इतं वनीभूतमतीवदुग्धं शुक्लं मांसानि सप्तसहस्रानि ।
 भाषास्त्रापिष्टानि भवन्ति पथ्यान्मामन्ददावीन् पराचिञ्चान् । वहीपचितमाद्यन्
 क्षतुभृतां वसस्तम्भनः समस्तगदमाद्यन् प्रवत रोगपञ्चाननः ।

रधेन्द्रवारधं यद्वहः ।

tered as an aphrodisiac, it is usual to mix it with some stimulant drugs, the resulting preparation being called *Chandrodaya makaradhvaja*. Thus take of *Makaradhvaja*, one part, camphor, nutmegs, black pepper, and cloves, each four parts musk one-sixteenth part, mix together and make into pills about ten grains each. These pills are enclosed or wrapped in betle leaves and chewed. Along with this medicine a generous diet consisting of meat, *ghee*, milk, pulses, etc, should be taken. It is used in nervous debility, impotence, premature old age etc.* A preparation similar in appearance to *Makaradhvaja* and called *Ashtavakra rasa*, is sublimed from a mixture of mercury, sulphur, gold, silver, lead, copper, zinc and tin in equal parts. It is used as a nervine tonic, in general debility.

SILVER.

Sans. रज, Rupa. तार, Tāra.

PURE silver, according to Sanskrit writers, should be soft, white, brilliant and ductile. It should not be discoloured by fire. Impure silver, that is, silver mixed with other metals, is discoloured by fire, of a reddish or yellowish colour, and not ductile. Silver is purified in the same way as gold. It is converted into a black oxide by thin silver leaves being mixed with twice their weight of cinnabar. and heated in the subliming apparatus, called *Urddhapātana yantra*. This process is repeated fourteen times. The resulting compound is a fine greyish black powder with minute shining white particles intermixed with it. On chemical analysis it is found to consist of the black oxide of silver. The properties of silver thus prepared are said to be allied to those of gold but somewhat inferior. It is generally used in combination with other metals, such as gold, iron,

* *Makaradhvaja* is regarded as a preparation of gold, which is supposed to be the active principle of the medicine. The gold used in its preparation however remains below, and the mercury and sulphur only are sublimed in the form of red sulphide. as in the preparation of mercury called *Rasasindura*. Properly speaking, therefore, it is but a preparation of mercury, although the gold may possibly exercise some catalytic influence during the process of sublimation. some physicians use the preparation called *Sadgunabalijarita rasasindura* (see page 36) under the name of *Makaradhvaja*.

etc. Dose, grains one to two. The following is an example of a complex prescription containing silver.

Vrihat vāta gajānkusa.¹ Take of mercury, prepared talc, iron, gold, copper and silver, orpiment, sulphur, ginger, coriander, root of *Sida cordifolia* (*balā*), bark of *Myrica sapida* (*katphala*), *Rhus succedanea* (*sringi*), aconite, long pepper, black pepper, and borax, each one part, chebulic myrobalans, two parts, powder, mix and rub with the juice of *Sphæranthus mollis* (*mundi*) and *Vitex Negundo* (*nirgundi*) for one day. Divide the mass into four grain-pills. They are said to be useful in various nervous diseases. Silver enters into the composition of several other remedies in common use, such as the *Yogarāja* (see *sildjatu*), *Jayamangala rasa* (see gold) etc.

COPPER.

Sans. ताम्र, *Támra*. *Vern.* *Támá*.

THIN plates of copper such as can be pierced by thorns are used in medicine. They are purified by being boiled in cow's urine for three hours. Copper is reduced to powder by smearing its thin leaves with a paste of sulphur and lemon juice, beating them into a mass, and exposing to heat in a covered crucible within a sand-bath for twelve hours. The powder thus produced is rubbed with *kānjika* and made into a ball, which is introduced into a tuber of *Amorphophallus campanulatus* (*ola*), as in a crucible and roasted. This last process is said to render the copper innocuous and prevent it from causing purging and vomiting when taken internally.

Copper thus prepared is a dark coloured powder, somewhat gritty to the feel. On chemical analysis it is found to consist of sulphide

१ उहृत्वातनजाङ्गुयः । सूताभ्यतीक्ष्णताभ्याश्चितारतासकनन्यकम् । स्वर्चं
गुणो वसाधानं कट्फतश्चाभवाविवम् ॥ पय्याश्चक्षी पिप्पली च गरिचं टक्क
चन्तवा । तत्त्वं सद्ये दिनं मह्यं सुखोनिर्गुणो जैर्ह्वैः । द्विगुणां वटिकां
सादेत् स्वर्चावातप्रसानने । साध्यासाध्यं निहन्त्याशु रसोवातनजाङ्गुयः ॥

ह्रिरेन्द्रसारसंघः ।

of copper. It is described as an alterative, emetic and purgative, and is used in poisoning, dyspepsia, fever, enlarged liver and spleen, anæmia, skin diseases, diarrhoea etc. Dose, as an alterative, grains two to four. In poisoning prepared copper is given in doses of about twenty-four grains with sugar or honey to cause vomiting.¹

Copper enters into the composition of several medicines for ague, remittent fever, enlarged spleen etc. The following are a few illustrations.

*Sitabhanji rasa.*² Take of orpiment, mercury, sulphur and realgar, two, one, half and quarter parts, respectively, rub them together into a thin paste with the juice of *Momordica Charantia* (*kāravella*). Apply this paste on copper plates equal in weight to the other ingredients, enclose the plates in a covered crucible, and roast in a sand-bath over a strong fire for twelve hours. When cool extract the copper plates from the crucible and powder them. Dose, four grains with four black peppers enclosed in a betel leaf. This packet should be chewed. It is given in intermittent fever with shivering fits, followed by burning and heat of skin. A preparation very similar to the above in composition is called *Pliha panchānana rasa*, and used in enlarged spleen.

*Svachchhanda bhairava rasa.*³ Take of prepared copper and aconite equal parts, rub together with the juice of *datura* leaves and make into one-grain pills. They are given with ginger juice, sugar and rock salt in fevers complicated with cerebral symptoms.

1 औइखीइं ताअरजोवमनं नरदोषहृत् । चक्रः ।

2 शीतमज्जिरसः । तासकोदरदोहृतो पारदोगन्धकः शिखा । क्रमाङ्कागार्हं
विहितं कारवेद्या प्रमर्हितम् ॥ अनेनास्य प्रमाद्येन ताअमलं प्रवेष्टेत् ।
अधोसुखी उठे भाखडे ताखिबध्याच पूरवेत् ॥ सुख्यं वासुकापाहाच अग्निं
प्रणाचवेदहम् । शीतं संचर्य मायोस्य नागवल्ली दसे स्थितः ॥ मज्जितो मरिचैः
सार्धं समस्तान् विषसज्जरान् । शीतदाहदिकान् हन्ति पथ्यसास्यौदनं पयः ॥
रसप्रदीपः ।

3 अकन्दभैरवरसः । ताअमलमिवं हेम्नः इतथा भावितं रसैः । शुद्धार्हं
वक्षिपातादिनवम्बरहरं परम् । काशीन्धुर्करासिन्धुवृतः अकन्दभैरवः । औइ
द्राचाविताद्यादि दधिपय्यं वचोदरेत् । रसेन्द्रवारसंमहः ।

Mahāmritunjaya lauha.¹ Take of mercury, sulphur, talc, orpiment and realgar, each one part, iron two parts, copper four parts, *yavakshāra* and *sarjikākskhāra* (impure carbonates of potash and soda), borax, black salt, burnt couries, and conch-shells, plum-bago-root, assafætida, root of *Picrorrhiza Kurroa* (*katuki*), *Amoora rohitaka* (*rohitaka*), and *Ipomœa Turpethum* (*trivrit*); tamarind pulp, colocynth root, root bark of *Anogeissus latifolius* (*dhava*), root of *Alangium decapetalum* (*ankota*), *Achyranthes aspera* (*apāmārga*), ashes of the spikes of the palm-tree, turmeric and wood of *Berberis Asiatica* (*ddruharidrā*), croton seeds, sulphate of copper, *rusot* and *Oxalis corniculata* (*amlalonikā*), all in equal parts, with the exception of *rohitaka* bark, which should be two parts. Powder the ingredients, mix, soak the mixture in the fresh juice of ginger and *gulanča* and add to it thirty-two tolās of honey. Make into six grain pills with honey. One pill is given every morning in enlarged liver, spleen disease, ascites etc.

In enlargements of the abdominal viscera, designated by the term *gulma*, copper is used in a variety of forms. Thus, prepared copper in doses of two grains rubbed with ginger juice and enclosed in betel leaf may be given, or the following composition may be used.²

१ मङ्गलस्युद्भवलोहम् । शुद्धसूतं सप्तं गन्धं जारिताम्बं सप्तं तथा ।
 गन्धकादिगुणं लोहं कृतताम्बं चतसृष्वम् । द्विज्वारं टङ्कणविडुं वराटीमव-
 शङ्ककम् । चिलकं कुण्टीं ताचं रामठं कटुकीं तथा । रोहितकं लिङ्गु चिञ्चु
 विशाखा धवमङ्गुठम् । अपामार्गं ताचलवल्गुमल्लिका च निशाबुगम् । कानकं
 तल्यकञ्चैव वज्रकर्हृदसाङ्गनम् । एतानि सप्तभागानि चूर्णयित्वा विभावयेत् ।
 चार्द्रकस्य रसेनैव शुद्धलोहस्यरसेन च । मधुनः कूटवैर्भाष्यं घटिकां मासमात्रकम् ।
 भक्षयेत् प्रातस्तथाय सज्जोदरकुष्ठान्तकम् । ग्रीहानं ज्वरहृत्पञ्च काशश्च विषम-
 ज्वरम् । काशं श्वासं शिरोरोमं कर्शरोगं सद्योचकम् । चिरजं कुष्ठजञ्चैव
 क्षीपदं हन्ति दाहकम् । रोगानोक्ताविनाशाय धन्यमरिजितं पुरा । क्लृप्तुद्ग-
 मिदं लोहं विद्विदं शुभदं चण्डाम् ॥ रसेन्द्रसारसं यदहः ।

२ केशवं जारितं ताम्बं शङ्खवेररवैः सह । दातव्यं पथं चण्डेन
 सर्वगुण्यं निवारकम् ॥ रसेन्द्रसारसं यदहः ।

Gulma kḍlānana rasa.¹ Take of mercury, sulphur, copper, orpiment, borax, and *yavakshāra* (impure carbonate of potash), each two tolas, tubers of *Cyperus rotundus* (*mustaka*), black pepper, ginger, long pepper, fruit of *Pothos officinalis* (*gajapippuli*), chebulic myrobalans, *Acorus Calamus* (*vacha*) and *Aplotaxis auriculata* (*kushtha*), each one tolā. Powder them all, mix and soak the mixture in the juice of *Hedyotis biflora* (*parparti*), *Heliophyllum Indicum* (*hastisundi*), *Achyranthes aspera* (*apāmarga*) and *Trichosanthes dioica* (*patala*) respectively and dry. This medicine is given in the form of a powder in doses of eight grains with the decoction of chebulic myrobalans.

Several preparations of copper are recommended for use in asthma and heart disease, as for example, *Suryāvarta rasa*, *Hridayānava rasa* etc.

Suryāvarta rasa.² This preparation of copper is recommended for use in asthma by Śārangadhara and other writers of note. It is thus prepared. One part of mercury and one of sulphur are rubbed together with the juice of *Aloe Indica* for six hours. Two parts of copper leaves are pasted with the above mixture, and roasted within a closed crucible in a sand-bath for twelve hours. When cool the copper leaves are taken out from the crucible and powdered. Dose four grains with the addition of honey and the juice of *Adhatoda Vasica* (*vāsaka*).

१ शुक्लकालान्नरसः । स तत्रं नम्रकं तावत् तावत् टङ्कणं वनम् ॥
 तोषद्वयवितं भागं वनधारस्तु तत्त्वम् ॥ उक्तं नरिषु शुद्धी पिप्पली
 नमपिप्पली । इरीतकी वचाकुष्ठं तोषकं चूर्णयेत् सुधीः ॥ सर्वमेकी
 क्तं पाले भावना क्रियते ततः । पपेटी वारस शुद्धीनपासार्णपटोवसैः ॥
 तत्पुन चूर्णयेत् पश्चात् सर्वशुक्लविनाशनम् । शुक्लचट्टणं वाद्यं इरीतक
 सुपाततः ॥ वातिकं चैत्तिकं शुक्लं चैत्तिकं च लिदीमजम् हनन्ता च निहन्त्यायु
 वातशुक्लं विवेकतः ॥ श्रीवद्वद्वननाथेन निर्मितो विद्वत्त्वम् । शुक्लकाला
 न्नो नाम्ना रसोयं भुविदुर्लभः ॥ रसिन्धारसंज्ञकः ।

२ शुक्लवर्णरसः । स तत्रं नम्रकस्यैव वागैव कल्पवाद्यैः । इरीतकं भावयन्

Hridayārnava rasa.¹ Take of purified mercury and sulphur, each one part, prepared copper two parts, rub them together for twelve hours with the decoction of the three myrobalans, and with the fresh juice of *Solanum nigrum* (*kākamāchi*). Make into pills about four grains each. These pills are administered with a decoction of the fruits of *Solanum nigrum* and the three myrobalans, prepared with two tolās, in all of the drugs and thirty-two tolās of water, which is boiled down to one-eighth, or four tolās. They are said to be useful in heart disease.

Tāmresvara.² Take of prepared copper, mercury, borax, and iron, sulphur, and long pepper, equal parts, soak in the decoction of the leaves, bark, fruit, root, and flowers of *Azadirachta Indica* (*nimba*), of the pulp of *Cassia fistula* and of the three myrobalans. Dose four grains, in skin diseases of various sorts. During the administration of this medicine a cooling regimen should be observed.

SULPHATE OF COPPER.

Sans. ताम्र, *Tuttha.* Vern. Tutia.

SULPHATE of copper was known in India from a very remote period. It is prepared by roasting copper pyrites, dissolving the roasted mass in water and evaporating the solution to obtain crystals of the sulphate. It was known as a salt of

कष्याकल्मेन सेपयेत् । दिनैकं कृच्छिकावन्ने पचेत्, शीतं वसुधरेत् । सूर्यावर्त्तो
रक्षोनाशद्वियुक्तः श्लाघकावजित् । रसरत्नावली ।

1 कृद्वार्चवसः । शुद्धकर्तं वसं नन्दं कृतताम्रं तयोः वसम् । मूर्ध्वेत् लिफका
काये काकलाचीरुवैर्दिनम् ॥ चमत्ताम्रवर्त्तौ चादेरुवोः कृद्वार्चवः । काक-
लाचीफलं कर्षं लिफकाकवसं युतम् ॥ इति मत्तोक्तं तयोः काकलटावये-
निकम् । अहुपानं पिबेज्जालं कृद्गोमेहि कफालये ॥ रसेन्द्रवारसं पचः ।

2 तापे शरः । तापं रसं टङ्कनमन्वसौहृदं क्रीकृतं सामधिका वसनेतम् ।
पञ्चाङ्गनिष्पन्नं फलमेव विभावितं राजतरुसवैव ॥ निबोजयेद्दुग्धं प्रमात्रं
कुष्ठे, सर्वेऽपि रोगवर्धे ॥ उपाचरेत् कुष्ठं कुष्ठं नान्यथा विवृणक्ति ॥
रसोऽस्मिन्निवाक्रियाकार्याविपरीतो विपर्यये ॥ रसेन्द्रवारसं पचः ।

copper, for the Bhāvaprakāsa says it contains some copper and therefore possesses some of the properties of that metal.* It is described in this work as astringent, emetic, caustic, and useful in eye diseases, skin diseases, poisoning etc. It is purified for internal use, by being rubbed with honey and ghee and exposed to heat in a crucible. It is then soaked for three days in whey, and dried. Sulphate of copper thus prepared is said not to produce vomiting when taken internally. Dose, one to two grains.

Sulphate of copper dissolved in hot water is administered in insensibility from poisoning to excite vomiting. It enters into the composition of some medicines for remittent fever, such as the *Jvar-ānkusa* mentioned in Bhāvaprakāsa, but arsenic is the active ingredient in these preparations. In quartan fever the following, called *Chāturthakāri*,¹ is recommended by many writers. Take of orpiment, realgar, sulphate of copper, burnt conch-shell and sulphur, equal parts, rub them together with the juice of *Aloe Indica* and roast in a covered crucible. When cool extract the powder and make into four-grain pills with the juice of *Aloe Indica*. They are administered with powdered black pepper and ghee. Butter-milk should be taken before these pills which relieve the fever by inducing vomiting.

Grahanikapāta rasa.² Sulphate of copper is used in chronic bowel complaints along with other medicines, as for example in the following called *Grahanikapāta rasa*. Take of sulphate of

*तत्त्वं विदुषकश्चापि शिष्टिर्दीर्घं मङ्गुरकम् । तत्त्वनाम्नोप चातु हि किञ्चि-
त्तामेव तद्वेत् ॥ किञ्चिन्नाञ्च युञ्जन्नाञ्चमाञ्च युञ्जन् तत् । भावप्रकाशः ।

1 चातुर्वर्कारिरवः । हरिताम् शिवातुत्वं यद्वदूर्ध्वं गन्धकम् । समानं
चर्हयेत् प्राज्ञः कुमारीरसभावितम् । शरावशंष्टे कृत्वा क्षिप्त्वा गन्धपुटे पचेत् ।
कुमारिकारसेनैव वज्रमात्रा वटीकृता । दत्त्वा शीतज्वरं हन्ति चातुर्वर्कं विधे-
यतः । गरिबहतबोनेन तक्रं पीत्वा चरेद्दटीम् । एतया वसने जाते ज्वरः
सद्यो विनश्यति ॥ भेषजग्रन्थः ।

2 यद्वदूर्ध्वं माटः । तत्त्वं तावत् रसं कान्तं क्षान्तिं टङ्गुत्वं तथा । सपादनिम्नं
प्रत्येकं पञ्चनिम्नावराटिका । द्विनिम्नं गन्धकं सव्यं पिष्ट्वा जम्बीरजैर्द्रवैः । चर्ह-

copper, orpiment, mercury, iron, iron pyrites and borax, each five *māśās*. Prepared courses two and a half *tolās* and sulphur one *tolā*. Rub them all together with lemon juice and roast the mass lightly. This medicine is given in chronic bowel complaints, consumption etc.

Garbhavilāsa rasa.¹ Sulphate of copper enters into the composition of some medicines for diseases of the pregnant and puerperal state, such as, the *Sutikāvinoda* or *Garbhavilāsa rasa*. To prepare it take of mercury, sulphur and sulphate of copper, each one part, rub them together with lemon juice for three days. Then take of cumin seeds, *kāldjīrā*, long pepper, black pepper and ginger each one part, mix and make into eight-grain pills. They are used in bowel complaints and indigestion during the puerperal and pregnant state.

Sulphate of copper is applied to sinuses and fistula-in-ano with the object of stimulating and healing them. It is added to ointments for foul ulcers.² A solution of sulphate of copper is poured into the eyes in opacity of the cornea.³ The following compound powder is applied to chancres. Take of mercury, sulphur, sulphate of copper, cinnabar, and sulphate of iron, equal parts, powder and mix. This composition may be used in the form of powder or paste.

TIN.

Sans. वङ्ग, *Vanga.* Vern. Rāng.

TIN, though not indigenous to India, has been known from a very ancient period and is mentioned by Susruta. Dr. Royle

भाग करीयेषु प्रदितं भक्ष्योभयम् । जोजितं यदृषीयुष्माक्षवकुलप्रमेहमित् ।

1 गर्भविनाशरथः । रस गन्धकतुल्यं त्वहं जम्बीरमर्हितम् । द्विजोरकं लिङ्ग-
दुग्धा देवं युक्ताचतुष्टयम् । गर्भिण्याः मूत्रविट्क्व ज्वराजीर्णेषु केवलम् ॥

रसेन्द्रवारसंयुतः

2 अण्वविशोधने । कुष्ठं लिङ्गित्वादन्तोभागध्वः सैन्धवं मधु । रजनी लिङ्गित्वा
तुल्यं द्रितं अण्वविशोधनम् ॥ चक्रः

3 चक्षुःरोगे । तुल्यं चारिषावुक्तं शुक्लं हस्तचिपूरणात् ॥ चक्रः ।

observed " But the Hindoos like the Egyptians have employed tin for various purposes from very ancient times. And though there is no proof of its being found in the present day in the peninsula of India yet it is abundant on the opposite coast of the Bay of Bengal, as in Burma, Tenasserim, Junkseylon and Malacca. There must in very ancient times have been a trade between India and these places."

Tin is purified by melting it over the fire and pouring the melted fluid into the milky juice of *Calotropis gigantea* (*arka*). It is prepared for medicinal use by melting it in an iron cup, adding to it one-fourth part of its weight of *yavakshāra* (impure carbonate of potash) and powdered tamarind shells, and agitating with an iron rod till the mass is reduced to a fine powder. It is then washed in cold water and dried over a gentle fire. The resulting product is a greyish white powder consisting chemically of oxide of tin with some impurities. It is chiefly used in urinary disorders in a variety of forms. Thus the simple powder may be given in four-grain dose every morning with honey, or one of the following preparations may be used.

Trinetra rasa.¹ Take of prepared tin, mercury and sulphur equal parts, rub them together in an iron mortar and soak seven times respectively in the juice of *Cynodon dactylon* (*durvā*) and the decoctions of liquorice root, gum of *Bombax Malabaricum* (*Mocharasa*), and *Tribulus terrestris* (*gokshura*). Then roast in a covered crucible, again soak in the above mentioned fluid medicines and make into four-grain pills. This medicine is given with a decoction in milk of the above named vegetable drugs, in painful micturition.

Vangesvara rasa.² Take of the preparation of mercury called

१ त्रिनेत्ररसः । वक्त्रं सूतं गन्धकं भावयित्वा सोहपात्रे सङ्घर्षयेत्कृच्छ्रम् ।
दूर्वावटी शारङ्गकीर्णोक्षुरैस्तु सुषान्धे मूषरे पाचयित्वा । तत्तद्वैर्भावयित्वा-
स्यवह्मं दद्याच्छीतं पावसं वज्रसाधनम् । दूर्वावटी शारङ्गकीर्णोक्षुरैर्दुग्धैः
कुर्वाणं पावसं तद्दीत । प्रातःकायेयीत पानीयपानात् मूलेजातेस्यात् सुखी-
चक्रमेव ॥ रसिन्द्रवारसं पङ्कः ।

२ वङ्गेश्वरः । रसमन्त्रसमायुक्तं वक्त्रं भस्म प्रकल्पयेत् । अस्त्रमावहन् हनि
प्रमेहान् सोहसं युतम् । रसिन्द्रवारसं पङ्कः ।

Rasasindura, and of prepared tin, equal parts and mix. Dose about four grains with honey in urinary diseases and diabetes.

Vrihat Vangesvara rasa.¹ Take of prepared tin, mercury, silver and talc, sulphur and camphor each two tolas, prepared gold and pearls, each half a tola, mix them together, soak the mixture in the juice of *Eclipta prostrata* (*kesarājā*), and make into four-grain-pills. This medicine is said to cure all sorts of urinary diseases, and to act as an alterative tonic. It is given in diabetes with the juice of the ripe fruit of *Ficus glomerata* (*udumbara*).

Svarnavanga.² Take of mercury, sulphur and tin, equal parts, and rub them together, then take sal-ammoniac in quantity equal to all the above ingredients and rub together in a mortar. Introduce the mixture in a glass bottle and expose to heat in a sand-bath. The resulting powder called *Svarna Vanga* or golden preparation of tin has a beautiful golden lustre and flaky texture. It is given in urinary complaints in doses of five to ten grains with honey and the juice of emblic myrobalans. This preparation is the bisulphuret of tin or mosaic gold "used in the arts as a bronze powder especially for the manufacture of paper hangings." It is noticed by Pereira. The Sanscrit text for its preparation quoted below, is taken from a manuscript compilation in the possession of Kavi-

1 दृढवक्त्रैश्चरः। वक्त्रमक्षरसं गन्धं रोषं कर्पूरमभ्रकम्। कर्षं कर्षं ज्ञानमेव
सूताङ्गि, हेमनौलिङ्गम्। केशराक्षरसं भोज्यं द्विगुण्णाफकमानतः। दृढवक्त्रै-
श्चरोनाम सोमरोगं निहन्त्यम्। वक्त्रमूलं वक्त्रविधं मूलमेहं व्यपोहति।
मूलातीसारकम् चोचानां पुटिर्हन्तम्। ओजमेजस्करं स्त्रीषु सम्बन्धापि
हृष्यते। वक्त्रवर्णकरं रक्तं शुक्रसङ्गनकं परम्। ज्ञानं वा यदि वा नय्यं
पयो वा दधिनिर्मितं अक्षुपानं प्रबोक्तव्यं बुध्वा दोषगतिं भिषक्। दद्यात्
वालेषु प्रोक्षेत् सेवयेच्च रसादनम्॥ भैषज्यरत्नावली।

2 सर्ववक्त्रः। सूतेन सहितं वक्त्रो गन्धमेन सुकम्प्यती। नरसारेषु तत्
पश्चात् सर्वतुल्येन सङ्गमेत्। पश्चात् तं वायुका यन्त्रे काच कुष्माक्ष निधा-
पयेत्। पाकं कुर्वाण्येव प्राप्तं सर्ववक्त्रं वदा भवेत्। तदासिद्धं विद्यानिवात्
सर्वमेहेषु बोजयेत्। वातिकं पैत्तिकं चैव क्षौद्रिकं सान्निपातिकं। सर्वव्याधि
विनाशाय मङ्गदेवेन निश्चितः॥

raja Benod Lal Sen. It is evidently a recent innovation if not an imitation of the European preparation.

ZINC.

Sans. जवद, *Yasada.* *Vern.* Dastá.

Zinc is not mentioned by the older writers, such as Susruta, nor does it enter into the composition of many prescriptions. The Bhāvaprakāsa mentions it in the chapter on metallic preparations, and directs it to be purified and reduced to powder in the same way as tin. It is said to be useful in eye diseases, urinary disorders, anæmia and asthma.

Kharpara. This mineral is mentioned in most works. It enters into the composition of a number of prescriptions both for internal and external use. The article used under this name by the physicians of Upper India is a sort of calamine or zinc ore. Most of the physicians in Bengal are not acquainted with this ore, and substitute zinc for *kharpara*, that is, they consider *kharpara* as a mere synonym of zinc or *yasada*. They accordingly direct that *kharpara* should be reduced to powder by being melted over a fire and rubbed with rock salt. Zinc thus prepared is a fine yellowish grey powder consisting of carbonate of zinc mixed with chloride of sodium. In the works of the physicians of Upper India, this preparation is not described. There they use the zinc ore, which does not dissolve on the application of heat. It is simply purified by being boiled in cow's urine or soaked in lemon juice and then powdered. The Bengali physicians who substitute zinc for *kharpara* are evidently wrong, for the description of some of the preparations of this drug, as for example of the collyrium mentioned below, can not apply to metallic zinc.

Kharpara, as sold by Hindustani medicine vendors, occurs in greyish or greyish black porous earthy masses composed of agglutinated granules. On chemical analysis it was found to consist of carbonate and silicate of zinc with traces of other metals as iron, baryta, etc. *Kharpara* is described as tonic and alterative and useful

in skin diseases, fevers etc. It is also much used as a collyrium in eye diseases. Dose, grains six to twelve.

Vasanta mālati rasa. Take of leaf gold one part, pearls two parts, cinnabar three parts, black pepper four parts, purified *kharpara* eight parts, and rub them together. Then add some butter and lemon juice and rub together till intimately mixed and no separate particles are visible. Dose two to four grains with honey and long pepper. This medicine is much used by Up-country physicians in chronic fever, secondary syphilis, chronic gonorrhœa, leucorrhœa etc.¹

A collyrium is prepared as follows. Rub some *kharpara* in a stone mortar with water, take the dissolved watery portion, rejecting any solid particles that may have subsided to the bottom. Evaporate this solution, powder the residue and soak it three times in a decoction of the three myrobalans. When dry add one tenth part of powdered camphor and mix intimately. This collyrium is said to be useful in various sorts of eye diseases.²

LEAD.

Sans. सीसक, *Sisaka.* *Vern.* Sisā,

Lead is produced abundantly in India in the shape of the sulphide called galena. Galena is sold in the bazars under the name of *surma*, and is much used by the natives as a collyrium.

1 सुवर्णं सुक्ता द्रव्यं सरिचं भागद्वयं प्रदिष्टं चर्पराष्टौ प्रथमं मन्त्रिणं
मर्हयेत् स्रज्जलेन । वायुं स्रज्जो मज्जति विह्वलं निम्बनीरेण तावत् सुक्तास्रजं
मधु चपयत्वा मासती प्राग् वसन्ता ॥ सेवितेयं हरेत्सूर्णं जीर्णञ्च विषमञ्चरम् ।
व्याधीनञ्चाञ्च काषादोन्मदीन् कुङ्कुते ऽनघम् । वैद्यविनोदः ।

2 चर्पराष्टौः । त्रिचायां रसकं पिष्ट्वा सव्यगाद्याञ्च वारिचा । स्रज्जोवात्
तज्जलं स्रज्जं स्रज्जो मधोगतम् । सुक्तास्रजं तज्जलं स्रज्जं पर्यटौ स्रज्जिभं कवेत् ।
विचूर्ण्य भावयेत् सव्यञ्च त्रिचयं त्रिफलादयैः । कपूरस्रजजलात् द्रव्यायेन
निक्षिपेत् । स्रज्जवेत् नमनेतेन स्रज्जदोषहरं हितम् । स्रज्जदोषहरं चूर्णम्,
चक्षुः सुखकारि च । वाङ्मथरः ।

The red oxide of lead, or minium, was manufactured by the ancient Hindoos. It is known by the name of *sindura*, and is used by all married Hindu women as a paint for the forehead. Litharge or massicot, called *murdasang* in Hindustani, has no proper Sanskrit name and was unknown to the ancients. In some recent compilations it is occasionally introduced as a component of some compound preparations. Carbonate of lead, called *saffedá*, now common in the bazars and extensively used as a paint, is not mentioned by the ancient writers. The name *saffedá* is of Persian origin, and the article itself is an imported one.

Lead is purified and reduced to powder in the same way as tin. Lead thus prepared is a gritty powder of a greyish red colour. Chemically it is an impure carbonate of lead. Its properties are said to be similar to those of tin. It is seldom used internally except as a component of compound medicines containing a number of other metals. A probe made of lead is preferred for applying collyria to the eyelids.

The red oxide of lead, called *sindura*, is used externally in eruptive skin diseases in the form of ointment or liniment. Thus *sindura* and powdered black pepper mixed with butter is recommended to be applied in chronic eczema. An oil called *Sindurádya taila*¹ is thus prepared. Take of mustard oil one seer, water four seers, minium four tolás and cumin seeds eight tolás. Boil together in the usual way. This oil is used in eczema and other eruptive skin diseases.

GALENA.

Sans. अञ्जन, *Anjana*. सौविराञ्जन, *Sauviránjana*.

Galena or sulphide of lead is called *anjana* or *sauviránjana* in Sanskrit, and *krishna surmá* in Vernacular. It is called *anjana*, which literally means collyrium or medicine for the eyes, from the

¹ सिन्दुराद्यं तेजम् । सिन्दुरार्द्धपत्रं पिप्पलीरकस्य पत्रं तथा । कटुतेजात्
पथ्येष्वाकीं सद्यः पाप्माहरं परम् ॥ चक्रः ॥

circumstance of its being considered the best application or cosmetic for them. The other varieties of *anjana* mentioned are *srotonjana*, *pushpánjana* and *rasánjana*.

सौवीराञ्जन *Sauviránjana* is said to be obtained from the mountains of Sauvira, a country along the Indus, whence it derives its name. The article supplied under its vernacular name *surma* is the sulphide of lead ore. *Surma* is usually translated as sulphide of antimony, but I have not been able to obtain a single specimen of the antimonial ore from the shops of Calcutta and of some other towns. The sulphide of antimony occurs in fine streaky, fibrous, crystalline masses of a radiated texture. The lead ore on the contrary, occurs in cubic masses destitute of rays and is tabular in its crystalline arrangement.

स्रोतोञ्जन *Srotonjana* is described as of white colour, and is said to be produced in the bed of the Jamuná and other rivers. It is called *saffed surma* in the vernacular, and the article supplied under this name by Hindustani medicine vendors is calcareous or Iceland spar. It is used as a collyrium for the eyes, but is considered inferior to the black *surma* or galena.

पुष्पाञ्जन *Pushpánjana* is described as an alkaline substance. I have not met with any vernacular translation of this word, nor with any person who could identify or supply the drug. Wilson, in his Sanskrit-English Dictionary, translates the term as calx of brass, but I know not on what authority.¹

रसाञ्जन *Rasánjana* is the extract of the wood of *Berberis Asiatica* called *rasot* in the vernacular. It will be noticed in its place in the Vegetable Materia Medica.

Sauviránjana or galena is chiefly used as a cosmetic for the eyes, and is supposed to strengthen these organs, improve their appearance and preserve them from disease. It enters into the composition

1 सौवीराञ्जनं कण्ठं वाचनीयं सुवीरजम् । स्रोतोञ्जनं तु स्रोतोत्तमं नदीजं
वाहनं वरम् । सौवीरं याहि नधुरं चक्षुषं कफनाशकम् ॥ विष्णुसुखासुह-
स्मृतं स्रोतोञ्जनमपीदृशम् । पुष्पाञ्जनं पुष्पकेतु रीतिजं कुङ्कुमाञ्जनम् । पुष्पा-
ञ्जनं चारुतण्डुलं वाचनीयं पटुवापहम् ॥

मदनमोहः ।

of some collyria for eye diseases. Galena, heated over a fire and cooled in a decoction of the three myrobalans for seven times in succession, is rubbed with human milk and used in various eye diseases.¹ Another collyrium prepared with lead is as follows. To one part of purified and melted lead, add an equal portion of mercury and two parts of galena, rub them all together and reduce to powder. Now add camphor, equal in weight to one-tenth part of the mass and mix intimately. This preparation is said to be useful in eye diseases.² From the composition and uses of lead and galena above described it would seem that by the term *surma* the Hindus meant sulphide of lead, and not sulphide of antimony as is generally supposed.

BELL METAL AND BRASS.

BELL metal, (कांस, *Kānsa*), as used in medicine, is an alloy of copper and tin. Brass, (पित्तल, *Pittala*) is an alloy of copper and zinc. They are sometimes used in combination with other metals, and are regarded as tonic and alterative. They are purified and reduced to powder in the same way as copper. The following is an example of a preparation containing bell metal.

Nityānanda rasa.³ Take of mercury, prepared copper, iron, bell-metal and tin, purified orpiment, sulphate of copper and calcined

1 अग्निमत्तमस्य सौवोरं निमिञ्चेत् लिफवारयैः । सप्तवेद्यन्वासायैः स्त्रीणां
शिकं विचूर्चितम् । अञ्जवेद्यनेतेन मलहञ्जुषोहितम् । सर्वांगविचारं
स्तु हन्यादेतन्नययः ॥ शार्ङ्गधरः ।

2 शुभे नागे ह्रुते तल्यं शुद्धं सूतं विनिमिषेत् । कण्ठाञ्जनं तयोस्तुल्यं सर्ववेद्यल
चूर्णवेत् । दशमांशेन कपूरं तस्मिन् चूर्णं प्रदापयेत् । एतत् मलञ्जनं नेत्रगदा-
लिचयनायतम् । शार्ङ्गधरः ।

3 गित्थानन्दरसः । हिङ्गुलात् सप्तवं सूतं मन्थकं नूतनायकम् । कांश्चं
वक्त्रं हरितालं तल्यं शुद्धं वराटकम् । लिङ्गु लिफवायौहं विङ्गु पटु-
पञ्चकम् । चविद्यापिप्पलीमूत्रं हृद्यवाच वचातथा । शटीपाठादेवदाह एलाच

conch-shell and couries, sulphur, ginger, long pepper and black pepper, the three myrobalans, *babering* seeds, the five salts, namely, rock, sun-dried sea, black, *sonchál* and Sambar Lake salts, *Chavica officinarum* (*chavika*), long pepper root, *havusa* (an aromatic substance), *Acorus Calamus* (*vacha*), *Curcuma zedoaria* (*sati*), *Stephania hernandifolia* (*páthá*), *Pinus deodara*, cardamoms, seeds of *Argyrea speciosa* (*vrídhya dāraka*) each two tolás, rub together with the juice or decoction of chebulic myrobalans and make into ten-grain pills. They are given in hydrocele and elephantiasis of the scrotum. The remark that, when a disease has a long list of drugs for curing it, one may take it for an incurable one, is well exemplified in this medicine for elephantiasis of the scrotum.

MICA OR TALC.

Sans. *अभ्र* *Abhra*.

FOUR varieties of talc are described by Sanskrit writers, namely, white, red, yellow and black. Of these the white variety is used as a substitute for glass in making lanterns etc, and the black variety called *vajrábhra* is used in medicine. It is of a black colour, hard and heavy, and generally known by the name of *krishnábhra* or *shédbhra*.

Talc is purified in the following manner. It is first heated and washed in milk. The plates are then separated and soaked in the juice of *Amaranthus polygamus* (*tandulia*) and *kánjika* for eight days. Talc thus purified is reduced to powder by being

हृद्गदारकम् । एतानि समभागानि संसृज्य वटिकां कुरु । हरीतकीरसं
दत्त्वा पञ्चयुक्ताग्नितां शुभाम् । एतैकां खादयेन्नित्यं शीतलञ्च जले पिवेत् ।
क्षीपदं कफवातोत्थं रक्तनांशान्धितञ्च यत् । मर्दोगतं घातुमतं हन्त्यवश्यं न
संशयः । अर्जुदं गण्डमावाञ्च सन्धुह्विं चिरन्तनीम् । वातह्विं पित्तह्विं
क्षौद्रह्विं निचुलि च । अग्निह्विं करोत्येवमवश्यंकरः परः । श्रीमद्भृगु-
नाथेन निर्दिष्टोविश्वरूपदे । निखानन्द रसो नाम यथोक्तः क्षीपदे गदे ॥
रसेन्द्रसारसं पृष्ठः ।

rubbed with paddy within a thick piece of cloth, when the powdered talc passes through the pores of the cloth in fine particles and is collected for use. Talc, thus reduced to powder, is called *dhānyābhṛaka*. It is prepared for medicinal use by being mixed with cow's urine and exposed to a high degree of heat within a closed crucible, repeatedly for a hundred times. Sometimes the process is said to be repeated a thousand times. When this is the case, the preparation is called *sahasra putita abhra* and sold at high price (eight rupees per tolā). It is considered to be of superior efficacy. Prepared talc is a powder of brick-dust colour and a saline, earthy taste. Chemically it consists of silicate of magnesia with iron in excess. It is considered tonic and aphrodisiac and is used in combination with iron in anæmia, jaundice, chronic diarrhoea and dysentery, chronic fever, enlarged spleen, urinary diseases, impotence etc. Its efficacy is said to be increased by combination with iron. Dose, grains six to twelve.

Jvarāsani rasa.¹ Take of mercury, sulphur, rock salt, aconite and copper, one part each, prepared iron and talc, five parts each, rub together with the juice of *Vitex Negundo* leaves, then add one part of black pepper and make into two-grain pills. They are administered with the juice of betle leaves in chronic fever and enlarged spleen.

Agnikumāra rasa.² Take of mercury, sulphur, borax, iron,

1 ज्वराशनि रसः । रसं गन्धं सैन्धवञ्च विषं ताम्रं समं समम् । सर्वं चूर्णं च न
 बौहं तत्समं शुद्धमभ्रकम् । बौहे च बौहदण्डेन निगुण्डीसरसेन च । मर्द्देद्
 यत्नतः पश्चात् सरिषं सुतप्तव्यकम् । नामगुप्तादलेनैव दातव्यं रक्तावन्धितम् ।
 सर्वज्वरहरः श्रेष्ठः ज्वरान् हन्ति सुदारुणान् । काशं श्वासं महाघोरं विष-
 माण्डं ज्वरं वमिषम् । घातस्थं प्रवणं दाहं ज्वर दोषं चिरोद्भवम् । यक्ष्मशुब्-
 मोदरं श्लेष्म श्वयश्च विनाशयेत् ॥
 भैषज्यरत्नावली ।

2 अग्निकुमार रसः । रसं गन्धं विषं ध्योषं टङ्गुषं बौहमभ्रकम्
 अजमोदाऽह्निफेषञ्च सर्वं तुल्यं मृताभ्रकम् । चित्रकत्वक्कसायेण मर्द्देद्येष्माममा-
 त्रकम् । सरिषाभां वटीं खादिदजीर्णं पृथुलीं तथा । नाशयेन्नात्रसन्देहो युष्मो-
 भैषज्यरत्नावली ।

aconite, ginger, long pepper, black pepper, *ajowan* and opium each one part, prepared talc ten parts, rub together for three hours with the decoction of *Plumbago rosea* (*rakta chitraka*) and make into pills of the size of black peppers. This preparation is used in chronic diarrhoea and indigestion.

Sulachanāmritābhra.¹ Take of prepared talc eight tolās, rub it with eight tolās each of the fresh juice or decoction of the following drugs, namely, pulp of *Ziziphus Jujuba* (*kola*), *Chavica officinarum* (*chavikā*), root of *Andropogon muricatus* (*usira*), pomegranate fruit, lemon juice, emblic myrobalan and *Oxlaia corniculata* (*amlalonikā*), and make into pills about six grains each. This medicine is used in loss of appetite, disinclination for food, dyspepsia, vomiting, urinary diseases, anasarca and debility. It is tonic, alterative and aphrodisiac. The preparation called *Kandarpa kumārābhra* is very similar to the above in composition. In disorders of the urine the following called *Harisankara rasa*² is used. Soak some prepared talc in the juice of emblic myrobalans seven times in the course of a week and make into two-grain pills.

Arjunābhra.³ In heart disease talc is used with the juice of the *arjuna* bark which last is considered a specific for this complaint. *Arjunabhra* is prepared by soaking some prepared talc in the juice of the bark of *Terminalia Arjuna*, seven times, and dividing

1 सुखोचनान्मृताभ्रम् । पत्रं सुजीर्णं नमस्कृत्य वज्रकं तेजोवती कोच
सुशीरदाङ्गिमम् । चातुष्पञ्चकोनीरुचकं प्रथमैः पञ्चोष्णैर्नैर्हितमेव
सेवितम् । अरोचकं वातकफलिदोषजं पित्तोद्भवं गन्धसङ्गुणं मृणालम् । काशं
स्त्रावात सुरोपहं रुजं श्वासं बलाघं वल्लभगन्धरम् । शीघ्राग्निमान्दं
श्वेत्युं समीरणं मेहं भयं कुष्ठमखण्डरुमीन् । मूत्राभ्रपित्तं ज्वरोग-
सङ्गतं स रक्तपित्तं वनिदाहमग्निरोगम् । निहन्ति चायांसि सुखोचनान्मृतं
वज्रप्रदं हृन्निदं रसायनम् । रसेन्द्रसारसं यदहः ।

2 हरिश्चक्र रसः । मृताभ्रं मामलकजैः सम्राहं भाषयेत् रजः । हरि-
श्चक्रः सङ्गः स्याद् भुक्तः सर्वप्रमेहजित् । रसेन्द्रसारसं यदहः ।

3 अर्जुनाभ्रम् । सङ्कस पुटितैः सिद्धं वज्राभ्रमर्जुनत्वचः । सप्तैविम-
हितं सप्तदिनं सङ्गेविशेषितम् । व्याघ्राद्युष्मावटीकायां नाम्नेदमर्जुना-

the mass into two-grain pills. In phthisis and chronic bronchitis the following called *Sringárábhra*¹ is used. Take of prepared talc sixteen tolás, camphor, cardamoms, nutmegs, mace, cloves, root of *Pavonia odorata* (*bálá*), *Pothos officinalis* (*gajapippuli*), leaves called *tejpátra*, *jatamansi* root, leaves of *Pinus Webbiana* (*tálisapátra*), cinnamon, flowers of *Mesua ferrea* (*nágakesara*), root of *Aplotaxis auriculata* (*kushtha*), flowers of *Woodfordia Floribunda* (*dhátaki*) and purified sulphur, each one tolá, mercury half a tolá. Powder the ingredients, mix and make into four-grain pills with water. One pill at a time is to be chewed with betle leaves and ginger, and a little water is to be taken afterwards. The pills may be taken three or four times daily. The diet should consist of *ghee*, milk and broth.

Mohalakshmi bídśarasa.² This preparation is used as an alterative tonic and aphrodisiac in general debility, impotence etc. To prepare it, take of talc eight tolás, mercury four tolás, sulphur four tolás, tin two tolás, silver one tolá, orpiment one tolá, copper half a tolá, gold half a tola, camphor, nutmegs and mace, each four tolás, seeds of *Argyreia speciosa* (*bridhadráka*) and of *datura*, two tolás each. Mix together, rub with the juice of betle leaves and

अवचनम् । इदं सर्वं नूतनाशौक्यासम्पदं रोचकम् । अतिसारं मन्दमग्निं
रक्तमिष्टं क्षतवस्त्रम् । शोषोदरास्यक्षुभितं विषमज्वरमेव च । हृत्पित्तान-
पिरोमांसं वत्सं हृत्सं रसावनम् । अतुषानं पिबेत्तु इदं च कफात्मके ।
रसेन्द्रसारसं यद्वै ।

1 शृङ्गाराभ्रम् । शुद्धं कण्ठाभ्रचूर्णं द्विपत्रपरिमितं शालमानं वदन्त्यः ।
कर्पूरं छातीकोषं सज्जन्निभकनातेजपत्रं खड्गम् । मांसोतालीशचोषेज-
कुसुमदं घातकीवेति तृत्थं । एताञ्छातीफलाख्यं क्षितितलविधिना शुद्धगन्धार्द्र-
कोषं । कोषार्द्रं पारदस्य प्रतिपदविहितं पिष्टमेकमिष्टम् । पानीयेनैव कार्यः
परिचयत चनकसिद्धतुल्याचवच्च । प्रातः खाद्यान्तकं सप्तदशलक्षितं शृङ्गेरं
समर्थं । पानीयं पीतमन्तु वषमपहरति क्षिप्रमेतान् विकारान् । कोटेदुष्टाग्नि-
जातान् ज्वरमुदररोगां राजवष्णुचवच्च । कासं श्वासं शयोधं नवनपरिभवं
ये हृत्सं दोषिकारान् ।
सारकौस्तुभे ।

2 महाकण्ठीविदासः । यत्नं कण्ठाभ्रचूर्णस्य तदर्धं गन्धपारदं । वङ्गमक्षतदर्धञ्च
तदर्धं तारकञ्च च । तत् समं हरिताकञ्च तदर्धं ताम्रमकञ्च । रसतुल्यं कर्पूरञ्च

make into pills of about six grains each. Another preparation of composition similar to the above is called *Manmathābhra rasa*. It is, as its name implies, intended for the votaries of Cupid.

Galitakushthāri rasa.¹ Take of mercury, sulphur, prepared copper and iron, bdellium, plumbago root, *sildjatu*, nux vomica, and the three myrobalans, each one part, prepared talc and the seeds of *Pongamia glabra* (*karanja*), four parts each, rub together with honey and *ghee*, and preserve in an earthen pot smeared with *ghee*. Dose about a drachm. It is given in leprosy with ulceration of the toes and fingers. The diet should consist of fine rice, milk, sugar and honey. The patient must live apart from his wife.

ALUM.

Sans. स्फटिकार *Sphatikāri*.

Alum is prepared from alum shale in the Punjab and Behar. It is not mentioned by Susruta, in his list of metallics, but later writers give its synonyms and uses. It is described as an astringent, and as useful in leucorrhœa, strangury, vomiting, ulcers, white leprosy, eye diseases etc. It enters into the composition of several applications to the eye in combination with *rusot*, opium etc, for which see *Berberis Asiatica*. It is seldom used internally.

जातीकोपफलं तथा । हृत्तदारकबीजं चोक्तं स्पर्शफलस्य च । प्रत्येकान् कार्ष्णिकान् भागान् स्तुतस्पर्शश्च शाण्डकम् । नागवल्लीरसैः पिष्ट्वा त्रिशुक्लाफलमानतः । वटीकार्यान्तुपानञ्च व्याधिं वीक्ष्य प्रयोजयेत् । निहन्ति सक्षिपातोत्थान् गदान् घोरान् सुदारुणान् । प्रोक्तः प्रयोनराजोयं अगस्त्येन महात्मना । महाबद्धीविशालोयं बासुदेवो जगद्गुरुः । अस्य प्रसादाद् भगवान् लक्ष नारीषु वल्लभः । रसेन्द्रचारसंग्रहः ।

1 मलितकुठारि रसः । रसोवक्षिस्ताम्बुलः पुरोऽग्निविद्याजलं स्याद्विपतिन्दु-
क्षम् । वराचं तुल्यं गङ्गा करञ्जबीजं शुषक् भागचतुष्टयम् । संसर्गं सर्वं मधु-
नाहतेन हतस्य पात्रे निहितं प्रयत्नात् । कर्षं भजेत् प्रत्यहमस्य पथ्यं शाख्योदनं
दुग्धं मधुत्रयञ्च । विषीर्यकर्षाद्बुडिनासिकोऽपि भवेदनेन अरतुल्यमूर्तिः । दारा
परित्याग इह प्रदिष्टो जखौदनं तल्ल निवहसूत्रे ॥ भाव प्रकाशः ।

BORAX

Sans. टङ्कष, *Tankana.* *Vern.* Sohágá.

BORAX was known to the ancient Hindus from a very remote period, and is mentioned by Susruta. It is brought from Thibet across the Himalaya, and from Nepal, and is used in medicine as well as in the arts. It is purified for medicinal use by being steeped for a night in *kánjika*, and dried in the sun. Borax is said to be useful in loss of appetite, painful dyspepsia, cough, asthma, skin diseases and diarrhœa. It is also used for procuring abortion and promoting uterine contractions. Borax enters into the composition of numerous formulæ for dyspepsia, such as the *Amritakalpa rasa*, *Tankanádi vati* etc.

*Amirtakalpa rasa.*¹ Take of mercury, sulphur and aconite, one part each, borax three parts, soak them for three days in the juice of *Wedelia calendulacea* (*bhringardja*) and make into two-grain pills. This medicine is said to be useful in loss of appetite, indigestion and dyspepsia. *Tankanádi vati* contains the above ingredients with the addition of ginger and black pepper, all in equal parts.

*Chandrámrita rasa.*² Take of the three myrobalans, ginger, long pepper and black pepper, *Chavica officinarum* (*chaviká*), coriander, cumin seeds and rock salt, each one tolá, and rub them together with goat's milk. Then add mercury, sulphur and iron, each two tolás, borax eight tolás and black pepper four tolás, all in fine powder, mix and make into pills or boluses about eighteen grains each. They are administered with goat's milk in chronic bronchitis and various sorts of cough with copious expectoration. Along with

1 अमृतकल्पारसः । पारदं गन्धकञ्चैव समानौ कञ्जतीक्ष्णौ । तबोरुषं विभंग्युक्तं
वत् सप्तं टङ्कषं भवेत् । ऋक्षराजद्रव्यभांशं त्रिदिनं यत्नतः पुनः । सुदृढप्र-
माणा वटिका कर्तव्याभिषेकावरैः । यदोद्भूयं हरेष्कूषं अग्निमान्द्र्यं सुनिश्चितं ।
अजीर्णं जटवत्प्रागु धातुपुष्टिं करोति च । नाना व्याधि हरायेयं वटी सुरवचो
वचा । अतुपानविशेषेण सत्यं सुचकरी भवेत् ॥ रसेन्द्रसारसंग्रहः ।

2 चन्द्रामृतारसः । त्रिफला त्रिकटुचव्यं धान्यं जीरकं सैन्धवम् । मल्लकं तोषकं
प्राञ्जं ज्ञानीदुग्धेन पेयवेत् । रसगन्धकौ हानि मल्लकं कार्पिकानि च । टङ्कषस्य

these pills a decoction made of *gulancha*, *Adhatoda vasica* (*vāsaka*), *Clerodendron Siphonanthus* (*brahmayashti*), *Cyperus rotundus* (*mustaka*), and *Solanum Jacquini* (*kantakāri*) should be administered.

Borax enters into the composition of several prescriptions for diarrhoea, along with opium, such as the *Grahanikapāta rasa* and *Nripavallava rasa*, for which see Opium.

A mixture of equal parts of borax, long pepper and *babering* seeds is given for five days, at the menstrual periods for the purpose of preventing conception.¹ It is also used for procuring abortion and inducing labour pains. Borax rubbed into a paste with the root of *Vallis dichotoma* (*bhadravalli*) is applied to diseased nails.

LIME.

Sans. शङ्खभस्म, Sankha bhasma. चूर्ण, Churna.

SEVERAL sorts of lime are used in Hindu medicine. Thus we have lime from limestone called *churna*. Then we have lime from calcined cowries, conch-shells, bivalve-shells and snail-shells, called respectively, *Kapardaka bhasma*, *Sankha bhasma*, *Sukti bhasma*, and *Sambuka bhasma*. These shells are purified by being soaked in lemon juice, and are prepared for use by being calcined within covered crucibles. Lime is used internally in dyspepsia, enlarged spleen and other enlargements in the abdomen, and externally as a caustic. Lime enters into the composition of a great many prescriptions for different sorts of dyspepsia. The following are a few examples.

मर्चदत्ता मरिचस्य मर्चार्द्धकं । नवगुल्मा मर्चाद्येन वटिकां कारयेद् भिषक् । एकैकां
वटिकां चंद्रेत् रक्तोत्पलं जलमुताम् । नीलोत्पलं रसेर्वापि कुबजस्य रसेन वा ।
प्लागीक्षीरेण मण्डेन केसरारसेन वा । निहन्ति विविधं कारं वक्ष्याम-
हमिदं वचम् । वासा युक्तूचिका भार्गीक्षसकं कष्टकारिका । समभागं जतंकाद्यं
मस्रहंभक्षयेदहम् । रसेन्द्रवारसंयुक्तः ।

1 पिप्पली विहङ्ग टङ्गुलं समचूर्णं वा पिबेत् पत्रवा । कटुं वमने नहि तस्या
वर्धः सञ्जायते कापि ॥ वायः प्रकाशः ।

Amrita vati.¹ Take of calcined cowries five parts, aconite two parts, black pepper nine parts, and make into two-grain pills. They are used in loss of appetite and indigestion.

Agnikumdra rasa.² Take of borax, mercury and sulphur, each one tolá, aconite, calcined cowries and conch-shells, each three tolás, black pepper eight tolás, rub them together for twelve hours with lime juice and make into twelve-grain pills. This medicine is said to increase the appetite and cure indigestion. Calcined conch-shell in half a drachm doses is recommended to be taken with lime juice in enlarged spleen.³

Lime is used in various combinations as a caustic for different diseases. Thus a mixture of conch-shell lime, impure carbonate of soda (*sarjiká*) and the ashes of *Raphanus sativus* (*mulaka*), is applied to tumours and enlarged glands.⁴ A mixture of lime, carbonate of soda, sulphate of copper and borax is applied as a caustic to tumours and warts. Lime enters into the composition of depilatories. Thus take of conch-shell lime three tolás, orpiment and the ashes of *Butea frondosa* (*palása*), one tolá each, and rub them together with the juice of plantain stalks or of *Calotropis gigantea* (*arka*). This paste is applied seven times to the part from which the hair is to be removed.⁵

1 अमृतवती । अमृतवराटक सरिचैर्हि पञ्चनवभानिकैः क्रमशः । वटिका-
सहस्रभागकफपित्ताग्निसान्द्रहृदिषी । भैषज्यरत्नावली ।

2 अग्निकुमाररोचः । रसेन्द्रगन्धौ सङ्घटङ्गणेन समं विषं दोष्यमिह-
लिभागम् । कपर्दशङ्खाविहनेलभागे सरिच सात्वाष्टयुग्मं प्रदेवम् । सुपक्व-
जम्बीरसेनघृष्टः सिद्धो जवेदग्नि कुमारएवः । विषूचिकाजीर्णं समोरणात्तं
दद्यात् द्विवक्त्रं पङ्क्ती नदे च । भैषज्यरत्नावली ।

3 रसेन जम्बीरकवस्य शङ्खनाभिरजः पीतमवश्यमेव । शाचप्रमाणं समवे-
दयेत् झीङ्गामयं कूर्कसमानमायु । भावप्रकाशः ।

4 सर्जिकासुखकारः शङ्खसूक्ष्मसन्मितः । प्रलेपोविहितसोऽप्योऽह्नि पञ्च-
सुंदादिकान् । चक्रदत्तः ।

5 तावत्तं शाचमुष्णं स्यात् षट्शाचं शङ्खसूक्ष्मम् । द्विषाणिकं पलायस्य चारं
दत्त्वा प्रमर्दयेत् । कदलीदण्डतोलेन रविपत्ररसेन वा । अस्यापि सप्तभिर्दोषै-
र्योनिं चातनसुत्तमम् । शार्ङ्गधरः ।

CHLORIDE OF SODIUM.

Sans. लवण, *Lavana*.

SUSRUTA describes the following varieties of salts, viz., 1 *Sáindhava*, 2 *Sámudra*, 3 *Vit* or *Vid*, 4 *Sauvarchala*, 5 *Romaka*, 6 *Audbhida*, 7 *Gutiká*, 8 *Pánsuja*, also called *Ushasuta*. The first five in the above list generally pass by the name of *pancha lavana* or the five salts, and are often used in combination. The other varieties are rarely used in medicine.

सैन्धव *Saindhava* literally means produced in *Sinde*, or the country along the Indus. The term is applied to rock salt which is regarded as the best of salts. Three varieties of rock salt are recognized, viz., white, red and crystalline. The pure white crystalline salt is preferred for medicinal use. For alimentary purposes also, rock salt is considered superior to the other varieties. It is regarded as digestive, appetizing, sweet and agreeable, and is much used in dyspepsia and other abdominal diseases.

सामुद्र *Sámudra* literally means produced from the sea. The term is applied to sun-dried sea-salt, manufactured in the Madras Presidency. It is called *karkach* in the vernacular. Orthodox natives, who consider common salt as impure from the circumstance of its having undergone the process of boiling, and who take only rock salt, substitute *karkach* for rock salt, if the latter is not available. Sun-dried sea-salt is described as somewhat bitter and laxative. In other respects its properties are said to resemble those of rock salt.

विट् लवण. *Vit lavana* occurs in dark red shining granules somewhat resembling coarsely powdered lac in appearance. It has a mild, saline and somewhat nauseous taste. Dr. Fleming says "that the following process for making this salt was communicated by a native druggist to Mr. Turnbull at Mirzapore and was actually performed in his presence. Fifty six pounds of sambar salt are mixed with twenty ounces of dried *aonlás* (*emblic myrobalans*.) One fourth of these materials is put into a round earthen pot with a narrow mouth, which is put in a fire-place made of clay. The fire-place has a hole at the bottom for introducing the firewood. After the fire has been lighted about an hour, and the materials, in the

pot, appear to be heated, the rest of the materials is added by degrees. The whole is then exposed to a strong red heat for about six hours. The fire is then allowed to die away, and the pot to cool ; which upon being broken is found to contain about forty-eight pounds of *calanemuc* or *bitlaban*.*

Vit lavana, besides possessing the properties of salts in general, is said to be carminative and stomachic, and to be useful in enlarged spleen, dyspepsia, indigestion, bowel complaints, etc.

सौवर्चल *Sauvarchala* called *sonchal* or *kálánimak* in Hindustani is said to be aromatic, agreeable and digestive, and useful in the same sort of cases as *vīlavana*. It is described in the Report on Punjab Products as "a dark colored salt said to be made by dissolving common salt in a solution of "*sajimāti*" (crude soda) and evaporating it; this salt contains chloride of sodium, sulphate of soda, caustic soda and a little sulphate of sodium, but no carbonate of soda." *Sonchal* salt is not available in the drug shops of Calcutta. Some Bengali physicians give this name to a crystalline form of rock salt, but up-country physicians always translate *ṣauvarchala* as *sonchal* or *kálánimak*. The latter interpretation appears also to obtain in the Punjab where a specimen of *sonchal* salt from Ram Sing, a noted druggist, is said in the Report on Punjab Products, "to be a salt of the same kind as *kálánimak*."

रोमक *Romaka*, also called **साकम्बरी** *Sákambari*, is the salt produced from the Sambar Lake near Ajmere. The name *romaka* is said to be derived from a river called *Rumá*. It is obtained by the evaporation of salt water in the shape of clear rhomboidal crystals. It has a pungent taste, and is considered laxative and diuretic, in addition to possessing the other properties of salts. It is said to be the best and purest of evaporated salts.

बोद्धिद *Audbbid*, that is, produced of itself from the earth, is the name applied to a salt produced as an efflorescence on *reh* lands. The salt is called *reha* or *kalar* in the vernacular. It consists principally of sulphate of soda with a little chloride of sodium, and is described as alkaline, bitter, pungent and nauseating. It is said to be so abundant in some parts of the Punjab as to render

the soil quite barren. Some physicians or rather writers substitute this article for *sambar* salt in the composition of *pancha lavana* or the five salts.

गुटिका Gutikā. This salt, mentioned by Susruta and some later writers, cannot be identified at present. In the treatise called *Dravyaguna* by Chakra Datta, his commentator Siva Dass says that the name *gutikā* is derived from the circumstance of the salt assuming a hard, granular or nodular shape from boiling. So that it is a sort of boiled salt. Susruta describes it as stomachic digestive and laxative.

पांसुज Pānsuja or *Ushasuta* literally means, salt manufactured from saline earth. *Pāngā* or common salt, manufactured from earth impregnated with salt water, would come under this head.

Rock salt with warm water. is used as an emetic.¹ The different varieties of salt enter into the composition of a great many medicines for dyspepsia, indigestion, enlarged spleen and other tumours in the abdomen. The following are a few illustrations.

Nārikelakshāra. ² Take a cocoa-nut fruit full of water, make a hole in it and fill the cocoa-nut with rock salt, that is, dissolve the salt in its water. Then close the opening, cover the nut with a layer of clay and roast it in a pit of fire. The salt thus roasted is esteemed as a valuable medicine in the form of dyspepsia which is attended with pain, two or three hours after meals. It is given with the addition of long pepper. Dose about a quarter tola.

Bhāskara lavana. ³ Take of *karkach* salt sixteen tolas, *sonchal* salt ten tolas, black salt, rock salt, coriander, long pepper, long

1 वसनं त्वस्यै पूर्व्यं खवचेनोष्णवारिणा

चक्रदत्तः ।

2 नारिकेलक्षारः । नारिकेलं च तोयञ्च खवचेन प्रपूरितम् । विपक्षमग्निना
खस्यक् परिष्कारमग्न्युत्तुहत् । वातिकं पेटिकञ्चैवैहृत्स्निवं चाग्निपातिकम् ।

चक्रदत्तः ।

3 भास्करखवचं । सासुद्रखचं कार्कशदृक्कर्मितं बुधैः । पञ्चवीर्यं
प्राज्ञं विहृत्स्नैश्चान्यकम् । पिप्पलीपिप्पलीमूत्रं क्षयजोरकपत्रकम् । नागकेसरं
तालीयमण्डवेतसकं तथा । द्विकर्षभात्राप्येतानि प्रत्येकं कारवेदबुधैः । सरिचं
जीरकं विशलेकैकं कर्षभात्रकम् । दाहिनं स्वाशुतमर्षं तलेषेचार्धकार्षिके ।

pepper root, leaves called *tejpatra*, seeds of *Nigella sativa* (*krishnajiraka*), leaves of *Pinus Webbiana* (*talisa patra*), flowers of *Mesua ferrea* (*nágakesara*), fruits of *Calamus fasciculatus* (*amlave-asa*), four tolás each, black pepper, cumin seeds and ginger, two tolás each, pomegranate seeds eight tolás, cinnamon and cardamoms one tolá each, powder, mix and soak seven times in lemon juice. Dose about a drachm with whey or wine, in enlarged spleen and other tumours in the abdomen, dyspepsia, loss of appetite, constipation etc. Rock salt is applied to opacities on the cornea, either singly or in combination with other drugs, as in the following. Take of the seeds of *Acacia Lebbek* (*sirisa*), long pepper, black pepper and rock salt in equal parts, rub them together with water, and make into pellets or pencils. These are rubbed on opacities of the cornea.

CARBONATE OF POTASH.

Sans. यवक्षार, *Yavakshára*.

THIS article, as well as the next one called *sarjikákshára*, is mentioned by Susruta, and has been used in medicine from a very remote period. *Yavakshára* is prepared by reducing to ashes the green spikes of the barley (*Hordeum hexastichum*), dissolving the ashes in water, straining the solution through thick cloth, and evaporating it over the fire. The resulting salt is a clear amorphous powder with a saline and partly acid taste. Chemically it is carbonate of potash with some impurities. *Yavakshára* is described as stomachic, laxative and diuretic. It is used in urinary diseases, dyspepsia, enlarged spleen and other enlargements of the abdominal viscera. A decoction of chebulic myrobalan and *rohitaka* bark is given with the addition of carbonate of potash and long pepper in enlarged spleen and liver, and in tumours in the abdomen called

बीजपूररसेनैव भावितं सप्तवारकम् । एतच्चूर्णीकृतं सर्वं खवखं भास्कराभिषम् ।
 चाचमनाच्च देवन्मुक्तुतक्रसुरासवैः । वातघ्नोऽसमर्थं युद्धं श्रीहानसदरखवम् ।
 चन्द्राग्निं नाशयेद्वैद्यपनं चाचनं परम् । सर्वबोवहितार्थाव भास्करेवोदितं
 कुरा । वाक्क्षारः ।

gulma.¹ In strangury or painful micturition, carbonate of potash with sugar is considered a very efficacious remedy.² It enters into the composition of numerous saline medicines.

CARBONATE OF SODA.

Sans. सर्जिकाक्षार *Sarjikākshāra. Vern. Sáji.*

Sáji or barilla is produced from several species of salt-worts growing in brackish soil in the Punjab and North-West Provinces. The process of manufacturing *sáji* is described in full detail in the "Report on Punjab Products". The plants are cut down during the cold months, dried and burnt in a pit of a hemispherical shape, about six feet in circumference and three feet deep. At the bottom of this pit, one or more inverted *gharás* or earthen vessels having small holes pierced in their upper portion are buried. The holes are kept closed at the commencement of the operations. Into the pit is thrown a small quantity of the plants and burnt, fresh plants being gradually added to keep up a constant fire, and this is continued till the pit fills up. During this process a liquid matter exudes from the plants. As soon as this is observed the orifices in the *gharás* are opened and the liquid runs down into them below the fire. After all the liquid has run down, the ashes are stirred up with a stick and covered over with earth. The alkali found in the earthen vessels is *sáji* of the first quality, called *sáji lotá* because it is found in the *lotá* or pot. The residuary mass in the pit is crude dirty potash.

Sarjikākshāra or *sáji*, as used in medicine, occurs in porous granular masses of a greyish white colour, and with a strong alkaline taste of soda. Chemically, it consists of carbonate of soda with certain impurities, such as organic matter, sulphate of soda,

1 पथ्यारोहितकं कायं ववक्षारकणायुतम् । पिवेत् प्रातर्बद्धतृप्तीहृद्युत्तमो-
दरनिद्वस्ये । शार्ङ्गधरः ।

2 ववक्षारस्य दूर्घन्तु संयोज्य सितदा सह । भक्षयेद्भित्तं तस्य प्रश-
मेच्छूलनिपहः । भावप्रकाशः ।

potash etc. The properties of *sarjikā* are said to be like but somewhat inferior to those of *yavakāshara*. It is chiefly used in combination with other medicines of its class in the treatment of acidity, dyspepsia, and enlargements of the abdominal viscera. Externally it is used as a caustic.

Sāji, or barilla, should not be confounded with *sājimati* or fuller's earth. The latter is earth impregnated with soda and not a barilla. *Sājimāti* occurs in great abundance on the surface of the soil in many parts of India, and is chiefly used in washing cloth. The following is an example of a saline medicine containing *sarjikā*.

Sarjikādyā churna. ¹ Take of *sarjikākshāra* and *yavakshāra*, rock, *sonchal*, *vit*, *sāmbār* and *karkach* salts in equal parts, powder, soak in lemon juice or the juice of pomegranate fruits and dry in the sun. Dose about twenty grains. This medicine is said to promote the appetite, to remove local swellings or tumours in the abdomen and to cure dyspepsia with severe pain after meals.

A paste made of equal parts of *yavakshāra* and *sarjikākshāra* with water is applied to abscesses, for the purpose of opening them.

NITRATE OF POTASH.

NITRE was unknown to the ancient Hindus. There is no recognized name for it in Sanskrit. The *Bhāvaprakāsa* mentions *Suvarchikā* as a variety of *sarjikā* or barilla, and gives *sorā* as its vernacular equivalent. But *suvarchikā*, according to standard lexicons, is a synonym of *sarjikā* and not a separate article. Some recent Sanskrit formulæ for the preparation of mineral acids containing nitre, mention this salt under the name of *Soraka*. This word

१ सजिकाद्यचूर्णम् । सजिका च यवकारः सिन्धुशोरश्च विद्धम् ।
वास्तुशिल्पं दोषनञ्च कोटमात्राणि कारयेत् । एकीकृत्याश्लिषं चूर्णं भावयेन्नालु-
बुद्धयः । रसं वा दाहयेत्तर्पणं योषयेदातमेन वा । तत्रूषं नाशयेद्गुह्यं
महतीमासजां वनम् । अग्निञ्च कुर्वते दीप्तं वचिञ्च कफनाशनम् ।

वाक्पथः ।

however is not met with in any Sanskrit dictionary and is evidently Sanskritized from the vernacular *soré*, a term of foreign origin. The manufacture of nitre was therefore most probably introduced into India after the adoption of gunpowder as an implement of warfare. It is necessary to observe here that many writers have erroneously translated nitre into the Sanskrit term *yavakshára*. This last however is not a nitrate but an impure carbonate of potash obtained by reducing to ashes the spikes of the barley.

Chloride of ammonium is not mentioned by Susruta and the older writers. In recent Sanskrit works it is called *narasára*, a term apparently derived from the vernacular *nousadar* of Persian origin. Another salt mentioned in recent Sanskrit compilations is the impure sulphate of soda called *Kshárinoo* in the vernacular. It is called *Kshári lavana* in Sanskrit, and is used in combination with other saline medicines.

ALKALINE ASHES.

Sans, क्षार, Kshára.

THE ashes of a number of plants containing more or less potash are employed both externally and internally. A list of these plants used in the preparation of caustic pastes, has been already given in the Introduction (see page 21). It remains now to notice the preparations of alkaline ashes for internal use. A solution of the ashes of these plants or of such of them as are available, is prepared by mixing them with six parts of water and straining the fluid through cloth for twenty-one times, that is, the strained fluid is poured over the ashes twenty-one times in succession, and made to percolate through them. Lastly the fluid is allowed to stand and the clear solution drained off. This alkaline solution is given in doses of one to three drachms in dyspepsia, ascites, enlargements of the abdominal viscera, calculous affections, etc. It is regarded as laxative, diuretic and antacid.

Váisvânarakshára.¹ Take of the mixed ashes of *Euphorbia*

¹ वैश्वानरक्षारः । सुश्रुतचिकित्सेरक्षारद्वयं च उपनिबन्धम् । तिक्तापानार्थः-

neriifolia (*muli*), *Calotropis gigantea* (*arka*), *Plumbago Zeylanica* (*chitraka*), *Ricinus communis* (*eranda*), *Crataeva Roxburghii* (*varuna*), *Boerhaavia diffusa* (*punarnavá*), *Sesamum Indicum* (*tila*), *Achyranthes aspera* (*apámárga*), *Musa sapientum* (*káddali*), *Butea frondosa* (*paláśa*), and of the shells of tamarinds, two seers in all, boil in sixteen seers of water till reduced to one-fourth. Allow the solution to stand, and drain the clear liquid. To the clear solution add two seers of rock salt, boil again till the fluid is evaporated, dry and powder. To this powder add the following carminatives, namely, *ajowan*, cumin seeds, *káldjird*, ginger, long pepper, black pepper and assafoetida, each four tolas, and mix. This combination is given in doses of one to two scruples, with cold water in dyspepsia, anasarca etc.

Abhayá-lavana.¹ This is a preparation similar to *Vaisvānara-kshāra* above described. It is much used in enlarged spleen of long standing, and often with success. To prepare this two seers of mixed alkaline ashes are boiled in sixty-four seers of water till it is reduced to one-fourth. One seer of chebulic myrobalans, two seers of rock salt, and sixteen seers of cow's urine are then added, and the mixture boiled till it is reduced to a thick syrupy consistence. Lastly are added cumin seeds, ginger, black pepper, long pepper,

कदली पत्राञ्च तिलिक्तीं तथा । महीत्या ज्वाहयेदेतत् प्रसं मन्नाखिचं
 वचा । जवाङ्गे विपन्नञ्च जावत् पादावयेचितम् । सुप्रवचं विनिष्कास्य
 खचं प्रसवयुतम् । पक्वं निर्भूमकठिनं कृष्णचूर्णीकृतं पुनः । ववानो जीर-
 कस्योपस्यूज्जीरकहिङ्गुभिः । शीतोदकेन तच्चूर्णं पिबेत् प्रातर्हि नाशवा ।
 तस्मिन् जीर्णैः श्वेतैश्चोषणैश्च कृष्णैश्चोषणैश्च रसैः । रसद्वयैः च खचैः सुखोष्णै-
 र्वैङ्गहोषणैः । एतेनानिर्विह्वलं मन्नाखिचमेव च । तन्नाशुपानं यत्नं हि
 तत्कं वा भोजनेहितम् । कन्दाम्बुर्धो विद्यारेण वातक्षेपानमेव च । खर्जाङ्ग-
 योषणेण चूचुब्धोदरेण च । खर्जाङ्गं चर्चरावाञ्च विस्त्रुजानिखरो-
 निम् ।

भाषप्रकाशः ।

1 खमवाचयचम । पारिमर्शपत्राचार्यकुञ्जपानार्निचितकम् । कर्माजिनमन्त्रसुखं
 मर्दङ्ग वृक्षोदवन । पुतिक्वास्तोतकृटककोवातकः पुनर्नवा । समुच्चल यावाञ्च
 चोदयिता उदुचये । तिकनायेन दीप्ताज्जि सुदग्धं मन्नाखिचम् । चारं प्रसं

assafoetida, ajowan, root of *Aplotaxis auriculata*, (*kushtha*), and *Curcuma Zedoaria* (*sati*), each four tolás, and the whole intimately mixed. This medicine is given in doses of half to one tolá once daily in enlarged spleen, liver disease, ascites etc. If the bowels are not sufficiently moved it is given in larger doses.

DIAMOND.

Sans. हीरा, *Hiraka*.

Of the precious stones enumerated in page 14, diamond, pearls and coral only are much used in medicine. The rest are rarely used or not used at all. Diamond is purified by being enclosed within a lemon and boiled in the juice of the leaves of *Agati grandiflora* (*vaka*). It is reduced to powder in the following manner. A piece of the root of a cotton plant is beaten to a paste with the juice of some betle leaves. Both these vegetables should not be less than three years old. The diamond is enclosed within this paste and roasted in a pit of fire. The process is repeated seven times, when the stone is easily reduced to a fine powder. Another process consists in roasting the diamond enclosed in a paste made of horn-shavings, for three times in succession. Diamond thus prepared is said to be a powerful alterative tonic that improves nutrition, increases the strength and firmness of the body and removes all sorts of diseases. Dose about one grain.

Diamond enters into the composition of several alterative and tonic medicines, such as the *Trailakya chintamani rasa*, *Ratnagiri-rasa*, *Sarvānga sundara rasa*, etc. These medicines are similar in

मृहीत्वा च न्यसेत् पात्रे नवे ढङ्गे । जलद्रोणे विपक्तव्यं यावत् पादावशेषितं ।
पूर्ववत्क्षारकरप्तेन साधयेच्च विचक्षणः । प्रस्थमेकञ्च लवणं तदर्द्धाञ्च हरितकीम् ।
गोमूलस्यादकं दत्त्वा क्षारवत् साधयेत् शनैः । किञ्चिद्द्वारिणि सान्द्रे च सखक्
सिद्धेऽप्यतारिते । सज्जाजोलूणञ्च हिक्कुवमानी पुष्करं यठी । यतैर्हर्षपदैर्भानै-
चूर्णीकित्वा प्रदापयेत् । लवणञ्चाभयानाम भक्षयेच्च यथावचम् । व्याधीन वेज्ज
मतिमाननुपामं यथावचम् । यकत्प्लीहोदरानाहं शुभमाठीजाग्निमान्द्रजित् ।
यावत् कोष्ठगता रोगान् निहन्त्याशुनसंशयः । प्रतिपुन्यस्ति हृद्रोगशर्कराश्लरि-
नाशनम् ॥
भैषज्यरत्नावली ।

composition. They all contain diamond, pearls, gold, iron, talc, mercury, etc, in varying proportions and are used in similar cases.

*Trailakya chintamani rasa*¹ is thus prepared. Take of diamond, gold and pearls, each one part, iron, talc and *Rasa sindura* or red preparation of mercury, four parts each, rub together with the juice of *Aloe Indica* and make into two-grain pills. This medicine is used as an alterative tonic with suitable adjuncts in various diseases.

PEARLS AND CORAL.

Sans. मुक्ता Mukta, Pearls. प्रवाल Pravala, Coral.

THESE gems have been used in medicine from a very ancient period and are mentioned by Susruta. Pearls are purified by being boiled in the juice of the leaves of *Sesbania aculeata* (*jayanti*), or of the flowers of *Agati grandiflora* (*vaka*). Coral is purified by being boiled in a decoction of the three myrobalans. Both are prepared for medicinal use by being calcined in covered crucibles and then reduced to powder. The properties of both these articles are said to be alike and they are generally used in combination. They are said to be useful in urinary diseases, consumption etc, and to increase the strength, nutrition, and energy of weak persons. The following are examples of prescriptions containing pearls and coral.

Pittántaka rasa.² Take of nutmegs, mace, *jatámánsi* root, root

1 त्रैलोक्यचिन्तामणिखरः । हीरं सुवर्णं रक्तसुतारं एषां समं तीक्ष्णरजस-
द्वयम् । समं नृताम् रससिन्दूरश्च निष्प्रेष्यतीक्ष्णस्य तथा प्रसवारा । खल्वेद्वेषैव
कुमारिकाया शुक्लाप्रमाणाव वटी प्रकाश्या । अद्यादिभं योगशतैरवार्यामिव
प्रसायाव मुनिप्रसीतम् ।
रसेन्द्रसारसंघः ।

2 पित्तान्तक रसः । जातीकोषफलं मांसी कृष्टं ताडीशप्रत्नकं । माषिकान्धत
चोदश्च अथ दिव्यं समंशकं । सर्व्वद्वयं नृतं तारं सय्यक्निष्प्रेष्य वारिण्या ।
हिगुक्लाभावटीकाया पित्तरोगविनाशिनी । कोशान्धितश्च यत्पित्तं शास्त्रान्धत-
मथाप वा । मूलस्रैवाण्डपित्तश्च पाण्डुरोगं हृत्वीमकम् । दुर्गमभ्यान्ति
बालीच क्षिप्रमेव विनाशयेत् । रसः पित्तान्तकोद्देश्य काशीराजेन भाषितः ।
तारवर्द्धनात्तशुद्धमौक्तिकं नृद्यते बुधैः ।
रसेन्द्रसारसंघः ।

of *Aplotaxis auriculata* (*kushtha*), leaves of *Pinus Webbiana* (*tālisa patra*), aconite, iron pyrites, iron, talc and realgar, one part each, prepared pearls equal in quantity to all the above ingredients. Beat them together into a paste with the aid of water and make into four-grain pills. This medicine is said to be useful in diseases supposed to be caused by deranged bile, such as dyspepsia, jaundice, biliousness, vomiting of bile, etc.

Vasanta Kusumākara rasa.¹ Take of prepared gold and camphor, each two parts, of prepared tin, lead and iron, three parts each, prepared talc, pearls and coral, four parts each. Rub these ingredients together in a mortar and soak the powder seven times successively in each of the following fluids, namely milk, sugar-cane juice, juice of *Adhatoda Vasica* (*vāsaka*), decoction of lac and of *Pavonia odorata* (*bāld*), juice of the flowers and root-stock of the plantain tree, of the root-stock of *Nelumbium speciosum* (*padma*) and of the flowers of *Aganosma caryophyllata* (*mālatipuspa*). Lastly soak in an infusion of musk prepared by macerating one part of musk in eight parts of warm water for twelve hours. Divide this mass into four-grain pills. They are given with sugar, honey and *ghee* in urinary diseases, impotence, gleet, diabetes, consumption and general debility. This medicine is regarded as a valuable alterative tonic in chronic gonorrhœa and spermatorrhœa and is much prescribed in these complaints in combination with an extract called *Kusāvalehā* (see Sugar cane).

¹ वसन्तकुसुमाकरः । पृथक् द्वौ हाटकं चन्द्रं तयो वज्राहिनालकम् ।
 चत्वारिंशद्विंशत् प्रवाहं मौक्तिकं तथा । भावना नव्यदुग्धेन भावनेकुरसेन-
 च । वावा चाक्षारदोदीक्षरन्नाकन्दप्रसूनकैः । यतपत्ररसेनैव साधत्याः
 कुसुमोदकैः । पञ्चानुसूतमर्दभावं सुगन्धिरससम्भवे । गुग्गाहवमिदं सेव्यं
 वितामध्वं ज्वरयुतम् । मेहज्जं कान्तिदञ्चैव कामदं पुष्टिदं तथा । पक्षीपक्षित-
 कञ्चैव स्मृतिभ्यविनाशनम् । सुष्टिदं वल्लभायुष्यं पुत्रप्रसवकारकम् । प्रमेहान्
 विंशतिञ्चैव जयमेकादशं तथा । तथा शीमलञ्च कन्यात् साध्यासाध्यमयापि
 च । कुसुमाकरनामाञ्च वसन्तपदपूर्वकः ।
 मेघज्वरजावली ।

SILAJATU.

Silājatu literally means stone and lac. The term is applied to certain bituminous substances said to exude from rocks during the hot weather. It is said to be produced in the Vindhya and other mountains where iron abounds. It is a dark sticky unctuous substance resembling bdellium in appearance. It has a bitter taste and a strong smell resembling stale cow's urine. Over platinum foil it burns with a little inflammable smoke and leaves a large quantity of ashes consisting chiefly of lime, magnesia, silica, and iron in a mixed state of proto and peroxide.*

Silājatu is prepared for medicinal use by being washed with cold water and then rubbed into an emulsion with its bulk of hot water or milk in an iron pot. This emulsion is exposed to the sun, when a black cream-like substance collects on its surface and; this is removed. The process is continued as long as any cream rises. If the mixture becomes too thick, hot water is added from time to time as required, but too much water should not be added at once, for then the cream will not rise to the surface. The *silājatu* thus collected is dried in the sun and preserved for use. The dregs at the bottom are thrown away. The extract of *silājatu* thus obtained is purified by being soaked in a decoction of the following plants, namely. *Shorea robusta*, (*sāla*), *Buchanania latifolia* (*pidla*), *Terminalia tomentosa* (*asana*) and *Acacia catechu* (*khadira*). *Silājatu* is regarded as a powerful alterative tonic and is considered specially useful in urinary diseases, diabetes, gravel, anæmia, consumption, cough, and skin diseases. The extract of *silājatu* is given in doses of six to twelve grains. In strangury or painful micturition it is given with honey or with the decoction of *Tribulus terrestris* (*gokshura*).¹ In urinary complaints it is given in combination with preparations of lead or tin. As an alterative tonic, it is used in combination with iron, as in the following called *Yogardja*.

* The *silajit* or alum earth of Nepal is a different article from the *silājatu* of the Sanskrit Materia Medica. The former is an article of Yunāni not Hindu Medicine.

Yogardja. 1 Take of *sildjatu*, prepared iron, iron pyrites and silver, each five parts, of the three myrobalans, ginger, black pepper and long pepper, plumbago root and *báberung* seeds, each one part, sugar eight parts. Powder, mix and make into a confection with honey. Dose about half a tola. This medicine is considered a valuable alterative tonic, and is used in anæmia, jaundice, consumption, chronic fever, skin diseases, urinary diseases, piles, etc.

RED OCHRE.

Sans. गैरिक *Gairika.* *Vern.* Gerumáti.

Two sorts of *gairiká* or ochre are mentioned by Sanskrit writers, namely, red and yellow. The red variety, called also *Raktapáshána* is used in medicine. It is a silicate of alumina coloured with oxide of iron. It is purified by being soaked in milk seven times, and is described as sweetish, astringent, cooling, and useful in ulcers, burns, boils etc. It is rarely used internally except as an ingredient of some of the complex prescriptions containing a large number of mineral drugs, such as the preparation called *Jvarakunjara párin dra rasa*, which contains nearly all the mineral substances.

Besides *gairika* several other varieties of earth are described and occasionally used in medicine. A sweet scented earth brought from Surat and called *Saurástra mríttiká* is regarded as astringent and useful in hemorrhages. It enters into the composition of several medicines for relieving bleeding from internal organs.

1 योगराजः । त्रिफलायास्त्रयोभागास्त्यक्तकटुकस्य च । भागश्चतु-
 क्तस्य च विडङ्गानां तथैव च । पञ्चाङ्गजवनो भागास्त्यक्तस्य च ।
 मात्रिकस्य विशुद्धस्य खौद्रस्य रजसस्तथा । अष्टौ भागाः शितायाश्च तत्सर्वं
 क्षण्यचूर्णितम् । मात्रिकेणाप्लुतं स्थाप्यमावसे भाजने शुभे । उडुम्बरस्य
 मात्रां ततः आदेत् यथाग्निना । दिने दिने प्रयोगेन जीर्णं भोक्ष्यं यथेष्टि-
 तम् । वर्जयित्वा कुब्ज्यांश्च काकमाची कपोतकान् । योगराज इति स्थातो
 योगोऽयमस्मृतोपमः । रसायनमिदं श्रेष्ठं सर्वरोगहरं परम् । पाण्डुरोऽथ
 विषं काशं यच्छ्वाशं विषमज्वरम् । कुष्ठान्यजरक्तं मेहं चापि हिक्कामरोचकम् ।
 विशेषादन्त्यपकारं कामक्षां युदजानि च । चक्रदत्तः ।

SANSKRIT MATERIA MEDICA.

PART II.

VEGETABLE MATERIA MEDICA

NAT. ORDER. RANUNCULACEÆ.

ACONITUM FEROX.

Sans. विष, *Visha*. वत्सनाभ, *Vatsanābha*.

Vern. Mithābīsh, *Sringibīsh*, *Dagrā*.

THE poisonous root called *bīsh* or *sringibīsh* is derived chiefly from *Aconitum ferox* and *Aconitum Napellus*, which are indigenous to the temperate and sub-alpine Himalaya. Other equally poisonous species of aconite are met with in these regions, and their roots collected for use. In the Introduction (page 7) it has been stated that of the nine virulent poisons mentioned by Sanskrit writers, the majority probably consist of species of aconite. The characters of these poisons are described in the *Bhabaprakasa*, as follows.

Vatsanābha. This root resembles in appearance the navel of children, hence it is called *Vatsanābha*. Its leaves are like those of *Vitex Negundo*. It is said that no plant can grow near it.

Hāridra. This root resembles turmeric in appearance, hence it is so called.

Saktu. This poisonous tuber, when broken, is found to contain a white starch-like substance.

Pradīpana. This variety is said to be red and shining in appearance, and to cause a severe burning sensation when taken internally.

Saurāshtrika is the variety of poisonous root produced in the country called *Surat*.

Sringi is a variety of aconite which if tied to the horn of a cow, is said to tinge her milk red.

Kālakuta. This poison is said to be the gum of a plant resembling the *Ficus religiosa* in appearance. It is a native of Malwa and the Concans.

Halāhala. The bunches of fruits of this plant resemble those of grapes. Its leaves are like those of the palm tree. It is found in the Himalaya, in the sea coast to the south, the Concan and in the mountain called Kishkindhya to the north of Mysore.

Brahmaputra. This poison is of a tawny colour and causes purging. It grows on the Malayāchala, that is, the Western Ghats on the Malabar Coast.

From the above description it would seem that of these nine poisons, the first six are probably species of aconite. Of these the variety called *Vatsanābha* has been used in medicine from a very remote period.

Aconite is purified by being cut in small slices and steeped in cow's urine for three days, before being used. It is regarded as heating and stimulant, and useful in diseases supposed to be caused by deranged phlegm and air. It is used in a great variety of affections, but is specially recommended in fever, cephalalgia, affections of the throat, dyspepsia and rheumatism. In recent or acute fevers the following is a favourite medicine.

Mrityunjaya rasa.¹ Take of purified aconite, sulphur, black pepper, long pepper and borax, each one part, cinnabar two parts; powder and beat them into a mass with water and make into two-grain pills. These pills are given with suitable adjuncts in fever supposed to be caused by deranged air, as also in those caused by the derangement of all the humours, that is, in ordinary remittent fever and in that of typhoid type. A composition very similar to the above is recommended by Sarangadhara under the name

१ मृत्युञ्जयरसः । विषस्यैकं तथा भागं जरितं पिप्पलीकया । गन्धकं
तथा भागं द्विभागं हिकुञ्जं भवेत् । जलेन वटिकां काष्ठीं गुञ्जामात्रा प्रसा-
द्यतः । सधुना लेहनं कार्यं सर्वज्वरनिवर्त्तये । रसरत्नाकरः ।

of *A'nanda bhairava rasa*. If there is much constipation along with the fever, croton seeds are added to the above ingredients, as in the preparation called *Jvara murdri rasa*.¹

In fever complicated with cerebral symptoms aconite is used in combination with mercury and *datura*, as in the following called *Panchavakra rasa*.² Take of purified mercury, sulphur, aconite, black pepper and borax, rub them together with the juice of *datura* leaves for twelve hours, and make into four-grain pills. Along with these pills a decoction of the root of *Calotropis gigantea* (*arka*) with the addition of long pepper, black pepper and ginger is recommended to be taken.

In chronic fever with strong shivering fits, copious perspiration, or much heat of body, aconite is used in combination with salts and aromatics, as in the following called *Saubhāgya vatikā*.³ Take of aconite, borax, cumin seeds, the five salts, viz. rock, sea, *sonchal*, *vit* and *sambar* salts, the three myrobalans, ginger, long pepper and black pepper, prepared talc, mercury and sulphur, in equal parts. First rub the mercury and sulphur together, then mix them with the other ingredients, soak the mixture seven times successively in the juice of the following leaves, namely, of *Vitex*

१ ज्वरहरारिः । हिक्कुलस्य विषं व्योषं टङ्कणं नागराभया । जयपाश-
सदायुक्तं सद्योज्वरनिवारणम् । सर्व्वचूर्णसमं जयपाशचूर्णं सर्व्वं पिष्ट्वा
कषायप्रमाणा वटिका काष्ठीं चार्द्रकस्त्रसेन पिबेत् ॥ भैषज्यरत्नावली ।

२ पञ्चवक्त्रारसः । शुद्धस्त्रतन्निधं गन्धं मरिचं टङ्कणद्वया । मर्द्दयेदूर्तजै-
र्द्रावैर्दिनमेकस्य योषवेत् । पञ्चवक्त्रोरयोगामद्विगुह्यः सन्निपातहा । चार्द्रकमू-
कषायानुसन्नापणमनुपाययेत् । शार्ङ्गधरः ।

३ सौभाग्यवटिका । सौभाग्यवटिकः क्षीर पञ्चस्रवण व्योषा भयाक्षामहा ।
निस्त्राक्षक शुद्धगन्धकरसानेकीकृतान् भावयेत् । निर्गुण्डायुग भङ्गराजक वषा-
पामागपत्रोल्लसत् । प्रत्येकस्त्रसेन सिद्धवटिका हन्तिदोषोदयम् । येषां
शीतमतीव दाहमखिलं स्वेदश्चाद्रीकृतम् । निद्रां घोरतरां समस्तकरणव्यामो-
हभूतं मनः । मृतं चासवकासकाससहितं मूर्च्छाबन्धित्वञ्चरम् । तेषां वै
परिहृत्य जीवितमसौ गृह्णाति हृत्पुष्पात् । भैषज्यरत्नावली ।

Negundo (*nirgundi*) *Nyctanthes Arbor-tristis* (*sepháliká*), *Eclipta prostrata* (*kesarāja*), *Adhatoda Vasica* (*vásaka*) and *Achyranthes aspera* (*apámarga*), and make into four-grain pills.

Aconite is much used in dyspepsia with loss of appetite, in a variety of combinations. The following called *Rámaváda rasa*¹ is an illustration. Take of mercury, aconite, cloves, and sulphur, each one part, black pepper, two parts, nutmeg, half a part, rub them together with tamarind juice and make into two-grain pills. These pills are given with the addition of powdered black pepper. Another preparation called *Hutásana rasa* is similar in composition to the above, and is recommended by several writers.

In diseases supposed to be caused by deranged phlegm, such as catarrh, sore throat, cough, asthma, discharges from the ears and nose etc, aconite is used in combination with other heating medicines. The following called *Kapha ketu rasa*² is a well known medicine for these diseases. Take of aconite, borax, long pepper, and conch-shell lime, equal parts; powder, mix and soak the mixture three times successively in fresh ginger juice. Dose, two grains, to be given with ginger juice. A preparation similar to the above and called *Bhairava rasa*, is used in hoarseness and loss of voice.

In cephalalgia and hemicrania it is recommended to be given in the following form. Take of aconite one part, liquorice root and the pulse of *Phaseolus Roxburghii* (*másha*), each two parts; powder and make into one-grain pills.

In boils and other skin diseases aconite is used in the form of liniment and ointment. The following is an illustration.

1 रामवावरसः। पारदाद्युत धवकुगन्धकं भागयुग्मं सरिचेन मिश्रितम् ।
तल्लजातिफलमर्द्धभागिकं तिलिन्दीफलरसेनमर्हितम् । मङ्गिमान्द्यदयवल्गना-
शनो रामवाच इतिविशुतोदरसः । रसेन्द्रचिन्तामनी ।

2 कफकेतुदरसः । ठण्डणं सागधीयङ्गं वत्सनाभं समंसमम् । चार्द्रकसरसे-
नापि भावयेद्विवस्त्रयम् । पुञ्जाभालं प्रदातव्यं चार्द्रकसरसेन वै । पीनसंज्ञास
कासश्च गजरोमं गजपङ्कम् । कर्णरोगं नेत्ररोगं दन्तरोगञ्चदाहयम् ।
एतान् रोगादिहन्त्यायु कफकेतुदरसोत्तमः । रसेन्द्रसारसंयङ्गः ।

Visha taila.¹ Take of sesamum oil four seers, aconite root eight tolas, seeds of *Pongamia glabra* (*karanja*), turmeric, wood of *Berberis Asiatica* (*dāruharidrā*), root of *Calotropis gigantea* (*arka*), of *Nerium odorum* (*karavira*), flowers of *Tabernaemontana coronaria* (*tagara*), *Acorus calamus* (*vācha*), *Aplotaxis auriculata* (*kushtha*) *Vallaris dichotoma* (*āsphtā*), red sandal wood, flowers of *Aganosma caryophyllata* (*mālati*), bark of *Alstonia Scholaris*, (*saptaparna*), madder and leaves of *Vitex Negundo* (*nirgundi*), each four tolās, cow's urine sixteen seers. The solid ingredients should be beaten into a pastē with water, and then boiled with the oil and cow's urine till the watery portion is evaporated. This oil is said to be useful in boils, prurigo, psoriasis, leucoderma and other skin diseases.

ACONITUM HETEROPHYLLUM

Sans. आतैच, *A'taicha*, अतिविष, *A'tivisha*. *Vern.* *Atis*.

THE tuberous roots of this plant are considered tonic, astringent and stomachic, and are used in fever, diarrhoea, irritability of stomach and cough. *Atis* is also regarded as an antidote to poisons.

In fever with diarrhoea the following compound decoction² is much used in practice. Take of *Atis*, ginger, *kurchi* bark, tubers of *Cyperus rotundus* (*mustaka*), and root of *Tinospora cordifolia* (*gulancha*), equal parts, in all two tolās, water thirty-two tolās. Boil till the water is reduced to one-fourth or eight tolās. This

¹ विषतैलम् । नल्लमाखं हरिद्रोद्रे अर्कसगरमेवच । करवीरं वचाकुडमा-
स्कोतारकचन्दनम् ॥ माखतीसप्रपथंश्च मञ्जिष्ठाधिवृशारिका । एवमर्धपञ्चान्
मानान् विषस्यापिपलन्त्या । चतुर्थ्ये गवां मूत्रैस्तैलप्रस्थं विपाचयेत् । श्वित्त-
विस्कोट चिटिम कोटसूता विषर्चिकाः । कण्टकश्लु विवाराश्च ये ब्रह्माविषदू-
षिताः । विषतैलमिदं नाम्ना सर्वत्रयविशोधनम् । चक्रदत्तः ।

² नागरं कुटजोमसमस्तानि विपातया । एभिः कृतं पिबेत् क्षात्रं च्यराती-
कारनायनम् । याज्ञिकधरः ।

quantity is given in two or three divided doses during the course of the day. Chakradatta recommends the following called *Hrive-rádi*¹ in similar cases. Take of *átis*, dried *bela*, root of *Pavonia odorata* (*bálá*) and *Cyperus rotundus* (*mustaka*), ginger and coriander, equal parts, in all two tolás and prepare a decoction in the usual way.

In the fever, diarrhoea, cough, and irritability of stomach of infants, *átis* is used alone or in the following combination. Take of *átis*, tubers of *Cyperus rotundus* (*mustaka*) and the horny excrescence of *Rhus succedanea* (*karkatasingi*), equal parts, powder and mix. This compound powder is given in suitable doses with the addition of honey. Sometimes long pepper is added to the above ingredients, when the powder is called *Bála-cháturbhadra-ka*,² from its being composed of four ingredients.

NIGELLA SATIVA.

Sans. कण्णजीरक, *Krishnajiraka*. *Vern.* Kálájirá, *Beng.* Mugrela, *Hind.*

THE seeds of *Nigella sativa* are regarded as aromatic, carminative stomachic and digestive, and are used in indigestion, loss of appetite, fever, diarrhoea puerperal diseases etc. They are also said to increase the secretion of milk, and are therefore given to recently delivered females in combination with a few other medicines. *Nigella* seeds are scattered between layers of woollen clothes, shawls etc., to preserve them from insects. This use of the seeds appears to be common all over India.

In intermittent fever *nigella* seeds slightly roasted are recommended to be given in two drachm doses with the addition of an equal quantity of treacle.³

¹ ह्रीवेरादिः । ह्रीवेरातिविषामुखं विनुषाम्यकनागरैः । पिपेत्तिष्ठा-
विषम्वल्लं शुद्धं घामपाचनम् । सरक्तं हन्त्यतीसारं सज्जरं वायुज्वरम् ।

चक्रदत्तः ।

² बालचतुर्भद्रिका । घनकण्णारुषाह्नीयूषं कौश्लेय संयुतम् । शिशो-
रतीसारघ्नं कासघ्नासवनीहरम् ।

चक्रदत्तः ।

³ कालाजाजी तु सयुक्ता विषमज्वर नाशिनी । भावप्रकाशः ।

In loss of appetite and distaste for food a confection made of *Nigella* seeds, cumin seeds, black pepper, raisins, tamarind pulp, pomegranate juice and *sonchal* salt, with treacle and honey is said to be very useful.¹

Chakradatta recommends the administration of *nigella* seeds with the addition of long pepper, *sonchal* salt and wine in the after pains of puerperal women.² In puerperal diseases, such as fever, loss of appetite and disordered secretions, after delivery, the following called *Pancha jiraka páka*³ is used. Take of *nigella* seeds, cumin seeds, aniseeds, *ajowan*, seeds of *Carum sativum* (*ajamodá*) *Anethum Sowa* (*sulpha*) and *Trigonella Fœnum-græcum* (*methi*), coriander, ginger, long pepper, long pepper root, plumbago root, *habushá* (an aromatic substance) dried pulp of the fruit *Ziziphus Jujuba* (*vadari phala*), root of *Aplotaxis auriculata* (*kushtha*) and *kamala* powder, each one *tolá*, treacle one hundred *tolás*, milk one seer, clarified butter four *tolas*. Boil them together and prepare a confection. Dose about a drachm every morning.

NAT. ORDER. MENISPERMACEÆ.

STEPHANIA HERNANDIFOLIA.

Syn. Cissampelos hexandra. Rox.

Sans. अम्बशठा, Ambashthá. पाठा, Páthá. Vern. A'kanádi, Nemuka.

In the Pharmacopœia of India it is stated that the *Cissampelos hernandifolia*, Wall. is identical with Pareira Brava, and is

१ कारव्यजाजीमरिचं द्राक्षाड्वाल्मीकिं । शौवर्चकं गुडं जीरकं च
रोचकनाशनम् । चक्रदत्तः ।

२ उपकुञ्चिकां पिप्पलीञ्च मदिरां चाभतः पिबेत् । शौवर्चकेन संयुक्तां
जीमिन्मूलनिवारणीम् । चक्रदत्तः ।

३ पञ्चजीरक पाकः । जीरकं स्थूलजीरकं यतपुष्पादयं तथा । यवाग्री
बाजमोदा च धान्यकं मेथिकापि च । गुण्ठी कण्ठाकषामूलं चित्तकं हृषपापि
च । वदरीफलं चूर्णञ्च कुठं कम्बिज्जकं तथा । एतानि पक्वमात्राणि गुडं
पक्ववतं मतम् । जीरकस्यद्वयं दद्यात्सर्पिणः कुङ्कुमं तथा । पञ्चजीरकपाको-

common throughout India. Other authorities say, that the true Pareira Brava is derived from *Chondodendron tomentosum*. The plant used by Kavirajas in Bengal under the name of *páthá* is identical with that figured by Roxburgh as *Cissampelos hexandra*. The root of this plant is regarded as light, bitter, astringent and useful in fever, diarrhœa, urinary diseases, dyspepsia etc.

In fever with diarrhœa, the following compound decoction¹ is recommended by Chakradatta. Take of *páthá* root, *indrajava* seeds, chiretta, tubers of *Cyperus rotundus* (*mustaka*), *Hedyotis biflora* (*parpati*), *gulanchara*, and ginger, equal parts, in all two tolas, water thirty-two tolas; and boil till reduced to one-fourth. In diarrhœa caused by indigestion and attended with pain and slimy or bilious stools, the following decoction is used. Take of *páthá* root, *indrajava* seeds, chebulic myrobalan and ginger, each half a tola, water thirty-two tolas. Boil down to one-fourth.

In internal or deep seated inflammation, Chakradatta recommends the root of this plant to be taken with honey and water in which rice has been macerated.²

In urine depositing salts or a white flocculent substance, a decoction of *páthá* and aloes-wood is used.³

In painful micturition the following decoction⁴ is considered useful. Take of *páthá* root, *Hedysarum lagopodioides* (*prisiniparni*),

इयं प्रसूतानां प्रयान्तये । युज्यते क्षतिकारोणे क्षीनारोणे क्ष्वरेक्ष्वरे । काये
श्वासि पाण्डुरोणे काश्चिं वातानयेष च । भावप्रकाशः ।

1 पाठेन्द्रवभूतस्य सुक्ष्मपर्यटकावृताः । जलन्यासमतीसारं सञ्चरं सम-
होषधाः । चक्रदत्तः ।

2 यमयतिपाठामूलं क्षोद्रयुतं तण्डुलान्महापीतम् । अन्नभूतं विद्रधि-
सहजमात्रेणनुजस्य । अपक्वेतदुद्दिष्टं पक्वे तु मषवत् क्रिया । चक्रदत्तः ।

3 पारिजातजयानिम्बवर्ज्जमावलिष्ठां पृथक् । पाठायाः सायुरोः पीताह-
वस्य शारदस्य च । जले क्षुमद्यसिक्ततायनैर्वैषणपिष्टकान् । सान्द्रमेहान् क्रमात्
घ्नन्ति अष्टौ कायाः सदाशिकाः । चक्रदत्तः ।

4 दृढतीक्ष्णानीपाठावठीमधुकक्षिप्तकाः । पाचनीक्षोद्रहृत्वादिः जम्बूद्वेज-
नवापहः । चक्रदत्तः ।

root of *Solanum Indicum* (*vrihati*), liquorice root and *indrajava* seeds, equal parts, in all two tolās. Boil down to one-fourth.

TINOSPORA CORDIFOLIA.

Sans. गुडुची, *Guduchi*. अमृता, *Amritā*.

Vern. *Gulanča*, Beng. *Gurach*, Hind.

THE stem, leaves, roots and watery extract of this plant are all used in Hindu Medicine. The entire plant is regarded as a valuable alterative and tonic. It is used in general debility, fever, jaundice, skin diseases, rheumatism, urinary diseases, irritability of stomach, etc.

The fresh juice of the plant is taken with milk as a general tonic. In fevers it is used in a great variety of forms. Thus a cold infusion of *gulanča* is given with honey in bilious fever. A decoction¹ of *gulanča* or its fresh juice is given with the addition of long pepper and honey in chronic fever with cough. A compound decoction is thus prepared. Take of *gulanča*, *Hedyotis biflora* (*parparta*), *Cyperus rotundus* (*mustaka*), chiretta and ginger, each one drachm, water, half a seer. Boil down to one-fourth. It is said to be useful in fevers caused by deranged air and bile. Practically it is found very useful in chronic fevers, which have resisted other antiperiodics, and which are apt to recur after apparent recovery. In chronic fever with loss of appetite, the following confection is recommended by many writers.

Dhātrimodaka.² Take of chebulic and emblic myrobalans, ginger and long pepper, one part each, watery extract of *gulanča*, four parts, water sixteen parts. Boil till reduced to one-fourth, and prepare a confection with eight parts of sugar. When of proper

1 विषपक्षीमधुसंनिधं गुडुची खरसं पिनेत् । जीर्णं खर कफ श्लेष्म
कासारोषकनाशनम् । गुडुची पर्यटं सुखं किरातं विन्दनेनजम् । वात
पित्तज्वरे देयं पञ्चमश्लिष्टं शुभम् । भावप्रकाशः ।

2 बातीमोदकः । भातीं पथ्यां कवां गुडुचीं तस्माच्च चूर्षयेद् ददम् ।

consistence divide the mass into boluses of about a drachm each. One of these is taken every morning, in chronic fever with enlarged spleen, cough, loss of appetite, etc.

Gulancha enters into the composition of a large number of prescriptions for chronic skin diseases. The juice of the plant or its decoction is given alone, or with the addition of *guggulu* or *bdellium*.¹ Numerous compound decoctions with the addition of various other drugs such as *nim*, turmeric, catechu, etc. are used in these diseases, as well as in gout and rheumatism.² Several oils, for external application are prepared with *gulancha* and are much used in skin diseases, rheumatic affections and nervous complaints.

Guḍuchyādi taila.³ Take of fresh *gulancha*, eight seers, water, sixty-four seers, boil till reduced to one-fourth and strain. To the strained decoction, add prepared sesamum oil, four seers, and *gulancha* beaten to a paste with water, one seer, boil together till the water is evaporated. This oil is a favourite application in eruptive skin diseases from impure blood. The *Vrihat guḍuchyādi taila* is prepared by the addition of a number of other medicines in the form of paste, to the decoction of *gulancha* and the oil. Another compound oil called *Vāta guḍuchyādi taila* is thus prepared. Take of *gulancha*, twelve seers, and a half water sixty-four seers. Boil till reduced to one fourth. Take of the fresh juice of *Adhatoda Vasica* (*vāsaka*) and of *datura* leaves, each four seers, prepared mustard oil, four seers, aromatics in the form of paste one seer. Boil together the decoction of *gulancha* with the vegetable juices, oil and paste, in the usual

पद्मःसनाहताचेवा यकैराच पचं तथा । मधुना जोदकं कुर्वात् जीर्णम्बरहरं
परं । मन्दाग्निदीपनं चैव सद्योदाह विनाशनम् । त्रीहृज्ज्वरे तथावापि श्वासे
च रक्तपित्तके । दापयेद् जोदकं वैद्यः क्षालीनामनिदं चकृत् । शारकोलदी ।

1 वत्सादन्तुल्लवः क्षायः पीतो सुसुक्ष्मचंद्रितः ।

2 सुक्ष्माः करचं कचं चूर्णं वा क्षाबनेन वा । प्रभूतं कसबासीकं कषाते-
नामशोचितात् । चक्रदत्तः ।

3 सुक्ष्मेकाचकृत्वाक्षरं तैलं वा नातरक्तमुत् ।

चक्रदत्तः ।

manner. This oil is recommended by Charaka in eruptive skin diseases with troublesome itching, as also in diseases of nervous origin.

NAT. ORDER. BERBERIDEÆ.

BERBERIS ASIATICA AND OTHER SPECIES.

Sans. दारुहरिद्रा, *Dāruharidrā*. दार्वी, *Dārvi*.

Vern. *Dāruhaldi*. *Hind.*

THE wood, root-bark and extract of Indian Barberry have been used in Hindu Medicine from a very remote period. Its properties are said to be analogous to those of turmeric. The extract, called *Rasānjana** in Sanskrit and *Rasot* in the vernacular, is directed to be prepared by boiling together equal parts of a decoction of Indian barberry and milk, till reduced to the consistence of an extract.† The extract thus prepared, is said to be particularly useful in affections of the eyes. Indian barberry and its extract *rasot* are regarded as alterative and deobstruent, and are used in skin diseases, menorrhagia, diarrhœa, jaundice and above all, in affections of the eyes.

Rasānjana† *churna*,¹ or compound powder of *rasot*. Take of *rasot*, *ātis*, the bark and seeds of *Holarrhena antidysenterica*, flowers of *Woodfordia floribunda* (*dhātaki*) and ginger, in equal parts. Powder and mix. Dose, about a drachm, with rice water

* Galena or the sulphide of lead ore is sometimes called *rasānjana* in Sanskrit, and some physicians in Bengal use the lead ore for *rasānjana*, whenever this term occurs in a prescription. In the Upper Provinces however, *rasānjana* is invariably translated *rasot* in the vernacular. This, no doubt, is the correct practice. The mistake on the part of the Bengali physicians, probably occurred from their not being acquainted with *rasot*, which is the produce of plants indigenous to the Himalayan range.

† दार्वीकाय समं चौरं पादमृत्ना यथावत् । तदारवाञ्जनाख्यन्तमेतयोः परमं हितम् ।

1 रवाञ्जनादि चूर्णः । रवाञ्जनं चातिविषं कुटमस्य फलं त्वचम् । धातवी-
श्ववेरश्च प्रपिबेत्तु बाष्पुना ॥ चौरिन् युक्तं सुदतिरक्तातिवारुत्वनम् ।
मन्दं दीपयते चाग्निं शूलञ्चापि निवर्त्तयेत् । चक्रदत्तः ।

(*tandulāmbu*) and honey. This powder is said to be useful in bilious diarrhoea.

Dārvyādi kvātha,¹ or compound decoction of Indian barberry. Take of the root bark of Indian barberry, *rasot*, chiretta, *Adhatoda Vasica* (*vāsaka*), *Cyperus rotundus* (*mustaka*), *bela* fruit and marking nuts, equal parts, and prepare a decoction in the usual way. This is administered with honey in menorrhagia and copious discharges from the womb. Another combination said to be very useful in menorrhagia is as follows. Take of *rasot* and the root of *Amaranthus spinosus* (*tanduliya*) equal parts, beat into a paste with water, and administer with honey and water in which rice has been steeped.

Sārangadhara recommends a simple decoction of Indian barberry to be given with the addition of honey in jaundice. In painful micturition from bilious or acrid urine, a decoction of Indian barberry² and emblic myrobalan is given with honey. A decoction³ of the root bark is used as a wash for unhealthy ulcers, and is said to improve their appearance and promote cicatrization. In the intertrigo of infants, *rasot* is recommended to be applied externally and administered internally.⁴ *Rasot* mixed with honey, is said to be an useful application to aphthous sores.

The principal use of *rasot* however is in eye-diseases, in which it is employed in a great variety of forms. The following are a few illustrations. Take of *rasot*, chebulic myrobalan, rock salt and red ochre, equal parts, rub them together into a paste with water,

1 दार्ढ्यादिकाथः । दार्ढ्यं रसाञ्जनं क्वाथं किरातं विबुधं भङ्गातकै रवि-
कृतोत्तमधुना कषायः । पीतो जयत्यतिवचं प्रदरं सन्मुखं पीतासिताक्षं विबोहितं
नीलं शुक्लम् । चक्रदत्तः ।

2 दार्ढ्यं तथै वासककोरसेन सनाक्षिकां पैत्तिकं मूलजम् । चक्रदत्तः ।

3 त्रिफला खदिरौ दार्ढ्यं ज्ययोधादिवङ्गाकुशाः । निम्बं कोलकपलाणि
कषायः शोधने हितः । चक्रदत्तः ।

4 रसाञ्जनं विशेषेण पानाक्षेपनबोर्हितम् । शुद्धं येष्टुं क्षौ हेरिभ्यश्चाप्यु
प्रयेययेत् । चक्रदत्तः ।

and apply round the orbit in inflammatory affections of the eyes. ¹
Rasot mixed with honey may also be used in the same way. An
 emulsion of *rasot* made with milk is recommended to be poured
 into the eyes, or used as a collyrium for relieving pain, burning and
 lachrymation. ²

NAT. ORDER. NYMPHÆACEÆ.

NELUMBium SPECIOSUM.

NYMPHÆA LOTUS ETC.

THESE beautiful aquatic plants had attracted the attention of
 the ancient Hindus from a very remote period, and obtained a
 place in their religious ceremonies and mythological fables; hence
 they are described in great detail by Sanskrit writers. The flowers
 of *Nelumbium speciosum*, called *Padma* or *Kamala*, are sacred to
 Lakshmi, the goddess of wealth and prosperity. The white varie-
 ty of this plant is called *Pundarika*, the red, *Kokanada* and the
 blue, *Indivara*. The entire plant including root, stem and flower is
 called *Padmini*. The torus or receptacle for the seed is, called
Karnikāra, and the honey formed in the flowers, *Makaranda*. The
 filaments round the base of the receptacle, pass by the name of
Kinjalka and the leaf-stalk by that of *Mrināla*. The species of
Nymphæa described, are as follows :—

Nymphæa Lotus. Kumuda, Sans. Sāluka. Beng. Koi. Hind.

Nymphæa stellata. Nilotpala, Sans. Nilsaphalā, Beng.

Nymphæa rubra. Raktotpala, Sans. Raktakambal, Beng.

The root-stocks of these water plants contain a sort of starch,
 and are eaten by the poorer classes. During the famine of 1866
 in Orissa, they were much sought after by the starving people.

1 इरीतकीसैख्यश्च नरिक्कश्च रसाञ्जनम् । विहासकोजलेपिठः सर्वमेवाज-
 नापहः ॥ शार्ङ्गधरः ।

2 दाक्षीरिसाञ्जनं वापि सख्ययुक्तं प्रपूरयम् । निहन्तिशीघ्रं दाहान्नुवेदनाः
 सन्धयन्धवाः । चक्रदत्तः ।

The seeds of *Nelumbium speciosum* are eaten raw. The small seeds of *Nymphaea Lotus*, called *bheta*, are fried in heated sand and used as a light easily digestible food. The seeds of *Euryale ferox* called *makhāna* is Sanskrit, are also used in the same manner, and are regarded as light, invigorating food suited for sick people.

The filaments of these plants are used medicinally. They are considered astringent and cooling, and useful in burning of the body, bleeding piles and menorrhagia. In bleeding piles the filaments of the lotus are given with honey and fresh butter or with sugar.¹ In menorrhagia the filaments of *Nymphaea stellata* are given with the addition of *sonchal* salt, nigella seeds, liquorice powder, curdled milk and honey.² A compound decoction is thus prepared.

Utpalādi sritam.³ Take of the filaments of *Nymphaea Lotus*, *N. stellata* and *N. rubra*, of the white variety of *Nelumbium speciosum* and liquorice root, equal parts, in all, two tolās, and prepare a decoction in the usual way. This decoction is said to be useful in thirst, burning of the body, fainting, vomiting, hemorrhage from the internal organs, and bleeding from the womb during gestation.

A cooling application⁴ for external use is prepared as follows. Take of the filaments and leaf-stalks of *Nelumbium speciosum*, *Nymphaea stellata*, and *Nymphaea Lotus* and of red sandal wood, equal parts, and rub them together into a thin paste with cold water. This is applied to the forehead in cephalalgia. A paste made of emblic

१ वपुष्मक्षेपणं क्षौद्रं नवनीतं नवं विह्वलं। विताक्षेपणं संकुलं रेणुकार्यवि-
सृज्यते । भावप्रकाशः ।

२ दन्ताक्षौवर्णं बालाजीमधुकं नीलसुतम् । पिबेत् क्षौद्रमुतं नारीवाता-
हन्द्वापीकृता । चक्रदत्तः ।

३ दुर्बिस्मानर्भतोरक्तं क्षवेदुवदि कुङ्कुम्भः । तन्निरोधाय वा दुग्धसुतवादि
कृतं पिबेत् । भावप्रकाशः ।

४ मृत्पात्रविषयाक्षौवर्णस्य नोत्पलक्षेपणं । क्षिप्रजीवैः शिरोदिह्वात्तद्वदा-
मलकोत्पलेः । चक्रदत्तः ।

myrobalans and the filaments of the lotus is also used for the same purpose. Similar compositions are recommended for external inflammations, erysipelas etc.

The large leaves of *Nelumbium speciosum* are used as cool bed-sheets, in high fever with much heat and burning of the skin.¹

NAT. ORDER. PAPAYERACEÆ.

PAPAYER SOMNIFERUM.

Sans. अहिफेन, *Ahiphena*. *Vern.* A'phim.

OPIMUM appears to have been brought into India by the Mussulmans, as its Sanskrit name is evidently derived from the Arabic *Afyun*, and as it is not mentioned by the older Sanskrit writers.

The capsules of the poppy are called *Khákhas*, and the seeds, *Khasatila*, in Sanskrit. The seeds yield a bland oil, which is used for culinary purposes and in lamps. The seeds themselves are innocuous and used as food. They are boiled, mixed with a little oil and salt, and taken as a curry with rice, or they are made into balls and formed with tamarind, into an acid curry. Poppy seeds are sprinkled over some sorts of native sweetmeats.

Sanskrit writers describe poppy seeds as demulcent and nutritive, and useful in cough and asthma. The capsules of the poppy are regarded as light, astringent, and narcotic. They promote talkativeness and destroy or diminish the sexual power. The properties of opium are said to be analogous to those of the capsules. Opium is used as an astringent and narcotic in bowel complaints, cough, external inflammations, urinary diseases, fractures, skin diseases etc.

In diarrhœa and cholera the following, called *A'marákshasi*,² is used. Take of opium, nutmeg, cloves, cinnabar and camphor,

¹ चन्द्रमन्त्रु वचासन्दितावदन्तोपकीर्तितः। तुषाहाहार्दितोऽन्धोऽनकद-
कीदकचम्पने ।

चक्रदत्तः ।

² आनराचरी । जातीकचं वनजं सादहिमेवं ययोचितम् । कर्पूरं
चक्रमन्त्रु वटीं कुम्भाद् द्विरन्निष्काम् । अक्षसोदकचम्पन्तु अहृषणं प्रयच्छते ।

equal parts. Beat them into a mass with water, and make into four-grain pills.

In chronic diarrhoea and dysentery, the following called *Grahani kapāta rasa*,¹ is recommended. Take of nutmeg, borax, prepared talc and *datura* seeds, each one part, opium two parts, and make into two-grain pills with the juice of *Pæderia foetida* (*prasārani*). In diarrhoea with anasarca the following, called *Dugdhavati*, is much used by the Kavirajas.

Dugdhavati.² Take of opium and aconite, twenty-four grains each, prepared iron ten grains, prepared talc twelve grains. Beat them into a mass with milk and make into four-grain pills. One pill is to be given every morning with milk. The diet is restricted to milk alone, water and salt being prohibited. In fever with diarrhoea, opium is used in combination with arsenic, as for example in the following preparation.

Sambhūndha rasa.³ Take of orpiment, realgar, cinnabar, white arsenic, borax, aconite and alum each, one part, mercury,

असाध्यैश्वामरोगे तु एष ऐवमहौषधम् । श्वामराक्षसीनामायं रसः परमदु-
र्लभः । रसेन्द्रसारसंपदः ।

1 पङ्खीकपाटरसः । जातोक्लं टङ्गणं भ्रक्षु धूदूरबीजं समभागचूर्णम् ।
भागद्वयं स्यादहिफेणकस्य गन्धालिकापत्र रसेनमर्दयम् । चण्डप्रमाचां वटिकां
प्रकाश्यां यत्राहिदध्यात् पङ्खीगदेव । रामेषु मूलेषु सरक्तकेषु पक्षेष्वापक्षे
युदानयेव । पथ्यं सद्ध्यादनमलहेयं रसोत्तमोयं पङ्खीकपाटः ।

रसेन्द्रसारसंपदः ।

2 दुग्धवटी । अमृतं चूर्णगुच्छं स्यात् अहिफेणं तथैव च । पञ्चरक्तिक
बीजं च वटिरक्तिकममकम् । दुग्धं गुग्गुलुवसिता वटीकायां भिषग्विदा ।
दुग्धानुपानं दुग्धैश्च भोजनं सर्वथा हितम् । शोथं नानाविधं हन्ति
पङ्खी विषमज्वरम् । मन्दाग्निं पाण्डुरोगञ्च नास्ती दुग्धवटी परा । वर्जयेत्
खड्गं वारि व्याधिनिःशेषतावधि । भैषज्यरत्नावली ।

3 शम्भुनाथ रसः । तावत्कं टङ्गणं रक्तं फटिकारी च मनःशिला मोदकं
वत्सनाभञ्च सर्वतल्लञ्च भागिकम् । सर्वतल्लं रसं गन्धं तल्लमं फटि-
फेणकम् । शक्राशन रसैर्भाव्यं निर्गुणप्राय रसेन च । कनकस्य पत्ररसैर्निम्ब-

sulphur and opium, each seven parts. Soak them for seven days in each of the following fluids, namely, juice of the leaves of *Cannabis sativa*, *Vitex Negundo*, *datura* and *nim*. Make into two-grain pills. These are given with ginger juice in diarrhoea with high fever.

Akarádi churna.¹ Take of pellitory root, ginger, seeds called (*kakkola*), saffron, long pepper, nutmeg, cloves and red sandal wood, each two tolás, opium eight tolás. Rub them together and pass the powder through a cloth. Then add sugar, equal in quantity to all the above ingredients. Dose grains six to twelve, with honey. This medicine is used as an aphrodisiac.

Opium enters into the composition of some external applications in the form of paste, along with other medicines. A poultice made of poppy seeds with milk is prescribed by Śāraṅgadhara in porrigo of the scalp.²

The Amritasāgar recommends the following preparation of opium in diabetes. Take of camphor and musk, each one part, opium and mace, each four parts. Make into two-grain pills. They are administered with the juice of betel leaves.

पत्ररसैः पुनः । दृघगेषां रसैः सप्त भावयेत् कुशलोभिषक् । वटीं रक्षित्वं
कुश्यात् शङ्खनेरातुपानतः । सर्वरूपं साक्षिपातम तिसारञ्च नाशयेत् । पृथ्वी
मानदोषञ्च ज्वरं चूर्णं विनाशयेत् । उद्वेगे मसके तैलं पथ्यञ्च दधिभक्तञ्च ।
शीतोषचारं कर्तव्यं क्रमेण शुष्यते । यन्मुनाय इति ख्यातो महादेवक
भाषितः ।

भैषज्यतन्त्रः ।

¹ अकरादिचूर्णः । अकराकरभः शुण्ठीककोशं कुङ्कुमं कषा । जाती-
फलं खण्डञ्च चन्दनञ्चेति कार्षिकान् । चूर्णानिमांसतः कुर्याद्विषेणं पक्षो-
न्नितम् । सर्वभेकीकृतं चूर्णं कृष्णं तद्वस्त्रमाक्षितम् । शितासर्वसमादेयामाषिकं
भधुनाक्षिहेत् । शुक्रसन्धकरं चूर्णं पुंसामानन्दकारकम् । नादीनां प्रीतिजननं
शिवेतनिशिकाशुकः ।

शाङ्गधरः ।

² दुग्धेन साखसंवीजं प्रक्षेपाद्वाह्यं जनेत् ।

शाङ्गधरः ।

NAT. ORDER. CRUCIFERÆ.

SINAPIS.

Sans. सिद्धार्थ, *Siddhārtha*. राजिषा, *Rājikā*.

Vern. *Sarishā*, *Rāi Sarishā*, *Beng.*

Two varieties of mustard are mentioned by Sanskrit writers, namely, *siddhārtha* or white mustard, (*Sinapis glauca* of Roxburgh, *Brassica campestris*, *L.*) and *rājikā* or dark brown variety, (*Sinapis ramosa* of Roxburgh, *Brassica juncea*, *Hooker, fil., et Thomson*). The latter is more pungent and preferred for external application as a rubefacient. Mustard oil is largely used by the natives for culinary purposes as well as for anointing the body before bathing. Mustard oil anointment is said to keep the body cool, and the skin soft, to promote the growth of hair and to remove prurigo, lice and scurf. The leaves of the mustard plant are used as a pot-herb, and considered pungent and stomachic.

Mustard enters into the composition of emetic mixtures, of which the following is an example. Take of mustard seeds, *Acorus Calamus* root (*vacha*), bark of *Symplocos racemosa* (*lodhra*), and rock salt, equal parts. Powder and mix.¹

Mustard forms an ingredient of several prescriptions for loss of appetite, indigestion, etc. Thus take of mustard seeds, cumin seeds, fried assafoetida, ginger and rock salt, equal parts. Powder and mix. Dose, grains twenty-two with butter-milk.

Mustard is used externally, alone, or in combination with other medicines in a great variety of diseases, and notably in parotitis, sciatica, paraplegia, gout, inflammatory swellings, urticaria etc. Śrāngadhara recommends the following application² in urticaria. Take of mustard seed, turmeric, *pāṭchuk* root, sesamum and the seeds of *Cassia Tora* (*chakramardaka*), equal

१ सिद्धार्थक वचाकोष्ठं वैज्यवैचमलेपनम् । वसनञ्च निहन्वायुः पिडकां
वीर्योद्भवाम् । चक्रदत्तः ।

२ सिद्धार्थं रजनीकुष्ठमपुष्पाटतिष्ठैः सह । कटुसंयोगेन च मन्त्रिभुवर्द्धनं विधेयम् ।
शार्ङ्गधरः ।

parts, and rub them together into a paste with mustard oil. In gout, sciatica, etc, simple mustard plasters are used.¹ In inflammatory affections, the following poultice is prescribed by Śācan-gādhara. Take of the root of *Boerhaavia diffusa* (*punarnavā*), wood of *Berberis Asiatica* (*dāruharidrā*), root of *Moringa pterygosperma* (*sobhānjana*), ginger and mustard seeds, equal parts, and rub them into a paste with fermented rice water.²

LEPIDIUM SATIVUM. The seeds of *Lepidium Sativum*, called *Chandra sura* in Sanskrit, and *Hālim* in Hindi, are described as tonic and alterative, and useful in hiccup, diarrhoea, and skin diseases from disordered blood. It is said to be a very efficaceous remedy in hiccup, for which the Bhāvaprakāsa gives the following formula. *Hālim* seeds are macerated in eight times their weight of water; when the seeds are softened they are rubbed in the water, and the emulsion strained through cloth. This emulsion is recommended to be given frequently in doses of about an ounce for the relief of obstinate hiccup.³

NAT. ORDER. CAPPARIDACEÆ.

CRATÆVA RELIGIOSA.

Syn. Capparis trifoliata. Rox.

Sans. वरुण, Varuna. अस्मरिघ्ना, Asmarighna.

Vern. Barun, Beng. Hind.

THE bark of the stem and root of this plant constitutes the principal medicine of the Hindu Pharmacopœia, for calculous affections. It is said to promote the appetite, increase the secretion of the bile, act as a laxative and remove disorders of the urinary organs.

1 गौरवर्षपक्वकेन प्रदेहोवा वजापङ्कः । भावप्रकाशः ।

2 पुनर्नवीदावगुह्यो सिद्धार्थं विपुलेवच । पिप्पाचेवारनाकेन प्रदेयः वज्र-
शोषका । भावप्रकाशः ।

3 चन्द्रसूर रसः । चन्द्रसूरस्य बीजानि क्षिपेद्वयुजे जले । वदा कटुनि
कटोवास्ततोवाचसि नाचयेत् ॥ द्विजातिवेनविक्कवाज्जलं पचयत्तदा । पिबेत्
पिबेत् पुनश्चापि द्विजातयस्यं पचयत्तति ॥ भावप्रकाशः ।

In calculous affections it is used in a great variety of forms. Thus a simple decoction of the bark may be given with the addition of treacle.¹ A compound decoction is prepared along with equal parts of *Tribulus terrestris* (*gokshura*) and ginger, and is administered with the addition of *yavakshāra* and honey.² A compound powder called *Varunādyā churna*³ is prepared as follows. A solution of the ashes of *varuna* is made as directed under the head of alkaline water (*Kshārodaka*). This solution is boiled with the addition of *varuna* bark in powder and *yavakshāra* (impure carbonate of potash), till the water is entirely evaporated. The resulting powder is given in ascites, calculus, enlargements of the abdominal viscera, and affections of the bladder and uterus. A confection called *Varunādyā guḍa* is prepared by adding to the fluid extract of the bark, treacle and a number of diuretic and aromatic substances.

Varunādyā ghrita.⁴ Take of coarsely powdered *varuna* bark twelve seers and a half, water sixty-four seers, boil together till reduced to one-fourth and strain. To the strained decoction, add four seers of clarified butter, and two tolās each of the following substances in the form of a paste, namely, *varuna* bark, unripe

1 वरुणत्वक्कायान्त पीतञ्च गुडसंयुतम् । अश्वर्रीं पातयन्वाशु वस्तिशूल-
निवारणम् । चक्रदत्तः ।

2 वरुणस्य त्वचं त्रेणं गुण्ठीगोक्षुरसंयुताम् । यवक्षारागुडं दध्वा काय-
वित्वा पिबेद्विताम् । चक्रदत्तः ।

3 वरुणकभक्षपरिस्तुत सखिचं तद्गुणं वावशुकयुतम् । कचनीचं तत्तावद्याव-
श्चूचत्वमायाति । तदगुडयुक्तं हन्वात् तदुदारामश्वर्रीं चोराम् । श्लोहानं
कुल्लभवरं ओषधीं कुक्षीरजां तीक्ष्णाम् । भावप्रकाशः ।

4 वरुणाद्यं हतम् । वरुणस्य तुलां क्षुत्वा जलश्लेष्मे विपाचयेत् । पादशेषं
हरिद्राज्यं हतप्रस्थं विपाचयेत् । वरुणं कदली वित्तं त्वचं पञ्चसूत्रकम् ।
अमृताचाश्वजं देवं वीजञ्च तदुषोऽङ्गवम् । यतपर्वतिवक्षारं पलायचारमेव च ।
बुधिकावाच सुखानि कार्ष्णिकाणि समावपेत् । अस्य मातुं पिबेज्जनुर्देशका-
द्यापेक्षया । जीर्णे तस्मिन् पिबेत् पूर्वं गुडं जीर्णं मस्तुना । अश्वर्रीं
वर्कराज्यं मूलकञ्च नाशयेत् । भावप्रकाशः ।

plantains, *bela* fruit, the five roots called *trinaja pancha mulaka* (see Sugar cane), *gulanha*, leaves of *Coleus aromaticus* (*asmabheda*), cucumber seeds, *Acorus Calamus* root, bamboo-manna, the ashes of *Sesamum Indicum* (*tila*), and of *Butea frondosa* (*palāsa*) and the root of *Jasminum auriculatum* (*juthiká*). Boil them together and prepare a *ghrita* in the usual way. It may be given in doses of one to two *tolás*, according to the constitution of the patient. After this medicine is digested, butter-milk and treacle should be taken.

Varunādyā taila.¹ This is an oil prepared with *varuna* bark, for injection into the bladder. Take of *varuna* bark and of the entire plant of *Tribulus terrestris* (*gokshura*), two seers each, water sixty-four seers, boil together till reduced to one-fourth and strain. Boil this strained decoction with four seers of prepared sesamum oil and half a seer each, of the above mentioned drugs in the form of paste. This oil is recommended to be injected into the bladder, for the relief of painful micturition, calculus and gravel.

In scrofulous enlargement of the glands under the lower jaw, a decoction² of *varuna* bark is prescribed by several writers. It is said to cure even old standing cases. In internal or deep seated suppurative inflammation, a decoction of *varuna* and *Boerhaavia diffusa* (*punarnavá*) is given internally.³

NAT. ORDER. MORINGACEÆ.

MORINGA PTERYGOSPERMA.

Sans. शोभाञ्जन, *Sobhānjana*. सिघ्र, *Sigru*.

THIS plant is cultivated all over the country for the sake of its leaves, flowers, and seed vessels which are used by the natives

¹ वरुणाद्यं तैलम् । त्वक्पत्रमूलपुष्पस्य वरुणाद्यतिलकचटकात् । कषायेण वनेत्तैलं वस्त्रिणा स्थापनेन च । यर्कराश्लरीन्मूलं मूलकच्छनिवारणम् ।

चक्रदत्तः ।

² काञ्चनारत्वचः कायः शुण्ठीचूर्णेन नाशयेत् । गण्डमात्रं तथा कायः क्षौद्रेण वरुणत्वचः ।

शाकं धरः ।

³ पुनर्नवावरुणयोः काञ्चोलाविह्वलिभूयेत् ।

शाकं धरः ।

in their curries. The root is described as acrid, pungent, stimulant and diuretic. Applied externally it acts as a rubefacient. The seeds are described as acrid and pungent and are used externally as a stimulant. They are called *Sveta maricha* that is white pepper. The Bhāvaprakāśa describes two varieties of *sobhānjana*, namely, white and red. The root of the white variety is said to be a stronger rubefacient, while that of the red, is preferred for internal use, for promoting the appetite and acting on the excretions.

In ascites and enlarged spleen, a decoction¹ of the root-bark of *Moringa pterygosperma* and the leaves of *Rumex vesicarius* (*amlalonikā*) is given with the addition of long pepper, black pepper and rock salt in powder. In enlarged spleen and liver, a decoction of the root-bark is recommended to be given with the addition of plumbago root, rock salt and long pepper, or of the ashes of *Butea frondosa* (*palāsa*), or of *yavakshāra* (impure carbonate of potash).²

In internal and deep seated inflammation and abscess (*vidradhi*) a decoction of the root-bark is recommended to be given with the addition of assafoetida and rock salt.³ The expressed juice of the root-bark is also given in these cases, with the addition of honey or rock salt.⁴ The root-bark is used externally in the shape of plaster, and the inflamed part is fomented with its decoction.⁵

1 पीतः श्लोकोदरं हृन्वात्पित्तप्रकोपरिचान्तिः । अणुवेतससंयुक्तः
श्वित्पुष्पाक्षः सर्वस्वः । चक्रदत्तः ।

2 शोभाञ्जनकनिर्बुद्धं सर्वशक्तिप्रदानितम् । पलाशसारयुक्तं वा जवसारं
प्रयोजयेत् । चक्रदत्तः ।

3 शोभाञ्जनक निर्बुद्धोद्विग्नसर्वस्वः । अचिरं विद्विषं हन्ति प्रातः-
प्रतिनिषेधितः । चक्रदत्तः ।

4 श्वित्पुष्पं जले धीतं दरपितं प्रमादयेत् । तद्वर्धमाना पीत्वा हृन्वात्पित्त-
वृद्धिं नरः । चक्रदत्तः ।

5 स्नेहोदनाद्याः कर्त्तव्या श्वित्पुष्पसमन्विताः । चक्रदत्तः ।

In calculous affections the decoction of the root-bark is given internally.¹

The seeds of *Moringa pterygosperma* enter into the composition of some stimulant applications. The following is an illustration. Take of the seeds of *Moringa pterygosperma*, rock salt, mustard seeds and *putchuk* root, equal parts, and reduce them to a paste with goat's urine. When dried this is used as a snuff for rousing comatose or drowsy persons.² The fresh juice of the root bark is recommended to be poured into the ears, for the relief of otalgia. The gum of the tree mixed with sesamum oil, is also used for the same purpose.³

NAT. ORDER. GUTTIFERÆ.

MESUA FERREA.

Sans. नागकेसर, *Nágakesara.* *Vern.* *Nágakesar.* *Beng.* *Hind.*

THE dried flowers of *Mesua ferrea* are much used as a fragrant adjunct to decoctions and oils. They are regarded as astringent and stomachic and useful in thirst, irritability of the stomach, excessive perspiration etc. A paste of the flowers with the addition of butter and sugar is recommended by most of the later writers, to be taken in bleeding piles.⁴ The powdered flowers mixed with old clarified butter, that has been washed a hundred times in water, are said to be an effectual application in burning of the feet.⁵

1 काचस्य शिपुसूक्ष्मः कटुश्चोऽग्न्यरीषातनः । चक्रदत्तः ।

2 वैज्यं चेतमरिचं चर्षयाः कुठमेव च । वज्रमूत्रेण सर्पिणं तन्द्राबलं निवारयन् । भावप्रकाशः ।

3 शोभाञ्जनकनिर्वासकितेन संयुतः । व्यक्तोष्णः पूरकः कर्षकश्चोषश्चान्तरः । चक्रदत्तः ।

4 नवनीततिष्ठः कङ्कोलेतारकाश्रयं हृतः । नवनीतसितानानकेसरवापि बहिधः । शार्ङ्गधरः ।

5 नागकेसरचूर्णं वा यतधीतेन सर्पिणा । पिप्पला लेपो विधातव्योदाहे हर्षेण साहयोः । चक्रदत्तः ।

NAT. ORDER. DIPTEROCARPEÆ.

SHOREA ROBUSTA.

Sans. शाळ, *Sāla*, अश्वकर्ण, *Asvakarna*.

THE resin of *Shorea robusta*, called *Rālā* in Sanskrit and *Dhunā* or *rāl*, in the vernacular, is regarded as astringent and detergent and is used in dysentery, and for fumigations, plasters, etc. The resin thrown over the fire, gives out thick volumes of fragrant smoke, and is much used for fumigating rooms occupied by the sick. It is also a common practice with natives to burn some *rāl* in their rooms every evening, about the time that *chirags* or lamps are lighted, as also during the worship of idols.

In the dysentery of children *rāl* is recommended to be given in doses of about twenty grains, with an equal quantity of sugar or treacle.¹

Rāl enters into the composition of some plasters and ointments. The following is an illustration. Take of *rāl*, rock salt, treacle, wax, honey, bdellium, red ochre and clarified butter, in equal parts, boil them together and prepare an ointment.²

NAT. ORDER. MALVACEAE.

SIDA CORDIFOLIA.

Sans. बला, *Balā*. बाट्याबल, *Bātyāḷaka*.

Vern. *Berela*, *Beng.* *Khareti*, *Hind.*

FOUR varieties of *balā* are mentioned by Sanskrit writers, namely, *Bātyāḷaka*, (*Sida cordifolia*). *Mahābalā*, (*Sida rhomboidea*).^{*} *Atibalā*, (*Sida rhombifolia*). *Nāgabalā*, (*Sida alba*). The roots of all these species, are regarded as cooling, astringent, tonic and useful

^{*} This is only a variety of *Sida rhombifolia*, *L.*

1 श्वेतोवा यदि वा रक्तः शुपको यद्वृषीगदः शुद्धेनाधिकसर्जेन भजितेनायु-
नयति ।

भावप्रकाशः ।

2 शिम्बुसम्भवशुद्धमधुनहिनाशनैरिक्तं वदतम् । विक्चकमेतत्पक्वं पादस्फुट-
नापहं विद्वम् ।

वक्रदत्तः ।

in nervous diseases, urinary diseases and disorders of the blood and bile. In intermittent fever, a decoction of the root of *Sida cordifolia* and ginger is given.¹ It is said to be useful in fevers with cold shivering fits, followed by strong heat of body. The powder of the root-bark is given with milk and sugar, for the relief of frequent micturition and leucorrhœa.²

In diseases of the nervous system, such as insanity, paralysis, facial palsy, etc. the root of *Sida cordifolia* is used alone or in combination with other medicines, as in the following, called *Māsha balādi kvātha*.³ Take of the pulse of *Phaseolus Roxburghii* (*māsha*), root-bark of *Sida cordifolia* (*balā*), root of castor oil plant and of *Mucuna pruriens* (*ātmaguptā*), *Hygrophila polysperma* (*katrina*), *Vanda Roxburghii* (*rāsnā*), and *Withania somnifera* (*asvagandhā*), equal parts, in all two tolas, and prepare a decoction in the usual way. It is administered with the addition of assafœtida and rock salt, in hemiplegia, stiff neck, facial paralysis, and noise in the ears with headache. An oil for external application in these diseases, called *Balātāila*⁴ is thus prepared. Take of the root of *Sida cordifolia*, four seers, water, thirty-two seers and boil down to eight seers. To this decoction, add eight seers of milk, four seers of prepared sesamum oil, and one seer of the root of *Sida cordifolia* in the form of paste, and prepare an oil in the usual way.

1 महावज्रामूख महावधाभ्यां क्वाथो निहन्त्यादिवज्रवरं हि । योतं
खल्वयं परिदाहयुक्तं विनाशयेत् द्विदिनप्रयोगात् । भावप्रकाशः ।

2 मूत्रं कृत्वा वज्राया मूत्रं दुग्धेन मधुसूतं पीतम् । चक्रदत्तः ।

3 माधवसादिः । माधवसायुक्कशिश्वीकद्वयरास्त्रान्नमज्जीरूकाणाम् ।
क्वाथो नक्षत्रिपोतोरासठवषाणितः कोष्णः । अपहरति पक्ष्वातं मन्थासम्भं
खल्वर्चनादहजम् । दुर्जयवर्हितवातं सप्ताहाज्जयतिवावश्यम् । चक्रदत्तः ।

4 वज्रातैलम् । वज्राणिःक्वाथवज्रकाभ्यां तैलपक्वं पयोमिश्रितम् । खर्जवा-
तविहारप्रमेवं शैरीषपाचितम् । चक्रदत्तः ।

BOMBAX MALABARICUM.

Sans. बाज्जली, *Salmali*, मोचा, *Mochā*.

Vern. *Simul*, *Rakta Simul*. Beng.

"THIS is one of the largest of our Indian trees, often about one hundred feet high and the trunk thick and ramous in proportion. Flowering time the end of winter, when the tree is totally destitute of leaves. The great numbers of very large bright red flowers with which it is then covered make it remarkably conspicuous at a very great distance." The thick stems are used for making large boats called *kondas*, from their being made by hollowing out the trunks. Some of these boats are large enough to carry a freight of a thousand maunds. The smaller floats are in very common use in Eastern Bengal, for crossing over rice fields during the rainy season. In fact during the rains these little floats, constitute the only mode of conveyance from village to village in low alluvial tracts. The thick beds and pillows of the natives are stuffed with the Cotton attached to the interior of the seed vessels of this plant, while the thin quilts and stuffed clothing for winter, are made with *kārpāsa* (cotton of *Gossypium herbaceum*).

The gum of this tree, called *mocharasa* is used in medicine.* It is considered astringent, tonic and alterative, and is used in diarrhœa, dysentery and menorrhagia. *Mocharasa* with sugar in equal parts, is given in doses of twenty to forty grains, in the diarrhœa of children. In the dysentery of children, the following is used. Take of *mocharasa*, flowers of *Woodfordia floribunda*(*dhātaki*),

* In the Pharmacopœia of India it is stated. "To this tree (*Bombax Malabaricum*), which is common in some parts of India, two drugs which hold a prominent place in the Native Materia Medica, have been usually but erroneously referred. 1. An astringent gummy exudation, *Mucherus* (Hind). Its botanical source is unknown. 2. Dried roots well known as *Safed Musli* (Hind)." The Sanskrit term *Mocharasa* of which the Hindi *Mucherus* is a corruption, means the juice or exudation of the *Mocha* tree, and *Mocha* is one of the Sanskrit names of *Bombax Malabaricum*. Hence there can be no error in attributing the origin of *Mucherus* to *Bombax Malabaricum*. *Safed Musli* is the *Tālamuli* of Sanskrit Materia Medica, the *Hypoxis orchoides* of Botanists.

root of *Mimosa pudica* (*lajjálu*), and the filaments of the lotus, equal parts, in all one tolá, powdered rice one tolá, water eleven tolás, and boil together to the consistence of a gruel (*yavágu*).¹ In the dysentery of adults a decoction of *bela* fruit in goat's milk, is given with the addition of powdered *mocharasa* and *indrajava* seeds.²

HIBISCUS MOSCHATUS. *Sans.* लताकस्तुरिका *Latá-kasturiká*, *Vern.* *Latákasturi* *Beng.* The scented seeds of this plant are much used in perfuming medicinal oils. They also enter into the composition of some compound prescriptions, being regarded as cooling, tonic and carminative.

PAVONIA ODORATA. *Sans.* बाळा *Bálá*, ह्रीवेर *Hriversa*. *Vern.* *Sugandha bálá*, *Hind.* The fragrant roots of this plant are considered aromatic, cooling and stomachic and are much used in combination with other medicines of the sort in fever, inflammation, hemorrhage from internal organs etc. *Bálá* enters into the composition of a well-known fever drink called *shadanga prániya*, (see *Andropogon muricatum*).

NAT. ORDER STERCULIACEÆ.

PTEROSPERMUM SUBERIFOLIUM. *Sans.* मुचुकुन्द, *Muchukunda*. The flower of this tree, rubbed into a paste with *kánjika* is an ancient and well known application for hemicrania. It is mentioned by many writers and is used even at the present day, as a domestic remedy.³

1 मोचरसः समकृत् धातकीपद्मशेरम् । पित्तैरेतैर्यथागुः स्नादृक्तातीसार-
नाशिनौ । भावप्रकाशः ।

2 विद्धं ज्ञापयः विद्धं सितामोचरसान्वितम् । कबिकूटूर्ध्वसंदुक्तं रक्ता-
तिसारनाशनम् । चक्रदत्तः ।

3 शिरोर्त्तिं वातजां हन्यात्, यं वा मुचुकुन्दम् । याज्ञभरः ।

NAT. ORDER GERANIACEÆ.

OXALIS CORNICULATA.

Sans. अम्ललोबिका, *Amlalonikā*. बाङ्गेरी, *Chángeri*.

Vern. A'mrulsák, *Beng.*

THE leaves of *Oxalis corniculata* are used as a pot-herb. They are considered cooling, refrigerant, appetizing and stomachic. The fresh juice of the leaves is given to relieve intoxication from *datura*, and is said to be useful in dysentery and prolapsus of the rectum, for which it is recommended by most writers. Chakra-datta gives the following formula for preparing a *ghrita* with this medicine.

Chángeri ghrita.¹ Take of clarified butter, four seers, the fresh juice of *Oxalis corniculata*, four seers, curdled milk called *dadhi*, sixteen seers and the leaves of *Oxalis corniculata* reduced to a paste, one seer. Boil them together in the usual way and prepare a *ghrita*. This preparation is said to be useful in diarrhoea, dysentery, prolapsus of the rectum, tympanites, piles and difficult micturition. The Bhāvaprakāsa gives the following process for preparing a compound *ghrita*.² Take of the fresh juice of *Oxalis corniculata*, decoction of jujube fruits and ginger, alkaline water (see Alkalies), and curdled milk, each four seers, clarified butter four seers, and prepare a *ghrita* in the usual way. It is recommended for use in prolapse of the rectum.

AVERRHOA CARAMBOLA. *Sans.* कर्मरङ्ग, *Karmaranga*. *Vern.* Kámrángá, *Beng.* and *Hind.* The five-angled fruits of this plant contain an acid watery pulp, and are eaten raw as well as in curries. They enter into the composition of some cooling medicines for fever and other diseases.

1 बाङ्गेरीरसम् । बाङ्गेरी खरसे सर्षपः कक्षुकेरतैर्विपाचितम् । चतुर्थ्ये च दध्ना च तदुद्धतं कफवातहृत् । अर्थांश्च पङ्कजीदोषं मूलकच्छ्रं प्रवाहिकाम् । शुद्धं शर्त्तिमानाहं हतमेतद्व्यपोहति । चक्रदत्तः ।

2 बाङ्गेरी कोष्ठ दध्यन्तु चार नागर संतुतम् । हतं विपक्वं पातव्यं शुद्धं शगदापहम् । भावप्रकाशः ।

NAT. ORDER ZYGOPHYLLACEÆ.

TRIBULUS TERRESTRIS.

Sans. गोक्षुरी, *Gokshuri*. इक्षुगन्धा, *Ikshugandhá*.

Vern. Gokhuru, *Beng. Hind.*

THIS plant is also called *Sthala sringdtaka* and *Trikantaka*, from the resemblance of its fruits to those of *Trapa bispinosa* and from their being armed with three spines. The entire plant but more particularly the fruits are used in medicine. They are regarded as cooling, diuretic, tonic and aphrodisiac and are used in painful micturition, calculous affections, urinary disorders and impotence. The fruits constitute an ingredient of *Dasamula* (see *Desmodium gangeticum*).

A decoction of the fruits is given with the addition of *yava-kshára* (impure carbonate of potash), in painful micturition.¹ A decoction of the entire plant is given with *silájatu* (a bituminous substance) and honey, in the same affection. Equal parts of *gokhuru* and sesamum seeds, taken with goat's milk and honey, is said to cure impotence arising from bad practices.²

*Gokshurádyá valeha*³ or electuary of *gokshuri* is prepared as follows. Take of the entire plant of *Tribulus terrestris*, twelve

¹ काथं गोक्षुरबीजस्य यवक्षारयुतं पिबेत् । मूत्रकृच्छ्रं सक्तञ्च पीतं
शेषं निवारयेत् । चक्रदत्तः ।

² समतिसगोक्षुरपूर्णं छागीक्षीरेणसाधितं समधु । भुक्तं क्षपयति पाण्डुर
वज्जनितं कुप्रयोगेण । भावप्रकाशः ।

³ गोक्षुरकाद्यवलेहः । गोक्षुरकं सद्वनमूलफलं गृहीत्वा, संकुटितं पत्र-
यतं कथितं ततोये । पादस्थितेन सखिलेन पत्राणि दत्वा पञ्चाशतन्तु विपचे-
दद्य शर्करायाः । तस्मिन् वनत्वमुपगच्छति चूर्णितानि दद्यात् पञ्चद्वयमितानि
सुभाजनानि । शुद्धोक्त्यासरिचनागदन्तवनेखाजातीयकोवककुभलपुत्रीफलानि ।
वाशीपत्राटकसिंह प्रविधायनित्यम् वेष्ट्यं तं शुद्धमन्त्रं पत्रसन्धितन्तु । इत्याद्यु
मूलपरिदाह विषम मूत्रकृच्छ्राक्षरी क्षीरमेहमधुमेहान् । भावप्रकाशः ।

seers and a half, water, sixty-four seers and boil till reduced to one-fourth. To the strained decoction, add six seers and a quarter of sugar and again boil till reduced to the proper consistence for an electuary; then add the following substances in fine powder, namely, ginger, long pepper, black pepper, cinnamon, cardamoms, flowers of *Mesua ferrea* (*nágakesara*), leaves called *tejapatra*, nutmeg, bark of *Terminalia Arjuna*, and cucumber seeds, each sixteen tolás, bamboo-manna half a seer, and prepare an electuary. It is given in doses of two tolás, in painful micturition, suppression of urine, bloody urine, calculous affections etc.

NAT. ORDER RUTACEÆ.

CITRUS.

The different species of *Citrus* described by Sanskrit writers are as follows.

जम्बीर, <i>Jambira</i> . Vern. <i>Goránebu</i> , Beng. <i>Citrus acida</i> . Roxb. Var. 3	
लिम्पाक, <i>Limpáka</i> . Vern. <i>Pátinebu</i> , Beng. do. do. 1	
निम्बूक, <i>Nimbuka</i> . Vern. <i>Kágujinebu</i> , Beng. do. do. 2	
बीजपुर, <i>Vijapura</i> . Vern. <i>Tabánebu</i> , Beng. do. do. 7	
मधुकर्कटिका, <i>Madhukarkatiká</i> , Vern. <i>Miṭhánebu</i> , Beng. do. do. 9	
मातुलुङ्ग, <i>Matulunga</i> . Vern. <i>Chholonga nebu</i> , Beng. <i>Citrus medica</i> .	
करुणा, <i>Karuná</i> , Sans. and Beng. <i>Citrus medica</i> , variety of.	
नागरङ्ग, <i>Nágaranga</i> . Vern. <i>Kamlánebu</i> , Beng. <i>C. Aurantium</i> .	

The variety of *Citrus acida*,* called *Jambira*, yields the lemon juice used in medicine. *Limpáka* or *páti nebu* is much used as a sauce by the natives. The fruits are cut vertically into two pieces, and the fresh juice, squeezed out with the fingers, is sprinkled on soup, *dál*, curry etc. to which it imparts a pleasant acid taste and agreeable flavour. A pickle of *páti nebu*, in its own juice, and salt is a popular and effectual medicine for indiges-

* *Citrus acida* is itself a variety of the *Citrus medica* of Linnæus to which species *C. Limonum*, *C. Limetta* and *C. Lumia* are also reduced.

tion brought on by excess in eating, or by undigestible articles of diet. The fruits are first rubbed over a stone, or their rind scraped a little so as to thin it. They are then steeped in juice obtained from other fruits of the sort, and exposed to the sun for a few days with the addition of common salt. When crisp and of a brown colour, they are preserved in porcelain vessels or glass jars. This preparation is called *Jarak nebu* (that is digestive lemon) in the vernacular.

The variety of *Citrus acida* called *káguji nebu* has larger fruits than that of *páti nebu*, and is also used as sauce like the latter, but its flavour and the fragrance of the essential oil in its rind is not so delicious.

Citrus Aurantium, or the sweet orange, comes from the valleys of the Khasia Hills and of the eastern Himalaya. It is called *kamlá nebu* in Bengali. The variety grown in the plains has an acid taste and is called *nárengá* in the vernacular.

The Sanskrit term *karuná nimbu* is variously translated by different authorities. Wilson in his Sanskrit dictionary calls it *Citrus decumana*. In the Hortus Bengalensis it is translated into *Citrus medica*, while Drury and other Madras authorities make the variety *Citrus Limonum*. The Sabdakalpadruma does not give any synonym or vernacular term for it, so that it is difficult to say, what form it really meant. In the vernacular the term *karuná* is applied to a variety of *Citrus medica*.

Citrus decumana has I believe no Sanskrit name. In the vernacular it is called *Bátávi nebu*, from its having been originally brought from Batavia. It is now much cultivated in gardens and is one of the common edible fruits of the country. Some varieties of the fruit have a pleasant taste and aroma, with little or no acidity.

Madhukarkatiká. This variety of *Citrus medica* is probably the one described by Roxburgh as *Mithá nebu*, that is sweet lemon. The variety of *Citrus* which has very large oblong fruits, almost equal in size to the shaddock, and the thick spongy rind of which constitutes the largest portion of the fruit, was shewn to me by a

gardener in Malda, under the name of *madhukarkati*. The pulp of this variety is very limited in quantity, of a bland sweetish taste and without any aroma or acidity.

Lemon juice is considered cooling, refrigerant stomachic and useful in indigestion, dyspepsia, vomiting of meals, thirst, burning of the body, intoxication from spiritious drinks or narcotics, etc. Fresh lemon juice is recommended to be taken in the evening, for the relief of dyspepsia with vomiting of meals.¹ It enters into the composition of several carminative medicines for dyspepsia, such as the *Hingvāśṭaka* (see *Assafoetida*), *Kravyādi churna* etc.

In rheumatic affections such as pleurodynia, sciatica, lumbago, pain in the hip joints etc., Śārangadhara recommends the administration of lemon juice with the addition of *yavakshāra* (impure carbonate of potash) and honey.²

Rasāyandmṛita lauha.³ Take of long pepper, black pepper, ginger, the three myrobalans, *bāberung* seeds, cumin and nigella seeds, *ajowan* and the seeds of *Cnidium diffusum* (*vanajamāni*), *chiretta*, *trivrit*, root of *Baliospermum montanum* (*danti*), *nim* bark, and rock salt, each two tolās, prepared iron sixteen tolās, sugar two seers, decoction of the three myrobalans four seers, and lemon juice two seers. Boil all these ingredients together till the watery portion is evaporated, lastly add clarified butter, half a seer and

1 जम्बीरस्फुरः पोतः साय हन्यन्तिपित्तकम् । चक्रदत्तः ।

2 वोजपूररसः पानानुसंधानारयुतो जयेत् । पार्श्वं हृदयस्थितानि कोष्ठवायुक्ष्ण दाहयम् । शार्ङ्गधरः ।

3 रसायनाद्वतलोहः । त्रिकटु त्रिफला सुखं विहङ्गं जीरकद्वयम् । यमानो-
द्वयं भूनिम्बं त्रिवृहन्तीष निम्बुकम् । सर्वेषां कार्ष्णिकं भागं सैन्धवं कर्षसर्द्धकम् ।
खण्डस्य षोडशपलं प्रस्थश्च त्रिफलाजलम् । जम्बीराणां रसं दद्यात् पलषोडशकं
तथा । पार्श्वं सख्यं प्रयत्नेन खौट्वा दत्त्वा पलद्वयम् । विहं पाके पुनर्दद्यात् हतं
पलचतुष्टयम् । सर्वरोगेषु संयोज्यं महामृतसाधनम् । शुल्भं पञ्चविधं हृन्ति
वज्रश्लोकोदराणि च । कामला पाण्डुरोगश्च योषं जीर्णकृमिरनघा । रोगान्
सर्वान् निहन्त्यायु भास्वरसिधिरं यथा । भैषज्यरत्नावली ।

prepare a confection. Dose one to two tolás, in enlargements of the abdominal viscera, anæmia, jaundice, anasarca and chronic fever.

In fever complicated with pain in the head, throat and chest, the following mixture is directed to be used as a snuff for promoting discharge of phlegm. Take of lemon juice, ginger juice, rock salt, black salt, and *sonchal* salt, equal parts, and mix. The mixture should be warmed a little before use.

The root of the variety of *Citrus acida*, called *limpáka* constitutes one of the principal ingredients in the composition of a medicine called *Yakridari lauha*, described under Iron.

ÆGLE MARMELOS.

Sans. विल्व, *vilva*. Vern. *Bela*, Beng. *Hind*.

THE *Ægle Marmelos* is held in great veneration by the Hindus. It is sacred to Siva whose worship cannot be accomplished without its leaves. Hence this tree is always met with near temples dedicated to Siva. It is incumbent on all Hindus to cultivate and cherish this tree, and it is sacrilegious to up-root or cut it down. The Hindu who expires under a *bela* tree, expects to obtain immediate salvation, notwithstanding that he may have committed innumerable sins.

The *Ægle Marmelos* is used in medicine in a variety of ways. The unripe or half ripe fruit is regarded as astringent, digestive and stomachic and as useful in restraining discharges from the alimentary canal. The ripe fruit is described as sweet, aromatic, cooling and laxative. It is not easily digested and has a tendency to cause flatulence. The dried pulp of the fruit, called *Vilva peshiká* in Sanskrit, is regarded as astringent and a specific for dysentery. The root-bark is considered useful in diseases supposed to be caused by deranged air. It constitutes an ingredient of *dasamul* or the ten roots, (see *Desmodium gangeticum*.) The fresh juice of the leaves is given with honey as a domestic laxative and febrifuge.

The dried pulp of the fruit is given with treacle, in recent dysentery with griping, pain in the loins and costiveness.¹ A compound powder² is prepared with equal parts of dried *bela*, tubers of *Cyperus rotundus* (*mustaka*), flowers of *Woodfordia floribunda* (*dhātaki*), root of *Stephania hernandifolia* (*pāṭhā*) ginger and *mocharasa*. It is given in doses of twenty-two to forty-four grains with butter-milk and treacle. In the dysentery of children, a decoction and an electuary of the following drugs is used, namely dried *bela*, fruits of *Pothos officinalis* (*gajapippuli*), root of *Pavonia odorata* (*bāḷā*), flowers of *Woodfordia floribunda* (*dhātaki*), and bark of *Symplocos racemosa* (*lodhra*), in equal parts.³

A decoction of the root of *Aegle Marmelos*,⁴ is given with sugar and fried rice, for checking diarrhoea and gastric irritability in infants.

The fresh juice of the leaves is given, with the addition of black pepper, in anasarca with costiveness and jaundice.⁵ In external inflammations, the juice of the leaves is given internally, to remove the supposed derangement of the humours.

Vilva taila is thus prepared.⁶ Take of dried *bela* fruits, twelve seers and a half and boil in sixty-four seers of water, till reduced

1 शुद्धेन खाद्येद्वित् रक्तातिशारनाशनम् । आमन्त्र्यविषम्वच्च कृत्तिरोन-
विनाशनम् । चक्रदत्तः ।

2 विषाङ्गं धातकी पाठा शुद्धौ मीषरसाः समः । पीता रन्ध्रवती-
सारं शुद्धतमेण दुर्ज्वम् । चक्रदत्तः ।

3 विलम्बं पुष्पाणि धातकीनां जलं सखीधं गजपिप्पलीष । काषाव-
हेहो मधुनाविनिम्रौ बाधेषु दोष्वावतिशारितेषु । चक्रदत्तः ।

4 विलम्बकनाथेषु बाजासैवसर्कराः । आकोश पावयेद्वाहं कर्द्वती-
सारनाशनम् । चक्रदत्तः ।

5 विक्षुपलरसं पूतं सोषणं श्वघ्नौलिजे । विट् सक्तेष्वेवदुर्नाम्नि विद्ध्यात्-
काशनाशपि । चक्रदत्तः ।

6 विलम्बैवम् । यतं संयम्यविलम्बं जलद्रोणे विपाचयेत् । तेनपादावशेषेषु
तैलप्रत्यं विपाचयेत् । राज्ञा दुर्गन्धकुष्ठं नागरं विलम्बेन च । धातकीदेव-

to one-fourth. To the strained decoction, add four seers of prepared sesamum oil and six tolás each of the following substances, in the form of paste, namely, *Vanda Roxburghii* (rásná), *Boerhaavia diffusa* (punarnavá), *Aplotaxis auriculata* (kushṭa), ginger, dried bela, flowers of *Woodfordia floribunda* (dhātaki), wood of *Pinus deodara* (devadāru), bark of *Symplocos racemosa* (lodhra), tubers of *Cyperus rotundus* (mustaka), *Acorus Calamus* (vachá), and gum of *Bombax Malabaricum* (sálmaliveshṭa), and prepare an oil in the usual way. This oil is used externally in chronic bowel complaints.

FERONIA ELEPHANTUM.

Sans. कपित्थ *Kapittha*. *Vern.* Kathbel, *Beng.* Kaith, *Hind.*

THE wood apple tree is met with throughout India and is cultivated for the sake of the fruits, the pulp of which is edible. A *chátmi*, made of the ripe pulp with the addition of oil, salt, tamarind and spices, is esteemed by many. The unripe fruit is described as astringent and is used in combination with *bela* and other medicines in diarrhoea and dysentery. The ripe fruit is said to be useful in hiccup and affections of the throat. The leaves are aromatic and carminative.

Kapittháshtaka churna.¹ Take of the pulp of unripe wood apples eight parts, sugar six parts, pomegranate juice, tamarind

दाक्षस्योष्णं रुच्यं वच्चा तथा । शास्त्रसमीपेऽप्यत्रैव पृथक्कर्त्तव्यं पचेत् । अथ
तैजस्य सिद्धस्य शृणु वीर्यमतः परम् । दुर्गन्धमपहृणीरोम सतीसारं श्वेदेनम् ।
कामखा पाण्डुरोगघ्नं क्षमिदोषविनाशनम् । वज्रिचन्द्रीपनं वचसं मेदनाय
विवर्द्धनम् । अपचो गण्डमाखाश्च ज्वरं जोषं व्यपोहति । अग्निर्भा
निर्द्ध्यतं पूषं विस्वतैश्चमिदं महत् ॥ तैजावलीसंपहोता ।

1 क्षपिद्याटकचूर्णम् । अष्टौ भागाः कपित्थस्य सप्तमानाः शर्करामताः ।
दाक्षिणं तिक्किङ्कीकञ्च त्रीफलं चातकीतथा । अजमोदाच पिप्पलः प्रत्येकं
सुखिभासिकाः । मरिचं जीरकं धान्यं पन्थिकं बाहकनया । शीतफलं

pulp, *bela* fruit, flowers of *Woodfordia floribunda* (*dhātaki*), *ājmad*, and long pepper, each three parts, black pepper, cumin seeds, coriander, long pepper root, root of *Pavonia odorata* (*bālá*), *sonchal* salt, *ājowan*, cardamoms, cinnamon, *tejapatra*, flowers of *Mesua ferrea* (*nágakesara*), ginger and plumbago root, each one part, powder the ingredients finely and mix. Dose, about one drachm. This preparation is used in chronic diarrhoea and dysentery with loss of appetite and in affections of the throat.

XANTHOXYLUM HOSTILE. *Sans.* दम्बूर, *Tumburu*. *Vern.* *Nepáli dhaníá*, *Tumri*, *Hind.* The aromatic and pungent fruits of this plant, resemble coriander in appearance and are used as aromatic adjuncts, in compound prescriptions and in perfuming medicinal oils.

NAT. ORDER BURSERACEÆ.

BALSAMODENDRON MUKUL.

Syn. *Balsamodendron Agallocha.*

Sans. गुग्गुलु, *Guggulu*. *Vern.* *Guggul*. *Beng.* *Hind.*

Guggulu or Indian bdellium is obtained by making incisions in the tree, through which the gum resin exudes. According to Sanskrit writers, new or recently exuded *guggulu* is moist, viscid, fragrant and of a golden colour. It burns in the fire, melts in the sun and forms a milky emulsion with hot water. Old *guggulu* is dry and without flavour or colour; it should not be used in medicine.

Guggulu is said to be demulcent, aperient, alterative and a purifier of the blood. It is used in rheumatism, nervous diseases, scrofulous affections, urinary disorders, and skin diseases. In rheumatism it is used in a great variety of forms. The following called *Yogarāja guggulu* is a favourite preparation.

वसानीक्ष चादुर्जातं सचिलकम् । नागरक्षेत्रभागाः सुः प्रत्येकं स्रज्ज्वर्णिताः ।
कपित्थाटकं चञ्चं स्यात् नूतनेतद्गुह्यमानवान् । अतीसारं चयश्चैव ग्रहणीश्च अपो-
हति । याक्त्रिधरः ।

Yogarāja guggulu.¹ Take of plumbago root, long pepper root *ājowan*, seeds of *Nigella sativa* (*kālājirā*), *báberang* seeds, seeds of *Carum Roxburghianum* (*ajamodā*), cumin seeds, *Pinus Deodara* (*devadāru*), *Chavica officinarum* (*chavya*), cardamoms, rock salt, root of *Aplotaxis auriculata* (*kushṭha*), root of *Vanda Roxburghii* (*rāśnā*), fruits of *Tribulus terrestris* (*gokshura*), coriander, the three myrobalans, tubers of *Cyperus rotundus* (*mustaka*), long pepper, black pepper, ginger, cinnamon, root of *Andropogon muricatus* (*usira*), *yavakshāra* (impure carbonate of potash), leaves of *Pinus Webbiana* (*tālisapatra*) and the leaves called *tejapatra*, one part each, in fine powder, bdellium in quantity, equal to all the above ingredients. Rub them together with clarified butter and preserve the preparation in an earthen pot smeared with clarified butter. Dose from a half to one *tolā*. It is given in rheumatic affections and other diseases supposed to be caused by deranged air, in unhealthy ulcerations, affections of the joints etc. Another preparation called *Trayodasāṅga guggulu* is similar in composition to the above. It is made with thirteen aromatic adjuncts, hence its name, and is recommended for use in rheumatism affecting the loins and the sacrum. In rheumatism affecting the joints and bones the following preparation called *A'dityapāka guggulu*² is used. Take

१ योगराजगुग्गुलुः । चिलकं पिप्पलीमूलं वमानीं कारवीलका ।
विडङ्गान्वजमोदाच जीरकं सुरदाहय ॥ चव्यं चारुं च वृषं राक्षानोक्षुरधा-
न्यकम् । लिफलासुषुम् व्योषं त्वगुशीरं ववापजम् । ताक्षीशपत्रं पल्लव
क्षुण्णचूर्णानि कारयेत् । वावन्त्येतानि चूर्णानि तावन्मात्रान्तु गुग्गुलुम् ।
संमर्दं सर्पिषा गाढं क्षिण्वे भावयेत् निघापयेत् । ततोभासां प्रमुञ्जीत वषेष्टा-
हारवानपि । योगराजइतिस्वातोयोगोऽयमकृतोपमः । आसवाताद्यवातादीन्
तमिदुष्टमथानपि । श्लेष्मायुक्मोदरानाहदुर्गामानि विनाशयेत् । अग्निश्च
[कुर्वते दीप्तं तेजोवह्निं वल्लभा वातरोमान् जयत्येव सन्निभमज्जगतामपि ।

चक्रदत्तः ।

२ आदिश्लपाक गुग्गुलु वटकः । पृथक् पक्षांश लिफला पिप्पलीचेति-
चूर्णितम् । दशमूलाणां भाग्यं तमेकाहं पचान्वितम् । दत्त्वा पक्षानि पञ्चैव

of the three myrobalans and long pepper each eight tolás, cinnamon and cardamoms four tolás each; powder the ingredients finely and soak for seven days in a decoction of the ten drugs, called *dasa-mula* (see *Desmodium gangeticum*). Then add forty tolás of *guggulu* and beat together into a uniform mass. Dose, half to one tolá.

Vatári rasa ¹ This preparation is used in paralysis and nervous diseases. To prepare, it take of mercury one part, sulphur two parts, the three myrobalans, three parts in all, plumbago root four parts and pure *guggulu* five parts. Rub them together with castor oil for twelve hours, then add to the mass the compound powder; called *Hingvastaka* (see *Assafoetida*), in weight equal to all the above ingredients, and again rub together for twelve hours. Dose, about half a drachm.

Kaisara guggulu.² Take of pure bdellium, *gulanča* and the three myrobalans, each two seers, water ninety-six seers. First boil the *gulanča* and the myrobalans in the water till the latter is reduced to one-half, and strain the decoction; to the strained fluid add the bdellium and boil in an iron vessel till the whole is reduced to the consistence of treacle. Now add to it the following

गुग्गुलुर्वटकीकृतः । एष सांसरसाध्यासाह्वतारोगान् विधेयतः । इहनि सन्ध्या-
स्थिमज्जस्थान् दृक्षन्निन्द्रायनिर्वयथा । भाव्यद्रव्यसमं कायं कायोऽष्टांशस्तु तेन च ।
आर्द्रं वावहिनं भाव्यं सप्ताहं भावनाविधिः । षष्ठदशः ।

1 वातारिरसः । रसो मज्जो वरा वज्रि गुग्गुलुः क्षमवर्द्धितः । त्रिभागा
त्रिफला योज्या षट्भागस्तुत्रिफलः । गुग्गुलुः पञ्च भागः स्नाद्वुतेन
मर्दितः । त्रिम्भा ततोदितं चूर्णं तेन तैलेन मर्दयेत् । गुटिकां कर्षमात्रान्तु
भक्षयेत् प्रातरेव हि । वातारिरसं कृच्छ्रेण रसो निवतसेवितः । साधेन मस्तो
रोगान् हरेत् सुरतवर्जिनः । भावप्रकाशः ।

2 कैसर गुग्गुलुः । त्रिफलावाह्वः प्रस्थाः प्रस्यैकाचान्कता भवेत् । सङ्कुच-
कोकपालेषु सार्द्धं शोषात् न पचेत् । जलमर्द्धमृतं चात्मान्क्रीयादह्वना-
हितम् । ततः काये क्षिपेच्छब्दं गुग्गुलुं प्रस्यसञ्चितम् । पुनर्देवमवःपाले
दाव्योषं नर्षेन्मुक्तः । सान्नीभूतं ततोऽत्तागुडपाकसमाकृतम् । पृथोक्त्यत-
स्तत्रद्रव्याणीनानिप्रक्षिपेत् । त्रिफलादिपक्षा सेवा गुग्गुलीपक्षिकासता । षडहं

substances in fine powder, namely, the three myrobalans, each sixteen tolás, *gulancha* eight tolás, ginger, long pepper and black pepper, each six tolás, *báberang* seeds four tolás, root of *Baliospermum montanum* (*danti*) and *Ipomoea Turpethum* (*trivrit*), each two tolás, and beat them together into a uniform mass. Dose from a quarter to one tolá, to be taken with a decoction of madder, tepid milk or water. This medicine is said to be useful in various skin diseases from deranged or vitiated blood. It is said to act as an alterative tonic and to improve the nutrition of the body.

Saḍanga guggulu.¹ In affections of the eyes with pain, swelling and inflammation, (rheumatic ophthalmia?) bdellium is recommended to be given with a decoction of the three myrobalans, root of *Momordica dioica* (*patala*), *nim* bark, and the leaves of *Adhatoda vasica* (*vásaka*). A similar preparation is recommended for secondary syphilitic ulcerations. In unhealthy ulcerations, the following, called *Amrita guggulu*² is recommended. Take of *gulancha*, root of *Momordica dioica* (*patala*), the three myrobalans, long pepper, black pepper, ginger, and *babering* seeds in equal parts, *guggulu*, in quantity equal to all the above ingredients and beat them together into a mass. Dose about a drachm every morning.

OLIBANUM. The gum of the *Salai* tree of India (*Boswellia*

सुगन्धं पोक्तं विदुषाणां पञ्चार्कम् । दन्तीकर्मिताकार्या लिङ्गकर्मितातथा ।
ततः पिण्डीकृतं सर्वं हतपात्रे विनिक्षिपेत् । शुटिकां शाल्मालेश्च युक्त्वा ह्यो-
षत्सु मेक्षया । अनुपानं भिषग्दद्यात्कोष्णं नीरं पयोयथा । मज्जिषादिभूतं
वापि युक्त्वा युक्तं ततः परम् । जयेत्सर्वाणि कुष्ठानि वातरक्तं लिदोषजम् । सर्व-
त्रयानि शुल्कांश्च भ्रमेरुपिष्ठकान्तथा । शार्ङ्गधरः ।

1 पञ्चगुग्गुलुः । विभीतक शिवा धाली पटोळारिष्ट वासकैः । कथोगु-
ल्मुलुनायेयः शोथशूलान्निपातका । पिण्डश्च स्रग्धं शुक्रं रागादींश्चापि नाशयेत् ।
एतैश्चापि धृतं पक्वं रोगांस्तान् व्यपोहति । चक्रदत्तः ।

2 अमृतागुग्गुलुः । अमृता पटोळसूत्र लिफलातिकटु कर्मिष्ठानाम् ।
समभंगानां चूर्णं सर्वसमोगुग्गुलोभांगः । प्रतिवासरमेकैकां स्नादेदस्य प्रमाणात् ।
जेतुं त्रयान्वाताह्वगुग्गुलोदरश्च यदुरोगादीन् । चक्रदत्तः ।

thurifera), is called *Kunduru* in Sanskrit. It is used as an incense and as a local application to buboes.¹

MYRRH is called *Vola* in Sanskrit and is described as an article to be had in the *beniah's* shop, thereby implying it to be an imported drug. It is said to be useful in fever, epilepsy and uterine affections, but is not much used in practice.

NAT. ORDER MELIACEÆ.

AZADIRACHTA INDICA.

Sans. निम्ब, *Nimba*. *Vern.* Nim, *Beng. Hind.*

THIS useful tree is indigenous to India and is cultivated all over the country for the sake of its bark, leaves and fruits. These have been used in Hindu medicine from a very remote period. The bark is regarded as bitter, tonic, astringent and useful in fever, thirst, nausea, vomiting and skin diseases. The bitter leaves are used as a pot-herb being made into soup or curry with other vegetables. The slightly aromatic and bitter taste which they impart to the curries thus prepared, is much relished by some. The leaves are moreover an old and popular remedy for skin diseases. The fruits are described as purgative and emollient and useful in intestinal worms, urinary diseases, piles etc. The oil obtained from the seeds is used in skin diseases, and ulcers.

The bark is used in fever in combination with other medicines for this disease as for example, in the following compound decoction called *Amritāshtaka*.² Take of *nim* bark, *gulan*cha, root of *Picrorrhiza Kurroa* (*katuki*), tubers of *Cyperus rotundus* (*mustaka*), seeds of *Holarrhena antidysenterica* (*indrayava*), leaves of

¹ अथोलीरेण गोघ्नमकल्कं कुन्दुक्तस्य वा। प्रलेपनं सुखोष्णं स्नादुमम-
न्यूलहरः परः । चक्रदत्तः ।

² अमृताष्टकः । अमृतारिष्ट कटुका सुक्तेन्द्रव नागरैः । पटोलचन्दना
भ्याश्चपिपलीचूर्णयुक्ञ्जतम् । अमृताष्टकमेतच्च पित्तक्षेपणकरापहम् । कर्द-
रोचकहृत्लाव दाह तृष्णा निवारयम् । शार्ङ्गधरः ।

Momordica dioica (*patala*), ginger and red sandal wood, each quarter of a tolá, water half a seer, boil till reduced to one-fourth. This decoction is given with the addition of honey and long pepper in fever supposed to be caused by deranged phlegm and bile and attended with vomiting, nausea, thirst and lassitude.

The fresh juice of the leaves is given with salt in intestinal worms, and with honey in jaundice and skin diseases. The juice of *nim* leaves and of emblic myrobalans, quarter of a tolá each, are recommended to be given with the addition of clarified butter in prurigo, boils and urticaria.¹ *Nim* enters into the composition of several compound preparations used in skin diseases, such as the *Pancha tikta ghrita*, *Pancha nimba gudiká*, *Pancha kasháya*, etc.

Pancha tikta ghrita.² Take of *nim* bark, leaves of *Momordica dioica* (*patala*), *Solanum Jacquini* (*kantakári*), *gulancha*, and bark of *Adhatoda vasica* (*vásaka*), each eighty tolás, and boil them in sixty-four seers of water till it is reduced to one-fourth. To the strained decoction, add four seers of clarified butter and a seer of the three myrobalans in the form of a paste, and prepare a *ghrita* in the usual way. This preparation is given in doses of three to six drachms in chronic skin diseases.

As an external application to ulcers and skin diseases, *nim* leaves are used in a variety of forms such as poultice, wash, ointment and liniment.³ A poultice made of equal parts of *nim* leaves

1 निम्बस्य पत्राणि सदा हतेन धात्रीविमिश्राण्य खोपयुञ्ज्यात् । विस्कोट-
कोट क्षत शीतपित्तं कण्डूक्षपित्तं बहुसांचजङ्घात् । चक्रदत्तः ।

2 पञ्चतिकृकं हतम् । निम्बं पटोखं व्याघ्रीञ्च शुद्धीं वासकं तथा ।
कुल्याङ्गपत्रान् भागानेकैकस्य सुकुटितान् । अलङ्गोषे विपक्वञ्च यावत्पादा-
वशेषितम् । हतप्रस्यं पचेत्तेन लिफलागर्भसंयुतम् । पञ्चतिकृमिदं ख्यातं
वर्षिः कुष्ठविनाशनम् । चक्रदत्तः ।

3 निम्बार्जुनाश्लक्ष्मकदम्ब यावज्जम्बूवटोदुम्बर वेतसेषु । प्रक्षातनाशेष हतानि
कुल्याङ्गूषाणि पित्ताक्षभयोपदंशे । चक्रदत्तः ।

and sesamum seeds is recommended by Chakradatta for unhealthy ulcerations.¹

The following preparation of *nim* oil is prescribed by several writers for application to suppurating scrofulous glands with numerous openings. Take of the oil of *nim* seeds, four seers; orpiment, realgar, marking nut, cardamoms, aloes wood, sandal wood, leaves of *Jasminum grandiflorum* (*jātipatra*), and of *Limnanthenum cristatum* (*tagarapādukā*), each eight tolās, in the form of a paste, and water sixteen seers. Boil them together and prepare an oil in the usual way.²

NAT. ORDER AMPELIDEÆ.

VITIS VINIFERA, Linn.

Sans. द्राक्षा, *Drākshā*. मृद्विका, *Mridvikā*

Vern. A'ngurphal, *Kismis*, *Manakkā*, *Beng. Hind.*

GRAPES have been known in India from a very remote period and are mentioned by Susruta and Charaka. The dried fruits called raisins, are used in medicine. They are described as demulcent, laxative, sweet, cooling, agreeable and useful in thirst, heat of body, cough, hoarseness and consumption.

Raisins enter into the composition of numerous demulcent and expectorant medicines. The following is an illustration. Take of raisins, emblic myrobalans, dates, long pepper and black pepper, equal parts, rub them together with honey and clarified butter and administer as a linctus.³

Drākshā arishṭa. This is a medicinal wine prepared as follows. Take of raisins six seers and a quarter, water one hundred and

1 निम्बपत्र तिलैः कल्को मधुना क्षतशोधनः । चक्रदत्तः ।

2 ममःशिला कम्बुजात स्रग्मै सायुर्वचन्दनैः । जातीपञ्चव कल्कैश्च निम्ब-
तैश्च विपाचयेत् । कल्मीकं नाशत्रैस्तद्विवहृदिहं बद्धुञ्जयम् । भावप्रकाशः ।

3 द्राक्षामसकं खर्जूरं पिप्पलीमरिचान्वितम् । पित्तकाषापहं क्षीतम्
विद्यान्नादिकसर्पिणा । शार्ङ्गधरः ।

twenty-eight seers, boil them together till reduced to one-fourth, and strain. To the strained decoction add twenty-five seers of treacle and eight tolás each of the following substances in fine powder, namely, cinnamon, cardamoms, *tejpatra*, flowers of *Mesua ferrea* (*nágakesara*), fruit of *Aglaia Roxburghiana* (*priyangu*), black pepper, long pepper and *báberang* seeds, and set aside for fermentation. This liquor is considered invigorating and nourishing and is used in consumption, cough, difficult breathing and hoarseness.¹

NAT. ORDER SAPINDACEÆ.

CARDIOSPERMUM HALICACABUM, Linn.

Sans. ज्यौतिष्मती, *Jyautishmati*.

Vern. Latáphaṭkari, *Nayáphaṭki*, Beng.

THE root of this climbing plant is described as emetic, laxative, stomachic and rubefacient, and is used in combination with other remedies in rheumatism, nervous diseases, piles etc. The fried leaves of *Cardiospermum Halicacabum* are said to bring on the secretion of the menses.² Another prescription for amenorrhœa is as follows. Take of *yautishmati* leaves, *sarjiká*, (impure carbonate of potash) *Acorus Calamus* root (*vachá*) and the root-bark of *Terminalia tomentosa* (*asana*) in equal parts and reduce to a paste with milk. This medicine, should be taken in doses of about a drachm for three days.³

1 द्राक्षादिः । द्राक्षा त्वक्निह्निद्रोणेजलस्य विपचेत्तुधीः । पादशेषे कषाणे च पूते शीते विनिःक्षिपेत् । युद्धस्य द्विदशान्नत्र त्वगेना पत्रं केसरम् । प्रियङ्गु, सरिचं कषाणं विडङ्गं चेति चूर्णयेत् । पृथक् पञ्चोन्मिताभैर्गैस्ततो भाग्युक्ते निधापयेत् । समन्ततोचकृद्वित्वा प्रिवेज्जातरसन्ततः । उरःक्षतं क्षयं हन्ति काश-
श्वास गलासयान् । द्राक्षादिपट्टकः प्रोक्तोऽथवाकषाणशोधनः । शार्ङ्गधरः ।

2 सक्ताङ्गिकं जवापुष्पं भट्टं ज्यौतोष्मतीदलम् । दूर्वापिष्टञ्च कम्पाञ्च वनिता त्वार्त्तवत् क्षमेत् ॥ चक्रः ।

3 पीतं ज्यौतोष्मतीपत्रं सर्जिको पासनम् । त्वहं शीतेन पयसा पिष्टं कुसुमं जनयेत् ध्रुवम् । ५१५प्रकाशः ।

NAT. ORDER ANACARDIACEÆ.

RHUS SUCCEDANEA, Linn.

Sans. कर्कटशृङ्गी, *Karkatasringi*.

Vern. Kákrásringi, Beng. Kakarsing, Hind.

THE horn-like excrescences caused by insects on the branches of *Rhus Succedanea* are called *karkatasringi*. They "are large, hollow, thin-walled, generally cylindrical, tapering to either extremity." They are considered tonic, expectorant and useful in cough, phthisis, asthma, fever, want of appetite and irritability of stomach. Dose, about twenty grains. This medicine is much used in cough, in combination with other drugs for the disease. The following is an example.¹ Take of *karkatasringi*, root of *Clerodendron Siphonanthus* (*brahmayashti*), raisins, ginger, long pepper and *Curcuma Zedoaria* (*sati*), equal parts, powder and mix. Dose, about thirty grains with treacle or honey, in dry cough. In catarrhal fever with difficult breathing a powder composed of equal parts of *karkatasringi*, bark of *Myrica sapida* (*katphala*), and long pepper is recommended to be given in doses of about a drachm, with honey.² The following called *Sringyádi churna* is much esteemed as a cough linctus for children. Take of *karkatasringi*, *dtis*, and long pepper, equal parts; powder and make into a linctus with honey.³

MANGIFERA INDICA, Linn.

Sans. आम्र, *A'mra*. Vern. A'm. Beng. Hind.

THE Mango is well known as the most delicious of Indian fruits. The ripe fruit is somewhat laxative and useful to persons

1 भार्गी द्राक्षा घटी शृङ्गी पिप्पलीविश्वभेषजैः । शुद्धतैलवृतो केहो
हृत्तोमाश्नकासिनाम् । चक्रदत्तः ।

2 भधना कृष्णा कट्फला कर्कटशृङ्गी भवं चूर्णम् । श्वाशमय महोपे
जीवा लोकाः सुखी भवति । भावप्रकाशः ।

3 शृङ्गादिचूर्णम् । शृङ्गीप्रतिविषां कृष्णां चूर्णितं भधनादिरेव ।
विशुःकासकार्णवर्दिशान्त्वैवा केवलां विनाम् । शार्ङ्गधरः ।

of constipated habits. The bark and kernel are regarded as astringent and useful in hæmorrhages, diarrhœa and other discharges.

In diarrhœa, a decoction of the kernel is given alone or in combination with *bela* and ginger.¹ In bleeding from the nose the juice of the kernel is recommended to be snuffed. In bleeding from internal organs, a cold infusion of the barks of *Mangifera Indica*, *Eugenia Jambolana*, and *Terminalia Arjuna* is prescribed.² This infusion is also used in diarrhœa. The Bhāvaprakāsa recommends a confection made of the juice of the ripe mango sugar and aromatics, for use as a restorative tonic.

SEMECARPUS ANACARDIUM, Linn.

Sans. भल्लातक, *Bhallātaka*. अरुक्कार, *Arushkara*.

Vern. Bhelā. *Beng.* Hind.

THE acrid juice of marking nuts is a powerful vesicant and is often employed by the natives for producing fictitious marks of bruises. These can be distinguished from actual bruises caused by blows with a stick or other weapon, by their deep bluish-black colour and from their presenting small vesicles or minute blisters on their surface.

The practice of causing blisters by the application of the juice of marking nuts among the Hindus appears to have been at one time very common, for in our ancient medical works a section or paragraph is generally devoted to the treatment of ulcerations thus produced.

The ripe fruits are regarded as acrid, heating, stimulant, digestive, nervine and escharotic, and are used in dyspepsia, piles

1 बोज्ज्यम्कट्टितिसारेषु विरवाप्रास्थिभवस्तथा । शार्ङ्गधरः ।

2 आम्रजम्बू च ककुभं चूर्णीकृत्य जलेष्वपेत् । हिमं तस्य पिबेत्प्रातः स
शोङ्गं रक्तपित्तजित् । शार्ङ्गधरः ।

skin diseases, nervous debility, etc. They are prepared for internal use by being boiled with cow-dung and afterwards washed with cold water. Equal parts of marking nuts, chebulic myrobalans and sesamum seeds, are made into a confection with treacle and administered in doses of forty to sixty grains.¹

*Amrita Bhallátaki.*² Take of ripe marking nuts divided into halves, eight seers, boil them in thirty-two seers of water till the latter is reduced to one-fourth and strain. Again boil the nuts in sixteen seers of milk with the addition of four seers of clarified butter, till reduced to a thick consistence. Then add sugar two seers and set aside for seven days, when the preparation will be ready for use. It is described as a powerful restorative tonic, which increases the appetite, promotes nutrition and strength, prolongs life and so forth. It is used in hæmorrhoids and other diseases of the rectum. Dose, about one to two scruples. Another confection of marking nuts, made with the addition of a number of aromatic substances, is recommended for use in skin diseases and leprosy.

Marking nuts enter into the composition of some caustic applications for warts and piles. They form an ingredient of a liniment for rheumatic affections called *Saindhavádyatila*, for which see Ginger.

1 तिलभङ्गातकं पय्या शुद्धयेति समाधिकम् । इन्ममकासश्चासन्नं श्लो-
पागुलुञ्जरापहम् । चक्रदत्तः ।

2 अमृतभङ्गातकी । सुपक्वभङ्गातफलानि सम्यक् द्विधाविदायाङ्कवर्त्म-
नानि । त्रिपाच्यतोयेन चतुर्गुणेन चतुर्थशेषे व्यपनीयतानि । पुनः पचेत्
क्षीरचतुर्गुणेन कृतांशयुक्तेन घनं यथा स्यात् । सितो पक्वान्मोक्षशभिः पक्वैस्तु
विभिन्नसंस्थाप्यदिनानि सप्त । ततः प्रयोज्ज्वाम्निवर्णेन सात्वां जयेद्दुग्धोत्थान
खिबान् विकारान् । कषान् सुनीबान् घनकुक्षितापान् सुपर्ण्डटिं सुकुसा-
रताञ्च । जवं हयानाञ्च मातङ्गजं बलं स्वरं मयूरस्य कृताशदीप्तिम् । स्त्री-
वृद्धभवं लभते प्रजाञ्च नीरोमनद्धिगतानि वायुः । चक्रदत्तः ।

NAT. ORDER LEGUMINOSÆ.

SARACA INDICA, *Linn.**Syn. Jonesia Asoca, Roxb.**Sans. अशोक, Asoka. Vern. Asok, Hind. Beng.*

DR. ROXBURGH says, "when this tree is in full blossom I do not think, the whole vegetable kingdom affords a more beautiful object." It is famed in Hinda mythology from the circumstance of Sita the wife of Rámchandra, having been confined by Rávana in a grove of *asoka* trees. The bark is much used by native physicians in uterine affections and especially in menorrhagia. A decoction¹ of the bark in milk, is prepared by boiling eight tolás of the bark in eight tolás of milk and thirty-two tolás of water till the latter is evaporated. This quantity is given in two or three divided doses during the course of the day, in menorrhagia. A *ghrita* called *Asoka ghrita* is prepared with a decoction of the bark and clarified butter with the addition of a number of aromatic substances in the form of a paste.

GLYCYRRHIZA GLABRA, *Linn.**Sans. यशधु, Yashṭi madhu, मधुक, Madhuka.**Vern. Jashṭi madhu, Beng. Mulhatti. Hind.*

LIQUORICE root, though not indigenous to India, has been used in Hindu Medicine from a very remote period, and is mentioned by Susruta. It is described as sweet, demulcent, cooling and useful in inflammatory affections, cough, hoarseness, thirst etc. It is much used for flavouring medicinal decoctions, oils and *ghritas*. It enters into the composition of numerous external cooling applications along with red sandal wood, madder, *Andropogon muricatus*

¹ अशोकवल्कलकायश्चतुर्दशतुल्यं दुग्धं क्षीतम् । यथावत् पिबेत्प्रातःकोत्रा-
ह्नुद्रनाशनम् । चक्रदत्तः ।

etc. I have not met with any notice in Sanskrit works, of the watery extract of liquorice, sold in the bazars in the shape of black pencils, and called *Rubas sus* in Hindustani.

TRIGONELLA FÆNUM-GRÆCUM, Linn.

Sans. मेथि, *Methi.* Vern. *Methi,* Hind. Beng.

THE *Trigonella Fænum-græcum* is extensively cultivated in many parts of India. Its seeds are used as a condiment and its aromatic leaves, as a pot-herb. Fenugreek seeds are considered carminative, tonic and aphrodisiac. Several confections made with this article are described under the names of *Methi modaka*, *Svalpa methi modaka* etc., and are recommended for use in dyspepsia with loss of appetite, in the diarrhœa of puerperal women and in rheumatism. All these preparations consist of a number of aromatic substances, one part each, and fenugreek seed equal in quantity to all the other ingredients. The following is an illustration.

*Methi modaka.*¹ Take of the three myrobalans, ginger, long pepper and black pepper, tubers of *Cyperus rotundus* (*mustaka*), nigella and cumin seeds, coriander, bark of *Myrica sapida* (*katphala*), *pâtchak* root, *Rhus succedanea* (*karkatasringi*), *ajowan*, rock salt, black salt, leaves of *Pinus Webbiana* (*tâlisa*), flowers of *Mesua ferrea* (*nâgakesara*), *tejpatra*, cinnamon, cardamom, nutmegs, mace, cloves, sandal wood and camphor one part each; fenugreek seed, in quantity equal to all the above ingredients; powder them all and prepare a confection with old treacle. Dose, one to two drachms to be taken in the morning with clarified butter and honey.

¹ मेथिमोदकः । त्रिकटुलिफलासुखजोरकहृदयचान्यकम् । कट्फलं पौष्करं शङ्खो
वमानी सेम्बवं विडम् । ताक्षीय केशरं पलं त्यजेत्ता च फलं तथा । आतीक्षीयं
खण्डञ्च सुराकर्पूरचन्दनम् । यावन्त्येतानि चूर्णीनि तावदेव तु मेथिका ।
संचूय मोदकः कार्यः पुरातनगुञ्जन च । इतेन मधुनाकिञ्चित् खादेदग्निवर्धनं
प्रति । अग्निञ्च कुर्वते दीप्तं घाने मेदे महीपथम् । भैषज्यरत्नावली ।

ALHAGI MAURORUM, *Tournef.*

Sans. दुरलभा, *Duralabhá*, यवसा, *Yavása*. *Vern.* *Yavása Hind.*

THIS plant is described as laxative, diuretic and expectorant. The thorny flower-stalks or branches are supplied by druggists as the parts used in medicine. An extract obtained by evaporating a decoction of the plant is called *yásasarkará* or the sugar obtained from *yavása*. It has a sweetish bitter taste, and is used as a demulcent in the cough of children. There is no mention in Sanskrit of any saccharine exudation or manna obtained from this plant.

The fresh juice of the plant is used as a diuretic in suppression of urine. The following compound decoction¹ is recommended by Sárangadhara in constipation with suppression of urine. Take of *Alhagi Maurorum*, chebulic myrobalans, pulp of *Cassia Fistula* (*dragbadha*), fruits of *Tribulus terrestris* (*gokshura*), and root of *Coleus aromaticus* (*páshanbhid*), prepare a decoction in the usual way, and administer it with honey. The following electuary is recommended by several writers for the cough of children. Take of the extract of *yavása*, raisins, chebulic myrobalans and long pepper in equal parts, powder and mix with honey and clarified butter.²

DESMODIUM GANGETICUM, *DC.*

Syn. *Hedysarum Gangeticum.* (*Roxb.*)

Sans. सालपर्णी, *Sálaparni*. *Vern.* *Sálpáni*, *Beng.* *Sarivan*, *Hind.*

THIS little shrub is regarded as febrifuge and anti-catarrhal. It forms an ingredient of the compound decoction called *dasamula kvatha* a combination, much used in a great variety of diseases. *Dasamula* is made up of *Desmodium Gangeticum* (*sálaparni*), *Uraria lagopodioides* (*prisiniparni*), *Solanum Jacquini* (*kantakári*), *Solanum Indicum* (*vrihati*), *Tribulus terrestris* (*gokshura*), *Egle Marmelos* (*vilva*), *Calosánthes Indica* (*syondka*), *Gmelina arborea* (*gambhdri*), *Stereospermum suaveolens* (*pátalá*) and *Premna spinosa* (*ganikáriká*).

¹ इतीतको दुरलभा जतमासक गोक्षुरः । पाषाणभेदसहितः कायामासक
संयुतः । विषमेष्वप्येव सदाहेतवेहितः । चाक्षुधरः ।

² द्राक्षा सालपर्णा जम्बा पूर्व्वं सवीर्यं सर्पिणा । लीटं चासं विरज्यः
सावच्च तनकं तथा । चक्षुधरः ।

The first five in the above list, are collectively called *hrasvapancha mula* or the five minor plants, and the last five are called *vrihat pancha mula* or the five major plants. A decoction of the *hrasva pancha mula* is used in catarrhal fever, cough and other diseases supposed to be caused by deranged phlegm. The *vrihat pancha-mula* is used in fever and other diseases supposed to be caused by deranged air. The ten drugs together are used in remittent fever, puerperal fever, inflammatory affections within the chest, affections of the brain and many other diseases supposed to be caused by derangement of all the humours.¹ Another combination called *Ashṭādaśāṅga pāchana* consists of the ten drugs above mentioned, with the addition of the eight following, namely, *chiretd*, *devaddru*, ginger, tubers of *Cyperus rotundus* (*mustaka*), root of *Picrorrhiza Kurroa* (*katuki*), *indrajava* seeds, coriander, and fruits of *Pothos officinalis*. A decoction of these eighteen drugs is used in fevers of a severe type with drowsiness, delirium, picking of bed clothes, insensibility, and difficult breathing. A preparation of aconite and arsenic is generally given along with it.²

Dasamula taila. This is an oil prepared with a decoction of the ten drugs above mentioned, and is much used as a cooling application in headache and other diseases. To prepare it take of the ten drugs, in all twelve seers and a half, water sixty four seers. Boil down to sixteen seers and strain. To the strained decoction add four seers of lemon juice, four seers of prepared sesamum oil and a seer of the usual aromatics and colouring agents in the form of a paste and boil them together.

1 दशमूलम् । त्रिस्र षोडश गान्धारी पाटला मणिकारिकाः । दीपनं कफ-
वातघ्नं पित्तमृचमिदं महत् । यावत्पथीं प्रतिपथीं दहतीत्य गोक्षुरम् । वातपित्त-
हरं हृत्तं कनीयः पञ्चमूलकम् । उभयं दशमूलम् वक्षिपातज्वरपहम् । चासौ
चासिच तन्मूलायां पार्श्वमूलेषु यस्मिन् । पिप्पलीचूर्णसंयुक्तं कण्ठहृदपहृषा-
यनम् । चक्रदत्तः ।

2 पित्तघ्ने हृदरोऽटादवाहः । भूमिज्ज दाह दशमूल महीवधाद् तिलेन्द्र-
नील धनिशेभ कषाकषावः । तन्मोप्रवाप कषनाक्षि दाहभोह चायादिभुक्त-
वक्षिचं क्करनायु कृत्वि । चक्रदत्तः ।

URARIA LAGOPODIODES, *DC. Edgew. Syn. Doodia lagopodioides Roxb. Sans. वृक्षपर्वी, Prisniparni. Vern. Chákuliá, Beng. Pitvan, Hind.* This plant is an ingredient of the *dasamula* above described, and is thus much used in native medicine. It is considered alterative, tonic and anti-catarrhal, but is seldom used alone.

CLITOREA TERNATEA, *Linn.*

Sans. अपराजिता, Aparájitá, विष्णुक्रान्ता, Vishnukrántá.

Vern. Aparájitá, Beng. Aprájit, Hind.

THE root of *Clitorea ternatea* is regarded as laxative and diuretic, and is generally used in combination with other medicines of the sort in ascites, fever, etc. The following is an example of a prescription containing *aparájitá* root. Take of the roots of *aparájitá*, *Pladiera decussata* (*sankhini*), *Baliospermum montanum* (*danti*) and *Indigofera tinctoria* (*nilini*), in equal parts, rub them together into an emulsion with water and administer with cow's urine. This preparation is given in ascites and enlargements of the abdominal viscera.¹

MUCUNA PRURIENS, *DC.*

Sans. आम्रमुक्ता, A'tmaguptá. कपिकच्छु, Kapikachchhu. वानरी, Vánari.

Vern. A'lkusi, Beng. Kiwach, Hind.

THE English names Cowage or Cowitch are derived from the Hindi *Kiwach*. The plant is indigenous to India and has been used in Hindu medicine from a very ancient period. Susruta describes the seeds as a powerful aphrodisiac, and gives the following formula for their use. Take of the seeds of *Mucuna pruriens* and the fruits *Tribulus terrestris* (*gokshura*) equal parts and administer in doses of about a drachm with sugar and tepid milk.² The Bháva-

¹ मगधी वृक्षिनी हन्ती नीलिनीकच्छसंयुतम् । सर्वोदरविनाशाय गोमूत्रं
पातुमाचरेत् ॥ चक्रः ।

² कव्यं पुष्पेभुरकबोरीजं चूर्णं चयर्चरम् । भारोप्येन नरः पीत्वा पयसा
न कव्यं प्रजेत् । सुच्युतः ।

prakāsa recommends the following preparation called *Vānari vati*. Take of the seeds of *Mucuna pruriens* thirty-two tolās, boil them in four seers of cow's milk till the latter becomes thick. The seeds should now be decorticated and pounded, then fried in clarified butter and made into a confection with double their weight of sugar. The mass should then be divided into balls which should be steeped in honey. Dose, about a tolā. This preparation is said to be the best of aphrodisiacs.¹

The root of *Mucuna pruriens* is considered tonic and useful in diseases of the nervous system, such as facial paralysis, hemiplegia etc. It is generally used in combination with other medicines of its class, as for example in the compound decoction called *Māshbaldī*, for which see *Assafoetida*.

BUTEA FRONDOSA, Roxb.

Sans. पञ्चाय, *Palāsa*. किंसुका, *Kinsuka*. *Vern.* Dhāk. *Hind.*

DR. HOOKER states "that when in full flower the *Dhāk* tree is a gorgeous sight; the masses of flowers resembling sheets of flame, their bright orange red petals contrasting brilliantly against the jet black velvety calyx." These beautiful flowers were used as ear-ornaments by the ancient Hindu women and much admired by the poets. The seeds of *Butea frondosa* are said to be laxative and anthelmintic and are used, both alone and in combination with other medicines, for expelling intestinal worms. Thus the fresh juice of the seeds, or the seeds beaten to a paste are given with honey.² Śārangadhara gives the following recipe for worms.

1 वानरोवटिका । बीजानि कपिकण्डूहृत्तुव मितानि सेंदेयनके ।
प्रस्थे गोभवदुग्धे तावत् सावज्जवेत् गाक्षम् । त्वपहितानिचक्षत्वा सूक्ष्मं वस्त्रे-
नवेत्तानि । पिष्टिका वा लघुवटिकाः कृत्वा मध्ये पचेदाज्ये । द्विगुणित
मर्कटापाता वटिकाः सम्पूज्या वेप्याः ॥ वटिका वाञ्छित मध्ये मज्जनयोग्ये
विरचाः स्याव्याः ॥ पञ्चटङ्ग मितान्तास्तु प्रातः सावज्ज भक्षयेत् । ज्वरेण शीघ्र-
प्रावीयो यस्य स्यात्पतितध्वजः । सोऽपि प्राप्नोति सुरते सामर्थ्यमिति वाञ्छितम् ।
नानेन सदृशं किञ्चिद्भूयं वाञ्छितं परम् । भावप्रकाशः ।

2 पञ्चायबीजस्वरसं पिबेद्वा शीघ्रसंयुतम् । पिबेत्तद्बीजकं वा तन्नेत्रं त्रिभिर्ना-
यनम् । भावप्रकाशः ।

Take of the seeds of *Butea frondosa*, root of *Ipomœa Turpethum* (*trivrit*), seeds of *Hyoscyamus niger* (*párasika yamáni*), *kamalá* powder, *báherang* seeds and treacle, equal parts, beat them together into a paste with water and administer with butter-milk.¹

The gum of *Butea frondosa*, now used as a substitute for kino, was employed by the ancient Hindus, externally only, as for example in the following. Take of red sandal wood one part, rock salt two parts, chebulic myrobalans three parts, and the gum of *Butea frondosa* four parts, powder and mix. This powder is recommended to be applied to pterygium and opacities on the cornea.²

The alkaline ashes of this plant are used in the preparation of caustic pastes, and diuretic medicines, along with others of their class.

PHASEOLUS ROXBURGHII, W. & A. ETC.

The following varieties of leguminous pulses are mentioned by Sanskrit writers.

- मुद्गा, *Mudga*. *Phaseolus Mungo*, Linn. Vern. *Mug*, B.
 माष, *Másha*. *Phaseolus Roxburghii*, W. & A. Vern. *Urid*, H.
 मुद्गापर्णि, *Mudgaparni*. *P. trilobus*, Ait. Vern. *Mugáni*, B.
 मकुश, *Makushtha*. *P. aconitifolius*, Jacq. Vern. *Mot*, H.
 कुलत्था, *Kulattha*. *Dolichos uniflorus*, Lamark. Vern. *Kultli*, H. B.
 राजमाष, *Rájamásha*. *Vigna Sinensis*, Linn. Vern. *Barbati*, B.
 शिम्बि, *Simbi*. A common name for several species of *Dolichos*.
 चणक, *Chanaka*. *Cicer arietinum*, Linn. Vern. *But*, Beng. *Chená*, H.
 मसुर, *Masura*. *Vicia Lens*, Benth. Vern. *Masur*, H. B.
 सतिहा, *Satila*. *Pisum sativum*, Linn. Vern. *Matar*, H. B.

1 मिहत्पुष्पायोजानि पारसीकयमानिका । कस्मिन्नकं विदुक्कस्य सुखस्य
 खममानिकः । तन्नेच कस्य एतेषां पीतः क्रिमिगत्यापहः । यः कृधरः ।

2 चन्दनं सेव्यं यथा पञ्चाशतव्योचितम् । कनकद्वन्द्वं चूर्णं रुक्माद्यादि-
 विवेचनम् । चक्रदत्तः ।

आधकी, *A'dhaki. Cajanus Indicus, Sprengel. Arar, B. Tor, H.*
 त्रिपुटी, *Triputi. Lathyrus sativus, Linn. Khesári, H. B.*

मधपर्णी, *Máshaparni. Glycine labialis, Linn. Vern. Másháni, H.B.*

Some of these pulses have several varieties. For example seven sorts of *mudga* are mentioned, namely, *krishna* or black, *mahá* or large, *gaura* or pale red, *harita* or green, *pita* or yellow, *sveta* or white and *rakta* or red.

Mudga, ordinarily known as *moong ká dól*, and especially its green variety, is considered most wholesome and suited to sick persons. A soup made of this pulse is often the first article of diet prescribed after recovery from acute illness. The following varieties are also considered wholesome and suited for use by convalescent persons, namely, *masura*, *chanaka*, *kulattha* and *makushtha*. *Vicia Lens* or lentils, which take rank first among the pulses as containing the largest proportion of flesh-forming matter, are regarded by the Hindus as highly nutritive, and useful in bowel complaints. A poultice made of this pulse is an effectual domestic medicine for checking secretion of milk and reducing distension of the mammary glands. *Cicer arietinum* is perhaps the most favourite pulse with the natives, and is used as an article of diet in a great variety of ways. It is taken raw, or cooked in its green as well as ripe state. Gram is made into *dól*, is roasted and ground into meal and is prepared in many other ways.

The acid liquid exuded from the hairs of the stem and leaves of *Cicer arietinum* is called *chanakámula* in Sanskrit. It is collected by spreading a cloth over the plants during the night and rinsing the fluid absorbed by it. *Chanakámula* is described as acid, refrigerent, saltish, and useful in dyspepsia, indigestion and costiveness. It enters into the composition of some medicines for dyspepsia along with other vegetable acids.

Dolichos uniflorus is used medicinally chiefly as an external application in the shape of poultices and pastes. Its soup is said to be useful in gravel and urinary disorders.

The *Phaseolus Roxburghii* or *másha* is much used in medicine both internally and externally in paralysis, rheumatism and affections of the nervous system. It enters into the composition of

several decoctions used in these diseases. The following is an illustration. Take of the pulse of *Phaseolus Roxburghii*, root of castor oil plant, of *Mucuna pruriens* (*ātmaguptā*) and *Sida cordifolia* (*balā*), half a tolā each, and prepare a decoction in the usual way. This decoction is given with the addition of rock salt and assa-fœtida.¹ Several oils for external application in the above mentioned diseases have the pulse of *Phaseolus Roxburghii* for their basis or principal ingredient, as for example the following.

Svalpa māsha taila.² Take of the pulse of *Phaseolus Roxburghii* eight seers, water sixty-four seers, boil down to sixteen seers, and strain. Boil the strained decoction with four seers of sesamum oil, and one of rock salt till the water is evaporated. This oil is said to be useful in rheumatism, contracted knee joint, stiff shoulder joint, etc.

ABRUS PRECATORIUS, Linn.

Sans. पुञ्जा, Gunjā.

Vern. Kuch, Beng. Chirmiti, Hind.

“THIS plant is remarkable for its small egg-shaped seeds, which are of a brilliant scarlet colour with a black scar indicating the place where they were attached to the pods.” Sanskrit writers mention two varieties, namely, white and red seeded. The properties of both are said to be identical. The seeds are described as poisonous, and are used internally in affections of the nervous system and externally in skin diseases, ulcers, affections of the hair, etc. The root of the plant is described as emetic and useful in poisoning. The seeds constitute the *ratti* weight used by Hindu jewellers and druggists. Ninety-six *rattis* make one tolā or rupee.

1 माषाण्युप्तकैरण्ड वाष्पाद्यक मृतं पिबेत् । हिक्रुवेत्यवशं युक्तं पञ्चाणां
निवारणम् । चक्रदत्तः ।

2 कल्पमावर्तकम् । तैवं वक्रुचतेऽभ्यङ्गो माषवेत्यवशाभितम् । वाङ्मयी-
नते नखं पानक्षीतरमन्त्रिकम् । कायोऽत्र माषनिष्पाद्यः संज्ञकं कक्षमेव च ।
चक्रदत्तः ।

Gunjā bhadrā rasa.¹ Take of the seeds of *Abrus precatorius* six parts, mercury three parts, sulphur twelve parts, *nim* seeds, *Cannabis sativa* leaves and croton seeds, each one part. Rub them together and soak for one day in each of the following fluids, namely, lemon juice, juice of the leaves of *Cannabis sativa*, of datura leaves and of the leaves of *Solanum nigrum* (*kākamāchi*). This medicine is given in doses of about eight grains, with rock salt and assafoetida, in paraplegia. The seeds of *Abrus precatorius* reduced to a paste are recommended to be applied locally in sciatica, stiffness of the shoulder joint, paralysis and other nervous diseases.²

In white leprosy, a paste composed of *gunjā* seed and plumbago root is applied as a stimulant dressing. In alopecia a paste of *gunjā* seed is recommended to be rubbed on the bare scalp.³

Gunjādya tailam.⁴ Take of prepared sesamum oil four seers, juice of the leaves of *Wedelia calendulacea* (*bhringarāja*) sixteen seers, seeds of *Abrus precatorius* reduced to a paste, one seer, and boil them together in the usual way. This oil is used as a local application in scurf of the scalp, prurigo and other skin diseases.

1 गुग्गाभद्ररसः । निष्क त्रयं शुद्धकृतं निष्कडादय गन्धकम् । गुग्गाबीजञ्च
बलिष्वकं निस्वर्जं जयातथा । प्रलेकं निष्कमानन्तु निष्कं जैपाख्यबीजकं ।
जयाजम्ब र धुसूरकाकमाची इर्दिनम् । भावयित्वा घटीं कृत्वा दद्याद्गुग्गा-
चमुत्तमम् । गुग्गाभद्ररसो नाम हिक्कु सैन्धव संयुतः । यमवत्कुल्लवणं दुःखसह-
सम् सुदारुणम् । रसेन्द्रः पारसंपहः ।

2 तत्रप्रदेहं दद्याच्चपितं गुग्गा फलेःकृतम् । तेनावशक्तजा पीडा विपरी
वृद्धशीतया । अस्यापि वातजापीडा प्रथमंवातिवेगतः । शार्ङ्गधरः ।

3 गुग्गाफलाग्निवर्षञ्च लेपितं चेतकुष्ठमुत् । शार्ङ्गधरः ।
गुग्गाफलेचिरं लिख्येत् केयभूमिं समन्ततः । हृत्पीडनमसीं कृत्वा सुखञ्चैव
रवाञ्जनम् । शोभायनेन जायन्ते कषां पाणितलेष्वपि । यक्षदत्तः ।

4 गुग्गादि तैलम् । गुग्गाफलेः घृतं तैलं भृङ्गराजरसेन च । कण्टकुदाय
चुत् कुष्ठकपाख्यविनाशनम् । वासप्रकाशः ।

PONGAMIA GLABRA, Vent.

Sans. करञ्ज, Karanja. नक्तमाला, Nactamla.

Vern. Darkaranja, Beng. Kiramdī, Hind.

THIS tree appears to be common in, and well known all over India. The seeds are much used as an external application in skin diseases. The expressed oil of the seeds is used in these diseases as well as in rheumatism. A poultice of the leaves is applied to ulcers infested with worms. The seeds of *Pongamia glabra*, *Cassia Tora* (*chakramarda*), and the root of *Aplotaxis auriculata* (*kushtha*), are rubbed into a paste with cow's urine, and applied to eruptive skin diseases.¹

Prithisāra taila.² Take of the expressed oil of the seeds of *Pongamia glabra* one seer, *kānjika* eight tolās, roots of *Plumbago Zeylanica* (*chitraka*), *Nerium odorum* (*karavira*), *Vitex Negundo* (*nirgundi*), aconite, and the seeds of *Corchorus olitorius* (*nāḍika*), eight tolās each, in the form of a paste made with *kānjika*. Mix them together and warm in the sun. This oil is said to be useful in various sorts of skin diseases, ulcers etc.

Tiktādya ghrīta.³ Take of the leaves and fruits of *Pongamia glabra*, root of *Picrorrhiza Kurroa*, (*katuki*), wax, turmeric, liquorice root, leaves of *Trichosanthes dioica* (*patala*), *Aganosma caryophyllata* (*mālati*) and *Azadirachta Indica* (*nim*), equal parts, in all one seer. Beat them into a paste and boil with four seers of clarified butter and sixteen seers of water in the usual manner. This preparation is used as an ointment in unhealthy ulcerations and wounds.

GUILANDINA BONDUCELLA, Linn. The properties of Bonduc nuts called पूतीकरञ्ज, *Putikaranja* in Sanskrit, and *Nātāka-*

- 1 करञ्जबीजैश्चैव सङ्गुणैर्गोमूत्रविट्चैश्च वरः प्रदेहः । चक्रदत्तः ।
- 2 पूतींवारतैश्चम् । तिलकसाधनिर्गुणैश्चैव चक्रवारैश्च मूत्रतः । नाडीच-
बीजाद्विषतः काञ्जिविष्टं पचं पचम् । करञ्जतैश्चाटपचं काञ्जिकस्य पचं पुनः ।
निम्बितं सूक्ष्मचूर्णं तैश्चैव कुट्टनैश्चापि । चक्रदत्तः ।
- 3 तिक्ताश्चैव हतम् । तिक्ता विक्त्वा निम्बावली नक्तमालाकषपञ्चद्वैः । पटोच
वाचतो निम्बपल्लवैश्चैव हतं पचेत् । चक्रदत्तः ।

ranja in Bengali, are said to resemble those of the seeds of *Pongamia glabra*. Their antiperiodic virtues were not known to Sanskrit writers.

PTEROCARPUS SANTALINUS. Linn.

Sans. रक्तचन्दन, *Raktachandana*.

Vern. *Raktachandan*, Beng. *Lálchandan*, Hind.

THE *Pterocarpus Santalinus* is indigenous to the Indian Peninsula and is chiefly of importance from its yielding the red dye-wood known as red saunders, large quantities of which are annually exported from India. Sanskrit writers describe several varieties of sandal or *chandana*. Of these *srikhanda* or white, *pitachandana* or yellow, and *raktachandana* or red, sandal wood are best known. The first two varieties are founded on the difference in the shades of the colour of the wood of *Santalum album*. It has been a question however how the wood of *Pterocarpus santalinus*, which is nearly inodorous, came to be called by the name of *raktachandana* in Sanskrit and the vernaculars of India. I am inclined to think that the name is owing to the similarity in the uses to which the Hindus put both these articles. Both sandal wood and red sandal wood are rubbed on a piece of stone with water, and the emulsions are used for painting the body after bathing and in religious services.

Red sandal wood is described as an astringent tonic. It enters into the composition of numerous prescriptions of an astringent character and of cooling external applications for inflammation, headache, etc.,¹ but is seldom used alone. It is also much used as a coloring agent in the preparation of medicated oils.

The *Pterocarpus marsupium* or Indian kino tree is translated into "*peet sál*," Beng. by Roxburgh. The Sanskrit term *Pita-sála* is however a synonym of *Asana* (*Terminalia tomentosa*). I have not found any notice of the Indian kino tree in Sanskrit works. It was probably unknown to the ancients.

¹ तिक्ता; पक्वः पिता चोद्गं नैवं नमुच चन्दनम् । डेवेन योचयन् दाह
रक्तं निजोपयेद्वायम् । चन्दनम् ।

CASSIA FISTULA, Linn.

Sans. आरम्बध, A'ragbadha. सुवर्णध, Suvarnaka.

Vern. A'multás, Hind. Sondhdi, Beng.

Cassia fistula is indigenous to India and is an old medicine of the Hindu Materia Medica. "The tree is uncommonly beautiful when in flower, few surpassing it in the elegance of its numerous long pendulous racemes of large bright yellow flowers, intermixed with the young lively green foliage." Hence I believe its Sanskrit name of *Rājataru* or the king of trees. The pulp of the fruit is used as a mild cathartic. The root is also described as laxative, and useful in fever, heart diseases, retained excretions, biliousness, etc.

Aragbadhádi.¹ The compound decoction which passes by this name is a very commonly used purgative in native practice. To prepare it, take of the pulp of *Cassia fistula*, *Picrorrhiza Kurroa* (*katuki*), chebulic myrobalans, long pepper root and the tubers of *Cyperus rotundus* (*mustaka*), about sixty-four grains each, water thirty-two tolás, and boil down to eight tolás. Half of this quantity, or in strong constitutions the whole of it, is given for a dose. The root of *Cassia fistula* enters into the composition of numerous compound prescriptions.

CASSIA SOPHORA, Linn. Sans. काशमर्द, Kásamarda. Vern. Kálkásundá, Beng. Kásundá, Hind.

CASSIA TORA, Linn. Sans. चक्रमर्द, Chakramarda. Vern. Chákundia, Beng. Chakaund, Hind.

CASSIA ALATA, Linn. Sans. दद्रुघ्न, Dadrughna. Vern. Dád-mardan. Beng. and Hind.

THE leaves and seeds of these three plants are used in skin diseases, and enter into the composition of numerous prescriptions for them. *Kásamarda* signifies destroyer of cough. It is described as expectorant and useful in cough and hoarseness, but it does not appear to be much used in these diseases.

¹ आरम्बधादि। आरम्बध कषायसूत्रे कृता तिल्लामबाहताः। काशःशमयति
विमंश्वरं वातशकोत्तरम् । शार्ङ्गधरः ।

The seeds of *Cassia Sophora*, *Raphanus sativus* (*mulaka*) and sulphur, in equal parts, are rubbed into a paste with water and applied to patches of pityriasis and psoriasis.¹ The seeds of *Cassia Tora* are steeped in the milky juice of *Euphorbia neriifolia*, and afterwards rubbed into a paste with cow's urine for application to keloid tumours.² Equal parts of the seeds of *Cassia Tora* and *Pongamia glabra* (*karanja*) with a fourth part of the root of *Tinospora cordifolia* (*gulancha*) are rubbed together into a paste and applied in ringworm.³ *Dadrughna* or *Dédamardana* signifies curer of ringworm. Its leaves are used in this disease.

BAUHINIA VARIEGATA, Linn.

Sans. काञ्चनार, *Kānchandra*. कोविदार, *Kovidāra*.

Vern. *Kachnār*, Hind. *Rakta Kānchan*, Beng.

Two species of *Bauhinia*, namely purple and white flowered (*Bauhinia variegata* and *acuminata*), are noticed in the *Bhāvaprakāsa* under the names of *Kovidāra* and *Kānchandra* and the properties of both are said to be identical. The bark of *Bauhinia variegata* is described as alterative, tonic, astringent and useful in scrofula, skin diseases and ulcers.

Chakradatta recommends the bark of the red variety to be rubbed into an emulsion with rice water and administered, with the addition of ginger, in scrofulous enlargement of the glands of the neck.⁴ Sārangadhara gives the following preparation for the same affection.

1 काचनार्कबीजानि मृद्वकानां तर्पयन् । मधुपाषाणभिन्नाणि विघ्नानां
परमोपपद्म् । चक्रदत्तः ।

2 चक्राङ्गुलं कुह्लीक्षीरभाषितं मूलसंयुतम् । रवितप्तं हि किञ्चित्तु शेषमात्रं
किटिलापहम् । चक्रदत्तः ।

3 चक्रनर्कबीजानि करञ्जसर्पगन्धम् । कोकं सुदर्शनमूलं दद्रुञ्जविना-
यनम् । चक्रदत्तः ।

4 पिटा ज्वेतालुनायेनाः काञ्चनाक्षतवः शुभाः । विश्वमेवजसंयुक्ता मधु-
काञ्चावहाः पराः । चक्रदत्तः ।

Kānchāndra guggulu.¹ Take of the bark of *Bauhinia variegata*, eighty tolás, the three myrobalans sixty tolás, ginger, black pepper, long pepper and the bark of *Crataeva religiosa* (*varuna*), eight tolás each, cardamoms, cinnamon, and *tejpatra* leaves, each two tolás, powder them all and rub together with *guggulu*, equal in weight to all the other ingredients. Dose, half a tolá to be taken every morning with a decoction of *Sphaeranthus mollis* (*mundi*) or of catechu. This medicine is said to be useful in scrofulous enlargement of glands, tumours, ulcers, skin diseases, etc.

TAMARINDUS INDICA, Linn.

Sans. तिल्लिङ्गी, *Tintidi*. अम्लिका, *Amliká*.

Vern. Tentul, Beng. Imli, Hind.

THE tamarind tree is met with throughout India, and has been known from a very remote period. "From the Hindus it would seem that the fruit became known to the Arabians who called it *Tamare-hindi*:" from which last the word tamarind is derived. Tamarinds form an important ingredient in native cookery. The unripe fruit is very acid and possesses a peculiar aroma for which it is much relished when cooked with curry. The ripe fruit is regarded as refrigerant, digestive, carminative and laxative, and useful in diseases supposed to be caused by deranged bile, such as burning of the body, costiveness, intoxication from spirituous liquors or *datura*, etc. The shells of the ripe fruit are burnt, and their ashes used in medicine as an alkaline substance, along with other medicines of the sort, as for example in the preparation called *Abhayā-lavana*, (see Alkaline ashes). The pulp of the ripe fruit, as well as

1 काञ्चनारगुग्गुलु । काञ्चनारत्वचोपाद्यं पद्मानां दशकं बुधैः । त्रिफला
पट्टपत्रापाद्या त्रिकटुश्चाप्यम्लवम् । पर्यौषधस्य कार्यं एवात्यक्त्वाप्लवन्तया ।
एकैकं कर्षमात्रं स्यात्सर्वोप्येकत्र चूर्णयेत् । यावच्चूर्णमिदं सर्वं तावन्मालस्य
गुग्गुलुः । सङ्गुखसर्वमेकत्र पिष्टुं कृत्वा च धारयेत् । शुटिकाः शोचिकाः
कृत्वा प्रातर्पाद्यावचोचितम् । मल्लमात्रां जडसुपासपत्रीसर्वुदानिच । पन्थि
त्रयानिगुह्मनां च कुष्ठानिच भगन्दरम् । प्रदेवन्नाहुपानार्थं काञ्चोष्ठिचुत्तिकाभवः ।
काचः कदिरसारस्य पत्राकाञ्चोषथोष्यकम् । शार्ङ्गधरः ।

a poultice of the leaves, is recommended to be applied to inflammatory swellings.

Amliká pána.¹ Macerate some tamarind pulp in water; strain, and add black pepper, sugar, cloves, camphor and cardamoms to taste. This preparation is prescribed as an agreeable cooling draught in loss of appetite and disinclination for food. In intoxication from spirituous liquors the following mixture is recommended by Chakradatta. Take of dates, raisins, tamarind pulp, pomegranate seeds, fruits of *Grewia Asiatica* (*parushaka*) and ripe emblic myrobalans, each one tola, pound them together, and make an emulsion with thirty-two tolas of water. Dose, about two ounces.²

ACACIA CATECHU, Linn.

Sans. खदिर, *Khadira*. *Vern.* Kat, *Hind.* Khaer, *Beng.*

Khadira or catechu is obtained by boiling the wood of *Acacia catechu* in water and inspissating the decoction. The Bhāvaprakāsa mentions two varieties of catechu, namely, *khadira* or the ordinary dark brown catechu, and *kadara* or pale catechu. This last is known as *pāpri khaer*, or catechu having a laminated structure. Fluckiger and Hanbury thus describe the preparation of pale catechu in Northern India. "Instead of evaporating the decoction to the condition of an extract, the inspissation is stopped at a certain point and the liquor allowed to cool, "coagulate," and crystallize over twigs and leaves thrown into the pots for the purpose."³ Pale catechu is a porous, opaque, earthy looking substance with a laminated texture, light and easily broken.

The chief use of catechu in India, is as an ingredient of the packet of betle leaf chewed by the natives. For this purpose it is sometimes aromatized in various ways. The packets of betle

१ अम्बिकापानम् । अम्बिकायाःफलपक्वं सहितं वारिणाडम् । शर्करा
मरिचोन्मिश्रं खज्ज्रेन्दुं सुवासितं । अम्बिकाफलं सञ्छूतं पानकं वातनाशनम् ।
पित्तक्षेपकरं किञ्चित् सुख्यं वाङ्मयं पोषकं । भावप्रसङ्गः ।

२मन्त्रः खर्जूरखद्रीका हृद्यान्धान्दीकदाडिमैः । पद्मकैः शालकैर्वृक्षैः
मद्यं विकारघ्नम् । चक्रदत्तः ।

3 Pharmacographia, page 250.

leaf sold in all the Indian bazars under the name of *goldbi khili*, are prepared with catechu dissolved in rose water. Again, catechu is softened with the addition of water, and mixed with powdered spices, such as cardamoms, nutmeg, cloves, etc., the mixture is enclosed within the fragrant floral leaves of *Pandanus odoratissimus* (*ketaki*), and dried. The leaves adhere to the catechu, which is cut into small pieces suitable for use with the betle leaf.

Catechu is described as astringent, cooling, digestive, and useful in hoarseness, diseases of the mouth and gums, cough and skin diseases. In diarrhoea it is sometimes used in combination with other medicines of its class, as for example in a prescription in the Bhaisajya Ratnāvali, called *Grahani kapāta rasa*, which contains catechu along with a large number of other drugs, but it is not regarded as an important medicine for this disease.

In hoarseness, catechu rubbed with oil, is recommended to be kept in the mouth.¹ In diseases of the mouth and gums the following called *Svalpakhadira vatikā* is a favourite medicine. To prepare it, take of catechu twelve seers and a half, water sixty-four seers, boil down to eight seers, then add nutmeg, camphor, betle-nuts and *kakkola*, each half a seer in fine powder, and prepare a mass fit for being made into balls or boluses. They are directed to be kept in the mouth, in affections of the teeth, gums, palate and tongue.²

In skin diseases, catechu is much used in a variety of forms both externally and internally. A decoction of catechu is used as a wash for inflamed parts and ulcers.³ Water in which catechu is dissolved is recommended to be used as a drink, wash and bath. The following decoction called *khadirāśṭaka* is prescribed by several writers for internal use in boils, prurigo, measles and other

1 तैलकां खरभेदेना खदिरं धारयेत्तु चे । चक्रदत्तः ।

2 खल्यखदिरवठिका । खदिरस्य तुलसीं चम्वन् जलद्वये विपाचयेत् । येनेऽष्ट भागे तत्रैव प्रतिपापं प्रदाययेत् । जातीकपूरपूगानि ककौलक फलानि च । इत्ये वाखदिका काय्यां सुखदीभाज्यवर्जिनी । दन्तौष्ठरोगेषु जिह्वाताड्यामयेषु च ।

चक्रदत्तः ।

3 खदिरोक्तवान् त्रयशोधने हितः ।

चक्रदत्तः ।

skin diseases.¹ Take of catechu, the three myrobalans, *nim* bark, leaves of *Trichosanthes dioica* (*patala*), *gulancha* and *Justicia Adhatoda* (*vāsaka*), equal parts, and prepare a decoction in the usual way Śārangadhara describes a fermented liquor called *khadirāriṣṭa* for use in skin diseases. It is prepared with catechu and the wood of *Pinus Deodara*, and some other ingredients in smaller proportions.²

ACACIA ARABICA, Willd. Sans. बबूल, *Vabbula*. Vern. *Bábul*, Beng. Hind. The tender leaves beaten into a pulp, are given in diarrhoea as an astringent. A decoction of the bark is used as an astringent gargle and wash. I have not met with any notice of gum acacia in Sanskrit works.

NAT. ORDER COMBRETACEÆ.

TERMINALIA CHEBULA, Retz.

Sans. हरीतकी, *Haritaki*. अभया, *Abhayá*. पथ्या, *Pathyá*.

Vern. Har. Hind. *Haritaki*, Beng.

THE chebulic myrobalan was highly extolled by the ancient Hindus as a powerful alterative and tonic. It has received the names of *Pránadá*, or life-giver, *Sudhá* or nectar, *Bhishakpriya* or physician's favourite and so forth. So highly esteemed was this plant by the ancient Hindus, that a mythological origin has been attributed to it. It is said that when Indra was drinking nectar in heaven, a drop of the fluid fell on the earth and produced the *haritaki* plant. Seven varieties of *haritaki* are described by Sanskrit writers, the distinctions being founded upon the shape, colour and marks on the outer covering of the fruits. At the present day, however, two varieties only are recognised, namely, the large ripe fruit called *haritaki*, and the unripe dried fruit called *jangá*

¹ ग्रन्थेषु हर्षेण ज्ञानं दानं भोजनकर्माणि । शीघ्रं चार्द्रं वा रितं सर्व-
त्वमदोषनाशनम् । चक्रदत्तः ।

² खदिरारकः । खदिरं लिफखारिणं पटोकाच्छतं वासकैः । कायोऽहवाङ्गो
जयति रोमानिकमस्करिकाः । कुठविषयं स्फोटं कषहादीनपि घानतः ।

चक्रदत्तः ।

haritaki in the vernacular. A good *haritaki* fit for medicinal use should be fresh, smooth, dense, heavy and rounded in shape. Thrown into water it should sink in it. *Haritaki* fruits weighing four tolas and upwards, are also considered fit for use, although they may not possess some of the above-mentioned properties. The seeds are rejected and their coats only are used in medicine. Those fruits which have small seeds and abundant cortex are preferred.

Chebolic myrobalans are described as laxative, stomachic, tonic and alterative. They are used in fevers, cough, asthma, urinary diseases, piles, intestinal worms, chronic diarrhoea, costiveness, flatulence, vomiting, hiccup, heart diseases, enlarged spleen and liver, ascites, skin diseases, etc. In combination with emblic and belleric myrobalans, and under the name of *triphala* or the three myrobalans, they are extensively used as adjuncts to other medicines in almost all diseases.

Two or three chebolic myrobalans, rubbed into a paste and taken with a little rock salt, act as a mild laxative. The following compound decoction called *Pathyādi kvātha* is also much used as a purgative. Take of chebolic myrobalans, pulp of *Cassia fistula* (*dragbadha*), root of *Picrorrhiza Kurroa* (*katuki*), root of *Ipomoea Turpethum* (*trivrit*) and emblic myrobalans, equal parts, in all two tolas, and prepare a decoction in the usual way. Dose, two to four ounces. Bengali practitioners now a days often add senna and rhubarb to the above preparation, but these last were not known to the ancient writers, and are not mentioned in their works.¹

As an alterative tonic for promoting strength, preventing the effects of age and prolonging life, chebolic myrobalan is used in a peculiar way. One fruit is taken every morning with salt in the rainy season, with sugar in autumn, with ginger in the first half of the cold season, with long pepper in the second half, with honey in spring, and with treacle in the two hot months. These adjuncts are supposed to agree best with the humours that are liable to be

¹ पथ्यादिक्वाथः । पथ्यादिव्यञ्जितक्वा लिङ्गदायकः प्रत्येकं । पाचनकारकं च । नवजीर्णकारे वापि ।

deranged in the different seasons. This old device for prolonging life is still believed in, and acted upon, by some superstitious elderly native gentlemen.¹

Numerous preparations of *haritaki* for special diseases are described in books, such as the *Amrita haritaki* for dyspepsia, *Danti haritaki* for enlargements in the abdomen called *gulma*, *Bhrigu haritaki* in cough, *Agasti haritaki* in consumption, *Dasa muli haritaki* in anasarca, etc.

*Amrita haritaki*² is thus prepared. One hundred large sized chebulic myrobalans are boiled in butter-milk, and their seeds are taken out. Four tolás each of long pepper, black pepper, ginger, cinnamon, plumbago root, root of *Piper Chaba* (*chaviká*), the five salts, *ájowan*, and the seeds of *Seseli Indicum*, (*vanayamáni*), *yavakshára*, *sarjikákshára*, borax, assafoetida and cloves, are reduced to powder, and soaked for three days respectively in a decoction of tamarind and in lemon juice. This mixture is introduced within the seedless myrobalans, which are then exposed to the sun and dried. One of these prepared myrobalans is directed to be taken every morning for the relief of various sorts of dyspepsia and indigestion. *Danti haritaki* will be described under *Baliospermum montanum*. The other preparations of chebulic myrobalan are not much in vogue at present.

TERMINALIA BELLERICA, Roxb.

Sans. विभिक्तकी, *Vibhitaki*. *Vern.* *Baherá*, *Hind.* *Beng.*

BELLERIC myrobalans are described as astringent and laxative and useful in cough, hoarseness, eye diseases, etc. As a constituent

¹ गुह्येन मधुनाशुण्ठ्या जम्बूवाक्यपथेन वा । हे हे खादन्सदापथ्ये जीवेदहं यतं सुखी । सिन्धूलयशर्करा शुण्ठीकषामधुगुह्यैः कृतात् । सर्वादिष्वभवासेव्या रसावननुचैविद्या । चक्रदत्तः ।

² हरीतक्याः यतं पात्रं तत्रै स्निग्धं कारयेत् । वज्राहोत्रं समुद्धृत्य चक्षुषं चक्षुषटु । वनानीहमेव । लिखारं हिकु दिव्यं कर्षहर्षितं पृथक् । जम्बूवृक्षात् यतं सर्वां बुक्राण्हेनापि भावयेत् । निम्बाकषारसेनापि भावयेत् दिनत्रयम् । खादयेद्भवानेकां सर्वांजीर्षयिनायिनीम् । भैषज्यरत्नावली ।

of *triphalā* or the three myrobalans, they are used in almost all diseases. The kernel of the fruits is said to be narcotic and astringent, and is used as an external application to inflamed parts.¹

In hoarseness, belleric myrobalans, rock salt and long pepper, rubbed into a paste with butter-milk, are recommended to be used as a *liectus*.² Another prescription for sore throat and hoarseness is as follows. Belleric myrobalans are fried in clarified butter; they are then covered with a paste of wheat-flour and slightly roasted on a fire. The cortical portion of the fruits thus prepared, is recommended to be kept in the mouth for the relief of sore throat, cough and catarrh.³

TERMINALIA ARJUNA, *Bedd.*

Sans. अर्जुन, *Arjuna*. कुकुभ, *Kukubha*.

Vern. *Arjuna*, *Beng. Kahu*, *Hind.*

THE bark of this timber tree is considered tonic, astringent and cooling, and is used in heart diseases, contusions, fractures, ulcers, etc. In diseases of the heart it is used in a variety of ways. Thus a decoction of the bark with milk is given as a nourishment. The powdered bark is given with milk, treacle or water.⁴ A *ghrita* is prepared with the decoction and paste of the bark for internal use.⁵

1 विभीतककमज्जस्तु सेपोदाहृतिनाशनः । याङ्गधरः ।

2 कश्चित्कफस्य सिन्धु कषायार्थं तक्रेष्य खीटमपहरति। सरभेदं गोपयवापीतं
नामककषार्थं च । चक्रदत्तः ।

3 विभीतककफं किञ्चिद्दृतेनाभ्यज्य सेपयेत् । गोधूमपिष्टैरङ्गारैर्विपचेत्पुट-
पाकवत् । ततः पक्वं समुद्धृत्य त्वचनस्य मुषेक्षिषेत् । कावन्नाश प्रतिज्ञाया सर
मङ्गाञ्जयेत्ततः । याङ्गधरः ।

4 अर्जुनस्य त्वचाविद्धं क्षीरं योज्यं हृदामये । वितवापञ्चमूलावा वक्षवा
मधुकेन वा । हतेन दुग्धेन शुद्धाङ्गुलावा पिवन्निष्यर्थं ककुभ त्वचोमे । हृद्रोग-
जीर्णर रक्तपित्तं हत्वा भवेद्युचिरजीविनस्ते । चक्रदत्तः ।

5 अर्जुनहतम् । पार्थस्य कक्क सरसेन विद्धं यत्नं हतं सर्वं हृदामयेव ।
चक्रदत्तः ।

In fractures and contusions with extensive ecchymosis, powdered *arjuna* bark is recommended to be taken internally with milk.¹ A decoction of the bark is used as a wash in ulcers and chancres.

NAT. ORDER MYRTACEÆ.

EUGENIA JAMBOLANA, *Lam.*

Syn. Syzygium Jambolanum, W. & A.

Sans. जम्बू, Jambu. Vern. Kálajám, Beng. Jámun, Hind.

THIS tree, which yields an abundant crop of sub-acid edible fruits during the months of July and August, is common all over the country. In some places the fruits attain the size of a pigeon's egg and are of superior quality. A vinegar prepared from the juice of the ripe fruit, is an agreeable stomachic and carminative. It is also used as a diuretic in scanty or suppressed urine. A sort of spirituous liquor called *Jámbava* is described in recent Sanskrit works as prepared by distillation from the juice of the ripe fruits. The bark is astringent, and is used, alone or in combination with other medicines of its class, in the preparation of astringent decoctions, gargles and washes. The fresh juice of the bark is given with goat's milk in the diarrhoea of children.² The expressed juice of the leaves is used alone or in combination with other astringents in dysentery with bloody discharge, as for example in the following prescription. Take of the fresh juice of the leaves of *jambu*, mango and emblic myrobalan about a drachm each, and administer with goat's milk and honey.³

CARYOPHYLLUS AROMATICUS, *Linn. Sans. लवङ्ग, Lavanga.* Cloves, as might be expected, are much used in Hindu

- 1 भस्मः पित्तक्षयप्रसङ्गार्जुनस्य गोधूमसूयं सङ्गतेन वाच । चक्रदत्तः ।
- 2 विश्वशङ्कराख्य मोचान्द विद्वन्नाजं पयःशिशोः । सर्वां सरक्तां पृथ्वीं पीतं हृदयात् निराकृतः । तद्दजाक्षीरसमी जम्बुत्वयुक्त्वा रोचः । चक्रदत्तः ।
- 3 जम्बुव्याघ्रासहकीनान्तु पञ्चवानस कुङ्कुमे । संयुक्ता स्वरसं तेजासजा-
क्षोरेण बोधयेत् । तं पीवेन्मधुना युक्तं रक्तातिशारनाशनम् । भावप्रकाशः ।

Medicine, as an aromatic adjunct. They are regarded as light, cooling, stomachic, digestive and useful in thirst, vomiting, flatulence, colic, etc. An infusion of cloves is given to appease thirst.¹ The following pill, called *Chatuḥsama vati*, is commonly used in indigestion. Take of cloves, ginger, *ājowan* and rock salt, equal parts, and make into eight-grain pills.

NAT. ORDER LYTHRACEÆ.

WOODFORDIA FLORIBUNDA, *Salisb.*

Syn. Grislea tomentosa, Roxb.

Sans. धातकी, *Dhātaki*. अग्निजगह, *Agnijāla*.

Vern. Dháiphul, *Beng.* Dhái, *Hind.*

THE Sanskrit synonyms of this beautiful flowering shrub well describe some of its prominent characters. It is called *Támrapushpi* or red flowered, on account of its bright red permanent calyx, and *Guchchhapushpi* or having clusters of blossoms, on account of its numerous small flowers, which give it a gaudy appearance. From the circumstance of its being common in mountainous tracts, it has got the name of *Párvati* or hill-born.

The dried flowers of *Woodfordia floribunda* are regarded as stimulant and astringent and are much used, in combination with other astringent medicines, in bowel complaints and hæmorrhages. Two drachms of the dried flowers are given with curdled milk in dysentery, and with honey in menorrhagia.² In the dysentery of children, the following combination is recommended to be given in the form of powder or decoction with the addition of honey. Take of the flowers of *Woodfordia floribunda*, *bel* fruits, bark of *Symplocos racemosa* (*lodhra*), root of *Pavonia odorata* (*bálá*), and the fruits of *Pothos officinalis* (*gajapipul*), in equal parts, two *tolás* in all, and prepare a decoction in the usual way.³

1 पिपासादासहृत् क्लेशे चक्कस्यान्व यस्यते । चक्रः ।

2 धातक्याचाक्षमालं वा आसक्तक्यासधुद्रवम् । पाण्डुप्रदरयान्त्वर्धं ।
पिप्पेसकडु, खवारिणा । चक्रदसः ।

3 धातकीविस्त्रुभाषि वाचकं मज्जपिप्पली । एभिः कृतं द्रव्यं यीतं
मिथुनः शौद्रच्युतम् । प्रदद्याद्वर्षेण वा सर्वातीसारयान्त्व । शार्ङ्गधरः ।

The powdered flower is sprinkled over ulcers for diminishing their discharge and promoting granulation.¹

NAT. ORDER HAMAMELIDEÆ.

LIQUIDAMBAR ORIENTALE, *Miller. Sans. विडम्ब, Silhaka. Vern. Siláras, Hind.* Liquid storax is described in Sanskrit works as a product of Turkey. It is considered useful in affections of the throat, copious perspiration and skin diseases, but is chiefly used in perfuming medicinal oils.

NAT. ORDER, GRANATEÆ.

PUNICA GRANATUM, *Linn.*

Sans. दाडिमा, Dádima. Vern. A'nár, Hind.

THE pomegranate is indigenous to North Western India. The best fruits, having sweet juice and very small seeds come from Cabul. The fresh juice of the fruits is much used as an ingredient of cooling and refrigerent mixtures and of some medicines for dyspepsia. The rind of the fruit is used as an astringent in diarrhoea. In the Pharmacographia it is stated that the use of the root-bark as an anthelmintic by the Hindus attracted the notice of Buchanan at Calcutta about the year 1805. This physician pointed out the efficacy of the root-bark which was further shown by Fleming and others. I have not been able to find any notice of pomegranate root-bark in Sanskrit works.

*Dádímáshṭaka.*² Take of pomegranate rind one seer, bamboomanna two tolás, cardamom, cinnamon, *tejapátra*, and flowers of *Mesua ferrea* (*nágakesara*), each four tolás, *ájowan*, coriander, cumin seeds, long pepper root, long pepper, black pepper and ginger, each eight tolás, sugar one seer. Powder the ingredients and mix. Dose, about one drachm in chronic bowel complaints.

1 धातकीचूर्णकोध्रैव्यां तथा रोहन्ति ते व्रणाः । चक्रदत्तः ।

2 दाडिमाष्टकः । कर्णोन्मिता तु माक्षीरी चातुर्जातं द्विकार्णिकम् । बभानी धान्यकाज्जाली यन्त्रिभ्योर्न पञ्चाग्निकम् । पञ्चानि दाडिमाष्टकौ वितावाचकतः कतः । शुष्यैः कपित्थाष्टकवज्जर्षौ ऽयं दाडिमाष्टकः । चक्रदत्तः ।

NAT. ORDER CUCURBITACEÆ.

BENINCASA CERIFERA, Savi.

*Syn. Cucurbita Pepo, Roxb.**Sans. कुम्भाण्ड, Kushmāṇḍa. Vern. Kumrá, Beng. Pethá, Hind.*

THE large fruit or gourd of *Benincasa cerifera* is eaten by the natives in their curries, and is extensively cultivated all over India. It is considered tonic, nutritive and diuretic, and a specific for hæmoptysis and other hæmorrhages from internal organs. It would appear that the older Sanskrit writers were not acquainted with its peculiar action on the circulatory system by which it rapidly puts a check to hæmorrhage from the lungs. The Rája Nirghantu, the oldest work on therapeutics, gives a long account of its virtues, but does not allude to its use in phthisis or hæmoptysis. Neither does Susruta mention it in his chapters on the treatment of hæmorrhage and phthisis, though the plant is alluded to by him elsewhere. The more recent compilations, such as Chakradatta Sangraha, Sárangadhara etc. give numerous preparations of the article and detail its uses.

Khaṇḍa kushmāṇḍaka,¹ or confection of squash. In preparing this medicine, old ripe gourds are selected. Those not at least a year old, are not approved. They are longitudinally divided into two halves and the pulp scraped out in thin flakes by an iron comb or scratcher. The watery juice that oozes out abundantly during

¹ खण्डकुम्भाण्डकः । कुम्भाण्डकात्पचयतं सुखिषं निष्कुचीकृतम् । पचे सप्ते हतप्रस्ये शनेस्ताम्बमये कृते । यदा मधुनिमः पाकस्तदाखण्डयतं म्यसेत् । पिप्पली शङ्खनेराभ्यां द्वे पथे जीरकस च । तयोश्चापलमरिच चाग्निकानां पञ्चार्कम् । म्यसेन्नुचीकृतं तत्र दध्वांश्वहवेगुक्तः । तत्पक्वं स्थापयेद्भाण्डे दत्वाचौर्ध्वं हतार्कम् । तद्व्याम्बिवशं खादेद्भक्षपिप्पीलतण्डी । काशश्वास तत्र गृहीहृणाञ्ज्वरनिपीडितः । हृष्यं पुनर्नवकरं वक्षर्वर्षप्रसाधनम् । उरः सन्ध्यायन करणं हृदयं स्वरबोधनम् । अग्निभ्यां निर्मितं विडं कुम्भाण्डकरवायनम् । खण्डामककमानातुसारात्कुम्भाण्डकरवात् । पात्रं पाकाय दातव्यं वावानुवातरणो भवेत् । अत्रापि सुद्रयापाको निस्त्वचं निष्कुचीकृतम् ।

चक्रदत्तः ।

this process is preserved, the seeds being rejected. The pulp is boiled in the above mentioned juice, till softened. It is then tied up tightly in a cloth, and the fluid portion allowed to strain through it. The softened and drained pulp is dried in the sun and the watery portion preserved for future use. Fifty tolás of the prepared pulp are fried in sixteen tolás of clarified butter, and again boiled in the juice of the fruit, till reduced to the consistence of honey. To this are added fifty tolás of refined sugar, and the whole is heated over a gentle fire, till the mass assumes such a consistence as to adhere to the ladle. The pot is now removed from the fire, and the following substances, namely, long pepper and ginger, each two tolás, cumin seeds, cardamoms, cinnamon, leaves called *tejapatra*, black pepper and coriander, each half a tolá in fine powder, are added to the syrup and stirred briskly with a ladle, till the mass is cool. Eight tolás of honey are now added to the confection which is preserved in a new earthen pot. The dose of this medicine is from one to two tolás, according to the age and strength of the patient. It is useful in hæmoptysis, phthisis, marasmus, cough, asthma, ulceration of the lungs, hoarseness, etc.

Vásá kushmāṇḍa khaṇḍa.¹ Take of the root of *Justicia Adhatoda* (*vásaka*), one seer, water eight seers; boil together till reduced to one-fourth and strain. Then take of the pulp of *Benincasa cerifera*, prepared as above described, fifty tolás; fry it in thirty-two tolás of clarified butter, and boil in the decoction of *vásaka* till the whole is reduced to the consistence of honey. Add to it sugar, one hundred tolás, and apply heat till the mass thickens to the proper consistence. Remove from the fire, add the following substances in fine powder, namely, tubers of *Cyperus rotundus*, (*mustaka*), dried emblic myrobalan, bamboo manna, root of *Clerodendron Siphonanthus* (*brahmayasti*), a fragrant substance called

¹ वासाखण्डकुष्माण्डकः । पञ्चायत्तपत्रं सिद्धं कुष्माण्डात्प्रत्यभाज्यतः ।
पात्रं पचयन् खण्डं वासाकाखादके पचेत् । सुताभाली शुभाभाली लिङ्ग-
ज्यैव कार्ष्णिजैः । ऐसेव विन्धधन्वाकमरिचैश्च पत्रांशिकैः । पिप्पलीतुलवङ्गैश्च मधु-
माली प्रदापयेत् । काशं खाशं ज्वरं हिक्कां रक्तपित्तं हृत्सीमकम् । कुश्लोग-
नर्हपित्तञ्च पीनसञ्च व्यपोहति ।

चक्रदत्तः ।

elabáluka, cinnamon, cardamom, *tejapatra*, each quarter of a tola, ginger, coriander, and black pepper each one tola, long pepper, four tolas, stir well till the confection cools, and lastly add eight tolas of honey. This preparation is used in cough, asthma, phthisis, hæmoptysis, heart disease, and catarrh.

In insanity, epilepsy and other nervous diseases, the fresh juice of the squash is given either with sugar or as an adjunct to other medicines for these diseases. A *ghrita* for use in these diseases is also prepared as follows.

Kushmándaka ghrita.¹ Take of the juice of *Benincasa cerifera* eighteen seers, clarified butter, one seer, liquorice root beaten into a paste with water, quarter of a seer. Boil them together and prepare a *ghrita* in the usual way. Dose, one to two tolas.

TRICHOSANTHES DIOICA, Roxb.

Sans. पटोल, *Paṭola*. *Vern.* Palwal, *Hind.*

THE *Trichosanthes dioica* is extensively cultivated as an article of food in Bengal. The unripe fruits are much used by the natives as a culinary vegetable and are considered very wholesome and especially suited for the convalescent. In fact they constitute one of the most palatable vegetables grown in this country. The tender tops are also used as a pot-herb and are regarded as tonic and vermifuge.

The leaves, fresh juice of the fruits and the root are all used medicinally. The leaves are described as a good, light and agreeable bitter tonic. The fresh juice of the unripe fruit is often used as a cooling and laxative adjunct to some alterative medicines such as the preparation called *Rasa sindura*, etc. The bulbous root is called *Ramyaka* in Sanskrit and is classified amongst purgatives by Susruta.

In bilious fever, a decoction of *paṭola* leaves and coriander, in equal parts, is given as a febrifuge and laxative.² The leaves

1 कुशमंडकघृतम् । कुशमंडकरवे चपिरसाद्वसुधे पथेत् । चपराक्ष-
कञ्चं तत्पाननपञ्चारविनाशनम् । पथदत्तः ।

2 दीपनं कफविघ्नेहि वातपित्ताहृद्योपनम् उवरत्नं पाचर्विभेदि श्मत् पान्थ-
पटोलजीः । पथदत्तः ।

enter into the composition of several compound decoctions for fever. The following called *Paṭolādi kvātha* is an illustration. Take of *paṭola* leaves, red sandal wood, root of *Sansevieria Zeylanica* (*murvā*), *Picrorrhiza Kurroa* (*katuki*), *Stephania hernandifolia* (*pāthā*) and *gulanča*, each one drachm, water half a seer, boil together till reduced to one-fourth.¹

Paṭola enters into the composition of several compound decoctions for boils and other skin diseases for which it is considered a very efficacious remedy. The following is an illustration. Take of *paṭola* leaves, *gulanča*, *mustaka*, *chiretā*, *nim* bark, catechu, root-bark of *Justicia Adhatoda* (*vāsaka*), and *Oldenlandia herbacea* (*parpaṭa*), equal parts, in all two tolās, and prepare a decoction in the usual way. This decoction is regarded as a valuable alterative, tonic and febrifuge.²

The root is used in combination with *Ipomœa Turpethum* and other adjuncts as a drastic purgative in jaundice, anasarca and ascites. The following called *Paṭolādyā churna* is an illustration. Take of the root of *Trichosanthes dioica* (*paṭola*), turmeric, *bāberang* seeds, *kamālā* powder, and the three myrobalans, two tolās each, cinnamon, and the root of the indigo plant, three tolās each, *Ipomœa Turpethum* (*trivrit*) four tolās ; powder the ingredients finely and mix. Dose, about one drachm with cow's urine. After the use of this medicine, light food only (such as gruel) should be taken.³

१ पटोलं चन्दनं मूवीं तिक्ता पाठामृता मधः। पित्तक्षेप्याश्चिर्वाहं ज्वर-
क्षयकृषिवापहः । चक्रदत्तः ।

२ पटोलाद्यतभूमिष्व वासकारितपप्यर्पटैः । खदिराद्भुतैः क्षाको विरक्तोटा-
र्तिज्वरापहः । चक्रदत्तः ।

३ पटोलाद्यं चूर्णम् । पटोलाद्यै रजनी विडङ्गं लिफलातचम् । कम्पिचूर्णं
नीलिनीञ्च लिहताश्चेति चूर्णयेत् । मडाद्यान् कार्पिकामन्ताङ्गीचहिलिचट्टर्षु-
चान् । कृत्वाचूर्णं ततोऽष्टाङ्गं गन्धमूलैश्चनापिनेत् । विरक्तोलाङ्गुलरवेभुञ्जीतस्यदु-
षोदनम् । मण्डपेवाञ्च पीत्वाच सव्योषं मण्डपं पयः । हतं पिबेत् तच्चूर्णं
पिबेदेवं पुनः पुनः । हन्तिषर्जोदरान्धेतच्चूर्णं जातोदकान्वपि । कामर्षी पाण्डु-
रोगञ्च श्वश्रुश्चापकर्षति । चक्रदत्तः ।

The fresh juice of the leaves of *Trichosanthes dioica* is recommended by several writers, to be applied to the bald patches of alopecia.¹

CUCUMIS MELO, Linn.

Syn. Cucumis utilissimus, Roxb.

Sans. कर्कटी, *Karkatī*. *Vern. Kānkur, Beng. Kákri, Hind.*

THE seeds of this useful species of *Cucumis* are described as cooling, edible, nutritive and diuretic, and are used in painful micturition and suppression of urine. Two drachms of the seeds rubbed into a pulp with water, are given alone or in combination with salt and *kānjika*.²

The seeds of *Cucumis sativa*, (*Sans.* लड्डु, *Trapusha*. *Vern. Khird, Hind.*) and of *Benincasa cerifera* (*Sans.* Kushmāṇḍa.) are also used as diuretics like those of *Cucumis utilissimus*.³

COCCINIA INDICA, W. & A. *Syn. Momordica monodelpha, Roxb.* *Sans.* विम्ब, *Vimba*, *Vern. Telākuchā, Beng.* The expressed juice of the thick tap-root of this plant is used by the leading native Kavirājas of Calcutta, as an adjunct to the metallic preparations prescribed by them in diabetes. I have not found this use of the plant noticed in any written work, but I know several patients who have taken the juice of the root along with *Vangesvara* or *Somanātha rasa* and who were benefitted by the use of these remedies. I am inclined to think that the juice of the root of this plant probably acts beneficially in some way. It is very desirable that its therapeutic action should be tested. The expressed juice is directed to be taken in doses of one tola along with a pill, every morning.

1 रवसिद्धपटोकस्य पत्राणां तद्विषेपनात् । इन्द्रप्रोषणद्वयेषोऽपि मधुना दृढी-
रवः । भावप्रकाशः ।

2 कस्तुरीमूत्रादीनां विजागन्धनात् सवेद्यवत् । धान्यान्तुल्यं पीत्येव लघु-
तादिक्रियते । चक्रदत्तः ।

3 कुसुमाण्डस्य मूत्राणि विजाणि लघुवत् च । कसौषण्वादेत् तेन
प्रवायेन्मूत्रं निषङ्गः । भावप्रकाशः ।

CITRULLUS COLOCYNTHIS, *Schröd.*

Syn. Cucumis Colocynthis, Linn.

Sans. इन्द्रवाहनी, Indravāhni. Vern. Indráyan. Hind.

INDIAN colocynth is common on the lower slopes of the Western Himalaya and also on the plains of the drier parts of India. It is procurable in the bazars of the North-West Provinces under the name of *indrāyan*. The pulp of the fruit is described as bitter, acrid, cathartic, and useful in biliousness, constipation, fever and worms. The root of the plant is considered cathartic and useful in jaundice, ascites, enlargements of the abdominal viscera, urinary diseases, rheumatism, etc.

*Jvaragñi guṭikā.*¹ Take of mercury one part ; sulphur, colocynth pulp, cardamoms, long pepper, chebulic myrobalan, and pellitory root, each four parts. Rub these ingredients with the juice of *indravāhni* root and make into pills weighing about twenty grains each. These pills are administered with the fresh juice of *gulanča* in recent fever. They move the bowels and reduce the fever.

An oil prepared from the seeds of Indian colocynth, is used for blackening grey hairs. A poultice of the root is said to be useful in inflammation of the breasts.²

NAT. ORDER UMBELLIFERÆ.

The following aromatic fruits belonging to this natural order, are noticed by Sanskrit writers and are used in medicine or as condiments by the natives.

यमानी, *Yamāni. Ptychotis A'jowan,* DC. Vern. A'jowan Hind.*

वनयमानी, *Vanayamāni. Seseli Indicum, W. & A. Vern. Banjoān, B.*

¹ ज्वरघ्नोष्ठिका। भोजनैः क्षात्रवाह्युद्वाह्योऽपि विषयधीयिषा। ककार-
करभोजनः कटुतैवेनयोचितः। यमानीचेन्द्रवाहनीचतुर्भाजितायनी। एक-
मनदेवैश्चैमिन्द्रवाह्यधिकारैः। यमानीयतावटीकृत्वा दद्यात्तुल्यज्वरैर्भिन्नम्।
क्षिप्रारवाहपानेनज्वरघ्नोष्ठिकायता। वाक्पथः।

² इन्द्रवाह्यधिकारीजतैवेनाम्लमाचरेत्। प्रत्यङ्मनेन काह्याम्लवर्षिषा-
नुमावाहम्। वाक्पथः।

* Now included in the genus *Carum* by Hooker and Benth.

अजमोदा, *Ajamodá. Carum Roxburghianum, Benth. Vern. A'jmad, Hind. Rándhuni, Beng.*

जीरक, *Jiraka. Cuminum Cyminum, Linn. Vern. Jird, Beng.*

सुशवि, *Sushavi. Carum Carui, Linn. Vern. Shid jird, Hind.*

मधुरिका, *Madhuriká. Fœniculum vulgare, Gærtn. Mauri, Beng. Sonf, Hind.*

मिसेवा, *Misreyá. Anethum Sowa,* Roxb. Vern. Sulphá, B. Sowá, H.*

धन्याक, *Dhanyáka. Coriandrum sativum, Linn. Vern. Dhanid, H.*

PTYCHOTIS AJOWAN. The seeds of *Ptychotis Ajowan* have an aromatic smell and warm pungent taste. They are used for culinary purposes, as spices along with betel nuts and pan leaves, and as a carminative medicine. A tea spoonful of *ajowan* with a little rock salt, is a common domestic remedy for indigestion from irregular diet. The following compound powder is used in cases of colic or pain in the bowels. Take of *ajowan*, rock salt, *sonchal* salt, *yavakshára*, assafoetida, and chebulic myrobalan, equal parts; powder the ingredients and mix. Dose, grains ten to twenty, to be taken with wine.¹ *A'jowan*, taken daily with treacle, is said to cure urticaria within a week.² *A'jowan*, as well as the seeds of *Seseli Indicum (vanajamóni)*, are much used as aromatic adjuncts in compound prescriptions.

CARUM ROXBURGHIANUM. The seeds of *Carum Roxburghianum (ajamodá)* are an essential ingredient of native cookery, They are said to be useful in hiccup, vomiting and pain in the region of the bladder. They enter into the composition of several carminative and stimulant preparations, such as the *Ajamodádi churna* (see *Argyreia speciosa*), etc.

CUMINUM OYMINUM. Cumin seeds form an ingredient of some curry powders and pickles used by the natives. They are regarded as stomachic, carminative, astringent and useful

1 वनानी हिङ्गु बिम्बूल चार शीतल जाभडा:। सरागण्डेन पातव्या
सुखचन्द्र निवारका:। चक्रदत्त:।

2 वसुधं दीपकं वसु चादेत् पचग्रास भुङ्क्ते। तस्य नक्षति वप्ताहादुदरं:
वर्षदेहज:। चक्रदत्त:।

* *Anethum* is reduced by Drs. Hooker and Benthams to *Pseudanethum*.

in dyspepsia, diarrhoea, etc. A confection of cumin seeds is prepared as follows :

Jirakādi modaka. Take of the three myrobalans, tubers of *Cyperus rotundus* (*mustaka*), watery extract of *gulancha*, prepared talc, flowers of *Mesua ferrea* (*nāgakesara*), leaves called *tejapatra*, cinnamon, cardamoms, cloves, coriander, ginger, long pepper, *Oldenlandia herbacea* (*parpati*), root of *Andropogon muricatum* (*usira*), *Pavonia odorata* (*bāld*), and *Plumbago Zeylanica* (*chitraka*), each one part, cumin seed, nineteen parts or equal in weight to all the other ingredients; powder them all and mix. Add two parts of sugar to one of the powder and make into a confection with honey and clarified butter. Dose, one drachm. This medicine is prescribed in chronic diarrhoea and dyspepsia with loss of appetite.

*Jirakādyā taila.*¹ Take of powdered cumin seeds, eight tolās, minium or red lead, four tolās, prepared mustard oil three seers, water twelve seers, boil them together in the usual way for the preparation of medicinal oils. This oil is used in eczema.

A poultice made of cumin seeds, with the addition of honey, salt and clarified butter, is recommended to be applied to scorpion bites.²

FENICULUM VULGARE. Fennel seeds are largely used as a condiment. In medicine they are chiefly used as an aromatic adjunct to other articles. Distilled fennel water is prepared and sold in India, under the name of *A'rak bādian*, and is used as a domestic carminative.

CARUM CARUI. The fruits called *shid jirā* in the vernacular, do not appear to differ from European caraway. The plant grows wild largely in the "high alpine region of Lahul in the Western Himalaya," but is rare in the plains. The fruits contain a volatile oil and are used as a carminative like cumin seeds.

¹ जीरकाद्यं तैलम् । जीरकस्य पञ्च पिष्टं सिन्दुराद्यपञ्चं तथा । कटुतैलं पचेदाभ्यां सर्वपापान्हरं परम् ।
भावप्रकाशः ।

² जीरकस्य जतः कसूको हतसंख्यव संयुतः । सुखोष्णो मधुनासेपो उच्यते विषं हरेत् ।
भावप्रकाशः ।

CORIANDRUM SATIVUM. Coriander is largely used by the natives as a condiment and along with betel nuts and *pán* leaves. It is described as carminative, refrigerent, diuretic, tonic and aphrodisiac. A cold infusion of coriander is given with sugar for the relief of internal heat and thirst.¹ A decoction of coriander and ginger is given in dyspepsia and indigestion. Coriander enters into the composition of numerous cooling and carminative medicines. The fresh leaves of the plant are pungent and aromatic. They are used for preparing a sauce or *cháṭni*, in the same way as the leaves of spearmint (*pudíná*).²

FERULA ASSAFŒTIDA, Linn.

Sans. हिङ्गु, *Hingu.* *Vern.* Hing, *Beng.* Hind.

SANSKRIT writers describe assafoetida as an exudation from the root of the assafoetida plant which is indigenous to Persia, Khorasan and Multan.* Assafoetida is regarded as a stimulant and carminative and is much used in dyspepsia, flatulence, colic, and diseases of the nervous system. It is fried before being used internally. Raw or unfried assafoetida is said to cause vomiting.

*Hingvashṭaka churna.*³ Take of fried assafoetida, ginger, long pepper, black pepper, *djowan*, cumin seeds, nigella seeds and rock salt, equal parts; reduce them to powder and mix. Dose, ten to twenty grains, to be taken with the first morsel of rice and clarified butter taken at breakfast. Thus administered, it is said to increase the appetite and digestive powers and to cure flatulence. Some writers recommend the above powder to be made into pills with lemon juice.

1 प्रातः स्वर्चरः पेक्षोहिमोधन्याकसन्नाहः । अन्नहीनं तथाहृत्पातं
जवेच्छोतोविषोषनः । मासप्रकाशः ।

2 घान्नानगर सिद्धन्तु तोषं दद्याद्विचक्षणः । आमाजीर्ण दीपनं प्रथमं
वसिषोषनम् । चक्र दत्तः ।

3 हिङ्गुवट्ठं चूर्णम् । त्रिकटुक मज्जोदा सैन्धवं जीरके द्वे समधरच
हृत्तानामट्ठोहिङ्गुभागः । प्रथमं क्वचुभुक्तं सर्पिषा चूर्णेनेतज्जनयति जठ-
राग्निं वातरोगांश्च हन्नात् । भैषज्य रत्नावली ।

* Not now found at Multan, G. K.

In the flatulence of infants a powder composed of assafoetida, rock salt, cardamoms, ginger, and the root of *Clerodendron Siphonanthus* (*bhārgi*), in equal parts, is prescribed by several writers.¹ In flatulent colic with costiveness, a suppository made of assafoetida, rock salt and honey, and smeared over with clarified butter, is introduced into the rectum.²

In hemiplegia, stiff-neck, facial palsy, sciatica and other diseases of the nervous system, fried assafoetida is given along with a compound decoction called *Māshabālādi*, (see *Phaseolus Roxburghii*). A bit of warm assafoetida, placed in the cavity of a carious tooth, is said to relieve pain.³

HYDROCOTYLE ASIATICA, Linn. Sans. मण्डुकपर्ण, *Manḍukaparni*. Vern. Thalkuri, Beng. Brāhmamanḍuki, Hind. The properties of this plant are said to resemble those of *Brāhmi* (*Herpestes Monniera*), both being regarded as alterative, tonic, and useful in diseases of the skin, nervous system and blood. The fresh juice of the leaves is given with milk and liquorice powder, as an alterative tonic.⁴

NAT. ORDER RUBIACEÆ.

OLDENLANDIA HERBACEA, DC.

Syn. *Oldenlandia biflora*, Roxb.

Sans. पंचद, *Parpaṭa*. Vern. *Khetprāṭ*. Beng. .

THE *Oldenlandia herbacea* is a "small, weak, straggling delicate plant, appearing in the rainy season" in fields and low ground

- 1 इतेन विष्णुविचैवा हिङ्गुभागीरजोविङ्गु । आनाकुं वातिकं मृदं
जवेत्तोयेन वा विद्युः । चक्रदत्तः ।
- 2 हिङ्गुनातिव विष्णुः पञ्चावर्त्तिं सुनिर्मिताम् । इताभ्यङ्गां हृदेदद्याद्-
दावर्त्तं विनाशनीम् । चक्रदत्तः ।
- 3 हिङ्गुसोष्णान् मतिमान् क्रिमिहन्ते दापयेत् । चक्रदत्तः ।
- 4 मण्डुकपपर्णाः खरवः प्रबोध्यः क्षीरेण वटीमधुकलं मूर्धम् । रवो
पुष्पास्तु समूहप्रभाः चक्रः प्रबोध्यः ससुसंक्षुप्तप्रभाः । आतुः प्रदान्वातव-
नाशनाति मेध्या विधेयेषु मण्डुप्रभो । चक्रदत्तः ।

on the banks of water courses. The entire plant is used in medicine, and is regarded as a valuable bitter tonic and febrifuge. It enters into the composition of numerous prescriptions for fever, diarrhoea, skin diseases, etc. A simple decoction of the plant is used in bilious fever, with irritability of the stomach or delirium.¹ *Parpaṭa* enters into the composition of numerous febrifuge and tonic decoctions. The following is an example.

Panchabhadra.² Take of *parpaṭa*, tubers of *Cyperus rotundus* (*mustaka*), *gulancka*, *chireta* and ginger, equal parts, in all two tolas, and prepare a decoction in the usual way. This preparation is much used in fever supposed to be caused by deranged air and bile, that is, remittent fever with gastric irritability, nervousness, etc.

RANDIA DUMETORUM, Linn.

Sans. नदन, Madana. Vern. Mayin, Hind.

THE *Randia dumetorum* is a small thorny tree common in waste places. The fruit when ripe, looks like a small apple, and has a peculiar sweetish, sickly smell. It is described by Sanskrit writers, as the best or safest of emetics. In fact the ancient Hindus depended chiefly upon this drug for causing emesis. One ripe fruit is generally administered for this purpose. It is also used in combination with other medicines, as for example in the following prescription.

Pancha kashāya.³ Take of *Justicia Adhatoda* (*vśaka*), *Acorus Calamus* (*vachā*), *nim* bark, leaves of *Trichosanthes dioica* (*paṭola*), and bark of *Aglaiia Roxburghiana* (*priyangu*), equal parts, half

1 एकः पर्यटकैः त्रेषुः पित्तज्वरविनाशनः । किंशुकवर्षद्विबुद्धैश्च चन्दनो
शोरवाचकैः । दर्पणः ।

2 पण्डिताम्बाकृताविचकिरातैः वाधितं जलम् । दक्षमद्रुमिदं त्रैवं पातपित्त
ज्वरापहम् । चार्कधरः ।

3 दक्षकनाभः । आठद्वयं दक्षानिलं दटोचं कश्चिनीलचम् । कायविला-
पिनेत्रोचं वाभिहृन्मदनाम्बितम् । कायद्रुमस्य कुडवं अपविला जवाटके ।
चतुर्धाभाविष्टम् वनेभ्यश्चारेत् । चक्रद्वयः ।

a seer in all, water eight seers; boil them together till reduced to one-fourth. This decoction is given with the addition of the pulp of *Randia dumetorum* for causing emesis.

RUBIA CORDIFOLIA, Linn.

Syn. Rubia Manjistā, Roxb.

Sans. मंजिष्ठा, Manjishthā, Vern. Manjit, Beng. Hind.

Indian madder, well known as a red dye, is used in medicine chiefly as a colouring agent. All medicated oils are first prepared for use by being boiled with madder. It is regarded as astringent and useful in external inflammations, ulcers and skin diseases. Madder and liquorice root, rubbed into a paste with *kánjika*, is applied over fractures, to reduce inflammation and swelling. Madder rubbed with honey, is recommended by several writers to be applied to brown spots on the face (*pityriasis versicolor*).¹

Manjishthādyā ghrita,² is prepared with clarified butter and a paste composed of equal parts of madder, red sandal wood, and the root of *Sansevieria Zeylanica* (*murvā*), and applied to ulcers from burns.

PÆDERIA FÆTIDA, Linn.

Sans. प्रसारणी, Prasārani.

Vern. Gandhabhāduli, Beng. Gandhāli, Hind.

The Pæderia fætida is a long climbing plant, twining up and over trees. All parts of the plant give off a most offensive odour when bruised. The leaves, boiled and made into soup, are considered wholesome and suitable for the sick and convalescent. The entire plant including stem, leaves and root, is much used both internally and externally in rheumatic affections for which it is regarded as a specific.

Prasārani leha, or electuary of *Pæderia fætida*. Take of the leaves, root and stem of *Pæderia fætida*, two seers, water, thirty-

1 काष्ठेपनार्थं मंजिष्ठा मधुकं वाष्पयैजितम् । चक्रदत्तः ।

2 मंजिष्ठा च दत्तम् । मंजिष्ठा चन्दनं मूर्ध्नि पिष्ट्वा सर्पिर्विपाचयेत् । चक्रदत्तः ।
मन्निदग्धानामेतद्गोपचमिष्यते ।

two seers, boil till reduced to one-fourth. To the strained decoction add, two seers of treacle, and again boil till reduced to the consistence of a thick syrup. Lastly add powdered ginger, long pepper, black pepper, plumbago root and the root of *Piper Chaba* (*chaviká*), equal parts, in all half a seer. Dose, about one tola in acute rheumatism.¹

Several oils or liniments for external application are prepared with this plant. The following, called *Kubja prasārani taila*,² is argely used by native physicians. Take of the entire plant of *Pæderia fetida* eight hundred tolás, boil in sixty-four seers of water till reduced to sixteen seers, and strain. To the strained decoction, add sesamum oil, sixteen seers, milk, thirty-two seers, whey and fermented paddy water (*kánjika*), each sixteen seers, and the following substances, namely, root of *Pæderia fetida*, plumbago root, long pepper root, liquorice, rock salt, *Acorus Calamus* root, dill seeds, bark of *Cedrus Deodara*, root of *Vanda Roxburghii* (*rásná*), *Scindapsus officinalis* (*gajapippali*), *jaṭmánsi* root and marking nuts, each two tolás in the form of a paste. First boil the oil with the decoction of *Pæderia fetida* till the water is nearly evaporated, then boil the oil successively with the addition of milk, whey and *kánjika*, adding the aromatic paste during the last process of boiling. This oil is used externally in rheumatism with contraction and stiffness of the joints. After the application of the oil, the affected parts should be fomented with dry heat.

1 प्रसारणीलेहः । प्रसारण्यदले काये प्रस्यो शुद्धरघोमतः । पक्कः
बद्धोमचरमः यच्च स्वादानवातहाः । भावप्रकाशः ।

2 कुब्जप्रसारणी तैलम् । प्रसारणीयतं सुखं पचेत्तोवाय्यं नेमुमे । पादघट्टे-
शनं तैलं दधिदद्यात्प्रकारिणम् । द्विशुचश्च पयोदत्ता चत्तान् द्विपत्रिका-
स्तथा । चित्तकं पिप्पलीमूलं मधुकं सैन्धवं वचाम् । यतपुष्पां देवदाहं राक्षसं
वारणपिप्पलीम् । प्रसारण्यदन् नूतानि मांघी मञ्जातकानि च । पचेन्मृद्वग्नि-
नातैलं वातहो ह्यामवान् उपमेह । अशितिं नरनारीस्थान् वातरोगानप्योहति ।
कुब्जं क्षमितपक्वत्वं मृद्वणीचकारिणम् । हृत्पुष्टिरोपीनास्तन्मं वापि-
नियच्छति । चक्रदत्तः ।

NAT. ORDER VALERIANACEÆ.

NARDOSTACHYS JATAMANSI, DC.

Syn. Valeriana Jatamansi, Jones.

Sans. जटामांसी, Jāṭāmāṃsi. Vern. Jāṭāmāṃsi, Beng. Báluckar, Hind.

THE *Nardostachys Jatamansi* is a native of the mountains of Northern India and has been used in Hindu medicine from a very ancient period. The fragrant root is considered a nervine tonic, and is much used as an aromatic adjunct in the preparation of medicinal oils and *ghritas*. It does not appear however to have been used internally except as an ingredient of complex prescriptions. In the Pharmacopœia of India it is stated that *jāṭāmāṃsi* enters into the composition of a nostrum highly recommended in the treatment of epilepsy by Susruta. I do not find in Susruta's work any prescription for epilepsy, containing *jāṭāmāṃsi*, except the following, in which however it can hardly be said to be an active ingredient. Take of the pulse of *Phaseolus Roxburghii* (*kulattha*), barley, jujube fruit, seeds of *Crotolaria juncea* (*sana*), bdellium, *jāṭāmāṃsi* root, the ten drugs collectively called *dasamula* (see *Desmodium gangeticum*), and chebulic myrobalan, equal parts ; and prepare a decoction in the usual way. This decoction is recommended to be administered with the addition of clarified butter and goat's urine.¹

NAT. ORDER COMPOSITÆ.

SAUSSUREA AURICULATA, Bth. et Hf.

Syn. Aplotaxis auriculata, DC.

Sans. कुष्ठ, Kushṭha. Vern. Kur, Páchak. Hind. Beng.

THE *Aplotaxis auriculata* is a native of the mountains around Cashmere, and has been used in Hindu medicine from an early age. Its root is described as aromatic, stimulant and useful in cough, asthma, fever, dyspepsia and skin diseases. It enters also into the composition of some pastiles for fumigation.

¹ कुष्ठस्य श्वकोष्ठानि श्वकोष्ठं पञ्चद्वयम् । जटिमां पञ्चमूल्यौ द्वे पञ्चा
श्वोक्ताश्च यज्ञतः । वसन्मूलयुतं सर्पिः पिबेत्तदातिके हितम् । सुश्रुतः ।

Agnimukha churna.¹ Take of assafoetida, one part, *Acorus Calamus* (*vachá*) two parts, long pepper, three parts, ginger, four parts, *ajowan* five parts, chebulic myrobalan, six parts, plumbago root, seven parts, and the root of *Aplotaxis auriculata*, eight parts. Powder the ingredients, mix and pass the powder through a cloth. Dose, twenty to forty grains with whey or wine in dyspepsia with loss of appetite.

A liniment composed of the root of *Aplotaxis auriculata*, *kánjika* and castor oil is recommended by several writers to be applied to the o rehead in cephalalgia.² The fried root, mixed with mustard oil, is applied to the scalp in porrigo. Equal parts of the powdered root and of rock salt, mixed with mustard oil and fermented paddy water (*kánjika*), are rubbed on joints affected with chronic disease.³

WEDELIA CALENDULACEA, Less.

Syn. *Verbesina calendulacea*, Roxb.

Sans. अङ्गराज, *Bhringarāja*. केशराज, *Kesarāja*.

Vern. *Kesarāja*, Beng. *Bhánrá*, Hind.

THERE is some confusion between the Sanskrit and vernacular names of *Wedelia calendulacea*, and *Eclipta prostrata*. Both these plants are called *kesarāj* or *kesurā* in Bengali, and the two Sanskrit names of *bhringarāja* and *kesarāja* are used as synonyms. The Hindustani term *bhángrá*, derived from the Sanskrit *bhringarāja* is however generally applied to *Wedelia calendulacea*, and this is the plant used in medicine at present. The leaves, which have a slight camphoraceous taste, are considered tonic, alterative,

१ अग्निमुखा चूर्णम् । हिक्कु भानोभवेदेकोवचा च द्विगुणाभवेत् । पिप्पली त्रिगुणाचेन शङ्खवेरं चतुर्थं चम् । वनानिका पञ्चगुणा षडगुणा च हरीतकी । चित्तकं सप्त गुचितं कूटञ्जाष्टगुणं नवेत् । एतद्वातहरं चूर्णं पीतनालं प्रयत्नवा ।
चूचनम्लिष्टकं नाम न क्वचित्प्रतिबुध्यते । चक्रदत्तः ।

२ कुठमेरुपुटैरेण वेपात्काञ्जिक पेयितम् । विरोतिं वातजां हन्यात्पुष्पं वा तुचकुन्दजम् ।
शाकं धरः ।

३ कुठमेरुवयोः कश्चकुट्टैश्च समन्वितः । कुण्डोष्णो नर्हने वीज्यः सद्यो मृचनिवारकः ।
भावप्रकाशः ।

and useful in cough, cephalalgia, skin diseases and alopecia. The juice of the leaves is much used as a snuff in cephalalgia, and in soaking various sorts of powders for the preparation of pills.¹ "In tattooing the natives after puncturing the skin, rub the juicy green leaves of *Eclipta prostrata* over the part; which gives the desired indelible colour, namely a deep bluish black." The leaves of both these plants are used in various ways for the purpose of dyeing grey hair and for promoting the growth of hair.

*Jātiphalādyā churna.*² Take of nutmeg, *babering* seeds, plum-bago root, flowers of *Tabernæmontana coronaria* (*tagara*), sesamum seeds, leaves of *Pinus Webbiana* (*tālisa*), red sandal wood, ginger, cloves, cumin seeds, camphor, chebulic and emblic myrobalans, black pepper, long pepper, bamboo-manna, cinnamon, cardamom, *tejapatra*, and the flowers of *Mesua ferrea* (*nāgakesara*), each two *tolās*, powdered leaves of *Wedelia calendulacea*, fifty six *tolās*, sugar, in quantity equal to all the above ingredients. Powder and mix. Dose, about a drachm. This preparation is said to be useful in phthisis, cough and catarrh.

*Shadbindu taila.*³ Take of sesamum oil, four seers, goat's, milk four seers, juice of *bhringarāja* leaves, sixteen seers and prepare an oil with a paste composed of the following substances, namely, root of castor oil plant, and of *Tabernæmontana coronaria* (*tagara*), dill seeds, *Cœlogyne ovalis* (*jivanti*), *Vanda Roxburghii* (*rāsna*), rock salt, *Wedelia calendulacea* (*bhringarāja*), *babering* seeds

¹ भङ्गराजरसः आगीशीर द्रव्योऽर्जतापितः । स्रग्धोवर्त्तं निहन्त्यायु
नखेनैव प्रयोगराट् । भावप्रकाशः ।

² जातीफलदायं चूर्णम् । जातीफलं विहङ्गानि चित्तकं तगरंतिहाः ।
तालीषं चन्दनं गुण्ठी खवङ्गमुपकुक्षिका । कर्पूरचामया घाली भरिचं
पिप्पली द्रुमा । एषा त्वक्षसमा भागसाप्तर्जातक संयुताः । पञ्चानि सप्त
वङ्गावाःसिता सर्व्वसमा मता । चूर्णेनेतत् क्षयं काचं शालश्च पङ्कषीगदम् ।
अरोचकं प्रतिह्लायं तथाचानल मन्दताम् । एतान् रोगान् निहन्त्येव द्रव्यं
सिन्धुशनिर्व्वया । भावप्रकाशः ।

³ बह्निन्दुतैलम् । एकदण्डभूतं तगरं यताङ्गा जीवन्ति राक्ष्सा बह्वैश्वर्यम् ।
भङ्गं विहङ्गं मधुवटिकाञ्च विह्वीवधं मध्वतिथस्य तैलम् । आञ्जपदसोऽवनि

liquorice root, and ginger, in all one seer. Six drops of this oil, drawn in through the nostrils, are said to relieve headache and other affections of the head.

Bhringarāja taila.¹ Take of sesamum oil four seers, juice of *bhringarāja* leaves, sixteen seers, iron rust, the three myrobalans and the root of *Ichnocarpus frutescens* (*syāmalatā*), reduced to a paste, in all one seer, and prepare an oil in the usual way. This oil is said to remove scurf from the head, turn grey hairs black, and cure alopecia.

The fresh juice of the leaves of *Eclipta prostrata*, is rubbed on the shaven scalp for the purpose of promoting the growth of hair.

VERNONIA ANTHELMINTICA, Willd.

Syn. Serratula anthelmintica, Roxb.

Sans. सोमराजी, *Somarāji*. अवलगुज, *Avalguja*. वाकुची, *Vākuchi*.

Vern. Hákuch, Somrāj, Beng. Bákchi, Hind.

The seeds of *Vernonia anthelmintica* are of great repute in Sanskrit Materia Medica as a medicine for white leprosy (*leucoderma*), and other skin diseases. It is mentioned also as an anthelmintic, but is not much used as such, except in combination with a number of other medicines.

In chronic skin diseases the seeds are taken alone or in combination with other medicines. In the severer forms of skin diseases, such as psoriasis and lepra, the medicine is recommended to be continued daily for one year, when a complete cure is said to be effected. The following combination is used in these cases. Take of *vākuchi* seeds, and black sesamum, equal parts; powder and mix. Dose, about a drachm to be taken in the morning, with

अतिसृज्य चतुर्गुणे अङ्गरसे विपक्वम् । मण्डूनिन्द्वोनासिकयाविधेयाः शीघ्रं निह-
न्तुःशिरसोविकारान् । मधुतांश्च केयांचलितान्श्च दन्तान् दुर्बलमूलांश्च हृदी-
करोति । सुपथ्येहृदिप्रतिमञ्च चतुर्वाङ्मोर्लक्षञ्चाभ्यधिकं ददाति । चतुर्दशः ।

¹ अङ्गाराज तैलम् । अङ्गाराजरसेनैव सोहृदिहृदिप्रतिमञ्चम् । वादिवाच
पथेत्कस्यैकैश्च दारुचनानामम् । अन्तासपक्षितं मण्डूनिन्द्रुमञ्च नाशयेत् ।

याङ्गधरः ।

tepid water. The medicine should be taken after perspiration has been induced by exercise or exposure to the sun. The diet should consist of milk and rice. In leucoderma a decoction of emblic myrobalan and catechu is given with the addition of powdered *vákuchi* seeds.¹

Externally it is used in skin diseases in a variety of forms such as paste, oil, etc. The following combination is said to be very useful in eruptions attended with itching. Take of *vákuchi* seeds, seeds of *Cassia Sophora* (*kásamarda*) and *Cassia Tora* (*chakramarda*), turmeric and common sea salt, equal parts; rub them together into a paste with whey and fermented paddy water (*kánjika*), and apply over the eruptions.² *Vákuchi* seeds four parts, and orpiment one part are rubbed into an emulsion with cow's urine, and applied to the patches of white leprosy or leucoderma.³

Somaráji taila. Take of *vákuchi* seeds, twelve seers and a half, water sixty four seers, and boil down to sixteen seers. Take of the seeds of *Cassia Tora* (*chakramarda*) twelve seers and a half, water sixty four seers and boil down to sixteen seers. Boil these two decoctions with sixteen seers of cow's urine, sixteen seers of mustard oil and the following substances in the form of a paste, namely root of *Plumbago rosea* (*raktachitráka*), of *Gloriosa superba* (*lánguli*), ginger, turmeric, *pátechak* root, seeds of *Pongamia glabra* (*karanja*), root *Clitoria ternatea* (*aparájitá*), of *Nerium odorum* (*karavira*) and of *Calotropis gigantea* (*arka*), bark of *Alstonia scholaris* (*saptaparni*), wood of *Acacia catechu* (*khadira*), of *symplocos*

1 अवधुगुजाहीजकर्मं पीत्वाकोष्णेन वारिषा । भोजनं सर्पिषाकार्यं सर्वं
कुष्ठप्रचायनम् । तोत्रेण कुष्ठेन परीतदेहो वः सोमराजीं निवनेन चादेत् ।
संवत्सरं कल्पतिस्त्रिदशोवां स सोमराजीं वधुनातिवेते । सर्वसिरीकदुष्येन वारिषा
वागुली पिबेत् । चक्रदत्तः ।

2 अवधुगुजं कासनहं चक्रमहं निवाधुतम् । नाचिमन्त्रेण दृष्ट्यां वसु-
काञ्जिकपेधितम् । कक्षुं कक्षुं जवत्तुपां सिद्धएवमवोमराद् । चक्रदत्तः ।

3 कुष्ठवोऽवधुगुजवौजाहरिताव चतुर्वर्णानसंमिश्रः । मूत्रेण नवां पितः
सर्वचक्रवः परः चित्ते । चक्रदत्तः ।

Racemasa (ladhra), black pepper, *nim* leaves, leaves of *Cassia Sophora (kásamarda)*, juice of cow-dung, orpiment and realgar, each eight tolas. This oil is said to cure all sorts of skin diseases from vitiated blood, ringworm, prurigo, etc.¹

ANACYCLUS PYRETHRUM, DC. Pellitory root was unknown to the ancient Hindus. In later compilations as *Sáragadhara* and the *Bhávaprakáśa* it is occasionally mentioned under the name of *Akarákarava*, and is used as an ingredient of compound prescriptions, as for example in the *Akarádi churna* described under opium.

ENHYDRA HELONCHA, DC. *Syn. Hingtsha repent, Roxb. Sans. हिलमोचिका, Hilamochiká. Vern. Hingchá, Beng. Harhuch, Hind.* The leaves of this water plant are eaten by the natives as a vegetable. Being somewhat bitter they are regarded as wholesome and invigorating. Medicinally they are described as laxative and useful in diseases of the skin and nervous system. The fresh juice of the leaves, in doses of about a tola is, prescribed by some Kavirajas in Calcutta, as an adjunct to tonic metallic medicines given in neuralgia and other nervous diseases.

NAT. ORDER PLUMBAGINACEÆ.

PLUMBAGO ZEYLANICA, Linn.

Sans. चित्रक, Chitraka. Vern. Chitá, Beng. Hind.

THE root of *Plumbago Zeylanica* is said to increase the digestive power, to promote the appetite and to be useful in dyspepsia, piles, anasarca, diarrhœa, skin diseases, etc. It is much used as a stimulant adjunct to other preparations, in the form of a com-

१ इहृद्वोनराजी तेवम् । वोनराजी हृदाकाचे इहृद्वत् तथैव च ।
 विषचेक्षुषिचैर्नामैः कटुतैकादकं भिन्नम् । चित्रकं चाकृषी बोधुं नामरं कुड-
 मेव च । हरिद्रा मल्लनाचक्षु हरिताकं वनःविद्या । आकृषीता करवीरश्च
 वपुष्यार्चं नोनर्चं । खट्विं निम्बपत्रश्च गरिचं कावचमर्दम् । नीमूलकादकं
 इत्या वनेर्ध्वनिनापचेत् । इति हर्षानि कुशानि कष्टु दुष्टप्रधानानि । चिट्टिचं
 इहृजातश्च नाम वैवर्चं नाचनं । राठीवहारचंपकः ।

bination called *trimada* consisting of plumbago root, *báberang* seeds and the tubers of *Cyperus rotundus* (*mustaka*).

It enters into the composition of numerous medicines for dyspepsia. The following is an illustration. Take of plumbago root, rock salt, chebulic myrobalan, and long pepper, equal parts; powder and mix. Dose, about forty grains.¹ A favourite medicine for flatulence is an old prescription of Susruta called *Shaddharana yoga*. It is a powder composed of equal parts of the following substances, namely, plumbago root, *indrayava* seeds, root of *Stephania hernandifolia* (*páthá*), of *Picrorrhiza Kurroa* (*katuki*), *átis*, and chebulic myrobalan. Dose, about a drachm.²

The root of *Plumbago Zeylanica* is said to exercise a beneficial effect on piles, in which disease it is given in various combinations. One mode of administering it, is as follows. An earthen jar or pot is lined in its interior with a paste of the root, and curdled milk (*dadhi*) or *kánjika* is prepared in this pot, and taken by persons affected with hæmorrhoids, and prurigo.

Plumbago root reduced to a paste is applied to abscesses with the object of opening them. It enters also into the composition of several preparations used as caustics. The following is an illustration. Take of plumbago root, root of *Baliospermum montanum* (*danti*), the milky juice of *Euphorbia neriifolia* (*snuhi*), and of *Calotropis procera* or *Hamiltonii* (*arka*), marking nut, sulphate of iron, treacle and rock salt, equal parts; mix them together and make into a paste.³

PLUMBAGO ROSEA, Linn. Sans. रक्तचित्रक, *Raktachitraka*. Vern. *Lálohita*, Beng. The properties of the root of *Plumbago rosea* are said to be like those of *P. Zeylanica*. It has besides a specific

१ विन्मूलपत्राभगधोक्तवक्त्रिचूर्णसुख्यान्नुनापिबति वः ककुनटवक्त्रिः । तस्या
निवेष्ट सङ्गतेन वरं नवाङ्गभञ्जीमवत्यमितमात्रमिहक्षयेन । चक्रदत्तः ।

२ चित्रकेन्द्रवाः पाठा कटुकातिविषाभवाः । मङ्गाभ्याधिप्रश्नमनोवोगः
वद्धरचः शृतः ॥ चक्रदत्तः ।

३ दन्ती चित्रकमूलस्य सुषार्कं पयसीयुङ्क्ते । मङ्गातकचकाशीयं सैन्धवंदारवे
शृतः । चक्रधरः ।

action on the uterus.* The root of *Plumbago rosea* taken internally will expel the foetus from the womb, whether dead or alive.¹ This root is a more powerful vesicant than that of *P. Zelanica*, and enters into the composition of caustic pastes, and stimulant and rubefacient applications.

NAT. ORDER MYRSINACEÆ.

EMBELIA RIBES, *Burm.*

Sans. विडङ्ग, *Vidanga.* *Vern.* Báberang, *Hind.*

SUSRUTA describes the seeds of *Embelia Ribes* as anthelmintic, alterative and tonic and recommends their use along with liquorice root for the purpose of strengthening the body and preventing the effects of age. Later writers regard báberang as carminative stomachic, anthelmintic and useful in intestinal worms, dyspepsia, and skin diseases.

For expelling intestinal worms, the powder of the seeds is given in drachm doses with honey, or with an infusion of the seeds. A compound powder and a *ghrita* are also prepared by the addition of various other drugs.²

* It is generally known that the scraped root of *Plumbago rosea* is introduced into the mouth of the womb, for the purpose of procuring abortion. The root is sometimes put to another use, a knowledge of which is likely to be of importance in a medico-legal point of view. Many years ago I had under my treatment a married female, who had accidental abortion and copious hæmorrhage after it. On the third day after the accident, she was brought to hospital, suffering from severe pain in the pelvic region, purulent discharge and high fever. On examination I found a piece of the *lálchitrá* root, with a little rag wrapped round it, projecting into the vagina from the cervix uteri. I was told that a midwife had introduced it into the womb with the object of checking hæmorrhage after the abortion. If this woman had been a widow and had died from the effects of the abortion, and if on examination of the dead body, the root of the *lálchitrá* had been found in the position mentioned above, the inevitable conclusion would have been, that it was introduced for the purpose of procuring abortion.

¹ मरोमदनदङ्गमूलं चिरञ्जयपिण्ठं मृतममृतं वा निपातयति ॥

चक्रदत्तः ।

² विडङ्गं मृतपाणीयं विडङ्गेनावबधितम् । पीतं क्षमिह्वरं दध्
क्षमिजां च नदाञ्जयेत् । विडङ्गाविडङ्गमूलं वा मधुना क्षमिजायनम् ॥

भावप्रकाशः ।

Báberang enters into the composition of several applications for ringworm and other skin diseases. The following is an example. Take of *báberang*, rock salt, chebulic myrobalan, *bakuchi*, mustard, turmeric and the seeds of *Pongamia glabra* (*karanja*), equal parts and make them into a thin paste with cow's urine.¹

NAT. ORDER SAPOTACEÆ.

BASSIA LATIFOLIA, Roxb.

Sans. मधुक *Madhuka*. *Vern.* Maud, *Beng.* Hind.

THE flowers of *Bassia latifolia* yield a distilled spirit which is described by Susruta as heating, astringent, tonic and appetizing. The flowers are regarded as cooling, tonic and nutritive. They enter into the composition of several mixtures of a cooling and demulcent character. The following is an example. Take of the flowers of *Bassia latifolia*, bark of *Gmelina arborea* (*gambhári*), red sandal wood, root of *Andropogon muricatum* (*ushira*), coriander and raisins, equal parts, and prepare an infusion in the usual way. This infusion is given with the addition of sugar for the relief of thirst, burning of the body and giddiness.²

The seeds of *Bassia latifolia* yield by expression a thick concrete oil which is used in lamps, and by the poorer classes, for culinary purposes. This oil called *madhuka sára* in Sanskrit, is recommended to be applied to the head in cephalalgia.³

MIMUSOPS ELENGI, Linn.

Sans. वकुल *Vakula*. *Vern.* Maulsarau, *Hind.*

THIS ornamental tree is generally reared in gardens for the sake of its fragrant flowers from which a distilled water is prepared. The ripe fruits are sweetish and edible. The unripe

1 विद्वक् सैन्धव शिवा मन्त्रिरेवा सर्वप करह्वरजनीभिः। नोजहपिलोकेपः
कुडहरोदिवनाचसक्तः । चक्रदत्तः ।

2 मधुकपुष्पगन्धारी चन्दनोदीरधान्यकेः। द्राक्षावाच कृतः काण्टः शीतः-
वर्कवावृतः ॥ तस्यापितहरः प्रोक्तोदाहृत्पूजायमानुजयेत् । शार्ङ्गचरः ।

3 मधुकवारीचविरः क्षिप्तश्चास्य विरेचयेत् ॥ चक्रदत्तः ।

fruits are astringent and are recommended to be chewed for the purpose of fixing loose teeth.¹ The bark is described as astringent. A decoction of the bark is used as a gargle in diseases of the gums and teeth.²

NAT. ORDER STYRACEÆ.

SYMPLOCOS RACEMOSA, Roxb.

Sans. लोध्र, *Lodhra*. तिळक, *Tillaka*. *Vern.* *Lodh*, *Beng.* *Hind*.

THE bark of this tree, used in dyeing red, is considered cooling, astringent and useful in bowel complaints, eye diseases, ulcers, etc. It enters into the composition of numerous prescriptions for bowel complaints, along with *bela*, and *kurchi* bark. A decoction of the wood is used as a gargle for giving firmness to spongy and bleeding gums.³ In bleeding from the gums, a paste composed of *lodhra* bark, *rasot*, tubers of *Cyperus rotundus* (*mustaka*) and honey, is applied to the gums.⁴ The *Amritasāgara* recommends the following application for ophthalmia. Take of *lodhra* bark, liquorice root, burnt alum and *rasot*, equal parts, and rub into a paste with water. This is applied round the eyes.

NAT. ORDER JASMINACEÆ.

NYCTANTHES ARBOR TRISTIS, Linn.

Sans. सेफालिका, *Sephālikā*. राजनीहावा, *Rajanihāśā*.

Vern. *Siuli*, *Beng.* *Harsingdr*, *Hind*.

THIS plant is cultivated in gardens for the sake of its flowers. These open at sunset, and before morning strew the ground thick-

1 चण्डनं स्त्रिकरं कायं बहुवर्षम् । चण्डनः ।

2 दन्तार्थे नमू मोवकुलत्तु कतोहितः । चण्डनः ।

3 निहोदकवायेन तथैवामकक वा । प्रवाहयेत् छत्रं नेत्रे कल्पवी-
तोदयेन वा । निहोकां छत्रमोवकुल मोवकां व्यङ्गयेव । रत्नपित्तकान्
रोमान् वदयव विवायेत् ॥ छत्रतः ।

4 शेषिरे सुतरावे चोप्रवृत्तरवाञ्जने । वहीरैः वसते सेपोनकूने
चौरिचोहिताः ॥ चण्डनः ।

ly with their fallen corollas. Native women and children collect them and, separating the orange coloured tubes from the white petals, dry them in the sun and preserve them for dyeing their clothes a beautiful buff or orange colour.

The leaves are used in medicine. They are regarded as useful in fever and rheumatism. The fresh juice of the leaves is given with honey in chronic fever.¹ Some preparation of iron is also generally given along with it. A decoction of the leaves prepared over a gentle fire is recommended by several writers as a specific for obstinate sciatica.²

JASMINUM GRANDIFLORUM, Linn.

Sans. जाती, Jāti. *Vern.* Chámeli, Hind.

The fragrant flowers of *Jasminum grandiflorum* are used for preparing a scented oil, which is considered cooling, and is much used by the richer natives for anointing their bodies before bathing. The leaves of this plant are used medicinally in skin diseases, ulcers in the mouth, otorrhœa, etc. and enter into the composition of numerous prescriptions for these diseases.

The fresh juice of the leaves is applied to soft corns between the toes.³ In ulcerations or eruptions in the mucous membrane of the mouth, the leaves are recommended to be chewed.⁴ An oil prepared with the juice of the leaves is poured into the ear in otorrhœa.⁵

JASMINUM SAMBAC, Willd. *Sans.* बार्बिकी, Vārshiki. *Vern.* Bel, Beng. Hind. The properties of this plant are said to resemble those of *Jasminum grandiflorum*.

- | | |
|---|--------------|
| 1 मधुना सर्वज्वरतृष्णैफादीदृक्जोरघः । | चक्रदत्तः । |
| 2 शेफालिकादलैः काष्ठो बृहन्निपरिवाधितः । दुर्म्भारं ब्रध्नीरोगं पीत-
मात्रं ससुहरेत् । | चक्रदत्तः । |
| 3 जातीपत्रञ्च संमर्द्य दद्यादक्षयके भिषक् ॥ | चक्रदत्तः । |
| 4 सुखपाके विरानेधः यिरः कावविरेचनम् । काव्यञ्च बलुधापितं
जातीपत्रञ्च चर्म्ब्यम् ॥ | भावप्रकाशः । |
| 5 जातिपत्ररसे तैलं विपक्वं पूतिकर्षयित् ॥ | चक्रदत्तः । |

NAT. ORDER APOCYNÆ.

NERIUM ODORUM, *Solander*.

Sans. करवीर, *Karavira*. अश्वमारक, *Asvamāraka*.

Vern. Karabi, *Beng.* Kaner, *Hind.*

Two varieties of *Karavira* are described in the *Bhāvaprakāsa*, namely, white and red flowered. The properties of both are identical, their roots being regarded as poisonous when taken internally and useful in skin diseases and inflammatory affections. The *Nerium odorum* has several synonyms in Sanskrit signifying horse-killer. It would seem from this, that the poisonous roots were used for destroying horses.

Karavirādyā taila.¹ Take of sesamum oil four seers, decoction of the root of *Nerium odorum*, eight seers, cow's urine, eight seers, *Plumbago rosea* root and *bāberang* seeds, each half a seer, in the form of a paste; boil them together and prepare an oil in the usual way. This oil is used in eczema, impetigo and other skin diseases.

The root of *Nerium odorum* beaten into a paste with water is recommended to be applied to chancres and ulcers on the penis.² The fresh juice of the young leaves is poured into the eyes in ophthalmia with copious lachrymation.³

ALSTONIA SCHOLARIS, *R.Br.*

Sans. सप्तपर्ण, *Saptaparna*. विशालत्वक्, *Viśālatvak*.

Vern. Chlātīn, *Beng.* Chhātīn, *Hind.*

The bark of *Alstonia scholaris* is very thick and spongy, hence the tree has received the names of *Viśālatvak*, *Vrihattvak*,

1 करवीराद्यं तैलम् । श्वेतकरवीररसोगोमूलं चित्तकं विडङ्गञ्च । कुष्ठेन
तैलयोगः सिद्धोयं सप्ततोभिषजाम् । चक्रदत्तः ।

2 करवीरसूक्ष्मेन परिपिष्टेन वारिणा । अवाध्यापिप्रजम्बतं सिद्धोत्था-
वक्त्रक्षेपनात् । याज्ञिकधरः ।

3 करवीरतद्वक्षसिषड्वक्त्रेदोद्भव बहुलसहितसंपूर्णम् । नयनदुग्धं भवति
इदं वक्त्रक्षेपनत्वात् कुपितम् । चक्रदत्तः ।

etc. It is described as tonic, alterative and useful in fever and skin diseases. Susruta gives the following formula for use in catarrhal fever. Take of the bark of *Alstonia scholaris*, *gulanchar*, *nim* bark and the bark of *Betula Bhajpatra*, equal parts, in all two tolás and prepare a decoction in the usual way.¹ It enters into the composition of several formulæ for skin diseases. The following is an illustration.

Amritáshṭaka páchana. Take of the bark of *Alstonia scholaris*, *gulanchar*, leaves of *Justicia Adhatoda* (*vásaka*) and *Trichosanthes dioica* (*paṭola*), tubers of *Cyperus rotundus* (*mustaka*), *Calamus Rotang* (*vetra*), catechu and *nim* leaves, and prepare a decoction in the usual way.

HOLARRHENA ANTIDYSENTERICA, *R. Br.*

Sans. कुटज, *Kuṭaja*, काशिक, *Kálinga*.

Vern. *Kurchi*, *Beng.* *Kureyá*, *Kaureyá*, *Hind.*

The bark of *Holarrhena antidysenterica* constitutes the principal medicine for dysentery in the Hindu Pharmacopœia. Before the discovery of the efficacy of ipecacuana in this disease, many chronic cases which did not get well under European medical treatment, used to be cured by the Kavirajes, by their preparations of this bark. The seeds called *Indrayava* in Sanskrit and *Indrajav* in the vernacular, are also used in medicine, they being regarded as astringent, febrifuge and useful in fever, dysentery, diarrhœa, and intestinal worms.

The bark of *Holarrhena antidysenterica* is administered in a variety of ways. The expressed juice of the bark is given with honey.² A fluid extract of the bark is given with the addition of ginger and *dtis*.³ A compound decoction called *Kuṭajáshṭaka* is

¹ सप्त चदं शुद्धीकृतं निम्बकूटं कमेव च । काशिकित्वा पिनेत्काशं
सर्वाङ्गं कफजे चरे । सुचुतः ।

² सूक्ष्मवल्गुलिकापल रसः पानाद्वापोद्धति । सर्वातिवारान्मूलानाककुट-
जत्वपरोचना । वाक्चरः ।

³ कुटजत्वक्तः काशो बनीभूतः सुशीतलः । बोद्धितोऽतिविषादुक्तः
सर्वातिवारहृद्भवेत् । चक्रवर्तः

thus prepared. Take of *kuṭaja* bark, *ātis*, root of *Stephania hernandifolia* (*pāthā*), flowers of *Woodfordia floribunda* (*dhātaki*), bark of *Symplocos racemosa* (*lodhra*), root of *Pavonia odorata* (*bāld*), rind of pomegranate fruit, and the tubers of *Cyperus rotundus* (*mustaka*), quarter tola each, water thirty two tolas; boil together till reduced to one-fourth.¹

*Kuṭajaleha*² or confection of *kuṭaja* bark. Take of *kuṭaja* bark twelve seers and a half, water sixty-four seers; boil down to sixteen seers and strain. Boil the strained decoction till reduced to a thick consistence, then add *sonchal* salt, *yavakshāra*, vit salt, rock salt, long pepper, flowers of *Woodfordia floribunda* (*dhātaki*), *indrayava* seeds and cumin seeds, each sixteen tolas, in fine powder, and prepare a confection. Dose, about a drachm with honey in chronic and acute dysentery.

Pāthādya churna.³ Take of the root of *Stephania hernandifolia*, fruit of *Egle Marmelos* (*vilva*), plumbago root, long pepper, black pepper, ginger, bark of *Eugenia Jambolana*, rind of pomegranate fruit, flowers of *Woodfordia floribunda* (*dhātaki*), root of *Picrorrhiza Kurroa* (*kaṭuki*), *ātis*, tubers of *Cyperus rotundus* (*mustaka*), wood of *Berberis Asiatica* (*dārvi*), *chiretā*, seeds of *Holarrhena antidy-senterica* (*indrayava*), one part each, *kuṭaja* bark, equal in weight

¹ कुटजातिवना पाठा धातकी कोष्ठ सुखवेः । स्त्रीवेर दाडिमवृत्तेः जतः
काचः वसाविचः । मेघोभोन्नरवेनैव कुटजाद्वर्षप्रसक्तः । अतीवारात् जवेदाह
रक्तमुत्तमानुसारात् ।

याक्कं धरः ।

कुटजवेहः । यतं कुटजमूखसुखं तोयान्निवेष्टयेत् । काये वादायमेवे-
ज्जित् वेहं दृष्टे हनः पचेत् । शीतञ्च ववन्नर विद्वर्धन्य विप्रपत्नी । धात-
कीन्मृगवाजाजी चूर्णं दत्तापचद्वयम् । विद्याहदरनामं तत् शीतं चोद्रेचसंयु-
तम् । वसावक्कनतीवरां नानावर्णं ववेदम् । दुर्गारं पक्ष्मीरोमं जवेद्वैव-
प्रवाहिकाम् ।

चक्रदत्तः ।

² पाठाद्यं चूर्णम्; पाठा विस्मान्न ज्योष जम्बूदाडिमधातकी। कुटजाति-
विपाद्यस्य दावीं भूमिन्मृगवाजैः । चूर्णैरेतैः यत् चूर्णं कौटनं तृणुवाज्या ।
वसोद्वयं विवेच्यहिंसातिवारानुचयान् । तद्दाहयक्ष्मीदोगारोचसाव-
चसादजित् ।

चक्र दत्तः ।

to all the above ingredients ; powder them finely and mix. Dose, about one to two scruples to be taken with rice-water and honey. Another compound powder called *Gangādhara churna*, is of similar composition to the above, with a few additional substances.

Kuṭajārishṭa,¹ or fermented liquor of *kuṭaja*. Take of *kuṭaja* root-bark, twelve seers and a half, raisins, six seers and a quarter, flowers of *Bassia latifolia* (*madhuka*), and bark of *Gmelina arborea* (*gambhāri*), eighty tolās each ; boil them together in two hundred and fifty-six seers of water, till reduced to sixty-four seers, and strain. Then add flowers of *Woodfordia floribunda* (*dhātaki*), two seers and a half, treacle twelve seers and a half, and let the mixture ferment for a month, after which it will be ready for use. Dose, one to three ounces.

An oil for external application called *Grahanimihira taila* is prepared with sesasum oil, decoction of *kuṭaja* bark and a number of astringent and aromatic substances in small quantities.

Pradarātri lauha.² Take of *kuṭaja* bark, twelve seers and a half and prepare a fluid extract as in the preparation called *kuṭa-jaleha*, above described. Then add the following substances in fine powder, namely, gum of *Bombax Malabaricum* (*mocharasa*), Indian madder, root of *Stephania hernandifolia*, (*pāṭhā*), *bela* fruit, tubers of *Cyperus rotundus* (*mustaka*), flowers of *Woodfordia floribunda* (*dhātaki*), *ātis*, prepared talc and iron, each eight tolās, mix them

1 कुटजारिष्टः। कुटजकूटजमूत्रस्य कटोकाईद्वयानाम्। चक्षुष्यप्रयोजनार्थं
मृगान्दपत्राद्यैस्तान्। चक्षुष्यैः श्लेष्मसः पक्षाघातवेत्तु शोथयेति। पातक्या
विशतिपत्रं शुद्धस्य च दध्ने क्षिपेत्। मासमात्रं स्थितोभास्ये कुटजारिष्टं चक्षुः।
ज्वरान्प्रशमयेत्यर्थं कुबोत्तौ चक्षुः। चार्द्धधरः।

2 प्रदरारिष्टौ। चक्षुष्यकूटजस्य सम्यक् कटोकाये विपाचयेत्। अष्टमाना-
वधिदन्तु कषायमवतारयेत्। चक्षुष्यते यमीभूते द्रव्यानीमानि दापयेत्।
समकृशाब्जं पाठा विलं सप्तधातकी। अतिविषा दद्या व्योमं
कौहं प्रलेकन्तुपत्रं पत्रं। कोबमात्रं प्रयुज्जित कुबलं प्रयोक्तु। चेतंरत्नं
तत्तानीं पीतं प्रदरदुःखं। कुबन्तुं कटीन्तुं देहन्तुं चक्षुष्यं। प्रदरारिष्टं
कौहोद्विगोमान् शुद्धरान्। आहः पुष्टिकरं च चक्षुष्यं श्लेष्मार्जनः।

मैत्रकारणावली।

intimately and prepare a confection. Dose, about a drachm. This preparation is given in menorrhagia and other discharges from the uterus.

The seeds of *Holarrhena antidysenterica* enter into the composition of a good many prescriptions for fever, bowel complaints, piles, intestinal worms, etc. The following are a few illustrations. Take of *indrayava* seeds and the tubers of *Cyperus rotundus* (*mustaka*), each four tolas, rub them into a paste with water and boil in one seer of water, till the latter is reduced to one-fourth. This boiled emulsion is given in doses of about a half to one ounce with honey.¹

Laghu gangādhara churna.² Take of *indrayava* seeds, tubers of *Cyperus rotundus*, (*mustaka*), *bela* fruit, bark of *Symplocos racemosa* (*lodhra*), gum of *Bombax Malabaricum* (*mocharasa*), and flowers of *Woodfordia floribunda* (*dhātaki*) equal parts; powder and mix. Dose, about a drachm with butter-milk and treacle, in various sorts of bowel complaints.

ICHNOCARPUS FRUTESCENS. *Sans.* शरिषा, *Sárivá*. *Vern.* *Shyāmalaṭā*. The properties of the roots of this plant are said to be identical with those of *Hemidesmus Indicus*. These two drugs are often used in combination under the designation of *Sárivādvaṃsa*, (see next article).

NAT. ORDER ASCLEPIADEÆ.

HEMIDESMUS INDICUS, *R. Br.*

Sans. अनन्तमूल, *Anantamula*, शरिषा, *Sárivá*.

Vern. *Anantamul*, *Beng. Hind.*

In Sanskrit Medicine, *Hemidesmus Indicus* and *Ichnocarpus frutescens* are both called *sárivá* and are described under the name

१हस्तमिन्द्रवर्गः सिद्धा प्रमथ्या द्विपञ्चोन्मिता। सुधीता मधुसुन्दारा रत्नातीसार-
नामिनी । याज्ञिकः ।

सधुनक्ताधरचूर्णम् । हस्तमिन्द्रवर्गं विल्वं खोत्रं मोचरसनाथा । धातकीं
चूर्णनेत्रम् सुधाभ्यां पाययेत् सुधीः । सर्वातीसारममनं निरुच्यद्विप्रवाहिकाम् ।
सधुनक्ताधरं नामचूर्णं संपादकं परम् । याज्ञिकः ।

of *sárivádvaya* or the two *sárivás*. They are often used together. When however *sárivá* is used in the singular number it is the usual practice to interpret it as *syámatalá* (*Ichnocarpus frutescens*). The roots of these plants are said to be sweet, demulcent, alterative and useful in loss of appetite, disinclination for food, fever, skin diseases, syphilis and leucorrhœa. They are generally used in combination with a number of other medicines. The following are a few illustrations. Take of *anantamula*, root of *Pavonia odorata* (*báldá*), tubers of *Cyperus rotundus* (*mustaka*), ginger, and the root of *Picrorrhiza kurroa* (*kafuki*), equal parts, in all two tolas, and reduce them to a paste with water. This dose administered with warm water in the morning, is said to clear the bowels and relieve fever.¹

A decoction of the roots of colocynth, *anantamula*, *sárivá* and *Hedyotis biflora* (*parpará*), prepared in the usual way, is administered with the addition of powdered long pepper and bdellium in chronic skin diseases, syphilis, elephantiasis, loss of sensation and hemiplegia.²

CALOTROPIS GIGANTEA AND PROCERA, R. Br.

Syn. Asclepias gigantea, Roebb.

Sans. अर्क, Arka, अर्क Alarka.

Vern. A'kanda, Beng. Máddár, Hind.

Calotropis procera and *C. gigantea*, both pass by the native name of *máddár*. "*C. procera* the smaller of the two, prefers the drier climate of the Deccan, the Upper Provinces of Bengal, the Punjab and Scinde; *C. gigantea*, lower Bengal, the

¹ अनन्ता वाचकं सुखं नागरं कटुरोहिणी । विहा सुखान्मूना कर्त्तुं
वाचवेदस्य सन्निवृत्तं । कर्त्तुः कालेनकावेन हन्वात् सर्वज्वरानघं । विदध्यात्
कोष्ठसंयुति दीपयेत् कृतायनं । भैषज्यरत्नावली ।

² इन्द्राक्षिकानन्ता वारिवा पर्यटैः सर्जैः । यमिः कतं पिबेत् काचं
कवायुन्युक्त्वा सुतम् । अष्टादशेसु कुठे सु वातरक्षादिते तथा । उपदंशेक्षीपदे
प्रसुप्ते पचयान्ते । चार्ङ्गधरः ।

Madras and Malayan Peninsulas, and Ceylon." Sanskrit writers mention two varieties founded upon the colour of the flowers, namely, white, called *alarka*, and red, called *arka*. The milky juice, flowers, root-bark and leaves are all used in medicine. The root-bark is said to promote the secretions and to be useful in skin diseases, enlargements of the abdominal viscera, intestinal worms, cough, ascites, anasarca, etc. The milky juice is regarded as a drastic purgative and caustic and is generally used as such in combination with the milky juice of *Euphorbia neriifolia*. The flowers are considered digestive, stomachic, tonic and useful in cough, asthma, catarrh and loss of appetite.

The leaves mixed with rock salt are roasted within closed vessels, so that the fumes may not escape. The ashes thus produced are given with whey in ascites and enlargements of the abdominal viscera.¹

The following inhalation is prescribed for cough. Soak the powdered root-bark of *arka* in its own milky juice and dry. Bougies are prepared with this powder and their fumes inhaled.² The root-bark, reduced to a paste with sour congee, is applied to elephantiasis of the legs and scrotum.³ The milky juices of *Calotropis gigantea* and *Euphorbia neriifolia* are made into tents with the powdered wood of *Berberis Asiatica*, for introduction into sinuses and fistula in ano.⁴ The milky juice is applied to carious teeth for relief of pain.⁵

1 चक्रपत्रं सखवचमन्तधूमं दहेत्ततः। मस्तुनातलिनेत्वारं शुद्धमशीहोदरा-
पहम् । चक्रदत्तः ।

2 मरिच शीतार्कहोरेवार्की त्वचमागुभावितागुष्कात् । कृत्वाविधिनाधूमं
पिबतः काशाः घ्नन् यान्ति । चक्रदत्तः ।

3 निष्पिटसारवाजेन कृपिकामूत्रवत्कम् । प्रलेपात्क्षीपदं हन्ति मूत्रमू-
त्रविहृतम् । चक्रदत्तः ।

4 क्षुत्ताकदुग्ध दाक्षीभिर्वर्जितं कृत्वा विचक्षणः । भगन्दरगतिं प्राप्त्वा पूर-
येत्तां प्रवज्जतः । चक्रदत्तः ।

5 सप्तपत्रदाकदुग्धाभ्यां पूर्य क्रिमिदन्तहृत् । चक्रदत्तः ।

*Arka taila.*¹ Take of prepared sesamum oil, four seers, juice of *arka* leaves, sixteen seers, and turmeric reduced to a paste, one seer ; boil them together in the usual way. This oil is said to be useful in eczema, and other eruptive skin diseases. Sometimes orpiment is substituted for turmeric in this preparation.

NAT. ORDER LOGANIACEÆ.

STRYCHNOS NUX VOMICA, Linn.

Sans. कुपिलु, *Kupilu*, कुलक, *Kulaka*, विशमुष्टी, *Vishamushṭi*.

Vern. *Kuchilā*, *Beng.* *Hind.*

Nux vomica has been introduced into Hindu Medicine at a recent period. There is no generally recognized Sanskrit name for it. In some recent Sanskrit compilations it is mentioned under its vernacular name *kuchilā*, a term which is not to be found in standard Sanskrit dictionaries. Śārangadhara and other writers give some prescriptions containing a drug named *vishamushṭi*, which is generally interpreted to mean in these places, *nux vomica* seeds ; but *vishamushṭi* according to the *Bhāvaprakāśa* has an edible fruit and is called *Kareruā* in Hindi. In this work the Sanskrit term *kupilu* with its synonyms, *kulaka*, *vishatinduka*, *markaṭatinduka*, etc., is said to be the Sanskrit synonyms for *kuchilā* and this translation is followed in some Hindi medical books, as for example in the treatise on the properties of drugs, compiled by Pundit Keshava Prasāda Dvivedi of the Agra College. This interpretation however is not accepted in Bengal, for neither Wilson nor Sir Rājā Rādhākunta Deva has given *kuchilā* as the Vernacular for *kupilu*, nor does this term or any of its synonyms above mentioned, occur in any Sanskrit medical prescription. In our account of this drug we will according to the practice of our kavi-rājas in Bengal interpret *vishamushṭi* as *kuchilā*.

The *Strychnos nux vomica* is indigenous to most parts of India. I found it to be common in the jungles about Manbhom. The

१ अर्कतैलम् । अर्कपत्ररसिकं कटुतैलं निशानुतम् । जनः शिवायुतं वापि
पाशाकण्ठादिनाशनम् । चक्रदत्तः ।

ripe fruits of the size of apples, have a beautiful orange colour and contain a bitter gelatinous pulp, within which the flat and curiously umbilicated seeds are found imbedded.

Nux vomica seeds produce a sort of intoxication, for which they are habitually taken by some natives as an aphrodisiac. Those who do so gradually become so far accustomed to this poison that they often come to take one seed daily, which is cut into small pieces and chewed with a packet of betel leaf. Medicinally the seeds are used in dyspepsia and diseases of the nervous system.

Samiragaja kesari. Take of nux vomica, opium and black pepper equal parts, and make into two-grain pills. These are given with the juice of betel leaves in diseases of the nervous system.

*Sulharanayoga.*¹ Take of chebulic myrobalan, long pepper, black pepper, ginger, nux vomica, assafoetida, sulphur and rock salt, equal parts and make into four-grain pills. These are given with warm water in dyspepsia with pain after meals, and in diarrhoea. Sārangadhara gives the following prescription in which the term *vishamushṭi* is usually understood to mean nux vomica. Take of mercury, sulphur, aconite, ajowan, the three myrobalans, *sarjikā* (impure carbonate of soda), *yavakshāra* (impure carbonate of potash), rock salt, plumbago root, cumin seeds, *sonchal* salt, sea-salt, *bāberang*, black pepper, long pepper and ginger, equal parts, *vishamushṭi* (nux vomica seeds) equal in weight to all the above ingredients and make into pills of the size of black pepper corns with lemon juice. These pills are given to promote the appetite and increase the digestive power.²

¹ मूत्रहरचर्मणः । हरीतकी त्रिफलं कुचिवाहिङ्गु मन्त्रकं । वैश्ववृक्षसं
वर्जितं कुचार्द्रं सुखावहाः । चतुकोष्ठप्रमाणाद्या यस्मिन्नेवातरेव च । एकैका-
वटिकायाद्या युक्तमूत्रनिवारिणी । अहस्त्रासतिवारे च राजीर्षेभ्योऽप्यव-
बोधेऽप्यवसा सुखमाप्नोति तद्वत्पथात् । रसेन्द्रवारं च पथः ।

² शुद्धकृतं विषं मन्त्रमजमोदा फलमवम् । सर्जिकारं यवचारं वङ्गि वैश्व-
वीरवम् । वीवर्षं विहङ्गानि वाहङ्गं मूत्रवर्धनम् । विषसुष्टि सर्वदुःखं जम्बी-
राद्यैर्न नर्हन्नेत् । अरिषामावटीवारेऽङ्गि मन्त्रप्रमाणे । चार्जिकर ।

STRYCHNOS POTATORUM, *Linn. fl.*

Sans. कतक, *Kataka*, अम्बुप्रसाद, *Ambuprasáda*. *Vern.* Nirmali, *B.*

The use of these seeds for the purpose of clearing muddy water is as old as Susruta, who mentions it in his chapter on water. Medicinally it is chiefly used as a local application in eye-diseases. The seeds are rubbed with honey and a little camphor, and the mixture applied to the eyes in lachrymation or copious watery discharge from them. Rubbed with water and rock salt they are applied to chemosis in the conjunctiva. They enter also into the composition of several complex preparations for ulcer of the cornea, etc.¹

NAT. ORDER GENTIANACEÆ.

OPHELIA CHIRATA, *Grisebach.*

Syn. *Gentiana Chirayita*, *Roxb.*

Sans. किराततिक्ता, *Kirátatikta*, भूनिम्ब, *Bhunimba*.

Vern. *Chiretá*, *Beng. Hind.*

The *Ophelia Chirata* is indigenous to the "mountainous regions of Northern India from Simla through Kumaon to the Morung district in South-Eastern Nepal." Its Sanskrit name *kirátatikta*, means "the bitter plant of the Kirátas, an outcast race of mountaineers in the north of India." It is also called *Anáryatikta* or the bitter plant of the Non-Aryans. The Bhava-prakása mentions a variety of *chiretá*, under the name of *Naipála*, that is, produced in Nepál, and describes it as a febrifuge.

Chiretá is regarded as tonic, febrifuge and laxative, and is used in fever, burning of the body, intestinal worms, skin diseases, etc. It is much used in fevers of all sorts in a variety of forms and in combination with other medicines of its class. The following are a few illustrations. Take of *chiretá*, *gulanča*, raisins, emblic myrobalan and zedoary root, equal parts and prepare a decoction

¹ मङ्गः शीतले च दंडुक्तः कतकः चेन्महेनवा । पित्तवातवैद्येनो वा दृष्टव्यमत्र
मङ्गने । चक्रदत्तः ।

in the usual way.¹ A compound powder called *Sudarsana churna*, is prepared by taking equal parts of fifty-four different substances and of *chireta*, equal to one-half the weight of all the other ingredients, and mixing them together. It is largely prescribed by native physicians in chronic febrile diseases.

Kirátádi taila, or oil of *chiretá*.² Take of *chiretá* one seer, water sixteen seers, boil together till reduced to four seers and strain. Boil this decoction of *chiretá*, with four seers each of prepared mustard oil, *kánjika* and whey, and two tolás each of the following substances in the form of a paste, namely, root of *Sansevieria Zeylanica* (*murvá*), lac, turmeric, wood of *Berberis Asiatica* (*dáruharidrá*), madder, root of *Citrullus Colocynthis* (*indraváruni*), *páchak* root, root of *Pavonia odorata* (*bálá*), of *Vanda Roxburghii* (*rásná*), *Scindapsus officinalis* (*gajapippali*), long pepper, black pepper, ginger, root of *Stephania hernandifolia*, (*páthá*), *indrajava* seeds, *sonchal*, vit, and rock salts, root of *Justica Adhátoda* (*vásaka*), *Calotropis gigantea* (*arka*), *Ichnocarpus frutescens* (*shyámalatá*), *Cedrus Deodara* (*devadáru*) and the fruit of *Trichosanthes palmaṭa* (*mahákála*). The oil thus prepared is rubbed on the body in chronic fever with emaciation and anæmia.

CANSORA DECUSSATA, *R. et Sch.*

Syn. Pladera decussata, Roxb.

Sans. सङ्खपुष्पी, Sankhapushpi.

Vern. Dánkuni, Beng. Sankháhuli, Hind.

THIS little plant is regarded as laxative, alterative and tonic and is much praised as a nervine. It is used in insanity, epilepsy

¹ किरात तिक्कमच्छती द्वाक्षा आनवकीं घटो । निम्बीछ्त्रं सततं क्वाचं
वातपित्तज्वरे पिबेत् । भैषज्यरत्नावली ।

² किरातादि तैलम् । मूल्यांशान्वा हरिद्रेहो मज्जिष्ठा शिङ्गराक्षसी । पुष्करं
क्षीनेरं राक्षा क्षपिण्डी कटुलव्यं । पाठा चेन्द्र खवचैव खवचलव खंजुतं ।
वाक्काचं श्लामादाह मङ्गाकाचं फलं तथा । दधि मन्मारनाथेन कैरातेनच
संपचेत् । प्रस्यं प्रस्यं समादाय तैलं प्रत्ये विपाचयेत् । क्षिप्तं मूत्रं ज्वरहृत्

and nervous debility. The fresh juice of the plant, in doses of about an ounce, is given, with the addition of honey and *pāchak* root, in all sorts of insanity.¹ A paste made of the entire plant, including roots and flowers, is recommended to be taken with milk as a nervine and alterative tonic.² The following compound powder is used in similar cases. Take of *gulanča*, *Achyranthes aspera* (*apāmdrga*), *bāberang*, *pāchak* root, root of *Asparagus racemosus* (*satamuli*), *Acorus Calamus* (*vachā*), chebulic myrobalan, and *Canscora decussata*, in equal parts; powder and mix. It is said that the use of this powder for three days will enable a student to learn by rote a thousand couplets of poetry.³

NAT. ORDER BIGNONIACEÆ.

CALOSANTHES INDICA, Bl.

Syn. Bignonia Indica, Linn.

Sans. श्लोनाक, Syonāka. अरुह, Aralu.

Vern. Nāsonā, Beng. Arlu, Hind.

THIS is a small tree, growing over a large part of India. The root-bark is used in medicine. It is considered astringent, tonic, and useful in diarrhoea and dysentery. It is also an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in a great variety of diseases. The tender fruits are described as grateful, carminative and stomachic.

समस्तं सततं तथा । शालुस्त्वं अस्मिन्मन्त्रेण सर्वं क्वरं व्यापोहति । कामदां
पहन्ती ह्येव अतिवारं हृत्कीलकं । श्लोका शालुश्चक्षुःशुभा नः श्रेयं नात्र संशयः ।
नास्ति तेन परश्चैव क्वरदर्थं कुडामयं । जैमिन्करद्वयवी ।

1 प्राप्नोति कुडामयं मृत्पन्नामह्वीनीकरवः पृथक् । मधु कुट वृतः पीतः
सर्वोन्मादापहारकः । चक्रदत्तः ।

2 रसोयुष्मास्तु समूहपुष्पाः कवकः प्रबोध्यः सप्तसप्तपुष्पाः । आवुः
प्रदान्नामवनायनामि बह्वग्निवर्षकरवर्षनामि । मेध्यामि चैतानि रसावनामि
मेध्यामिवेवेष्टु मधुहृन्पी । चक्रदत्तः ।

3 कुडामपामार्गं विदुः यद्विनी मन्त्राभ्यां कुडामपारोक्ष्या । इति चोडा-
मकरोति मानवं त्रिभिर्दिनैः श्लोकावह्वयपरिचयः । चक्रदत्तः ।

The root-bark is enclosed within some leaves and a layer of clay and roasted. The juice expressed from this roasted bark is given in diarrhoea and dysentery with the addition of *mocharasa* (gum of *Bombax Malabaricum*).¹

In otorrhoea, Sárangadhara recommends the use of an oil prepared by boiling, over a gentle fire, sesamum oil with a paste made of the root-bark of *Calosanthes Indica*.²

STEREOSPERMUM SUAVEOLENS, DC.

Syn. Bignonia suaveolens, Roxb.

Sans. पाटला, *Pátalá.* *Vern.* Páral, *Beng.* Pád, *Hind.*

THIS is a middle sized flowering tree, a native of Bengal. The flowers are large, of a dark crimson colour and exquisitely fragrant. Steeped in water they impart their fragrance to it. Rubbed up with honey they are given to check hiccup. The root-bark is an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in native medicine. It is regarded as cooling, diuretic and tonic, and is generally used in combination with other medicines. The ashes of this plant are used in the preparation of alkaline water and caustic pastes.

NAT. ORDER. CONVULVULACEÆ.

IPOMŒA TURPETHUM, R. Br.

Syn. Convolvulus Turpethum, Roxb.

Sans. त्रिवृत्, *Trivrit.* त्रिपुटा, *Tripudá.*

Vern. Teori, *Beng.* Nisoth, *Tarbud, Hind.*

Two varieties of *trivrit* are described by most writers, namely, *sveta* or white and *krishna* or black. The white variety is pre-

¹ क्वरकुलकृतचैव पुटपाकोन्निदीपनः । मधुकोचरवाभ्याश्च कुल्लः चर्च-
तिवारजिह् । चाङ्गधरः ।

² तैलं श्लोनाकमूलेन मन्दाग्नौपरिपाचितम् । हरेदाद्यु लिदोचोत्थं कर्च-
यूचं प्रचूरयम् । चाङ्गधरः ।

ferred for medicinal use as a moderate or mild cathartic. The black variety is said to be a powerful drastic and to cause vomiting, faintness and giddiness. *Trivrit* has been used as a purgative from time immemorial and is still used as such by native practitioners, alone, as well as in various combinations. In fact this medicine is the ordinary cathartic in use amongst natives, just as jalap is among Europeans. The usual mode of administering it is as follows. About two scruples of the root are rubbed into a pulp with water and taken with the addition of rock salt and ginger or sugar and black pepper.

A compound powder called *Nārācha churna*,¹ is thus prepared. Take of *trivrit* root two tolās, long pepper two tolās, sugar eight tolās; powder and mix. About a scruple of the powder is recommended to be taken before meals in constipation with hard faeces.

Tumburādya churna.² Take of the fruits of *Xanthoxylum hostile* (*tumburu*), rock, *vit* and *sonchal* salts, *ajowan*, *pāchak* root, *yavakshāra*, chebulic myrobalan, assafoetida and *babrang* seeds, one part each, *trivrit* three parts; powder the ingredients and mix. Dose, about a drachm with warm water, in painful dyspepsia with costiveness and flatulence.

In anasarca supposed to be caused by deranged bile, a decoction of *trivrit*, *gulancha*, and the three myrobalans is recommended to be taken. Milk diet should be prescribed along with this medicine.³

1 नाराचचूर्णम् । खण्डपत्रं लिङ्गतामसपुष्पकुल्या कर्षचूर्णितं चम्पकम् ।
प्राग्भोजनेन समधु विट्काष्ठपदकं विहेतुप्राप्तः । एतद्वाटपुटीये पिप्पे कफेच
विनिबोध्यम् । सुखादुर्ध्वपयोष्योऽयं चूर्णोनाराचकोनाम्ना । भावप्रकाशः ।

2 तम्बुर्वाद्यं चूर्णम् । तम्बुरुषि लिङ्गवचं बवानी पुष्कराङ्गवम् बवचा-
रामवाहिकु विट्कानि समानिच । लिङ्गलिङ्गानिवासेना खण्ड चूर्णानि
कारयेत् । पिप्पेदुष्णेन तोयेन बवकायेन वा पिबेत् । जवेत्यर्वाणि नृवानिपुष्पा
आमोदराणिच ।
शार्ङ्गधरः ।

3 क्षीराशनः पिप्पकतेऽवयोधे लिङ्गपुष्पी लिङ्गवाचनावम् । चक्रदत्तः ।

BATATAS PANICULATUS, *Choisy.*

Syn. Convolvulus paniculatus, Roxb.

Sans. विदारी, Vidāri, भूमिकुशमाण्ड, Bhumikushmāṇḍa.

Vern. Bhui kumrā, Beng, Bilai kand, Hind.

THE large tuberous root of this handsome climber is considered tonic, alterative, aphrodisiac, demulcent and lactagogue. The powdered root-stock is given with wine, for the purpose of increasing the secretion of milk.¹ In the emaciation of children with debility and want of digestive power, the following diet is recommended. Take of *vidāri*, wheat-flour and barley equal parts, and make into a confection with milk, clarified butter, sugar and honey.² *Susruta* gives several prescriptions for its use as an aphrodisiac. The simplest is as follows. Macerate the powder of the root in its own juice and administer with honey and clarified butter.³ *Vidāri* enters into the composition of several diuretic and demulcent mixtures. The following is an illustration.

*Mutrakrichchhāntaka rasa.*⁴ Take of *vidāri*, fruits of *Tribulus terrestris*, (*gokshura*), liquorice root, and flowers of *Mesua ferrea* (*nágakesara*), equal parts and prepare a decoction with water. This decoction is given with the preparation of mercury called *rasasin-dura*, in scanty or acrid urine, to promote this secretion.

PHARBITIS NIL, *Choisy.* The seeds of this plant, called *kāldānā* in the vernacular and now commonly used as a purgative

¹ विदारीकन्दं सुरवापिमेहा सन्धर्वजं नमः । चक्रदत्तः ।

² यदाह दुर्बलौ पाचः खादन्नपि च वज्रिमान् । विदारीकन्दं गोधूमवचचूर्णं
हतञ्जुतम् । खादयेत्तदनुषीरं शृतं समधुयर्कम् । भावप्रकाशः ।

³ चूर्णं विदार्यः सुकृतं स्वरसेचैवभावितम् । सर्पिःक्षीरयुतं क्षीरद्वयतं
गन्धे हराफणाः । सुकृतः ।

⁴ मूलकच्छान्नकरसः । विदारीं गोक्षरं वही क्षीरञ्च समं पचेत् । तत्-
कषायं पिबेत् क्षीरै रसमक्षयुतं पुनः । मूलकच्छहरं स्वातं सप्ताहात् पित्त-
सम्भवम् । रसेन्द्र सारसं पचः ।

all over India, were unknown to the ancient Hindus. There is no name for them in Sanskrit.

ARGYREIA SPECIOSA, Sweet.

Syn. Lettsonia nervosa, Roeb.

Sans. वृद्धदारक, Vriddhadāraka. Vern. Biktarká, Beng.

THE root of this plant is regarded as alterative, tonic and useful in rheumatic affections, and diseases of the nervous system. As an alterative and nervine tonic it is prescribed in the following manner. The powdered root is soaked, seven times during seven days, in the juice of the tubers of *Asparagus racemosus* (*satamuli*) and dried. The resulting powder is given in doses of a quarter to half a tola, with clarified butter, for about a month. It is said to improve the intellect, strengthen the body and prevent the effects of age.¹ In synovitis the powdered root is given with milk.²

*Ajamodádi churna.*³ Take of *ajowan*, *báberang*, rock salt, plum-bago root, *Cedrus deodara*, long pepper root, long pepper, black pepper and dill seeds each two tolas, chebulic myrobalan ten tolas, root of *Argyreia speciosa* twenty tolas, ginger twenty tolas; powder and mix. Dose, about two drachms with treacle. This preparation is said to be useful in rheumatic affections and hemiplegia.

1 वृद्धदारकमूलाणि अज्ज्यचूर्णाणि कारयेत् । यतावस्थां रक्षेन्नेव सप्तरात्राणि भावयेत् । अज्जमात्रान्तु तच्चूर्णं सर्पिणा वृक्ष भोजयेत् । मासमात्रोपयोगेन मतिमान् जायते नरः । मेधावी स्मृतिर्मांसैव वक्षिपक्षितवर्जितः । चक्षुदत्तः ।

2 पुण्ड्रमुन्मोदुशीर्षेण पुण्ड्रमूलिककाञ्चला । क्षीरेक्षेरकैश्चैव वा पिबेहा-
वृद्धदारकम् । भावप्रकाशः ।

3 अजमोदायां चूर्णम् । अजमोदाविडङ्गानि चैम्बवं देवदारुच । चिलकं विषपक्षीमूलं यतपुष्पाच विषपक्षी । गरिचक्षेत्रि कर्षीयं प्रक्षेपं कारयेद्बुधः । कर्षास्तु पञ्चपञ्चाभा दय सुहृद्वृद्धदारकात् । नागराक्षद्वयैवस्तुः सर्वाण्येकम् चूर्णयेत् । पिबेत्क्षीरमज्जनेनैव चूर्णञ्च पुण्ड्रवर्जितम् । भक्षयेदयमा वज्रक परं चबन्तु नाशनम् । आकृतातह्वं हविषाह्वीह्वान् ऋषुवीम् । कटिपुण्ड्रद्वयस्यास्तु जङ्घयोश्च रज्ज्वां जयेत् । तूनीं प्रतूनीविचचीकफवातामवान् जयेत् । बाह्वर्धरः ।

NAT. ORDER SOLANACEÆ.

DATURA ALBA, *Rumph. and FASTUOSA, Linn.*

Sans. धूतूर, *Dhustura*, उन्मत्त, *Unmatta*.

Vern. Dhuturá, *Hind. and Beng.*

SANSKRIT writers do not make any distinction in the properties of the two varieties of *Datura*, and in practice both are indiscriminately used. Sometimes the white flowered variety is specified, as for example in a prescription for insanity, quoted below. *Dhaturá* leaves are used in smoking by debauched devotees and others accustomed to the use of *gánja*. The seeds are added to the preparations of *bháng* (leaves of *Cannabis sativa*) used by natives, for increasing their intoxicating powers. The use of the powdered seeds in sweet-meats, curry powder, etc., for the purpose of stupefying travellers and then robbing them, is well known.

The seeds, leaves and roots are all used in medicine. They are considered useful in insanity, fever with catarrhal and cerebral complications, diarrhoea, skin diseases, lice, etc.

Svalpajvaránkusa.¹ Take of mercury, sulphur, aconite, ginger, long pepper and black pepper, each one part, *dhaturá* seeds two parts; rub them together with lemon juice and make into four-grain pills. These pills are used in fever attended with catarrh or cough. Several other preparations of composition similar to the above, are in use under the names of *Nava. jvaránkusa*, *Kálári*, *Jvaránkusa*, etc.

The root of *Datura alba* (*svetonmatta*) is boiled in milk and this milk is administered with the addition of clarified butter and treacle in insanity.² A metallic preparation called *Unmádankura rasa* and composed of the sulphides of mercury and copper together with a number of other substances and *dhaturá* seeds, is also used

¹ एवं नखं विषञ्चैव प्रत्येकं वचनानिबन्धम् । दिभानं धुतूरीजञ्च लिङ्गट्
वदन्निबन्धनम् । जम्बीराणां रसेर्नेर्हृत्पटोयुक्ताहवन्मता । कषाचूर्णं पिबेत्
चायुर्वीतं चैव जवेत् । रसेन्दुसारसंयुतः ।

² जेतोमत्तोत्तरदिह्मूचविह्मूच पावकः । युक्ताञ्चसंयुतो हस्ति वर्जोक्ता-
दास्य दोषजान् । चक्रदत्तः ।

in this disease. The fresh juice of the leaves alone, or mixed with opium, is a common domestic application to inflamed parts.

In inflammation of the breasts, a paste composed of turmeric and *dhatura* fruits is recommended to be applied.¹ An oil prepared in the usual manner with the paste and juice of *dhaturá* leaves, is applied to the head for destroying lice.² An oil prepared by boiling *dhaturá* seeds, and sesamum oil, with an alkaline water made from the ashes of *Colocasía Indica* (*mánaka*), is used in psoriasis.³

In the Bengal Dispensatory (page 469) it is stated that "we are indebted to the native practitioners of India for a method of using stramonium in spasmodic asthma, which is certainly found of great benefit in numerous cases. We allude to the practice of smoking the leaves or dried stems." The smoking of *dhatura* leaves is prescribed at present both by English and native practitioners in spasmodic asthma, but I have not met with any written prescription for it in Sanskrit or vernacular medical works, nor does the Taleef Shereef allude to the practice as known to the Mussulman hakims. It would seem therefore that this use of the drug is of recent origin.

SOLANUM XANTHOCARPUM, VAR. JACQUINIS, *Schrad.*

Syn. Solanum Jacquinií, Linn.

Sans. कण्टकारी, Kanṭakāri, निदिग्धिका, Nidigdhiká.

Vern. Kanṭakāri, Beng. Kaṭeli, Kaṭai, Hind.

THE root of *Solanum Jacquinií* is much esteemed as an expectorant and is used in cough, asthma, catarrhal fever and pain in the chest. It is an ingredient of *dasamula* (*see Desmodium gangeticum*), and is thus largely used in a great variety of diseases. The fruits are said to possess properties similar to those of the roots and are eaten as a vegetable.

1 निपाकवक्त्राभ्यां वेपथ्यापिस्तनात्ति^०हा । चक्रदत्तः ।

2 धत्तुरपत्रकक्ष्मेन तद्रसेनैव पाचितम् । तैलमभ्यङ्गनालेष बुका नाशयति चण्डात् । भावप्रकाशः ।

3 उन्मत्तकस्य बीजेन नाशककारवारिषा । कटुतैलं विपक्वत्वं शीघ्रं हृत्वाहिपादिकाम् । चक्रदत्तः ।

Kanṭakāri is used in medicine in various forms, such as decoction, electuary, *ghrita*, etc. A decoction of the root is given with the addition of long pepper and honey, in cough and catarrh, and with rock salt and assafoetida in spasmodic cough.¹ Several compound decoctions made along with other expectorant and demulcent drugs are in use. The following is an example. Take of *kanṭakāri*, root of *Justicia Adhatoda* (*vāsaka*), pulse of *Dolichos uniflorus* (*kulattha*) and ginger, equal parts, in all two tolas ; prepare a decoction in the usual way and administer, with the addition of *pāchak* root, in cough with difficult breathing.²

*Kanṭakāryavaleha*³ or electuary of *Solanum Jacquinii*. Take of *kanṭakāri* root twelve seers and a half, water sixty-four seers, boil till reduced to one fourth and strain. Boil the strained decoction till reduced to the consistence of a fluid extract, and add to it the following substances in fine powder, namely, *gulanča*, *Piper Chaba* (*chavya*), plumbago root, tubers of *Cyperus rotundus* (*mustaka*), *Rhus succedanea*, (*karkaṭa sringi*), long pepper, black pepper, ginger, *Alhagi Maurorum* (*yāsa*), *Clerodendron Siphonanthus* (*vārgi*), *Vanda Roxburghii*, (*rāsnā*) and zedoary root, each eight tolas, sugar two seers and a half, sesamum oil and clarified butter each one seer, and boil together till reduced to the proper consistence. Lastly add honey one seer, bamboo-manna and long pepper in fine powder, each half a seer. This electuary is given in various sorts of cough.

1 कण्टकारीकृतः कायः सङ्गणः सर्वकासहा । चक्रदन्तः ।

2 कृद्रा कुलत्थ वासाभिर्नागरेण च साधितः । कायः पौष्करचूर्णाक्षः
वासकाशौ निवारयेत् । वाङ्मधरः ।

3 कण्टकार्यवलेहः । कण्टकारी द्रव्यां नीरद्रोणे पक्त्वा कषायकम् ।
पादशेषं भङ्गीत्वा च तत्र चूर्णानि दापयेत् । दृक्कपलांशान्धेतानि
गुडूची चव्यचित्तकी । सुप्तं कर्कटशृङ्गी च त्र्युषणं धन्वासकः । भागी
रास्ना शटी चैव शर्करापल्लवंशतिः । प्रत्येकं च पलान्यष्टौ प्रदद्यात् इतरेतद्योः ।
पक्कावेहत्वमानीय शीते मधुपलाटकम् । चतुर्भागान् तु नासीर्याः पिपपली
च चतुःपलम् । क्षिप्त्वा निदध्यात् सुहृदे भृशमे मानने शुभे । वेदोऽयं हन्ति
हिक्कासि काशश्वासानशेषतः । भावप्रकाशः ।

Kañtakāri ghrita.¹ This is prepared in the usual proportions with the fresh juice of *kanṭakāri*, clarified butter and the following substances in the form of a paste, namely, *Vanda Roxburghii* (*rāśnā*), *Sida cordifolia*, (*bālā*), ginger, long pepper, black pepper and the fruits of *Tribulus terrestris* (*gokshura*). It is used in the same cases as the electuary.

SOLANUM NIGRUM, Linn. Sans. काकमाची, *Kākamāchi*, Vern. *Kākmāchi*, Beng. *Makoy*. Hind. The berries of this plant are considered tonic, diuretic and useful in anasarca and heart disease. For the mode of administering them in heart disease, see *Hridayārṇava rasa*, (page 66).

SOLANUM INDICUM, Linn.

Sans. डहती, *Vrihati*. भण्टाकी, *Bhantāki*.

Vern. *Byākura*, Beng. *Barhantā*, Hind.

THE root of *Solanum Indicum* is an ingredient of *dasamula* (see *Desmodium gangeticum*) and is thus used in a great variety of diseases. It is regarded as expectorant and useful in cough and catarrhal affections. The following is an example of a compound decoction containing this drug. Take of *Solanum Indicum* (*vrihati*), *Solanum Jacquini* (*kanṭakāri*), *Sida cordifolia* (*bālā*), *Justicia Adhatoda* (*vāsaka*) and raisins, equal parts and prepare a decoction in the usual way. This decoction is given in bronchitis with fever.²

WITHANIA SOMNIFERA, Don.

Syn. *Physalis flexuosa*, Roxb.

Sans. अश्वगन्धा, *Asvagandhā*. Vern. *Asvagandhā*, Beng. *Asgand*, Hind.

THE root of this plant is long, smooth, rounded, whitish brown externally and of a fine white colour internally. It is said that the

1 कण्टकारीघृतम् । इतं राक्षसवाय्वोप शर्दङ्गाकक्षपाचितम् । कण्ट-
कारीरसो वर्यः पञ्चकाशनिष्कन्दम् । चक्रदत्तः ।

2 पञ्चाद्विडहतीवाचाङ्गाचाभिः क्वाचितं जलम् । पित्तकाशपङ्कं पेयं शर्करा
मध्वोजितम् । चक्रदत्तः ।

root smells like a horse whence the Sanskrit name *asvagandhā*. The specimen in my possession however has scarcely any odour or taste. It is regarded as tonic, alterative and aphrodisiac and is used in consumption, emaciation of children, debility from old age, rheumatism, etc.

In consumption a decoction of *asvagandhā* root and long pepper is given with the addition of clarified butter and honey.¹ For improving the nutrition of weakly children, the root reduced to a paste, is recommended to be taken with milk and clarified butter for a fortnight.²

Asvagandhā ghrita.³ Take of the decoction of *asvagandhā* root one part, milk ten parts, clarified butter one part; boil them together and prepare a *ghrita*. It is said to promote the nutrition and strength of children.

In rheumatism, a *ghrita* prepared with a decoction and paste of the root, is used internally and an oil prepared with a decoction of the root and a number of aromatic substances in the form of a paste, is used externally.

About half a drachm of *asvagandhā* root, taken with milk or clarified butter is said to act as an aphrodisiac and restorative to old men. *Asvagandhā* enters into the composition of several medicines intended for use as aphrodisiacs.⁴

HYOSCYAMUS NIGER, Linn. The seeds of *Hyoscyamus niger* are used in Hindu medicine under the name of *khordāśnī yamāni*. They are considered stimulant or heating, narcotic,

¹ कण्ठाश्लाघिताश्लेहः जयहा जीर्णतैलवान् । मधुसर्पिर्मुतो वाङ्मन्वा-
कण्ठाश्लितोद्भवः । चक्रदत्तः ।

² पीताम्बनम्वापयवाहं मांसं हतेन तैलेन सुखाम्बुना वा । जयस्य इष्टिं
वपुषो विधत्ते वाक्त्रस्य यस्त्रस्य यस्त्रस्य इष्टिः । चक्रदत्तः ।

³ अश्वगन्धायतम् । पादकञ्जोऽश्वगन्धावाः क्षीरे दशगुणे पचेत् । हतं पेयं
कुमारानां इष्टिजङ्घवर्धनम् । चक्रदत्तः ।

⁴ अश्वगन्धादिचूर्णम् । अश्वगन्धा दशपक्षा तन्मात्रो हृद्ददारकः । चूर्णजम्बो-
मयं विद्वान् हतभास्त्रे निभापयेत् । कर्षकं पयसा पीत्वा नारीभिर्नैव हृष्यति ।
अनत्वा प्रजदां भूयाह्वीयचित्तवर्जितः । याज्ञवल्करः ।

astringent and digestive, and are used in combination with other medicines of their class.

NICOTIANA TABACUM, *Linn.* According to Royle, the tobacco plant was introduced into India (A.D. 1605) towards the end of the reign of Jelaludeen Akbar. It is not described even in the latest Sanskrit medical works such as the *Bhāvaprakāsa* or *Rāja Vallava*. The *Sabdakalpadruma* mentions it under the name of ताम्रकूट *Tāmrakuṭa*, and quotes as authority for the use of the word, a passage from the *Kulārṇava Tantra* where it is stated to be one of eight intoxicating agents.

CAPSICUM FRUTESCENS, *Linn.* and **MINIMUM**, *Roxb.* have no Sanskrit name. Although they are now cultivated all over India and form an essential ingredient of all curry powders, they are not mentioned in any Sanskrit medical work and are evidently of recent introduction into this country.

NAT. ORDER SCROPHULARIACEÆ.

PICRORRHIZA KURROA, *Royle.*

Sans. कटुका, *Kaṭukā*, कटुरोहिणी, *Kaṭurohini*. *Vern.* Kaṭki, *H. B.*

THE root of *Picrorrhiza Kurroa* is described as bitter, acrid and stomachic and in larger doses a moderate cathartic. It is used in fever and dyspepsia and as an ingredient of various purgative medicines. About two drachms of the powdered root given with sugar and warm water, is said to act as a mild purgative.¹ In bilious fever the following decoction is highly recommended. Take of *kaṭuki* root, liquorice, raisins, and *nim* bark, half a tola each, water thirty-two tolas; boil till reduced to one-fourth.² The following is an example of a powder containing *kaṭuki* root, used in dyspepsia. Take of *kaṭuki*, *Acorus Calamus* (*vachā*), chebulic myrobalans and plumbago root, equal parts; powder and mix.

1 शयनकालेन कटुकासुखादिना । पीत्वा ज्वरं जलेज्जनुः कफ-
पित्तवृद्धवम् । चक्रदत्तः ।

कटुका मधुकं निम्बं कटुका रोहिणी समा । अवस्त्रायस्थितं पाकयने-
तत् पित्तज्वरापहम् । चक्रदत्तः ।

Dose, about a drachm with cow's urine in dyspepsia with severe pain.

HERPESTIS MONNIERA, H. B. K.

Syn. Gratiola Monniera, Roxb.

Sans. ब्रह्मी, *Brahmi*, बबलूकी, *Manduki*, *Vern. Brahmi*, *Beng. Hind.*

THE herb used by the native physicians of Calcutta under the name of *brahmi* is the *Herpestis Monniera*. Roxburgh however gives *brahmi* and one of its synonyms *somalatá* as the Sanskrit for *Ruta graveolens*. This discrepancy induced me to get specimens of the plant from different parties, but every where I got the *Herpestis Monniera* under the name of *brahmi*. This plant is considered a nervine tonic, useful in insanity, epilepsy and hoarseness. Half a tolá of the fresh juice of the leaves, with two scruples of *páchak* root and honey, is recommended to be given in insanity. The leaves fried in clarified butter are taken to relieve hoarseness.¹

A powder composed of equal parts of *brahmi*, *Acorus Calamus* (*vachá*), chebulic myrobalan, root of *Justicia Adhatoda* (*vásaka*) and long pepper, is given with honey in the hoarseness of phthisis.² Several *ghritas* are prepared with the juice of *brahmi* leaves and various other substances in the form of paste. They are used in insanity, epilepsy and hoarseness. The following is an example.

Brahmi ghrita.³ Take of old clarified butter four seers, fresh juice of *brahmi* four seers, *Acorus Calamus* (*vachá*), *páchak* root, and the root of *Canscora decussata* (*sankhapushpi*), equal parts, in all thirty-two tolás, in the form of a paste and boil them together till the watery portion is evaporated.

¹ See note 1 page 202.

² ब्रह्मीवचा मन्दावरा पिप्पली मधुसंयुता । कश्चप्रयोगात् सप्ताहान्ति-
चरेः सह नीयते । भावप्रकाशः ।

³ ब्रह्मीरसम् । ब्रह्मीरसे वचाकुष्ठ मधुपुष्पीभिरेव च । दुराचं मेध्यसन्नाद-
पहापचः रण्डवम् । चक्रदत्तः ।

NAT. ORDER ACANTHACEÆ.

JUSTICIA ADHATODA, Roxb.

*Syn. Adhatoda Vasica, Nees.**Sans.* वासक, *Vāsaka*, अटव, *Aṭarusha*. *Vern.* Bākas, B. *Arushā*, H.

THIS is a bushy shrub common in most parts of India and used in making fences. The leaves and roots of this plant are considered expectorant and antispasmodic and are much used in a variety of forms in cough, consumption, catarrhal fever and asthma. This medicine was considered so serviceable in phthisis that it was said no man suffering from this disease need despair as long as the *vāsaka* plant exists.

The fresh juice or decoction of the leaves in doses of one tolá, is given with the addition of honey and long pepper in cough. A decoction of *vāsaka* root, chebulic myrobalan and raisins is used in the same cases. Another compound decoction much used in fever with cough, is as follows. Take of *vāsaka* root, *gulanča*, and the root of *Solanum Jacquinii* (*kantakāri*) in equal parts, two tolás in all and prepare a decoction in the usual way. This is given with the addition of honey.¹ A *ghrita* is prepared with clarified butter, a decoction of the plant and a paste of the root taken in the usual proportions and is used in phthisis.

*Vásavaleha*² or electuary of *vāsaka*. Take of the juice of *vāsaka* leaves four seers, white sugar one seer, long pepper sixteen tolás, clarified butter sixteen tolás, boil them together till reduced to the consistence of an extract. When cool add honey

1 केवलो वासकः कायः पीतः क्षौद्रेण नाशयेत् । वासकः चरसः पेवो
बधुना रक्तपित्तजित् । वासाङ्गाक्षामवा कायः पीतः सक्षौद्रयर्करः । निहन्ति
रक्तपित्ताग्निं वासकासञ्च दाहयन् । वासाङ्गाङ्गता कायः क्षौद्रेण ज्वर-
काशहा । वाङ्गधरः ।

2 वासावलेहः । वासकस्य रसप्रस्थं माषिकावितयर्करा । पिप्पल्यादिपत्रं
तावत् सर्पिषश्च यजेः पचेत् । तस्मिन् लेह्यमावाते शीते क्षौद्रपत्राष्टकम् ।
दत्त्वावतारवेह्यो क्षौद्रो वेह्योऽवसृज्यते । हन्त्येवराजप्ल्यां कार्यं च दाह-
यन् । पार्श्वशूलं च हृत्शूलं रक्तपित्तज्वरं तथा । वासप्रकाशः ।

one seer, and stir with a ladle till intimately mixed. Dose, one to two tolás in phthisis, cough with pain in the sides, hæmoptysis and asthma.

Vásáchandanádi taila.¹ Take of *vásaka* plant, twelve seers and a half, water sixty-four seers; boil till reduced to one-fourth. Take of *lao* eight seers, water sixty-four seers; boil down to sixteen seers. Take of red sandal wood, *gulanchara*, root of *Clerodendron Siphonanthus* (*brahmayashti*), the ten drugs called *dasamula* and *Solanum Jacquini* (*nidigdhiká*), each two seers and a half, water sixty-four seers; boil down to sixteen seers. To these decoctions, add of whey and prepared sesamum oil sixteen seers each and the following substances in the form of a paste, namely, red sandal wood, liquorice, wood of *Berberis Asiatica*, long pepper, black pepper, ginger, turmeric, *páchak* root, emblic myrobalans, *tejapatra* leaves, wood of *Cedrus Deodara*, cinnamon, and cardamom, seeds called *renuka*, pouch of civet cat, root of *Withania somnifera* (*asvagandhá*), *Pæderia foetida* (*prasáraní*), *Vanda Roxburghii* (*rásná*), *saileya* (a sort of lichen), zedoary root, and the fruit of *Aglaia Roxburghiana* (*priangu*), each eight tolás; and boil them together in the usual way. This oil is rubbed on the body in affections of the chest and especially in phthisis.

HYGROPHILA SPINOSA, T. Anders. Syn. *Asteracantha longifolia*, Nees. *Ruellia longifolia*, Roxb. Sans. कौकिलका, *Kokiláksha*, वसुगन्धा, *Ikshugandhá*. Vern. Kuliákhara, Beng. Tálmakhána, Hind.

१ इक्षुवासा चन्दादितैः । चन्द्रेण रेणुका पूति वसुगन्धा प्रसारणी ।
 त्रिभुगन्धकचामूखं नागक्षेयमेव च । मेदे ह्येव त्रिषट्कं राज्ञा मधुकर्षणं ।
 यठी-कुष्ठं देवदारु वनिता च विभीतकं । एतेषां पञ्चकैर्भागैः पचेत्तैलादकं
 भिषक् । वासासु तृणां काय्यां जलद्रोणे विपाचयेत् । साक्षारसादकञ्चैव
 तथैव दधिमस्तुक् । चन्द्राक्षताभार्गीन्द्रमूखं निदिग्धिका । एतेषां त्रिंशतिपथं
 जलद्रोणे विपाचयेत् । पादमेने स्थितेक्षाये तैलं तेनैव साधयेत् । काशान्
 उरान् रक्तपित्तं पाण्डुरोगं हृत्वी मर्कं । कामसासु क्षतपीथं राजयक्ष्मा-
 यमेव च । सासान् पञ्चविधं कृन्ति बलवर्षां निप्रतिष्ठत् । तैलं वासा चन्दादि
 इक्षुदेतत् प्रकीर्तितं ।

This little annual is met with in low places all over the country. The leaves are described as cooling and useful in jaundice and anasarca. They are used as a pot herb. The root is considered cooling, bitter, tonic and diuretic, and is used in rheumatism, urinary affections, and anasarca. The ashes of the plant are also used as a diuretic in dropsy.¹

ANDROGRAPHIS PANICULATA, Nees. This bitter shrub is well-known in Bengal under the name of *kālmeg* and is the principal ingredient of a domestic medicine for infants called *A'lui*. There is some doubt regarding its Sanskrit name. A plant called *yavatiktā* with synonyms of *mohātiktā*, *sankhini*, etc., is said by some to mean this shrub but the term *mohātiktā* when occurring in Sanskrit prescriptions is usually interpreted as *Melia sempervirens*, Sw. and *yavatikta* has not been noted by me as having occurred in any prescription, so that I am inclined to think *Andrographis paniculata* was not used in Sanskrit medicine. The *ālui* above referred to is made of the expressed juice of the leaves with the addition of powdered cardamoms, cloves, cinnamon etc., and is given to infants for the relief of griping, irregular stools and loss of appetite.

NAT. ORDER. SESAMEÆ.

SESAMUM INDICUM, Linn.

Sans. तिल, *Tila*, स्नेहफल, *Snehaphala*. *Vern.* *Til*, *Beng.* and *Hind.*

THIS plant is extensively cultivated in India for the sake of the seeds and their expressed oil, both of which articles are in great demand for various economic, religious and medicinal purposes. The word *taila*, the sanskrit for oil, is derived from *tila*; it would therefore seem, that sesamum oil, was one of the first, if not the first oil manufactured from oil-seeds by the ancient Hindus. The *Bhāvaprakāsa* describes three varieties of *til* seeds, namely, black, white and red. Of these the black is regarded as the best, suited for medicinal use. It yields also

¹ शीघ्रतुक्षोभितानस मज्जनस्य वाग्धरा ।

चक्रदत्तः ।

the largest quantity of oil. White *til* is of intermediate quality. *Til* of red or other colours is said to be inferior and unfit for medicinal use.

Sesamum seeds are used as an article of diet, being made into confectionary with sugar, or ground into meal. They form an essential article of certain religious ceremonies of the Hindus, and have therefore received the names of *homadhānya* or the sacrificial grain, *pitritarpana* or the grain that is offered as an oblation to deceased ancestors, etc. Sesamum oil forms the basis of most of the fragrant or scented oils used by the natives for inunction before bathing and of medicated oils prepared with various vegetable drugs. It is preferred for these purposes from the circumstance of its being little liable to turn rancid or thick, and from its possessing no strong taste or odour of its own.

Sesamum seeds are considered emollient, nourishing, tonic, diuretic, and lactagogue. They are said to be especially serviceable in piles, by regulating the bowels and removing constipation. Sesamum seeds ground to a paste with water are given with butter in bleeding piles.¹ Sweetmeats made of the seeds are also beneficial in this disease. A poultice made of the seeds is applied to ulcers.² Both the seeds and the oil are used as demulcents in dysentery and urinary diseases in combination with other medicines of their class.

NAT. ORDER. VERBENACEÆ.

VITEX NEGUNDO, Linn.

Sans. निगुन्दी, *Nirgundi*, सिन्धुवद्र, *Sindhuvāra*.

Vern. Nisinda, *Beng.* Nisindā, *Sāmbhalu*, *Hind.*

SANSKRIT writers mention two varieties of *nirgundi*. That with pale blue flowers is called *sindhuvāra* (*Vitex trifolia*) and that with blue flowers is called *nirgundi*. The properties of both are said to be identical, but the latter is generally used in

1 नवनीततिलैः कवचो जेता रक्तार्शवां हृतः ।

शार्ङ्गधरः ।

2 कवकः संरोपयः शार्ङ्गसिंहानां मधुकाशितः ।

चक्रदत्तः ।

medicine. The root of *Vitex Negundo* is considered tonic, febrifuge and expectorant. The leaves are aromatic and regarded as tonic and vermifuge. Their juice is much used for soaking various metallic powders, before making the latter into pills.

A decoction of *nirgundi* leaves is given with the addition of long pepper in catarrhal fever with heaviness of head and dullness of hearing.¹ A pillow stuffed with the leaves of *nirgundi* is placed under the head for relief of headache. The juice of the leaves is said to remove foetid discharges and worms from ulcers. An oil prepared with the juice of the leaves is applied to sinuses and scrofulous sores.²

GMELINA ARBOREA, Linn.

Sans. गम्भारी, *Ghambhāri*, श्रीपथी, *Sriparni*, काश्मारी, *Kāsmari*.

Vern. Gámāri, *Beng.* Gámhār, *Hind.*

THE root of this plant is described as bitter, tonic, stomachic, laxative, and useful in fever, indigestion, anasarca etc. It is an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus much used in a variety of diseases. Bangasena says that *gambhāri* root taken with liquorice, honey and sugar increases the secretion of milk. The fruits of *Gmelina arborea* are sweetish bitter and cooling; they enter into the composition of several cooling or refrigerent decoctions for fever and burning of the body. The following is an example. Take of the fruits of *Gmelina arborea*, *Grewia Asiatica* (*parushaka*), liquorice root, red sandal wood, and the root of *Andropogon muricatum* (*ushira*), equal parts, in all two tolās, water thirty-two tolās, and boil till reduced to one half. This decoction is used as a drink in bilious fever.³

१ शिखारदलकायं कषाढ्यं कफने ज्वरे । जङ्गयोश्च बडे जीवे कर्षेच
पिहिते पिबेत् ॥ भावप्रकाशः ।

२ निरुद्धितैश्चम् । समूहपक्व निरुद्धी पीडयित्वा रसेन त । तेन
विहं समं तैश्च नाडीदुष्टत्रयापहम् । हिनं पामापचीनास्त पानाभ्यञ्जन
नायनेः । विविधेषु च स्तोटेषु तवाधर्म्येष्वेव ॥ चक्रदत्तः ।

३ काश्मर्ययकीरायुक्तं पिबेत् तृणार्हं तो नरः । श्रीपथीचन्दनोषीरसमधूक
पचयन् । पानं पित्तज्वरं हन्वात् चारिवाद्य समर्करम् । चक्रदत्तः ।

CLERODENDRON SIPHONANTHUS, *R. Br. Syn. Siphonanthus Indica*,] *Lam. Sans.* ब्रह्मवर्षिका, *Brahmayashṭikā* भार्गी, *Bhārgi. Vern. Bāmanhāṭi, Beng. Bhārangī, Hind.* The root of *Clerodendron Siphonanthus* is considered useful in asthma, cough and scrofulous affections. The root beaten to a pulp is given with ginger and warm water in asthma.¹ It enters into the composition of several compound decoctions for diseases of the lungs. A confection called *Bhārgigūḍa* is prepared with a decoction of this root and the ten drugs called *dasamula*, chebulic myrobalan, treacle and the usual aromatic substances. It is used in asthma. An oil, prepared with a decoction and paste of the root of *Clerodendron Siphonanthus* in the usual proportions, is recommended for external application in the marasmus of children.

PREMNA SERRATIFOLIA, *Linn. Syn. Premna spinosa, Rozb. Sans.* गनिकारिका, *Ganikārikā, अग्निमन्थ, Agnimantha. Vern. Ganiāri, Beng. Arni, Hind.* The root of *Premna spinosa* is described as bitter, stomachic and useful in fever, anasarca, urticaria, etc. The leaves are bitter and carminative. A soup made of the leaves is occasionally used as a stomachic and carminative. The root forms an ingredient of *dasamula* (see *Desmodium gangeticum*), and is thus largely used in a variety of affections.

The root rubbed into a paste with water is recommended to be taken with clarified butter in urticaria and roseola, for a week.²

NAT. ORDER LABIATÆ.

OCIMUM SANCTUM, *Linn.*

Sans. तुलसी, *Tulasi, पर्णास, Parnāsa. Vern. Tulsi, Beng. Hind.*

SANSKRIT writers make two varieties of this plant (founded upon some difference in the colour of their leaves) namely, white and black. The *Ocimum sanctum* is held sacred to Vishnu of the

¹ हिक्कात्रासी पित्रेङ्गानीं सवित्रासुष्यवारिणा । नानरं वासिता भार्गी
वीवर्णसमन्वितम् ॥ चक्रदत्तः ।

² अग्निमन्थमव मूत्रं पिष्टं पीतञ्च सर्पिणा । शीतपित्तोदरकोष्ठान् सप्ता-
ह्वादेवनामयेत् ॥ चक्रदत्तः ।

Hindu trinity, and is reared in every hindu house where it is daily watered and worshipped by all the members of the family. The beads or rosaries used by orthodox natives for counting the number of recitations of their deity's name, are made of the stems of this plant.

The leaves are regarded as anti-catarrhal or expectorant and are used in catarrh, cough and pain in the sides. The juice of the leaves is given with the addition of black pepper in catarrhal fever.¹ It is often used as an adjunct to metallic preparations, which are rubbed with it into a thin paste and then licked up. The leaves enter into the composition of some compound decoctions for cough and affections of the chest. The following is an example. Take of the leaves of *Ocimum sanctum*, *gulanchar*, ginger, root of *Clerodendron Siphonanthus*, (*bhārgi*) and *Solanum Jacquinii* (*kanṭakāri*), equal parts and prepare a decoction in the usual way.² The dried leaves are used as snuff in ozæna. They also enter into the composition of some compound medicines used in this disease, as for example of an oil which is prepared with a paste of the leaves of *Ocimum sanctum*, roots of *Solanum Jacquinii* (*kanṭakāri*), *Baliospermum montanum* (*danti*), *Acorus Calamus* (*vachā*), *Moringa pterygosperma* (*sigru*), long pepper, black pepper, and ginger.³

OCIMUM BASILICUM, Linn. Syn. *Ocimum pilosum*, Willd. Sans. बर्बर, Varvara. Vern. Bābui tulsī. Beng. The seeds of this plant, called *rehān* in the vernacular, are demulcent and nourishing. Steeped in water they swell into a mucilaginous jelly which is taken with the addition of sugar in dysentery, gonorrhœa and cough.

1 पीतोमरिचचूर्णेन तुलसीपत्रजोरसः। श्लेष्मशूलरसोष्णैर्निहन्तिविषम-
ज्वरान् चार्द्धवरः ।

2 सञ्जतानगरफलोव्याघ्रीपत्राणि बाधितः क्वाचः। पीतः सञ्जवाचूर्णः क्वाच-
न्यासी जलन्मायु ॥ चक्रदत्तः ।

3 व्याघ्रीदन्तीवबाणिपुष्टुरसव्योमसैन्धवैः। पाचितं नाभनं तैलं पूतिनावा-
गदं जवेत् ॥ चक्रदत्तः ।

NAT. ORDER AMARANTACEÆ.

AMARANTHUS SPINOSUS. *Linn. Sans.* तण्डु, बीय, *Tanduliya.* *Vern. Kanānāṭiā, Beng. Choldā, Hind.* This thorny weed is considered light, cooling and a promoter of the alvine and urinary discharges. Its root is said to be an efficacious medicine for menorrhagia, in which disease it is given with *rasot* and honey.¹ It enters also into the composition of other medicines for this disease, as for example in the preparation called *Asoka ghrita*.

ACHYRANTHES ASPERA, *Linn.**

Sans. अपामार्ग, *Apāmārga.* खरमञ्जरी, *Kharamanjari.*

Vern. A'pāng, Beng. Latjird, chirchird, Hind.

THIS troublesome weed is chiefly valued on account of its ashes which contain a large quantity of potash. These are used in the preparation of alkaline medicines and caustic pastes, (see Alkaline ashes). The ashes mixed with orpiment are applied as a caustic to warts on the penis and other parts of the body.

*Apāmārga taila.*² Take of sesamum oil four seers, the alkaline water prepared from the ashes of *Achyranthes aspera* sixteen seers, the ashes of the plant one seer, and boil them together in the usual way. This oil is poured into the meatus in cases of noise in the ears and deafness.

The weed itself is described as heating like fire, laxative and a promoter of secretions; it is used in combination with other medicines of its class in ascites and anasarca, (see *Cedrus Deodara*).

NAT. ORDER NYCTAGINACEÆ.

BOERHAAVIA DIFFUSA, *Linn.*

Sans. पुनर्नवा, *Punarnavā,* सोधग्नी, *Sothaghni.*

Vern. Svetapunarnabā, Beng. Sánt, Hind.

BOTH the red and white varieties of this plant are noticed by Sanskrit writers but the white is preferred for use. Its root is

१ रसाञ्जनं तण्डु, लवणं मूलं क्षौद्रान्वितं तण्डु, चतोऽप्यपीतम् । अक्षुद्रं सर्वभवं निवृत्तिं आसक्तु भार्गी सङ्गनागरेण । भावप्रकाशः ।

* The closely allied species *A. bilentata*, *Bl.* is probably used as frequently as this. *G. K.*

२ अपामार्गकारतैलम् । अपामार्गकारजले तक्षितकल्मेन साधितं तिक्त-जम् । अपहरतिकर्षणादं वायुर्विद्यापिपूरयतः ॥ चक्रदत्तः

regarded as laxative, diuretic and stomachic; it is used in jaundice, ascites, anasarca, scanty urine and internal inflammations. One of its Sanskrit synonyms, namely, *sotlagni* means cure for dropsy. A decoction of *punarnavá* root is recommended to be given with the addition of powdered *chiretá* and ginger in anasarca.¹ A compound decoction much used in this disease is prepared as follows.

Punarnaváshṭaka.² Take of *Punarnavá* root, nim bark, leaves of *Trichosanthes dioica* (*paṭola*), ginger, *Picrorrhiza Kurroa* (*kaṭuki*), chebulic myrobalan, *gulancha*, and the wood of *Berberis Asiatica* (*dáruharidrā*), quarter of a tola each, water thirty-two tolas; boil together till reduced to one-fourth. This decoction is given in general anasarca with ascites, cough, jaundice, difficult breathing, etc. An oil, prepared with a decoction of the root and a number of the usual aromatics in the form of a paste, is rubbed on the body in general anasarca complicated with jaundice. It is called *Punarnavá taila*.³

The Bhávaprakáśa gives an electuary under the name of *Punarnavávaleha*. It is prepared with a decoction of the root of *Boerhaavia diffusa* and a number of other ingredients, and is used in strangury or scanty urine.

NAT. ORDER LAURACEÆ.

CINNAMOMUM CAMPHORA, *Nees et Ebermaier*.

Sans. कर्पूर, *Karpura*, चन्द्राङ्ग, *Chandráṅga*.

Vern. Kápur, Hind. Karpur. Beng.

Two varieties of camphor are mentioned by Sanskrit writers, namely, *pakva* and *apakva*, that is prepared with the aid of heat

¹ भूनिष्पन्नं विश्वकर्मणं जगद्धामिषः पुनर्नवाकाशः। अपहरति नियतमायुषोऽयं सर्वकृत् सर्वकाम् ॥

² पुनर्नवाष्टकः । पुनर्नवाष्टकपटोलशुद्धीतिक्ताष्टतादाय्यभवाकषायः। सर्वकृद्योषोदर काशशूलशामान्निहं पाण्डुरगदं निहन्ति । चक्रदन्तः ।

³ पुनर्नवाष्टकम् । पुनर्नवाष्टकयतं जलशोषे विपाचयेत् । तेन पादावशेषेण तैलप्रस्थं विपाचयेत् । त्रिकटु त्रिफला शङ्खी घण्टाकं कटफलं तथा । शठी दाहप्रियङ्गु च देवदारुहरेणुभिः । कुष्ठं पुनर्नवाचनं यमानी कारवी तथा । एषा त्वचं पद्मकक्ष पलं नागरक्षैरम् । एषाञ्च कार्ष्णिक्कैः कक्षैः येनयित्वा

and without it. The latter is considered superior to the former. It would seem from the above description that by the term *apakva karpura*, was probably meant the camphor obtained in Borneo from the trunk of *Dryobalanops aromatica*, (*Shorea Camphorifera*, Roxb.) and by the term *pakva karpura*, the China camphor obtained by sublimation from the wood of *Cinnamomum Camphora*.

The *Rājanirghantu* describes an oil of camphor under the name of *karpura taila*. It is said to be useful in 'rheumatism and in giving firmness to loose teeth. This oil is not recognized or used by the native practitioners of the present day,' but it most probably meant the camphor oil or liquid camphor obtained by making incisions on the Borneo camphor tree.

Camphor is regarded as carminative, stimulant and aphrodisiac; it is used in fever, diarrhoea, impotence, cough, eye-diseases, etc. It is also much used in the preparation of medicinal oils for imparting fragrance to them, singly as well as in combination with other aromatic substances. Camphor enters into the composition of numerous medicines for the diseases mentioned above. The following is an illustration.

Karpura rasa.¹ Take of cinnabar, opium, camphor, tubers of *Cyperus rotundus* (*mustaka*), *indrajaya* seeds and nutmegs, equal parts; powder the ingredients, and make into four-grain pills with water. These pills are used in diarrhoea.

Camphor, rubbed with the milky juice of *Ficus Bengalensis*, is recommended to be applied to opacities on the cornea. It enters also into composition of several collyria.² A small tent made with

विनिर्मितम् । कामवापायश्च, रोगं च हस्तिमक्षमश्चापि वा । स्त्रीहानमुदरश्चैव
जीर्णवद्व्यपोहति । तैलं पुनर्नवा नाममलव्याधिद्विज्यच्छति । सारकौस्तुभे ।

¹ कर्पूररसः । हिङ्गुलमहिफेषश्च सुस्तकेन्द्रवत् तथा । जातीफलश्च कर्पूरं
सर्वं संमर्दयत्नतः । जलेन वटिकाकायां द्विगुञ्जापरिमाणतः । उदरतोषारिणे
चैव तथातोषारदोषिणे । पङ्कषीमृत्प्रकारे च रक्तातीषारउल्लेखे । अक्ष-
कोषिष्टकृन्मन्त्रे कभागमिच्छन्ति । रसरत्नावली ।

² वटकीरेणसंयुक्तं श्लक्ष्णं कर्पूरजं रजः । क्षिप्रमञ्जनतोहन्ति शुक्लश्चापि
वनोज्ञतम् । । चक्रदत्तः ।

camphor is introduced into the urethra for the relief of irritability of the bladder and frequent micturition.¹

CINNAMOMUM ZEYLANICUM, *Breyn. Sans.* गुड़त्वक् *Gūḍatvak*. Cinnamon is largely used as an aromatic adjunct in compound prescriptions. A combination of cinnamon, cardamoms and *tejapatra* leaves, passes by the name of *trijātaka*, these three aromatics being often used together.

CINNAMOMUM TAMALA, *Nees.* and other species, furnish the leaves called *tejapatra* in Sanskrit, and *tejpāt* in the vernacular. They are an essential ingredient of Indian cookery. For remarks on their uses in medicine see *Cinnamomum Zeylanicum*.

NAT. ORDER MYRISTICÆ.

MYRISTICA OFFICINALIS, *Linn.* Both nutmegs and mace enter into the composition of numerous medicines as aromatic adjuncts, but there is no peculiarity in their use that need special consideration here. An infusion of nutmegs is recommended by several writers as a serviceable drink in the thirst of cholera patients.²

NAT. ORDER SANTALÆ.

SANTALUM ALBUM, *Linn.*

Sans. चन्दन, *Chandana*, श्रीखण्ड, *Srikhandā*.

Vern. Chandan, *Beng.* Saphed chandan, *Hind.*

SANSKRIT writers describe several varieties of *chandana* and some include the woods of *Pterocarpus Santalinus* (*raktachandana*) and *Cæsalpinia Sappan* (*pattanga*) under this common denomination. Excluding these last, two varieties of sandal wood are generally recognised, namely, *srikhandā* or white sandal wood

¹ मेहनस्याद्यदोनेषां सुखस्याभ्यन्तरे जनैः। घनसारयुतां वसिष्ठारवेकूल-
नियते । भावप्रकाशः ।

² पिपासायामनुत्क्रोशे कवकसाम्यमुच्यते । जातीफलस्य वाशीतं मृतं
भक्ष्यमस्य वा । चक्रदत्तः ।

and *pitachandana* or the yellow variety. These varieties are founded on the difference in the depth of colour in the heart-wood and not on any specific difference in the plants. The use of sandal wood in carving, and the elegant and fragrant articles made from it, are too well known to need description here. The Hindus use an emulsion of the wood in the worship of their idols and for painting or anointing their bodies after bathing. Rich natives sometimes use sandal wood for burning their dead relatives. Rich or poor, all add at least one piece of the wood to the funeral pile.

The essential oil of *chandan* (*chua chandana*) obtained by distillation from the heart-wood and roots, is of a pale yellow colour and has a peculiar fragrant smell best appreciated by rubbing a few drops of it on the hand. It is much used as a perfume by the Hindus both for themselves and for their idols. In Orissa it is a practice with the better classes to rub a little sandal oil in the spices which they take with their betle-leaf.

Sandal wood is described as bitter, cooling, astringent, and useful in biliousness, vomiting, fever, thirst and heat of body. An emulsion of the wood is used as a cooling application to the skin in erysipelas, prurigo and sudamina.¹ Two tolas of the watery emulsion of sandal wood, with the addition of sugar, honey and rice-water, is given to check gastric irritability and dysentery, and to relieve thirst and heat of body.²

NAT. ORDER EUPHORBIACEÆ.

PHYLLANTHUS EMBLICA, Linn.

Syn. Emblica officinalis, Gaertn.

Sans. आमलकी, A'malaki, बालि, Dhātri.

Vern A'mlaki, Beng. A'onlá, Hind.

LIKE chebulic myrobalan, emblic myrobalan is also extensively used in Hindu medicine, both alone and in combination

¹ पित्तवृत्ते विषये वेदादिभेदाः वृत्ताः सुधीताः । मरेष्वाः परिमेकाच
चन्दनैर्वा प्रयुज्यते । चन्दनः ।

² पीतं मधुसितायुतं चन्दनं तण्डुलान्मुना । रक्तातीसारजिह्वामित्तद्व-
दाहमेहहृत् ॥ भावप्रकाशः ।

with the two other myrobalans. The fresh fruits are glolular, six-striated, with a fleshy, acidulous pulp. A preserve of the ripe fruits made with sugar, is considered a wholesome article of diet and a preservative of health. The dried fruits are wrinkled, of a blackish grey colour, and have an acidulous, astringent taste.

The properties of emblic myrobalan are said to resemble those of the chebulic. The fresh juice is cooling, refrigerant, diuretic and laxative. The dried fruits are astringent and useful in hæmorrhages. It is said that the exudation from incisions made on the fruits while on the tree, is a very useful external application in recent inflammation of the eye. It is also used as a collyrium.¹

The following preparation is used as a cooling and stomachic drink in irritability of the stomach. Take of emblic myrobalan, raisins, sugar and honey, eight tolas each, water half a seer; rub them together, strain through cloth and administer the strained fluid in suitable doses.²

About two drachms of emblic myrobalan is recommended to be given in the form of a paste, with the addition of honey for checking menorrhagia and discharge of blood from the uterus. The fresh juice of the ripe fruits is given with honey as a diuretic.³ A paste of the fruits is applied over the pubic region in irritability of the bladder.⁴

Khandāmalaki,⁵ or confection of emblic myrobalan. Take of the pulp of an old gourd of *Benincasa cerifera*, (*kushmāṇḍa*) four

१ धालीकवनिर्जासो न वृद्धोपं निहन्ति पूरयतः । कस्य विद्वानस्य करः
वर्जोऽपि रोगदुःखः । चन्द्रदत्तः ।

२ पिप्पलीकवनिर्जासो न वृद्धोपं निहन्ति पूरयतः । कस्य विद्वानस्य करः
वर्जोऽपि रोगदुःखः । चन्द्रदत्तः ॥

३ धालीकवनिर्जासो न वृद्धोपं निहन्ति पूरयतः । कस्य विद्वानस्य करः
वर्जोऽपि रोगदुःखः । चन्द्रदत्तः ।

४ धालीकवनिर्जासो न वृद्धोपं निहन्ति पूरयतः । कस्य विद्वानस्य करः
वर्जोऽपि रोगदुःखः । चन्द्रदत्तः ॥

५ धालीकवनिर्जासो न वृद्धोपं निहन्ति पूरयतः । कस्य विद्वानस्य करः
वर्जोऽपि रोगदुःखः । चन्द्रदत्तः ॥

hundred tolás, clarified butter two seers, sugar four hundred tolás, fresh emblic myrobalans four seers, juice of the gourd of *Benincasa cerifera*, four seers ; first dry the pulp of the gourd and fry it in the clarified butter. Express the juice of the emblic myrobalans and boil the fried pulp in the mixed juices of the emblic myrobalan and the pumpkin, with the addition of the sugar. When the syrup is thick enough, add the following aromatic substances, namely, long pepper, nigella seeds and ginger, each sixteen tolás, black pepper eight tolás, coriander, cinnamon, leaves called *tejapatra*, cardamoms, flowers of *Mesua ferrea* (*nágakesara*), tubers of *Cyperus rotundus* (*mustaka*), and the leaves of *Pinus Webbiana* (*tdlisa*), each two tolás, (all in fine powder) and stir with a ladle till intimately mixed. Then add honey one seer and stir well till reduced to the consistence of a confection. This preparation is said to be useful in dyspepsia with pain and vomiting after meals, disinclination for food, pain in the precordial region, etc. It promotes the appetite and acts as a tonic.

Dhatri lauha.¹ Take of powdered emblic myrobalan, sixty-four tolás, prepared iron thirty-two tolás, liquorice powder sixteen tolás, mix them together and soak in the juice of *gulanha* for seven times successively. This preparation is given in doses of twenty to forty grains in anæmia, jaundice and dyspepsia.

द्व्योपाकं गते तस्मिन् बीजस्य विनिश्चयेत् । इ इ पक्षे कषाजाजीपुगुटीनी
मरिचस्य च । पक्षं ताक्षीय भन्वाक चातुर्जातक सुककम् । कर्षप्रमाणं प्रत्येकं
प्रकाशं नाशिकस्य च । यस्मिन्मुखं निहन्ते तद्दोषमयभवत्तु यत् । कर्षणवि-
तनून्नां च चासकासावरोचकम् । कृष्णं रक्तपित्तस्य वृण्मृषस्य नाशयेत् ।
रसावनमिदं त्रैलोक्ये कण्टारमसकसंज्ञितम् । चक्रदत्तः ।

1 धात्रीबीजम् । धात्रीबीजं स्वाधौ पक्वानि चत्वारिंशोद्वयं । वटी-
मधुकरजव द्विपक्षं दद्यादुपले वृणम् । कण्टारकायेनैतन्मूर्धं भाव्यं च वृण-
म् । कण्टारतपेन शुपकं दूयः पिष्ट्वा गवे घटे स्वाधम् । वृणमधुनावहयुक्तं
भुक्तादीनध्यतोऽन्ते च । मीनपित्तान् कारेतुपयः दोषाहवन्तेन । भक्त-
कादौ नाशयति व्याधीन् विस्तान् बीजम् । कण्ठेऽक्षिपितम् जयति कषां
विदहति नाशम् । पानाशयनान् दोषान् भुज्जने बीजं जयति । एवं
जीर्णतिवाक्के मुखं कषां सुकटमपि ॥ चक्रदत्तः ।

*Dhatri arishṭa*¹ or fermented liquor of emblic myrobalan. Take the fresh juice of two thousand emblic myrobalans, honey in quantity equal to one-eighth of the juice, powdered long pepper sixteen tolās, sugar six seers and a quarter; mix them together, boil for a while and leave the mixture to ferment in an earthen jar. This liquor is used in jaundice, dyspepsia, indigestion, cough, etc.

CROTON TIGLIUM, Linn.

Sans. कवपाथ, *Jayapāla*. कनकफळ, *Kanakaphala*

Vern. Jaypāl, *Beng.* Jamālgotā, *Hind.*

THE seeds of *Croton Tiglium* are considered heating, drastic, and useful in fever, constipation, intestinal worms, enlargements of the abdominal viscera, ascites, anasarca, etc. They are boiled in milk and their outer skin and embryo are removed before being used internally. Croton oil is not mentioned by any Sanskrit writer and was unknown to the ancient Hindus. Croton seeds enter into the composition of a great many medicines for the diseases mentioned above. The following are a few illustrations.

Ichchhavedivatikā.² Take of mercury, sulphur, borax and black pepper, one part each, ginger three parts, croton seeds nine parts; rub them together with water and make into two-grain pills. These are given in fever with constipation as also in ascites and anasarca.

Rukkesa rasa.³ Take of chebulic myrobalan five parts, croton

१ धात्रीरिः । धात्रीकवपथो हे श्रीकृष्णारवं भिषक् । श्रीरुद्र-
भागं पिप्पल्याचूर्णं कुट्टवानितम् । यर्षराईतलोन्निचं पक्वं क्षिप्त-
पटे स्मितम् । प्रविशेत्पाण्डुरो नार्त्तं श्रीरुद्रं हितमितायनः । कानकापाण्डु-
कुशोनवाताह्वयविमज्जरात् । कावहिकारविद्याधामेवोऽरिः प्रकाशयेत् ।

चक्रदत्तः ।

२ रुक्माग्नेदीरः । शुद्धं पारदं कथं समरिचं तस्मात्प्रमज्जन्वा तथा विद्याच-
क्षिपुया ततो नवगुणं कवपाचूर्णं क्षिपेत् । शुद्धैकप्रमितो रवो हिमजलैः
संक्षिपिते रेवतेद्यावन्नोष्णजलं पिबेदपिनरः पञ्चद्वयदध्यौदनं । रवेन्द्रवारसंनयः

३ रुक्मेयोदः । कवपाचूर्णमादाय नूतनैर्कवपाचूर्णैः । पञ्चमांशेन मिश्रितैः
क्षुहीदुग्धैर्विपाचितम् । शुद्धिकाकस्य कर्तव्या वस्तु शास्त्रकप्रभाः । विर-
क्तो शुद्धिकादेवा चोदरेदाद्यत्नात्के ॥ रवेन्द्रवारसंनयः ।

seeds one part, soak them in the milky juice of *Euphorbia neriifolia* (*snuhi*), and make into four-grain pills. These are given with a decoction of the root of *Ipomœa Turpethum* (*trivrit*), or *Baliospermum montanum* (*danti*), as a drastic purgative in obstinate constipation.

Mahāndrācha rasa.¹ Take chebulic myrobalan, pulp of *Cassia Fistula*, emblic myrobalan, root of *Baliospermum montanum* (*danti*), *Picrorrhiza Kurroa* (*tiktā*), milky juice of *Euphorbia neriifolia* (*snuhi*), root of *Ipomœa Turpethum* (*trivrit*) and the tubers of *Cyperus rotundus* (*mustaka*), each one tola; pound them to a coarse powder and boil in four seers of water till the latter is reduced to one-eighth. Then take a tola of husked croton seeds, tie them in a piece of thin cloth and boil them in the above mentioned decoction till the latter is reduced to the consistence of a fluid extract. To this extract add a powder composed of eight parts of purified croton seeds, three parts of ginger and two of black pepper, mercury and sulphur, in quantity sufficient to make a pill-mass; rub them together for twelve hours, and make into two-grain pills. These are given with cold water in tympanitis, colic, ascites, etc., as a drastic purgative. After the operation of this medicine, rice should be given with curdled milk and sugar.

BALIOSPERMUM MONTANUM, Mull.

Sans. दन्ती, *Danti.* *Vern.* Danti, *Hind.* Beng.

THE seeds of *Baliospermum montanum* are described as drastic. Like croton seeds they are boiled in milk before use. The root of the plant is considered cathartic. Both are much used in diseases where purgatives are indicated. The following are a few examples of prescriptions containing these medicines.

१ मङ्गानाराच रसः। अथवारम्बो धाली दन्ती तिक्ता कुङ्कीलिडत्। छत्ता-
प्रलेकनेतानि प्याद्यानि पञ्चमात्रया। तानि सङ्कुञ्च सर्वाणि जलादुद्धुगे पचेत्।
तत्र तोवेऽष्टमं भागं कषायसङ्घेपयेत्। निखक्जैपाचवीजानि नवानि पञ्चमा-
त्रया। तदुवञ्चद्विषयेव तस्मिन् काये शनैः पचेत्। उवाचयेदनखं मन्दं वायु
ज्वालो वनो भवेत्। ततः सङ्गे क्षिपेद्भागानदी जैपाचवीजतः। भागान् त्रीन्
नागरात् द्वौ च गरिषाद्वौ च पारदात्। मन्त्रकाद्वौ च तानीह वापद्यानं

Nārācha rasa.¹ Take of mercury, borax and black pepper, one part each, sulphur, ginger and long pepper two parts each, seeds of *Baliospermum montanum* nine parts ; powder the ingredients and make into two-grain pills with water. These are given in constipation and tympanites.

Danti haritaki.² Take twenty-five large chebulic myrobalans and enclose them in a piece of cloth ; then take of the roots of *Baliospermum montanum* and *Ipomœa Turpethum* (*trivrit*), each two hundred tolās, water sixty-four seers, boil them together till the water is reduced to eight seers. Strain the decoction, take out the chebulic myrobalans and fry them in thirty-two tolās of sesamum oil. To the strained decoction add two hundred tolās of old treacle ; then boil till reduced to the proper consistence for a confection. Now add to the mass the following substances, namely powdered root of *Ipomœa Turpethum* (*trivrit*) thirty-two tolās, long pepper and ginger, each eight tolās, and stir them well ; when cool add thirty-two tolās of honey, cinnamon, cardamom, leaves called *tejapatra*, and the flowers of *Mesua ferrea* (*ndgakesara*) each

विमर्दयेत् । रसो नाराचनामायं भक्षितो रक्तिकाक्षितः । जलेन शीतलेनैव
रोमानेतान् विनाशयेत् । आध्मानं मूत्रसमानाहं प्रत्याध्मानं तथैव च । उदावर्त्तं
तथा शुक्लसुदरानि हरिष्यन्ती । वेनेशान्ते षष्ठं भुञ्जीत शर्करासहितं दधि । ततस्तत्
सैन्धवेनापि ततो दध्योदनं मनाक् । भावप्रकाशः ।

1 नाराचरसः । सूतकटुकपुष्पकमुखां भरिचं समस्तस्यकम् । गन्धं पिप्पली
शुद्धी द्वौ द्वौ भागौ विचूर्णयेत् । सर्वद्रव्यं क्षिपेद्दन्ती बीजक्षिप्तुमित्युच्यते ।
शुद्धीकं रेचनं सिद्धाचारोचं सहारसः । आध्मानमक्षविट्पुष्टावर्त्तश्च
नाशयेत् । शार्ङ्गधरः :

2 दन्तीहरीतकी । जलद्रोणे विप्लव्या विंशतिः पञ्च चाभवाः । दन्त्याः
पञ्चानि तावन्नि विप्लवस्य तथैव च । तेनाट्मानशेषेण पचोद्दन्तीषमं शुद्धम् ।
ताचाभवा त्रिदशूर्वासैवाद्यापि चतुःपञ्चम् । पञ्चमेकं कषायशुद्धोः विद्वे वेदे
च शीतले । शोणं तैलवमं दद्यात्तातुर्जातपक्वलाभा । ततो वेदपचं बीडा
जम्ब्याचैका हरीतकीम् । सुष्ठं विरिच्यते क्षिप्त्वा दोषप्रत्यमनामयः । शीतश्च
मधुशुक्लाशी कृत्वाण्डुपद्व्योमदाः । शान्तमुत्रस्त्रेयविप्लवश्चरुह्नाम्बरो-
चकाः । चक्रदत्तः ।

eight tolás, and prepare a confection. The chebulic myrobalans should be kept imbedded in the medicine. Two tolás of the confection and one of the chebulic myrobalans are to be taken every morning.

Guḍāśhṭaka.¹ Take of *danti*, *trivrit* and plumbago roots, black pepper, long pepper, ginger and long pepper root, equal parts in fine powder; treacle, equal in weight to all the other ingredients and mix. Dose, about a tola every morning in flatulence and retained secretions, anasarca, jaundice, etc.

RICINIS COMMUNIS, *Linn.*

Sans. एरण्ड, *Eranda*. रुक्, *Ruvuka*.

Vern. Bherendá, *Beng.* Erend. *Hind.*

THE root of *Ricinis Communis* and the oil obtained from the seeds have been used in medicine by the Hindus from a very remote period. They are mentioned by *Susruta*. Two varieties of the plant are described, namely red and white. Their properties are said to be identical. Castor oil is regarded as purgative and useful in costiveness, tympanitis, fever, inflammation, etc. It is much praised for its efficacy in chronic rheumatic affections in which it is used in various combinations. One of its synonyms is *vátári* or anti-rheumatic. The root of the plant is also said to be particularly useful in the local varieties of rheumatism such as lumbago, pleurodynia, and sciatica.

As a purgative, castor oil is recommended to be taken with cow's urine, or an infusion of ginger or a decoction of the combination called *dasamula* (see *Desmodium gangeticum*).²

१ गुह्मकण्डूम् । व्योषं दन्ती लिङ्गितं जम्बामूलं विचूर्णितम् । तच्चूर्णं
गुह्मकण्डूम् मद्येत् प्रातःकलितः । एतद्गुह्मकण्डूं नाम बलवर्धनविषम् ।
बोबोदावर्त्तं मूत्रघ्नं शीघ्रपाण्डूनामवापहम् । सर्वचूर्णबोधोद्यो देवः ।

भावप्रकाशः ।

२ दशमूलकपात्रेषु पिबेद्वा नामराम्भसा । कटिभूषेषु च व्योषं तैलमेरुख
वन्धवम् । चक्रदत्तः ।

The seeds, freed from impurities and rubbed into a paste, are boiled in milk and water, and the decoction is given in lumbago and sciatica.¹ In pleurodynia, or pain in the sides, a decoction of the root is given with the addition of *yavakshāra*, (impure carbonate of potash).² The root of *Ricinis communis* enters into the composition of various compound prescriptions for rheumatic affections and diseases of the nervous system.

In affections of the eyes, castor oil leaves and root are used in a variety of forms and several prescriptions containing them are given by most writers. A decoction of the bark, leaves and root of the plant, in goat's milk and water is recommended for use as a wash in recent ophthalmia.³

MALLOTUS PHILIPPENSIS, Mull.

Syn. Rottlera tinctoria, Roxb.

Sans. कम्पिल्ल, Kampilla, रेचनक, Rechanaka.

Vern. Kamilā, Beng. Kambilā, Kamalā, Hind.

ROXBURGH and Brandis give *Punnāga* as the Sanskrit for this plant. As far as my information goes, *Punnāga* is the Sanskrit for *Calophyllum inophyllum*, a large tree of the Coromandel Coast with beautiful white fragrant flowers and numerous stamens arranged in rows. *Kampilla* is the red mealy powder covering the capsules of *Mallotus Philippensis*. It is described as cathartic and anthelmintic and is chiefly used to expel intestinal worms. *Kampilla* powder given in doses of one tola with treacle, is said to kill and expel all intestinal worms.⁴ It enters into the composition of

1 विशोध्यैरण्यबीजानी पिप्पा क्षीरे विपाचयेत् । तत्पायसं कटीन्मुखे
जठरां परमौषधम् । भावप्रकाशः ।

2 एरण्यमूलं द्विपलं जलेष्टुष्यते पचेत् । तत् काको वायन्मुकाठः
पार्श्वकुङ्कुमकन्दुवहा । शार्ङ्गधरः ।

3 एरण्यपत्रे मूत्रे त्वचिचार्जं पयःकृतम् । कण्टकाक्षां च मूत्रेण सुखीणं
सेचने हितम् । चक्रदत्तः ।

4 कम्पिल्लचर्षकपाण्डुं गुडेन सहभक्षितम् । पातयेत् क्रिमीन् सन्धाहृद्-
स्यासंशयः । भावप्रकाशः ।

numerous compound prescriptions for worms. The following is an illustration. Take of *kampilla*, *báberang* seeds, chebulic myrobalan *yavakshára* (impure carbonate of potash), and rock salt, equal parts; powder and mix. Dose, about a drachm, with butter-milk.¹

EUPHORBIA NERIIFOLIA, Linn.

Syn. Euphorbia ligularia, Roxb.

Sans. कूहि, Snuhi, वज्जी, Vajri, वैकुण्ठ, Sehunda.

Vern. Mansásij, Beng. Sehund, Thohar, Hind.

THIS prickly shrub is sacred to Mansá the goddess of serpents. On the fifth day after full moon of the month of Sravana (July, August) it is planted in the court-yard of Hindu houses and worshipped as the representative of Mansá the goddess of serpents. *Euphorbia antiquorum*, called *tekáś sij* in Bengali on account of its triangular stem, is probably alluded to by some Sanskrit writers under the name of *vajri*, which is explained as a variety of *snuhi*. This plant is supposed to ward off lightening strokes and is generally kept in tubs or pots on the roofs or other exposed parts of native houses. Its popular medicinal uses are like those of *Euphorbia neriifolia*.

The milky juice of *Euphorbia neriifolia* is considered purgative and rubefacient. As a purgative it is generally used in combination with other medicines which are steeped in it. Chebulic myrobalan, long pepper, *trivrit* root, etc., are thus treated and administered as drastic purgatives, in ascites, anasarca and tympanitis.² It enters into the composition of several compound prescriptions of a drastic character as for example, the *Mahánd-rácha rasa* described under *Croton Tiglium*, and *Vindu ghrita* a preparation with clarified butter, of similar composition.

Turmeric powder mixed with the milky juice of *Euphorbia*

¹ विद्वत्संख्यव्याकरकाज्जिह्वकहरीतकोः । पिपेत्तक्रेव कपिपटाः सर्व-
क्षिप्रिनिहतये । चक्रदत्तः ।

² निहदुहरीतको य्नायाः कूहीवीरेव भावयेत् । वटिकामूलवीतायाः
चेडाद्यानाहमेदिताः । चक्रदत्तः ।

neriifolia is recommended to be applied to piles.¹ Thread steeped in the above mentioned mixture is used in ligaturing external hæmorrhoids.² The powdered wood of *Berberis Asiatica* (*dāruhari-drā*) is steeped in the milky juice of *snuhi* and of *Calotropis gigantea* (*arka*), and made into tents for introduction into the tracks of fistula in ano and other sinuses.³

NAT. ORDER MYRICEÆ.

MYRICA SAPIDA, Wall.

Sans. कट्फल, Katphala. *Vern.* Kāephal, *Hind.*

THE bark of *Myrica sapida* (a Himalayan tree), is its most valuable product, and is largely exported to the plains. It is dark or browish grey, with deep vertical wrinkles, and is considered heating, stimulant and useful in diseases supposed to be caused by deranged phlegm, such as catarrhal fever, cough, and affections of the throat. It enters into the composition of numerous formulæ for these diseases. The following is an example.

*Katphalādi Churna.*⁴ Take of the bark of *Myrica sapida*, tubers of *Cyperus rotundus* (*mustaka*), root of *Picrorrhiza Kurroa* (*katuki*), *Curcuma Zedoaria* (*saṭi*), *Rhus succedanea* (*karkarṭa sringi*), and the root of *Aplotaxis auriculata* (*kushta*), equal parts ; powder and mix. This powder is given in doses of about a drachm with the addition of ginger-juice and honey in affections of the throat, cough and asthma.

In catarrh with headache the powdered bark is occasionally used as a snuff.

1 कूकशीरं रजनीयुक्तं वेपादुर्नामनायनम् । चक्रदत्तः ।

2 भावितं रजनीचूर्णैः कुङ्कीचीरे पुनः पुनः । बन्धनात् सुहृदं सूत्रं
भिनत्तयोर्भगन्दरम् । चक्रदत्तः ।

3 कुङ्कुमादिगुग्गु दाक्षीर्भिर्वत्तिं कृत्वा विचक्षणः । भगन्दरान्तिं ज्ञात्वा पुर-
वेत्तां प्रयत्नतः । एषा सर्वशरीरस्यां नाडीं हन्यान्नयवः । चक्रदत्तः ।

4 कट्फलादिचूर्णम् । कट्फलं सुसकतिक्ता यटोश्चक्री च पुष्करम् ।
चूर्णमेवाह सधुना श्लक्नवेररसेन च विहेत् । ज्वरहरं कण्टं काशनासादर्थी-
जवेत् । वायुर्द्धिं तथाप्युक्तं सवच्चैव व्यपोहति । चार्कधरः ।

NAT. ORDER URTICEÆ.

FICUS RELIGIOSA, Linn. Sans. अश्वत्थ, *Asvattha*. Vern. Pipal, Hind.

FICUS BENGALENSIS, Linn. Sans. बट, *Vaṭa*. Vern. Bar. Hind.

FICUS GLOMERATA, Willd. Sans. उडुम्बर, *Uḍumbara*. Vern. Jagnoḍumar, Beng. Gular, Hind.

FICUS INFECTORIA, Roxb. Sans. पकटि, *Parkaṭi*. Vern. Pákur, Beng. Pákri, Hind.

THE root-barks of these four species of *Ficus* together with that of *Azadarachta Indica* pass by the name of *panchavalkala* or the five barks, and are used in combination. A decoction of these barks, called *pancha valkala kasháya* is much used as a gargle in salivation, as a wash for ulcers, and as an injection in leucorrhœa.¹ The powdered root-bark of *Ficus religiosa* rubbed with honey is applied to aphthous sores of children.² It is also sprinkled over unhealthy ulcers to improve their condition and promote granulation.³

The figs of *Ficus glomerata* are considered astringent, stomachic and carminative and are given in menorrhagia and hæmoptysis in doses of one tolá of the dried fruits with sugar and honey.⁴ The fresh juice of the ripe fruit is given as an adjunct to a metallic medicine for diabetes and other urinary complaints, called *Vrihat vangesvara rasa*, (see Tin).

CANNABIS SATIVA, Linn. VAR. INDICA.

Sans. विजया, *Vijayá*, भङ्गा, *Bhaṅgá*, गङ्गा, *Ganjá*, इन्द्रासन, *Indrāsana*.

Vern. Siddhi, *Bháṅg*, Beng. *Bháṅg*. Hind.

THE *Cannabis sativa* has been used from a very remote period both in medicine and as an intoxicating agent. A mythological

1 प्रदेहाः परिमेकाश्च यस्मिन्ने पञ्चवल्कलेः । चक्रदत्तः ।

2 अश्वत्थत्वग्द्वयोर्द्वैर्मुक्षपाके प्रोपेयम् । चक्रदत्तः ।

3 अन्तर्दग्धकुठारकोदहनजं वेपाक्षिहन्निद्रयान्। अश्वत्थस्य विमुक्तावल्कलं
कृतं चूर्णं तवायुश्चक्षमात् । चक्रदत्तः ।

4 क्षमाक्षिकः फल्गुफलोद्भवो वा धीतोरसः योचितमायुश्चक्षि। औद्भुतं

origin has been invented for it. It is said to have been produced in the shape of nectar while the gods were churning the ocean with the mountain called Mandāra. It is the favourite drink of Indra the king of gods, and is called *vijayā*, because it gives success to its votaries. The gods through compassion on the human race sent it to this earth so that mankind by using it habitually may attain delight, loose all fear, and have their sexual desires excited.¹ On the last day of the Durga pooja, after the idols are thrown into water, it is customary for the Hindus to see their friends and relatives and embrace them. After this ceremony is over it is incumbent on the owner of the house to offer to his visitors a cup of *bháng* and sweet-meats for tiffin.

An intoxicating agent with such recommendations cannot but be popular and so we find it in general use amongst all classes especially in the North-West provinces and Behar. In Bengal it has latterly become the fashion to substitute brandy, but I well remember having seen in the days of my boyhood the free use of *bháng* among the better classes of people who would have shunned as a pariah any one of their society addicted to the use of the forbidden spirituous liquor. At the doors of many rich baboos, Hindustani durwans could be seen rubbing the *bháng* in a stone mortar with a long wooden pestle, and the paste so prepared was not solely intended for the use of the servants. I do not mean to say that all classes of Hindoos without exception are or were addicted to the use of *bháng*. Some castes among the up-country men and some classes of people amongst Bengalis are as a rule very temperate in their habits and do not use any narcotic at all ; but the ordinary run of orthodox Hindus, accustomed to have their little excitements, use

कञ्जरं कोण्डोदुम्बरञ्च पिबेत् । अङ्गुर्दरविनाशाय सर्वकर्मबोधभुक् ।

अकदस्तः ।

1 जाता सन्दरमन्मनास्त्रजनिषी पीयूषरूपा सुरा त्रैलोक्यविजयप्रदेति
विजया श्रीदेवराजप्रिया । लोकानां हितकाम्यया क्षितितले प्राप्ता नरैः
कामदा सर्वार्तहृविनाशकृजनीयैः सेविता सर्वदा । राजगङ्गाधरः ।

bháng for the purpose without incurring any opprobrium such as would result from the use of spirituous liquors.

The three principal forms in which Indian hemp is met with in India are,—1, *Gánjá*, the dried flowering tops of the female plant, from which the resin has not been removed. 2, *Charas*, the resinous exudation from the leaves, stems and flowers. 3, *Bháng*, the larger leaves and seed vessels without the stalks.

Sir William O'Shaughnessy has so well described the preparations of Indian hemp in use amongst the natives, and his name is so intimately associated with the history of this drug, that I cannot do better than quote his account of them.

"*Sidhee*, *Subjee* and *Bháng* (synonymous) are used with water as a drink which is thus prepared :—About three tolas' weight (540 troy grains) are well washed with cold water, then rubbed to powder, mixed with black pepper, cucumber and melon seeds, sugar, half a pint of milk and an equal quantity of water. This is considered sufficient to intoxicate an habituated person. Half the quantity is enough for a novice. This composition is chiefly used by the Mahomedans of the better classes.

"Another recipe is as follows:—

The same quantity of *Siddhi* is washed and ground, mixed with black pepper, and a quart of cold water added. This is drank at one sitting. This is the favourite beverage of the Hindus who practice this vice, especially the Birjobassies and many of the Rajpootana soldiery.

"From either of these beverages intoxication will ensue in half an hour. Almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyments. In persons of a quarrelsome disposition it occasions, as might be expected, an exasperation of their natural tendency. The intoxication lasts about three hours, when sleep supervenes. No nausea or sickness of stomach succeeds, nor are the bowels at all affected; next day there is slight giddiness and vascularity of the eyes, but no other symptom worth recording.

"*Gánja* is used for smoking alone: one rupee weight, (180 grains) and a little dried tobacco are rubbed together in the palm

of the hand, with a few drops of water. This suffices for three persons. A little tobacco is placed in the pipe first, then a layer of the prepared *gānga*, then more tobacco and the fire above all. Four or five persons usually join in this debauch. The *hookāh* is passed round, and each person takes a single draught. Intoxication ensues almost instantly and from one draught to the unaccustomed ; within half an hour, and after four or five inspirations to those more practised in the vice. The effects differ from those occasioned by the *siddhi*. Heaviness, laziness, and agreeable reveries ensue, but the person can be readily roused and is able to discharge routine occupations, such as pulling the *pānkah*, waiting at table, etc.

“The *Májoon* or hemp confection, is a compound of sugar, butter, flour, milk, and *siddhi* or *bhāng*. The process has been repeatedly performed before us by Ameer, the proprietor of a celebrated place of resort for hemp devotees in Calcutta and who is considered the best artist in his profession. Four ounces of *siddhi* and an equal quantity of *ghee* are placed in an earthen or well-tinned vessel, a pint of water added, and the whole warmed over a charcoal fire. The mixture is constantly stirred until the water all boils away, which is known by the crackling noise of the melted butter on the sides of the vessel ; The mixture is then removed from the fire, squeezed through cloth while hot, by which an oleaginous solution of the active principles and colouring matter of the hemp is obtained ; and the leaves, fibres, etc., remaining on the cloth are thrown away. The green oily solution soon concretes into a buttery mass and is then well washed by the hand with soft water, so long as the water becomes coloured. The colouring matter and an extractive substance are thus removed and a very pale green mass, of the consistence of simple ointment, remains. The washings are thrown away ; Ameer says that these are intoxicating, and produce constriction of the throat, great pain and very disagreeable and dangerous symptoms.

“The operator then takes two pounds of sugar, and adding a little water, places it in a pipkin over the fire. When the sugar dissolves and froths, two ounces of milk are added ; a thick scum rises and is removed ; more milk and a little water are added

from time to time, and the boiling continued about an hour, the solution being carefully stirred until it becomes an adhesive clear syrup, ready to solidify on a cold surface ; four ounces of tyre (new milk dried before the sun) in fine powder are now stirred in, and lastly the prepared butter of hemp is introduced, brisk stirring being continued for a few minutes. A few drops of attar of roses are then quickly sprinkled in, and the mixture poured from the pipkin on a flat cold dish or slab. The mass concretes immediately into a thick cake, which is divided into small lozenge-shaped pieces. A seer thus prepared sells for four rupees. One drachm by weight will intoxicate a beginner ; three drachms, one experienced in its use. The taste is sweet and the odour very agreeable. Ameer states that sometimes by special order of customers he introduces stramonium seeds, but never nux vomica ; that all classes of persons including the lower Portugese or Kala Feringhees and especially their females, consume the drug ; that it is most fascinating in its effects, producing extatic happiness, a persuasion of high rank, a sensation of flying, voracious appetite and intense aphrodisiac desire.”*

The leaves of *Cannabis sativa* are purified by being boiled in milk before use. They are regarded as heating, digestive, astringent, and narcotic. The intoxication produced by *bhang* is said to be of a pleasant description and to promote talkativeness.

In sleeplessness, the powder of the fried leaves is given in suitable doses for inducing sleep and removing pain.¹

Játiphaládyā churna.² Take of nutmeg, cloves, cinnamon,

* Bengal Dispensatory, p. 582.

१ भ्रष्टन्तु विजयाचूर्णं मधुनानिश्चि भक्षयेत् । निद्रानाशेऽतिवारे च पक्षीण्यां पावकक्षये । दर्पणः ।

२ जातीफलकाष्ठं चूर्णम् । जातीफलवल्गुलापलैस्त्वग्नागकोशरैः । कर्पूरचन्दन तिलैस्त्वक्क्षीरोतगरामसैः । ताक्षीयपिप्पलीपय्या चित्तक स्यू खजीरकैः । शुद्धो त्रिङ्गुलमरिचैः समभागानि चूर्णितैः । दावन्त्येतानि सर्वाणि कुम्भीरुक्का च तावती । सर्वचूर्णसमा देखा शर्करा च भिषग्वरैः । कर्षमात्रं तथास्त्रादेस्तुना स्नापितं सुधीः । अस्त्रप्रभावादुपहृष्टोक्तासन्नासाद्विषयान् । वातज्वलप्रति-
श्लावः प्रथमं यातिवेगतः । शार्ङ्गधरः ।

cardamon, *tejapatra* leaves, flowers of *Mesua ferrea* (*nágakesara*), camphor, sandal wood, sesamum seeds, bamboo manna, flowers of *Tabernæmontana coronaria* (*tagara*), chebulic and emblic myrobalans, long pepper, black pepper, ginger, leaves of *Pinus Webbiana* (*tálisa*), plumbago root, cumin seeds and the seeds of *Embelia Ribes* (*viranga*), equal parts, purified *bháng* equal in weight to all the above ingredients, and sugar twice as much as the *bháng*. Powder and mix. Dose, about twenty to forty grains. This preparation is given in diarrhœa, indigestion and loss of appetite.

Jvālānala rasa.¹ Take of *yavakshāra*, and *sarjikākshāra*, (impure carbonates of potash and soda) borax, mercury, sulphur, long pepper, black pepper, *Piper Chaba* (*chavya*) and ginger, equal parts, fried leaves of *Cannabis sativa* equal to all the above ingredients, root of *Moringa pterygosperma* half the weight of *bháng*; powder the ingredients, mix and soak the mixed powder for three days in each of the following fluids, namely a decoction or fresh juice of the leaves of *Cannabis Indica*, the roots of *Moringa pterygosperma*, and *Plumbago rosea*, and dry in the sun. Then roast the mass lightly and make into a pill mass with the juice of the leaves of *Wedelia calendulacea* (*bhringarāja*). Dose, about half a drachm with honey. This medicine is given in indigestion and loss of appetite with nausea and vomiting.

Numerous confections of *bháng*, such as *Kāmesvara modaka*, *Madana modaka*, *Bālyasakrāsana modaka*, etc., are described in books. These, as their names imply, are considered aphrodisiac and are used in chronic bowel complaints and nervous debility. Most of them are prepared with equal parts of a number of supposed tonic and aphrodisiac substances in small quantities and *bháng* equal in weight to all the other ingredients, together with

¹ ज्वालानलोरसः। चारलयं सुतमस्यौ वङ्गकोकनिदं वसम् । सर्वैस्तुल्या
जवा भृष्टा तदूर्ध्वं शिपुजा जटा । एतत्सर्वं जवा शिपु वङ्गीनां केवले-
र्द्वैः । भावयेत् त्रिदिनं वर्षे ततो जघ्नुष्टे पचेत् । मार्कण्डेय द्रवैर्दो रसो
ज्वालानलो भवेत् । निखोऽस्य मधुनाखीदो ऽनुपायं शुद्धिमानम् । इन्द्र-
जीर्णनीसारं पङ्कजीमन्निमाह्वम् । जघ्नुष्टासवमनमाह्वस्य मर्दि-
जयेत् ।

भावप्रकाशः ।

sugar, honey and the usual aromatics. *Májoon*, the preparation of which has been already described, would I believe be a neater substitute for these complicated preparations. The following is an illustration.

Madana modaka.¹ Take of the three myrobalans, ginger, long pepper, black pepper, *Rhus succedanea* (*sringi*), *páchak* root, coriander, rock salt, zedoary root, leaves of *Pinus Webbiana* (*tálisa*), bark of *Myrica sapida* (*katphala*) flowers of *Mesua ferrea* (*nágakesara*), *ajowan*, seeds of *Seseli Indicum* (*vanuyamáni*), liquorice root, seeds of *Trigonella fœnum-græcum* (*methi*), cumin and nigella seeds equal parts ; hemp leaves with flowers and seeds fried in clarified butter, equal in weight to all the other ingredients ; sugar equal in weight to the hemp. Prepare a syrup with the sugar, then add the other substances in fine powder and make into a confection. Lastly add clarified butter, honey, powdered sesamum seeds, cardamoms, cinnamon, *tejapatra* leaves and camphor, each two *tolás*, and make into boluses of about eighty grains each. This confection is used in cough, chronic bowel complaints and impotence.

NAT. ORDER PIPERACEÆ.

PIPER NIGRUM, Linn.

Sans. कर्किक, *Maricha*, उषच, *Ushana*.

Vern. Golmarich, *Beng.* Kálimarich, *Hind.*

THE use of black pepper as a condiment is too well known to require any notice here. Medicinally it is much used in combina-

१ कदनमोदकः। त्रैलोक्यविजयापलं यमोजं हतमर्जितम् । लिङ्गदु लिङ्गका
 ऋद्धौ कुठं धान्यक सैन्धवम् । यटोताचीयपलञ्च कट्फलं नागकेशरम् ।
 कज्जलीदा वसानी च यटोलायुक्तमेव च । मेचीलीरकपुष्पञ्च ऋद्धौला चञ्चल
 कूर्चितम् । वायव्येतामि चूर्णाणि तावदेव तदौषधम् । तावदेववितादेवा
 वायदावाति वज्रगम् । हतेन मधुनामित्रं मोदकं परिकल्पयेत् । भर्जितं
 तिक्तचूर्णं च मोदको परिपिण्डीति । लिङ्गगन्धसमायुक्तं कर्पूरेणाधिवासितम् ।
 स्वापयेत् हतभाण्डे तु श्रीमदनमोदकम् । सर्वरोगहरं ह्येतत् संघट्ट यष्ट्यो
 हरम् । यत्स सतताभ्यासाद्दुष्टोपि तदनायते । इतत् कामप्रदं चार्धं नार-
 देन प्रभाषितम् ।

चारकोष्ठरी ।

tion with long pepper and ginger, under the name of *trikatu* or the three acrids. In fact, as any reader who has gone through these pages must have noticed, very few compound prescriptions are free from the three myrobalans, and the three acrids, which seem to be added often without reason, and sometimes for the sake of rhyme. Black pepper is described as acrid, pungent, hot, dry, carminative and useful in intermittent fever, hæmorrhoids and dyspepsia. Externally it is used as a rubefacient in alopecia and skin diseases.

In intermittent fever, black pepper in doses of about a drachm, is recommended to be given with the juice of the leaves of *Ocimum sanctum* (*tulasi*), or *Leucas linifolia* (*dronapushpi*).¹ It enters into the composition of numerous prescriptions for dyspepsia, piles and indigestion. The following is an example.

Pránadā gudikā.² Take of black pepper thirty-two tolás, ginger twenty-four tolás, long pepper sixteen tolás, *Piper Chaba* (*charya*) eight tolás, leaves of *Pinus Webbiana* (*tálisa*) eight tolás, flowers of *Mesua ferrea*, (*nágakesara*) four tolás, long pepper root sixteen tolás, leaves called *tejapatra* and cinnamon one tolá each, cardamoms and the root of *Andropogon muricatus*, (*usira*) two tolás each, old treacle two hundred and forty tolás; rub them together. Dose, about two drachms. This confection is given in hæmorrhoids. When there is costiveness and a sense of heat, chebulic myrobalan is substituted for the ginger in the above prescription.

The bald patches of alopecia are recommended to be rubbed

1 पीतो गरिचूर्णेन तुलसीपत्रजोरसः । द्रोणपुष्पी रसोवापि निहन्ति-
विषमज्वरान् । भावप्रकाशः ।

2 प्राणदागुदिका । निमग्नं शङ्खरेख चतुर्थं गरिचस च । पिप्पल्याः
कुडमार्द्रं च चण्डावाः पञ्चमेव च । ताक्षीपत्रस्य पञ्चं पञ्चार्द्रं केसरस्य च ।
होपले पिप्पलीनूलादहं कर्षं च पत्रकात् । सृज्यां चाकर्षमेकसु कर्षं तमस्यवा-
चयोः । गुड्यात् पञ्चानि तु लिङ्गं च चूर्णमेकमकारमेत् । अक्षप्रणायागुदिका-
प्राणदेति च साकृता । चूर्णं भक्षेत् पश्चात् भोजनस्य पश्चात् । नद्यं
मांसरसं चूर्णं चौरं तोषं पीनेत्तथा । हृन्वादर्शोऽपि सर्वाणि वृक्षान्यस्यानि
च । वातविषमज्वरानि वृक्षपातोद्भवानि च । चण्डदत्तः ।

with some rough leaves as of *Streblus asper* (sákhoṭa) and then sprinkled over with powdered black pepper.¹

PIPER LONGUM, Linn.

Syn. *Chavica Romburghii*, Miq.

Sans. पिपपक्षी, *Pippali*. कषा, *Kand*, कषा, *Krishna*.

Vern. Pipul, Beng. Pipal, Hind.

THE dried catkins and the root of *Piper longum* are used in medicine. They are considered heating, stimulant, carminative, alterative, laxative and useful in cough, hoarseness, asthma, dyspepsia, paralysis, etc. Old long pepper is said to be more efficacious than the fresh article. In the form of *trikatu* or the three acrids (see *Piper nigrum*), it is much used as an aromatic adjunct in compound prescriptions. Powdered long pepper, administered with honey, is said to relieve cough, asthma, hoarseness, hiccup and sleeplessness.² A mixture of long pepper, long pepper root, black pepper and ginger in equal parts, is prescribed by several writers as a useful combination for catarrh and hoarseness.³

As an alterative tonic, long pepper is recommended for use in a peculiar manner. An infusion of three long peppers is to be taken with honey on the first day, then for ten successive days the dose is to be increased by three peppers every day, so that on the tenth day the patient will take thirty at one dose. Then the dose is to be gradually reduced by three daily and finally the medicine is to be omitted. Thus administered it is said to act as a valuable alterative tonic in paraplegia, chronic cough, enlargements of the spleen and other abdominal viscera, etc.⁴

1 इदं कषीरैः पलैरिन्द्रुमस्य सुख्यम् । चूर्णितैर्मरिचैः कार्ष्णिमिन्द्रु-

मुनिवारणम् ।

चक्रदत्तः ।

2 मध्नापिपक्षीचूर्णविकेकावज्वरापहम् । हिकान्नासहरं कषयं
जीह्वं वातकोचितम् ।

भावप्रकाशः ।

3 पिपपक्षीपिपक्षीकृत्तं मरिचं विद्वभेषजम् । पिपेत् शूलेष मतिमान्
कफजे मरसंशये ।

भावप्रकाशः ।

4 पिपपक्षीवर्तमानानि । क्रमद्वयादवाहानि दशपिपक्षिकं दिनम् ।
मध्वेत् पयसावाहं तमेवावनेत् पुनः । जीर्णे जीर्णे च सुजीरितं वटिकं क्षीर-

Long pepper and black pepper enter into the composition of several irritating snuffs. The following is an example. Take of black pepper, long pepper, seeds of *Moringa pterygosperma* (*sveta maricha*) and ginger equal parts; powder the ingredients and rub them together with the juice of the root of *Agati grandiflora* (*vaka*). This preparation is used as a snuff in coma and drowsiness.

Ashtakafvara taila.¹ Take of ginger and long pepper each sixteen tolas, mustard oil four seers, butter-milk thirty-two seers, curdled milk four seers and boil them together in the usual way. This oil is rubbed externally in sciatica and paraplegia.

PIPER CHABA, *Hunter. Sans. चबिका, Chavikā. Vern. Chai, Beng. Cháb, Hind.* The fruits of this species of *Piper* are considered stimulant, anti-catarrhal and carminative and are much used as adjuncts to medicines for cough, cold and hoarseness.

PIPER BETLE, *Linn.*

Sans. ताम्बुल, Tāmṇula. Vern. Pán, Beng. Hind.

THE leaves of this creeper are, as is well known, masticated by the natives of India. The poorer classes make their packet of betle with the addition of lime, catechu and betle-nuts. The rich add cardamoms, nutmegs, cloves, camphor and other aromatics. Betle-leaf thus chewed acts as a gentle stimulant and exhilarant. Those accustomed to its use feel a sense of langour when deprived of it. The ancient Hindu writers recommend that betle-leaf should be taken early in the morning, after meals and at bedtime.

चर्विना । पिप्पलीनां प्रयोगोऽयं बहुकालं रसायनः । दशपिप्पलिकः त्रैलोक्यप्रसन्नः षट्प्रकीर्तितः । त्रिपिप्पलिकपिप्पलीनः प्रयोगः सोऽवरः पुरतः । इहं च इहमायुष्यं जीहोदरविनाशनम् । वयसः स्वापनं मेघं पिप्पलीनां रसायनम् । पञ्चपिप्पलिकश्चापि इत्युक्ते वर्द्धमानकः । पिटाकावतिभिः पेवाः श्रुतामध्यवर्त्तेरैः । शीतोक्तवाक्पुष्पस्यैर्देहदोषानवान् प्रति । चक्रदत्तः ।

¹ अष्टकटूरं तैलम् । पञ्चाभ्यां पिप्पलीभूतानामरादष्टकटूरः । तैलप्रसन्नः समोद्भा मधुसूदपहापः । अष्टकटूरतैलेऽप्ततैलं चार्धपनिष्कते । चक्रदत्तः

According to Susruta, it is aromatic, carminative stimulant, and astringent. It sweetens the breath, improves the voice and removes all foulness from the mouth. According to other writers it acts as an aphrodisiac.

Medicinally it is said to be useful in diseases supposed to be caused by deranged phlegm and its juice is much used as an adjunct to pills administered in these diseases; that is, the pills are rubbed into an emulsion with the juice of the betle-leaf and licked up. Being always at hand, *pán* leaves are used as a domestic remedy in various ways. The stalk of the leaf smeared with oil is introduced into the rectum in the constipation and tympanitis of children, with the object of inducing the bowels to act. The leaves are applied to the temples in headache for relieving pain, to painful and swollen glands for promoting absorption, and to the mammary glands with the object of checking the secretion of milk. *Pán* leaves are used as a ready dressing for foul ulcers which seem to improve under them.

NAT. ORDER CONIFERÆ.

PINUS WEBBIANA, Wall.

Syn. Abies Webbiana, Lindl.

Sans. ताडीपत्र, Tálisapatra, Vern. Tálisapatra Beng. Hind.

THE dried leaves used by Kavirajas under the name of *tálisapatra*, were identified at the herbarium of the Royal Botanic Garden to be the leaves of *Pinus Webbiana*. They are single, spirally arranged all round the branchlets, flat, narrow, linear, one to three inches long, one line broad, narrowed into a short terete petiole, under side with two longitudinal furrows on either side of the raised midrib, upper side shining. The Sanskrit term *tálisapatra* has been hitherto translated by most writers on Botany and Materia Medica, as *Flacourtia cataphracta*. The error originated probably in Wilson's Sanskrit-English dictionary and has since been repeated by subsequent writers. This medicine is regarded as carminative, expectorant and useful in phthisis, cough and asthma.

The powdered leaves are given with the juice of *Justicia*

Adhatoda (vāsaka) and honey in cough, asthma and hæmoptysis.¹ A confection called *Tālisādyā churna* is prepared with *tālisapatra*, black pepper, long pepper, ginger, bamboo-manna, cardamoma, cinnamon, and sugar, and is used in the above mentioned diseases.² These leaves enter into the composition of numerous complex prescriptions.

PINUS LONGIFOLIA, *Rozb.*

Sans. चरच, *Sarala*, *Vern.* Chir, *Saral*, *Hind.*

THE aromatic wood of *Pinus longifolia* is used in Hindu medicine. The tree yields an oleo-resin called *sarala drava*, *srivāsa* and *kshira* in Sanskrit. In the vernacular it is called *gandha-birozá*. Dr. Royle remarked, "The *chir* exudes or yields to incisions a very fine turpentine. This is chiefly valued by the natives for its resin, and as the latter is only obtained by exposing the turpentine to heat, the oil, the more valuable product is dissipated to procure the resin; but by adopting a very simple still, the resin was obtained as good as ever for the purposes of the natives, while the oil of turpentine which distilled over was pronounced on being sent to the General Hospital of Calcutta, to be of very superior quality." Turpentine is now distilled by the natives in the Panjab but the distilled oil is not mentioned by Sanskrit writers.

The wood of *Pinus longifolia* is considered stimulant, diaphoretic and useful in burning of the body, cough, fainting, and ulcerations; it is generally used in combination with other medicines.

1 ताक्षीयचूर्णसंयुक्तः पेषः क्षौद्रेण वासकस्त्रिवः। कफपित्ततमकश्वासस्त्र-
भेदरक्तपित्तहरः । चक्रदत्तः ।

2 ताक्षीयाद्यं चूर्णम् । ताक्षीयं सरिचं शुण्ठीपिप्पलीवंशबोचना । एक
द्वित्रिचतस्रःपञ्चकर्षभोगान् प्रकल्पयेत् । एकात्त्रयोस्तु कर्षाईं प्रत्येकं भागवा-
चयेत् । द्वात्रिंशत्कर्षद्विजिताप्रदेवायर्कैरा बुधैः । ताक्षीयाद्यमिदं चूर्णं पाचनं
रोचनं प्लवतम् । वासवासज्वरहरं कर्षतीसारनाशनम् । योषाध्यानहरं श्लेष्म-
पहन्नीशालुरोगजित् । पक्कां वा मुर्कतां चूर्णं क्षिपेत् स्नादुशुटिका ततः ।
वाङ्मधरः ।

The oleo-resin or crude turpentine is used in the preparation of plasters, ointments, and pastiles for fumigation. It is applied to buboes and abscesses for promoting absorption. The following is an example of a pastile containing crude turpentine. Take of crude turpentine, bdellium, wood of *Aquilaria Agallocha* (*aguru*), and resin of *Shorea robusta*, and make into pastiles. These are used for fumigating unhealthy and painful ulcers.¹

CEDRUS DEODARA, Loud.

Pinus Deodara, Roxb.

Sans. देवदारु, *Devadāru*. *Vern.* *Deodār* Hind.

THE aromatic wood of this elegant pine is considered carminative, diaphoretic, diuretic and useful in fever, flatulence, inflammation, dropsy, urinary diseases, etc. It is chiefly used in combination with other medicines. The following is an example of a diuretic mixture containing this drug. Take of *devadāru* wood, root of *Moringa pterygosperma* (*sigru*), and *Achyranthes aspera* (*apāmārga*), one drachm each and reduce to a paste with cow's urine. This composition is given in ascites.²

NAT. ORDER PALMACEÆ.

COCUS NUCIFERA, Linn.

Sans. नारिकेल, *Nārikela*, *Vern.* *Nārial*, Hind. *Nārikel*, Beng.

THE numerous economical uses of this valuable tree are fully detailed in standard works. I will refer only to such of them as are mentioned in Sanskrit medical works. The water of the unripe fruit is described as a fine-flavoured, cooling, refrigerent drink useful in thirst, fever and urinary disorders. The tender pulp of the fruit is said to be nourishing, cooling and diuretic. The pulp of the ripe fruit is hard and indigestible but is used medicinally. The terminal bud of the tree is esteemed as a nourish-

1 श्रीवाचयुक्तुसुखादिबोधपिताः । कठिनत्वं तथा दानि नष्टान्त्सु-
पाच वेदनाः । चक्रदत्तः ।

2 देवद्वुर्गं विष्णुभूरकश्च नोत्तमपिटासजवाऽश्नन्नाम् । पीत्वाशुब्धत्वाद्-
दरं प्रसक्तं श्लिशीन् सद्योवातुदरश्च दुःखम् । चक्रदत्तः ।

ing, strengthening and agreeable vegetable. The same remark applies to the tops of the *tál* palm and date trees. The root of the cocoa-nut is used as a diuretic as also in uterine diseases. Cocoa-nut oil is said to promote the growth of hair. It is much used as a hair-oil by the lower classes of native women. For this purpose it is scented by steeping in it a number of fragrant vegetable substances sold in packets under the Bengali name of *Máthághasá*. The ashes of the leaves are used in medicine. They contain a great deal of potash. The fresh juice of the tree is considered refrigerent and diuretic. The fermented juice constitutes one of the spirituous liquors described by the ancient writers. The cleared shell of the nut or portions of it are burnt in a fire and while red hot, covered by a stone cup. The fluid deposited in the interior of the cup is rubefacient and is an effectual domestic remedy for ringworm.

Narikelakhanda.¹ Take of the pounded pulp of cocoa-nut, half a seer, fry it in eight tolas of clarified butter, and afterwards boil in four seers of cocoa-nut water till reduced to a syrupy consistence. Now add coriander, long pepper, bamboo manna, cumin seeds, nigella seeds, cardamoms, cinnamon, *tejapatra*, the tubers of *Cyperus rotundus* (*mustaka*), and the flowers of *Mesua ferrea* (*nágakesara*) one tola each in fine powder and prepare a confection. Dose, two to four tolas, in dyspepsia and consumption.

BORASSUS FLABELLIFORMIS, Linn.

Sans. ताल, *Tála*, त्रिनाराज, *Trinarāja*. *Vern.* Tál, *Beng.* Hind.

THE properties of the various parts of this noble palm are described in detail in Sanskrit works. The root is cooling and restorative. "The saccharine juice obtained by the excision of the spadix or young flowering branch," is when freshly drawn, cooling,

१ नारिकेलखण्डः । त्रिनाराजतमिहृत्वाच्चारिकेनं सुषिष्टं पक्वपरिमितसर्पिः
पाचितं खण्डद्वयम् । निजपक्वसितदेतत्प्रत्यभाते विपक्वं शुद्धपद्वद्योते
शाखभागान् क्षिपेत् । भक्ष्यावपिप्पविपक्वोदत्तमाहिजीरान् शाखं लिजातवि-
भक्तेश्वरवह्निचूर्णम् । इत्यन्वपिप्तमर्चिं क्षयमक्षयिप्तं मूलं सर्पिं सक्वपौद्व
आदिहारि ।
वक्रदत्तः ।

sweet and useful in inflammatory affections and dropsy. The fermented juice called *tári* or toddy is intoxicating. The yellow pulp surrounding the seeds of the ripe fruit is sweet, heavy and indigestible. It is extracted by rubbing the seeds over a wooden scratcher, and with the addition of a little lime, it settles into a firm jelly which is a ready mode of taking the pulp. It is also made into cakes with flour and other ingredients. The young seeds contain a clear watery fluid which is very refreshing and cooling. They form one of the edible fruits of the country and are sold in the markets in large quantities when in season. The natives after extracting the pulp from the fibres surrounding the ripe seeds, preserve them for some months. When the embryo begins to germinate and enlarge, the seeds are cut open and the expanded embryo is extracted and eaten. It is cooling, sweet and palatable. The terminal bud or top of the *tál* tree is regarded as nutritive, diuretic and tonic. The leaves of this palm tree were used for writing on by the ancient Hindus. The letters were engraved upon the leaves by a pointed iron instrument. This system of writing is still followed to a considerable extent in Orissa where boys in the indigenous *patsálás* write with iron pens on palm leaves. In Bengal the leaves are written upon with pen and ink as on paper. The ashes of the flowering stalk are said to be useful in enlarged spleen.¹

ARECA CATECHU, *Linn.*

Sans. गुवाक, *Guváka*, पून, *Puga*, कडक, *Kramuka*.

Vern. Guá, *Supári*, *Beng.* *Supári*, *Hind.*

THE chief consumption of betel-nuts is as a masticatory, alone or in conjunction with betle leaf. The unripe nuts are said to be laxative and carminative. The fresh nuts when not yet dry in their interior, have intoxicating properties and produce giddiness. The dried nuts are masticated. They are said to sweeten the breath, strengthen the gums, remove bad tastes from the mouth, and produce a stimulant or exhilarant effect on the system. The burnt nuts are used as a tooth powder.

1 ताडपुष्पधरः आरः वयुः श्रीकृष्णायनः ।

आरः ।

Medicinally betel-nuts are used in urinary disorders and as an aphrodisiac. The Bhāvaprakasa gives a preparation called *Rativallava pugapāka*. It is a confection made of betel-nuts boiled in milk, with the addition of a number of aromatic and stimulant substances supposed to have aphrodisiac properties. Sometimes *datura* seeds and the leaves of *Cannabis sativa* are added to this confection when it is called *Kāmesvara modaka*.

PHŒNIX SYLVESTRIS, Roxb. Sans. खर्जूर, *Kharjura*. Vern. *Kejur*, Beng. Hind. The *Phœnix sylvestris* is indigenous to India and is cultivated for the sake of its sweet sap which is manufactured into *gur* or *jagari*. The imported fruits of *Phœnix dactylifera* are used medicinally as demulcents and expectorants.

NAT. ORDER HYPOXIDEÆ.

HYPOXIS ORCHIOIDES.

Syn. Curculigo orchioides, Gaërtn.

Sans. मुषली, *Mushali*, तालमूली, *Tālamuli*. Vern. *Mushali*, Hind.

THE tuberous roots of this plant are considered alterative, tonic, restorative and useful in piles, debility and impotence. They enter into the composition of several medicines intended to act as aphrodisiacs and restoratives. The following is an example. Take of the root of *Asparagus racemosus* (*satāvari*), *Sphæranthus mollis* (*munditika*), *gulancha*, seeds of *Butea frondosa* (*hastikarna*), and the tuberous roots of *mushali*, equal parts; powder and mix. Dose, about a drachm with honey or clarified butter, in the debility of old age.¹ The Rāja nirghantu mentions two varieties of *mushali*, namely, white and black. The properties of the white variety are said to be inferior to those of the black which is preferred for use as an alterative tonic. The roots of *Bombax Malabaricum* and *Asparagus racemosus* are sometimes sold by the native druggists

१ यतावरो हृष्टितिका शुद्धो सृष्टिकर्षो सृष्ट तालमूली । एतानि
 कृत्वा समभागान्वाज्जनेन किंवा मधुनावलिहृत्वा । जरादजास्त्य विपुक्त
 देहो भवेन्नरो वीर्यवद्धादियुक्तः । विभाति देवप्रतिमः सजित् प्रभासवो भूरि-
 विरहितः ।

भावप्रकाशः ।

of Calcutta under the name of *suffed musli*. These articles have however separate names and are not designated by the name of *suffed musli* in any native medical work. On the contrary a white variety of *tálamuli* or *musali* is, as already noticed, mentioned in the *Rája nirghantu*.¹ The tubers of *Curculigo orchoides* become when dry, trans lucent like ambar. The dried roots were probably considered a separate variety, namely, the white by the ancients.

NAT. ORDER AROIDEÆ.

ACORUS CALAMUS, Linn.

Sans. वचा, *Vachá*, वचपत्रा, *Shadgranthá*. *Vern.* Bach, *B. H.*

THE aromatic rhizome or root-stock of *Acorus Calamus* is considered emetic in large doses, and stomachic, carminative and nervine in smaller doses.

As an emetic it is administered in doses of about eighty grains with half a seer of tepid salt-water.² The following is an example of a prescription for dyspepsia containing this drug. Take of *Acorus Calamus* root, assafoetida, *dtis*, long pepper, black pepper, ginger, chebulic myrobalan and *sonchal* salt equal parts; powder and mix. Dose, about half a drachm.³ As a stimulant or nervine it is used in combination with other medicines in low fevers, epilepsy and insanity.

AMORPHOPHALLUS CAMPANULATUS, Blume.

Syn. *Arum campanulatum*, Roxb.

Sans. शूरच, *Surana*, ओल, *Olla*. *Vern.* ol, *Beng.* Hind.

THE *Amorphophallus campanulatus* is cultivated for the sake of its tubers, which are cooked and eaten by the natives like yams or potatoes. The tubers contain an acrid juice which should be got rid off by thorough boiling and washing, otherwise the vege-

1 मूली च द्विधा प्रोक्ता चेता चापरा संज्ञका । चेता कस्यचुषेता
अपरा च रसावली । राजनिर्घण्टः ।

2 वचावपत्रतोयेन वान्तिरासे प्रशस्यते । चक्रदत्तः ।

3 मूलीविबन्धकोटोऽङ्गिरणाभिचूर्णिताः पिबेत् । द्विप्रतिविषाख्योवचा
सौवर्चसावभाः । चक्रदत्तः ।

table is apt to cause troublesome irritation in the mouth and fauces. Medicinally, *surana* is considered serviceable in hæmorrhoids; in fact one of its Sanskrit synonyms is *arsoghna* or the curer of piles. It is administered in this disease in a variety of forms. The tuber is covered with a layer of earth and roasted in a fire; the roasted vegetable is given with the addition of oil and salt.¹ Several confections are described such as the *Laghusurana modaka*, *Vrihat surana modaka*, *Surana pindi*, *Kānkāyana modaka* etc. These are all confections made of the tubers of *Amorphophallus campanulatus* with the addition of treacle and various aromatics and acrids.

Scalpa or *Laghu surana modaka*² is thus prepared. Take of black pepper one part, ginger two parts, plumbago root four parts, tuber of *surana* eight parts, treacle sixteen parts, mix together and prepare a confection. Dose, about a tola every morning, in piles and dyspepsia.

SCINDAPSUS OFFICINALIS, *Schott. Syn. Pothos officinalis*, *Roxb. Sans. गजपिप्पली, Gajapippali. Vern. Gajapipul, Beng-Hind.* The sliced fruits of this plant pass by the name of *gajapipul*. They are considered aromatic, carminative, stimulant and useful in diarrhoea, asthma and other affections supposed to be caused by deranged phlegm. They are chiefly used as an aromatic adjunct to other medicines.

· **ALOCASIA INDICA**, *Schott.*

Syn. Arum Indicum, Roxb.

Sans. माणक, Mánaka, Vern. Mánkachu, Beng. Mánkanda, Hind.

THE underground stems of *Alocasia Indica* constitute a valuable and important vegetable of native dietary. The stems

१ सीरुचं कन्दमादावपुटपाकेन पाचयेत्। सतेजसवचसस्य रसचार्योविहार
वत् । शार्ङ्गधरः ।

२ सत्यनुरणभोदकः । मरिचमङ्गीनधचित्तकस्य नुरणभागावधोत्तरं हि-
युषाः । सर्वसमोयुक्तभागः सेव्योऽयं भोदकः प्रविष्टकृतः । कषणं कष-
यतिजाठरसङ्गं खवतिनुरणयुवमनदान् । निःशेषवति स्त्रीपदमर्षाशिनामवत्यायु ।

भावप्रकाशः ।

sometimes grow to an immense size, from six to eight feet in length and can be preserved for a considerable time. Hence they are of great importance in jail dietary when fresh vegetables become scarce in the bazar or jail garden. They thrive best in shade under the eaves of huts or buildings and beside fences.

Medicinally *mánaka* is said to be useful in anasarca, in which disease it is used in the following manner. Take of the powdered meal of *Alocasia Indica* eight tolás, powdered rice sixteen tolás, water and milk, forty-eight tolás each, boil them together till the water is evaporated. This preparation called *Mánamanda*, is given as diet.¹ No other article is allowed in addition to it except milk. A *ghrita* is also ordered to be made with a decoction and paste of *mánaka* but it is not in vogue.

NAT. ORDER SCITAMINEÆ.

ZINGIBER OFFICINALE, *Roscoe*.

Sans. चाङ्गक, *A'rdraka*, अङ्गवेर, *Sringavera*.

Vern. A'dá, *Beng.* A'drak, *Hind.*

GINGER is described as acrid, heating, carminative and useful in dyspepsia, affections of the throat, head and chest, piles, rheumatism, urticaria, dropsy, etc. It is much used as a carminative adjunct along with black pepper and long pepper under the name of *trikapu* or the three acrids. The dried root is called *Nágara*, *Sunfi* and *Mahaushadha* in Sanskrit. In addition to possessing the properties of ginger it is said to be laxative.

Ginger with salt taken before meals, is highly praised as a carminative. It is said to purify the tongue and throat, increase the appetite and produce an agreeable sensation. Ginger forms the active ingredient of several medicines for dyspepsia and hæmorrhoids.

Samasarkara churna.² Take of cardamoms one part, cinna-

¹ पुराणं नाचकं पिङ्गाद्विशुषीकृततण्डुलम्। वाधितं क्षीरतोयाभ्यामभ्यसेत्
पादसं ततः । हस्तिवातोदरं योचं यद्दुर्लभं पाण्डुतामपि । विज्ञोभिषग्भि-
राज्ञातः प्रयोगोऽयं निरेत्ययः । चक्रदत्तः ।

² समशर्करं चूर्णम् । शुष्कीकृतानरिचपानदक्षत्वणेशं चूर्णीकृतं जलविषहित-

mon two parts, flowers of *Mesua ferrea* (*nágakesara*) three parts, black pepper four parts, long pepper five parts, dried ginger six parts, sugar in quantity equal to all the other ingredients; powder and mix. Dose, about a drachm in dyspepsia, loss of appetite and piles.

Saubhāgya sunṭi.¹ Take of clarified butter, sixteen tolás, milk four seers, sugar six seers and a quarter, dry ginger one seer; boil them together so as to make an electuary. Then add coriander twenty-four tolás, fennel seeds forty tolás, *báberang* seeds, cumin seeds, nigella seeds, long pepper, black pepper, ginger, tubers of *Cyperus rotundus*, leaves called *tejapatra*, flowers of *Mesua ferrea* (*nágakesara*), cinnamon and cardamoms each eight tolás in fine powder, and stir with a ladle till cold. This confection is much used as a carminative tonic in dyspepsia and in disorders of the alimentary canal in females after confinement.

Sunṭi ghrīta.² This is a preparation of ginger made with a decoction and paste of the root, clarified butter and *kānjika* in the usual proportions. It is said to be useful in rheumatism.

A'rdraka khaṇḍa. This is a confection made with ginger, clarified butter, milk and sugar with the addition of a number of aromatics in small quantities. It is used in urticaria.

In cephalalgia and other affections of the head, ginger juice

मूर्ध्न्यन्वात् । खादेदिदं समसितं गुदजाम्निमान्धाकासाःश्चिचनकयुठहृदान
वेत् । भावप्रकाशः ।

1 सौभाग्यगुग्गुली । स्वाद्यंसात् पञ्चदुग्धमत्र पयसः प्रस्यद्वयं खण्डतः
पञ्चाशत् पञ्चमत्र सूचितमथो प्रसिष्यते नागरम् । प्रस्वाद्यं गुडवद्विपाच्य
विधिना सुटित्वं धान्यकात् मिश्राः पञ्चपक्षं पक्षं क्षिप्रिपोःसामाजिजी-
रादपि । व्योषाब्धोदद्वोरनेन्द्रसुमनस्सगङ्गाविड्डीनां पक्षं पक्षं नागरखण्ड-
संस्कमिदं तत्सूतिकारोमकृत् । तट्टुर्द्विज्वरदाह्योषधमनं सन्धासकासा-
पङ्कम् । ज्ञीहव्याधि विनाशनं क्षमिहरं मन्दाग्निसन्दीपनम् । भावप्रकाशः ।

2 सर्पिर्नागरकत्वेन सौवीरं तच्चतुर्गुणम् । सिद्धमन्निकरं त्रेत्र मासवातहरं
परम् । भावप्रकाशः ।

mixed with milk is used as a snuff.¹ The fresh juice of ginger taken with honey relieves catarrh, cough and loss of appetite.²

Saindhavādya taila.³ Take of dry ginger forty tolás, rock-salt, long pepper root and plumbago root, sixteen tolás each, marking nuts twenty in number, fermented rice water sixteen seers, sesamum oil four seers, boil them together and prepare an oil in the usual way. This oil is rubbed externally in sciatica and other forms of rheumatism.

ZINGIBER ZERUMBET, *Roxb. Sans.* स्वल्पं वि, *Sthulagranthi*, *Vern. Mahá bari bach*, *Hind. Beng.*

ZINGIBER CASSUMUNAR, *Roxb. Sans.* वनाईक, *Vanádraka*, *Vern. Bandá, Beng.*

ALPINIA GALANGA, *Linn. Sans.* कुलिङ्गान, *Kulinjána*. *Vern. Kulinján*, *Beng. Hind.*

THE aromatic tubers of these three species are occasionally used as carminative or fragrant adjuucts in complex prescriptions, but they have nothing peculiar in their properties or action.

CURCUMA LONGA, *Roxb.*

Sans. हरिद्रा, *Haridrā*, निषा, *Nisá*. *Vern. Halud*, *B. Haldi*, *H.*

THE turmeric plant is extensively cultivated for the sake of its tubers which are an essential ingredient of native curry powders. Turmeric pounded into a paste and mixed with oil, is rubbed on the skin to improve its appearance and prevent skin diseases. The rubbing of turmeric and oil is an essential part of the Hindu marriage festival as well as of some religious ceremonies. Medici-

1 नानरक्तवर्धनिषं क्षीरं नखेनयोजितं उंषाम् । नानादोषोद्भूतं
शिरो रज्जं हन्ति तीव्रतराम् । चक्रदत्तः ।

2 आर्द्रकं करसःक्षौद्रुक्तोदमणवातहृत् । चावकावाहचिं हन्तिप्रतिष्ठापं
अपोहति । शार्ङ्गधरः ।

3 वैजवाह्यं तैलम् । हे पथे वैजवाह्यं शुभ्रपान्थिकचिलकात् । हे हे
नङ्गातकास्थीनिविशति हौतवाढके । आरवाहात्यचेत्प्रस्थं तैलमेतैरपम्यम् ।
अथ सुहृद्वार्योर्षिषर्वातविकारहृत् । चक्रदत्तः ।

nally turmeric is used chiefly in skin diseases both externally and internally. Turmeric paste with the addition of a little lime is a popular application to sprains and bruises. A decoction of turmeric is used as a cooling wash in ophthalmia ; cloth steeped in it is employed as an eye-shade. A paste of turmeric and the leaves of *Justicia Adhatoda* (*vásaka*), with cow's urine is rubbed on the skin in prurigo.¹ Several other combinations of the sort are in vogue, such as turmeric and *nim* leaves, turmeric and the ashes of the plantain tree, etc. Turmeric is also given internally with cow's urine in prurigo and eczema.²

Haridrākhanda.³ Take of turmeric sixty-four tolás, clarified butter forty-eight tolás, milk sixteen seers, sugar twelve tolás, and boil them together over a gentle fire in an earthen pot. Then add black pepper, long pepper, ginger, cinnamon, cardamom, *tejapatra*, *báberang* seeds, root of *Ipomœa Turpethum* (*trivrit*), the three myrobalans, flowers of *Mesua ferrea* (*nágakesara*), tubers of *Cyperus rotundus* (*mustaka*) and prepared iron, each eight tolás in fine powder, and prepare a confection. Dose, one tolá every morning in prurigo, boils, urticaria, etc. A cure is said to be effected in seven days.

The term *haridrādvē*, or the two turmeric, signifies turmeric and the wood of *Berberis Asiatica*. They are often used together in compound prescriptions both for external and internal use and their properties are said to be analogous.

1 कोमलं चिंहास्यदहं रविशं सुरभिजयेन संपिष्टम् । द्विपक्षमेव निवर्तं
क्षपयतिकष्टं विवेपनतः । चक्रदत्तः ।

2 हरिद्राकषकसंयुक्तं गोमूलस्य पक्वद्वयम् । पिनेश्वरः कामचारोक्तद्वयमावि
नाशनम् । चक्रदत्तः ।

3 हरिद्राचण्डः । हरिद्रायाः पञ्चान्वटी षट्पक्षं हविषांतया । क्षीरा-
द्वयेनसंयुक्तं कण्टसारं पक्षं तथा । पचेत् क्षुद्रग्निना वैद्योभाजने क्षुब्धे हृदे ।
लिङ्गटु लिङ्गातकश्चैव क्रिमिघ्नं लिङ्गतातया । लिङ्गसाक्षीशरं हस्तं शौचं
प्रतिपक्षं पक्षं । संयुक्तं प्रक्षिपेत्तत्त्वकर्षमेकम् भक्षयेत् । कण्टू विस्फीटद्वयानाशनं
परमौषधं । प्रतप्तं काष्ठनाभासो देहो भवति नाश्वरा । शीतपित्तोद्वेगोऽपि
सप्ताहादेवनाशनम् । हरिद्रानामतः संयुक्तः कण्टू र्वापरमौषधं । भैषज्यरत्नावली ।

CURCUMA ZEDOARIA, *Roscoe.**Syn. C. Zerumbet, Roxb.**Sans. ञडो, Sañi, Vern. Sañi, Beng. Kachur, Hind.*

THE rhizomes of this plant possess an agreeable camphoraceous smell and warm, bitterish, spicy taste. They are considered carminative and useful in fever and skin diseases arising from impure or deranged blood. They are generally used in combination with other medicines as also in the preparation of medicated oils. "The dry root powdered and mixed with the powdered wood of the *Caesalpinia Sappan* makes the red powder called *ábir* by the Hindustanis, and *phág* by the Bengalis. It is copiously thrown about by the natives during the *Huli* or Hindu holidays in the month of March."

CURCUMA AROMATICA, *Salisb. Syn. C. Zedoaria, Roxb.**Sans. বনফরিদ্রা, Vanaharidrā. Vern. Banhalud, Beng. Jedwar, Hind.*

The rhizomes of this plant are of a pale yellow colour and have an agreeable fragrant smell. The *Bhāvaprakāsa* describes them as useful in skin diseases and disorders of the blood. They are sometimes used in combination with other medicines in these diseases.

CURCUMA A'MA'DA', *Roxb. Sans. कर्पूरफरिद्रा, Karpuraharidrā. Vern. A'máddā, Beng.* The *Bhāvaprakāsa* mentions this plant under the name of *karpuraharidrā*, but the term is not to be found in standard lexicons. The fresh root possesses the smell of green mango and is used as a condiment and vegetable. Medicinally it is described as cooling and useful in prurigo.

ELETTARIA CARDAMOMUM, *White et Maton.* Also *Amomum subulatum, Roxb. Sans. एला, Elā. Vern. Eláchi, Hind. Gujrāti elách, Beng.* Cardamoms are largely used as aromatic adjuncts but have no peculiarity deserving of special notice.

NAT. ORDER MUSACEÆ.

MUSA PARADISIACA, *Linn.*Variety of *Musa Sapientum* *Linn.**Sans. कदली, Kadali, रन्ना, Rambhá. Vern. Kalá, Beng. Kelá, Hind.*

THE economical uses of this most valuable plant are too well-known to need any notice here. I will refer only to one of them.

The leaves and leaf-stalks when burnt yield alkaline ashes which can be used instead of country soap or fuller's earth, in washing clothes. In the Noakhally jail, the old leaves are collected, dried and burnt to ashes. The ashes being placed on a piece of cloth supported on four posts, water is made to percolate through them into an earthen vessel. The alkaline water thus obtained is used for steeping clothes intended to be washed. As the stems of the plantain are cut down soon after the fruit is gathered, there is always a large quantity of leaves and stalks available in all gardens where it is cultivated. They can be readily economised in the simple method above described, if not manufactured into cloth or paper.

The unripe fruit, called *mochaka* in Sanskrit, is considered cooling and astringent ; it is much used in diabetes in the form of a *ghrita* prepared as follows :—

Kadalyādi ghrita.¹ Take of plantain flowers twelve seers and a half, watery juice of the root-stock of the plantain tree sixty-four seers ; boil them together till reduced to one-fourth and strain. To the strained decoction add four seers of prepared clarified butter and the following substances in the form of a paste, namely, unripe plantains, cloves, cardamoms, red sandal wood, wood of *Pinus longifolia*, (*sarala*), *jatāmānsi* root, the three myrobalans, *Raphanus sativus* (*mulaka*), and the fruit of *Feronia elephantum* (*kapittha*) in equal parts, one seer in all, and prepare a *ghrita* in the usual way. This medicine is generally given along with some preparation of tin or other metallic medicine in diabetes. Dose, about two *tolās*.

NAT. ORDER ORCHIDACEÆ.

VANDA ROXBURGHII, R. Br.

Syn. Cymbidium tessaloides, Roxb.

Sans. रासा, *Rāśā*, गन्धानकुली, *Gandhandkuli*. *Vern.* *Rāśā*, B. H.

UNDER the name of *rāśā*, the roots of *Vanda Roxburghii* and *Acampe papillosa*, are both indiscriminately used by

¹ कदल्यादि द्रवम् । कदलीकन्दनिर्वासे तत्प्रसूनद्रव्यापयेत् । चतुर्भागा-
व मेघेऽस्मिन् द्रव प्रक्षं विपाचयेत् । चन्दनं वरुणं मांसी कदलीसूत्रकनका ।

native physicians. They are very similar in the appearance of their roots and leaves, though they differ much in their flowers and fruits. One native physician whom I consulted, pronounced both these plants to be *rásná* ; when however I showed him the different flowers and fruits of the two species, he was puzzled. He had never looked to the flowers before, but only knew the roots and leaves. These epiphytes are very common on mango trees.

Rásná root is said to be fragrant, bitter and useful in rheumatism and allied disorders, in which it is prescribed in a variety of forms.

Rásnápanchaka.¹ Take of *rásná*, *gulanča*, *devadáru*, ginger, and the root of the castor oil plant in equal parts, and prepare a decoction in the usual way. This is apparently a popular prescription for rheumatism, being mentioned by most writers.

Rásná guggulu.² Eight parts of *rásná* and ten of bdellium are beaten into a uniform mass with clarified butter. Dose, about a drachm, in sciatica.

Rásná enters into the composition of several medicated oils for external application in rheumatism and diseases of the nervous system, such as the *Mohámásha taila*, *Madhyama Naráyana taila*, etc.

NAT. ORDER LILIACEÆ.

ALOE INDICA, Royle.

Sans. घृतकुमारी, *Ghritakumári*, कन्या, *Kanyá*.

Vern. *Ghritakumári*, Beng. *Ghikumári*, Hind.

ALOES (called *mushabbar* in the vernacular), though now used in native medicine, was unknown to the Sanskrit writers. They

ऐसावन्न लिफटा कपित्थफल मेव च । कब्जेनामेन संसिद्धं सोमरोगनिवारणम् ।
मूलरोगानशेषाच्च प्रथितान् शुक्रपिण्डिणान् । प्रमेहान् विंशतिर्जैव मूलाघातां
क्षयोदयान् । बहुमूलं विशेषेण मूलकम् तच्चाय्यरीम् । कदल्यादि वर्त नाम
विष्णु ना परिकीर्तितम् । राक्षसवारचंयङ्कः ।

¹ राक्षायकम् । राक्षान्मृताहाराद् नामरैरुद्धं मृतम् । सप्तधातुगते-
वाते वामेवर्गके पिमेत् । वाक्धरः ।

² राक्षायस्ते पञ्चैकं कर्मान् पञ्चचयुग्युद्धोः । सर्पिणा वटिकां मत्वा
कादेहान्पृथीहराम् । चक्रदत्तः ।

mention only the fresh juice of the leaves which is regarded as cathartic, cooling, tonic and useful in fevers, enlarged lymphatic glands, spleen and liver, eye diseases, etc. The fresh juice is much used in making up various sorts of pill-masses and more particularly those of a purgative character, as for example the preparation called *Taruna jvārī rasa*, described under Mercury (see page 32). In glandular enlargements and spleen disease, the juice of the leaves is given with the addition of powdered turmeric.¹

ASPARAGUS RACEMOSUS, Willd.

Sans. शतावरी, *Satāvārī*, शतमूली, *Satamuli*.

Vern. *Satamuli*, *Beng.* *Satāvārī*, *Hind.*

THE Sanskrit name *satamuli* (that is possessing a hundred roots), is in allusion to the numerous fusiform tubers of this plant. These are regarded as cooling, demulcent, diuretic, tonic and aphrodisiac, and are used both internally and in the preparation of several medicated oils. The tubers are candied and taken as a sweet-meat. This preparation however has scarcely any other taste or flavour besides that of the sugar. The fresh juice of the root is given with honey as a demulcent in bilious dyspepsia or diarrhoea.² As an aphrodisiac tonic, it is used in a variety of forms. A *ghrita* is prepared as follows.—

Satāvārī ghrita.³ Take of clarified butter four seers, juice of *Asparagus racemosus* four seers, milk forty seers, boil them together and prepare a *ghrita*. This is given with the addition of sugar, honey, and long pepper.

Phalaghrita. This is prepared with four seers of clarified butter, and sixteen seers each of the juice of *Asparagus racemosus* and cow's milk, with the addition of a number of other medicines in small quantities, in the form of a paste. Its use is said to increase the secretion of semen, to cure barrenness in women and to remove disorders of the female genitals.

1 निशाचूर्णयुतः कन्दारवः श्लेष्माऽपचीकरः ।

शार्ङ्गधरः ।

2 शतावरीचं मधुनापित्तमूत्रहरोरवः ।

शार्ङ्गधरः ।

3 शतावरीघृतम् । इतं शतावरीमर्मे क्षीरे दशगुणे पचेत् । शर्करापिप्प-
लीक्षीद्रुक्कं तद्बद्धयते ।

शार्ङ्गधरः ।

As a diuretic, it is prescribed in combination with other medicines of its class. The following is an illustration. Take of the roots of *Asparagus racemosus*, *Saccharum spontaneum* (kása), *Poa cynosuroides* (kusa), *Oryza sativa* (variety called *sáldhán̄ya*) and *Saccharum officinarum* (ikshu), *Batatus paniculatus* (vidári), *Scirpus Kysoor* (kaseruka), and *Tribulus terrestris* (gokshura) equal parts, and prepare a decoction in the usual way. This decoction is administered, with the addition of sugar and honey, in scanty urine with heat and ardor urinæ.¹ The chief use of the drug however consists in the preparation of several popular cooling and emollient medicated oils for external application in disorders of the nervous system, rheumatic affections and urinary diseases.

Nárdyana taila,² popularly known as *Madhyama nárdyana taila* is made by taking of the bark of *Ægle Marmelos* (vilva), *Premna spinosa* (agnimantha), *Calosanthus Indica* (syonáka), *Stereospermum suaveolens* (pátalá), *Erythrina Indica* (páribhadra), *Pæderia fœtida* (prasáraní), *Withania somnifera* (asvagandhá), *Solanum Jacquini* (kantakári), *Solanum Indicum* (vrihati), *Sida cordifolia* (balá), *Sida rhombifolia* (atibalá), *Tribulus terrestris* (danshtrá) and *Boerhaavia diffusa* (punarnavá), each twenty tolás, water sixty-four seers, and boiling down till reduced to one-fourth and straining. To the

१ यतावरी काय कुश चंद्राविदारीशाकीकुशयेदकायाम् । कायं सुशीतं
मधुयकैराश्लं पिवन् जयेत्पैतिक मूलकण्डूम् । चक्रदत्तः ।

२ नारायणतैलम् । विस्त्राग्निमन्त्रश्लोकाकपाठवापारिभङ्गः । प्रसारणसमन्वा
च दृष्टीकण्टकारिका । वहाचातिवहाचैव चंद्रा सपुनर्नवा । एषां दशपदान्
भागान् चतुर्दशैः श्लोकैः पथेत् । पादशेषं परिक्लाष्य तैलपात्रं प्रदापयेत् । यतपुण्या
देवदाह सांख्यीशैवकं वचा । चन्दनं तगरं कुठमेवापरीचतुष्टयम् । राक्ष्सा
सुरगमन्त्राच सैन्धवं सपुनर्नवम् । एषां द्विपञ्चिकान् भागान् पेषयित्वाविनिक्षिपेत् ।
यतावरीसञ्ज्ञं च तैलकुण्डं प्रदापयेत् । अजं वा यदि वा गन्धं कीरं दन्वा
चतुर्गुणम् । पाने वक्षी तवाभ्यङ्गे भोज्ये चैव प्रयस्यते । कश्चो वा वातसंभञ्जो
गणो वा यदि वा नरः । पक्कुचः पीठसमीपं तैलेनानेन सिध्यति । कषोभानेच
वे वाताः शिरोमध्यगताश्च ये । दन्तग्रूहे हृत्कुक्ष्ये मन्थाक्षय्ये गणपदे । वक्ष
शुष्यति चैकाग्रं भतिर्वैद्य च विद्वत्तया । एतत्तैलवर्त्तनेषां नान्नान्नारायणं
कृतम् । तगरं नतमलस्रादभावे शोषविश्लेषः । चक्रदत्तः ।

strained decoction add four seers each of the juice of *Asparagus racemosus* and prepared sesamum oil, sixteen seers of cow's or goat's milk and the following substances, namely, fennel seeds, wood of *Cedrus Deodara* (*devadāru*), *jatāmānsi* root, liquid storax, *Acorus Calamus* (*vachā*), sandal wood, *Limnanthemum cristatum* (*tagarapādūkā*), *Aplotaxis auriculata* (*kushṭha*), cardamoms, *Desmodium gangeticum* (*sālaparni*), *Uraria lagopodioides* (*prisiniparni*), *Phaseolus trilobus* (*mudgaparni*), *Glycine labialis* (*māshaparni*), *Withania somnifera* (*asvagandhā*), *Vanda Roxburghii* (*rāsnā*), *Boerhaavia diffusa* (*punarnavā*) and rock salt, four tolās each in the form of paste and prepare an oil in the usual way. When ready, boil again with fragrant substances as directed in the introduction under the head of Medicated oils. This oil is much used by native physicians in rheumatism, diseases of the joints, stiff neck, hemiplegia and other diseases of the nervous system.

Vishnutaila. This is an oil much used in nervous diseases. It is prepared with sesamum oil, cow's or goats' milk, and the juice of *Asparagus racemosus*, with the addition of a number of substances in small quantities in the form of a paste.

Prameha mihira taila. This oil is prepared with the juice of *Asparagus racemosus*, sesamum oil, decoction of lac, whey and milk, with the addition of a number of substances in the form of a paste. It is rubbed on the body and more particularly over the pubic region in chronic gonorrhœa, stricture of the urethra, and other diseases of the urinary organs.

ALLIUM SATIVUM, Linn.

Sans. रसुन, *Rasuna*, लसुन, *Lasuna*.

Vern. *Rasun*, Beng. *Lasun*, Hind.

GARLIC is described as carminative, stomachic, alterative, tonic and useful in affections of the nervous system, flatulence, hysteria, etc. During its use, the diet should consist of wine, meat and acids.

Decoction of garlic.¹ Take of garlic thirty-two tolās, water

¹ वाचयेन्मुहुशुष्कास्यं लसुनस्य चतुःपञ्चम् । कीरोदकेऽष्ट कुञ्चिते कीरोदके च
प्राचयेत् । वातशूलसहदावर्त्तं मधुस्रीविषमण्वरम् । कुङ्कोरं विद्रुधिं शोचं
यमवात्माद्युतत्पदः । एवम् वाञ्छिते कीरे लीकसम्यजदीयते । चक्रदत्तः ।

four seers, milk four seers, boil together till the water is evaporated and strain. This decoction in milk is given in small doses in hysteria, flatulence, sciatica and heart disease.

Svalparasuna pinda.¹ Take of garlic twelve tolás, assafœtida, cumin seeds, rock salt, *sonchal* salt, ginger, long pepper and black pepper, each one-eighth of a tolá; powder them finely and mix. Dose, about twenty-two grains every morning with a decoction of the root of the castor oil plant, in facial paralysis, hemiplegia, sciatica, paraplegia and convulsive affections. This medicine should be continued for a month.

Garlic juice slightly warmed is used as a local application in otalgia. A bulb of garlic is sometimes introduced into the meatus for relief of pain in the internal ear.²

GLORIOSA SUPERBA, Linn.

Sans. बाङ्गडोका, *Lángalká*, अग्निशिखा, *Agnisikhá*, कलिकारी, *Kalikári*.

Vern. Bishalánguli, Beng. Karihári, Hind.

“THE *Gloriosa Superba* is a native of the forests of India. It appears during the rainy season in Bengal, and is one of the most ornamental plants any country can boast of.” Its bulb is one of the seven minor poisons of Sanskrit writers (see page 7). One of its Sanskrit synonyms is *Garbhaghátini* or the drug that causes abortion, but I am not aware of its being used as an abortive for criminal purposes. The root, powdered and reduced to a paste, is applied to the navel, supra-pubic region and vagina with the object of promoting labour pains.³ In retained placenta

¹ कात्सरसोनपिच्छः । पचनार्थं पचयन् रसोनस्य सुकुडितम् । हिक्रुजोरक-
विमूल्यः सौम्यैश्चकटुमयैः । चूर्णितैर्नायकोक्तानैरवचूर्ण्यविमोहितम् । यथाग्नि
भविष्यमासौहृदावाहपानतः । दिने दिने प्रबोक्तव्यम् नापनेन निरन्तरम् ।
वातरोगं निवृत्त्याय चर्हितं चापतन्त्रम् । ऐकाङ्कुरोगिण्येवैव तचावज्जी
कुरोगिणे । उदराश्लेषे च मधुकां क्रिमिकोष्ठविशेषतः । कटीपृष्ठाभयं हृन्नाडुद-
रश्च विशेषतः चक्रः ।

² कशुमाह्वयिष्युकां स्तरवः त्रैलोक्यं कटुपूरवे । चक्रदत्तः ।

³ पाठा बाङ्गडिचिह्नास्य मजूरकजटैः पृथक् । नाभिवस्तिभनाद्येषां सुखं
नारीप्रसूयते । चक्रः ।

a paste of the root is applied to the palms and soles while powdered nigella seeds and long pepper are given internally with wine.¹ This root enters also into the composition of some complex prescriptions for internal use, as for example the *Lāngali guṭikā* described in the *Bhāvaprakāśa*.

NAT. ORDER SMILACEÆ.

SMILAX CHINA, Linn.

Sans. चोबचिनि, *Chobachini.* *Vern.* Chobchini. *Hind.*

FLUCKIGER and Hanbury state that "the use of this drug as a remedy for syphilis was made known to the Portuguese at Goa by Chinese traders about A.D. 1535." If this statement, which is given on the authority of Garcia d'orta, is correct, the history of this drug will enable us to fix the approximate age of the latest and most comprehensive treatise on Sanskrit Medicine, namely, the *Bhāvaprakāśa*. In this work China root is described under its vernacular name of *chobchini*, as a root like *Acorus Calamus*, brought from a foreign country and useful in rheumatism, epilepsy, insanity and particularly in syphilis.² It is used in modern Hindu medicine as an alterative along with *anantamul* and other drugs of reputed efficacy in syphilis and rheumatism.

NAT. ORDER CYPERACEÆ.

CYPERUS ROTUNDUS, Linn.

Sans. मुस्तक, *Mustaka.* *Vern.* Muthá, Beng. Mothá, *Hind.*

CYPERUS PERTENUIS, Roxb.*

Sans. नागरमुस्तक, *Nágaramustaka,* *Vern.* Nágarmuthá, Beng. *Hind.*

THE tubers of these two species of *Cyperus* are much used in Hindu medicine. *Cyperus rotundus* is the most common variety

¹ मूत्रेण वाक्त्रिचक्र्याः चक्षिणे पाणिपादेच। अमरापातनं मद्यैः पिप्पल्या-
दिरजः पिबेत् । चक्रदत्तः ।

² चोबचोनि। द्वीपाल्म वचा किञ्चित् तिक्तोष्णा वङ्गिदोषिणत्। विषम्बा-
ध्मान् शुब्रश्लेष्मकम् मूत्रविशोधनो । वातव्याधिन पक्षारमुष्णदाम् तद्वेदनम् ।
ज्वरोद्धति विशेषेण फिरङ्गामयनाशिनो । नावप्रकाशः ।

* The *Cyperus pertenuis* of Roxburgh can hardly be maintained as a species ; it is a variety of the *C. rotundus* of Linnæus. G. K.

and is used internally. Its tubers are about the size of a pigeon's egg and of a dark brown colour externally; internally white, and fragrant. Those growing in moist soil are preferred for use. The root of *Cyperus pertenuis* is somewhat tuberous with many dark coloured villous fibres. It grows in low wet places and is chiefly used in the preparation of medicated oils. The properties of both are said to be identical. They are considered diaphoretic, astringent, stomachic and useful in fever, diarrhoea and dyspepsia. The tubers of *Cyperus rotundus* are extensively used as an aromatic adjunct to numerous compound medicines.

Shadanga pāniya.¹ Take of the tubers of *Cyperus rotundus*, red sandal wood, root of *Andropogon muricatus*, (*usira*), *Oldenlandia herbacea*, (*parpata*), *Pavonia odorata* (*bālá*) and dry ginger each one drachm, water two seers; boil down to one seer. This decoction is given as a drink for appeasing thirst and relieving heat of body in fever. It may be taken *ad libitum*.

NAT. ORDER GRAMINEÆ.

SACCHARUM OFFICINARUM, Linn. ETC.

Sans. रज्जु, *Ikshu*. *Vern.* A'k, *Beng.* Uk, *Hind.*

THE sugar-cane and its products sugar and treacle were known to the Hindus from a very early age. From the Sanskrit term *sarkara* are derived the Arabic *sakkar*, Latin, *saccharum* and English sugar.* Twelve varieties of sugar-cane are mentioned by

¹ बङ्गप्रधानीवम् । सुसर्पटकोपीर चन्दोदीप्यमानरैः । इतयोत्तं
जडं दद्यात् पिपासाञ्च रयान्ते । चक्रः ।

* In the Pharmacographia by Fluckiger and Hanbury it is stated; "Candy as sugar in large crystals is called, is derived from the Arabic *hand* or *handat* a name of the same signification. An old Sanskrit name of Central Bengal is *Gura* whence is derived the word *Gula* meaning raw sugar, a term for sugar universally employed in the Malayan Archipelago, where on the other hand, they have their own names for the sugar-cane, although not for sugar. This fact again speaks, for Ritter's opinion that the preparation of sugar in a crystalline state is due to the inhabitants of Bengal." The Arabic *hand* is apparently derived from the Sanskrit *khanda*, that is treacle candied into white sand-like grains. Again the Bengali term *Gura* is derived from the Sanskrit *Guda* which is mentioned by such ancient writers as Charaka and Susruta. The manufacture of sugar therefore was evidently understood in Upper India before it was known in Bengal, at any rate there is nothing to shew that sugar was first prepared in Bengal.

Sanskrit writers, but these can not all be identified at present. The products or preparations of the sugar-cane, as described by Sanskrit writers, are as follows:—

1. रक्षुरस, *Ikshu rasa* or sugar-cane juice.
2. फाणित, *Phanita* or sugar-cane juice boiled down to one-fourth. It can be drawn out in threads.
3. गुड़, *Guḍa* or sugar-cane juice boiled to a thick consistence, that is treacle.
4. मत्स्यण्डिका, *Matsyaṇḍikā* is sugar-cane juice boiled down to a solid consistence but which still exudes a little fluid on drawing.
5. खण्ड, *Khaṇḍa* is treacle partially dried or candied in white sand-like grains.
6. शर्कर, *Sarkara* or white sugar.
7. शितोपल, *Sitopalā* or sugar candy.
8. गौड़ी, *Gauḍī* or fermented liquor obtained from treacle.
9. सीधु, *Sidhu* or fermented liquor obtained from sugar-cane juice.

The properties of these preparations are described separately, but it is scarcely worth while to reproduce these details here. The root of the sugar cane is considered demulcent and diuretic. Sugar and treacle are very largely used in Hindu Medicine. Old treacle is preferred to new for medicinal purposes.

Trinapancha mula.¹ Under this name the roots of five sorts of grasses are used in combination. They are as follows .—

1. रक्षु, *Ikshu. Saccharum officinarum, Linn.*
2. शर, *Sara. Saccharum Sara, Linn.*
3. काय, *Kāsa. Saccharum spontaneum, Linn.*
4. कुश, *Kusa. Poa cynosuroides, Linn.*
5. दर्भ, *Darva. Imperata cylindrica, Beauv.* Some practitioners substitute the root of *Andropogon muricatus* for that of *Imperata cylindrica*. A decoction of these roots is considered demulcent and diuretic and is largely prescribed as an adjunct to metallic medicines in gonorrhœa, strangury and suppression of urine. The following confection is also much used in these diseases.

1 रक्षुपक्षुशरकुश । कुशः कायः शरो दर्भ इत्युच्येति त्रयोद्वयम् । यत्र
रक्षुपक्षुशरं पक्षुशरं च त्रयि विधीयते । भावप्रकाशः ।

Kusdvaleha.¹ Take of the five roots above mentioned, eighty tolás each, water sixty-four seers, boil down to eight seers and strain. Then add sugar four seers, and reduce to the consistence of a thick syrup. Remove the syrup from the fire and add to it the following substances, namely, liquorice root, cucumber seeds, the seeds of *Cucumis melo* (*karkati*), bamboo-manna, emblic myrobalan, *tejapatra* leaves, cardamoms, cinnamon, bark of *Cratava religiosa* (*varuna*), *gulancha*, seeds of *Aglaiia Roxburghiana* (*priyangu*), and the flowers of *Mesua ferrea* (*ndgakesara*), two tolás each in fine powder; stir them well with a ladle and prepare an electuary. Dose one to two tolás.

ORYZA SATIVA, Linn. ETC.

THE following varieties of food grains belonging to this important natural order, are mentioned by Sanskrit writers:—

धान्य, *Dhánya*. *Oryza sativa*, Linn. Vern. *Dhán*, Beng. *Hind*.

गोधूम, *Godhuma*. *Triticum vulgare*, Linn. Gam, B. *Genhu*, H.

यव, *Yava*. *Hordeum hexastichum*, Linn. Jab, Beng. *Jow*, *Hind*.

These three are considered the best of grains. The following varieties pass by the name of कुधान्य, *Kudhánya* or inferior grains and क्षुधान्य, *Kshudra dhánya* or minor grains.

जवनाक, *Yávanáka*. *Holchus Sorghum*, Linn. *Jodr*, *Hind*. Beng.

कङ्गु, *Kangu*. *Setaria Italica*, Kunth. Vern. *Kángni*, B. *Korá*, H.

चीन, *China*. *Panicum miliaceum*, Linn. *Chíná ghás*, B.

श्यामाक, *Syámáka*. *Panicum frumentaceum*, Roxb. *Shyámádhán*, B.

कोदरुव, *Kodrava*. *Paspalum scrobiculatum*, Linn. *Kodoádhán*, Beng.

नीवार, *Nivára*. Wild variety of *Oryza sativa*, Linn. *Uridhán*, B.

१ कुषावलेहः । कुषः कायो वीरवच लब्धेः कृष्णवस्त्रा । एषां दश-
पदान् भगवान् जलद्वारे विधातयेत् । अष्टभानावधिष्टु कषाव जवतारयेत् ।
अष्टपुत्रस्य वनादाव लेहवत् साधूदाधयेत् । अवतार्त्त ततः पश्चात् चुर्चानी-
नानि दापयेत् । मधुकं कर्चटीवीर्यं कर्चवृक्षपुत्रं तथा । शुभामलक मलाचि
ल्लेखानामकेयरं । वरुणावृताप्रियङ्गुच प्रलेखनसम्पन्नितं । प्रमेहान् विंशतिं
हस्ति मूलाकातासवाश्जरीः । पातिकां पतिकां चैव क्षेपिकां चाक्षि-
पातिकां । हस्तरोचक मल्लं पं वर्षपुष्टिकरं परम् । भैरवस्तवली ।

गवेधुका, *Gavedhukā*. Some species of *Coix*, *Gargaredhān*, *Beng.*

रागी, *Rāgi*. *Eleusine corocana*, *Gaertner*. *Maruā*, *Beng.*

देवधान्य, *Devadhānya*, *Andropogon Saccharatus*, *Linn.* *Neodhān*, *B.H.*

वेणुज, *Venuja*. Seeds of *Bambusa arundinacea*, *Willd.*

चावरक, *Chāruka*. Seeds of *Saccharum Sara*, *Roxb.* *Sarabij*, *B.*

ORYZA SATIVA. Rice is the principal and often the only food of the great mass of the Indian population. *Dhānya* the Sanskrit name of paddy, means the supporter or nourisher of mankind. It is regarded as the emblem of wealth or fortune. On a thursday in the month of Pausa (December, January) after the new paddy has been reaped, a rattan-made grain measure called *rek* in Bengali, is filled with new paddy, pieces of gold, silver and copper coins, and some shells called *cauries*, and worshipped as the representative of the goddess of fortune. This apparatus is preserved in a clean earthen pot and brought out for worship on one thursday in each of the following Hindu months, namely, Chaitra, Srāvana, and Kārtika. Such is the form of the domestic goddess of wealth of an agricultural people living chiefly on rice.¹

The three principal classes of rice are *Sāli* or that reaped in the cold season, *Vrihi* or that ripening in the rainy season, and *Shashika* or that grown in the hot weather in low lands. This last is reaped within sixty days of its sowing. The varieties of each of these three classes of rice are numerous and confounding. *Rakta sālī* popularly known as *Dāudkhāni* is the variety of rice that is considered superior to all others and suited for use by sick persons. The preparations of rice used in sick diet and described in Sanskrit medical works are as follows :—

वरागु, *Varāgu* or powdered rice boiled with water for the use of the sick and convalescent. It is made of three strengths, namely, with nine, eleven and nineteen parts of water, called respectively *Vilepi*, *Peyā* and *Manḍa*. Sometimes, instead of water, a decoction of medicinal herbs is used in preparing *varāgu*.

1 जीवे च दशमी यस्या चिकित्से पञ्चमी तथा । नमस्ते पूर्विका चेवा
 शुच्यारौ विधेयतः । आदकं चान्नं सन्मुखं नामाभरणं भूषितम् । सुगन्धि
 युक्तं कृत्वा शुक्तं पक्वं प्रयोजयेत् । काचचन्द्रिका ।

Thus for example if it is ordered to give the patient *yavdgu* made with ginger and long pepper, the process adopted in preparing it is as follows. Take of dry ginger and long pepper, one tola each, boil in four seers of water till reduced to two and strain. Now take nine, eleven or nineteen parts of this strained decoction and one part of powdered rice for making *yavdgu* of the strength ordered.

ढाजा, *Lājā*, (*Vern. Khai*), is paddy fried in a sand bath. The husks open out and the rice swells into a light spongy body. It is considered a light article of diet suited to invalids and dyspeptics.

भरिश्ठा तन्दुल, *Bhrishṭa tandula*, (*Vern. Muri*) is rice fried in a sand bath. This is also a light preparation of rice and is given to sick persons as a substitute for boiled rice. It is also much used by the poorer classes for tiffin and early breakfast.

प्रिथुका, *Prithukā*, (*Vern. Churā*). To prepare this, paddy is moistened and lightly fried. It is then flattened and husked. This preparation of rice is given with curdled milk (*dadhi*) in dysentery. It is well washed and softened in water or boiled before use.

पायस, *Pāyasa* is a preparation of rice with nine parts of milk.

तन्दुल दाम्बु, *Tandulāmbu* is water in which unboiled rice has been steeped. This sort of rice-water is sometimes prescribed as a vehicle for some powders and confections.

The products of the acetous fermentation of rice and other grains have been already described in the introduction.

TRITICUM VULGARE, *Linn.* Three varieties of wheat are mentioned in the *Bhāvaprakāśa*, namely *Mahāgodhuma* or large grained, *Madhuli* or small grained¹ and *Nihuki* or beardless, that is without awn. The first variety is said to come from the west and the second to be indigenous to the middle region comprising the modern provinces of Allahabad, Agra, Delhi, Oudh, etc. Wheat is considered the most nutritive of the food-grains, but less easily digested than rice.

HORDEUM HEXASTICHUM, *Linn.* Barley though less esteemed than wheat is more employed in the dietary of the sick. It is chiefly used in the form of *saktu* or powder of the parched

¹ मधुलकः स्यात् गोधूमः इति चट्टीक इत्यमरः ११७ ।

grains. Gruel prepared with *saktu* is said to be easily digested and to be useful in painful dyspepsia.

ZEA MAYS, *Linn.* called *makkái* in the vernacular has no Sanskrit name. It is indigenous to America but is now largely cultivated in Behar and Upper India.

The minor food grains are not of any importance in a medicinal point of view. They are used as food by the poorer classes or for cattle.

Old rice is preferred to new as being lighter and more easily digested, but new wheat and barley are considered superior to old. These are said to loose in flavour and taste by long keeping.

Poultices made of rice, barley or wheat flour, with the addition of oil or clarified butter, are applied to abscesses for hastening suppuration.¹

ANDROPOGON MURICATUS, *Retz.*

Sans. उशीर, *Usira*, वीरण, *Virana*,

Vern. Bend, *Beng.* Khas, *Hind.*

The root of this plant is well known as the *khas khas* root of which *tátis* or door screens are made for watering during the hot weather. It is described as cooling, refrigerent, stomachic and useful in pyrexia, thirst, inflammation, irritability of stomach, etc. It enters into the composition of several cooling medicines, as for example the preparation called *Shadanga páníya*, (see *Cyperus rotundus*). A weak infusion of the root is sometimes used as a febrifuge drink.

Externally it is used in a variety of ways. A paste of the root is rubbed on the skin to relieve oppressive heat or burning of the body. This use of the drug appears to have been popular with the ancients. Kálidássa in his drama called *Sakuntalá* alludes to it as will appear from the passage quoted below.²

1 तैलेन सर्पिजावापिताभ्यां वा यक्तुं पिष्टिकम् । सुखोष्णः शोषपाकार्य-
स्यपनाहः प्रयत्यते । चक्रः ।

2 सनन्यसोशीरं प्रयिष्विष्वक्यथावैक्यस्य । प्रिदावाः वावाचं तदपि-
कमनीयं वदुरिदम् । यक्तुमहा ।

An aromatic cooling bath is prepared by adding to a tub of water the following substances in fine powder, namely, root of *Andropogon muricatus*, *Pavonia odorata* (bálá), red sandal wood, and a fragrant wood called *padma káshṭha*.¹ The same medicines are reduced to a thin emulsion with water and applied to the skin.²

ANDROPOGON SCHÆNANTHUS, Linn. Sans. भूकृष्ण
Bhustrina, Vern. *Gandha bená*, Beng.

ANDROPOGON IWARANCUSA, Roxb. Sans. बामज्जक
Lámajjaka. Vern. *Lámjak*, Hind. *Karankusá*, Beng.

These two fragrant grasses are occasionally used as aromatics and refrigerants like the roots of *Andropogon muricatus*. *A. schænanthus* is common in Bengal, being cultivated in gardens for the sake of its fragrant leaves. *A. Iwaruncusa* is "a native of the skirts of the Northern mountains of India." Its virtues seem to reside in the larger roots marked with annular cicatrices.

BAMBUSA ARUNDINACEA, Willd.

Sans. वंश, Vansa. Vern. Bâns, Beng. Hind.

The siliceous concretion found in the joints of the female bamboo is called वंश रोचन, *Bansa rochana* in Sanskrit, and is described as sweet, cooling, tonic, aphrodisiac and useful in cough, consumption, asthma, fever, etc. It enters into the composition of numerous compound prescriptions for affections of the lungs. The following is an illustration.

Sitopaládi churna.³ Take of bamboo-manna eight parts, long

1 क्षीरेरपद्म कोशीर चन्दनकोदवारिषा । संपूर्णानवनाहेत द्रोणीदाह-
दितोनरः । चक्रदत्तः ।

2 मूत्रेकाः परिनेकाश्च यस्मिन्ने पञ्चवक्त्रैः । पद्मकोशीर मधुक चन्दनैर्वा
प्रयुज्यते । चक्रदत्तः ।

3 सितोपकादिचूर्णम् । सितोपकाकोष्ठयस्मादपी स्वाहंशलोचना । पिप्पली-
स्वाह्वतःकर्णामुद्रैस्त्राह्विर्वाभिनी । एकवक्त्रैश्च चकार्यचूर्णैश्चैवमेकतः ।
सितोपकादिकं चूर्णं मधुसर्पिर्वृतं विहेत् । आसकासकवह्नं हसपादाङ्ग
दाहयित् । चन्दानि सप्तविंशत्य पात्रं शुद्धमरोचकम् । अरमूर्ध्वगतं
रक्तपित्तमायुष्यपोहति । शार्ङ्गधरः ।

pepper four parts, cardamoms, two parts, cinnamon one part, sugar sixteen parts; powder the ingredients and mix. Dose, about a drachm with honey and clarified butter. This preparation is given in phthisis with pain in the sides, hæmoptysis, loss of appetite and burning of the hands and feet.

CYNODON DACTYLON, *Pers. Sans. दूब, Durod. Vern. Durba, Beng. Dub, Hind.* This elegant and most valuable grass, like many other useful vegetables, has a niche in the temple of the Hindu religion. Medicinally the fresh juice of the leaves is considered astringent, and is used as a snuff in epistaxis.¹ The bruised grass is a popular application to bleeding wounds.

PRODUCTS OF FERMENTATION AND DISTILLATION.

WINES AND SPIRITS.

All fermented and distilled liquors causing intoxication, are called *Madya* or *Madirā* in Sanskrit. The following varieties are mentioned by the later writers.

माद्विक, *Māddhika*, or spirit distilled from grapes.

खार्ज, *Khārjura*, do. do. dates.

गोड़ी, *Gauḍi*, do. do. treacle.

सिधु, *Sidhu*, do. do. sugar-cane juice.

सुरा, *Surā*, do. do. rice.

कोहल, *Kohala*, do. do. barley.

मधुलिका, *Madhulikā*, do. do. wheat.

पैश्वी, *Paishvī*, do. do. from different sorts of grain.

मधुपुष्पोत्पल, *Madhuka pushpottha*, do. do. the flowers of

Bassia latifolia and treacle.

जाम्बव, *Jāmbava*, do. do. ripe fruits of *Eugenia Jambolana*.

कादम्बरि, *Kādambari*, do. do. flowers of *Anthocephalus*

Cadamba.

वल्कलि, *Valkali*, do. do. belleric myrobalan and treacle.

वारुणी, *Vārūni* is the fermented juice of the palm and date trees.

¹ नखं दाडिमपुष्पोत्पलो रसो दूर्वाभक्षोऽजवा । क्षात्रास्थिजः पञ्चाङ्गोर्व
माद्विकास्तृणरक्तजित् । भावप्रकाशः ।

Some of these spirituous liquors have several varieties. Thus two varieties of *sidhu* are mentioned, namely, that produced from boiled sugar-cane juice and that from the unboiled juice. The liquor distilled from rice receives different names according to its consistence. The clear transparent fluid which floats on the top is called *prasanné*; that below it, is called *kádambari*; *jagala* is a thicker fluid than *kádambari*; *medaka* in the thickest and weakest of all. The forms of medicated spirituous liquors have been already described in the introduction, (see page 31).

Spirituous liquors are described as stimulant, sedative, agreeable, heating, intoxicating, digestive and nourishing. They are easily assimilated but injurious to health in hot climates. New wine is disagreeable to the taste and smell, unpleasant in its effects, not easily assimilated, laxative, heating and injurious to health. Old wine is agreeable, light and appetizing. It promotes the circulation of the fluids in the vessels and renders the senses acute. In amiable and virtuous men, wine promotes mirth and a desire for musical entertainments. In passionate men it gives rise to rashness and evil actions. Used at the proper season, in proper doses and with suitable food, wine acts like nectar. If taken to excess it induces a host of diseases. Medicinally, spirituous liquors are said to be useful in emaciation, debility, anæmia, urinary diseases, dyspepsia, chronic bowel complaints, chronic fever, deficient secretion of milk, etc.

A mixture of ginger, cumin seeds, treacle, wine and warm water is given in ague with prolonged cold stage.¹ In chronic intermittent fever with debility, spirit distilled from rice, together with the flesh of fowls is recommended to be given as diet by most writers, but their advice is not followed in the present day. Several preparations of spirit distilled from treacle with the

1 शुद्धी जागी शुद्धं पितं बीजस्यैव मरिचा । जीर्णमेव तमेव
शीतं शीतं क्वरं जलेत् ।
भावप्रकाशः ।

2 कुरां वनस्पतं यानां भक्षार्थं वदन्त्यानु । त्रिभिरोऽथ मधुरां च
मधुसूतसहितमज्जरे ।
चक्रः ।

addition of various medicinal and aromatic substances are used in different diseases. The following is an example.

*Mritasanjivani surā.*¹ Take of new treacle eight hundred tolas and steep it in thirty times its weight of water. Add to the mixture the following substances in the form of a paste, namely, ginger sixteen tolas, bark of *Acacia Arabica* two seers, of *Ziziphus Jujuba* (kola) two seers, of *Symplocos racemosa* (lodhra) half a seer, betle-nuts as many as desired; stir in a large earthen vessel, and keep the mixture for twenty days in a covered jar. After this period remove the fermented fluid to a distilling apparatus, and add to it, the following aromatic substances, namely, betle-nuts, cloves, sandal wood, cumin seeds, *djowan*, black pepper, ginger, nutmegs, cardamoms, cinnamon, *tejapatra* leaves, fennel seeds, nigella seeds, the fragrant substances called *elaváluka*, *padma-kásh-ṭha* and *granthiparni*, *devadáru* wood, *khas khas* root, zedoary root, *jatámánsi* root and the tubers of *Cyperus rotundus* (*mustaka*), each eight tolás, in coarse powder, and distil. This distilled liquor is used as a tonic, astringent and invigorating drink.

१ क्षतवज्रोवनीसुरा। नूतनं शुद्धसंमिश्रं यतमेकं पत्रं तथा। जलं चतुष्टयं
देवं स्नापयेत् क्षतमाजने। वावरीत्वचं च पाण्डुरं बदरीत्वचमेव च। प्रस्यं प्रस्यं
प्रदातव्यं पूगंदेवं यथोचितं। क्षौद्रं च कुङ्कुमं दत्वा चार्द्रं च पत्रद्वयं। शुद्धं
च गोक्षकं कृत्वा दापयेत् बुद्धिमान् भिषक्। प्रथमे चार्द्रं देवं द्वितीये वावरी
त्वचं। तृतीये बदरी दत्वा गोक्षदत्वा भिषम्बरः। चतुर्थे सरावकं दत्वा यत्ने
कृत्वा च वन्दनं। शुद्धसंवन्दनं कृत्वा स्नापयेद्दिनं विंशतिं। क्षतमे मोर्च्छिका
पाने सवृक्षोपवन्दने। यथाविधि प्रकारेण मन्दं मन्देन वज्रिना। बुद्धिमध्ये
विघातव्यकृत्तिका इह भाजने। तदौषधं तन्मध्ये उद्धरित्वा विनिक्षिपेत्।
कुम्भमध्ये निधातव्यं पूनश्च सैन्धवायुक्तं। देवदारुं च वज्रं च पद्मकोशीर
चन्दनं। यत पुष्पा यमानी च मरिचं जीरकं द्वयं। यथौ सांख्यी त्वगेष्टाच
जातिफलं सप्तफलं। अग्निपर्णी तथाशुयठी मेथी मेथीच चन्दनं। एषा
चार्द्रपचान् भागान् कुटवित्वा विनिक्षिपेत्। यथाविधि प्रकारेण चान्नं
दापयेत् शुची। बुद्धिमान् शोषणं कृत्वा उद्धरेत् विधिवत्सुरां। एतकथं
पिबेच्चित्तं यथापात्रं ववक्रमात्। आरोग्यं देहं दास्यत् सप्तपुष्टिकरं
सदा।

उद्धृत पाठः।

THE
MATERIA MEDICA
OF THE HINDUS
PART III.

ANIMAL MATERIA MEDICA.

THE LEECH.

LEECHES have been employed by the Hindus from a very remote period. Susruta gives a detailed account of their varieties habits, mode of application, etc. His account of leeches has been translated in full by Dr. Wise. Pundit Madhu Sudan Gupta had also furnished a note on the subject for publication in the Bengal Dispensary. I will not therefore attempt a new translation but will give an extract from Dr. Wise's work. "There are twelve varieties of leeches, six of which are venomous, and six useful. The venomous leeches are found near putrid fish or animals in foul stagnant and putrescent water. Such leeches are consequently to be avoided. The good leeches are found in clear and deep pools of water which contain water lilies, and are surrounded with sweet smelling plants. The middle sized leeches are the best. These leeches are to be caught on a piece of leather or cloth, and placed in a new water pot in which some clay and pure water has been put. Some grass or leaves of aquatic plants are to be placed in the pot for them to lie upon, and the roots of water lilies and dry flesh are to be given them for food. The water is to be changed every third day, and the water pot every seventh day. If the leeches do not fix quickly, apply a drop or two of milk or blood

to the part, or make one or two very slight scarifications, which will induce them to fix themselves more readily. When the leeches are sucking, sprinkle a few drops of cold water upon their bodies. When the leeches have removed the necessary quantity of blood, sprinkle a small quantity of salt upon their heads to make them drop off. Put the gorged leeches upon some dry bran, put a little oil and salt upon their mouths and then strip them. Put them next in fresh water and, if they are lively, they will live and may be used again ; but if they are languid, they will soon die and they should therefore be at once thrown away. The part upon which the leeches have been is to be smeared with honey, cold water and astringent substances. In other cases poultices may be applied."

LAC.

Sans. लाक्षा, *Lākshá Vern. Láksh, Hind. Gálá, Beng.*

THE lac insect (*Coccus lacca*), has been known to the Hindus from a very ancient period. The *Butea frondosa* is called *Lákshá taru* or lac plant in Sanskrit, this being the principal tree in which lac is said to be produced. The fluid lac-dye obtained by dissolving the crushed stick-lac in water is called *A'lakta*. It is used in colouring silk. Cotton coloured with this dye and pressed into flat circular pieces is sold in the bazars under the name of *A'lta* and is used in painting the hands and feet of Hindu females. Shell-lac is used in the preparation of sealing wax, varnish for carpenters and ornaments for women. A decoction of shell-lac is much used in the preparation of several medicinal oils, such as *Lákshádi taila*, *Chandanddi taila*, *Angdraka taila*, etc.

Laksháditaila.¹ Take of shell-lac two seers, water sixteen

१ लाक्षादि तैलम् । लाक्षारसं वनं तैलं तैलाग्रास्तु चतुर्थं चम् । अत्र-
गन्धा निशा दाह कोनीकुण्डलन्दनैः । समूर्णा रोहिणी राक्षा यताङ्गा
सधुक्तेः वनेः । सिद्धं लाक्षादिकं नाम तैलसम्पन्नमिहा । सर्वज्वर-
क्षयीत्यादौ आवापन्मात्रं वातनुत् । अत्र राक्षस भूतश्च गर्भिणीनां च यक्षते ।

भावप्रकाशः ।

seers, boil till reduced to four seers and strain. To this decoction of shell-lac add four seers of prepared sesamum oil, sixteen seers of whey, and two tolás each of the following substances, namely, *Withania somnifera* (*asvagandhá*), turmeric, *devadáru* wood, root of *Sansevieria Zeylanica* (*murvó*), *Pandanus odoratissimus* (*ketaki*), *Vanda Roxburghii* (*rásna*), dill seeds and liquorice root in the form of a paste and prepare an oil in the usual way ; lastly add four tolás of camphor. This oil is much used for inunction in chronic fever and consumption. The other oils containing lac are prepared in a similar way, with the addition of various medicinal substances in the form of paste.

HONEY AND WAX.

Sans. मधु, *Madhu*, माक्षिक, *Mákshika*.

Vern. Madhu, *Beng.* Shahad, *Hind.*

Eight sorts of honey are described by Susruta, namely :

1. *Mákshika* or the honey collected by the common bee called *madhumakshiká*.

2. *Bhrámara*, or the honey collected by a large back bee called *bhramara*.

3. *Kshaudra*, or honey collected by a sort of small bee of tawny colour, called *Kshudra*.

4. *Pauttika*, or honey collected by a small black bee resembling a gnat, and called *puttika*.

5. *Chhatra*, or honey formed by tawny or yellow wasps which make their hives in the shape of umbrellas.

6. *Argha* or wild honey collected by a sort of yellow bee like the *bhramara*.

7. *Auddlaka* is a bitter and acrid substance like honey found in the nests of white ants.

8. *Dála* or unprepared honey found on flowers.

Of these varieties the first four only are described by recent writers and the first alone is used in medicine. New honey is considered demulcent and laxative. Honey more than a year old is said to be astringent and demulcent. Old honey is preferred

to new. It is much used in the preparation of confections and electuaries, and as an adjunct to decoctions, pills and powders.

Wax, called *siktha* in Sanskrit, is used in the preparation of ointments and *ghritas* for external application.

SERPENT POISON.

Sans. सर्पविष, *Sarpavisha*, गरल, *Garala*.

Serpent poison has been used in Hindu Medicine since a very recent period only. Even the *Bhāvaprākāsa* which is not more than three centuries old does not mention it. Prescriptions containing it are found in such modern compilations as the *Bhaishajya ratnābali*, *Sārkaumudi*, etc.

The poison of the black cobra (*Naga tripudians*. Vern. *Keute sâp*, Beng.) is used. It is collected by making the reptile bite on a piece of stick or wood when the poison is poured out and received on a piece of plantain leaf. It is preserved in two ways. The liquid poison is allowed to congeal and dry in a cup or it is rubbed with a fourth part of mustard oil and spread out on a piece of plantain leaf. Thus treated it rapidly coagulates into a granular agglutinated mass of a yellowish-brown colour. When allowed to dry spontaneously, serpent poison coagulates into shining, crystalline yellowish white granules. It is used in complicated fever in combination with arsenic, aconite and other medicines. Numerous formulæ containing this poison are given in recent compilations. The following are a couple of examples.

Suchikā bharana rasa.¹ Take of mercury, sulphur, prepared tin, aconite and cobra poison, equal parts, mix them together and soak the mixed powder in the bile of *rohitaka* fish (*Cyprinus Rohita*), wild boar, peacock, buffalo and goat successively and make into a pill-mass. This medicine is administered in doses

¹ सूचिकाभरणरसः । रश्मन्मृकनागश्च विषं स्यादरजस्तमम् । अतुल्य-
वराहमायूरजागपिस्तैश्च भावेत् । सूचिहाभरणो नाम भैरवेण प्रकीर्तितः ।
सूचिकाये च दातव्यः सन्निपातकुष्ठान्नसः । भैरवज्जलावली ।

that can be taken up by the point of a needle, hence it is called *suchikābharana*. It is given in remittent fever with cerebral complications.

Kālānala rasa.¹ Take of black cobra poison, sulphur, white arsenic, aconite, black pepper, long pepper, ginger, borax, mercury, prepared iron and copper equal parts ; soak them in the five kinds of bile mentioned above and make into one-grain pills with the juice of *datura* root. These are given in fever with coma, delirium and drowsiness.

MUSK.

Sans. मृगनाभि, *Mriganābhi*, कस्तूरी, *Kasturi*.

THE *Bhāvaprākāsa* describes three varieties of musk, namely, *Kāmrupa*, *Nepāla* and *Kāshmīra* musk. *Kāmrupa* musk is said to be of black colour and superior to the others. It is probably China or Thibet musk brought via Kamroop. *Nepāla* musk is described as of bluish colour and intermediate quality. *Kāshmīra* musk is of inferior quality.

Musk is regarded as stimulant and aphrodisiac and is used in low fevers, chronic cough, general debility and impotence. In low fevers with prostration, two grains of musk with two of *Makāradhvaja* are given every three hours with the addition of honey.

Svalpa kasturi bhairava.² Take of cinnabar, aconite, borax, nutmeg, mace, long pepper, black pepper and musk, equal parts

1 काष्ठानवः रवः । अमृतं नरवं यक्षुं चोदयामासु टङ्गचं । रवं गन्धं मूत्रवच्च पञ्चपित्तैर्जिभापयेत् । मातुलुङ्गद्वये मौञ्जं वटिका खव-
जानतः । योद्गार्हक रवचानु दापयेत् सञ्जिपातिके । अति तीव्रं प्वरं हन्ति
सर्वोपद्रव संयुतं । हरिद्रा तैव संमिश्रं मईवेत् तीव्रतापिनं । तथा
स्नानान्तरे नादं वेपयेत् गन्धचन्दनं । दध्यक्षं दापयेत् पक्वं श्लाघादिषण्ण
दाक्षिणं । काष्ठानव रवो नाम्ना गोषः परमदुर्लभः । रवरत्नाकरः ।

खल्वक्षरैर्भैरव रवः । हिङ्गुवच्च विषं टङ्गं आतिक्रोध फलमवा ।
नरिचं पिप्पली चैव कस्तूरीच समंयिका । रत्निद्वयं ततः चादेत् सञ्जिपाते
सुदाह्वये । रवेन्द्रवारवं पङ्कः ।

and make into four-grain pills. These are given in remittent fever of low type.

Mriganāvryādyavaleha.¹ Take of musk, cardamoms, cloves, cinnamon and dates, equal parts and make into a linctus with honey and clarified butter. This is given in hoarseness and loss of speech.

Vasantatilaka rasa.² Take of prepared gold one part, talc and tin two parts each, iron three parts, the preparation of mercury called *rasasindura* and calcined pearls and coral, four parts each; mix them together, soak for seven days in the juice of sugar-cane, of the fruits *Tribulus terrestris* (*gokshura*) and of other strengthening vegetables. Enclose the mass in a covered crucible and roast it in a sand-bath for three hours. Lastly add to it four parts of camphor and four of musk and make into four-grain pills. These are given as an alterative tonic in a variety of diseases, but more especially in chronic affections of the lungs supposed to be caused by deranged phlegm.

CIVET CAT.

Sans. गन्धमाज्जर, *Gandha mārjūra*. *Vern.* *Khâtási*, *Beng.* The pouch of the civet cat (*Viverra Zibetha*, *Linn.*) contains an unctuous odorous secretion which is extracted and used in perfumery. The

1 गन्धमाज्जरादिरवकेहः । गन्धमाजि वसुध्वाका वसुध्वाकागानि च ।
त्वक्कीरी चेति केकीवं मधुसर्पिः समानुतः । वाक्स्वस्थस्य जगति सर
भवं सन्निभम् । भवप्रकाशः ।

2 गन्धमाज्जकरवः । केकीमन्त्रकमन्त्रकं द्विगुणितं कौशाक्षवः पारहाः
पारहो भिन्नवस्तु वस्तुगतं चैकीकृतं सहेवेत् । सन्ध्यादिभूषणो रसेन समता
मोक्षु रवाक्षिणुषा सव्यं वसुध्वाकरेण तेन सुदृढं तत्तत् पथेत् सप्रभा ।
वसुध्वाको वनसारसहितरसः पश्चात् सुविज्ञोर्मेवेत् । कावन्नाय वसिष्ठ वाक्
मफजित् पाण्डु, सुवादीन् करेत् । मृदादिपदार्थी विषादिहरणं मेधाशरी
विंशतिं । कुशोनापहरं प्वराक्षिपयनं हृत्वं वयोवर्धनं भेठं दुष्टिकरं वसन्त-
दिशकं सत्यं ज्ञेयोदितम् । रसेन्द्रवारणं पदः । गन्धमाजि पारस्व-
कपरोमे प्रसिद्धः ।

ponch together with the secretion contained in it, are used by native physicians in scenting medicated oils.

HARTSHORN. *Sans.* मृगशृङ्ग, *Mrigasringa*. The antler of the deer incinerated in closed vessels is used in painful affections of the heart, pleurodynia, sciatica and lumbago. It is given in doses of about twenty-two grains with clarified butter. Burnt hartshorn leaves 57.5 per cent of phosphate of lime.¹

MILK AND ITS PRODUCTS.

The properties of the milk of various animals are described in great detail by Sanskrit writers. Milk in general is considered cooling, nutritive, strengthening and vitalizing. Cow's milk is pleasant to take and very wholesome. It promotes memory, strength and longevity and increases the secretion of semen. Buffalo's milk is said to be sweeter, heavier and more cooling than cow's milk. It induces sleepiness, spoils the appetite and brings on cold. Goat's milk is sweet, cooling and astringent. It promotes the digestive power and is useful in hæmorrhagic diseases, phthisis, bowel complaints, etc. Ewe's milk is saltish, disagreeable and not easily digested. Mare's milk is saltish, acidulous and easily digested. Ass's milk is saltish, easily digested, and useful in debility and urinary complaints. Camel's milk is light, sweet, saltish, laxative and useful in dropsical affections. Human milk is light, cooling, nutritive, strengthening and useful as a collyrium or wash in eye diseases. All milk except human milk should be taken boiled. Warm milk just as it comes out from the teats is said to be like nectar.

As an article of diet, milk is considered demulcent, laxative, and especially adapted for children, old men, consumptive people or those reduced by debauchery, for women who are suckling and for patients suffering from chronic fever, mental diseases, dyspepsia,

¹ शरावसंघटे दग्धं शृङ्गं हरिचर्जं मित्रेत् । गज्येन सर्पिर्वापितं कृच्छ्रं नश्यति भुवम् । शार्ङ्गं धरः । दग्धमग्निर्मेतघ्नं मृगशृङ्गं गोदन्तेन सहपीतम् । कृद्द्वनितम्वजयकं हरति शिखीदाहनिवहमिव । पत्रः ।

diarrhoea, urinary complaints, ascites and anasarca. A pure milk-diet to the exclusion of every other article (not excepting even salt and water) is often prescribed in the later stages of anasarca, ascites and chronic bowel complaints. Along with this milk diet, some sort of medicine, such as *Dugdha vaṭi*, *Svarnaparpati*, or *Māna maṇḍa*, is usually prescribed.

तक्र *Takra* or butter-milk. Four sorts of butter-milk are described, namely *ghola* or pure butter-milk without admixture of water, *takra* or butter-milk with one-fourth part of water, *udasi* or that mixed with half its bulk of water, and *chhachchhika* or very dilute butter-milk. The second form called *takra* is used in medicine and as an article of sick diet. It is regarded as astringent, light, cooling, appetizing, nutritive, tonic, and useful in diarrhoea, dysentery, dyspepsia, urinary diseases, ascites, poisoning; etc. It is not suited to the weak, or consumptive nor to those suffer from fever and nervousness. The habitual use of butter-milk is said to be conducive to health and a preservative against disease.

दधि *Dadhi* or curdled milk is prepared by adding some acid or a little curdled milk as a ferment to milk previously boiled. In the course of twelve hours the whole of the milk thus acted upon is changed into a more or less thick, acidulous, jelly-like mass. It is considered agreeable, digestive and cooling, and is much used as an article of diet by all classes of natives. Taken to excess it causes biliousness and catarrh. It is useful in fever, diarrhoea, dysentery, urinary disorders and disinclination for food.

मस्तु *Mastu* or whey is said to have properties similar to those of curdled milk. In particular it is said to favour the circulation of the animal fluids and to be useful in constipation.

किलतक *Kiltaka* or curd of milk (*Vern. chhend, Beng.*) is hard of digestion, but is nourishing, tonic and suited to persons with strong digestive powers.

सन्तानिका *Santanika* or cream is also hard of digestion but nourishing, agreeable and demulcent.

नवनीत *Navanita* or butter is tonic, astringent, invigorating, stomachic and useful in phthisis, piles, facial paralysis, etc. It agrees best with the old and young.

एतं *Ghrita* or clarified butter is much used both as an article of diet and in pharmacy. Clarified butter obtained from cow's milk is considered superior to that prepared from the milk of the buffalo and is preferred for medicinal use. Clarified butter is considered cooling, emollient and stomachic. It increases the fatty tissues and mental powers, improves the voice, beauty and complexion and is useful in eye diseases, retained secretions, insanity, tympanites, painful dyspepsia, ulcers, wounds, etc. It is the basis of a form of medicinal preparation called *ghritapāka* already described in the introduction, (see page 14).

पुराचरत *Purāna ghrita*. Clarified butter more than ten years old, passes by this name.¹ It has a strong pungent odour and the colour of lac. The longer this old butter is kept the more efficacious it is said to prove as an external application. Clarified butter a hundred years old is often heard of. The richer natives always have a stock of old *ghrita* of this description which they preserve with care for their own use as well as for distribution to their poorer neighbours. I have seen some specimens of old clarified butter which were quite dry and hard and nearly inodorous. They looked more like some sort of earth than an animal substance. Old clarified butter is used externally. It is first repeatedly washed with cold water, and then rubbed with it till it is reduced to a soapy frothy fluid which is used as a liniment. It is regarded as cooling and emollient and is much used in nervous diseases such as insanity, epilepsy, neuralgia, paralysis, cephalalgia and asthma, in rheumatic affections, stiff joints, burning of the body, hands or feet, affections of the eyes, etc.²

The following treatment is recommended for reducing the temperature of the skin in strong fever. The patient's body should be anointed with an emulsion of sandal wood and of old clarified butter that has been washed a hundred times in cold

1 उन्नादकृतो हटाः वा पुराचं वैकचं हतम् । उपयन्तं पुराचं साह-
सवर्षस्मितं हतम् । साधारणं निभं शीतं प्रपुराचनतः परम् । चक्रः ।

2 हतशीतं हताभ्यङ्गः शीतवातादि शिवनम् । शीतसर्वाच्च संश्लिष्टाः वहा-
दाहानि शान्ति । चक्रः ।

water. He should then enter a tepid bath for a short while. His bedding should be made of the leaves of *Nelumbium speciosum* (*kamala*).¹

BILE.

Sans. पित्त, *Pitta*.

The bile of the buffalo, wild boar, goat, peacock and *rohitaka* fish (*Cyprinus Rohita*), is used in medicine, either singly or in combination under the designation of *Pancha pitta* or the five biles. Bile is considered laxative and is chiefly used in soaking powders intended for being made into pill-masses.

Udakamanjari rasa.² Take of mercury, sulphur, calcined borax, and black pepper each one part ; sugar and the bile of *rohitaka* fish, four parts each ; rub them together for three days and make into six-grain pills. These are given with ginger juice in recent bilious remittent fever. If there is much heat of head, cold water should be applied to it. For other preparations containing bile, see under serpent poison, page 278.

गोरोचना Gorochand, or the concretions found in the gall-bladder of the ox, are considered cooling, aromatic and useful in abortion and diseases supposed to be caused by evil spirits. *Gorochana* is sometimes given to infants in small doses as a laxative, It enters into the composition of some medicines for skin diseases.

URINE. *Sans.* मूत्र, *Mutra*.

THE properties of the urine of various animals, such as the cow, buffalo, goat, sheep, horse, elephant, ass, and camel are minutely described. Of these, cow's urine is much used both internally and externally, in the purification of various metals and in the

1 शीतान्धः शान्तिप्रदश्च विक्रीडितेन मज्जेन चन्दनं युतेन घनेन दिग्धा ।
दाहज्वरी सकमलोत्पलमात्मधारी क्षिप्रं विधेत् सविषकोष्णमनस्यकार्थं ।
काञ्जिकार्द्रपटेनावगुह्येन दाहनाय नमः । दपः ।

2 उदकमञ्जरीरसः । क्षतं मज्जेदङ्गणः शोणश्च सर्वेस्तुब्धाः शर्करा मत्स्य-
पित्तैः । भूयोभूयो मर्दयेत् तिरात् न चोदेवः शङ्करे रूमेव । तोये शीतं
बीजमेषाक्रमत्तदन्ताकाद्यं पथ्यमेतत् प्रदिष्टं । अङ्गैर्वोषं हन्ति सद्योज्जरन्तु
पित्ताधिकं मूर्ध्नि तोवच्च दद्यात् । रसप्रदीपः ।

preparation of oils, decoctions, etc. It is described as laxative, diuretic and useful in constipation, suppression of urine, colic, anasarca, jaundice, leprosy and other skin diseases. Goat's urine is sometimes given internally as for example in the prescription quoted under *Nardostachys jatamansi*. In congestive fever with constipation, flushed face and headache, an ounce of fresh and warm cow's urine is given as a domestic medicine. It is sometimes given as the vehicle for administering castor oil, (see page 231). Cow's urine is used in the preparation of various medicines for jaundice, anasarca and allied diseases. The following is an illustration.

Punarnavā mandura.¹ Take of *Boerhaavia diffusa* (*punarnavā*) *Ipomœa Turpethum* (*trivrit*), ginger, long pepper, black pepper, *báberang* seeds, *devadāru* wood, plumbago root, *pátchak* root, the three myrobalans, turmeric, wood of *Berberis Asiatica*, (*dāruharidrā*) root of *Baliospermum montanum*, (*danti*), *Piper Chaba* (*chavikā*), *indrajava* seeds, root of *Picrorrhiza Kurroa* (*katuki*), long pepper root and the tubers of *Cyperus rotundus* (*mustaka*), equal parts; iron rust in weight equal to twice that of all the other ingredients; mix them together and boil the mixed powder in eight times its weight of cow's urine till the watery part is evaporated. Dose, about twenty-two grains, in jaundice, ascites, anasarca, enlargements of the abdominal viscera, painful dyspepsia, etc.

Marichādyā taila. Take of mustard oil four seers, cow's urine sixteen seers, aconite eight tolas, orpiment, realgar, black pepper, milky juice of *Calotropis gigantea* (*arka*), root of *Nerium odorum* (*karavira*), root of *Ipomœa Turpethum* (*trivrit*), colocynth root, *Aplotaxis auriculata* (*kushṭha*), turmeric, wood of *Berberis Asiatica* (*dāruharidrā*), *devadāru* wood, and red sandal wood, each

१ पुनर्नवावस्यूरम् । पुनर्नवावस्यूरम् । पिप्पलीनरिचानि च । विटङ्गं
देवदारु चित्रकं पुष्कराक्षवम् । लिफला इह हरिद्रो च दन्ती च चविक-
नया । कुटजस्य फलं तिक्तापिप्पलीनूचं सुखवम् । एतानि सप्तभागानि
स्यूरं द्विगुणं ततः । नोम्नेऽष्टगुणे पक्वास्यापयेत्क्षिग्धभाजने । पाच्यु-
द्योषोदराणां च शुभार्थः क्षिप्तियुक्तवत् । भावप्रकाशः ।

four tolás, and prepare an oil in the usual way. This oil is said to be useful in leucoderma, chronic prurigo and other obstinate skin diseases.¹

ANIMAL FLESH.

In describing the properties of the flesh of various animals, Sanskrit writers divide them into two classes, namely **जङ्गल** *Jāngala* or land, and **अनुप** *Anupa* or water animals : Animals living on land are sub-divided into eight orders as follows :—**जङ्गल** *Jāngalá* or animals living in the wilderness as deers, antelopes, etc.

विस्तारः *Vilasthá*, or animals living in holes under ground, as serpents, lizards, porcupines, etc.

गुहायवाः *Guhásayá* or animals living in caverns, as tigers lions, bears, etc.

पर्वतवाः *Parnamrigá* or animals living on trees, as monkeys squirrels, etc.

विश्विराः *Visshkirá* or birds which take their food after tearing or scattering it, as peacocks, quails, partridges, etc.

प्रतुदाः *Pratudá* or birds which strike with their beaks, as pigeons, wag-tails, cuckoos, etc.

प्रसहाः *Prasahá* or birds of prey, as the hawk, falcon, etc.

ग्राम्याः *Grámyá* or domestic animals, as ox, goat, horse, sheep, etc.

Animals living in water or marshy lands are sub-divided into five classes as follows :—

कुलेचराः *Kulechará*, or animals grazing in marshes, as buffalos, yak, rhinoceras, etc.

प्लवाः *Plává*, or birds which swim in water, as geese, ducks cranes, etc.

कोशस्थाः *Kosasthá*, or animals enclosed in shells, as conch-shells, bivalve-shells, etc.

पादिनः *Pádina*, or footed aquatic animals as tortoise, crocodile porpoise, etc.

१ मरिचाद्यं तैलम् । मरिचाद्यधियाङ्गार्कपत्रोच्चारिजटात्रिहत् । यक्षच-
विशाद्याहर्निशाबुन्दाचचन्द्रेः । कटुतेजात्पचेत्प्रस्यं क्षुद्रैर्विषयान्निहेः ।
यनोन्मूलं तदभ्यङ्गाद्भुञ्जितविनाशनम् । यन्मौलिपिच कुठेनु तैलमेतत् प्रय-
ज्यते । चक्रदधः ।

मत्स्य *Matsya* or fishes.

Of these classes, *Jāngalā* or animals living in the wilderness, and *Viśhkira* or birds which scatter their food are considered superior to the others in an alimentary point of view. The different properties of the meat of various animals are described by Sanskrit writers in great detail. The flesh of the goat, domestic fowl, peacock and partridge is said to be easily digested and suited to the sick and convalescent. The meat of the deer, sambar, hare, quail, and partridge is recommended for habitual use. Fish, beef and pork are considered hard to digest and unsuited for daily use.

The flesh of various animals is used in medicine chiefly in the form of *ghrita* or *taila pāka*. The following is a list of the more important and commonly used *ghritas* and oils made with the flesh of different animals.

Hansādi ghrita, prepared with the flesh of geese, and used in cephalalgia and nervous diseases.

Kukkutādi ghrita, prepared with the flesh of fowls, and used in chronic cough.

Sivā ghrita, prepared with jackal's flesh and used in insanity.

Chhāgalādi ghrita, prepared with goat's meat, and used in nervous diseases.

Sāmbukāditaila, is an oil prepared with the flesh of snails and used externally in ear diseases.

Nakulādyā ghrita is prepared with the flesh of the mungoose and used in nervous diseases.

The following are two illustrations of preparations with animal flesh.

Chhāgalādyā ghrita.¹ Take of goat's meat six seers and a quarter, the ten drugs called *dasamula* six seers and a quarter in

१ आमवायं दतम् । आलं चर्माविनिर्मलं मलमृद्वृणवादिषम् । पञ्च
मूलीहृदयैव जलद्रोणे विपाचयेत् । तेन पादावयेष्वेव दतं मूलं विपाचयेत् ।
ओषधीः सप्तधातुः शीरर्क्षेव कृतावरी । आमवायामिदं मासा सर्वगत
विकारहृत् । अर्हिते कर्ण्डूके च माषिर्धौ मूलनिम्बिने । जङ्गमदुग्धं पशुनां
चर्मे मधुसिद्धमयोः । अमृतानेऽमृतान्ने च सर्पिरेतत् प्रयच्छते । अमृतमि
दम् आमवायमिति विवदावः ।

all, water sixty-four seers; boil till the latter is reduced to one-fourth and strain. Take of clarified butter, milk and the juice of *Asparagus racemosus* (*satamuli*), four seers each; and the following substances in the form of a paste, namely, *Tinospora cordifolia* (*guruchi*), bamboo-manna, *Withania somnifera* (*asvagandhā*), *Hemidesmus indicus* (*sārivā*), berries called *kākoli*, bulbs called *kshirakākali*, pulse of *Phaseolus trilobus* (*mugāni*), and of *Glycine debilis* (*mashāni*), *Cælogyne ovalis*, (*jivantī*), and liquorice root (one seer in all); boil them together and prepare a *ghrita*. This preparation is given in facial paralysis, deafness, loss of voice or indistinct speech, convulsions, hysteria, sciatica, paralysis and other diseases of the nervous system.

Māshataila.¹ Take of goat's meat eight seers, water sixty-four seers; boil together till the latter is reduced to sixteen seers. Take of the pulse of *Phaseolus Roxburghii* (*māsha*), linseed, barley, root of *Barleria Prionites* (*kuraṇṭaka*), of *Solanum Jacquini*, (*kaṇṭakāri*), *Tribulus terrestris* (*gokshura*), bark of *Calosanthes Indica syonāka*, *jaṭāmānsi* root, seeds of *Mucuna pruriens* (*kāpikvachchhu*), each one seer, water sixty-four seers; boil down to sixteen seers. Take of cotton seeds, seeds of *Crotolaria juncea* (*sana*), pulse of *Dolichos uniflorus* (*kulattha*), dried pulp of *Ziziphus Jujuba* (*kola*), each two seers, water sixty-four seers; boil down to sixteen seers. Take of ginger, long pepper, dill seeds, root of *Ricinus communis* (*erandā*), of *Bærhoavia diffusa* (*punarnavā*), *Pæderia foetida* (*prasārāni*), *Vanda Roxburghii* (*rāsnā*), *Sida cordifolia* (*berelā*), *Tinospora cordifolia* (*gulancha*) and *Picrorrhiza Kurroa* (*katuki*) equal parts; in all one seer, and reduce them to a paste. Boil the above mentioned decoctions and the paste with four seers of sesamum oil in the usual way. This oil is rubbed externally in convulsions, paralysis, wasting of limbs and other diseases of the nervous system.

१ माषतैलम् । माषातसौ दशकूटककच्छकारी गोकुट दुग्धं च जटा कपिकच्छुतौर्वाः । कापोसकास्थि यथवीज कुचत्वकोष्ठकायेन वक्षोपयितस्तु रसेन चापि । गुग्गुला समानधिकया यतश्च्यवा च सैरवल्गुन च सुगुनर्गवा सरसवा । राज्ञा वशाकृत वता कटुकैर्विषकं माषास्थमेतदवशाकृष्टरक्षतैश्चम् । अर्द्धाङ्गयोग यपतानक माट्प्रवातमाद्येपकं समुलकस्यधिरः प्रकम्बम् । नखैर्न वक्षिविधिना परिनेचनेन हन्यात् कटीजघन जातुदजः समीरात् । भैषज्यरत्नावली ।

A GLOSSARY

OF INDIAN PLANTS

MENTIONED IN SANSKRIT MEDICAL WORKS

WITH BENGALI, HINDI AND LATIN

SYNONYMS.



SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Āchchhuka	Āch, B.	<i>Morinda citrifolia</i> , Linn. and
आच्छुक	Āl, H.	<i>Morinda tinctoria</i> , Roxb.
Ādhaki	Arhar, B.	<i>Cajanus Indicus</i> , Spreng.
आड़की	Tor, H.	<i>Syn. Cytisus Cajan</i> , Linn.
Ādityabhaktā	Hurhuriā, B.	<i>Cleome viscosa</i> , Linn.
आदिधमन्ता	Hurhur, H.	<i>Syn. Polanisia icosandra</i> , W. and A.
Agasti		See Vaka.
अगस्ति		
Agnimantha	Ganiāri, B.	<i>Premna serratifolia</i> , Linn.
अग्निमन्त	Arni, Agetha, H.	<i>Syn. Premna spinosa</i> , Roxb.
Agnisikhā		See Lāngalikā.
अग्निशिखा		
Aguru	Agar, B.	<i>Aquilaria Agallocha</i> , Roxb.
अगुरु	Agar, H.	
Ahinsrā	Kāntāgurkāmāi, B.	<i>Capparis sepiaria</i> , Linn.
अहिंसा		
Ahiphena	Āphim, B.	<i>Papaver somniferum</i> , Linn.
अहिफेन	Āphim, H.	Opium poppy.
Ajamodā	Ajmad, H.	<i>Pimpinella involucrata</i> , W. and A.
अजमोदा	Rāndhani, B.	<i>Syn. Apium involucratum</i> , Roxb.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Ākarśkarabha अकराकरभ	Ākarkarā, B. H.	Anacyclus Pyrethrum, DC. Pellitory root.
Ākāsamānsi आकाशमंसी		A small variety of <i>Jatāmānsi</i> said to be produced in the Kedār mountain.
Ākāsavalli आकाशवल्ली	Ākāśbel, B. Amarbeli, H.	Cassytha filiformis, Linn.
Ākhukarni आखुकर्णी		See <i>Mushikaparni</i> .
Ākshoṭa आक्षोट	Ākhrot, H. B.	<i>Juglans regia</i> , Linn.
Alābu अलाब	Lāu, B. Laukā, H.	<i>Lagenaria vulgaris</i> , Sering.
Alarka अलर्क	Mithi tumbi, H. Svetākand, B.	<i>Syn. Cucurbita lagenaria</i> , Willd.
Āmalaki आमलकी	Mādār, H. Āmlā, B.	Calotropis gigantea, or procera, R. Br.
Ambashthā अम्बशठा	Āpolā, H.	The varieties with white flowers. <i>Phyllanthus Emblica</i> Linn.
Ambuветasa अम्बुवेतस		<i>Syn. Emblica officinalis</i> , Gaert. See Pāthā.
Amlalonikā आमललोनिका	Barabet, B.	<i>Calamus fasciculatus</i> , Roxb. ?*
Amlāna अम्लाण	Āmrul sāk, B. H.	<i>Oxalis corniculata</i> , Linn.
Amlavetasa अम्लवेतस	Lālgulmakhmal, B.	<i>Gomphrena globosa</i> , Linn.
		See Chukra.

* Roxburgh gives *ambuветasa* as the Sanskrit for *Calamus fasciculatus*, but *ambuветasa* means rattan growing in water, while *Calamus fasciculatus* grows in woods and not in marshes. The translation is therefore doubtful. I have not been able to procure the plant.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Amra	Ám, B.	Mangifera Indica, Linn.
अम [haridrā]	Ám, H.	The Mango tree.
Ámragandhi-	Ámbahaldi, H.	Curcuma reclinata, Roxb.
आम्रगन्धिहरिद्रा		
Ámrātaka	Ámrā, B.	Spondias mangifera, Pers.
आम्रातक	Ámbrā, H.	Hog plum.
Amritaphala	Náshpāti, H.	Pyrus communis, Linn.
अमृतफल	Nák, Punj.	The pear-tree.
Anantā	Anantamul, B. H.	Hemidesmus Indicus, R. Br.
अनन्ता		<i>Syn. Asclepias pseudosarsa, Roxb.</i>
Anjira	Ánjir, H.	Ficus Carica, Linn. in Bengal,
अञ्जीर		Psidium pomiferum is called anjira in Sanskrit.
Ankoṭa	Dhalákura, B.	Alangium Lamarkii, Thwaites.
अङ्कोट	Dherá, H.	<i>Syn. A. Hexapetalum, Roxb.</i>
Apámarga	Ápáng, B.	Achyranthes aspera, Linn.
अपामार्ग	Latjirá, H.	Also A. bidentata, Bl.
Aparājita	Aparājita, B.	Clitoria Ternatea, Linn.
अपराजिता	Visnukránti, H.	
Áragbadha	Sondhāli, B.	Cassia fistula, Linn.
आरग्वध	Ámaltás, H.	<i>Syn. Cathartocarpus fistula, Pers.</i>
Aralu,		See Syonśka.
आरु		
Ádraka	ÁdāB.	Zingiber officinale, Rosc.
आर्द्रक	Ádrak, H.	Common ginger.
Arimeda	Guśbāblā, B.	Acacia Farnesiana, Willd.
आरिमेद	Gandābul, H.	<i>Syn. Mimosa Farnesiana, Roxb.</i>
Arjuna	Arjun, B.	Terminalia Arjuna, Bedd.
अर्जुन	Kahú, H.	<i>Syn. Pentaptera Arjuna, Roxb.</i>
Arkamulā	Ishermul, B.	Aristolochia Indica, Linn.
अर्कमूला		
Arka	Ákand, B.	Calatropis gigantes or procera, R. Br.
अर्क	Mádár, H.	<i>Syn. Asclepias gigantea, Willd.</i>

SANSKRIT.	VERNAULAR.	SCIENTIFIC NAMES.
Arkapushpiká	Arkahuli, B.	Gynandropsis pentaphylla, DC.
अर्कपुष्पिका	Sádāshurhuriá, B.	<i>Syn. Cleome pentaphylla, Linn.</i>
Arushkara		See Bhallátaka.
अरुष्कार		
Asana	Piásál, B.	Terminalia tomentosa, W. and A.
असन	Asan, H.	<i>Syn. Pentaptera tomentosa, Roxb.</i>
Ashtāvarga*		
अष्टवर्ग		
Asoka	Asok, B. H.	Saraca Indica, Linn.
अशोक		<i>Syn. Jonesia Asoka, Roxb.</i>
Asthisanhára	Hárjorá, B.	Vitis quadrangularis, Wall.
अस्थिसंहार	Harsankari H.	<i>Syn. Cissus quadrangularis, Linn.</i>
Asvagandhá	Asvagandhá, B.	Withania somnifera, Don.
अश्वगन्धा	Asgandh, H.	<i>Syn. Physalis flexuosa, Roxb.</i>
Asvakarna	Sál, B. H.	Shorea robusta, Gaertn.
अश्वकण		
Asvattha	Asvattha, B.	Ficus religiosa, Linn.
अश्वत्थ	Pipal, H.	<i>Syn. Urostigma religiosum, Gasp.</i>
Atasi	Masiná, B.	Linum usitatissimum, Linn.
अतसी	Tisi, H.	
Atibalá	Pitbalá, B.	Sida rhombifolia, Linn.
अतिवला		

* This is a collective name for eight medicines, six of which are not available at present. Their names and the articles substituted for those that are not procurable, are as follows:—

Medá, मेदा. Asvagandhá is used in stead.

Mahámedá, महामेदा. Sárivá, „

Jivaka, जीवक. Guduchi, „

Rishabhaka, रीशभक. Vansalochana, „

Riddhi, रद्धि. Balá, „

Viddhi, वद्धि. Mahábalá, „

Kákoli, काकोली. See under this name.

Kahirakákoli, कीरकाकोली. Do. Do.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Ativisha अतिविष	Ātis, H. B.	Aconitum heterophyllum, Wall.
Ātmaguptā आत्मगुप्ता	Ālkusi, B.	Mucuna pruriens, DC.
Avalguja अवलगुज	Kiwanch, H.	<i>Syn. Carpopogon pruriens, Roxb.</i>
Āvartani आवर्तनि	Ātmorā, B.	See Somarāji.
Bādāma बादाम	Mararphali, H.	Helicteres Isora, Linn.
Badara बदर	Bādām, H. B.	<i>Syn. Isora corylifolia, Schott et End.</i>
Bahuvāra बहुवार		Amygdalus communis, Linn.
Balā बला		The almond tree.
Bālā बाला		SeKol a.
Bandhuka बन्धुक	Bahuvāri, B.	Cordia Myxa, Linn.
Bhadramunjā भद्रमुञ्जा	Lasorā, H.	Cordia latifolia, Roxb. Bara Lasrā.
Bhadravalli भद्रवलि	Bere'ā, B.	Sida cordifolia, Linn.
Bhallātaka भल्लातक	Khareṭi, Bariār, H.	
Bhāṇḍira भाण्डीर	Bā'ā, H.	Pavonia odorata, Linn.
Bhangā भङ्गा	Sugandha Bālā, H.	
Bhantāki भन्टाकी	Bāndhuli, B.	Pentapetes phoenicea, Linn.
	Dopohoriā, H.	
	Rāmsar, B. H.	A variety of Saccharum Munja, Roxb.
	Hāparmāli, B.	Vallis dichotoma, Wall.
		<i>Syn. Echites dichotoma, Roxb.</i>
	Bhelā, B.	Semecarpus Anacardium, Linn.
	Bhilāwā, H.	The marking nut tree.
	Bhānt, B. H.	Clerodendron infortunatum, Linn.
	Siddhi, B.	<i>Syn. Volkameria infortunata, Roxb.</i>
	Bhāng, H.	Cannabis sativa, Linn. var. Indica.
		Indian hemp.
		See Vārtāku.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Bhāradvāji भारद्वाजी		See Vanakārpāsi.
Bhārgi भार्गी	Bāmanhāṭi, B. Bhārangi H.	Clerodendron Siphonanthus, R. Br. <i>Syn. Siphonanthus Indica, Lamk.</i>
Bhavya भव्य	Chāltā, B.	Dillenia Indica, Linn. <i>Syn. Dillenia speciosa, Thunb.</i>
Bhringarāja भृङ्गराज [ka]	Bhimrāj, B. Bhānrā, H.	Wedelia calendulacea, Less. <i>Syn. Verbesina calendulacea, Willd.</i>
Bhumichampa- भूमिचम्पक	Bhuichāmpā, B.	Kæmpferia rotunda, Linn.
Bhumijambu भूमिजम्बु [nda]	Bhuijām, B.	Premna herbacea, Roxb.
Bhumikushmā- भूमिकुष्माण्ड	Bhuikumrā, B.	Batatas paniculata, Chois. <i>Syn. Convolvulus paniculatus, Linn</i>
Bhumyāmalaki भूम्यामलकी	Bhuiāmā, B. Jarāmā, H.	Phyllanthus Niruri, Linn.
Bhunimba भूनिम्ब		See Kirātatikta.
Bhurjapatra भूर्जपत्र	Bhurjapatra, B. Bhujpatar, H.	Betula Bhojpattra, Wall.
Bhustrina भूस्तुर	Gandhabenā, B.	Andropogon Schoenanthus, Linn.
Bhutakesi भूतकेसी [tikā]	Bhutkesi, B. H.	Corydalis Govaniana, Wall.
Brāhmanayas- ब्राह्मणचवटिका	Bāmanhāṭi, B. Bhārangi, H.	[Brown. Clerodendron Siphonanthus, R. <i>Syn. Siphonanthus Indica, Lamk.</i>
Brahmi ब्रह्मी [ka]	Brihmi sāk, B. Barambhi, H.	Herpestes Monnieria, H. B. K. <i>Syn. Gratiola Monnieria, Linn.</i>
Chakramarda- चक्रमर्दक	Chākundiā, B. [H. Panwar, chakaund,	Cassia Tora, Linn. <i>Syn. Senna Tora, Roxb.</i>
Champaka चम्पक	Champā, B. H.	Michelia Champaca, Linn.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Chanaka चणक	Chholá, B. Chaná, H.	Cicer arietinum, Linn. Gram or chick-pea.
Chandana चन्दन	Chandan, B. Safed Chandan, H.	Santalum album, Linn. White sandal wood.
Chandriká चन्द्रिका		See Chandrasura.
Chandrasura चन्द्रसुर	Hálim, H.	Lepidium sativum, Linn.
Chángerí चाङ्गेरी	Ámrul sák, B. H.	Oxalis corniculata, Linn.
Chaviká चविका	Chai, B. Chavi, H.	Piper Chaba, Hunter. <i>Syn. Chavica officinarum, Miq.</i>
Chhikkani छिक्कणी	Nákchhikni, B. H.	Centipeda minuta, Benth. <i>Syn. Artemisia sternutatoria, Roxb.</i>
Chichindá चिचिण्ड	Chichingá, B. Cháchenda, H.	Trichosanthes anguina, Linn.
China चीन	Chiná ghás, B. Chena, Chin, H.	Panicum miliaceum, Linn.
Chitraka चित्रक	Chitá, B. H.	Plumbago Zeylanica, Linn.
Chobachini चोवचिनि	Chobchini, H.	Suila China, Linn.
Chorapushpi चोरपुष्पी	Chorkántá, B.	Andropogon acicularis, Retz.
Chukra चुक	Chukapálang, B. Chukeká sák, H.	Rumex vesicarius, Linn. Country sorrel.
Dádima दाड़िम	Dálim, B. A'nar, H.	Punica Granatum, Linn. Pomegranate tree.
Dadrughna ददुग्ध	Dádmardan, B. H.	Cassia alata, Linn.
Dahu दह	Mádár, B. Dahu, H.	Artocarpus Lakucha, Roxb.

SANSKRIT.	VERNA CULAR.	SCIENTIFIC NAMES.
Damanaka दमनक	Doná, B. Daoná, Marwá, H.	<i>Artemisia vulgaris</i> , Linn. <i>Syn. Artemisia Indica</i> , Willd.
Dandálu दण्डालु	Khámálu, B.	<i>Dioscorea alata</i> , Linn.
Dandōtpala दण्डोत्पल	Dánkuni, R.	<i>Canscora decussata</i> , Roem. et Schult. <i>Syn. Pladern decussata</i> , Roxb.
Danti दन्ति	Danti, B. H.	<i>Baliospermum montanum</i> , Mull. Arg. <i>Syn. Croton polyandrum</i> , Roxb.
Darbha दभं	Ulu, B. Dábh, H.	<i>Imperata cylindrica</i> , Beauv. <i>Syn. Saccharum cylindricum</i> , Lamk.
Dáruharidrā दारुहरिद्रा	Dáruharidrā, B. Dáruhaldi, H.	<i>Berberis asiatica</i> , DC. Also <i>B. aristata</i> , DC.
Dárvi दार्वी		See <i>Dáruharidrā</i> .
Devadāru देवदार	Debdāru, B. Deodār, H.	<i>Cedrus Deodara</i> , Loud. <i>Syn. Pinus Deodara</i> , Roxb.
Devadhānya देवधान्य	Deodhān, B. H.	<i>Sorghum saccharatum</i> , Pers. <i>Syn. Andropogon saccharatus</i> , Roxb.
Devatāḍa देवताड	Detāra, H. B.	<i>Andropogon serratus</i> , Retz.
Dhanvana धन्वन	Dhāmani, B. H.	See <i>Dharmana</i> .
Dhānya धान्य	Dhān, B. H.	<i>Oryza sativa</i> , Linn. Common rice plant.
Dhānyaka धान्याक	Dhane, B. Dhaniá, H.	<i>Coriandrum sativum</i> , Linn. Coriander plant.
Dhārákadamba धाराकदम्ब	Kelikadamba, B. Haldu, H.	<i>Adina cordifolia</i> , Benth. and Hook. <i>Syn. Nauclea cordifolia</i> , Roxb.
Dharmana धर्मान	Dhāmani, H. B.	<i>Grewia elastica</i> , Royle.
Dhātaki धातकी	Dhāiphul, B. Dhai, H.	<i>Woodfordia floribunda</i> , Salisb. <i>Syn. Grislea tomentosa</i> , Roxb.

SANSKRIT.	VERNAICULAR.	SCIENTIFIC NAMES.
Dhava	Dhāyá, B. H.	Anogeissus latifolia, Wall.
धव [ká]		Syn. <i>Conocarpus latifolia</i> , Roxb.
Dholasamudri-	Dholsamudra, B.	<i>Leea macrophylla</i> , Roxb.
ढोहलमुद्रिका		
Dhustura	Dhutura, B.	<i>Datura metel</i> , Linn.
धुसुर [ká]	Dhaturá, H.	Also <i>Datura fastuosa</i> , Linn.
Dirghapaṭoli-	Dhundul, B.	<i>Luffa cylindrica</i> , Roem.
दीर्घपटोलिका	Ghiātorai, H.	Syn. <i>Luffa pentandra</i> , Roxb.
Drākshá	Angur, B. H.	<i>Vitis vinifera</i> , Linn.
द्राक्षा		Dried fruits called Kismis.
Dronapushpi	Halkasá, B.	<i>Leucas linifolia</i> , Spreng.
द्रोणपुष्पी	Gumá, H.	Syn. <i>Phlomis Zeylanica</i> , Roxb.
Dugdhiśá	Khirai, B.	<i>Oxystelma esculentum</i> , R. Br.
दुग्धिका	Dudhiālatá, B. H.	Syn. <i>Asclepias rosea</i> , Roxb.
Durślabhā	Jawāsá, H.	<i>Alhagi Maurorum</i> , DC.
दुरालभा	Duralabhá, B.	Syn. <i>Hedysarum Alhagi</i> , Linn.
Durvá	Durbá, B.	<i>Cynodon Dactylon</i> , Pers.
दूर्वा	Dub, H.	Syn. <i>Panicum Dactylon</i> , Linn.
Elásukshma	Gujrāṭī elāchi, B.	<i>Elettaria cardamomum</i> , W. et Maton
एलासुक्खमा	Chhoṭa elāchi, B.	Also <i>Amomum subulatum</i> , Roxb.
Elabáluka	Eluś, H.	A red powder sold under these
ऐलाबालुक	Láluká, B.	names ; the seed of some plant.
Eraká	Hoglá, B.	<i>Typha angustifolia</i> , Linn.
एरका	Paṭer, H.	Syn. <i>Typha elephantina</i> , Roxb.
Eranda.	Bherendá, B.	<i>Ricinus communis</i> , Linn.
एरण्ड	Erand, H.	Castor oil plant.
Erváru.	Phoot, H.	<i>Cucumis Melo</i> , Linn.
एर्वारु	Phuṭi, B.	Syn. <i>Cucumis Momordica</i> , Roxb.
Gajapippali.	Gajapipal, B. H.	<i>Scindapsus officinalis</i> , Schott.
गजपिपली		Syn. <i>Pothos officinalis</i> , Roxb.
Gambhári	Gámári, H.	<i>Gmelina arborea</i> , Linn.
गम्भारी	Khambhári, H.	

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Gandagástra गन्दागस्त	Átá, B. [H.	Anona squamosa, Linn.
Gandharája गन्धराज	Sharifá, Sitáphal, Gandharáj, B.	Custard apple. Gardenia florida, Linn.
Gandhatrina गन्धदण्ड		See Bhustrina.
Ganikáriká गन्धकारिका	Ganiári, B.	Premna serratifolia, Linn.
Gardhabhándá गर्दभाण्ड	Arni, H.	<i>Syn. P. spinosa, Roxb.</i>
Garjara, गर्जर	Paresipal, B. Gajahandá, H. Gájar, H.	Thespesia populnea, Corr. <i>Syn. Hibiscus populneoides, Roxb.</i> Daucus Carota, Linn.
Gavedhuká गवेधुका	Gargaredhán, B.	Some species of Coix.
Ghantápatáli घण्टापाटली	Ghantáparul, B. H.	Schrebera swietenioides, Roxb.
Ghantáráva घण्टारवा	Jhanjhanía, B.	Crotalaria sericea, Retz.
Ghrítakumári घृतकुमारी	Ghrítakumári, B.	Aloe Indica, Royle.
Godhápadi गोधपदी	Ghikumár, H. Goálilatá, B.	<i>Syn. Aloe perfoliata, Roxb.</i> Vitis pedata, Vahl.
Godhuma गोधूम	Gam, B.	<i>Syn. Cissus pedatus, Lamk.</i> Triticum vulgare, Linn.
Godumbá गोदुम्बा	Gephu H. Gomuk, B.	Common wheat. Cucumis Melo, Linn. [Roxb.
Gojihbá गोजिह्वा	Gobhi, H.	<i>Syn. Cucumis madraspatanus,</i> Elephantopus scaber, Linn.
Gokshura गोकुर	Gojálátá, B. Gokshura, B.	Tribulus terrestris, Linn.
Granthiparna गन्धिपर्ण	Gokhura, H. Gántiálá, B.	<i>Syn. T. lanuginosus, Linn.</i>
	Thivan, H.	A sort of gall caused by an insect on some tree.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Grishmasunda-	Gimśśák, B.	Mollugo Spergula, Linn.
ग्रीष्मसुन्दर [ra		<i>Syn. Pharnaceum Mollugo, Linn.</i>
Gudatvaka		See Tvacha.
गुडत्वक		
Guḍuchi	Gulancha, B.	Tinospora cordifolia, Miers. [Willd.
गुडूची	Gurach, H.	<i>Syn. Menispermum cordifolium.</i>
Guggulu	Guggul, B. H.	Balsamodendron Mukul, Hooker.
गुग्गुलु		Also B ¹ pubescens, Stocks.
Gundra	Gand paṭer, H.	Panicum uliginosum, Roxb.
गुन्द्र		
Gunjś	Kunch, B.	Abrus precatorius, Linn.
गुञ्जा	Chirmiṭi, Gunj, H.	
Guvśka	Supśri, H.	Areca Catechu, Linn.
गुवाक	Guś, B.	The betle nut tree.
Hallaka	Raktakambal, B.	Nymphæa Lotus, Linn.
हल्लक		<i>Syn. N. rubra, Roxb.</i>
Hapushś	Habush, H.	Black stalks like those of black pepper; aromatic.
हपुषा		Yellow variety of sandal wood.
Harichandana	Pitchandan, B.	
हरिचन्दन		
Haridrś	Halud, B.	Curcuma longa, Roxb.
हरिद्रा	Haldi, H.	
Haritaki	Haritaki, B.	Terminalia Chebula, Retz.
हरीतकी [lśsa	Har, H.	Chebolic myrobalan.
Hastikarnapa-		Butea superba, Roxb.
हस्तिकर्णपाय		
Hastisunadś	Hśtisurś, B.	Heliophytum Indicum, DC.
हस्तिगुण्डा		<i>Syn. Heliotropium Indicum, Linn.</i>
Hemapushpikś		See Suvarṇajuthikś.
हेमपुष्पीका		
Hijjala	Hijjal, B. H.	Barringtonia acutangula, Gaertn.
हिज्जल		<i>Syn. Eugenia acutangula, Linn.</i>

SANSKRIT.	VERNA CULAR.	SCIENTIFIC NAMES.
Hilamochiká	Hinchá, B.	Enhydra Heloncha, D C.
हिवनीपिचा	Harhuoh, H.	<i>Syn. Hingtsha repens, Roxb.</i>
Hingu	Hing, H. B.	<i>Ferula Assafoetida, Linn.</i>
हिंगु		
Hingupatri		The subacid leaves of <i>Balanites</i>
हिंगुपत्री		<i>Roxburghii, Planchon</i> , are so called.
Hintála	Hentál, H. B.	<i>Phoenix paludosa, Roxb.</i>
हिनाल		
Hriversa	Bálá, B.	<i>Pavonia odorata, Willd.</i>
ह्रीवेर	Sugandha bálá, H.	
Ikshu	Uk, H.	<i>Saccharum officinarum, Linn.</i>
रकु	Ák, B.	
Indraváruni	Indráyan, B	<i>Citrullus Colocynthis, Schrad.</i>
इन्द्रवारुणी	Mákál, H.	<i>Syn. Cucumis Colocynthis, Linn.</i>
Indrayava	Indrajab, H. B.	Seeds of <i>Holarrhena antidyse-</i> <i>terica, Wall.</i>
इन्द्रयव		
Ingudi	Hingan, H.	<i>Balanites Roxburghii, Planchon.</i>
इण्डो	Inguá, H.	<i>Syn. Ximenia Ægyptiaca, Roxb.</i>
Jalapippali	Pánikáñchirá, B.	<i>Commelyna salicifolia, Kunth.</i>
जलपिप्पली	Jalpipari, H.	
Jambira	Jambir nebu, H.	<i>Citrus medica, Linn.</i>
जम्बीर	Goránebu, B.	<i>Citrus acida, Var. 3. of Roxb.</i>
Jambu	Kála jám, B.	<i>Eugenia Jambolana, Lamk,</i>
जम्बु	Jáman, H.	<i>Syn. Syzygium Jambolanum, W. & A.</i>
Jatámánsi	Jatámánsi, B. H.	<i>Nardostachys Jatamansi, D. C.</i>
जटामंसी	Báluchar, H.	<i>Syn. Valeriana Jatamansi, Jones.</i>
Játi	Chameli, H.	<i>Jasminum grandiflorum, Linn.</i>
जाती	Játi, B.	
Játiphala	Jayphal, B. H.	<i>Myristica officinalis, Linn.</i>
जातिफल		The nutmeg tree.
Javá	Jabá, B.	<i>Hibiscus Rosa-Sinensis, Linn.</i>
जवा	Gudhal, H.	Shoe-flower plant.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Jayanti	Jayanti, B. H.	Sesbania aculeata, Pers.
जयन्ती		<i>Syn. Aeschynomene sesban, Roxb.</i>
Jayapāla	Jayapāl, B.	Croton Tiglium, Linn.
जयपाल	Jāmalgotā, H.	Croton oil plant.
Jhāvuka	Jhāu, B. H.	Tamarix gallica, Linn.
झावुक		<i>Syn. T. Indica, Willd.</i>
Jhingāka	Jhingā, B.	Luffa acutangula, Roxb.
जिह्वाक	Torāi, H.	<i>Syn. Cucumis acutangulus, Linn.</i>
Jhinti	Jhāpti, B.	Barleria cristata, Linn.
जिह्वा		
Jingini	Jiol, B.	Odina Wodier, Roxb.
जिह्वा	Jingan, H.	
Jiraka	Jirā, B. H.	Cuminum Cyminum, Linn.
जिरक		Cummin seeds.
Jivanti	Jibai, B.	Cælogyne ovalis, Lindl.
जीवन्ती	Jiba sāg, H.	
Jyotishmati	Nayāphaṭki, B.	Cardiospermum Halicacabum, Linn.
ज्योतिष्मती		
Kachchi	Kachu, B. H.	Colocasia antiquorum, Schott.
कच्ची		<i>Syn. Arum Colocasia, Roxb.</i>
Kadali	Kalā, B.	Musa sapientum, Linn.
कदली	Kelā, H.	Var. Musa Paradisiaca, Linn. [Hook
Kadamba	Kadam, B. H.	Anthocephalus Cadamba, Benth, and
कदम्ब		<i>Syn. Nauclea Cadamba, Roxb.</i>
Kairāta		See Bhunimba.
कैरात		
Kākādani	Kāliakarā, B.	Capparis sepiaria, Linn.
काकादनी	Kāntāgurkāmāi, B.	
Kākadumbar	Toṭmilā, H.	Ficus hispida, Linn. fil.
काकदुम्बर	Kākḍumar, B. H.	<i>Syn. Ficus oppositifolia, Roxb.</i>
Kākajanghā	Kākjanghā, H. B.	Leea hirta, Roxb.
काकजङ्घा		

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Kákali काकली	Kákoli, H. B.	A root said to be brought from Nepal or Morung.
Kákamáchi काकमाची	Gurkámái, B.	<i>Solanum nigrum</i> , Linn.
Kákatinduka काकतिन्दुक	Mákrá kendu, B.	<i>Diospyros melanoxylon</i> , Roxb. Also <i>Diospyros tomentosa</i> , Roxb.
Kákatundi काकतुण्डी	Kowáḍḍi, H.	<i>Asclepias Curassavica</i> , Linn. ?
Kakkolaka ककलक	Kákalá, B. H. Sitalchini, H.	Berries containing a black aromatic waxy substance.
Kálakuṭa काककुट		A sort of Aconite.
Kalambi कलम्बी	Kalmi sák B.	<i>Ipomoea reptans</i> , Poir. <i>Syn. Convolvulus repens</i> , Willd.
Kálanusárivá कालानुसारिव	Shiulichhop, B.	<i>Limnanthemum cristatum</i> , Griseb.
Kálasáka कालसाक	Tagarmul, H. B. Narchá, B.	<i>Syn. Menyanthes cristata</i> , Roxb. <i>Corchorus capsularis</i> , Linn.
Kaláya कलाय	Ghinalitá, B. Maṭar, B. H.	Jute plant. <i>Pisum sativum</i> , Linn.
Kamala कमल	Padma, B. Kamal, H.	Common pea. <i>Nelumbium speciosum</i> , Willd. The sacred Lotus.
Kámalatá कामलता	Parulatá, B.	<i>Quamoclit vulgaris</i> , Choisy. <i>Syn. Ipomoea Quamoclit</i> , Linn.
Kampillaka कम्पिलक [anda]	Kamaláguri, B. Kamilá, Kambilá, H.	<i>Mallotus Philippensis</i> , Mull. Arg. <i>Syn. Rottlera tinctoria</i> , Roxb.
Kánana er- काननऐर	Páhári erand, H. Bágbherendá, B.	<i>Jatropha Curcas</i> , Linn. The physic nut tree.
Káncana कान्चन	Kachnár, H.	<i>Bauhinia acuminata</i> , Linn.
Káncanádá कान्चनदा	Káncan, B. Rakta Káncan, B.	<i>Bauhinia variegata</i> , Linn.
Káncanák	Kachnár, H.	

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Kanchaṭa	Káchrádám, B.	Commelyna Bengalensis, Linn.
कचुट	Kánchará, B.	
Kangu	Kangu, korá, B.	Setaria Italica, Kunth.
कङ्ग	Kangni, H.	<i>Syn. Panicum Italicum, Linn.</i>
Kanṭakári	Kanṭakári, B.	Solanum xanthocarpum, Schrad.
कण्टकारी	Kaṭái, Kaṭeli, H.	<i>Syn. Solanum Jacquinii, Willd.</i>
Kapikachchhu	Álkusi, B.	Mucuna pruriens, D. C.
कपिकचु	Kiwach, H.	<i>Syn. Carpopogon pruriens, Roxb.</i>
Kapittha	Kathbel, B.	Feronia Elephantum, Corr.
कपिल	Kaith, H.	The wood apple tree.
Karamardaka	Karamchá, B.	Carissa Carandas, Linn.
करमर्दक	Karaundá, H.	<i>Syn. C. congesta, Wight.</i>
Karanja	Dahar karanja, B.	Pongamia glabra, Vent.
करञ्ज	Kiramál, H.	<i>Syn. Galedupa Indica, Lamk.</i>
Káravella	Karalá, B.	Momordica charantia, Linn.
कारवेल्ल	Kareli, H.	<i>Syn. M. muricata, Willd.</i>
Karavira	Karabi, B.	Nerium odorum, Soland.
करवीर	Kaner, H.	Sweet scented oleander.
Karira	Karil, H.	Capparis aphylla, Roth.
करीर		<i>Syn. Capparis Sodada, R. Br.</i>
Karkatāka	Kákrol, B. H.	Momordica mixta, Roxb.
कर्कटक		
Karkāṣaṅgi	Kákrá sringi, B.	Rhus succedanea, Linn.
कर्कटशृङ्गी	Kákar singi, H.	<i>Syn. R. acuminata, DC.</i>
Karkaṭi	Kákur, B.	Cucumis Melo, Linn.
कर्कटी	Kákri, H.	<i>Syn. Cucumis utilisissimus, Roxb.</i>
Karmaranga	Kámrangá, B.	Averrhoa Carambola, Linn.
कर्मरङ्ग	Kamarakh, H.	Carambola tree.
Karnikára	Kanakchampá, B.	Pterospermum acerifolium, Linn.
कर्णिकार	Kaniár, H.	
Kárpási	Kárpás, B.	Gossypium herbaceum, Linn.
कार्पासी	Kápas, H.	Cotton plant.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Karpura कर्पूर [drá	Karpur, B. Kápur, H.	Cinnamomum Camphora, Nees et Camphor. [Eber.
Karpurahari- कर्पूरहरिद्रा	Karpurhaldi, H. Ámśśś, B.	Curcuma Amada, Roxb. Mango ginger.
Karunś करुण	Karunś nebu, B.	Citrus medica (variety of).
Kása काश	Kás, B. H.	Saccharum spontaneum, Linn.
Kásamarda काशमर्द	Kálkásundś, B. Kásaundś, H	Cassia Sophora, Linn. <i>Syn. Senna Sophora, Roxb.</i>
Kaseruka कसेरुक	Kesur, B. Kasuru, H.	Scirpus Kysoor, Roxb.
Kásmari कास्मरी		See Gambhári.
Kataka, कतक	Nirmali, B. H.	Strychnos potatorum, Linn. Clearing nut tree.
Kaṭphala कटफल	Káyaphal, B. Káephál, H,	Myrica sapida, Wall.
Katrina कटुत्रय	Rámkarpura, B. Rohish, H.	A fragrant grass.
Kaṭukś कटुका	Kaṭki, B. Kuṭki, H.	Pterorrhiza Kurroa, Royle.
Kaṭutumbi कटुतुम्बी	Tikta láu, B. Tumbi, H.	Wild variety of Lagenaria vulgaris, Sering.
Kemuka केमुक	Keu, B. Keuś, H.	Costus speciesus, Linn.
Kesarśja केसरज	Kesuria, B.	Eclipta alba, Hassk. <i>Syn. E. prostrata and erecta, Linn.</i>
Ketaki केतकी	Keyś, B. Keorś, H.	Pandanus odoratissimus, Linn. fil.
Khadira खदिर	Khayer, B. Kat, H.	Acacia Catechu, Linn. <i>Syn. Mimosa Catechu, Linn.</i>

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Khaggara खगार	Khágrá, B.	A large variety of <i>Saccharum spontaneum</i> , Linn.
Kharjura खजूर	Khejur, B. Khajur, H.	<i>Phoenix sylvestris</i> , Roxb. Wild date palm.
Kharvujá खर्बुजा	Kharbujá, H.	<i>Cucumis Melo</i> , Linn.
Kinsuka किंशुक		See Palása.
Kirátatikta किराततिक्ता		A name for <i>chireyta</i> . See Bhunimba.
Kodrava कोद्व	Kodoá dhán, B. Kodo, H.	<i>Paspalum scrobiculatum</i> , Linn.
Kokanada कोकनद	Rakta kamal, B.	<i>Nelumbium speciosum</i> , Willd. Red variety.
Kokiláksha कोकिलखा	Kantakulika, B. Kuliákhára, B. Tálmakháná, H.	<i>Hygrophila spinosa</i> , T. Ander. <i>Syn. Ruellia longifolia</i> , Roxb.
Kola कोल	Kul, B. Baer, H.	<i>Zizyphus Jujuba</i> , Lamk.
Kosámra कोशाम	Koshám,	<i>Mangifera sylvatica</i> , Roxb.
Koshátaki कोशातकी	Ghoshálatá, B. Karwitarui, H.	<i>Luffa amara</i> , Roxb.
Kovidára कोविदार		See Kánchanara.
Krishnachudá कृष्णचूडा	Krishna churá, B.	<i>Cæsalpinia pulcherrima</i> , Sw. <i>Syn. Poinciana pulcherrima</i> , Linn.
Krisnajiraka कृष्णजीरक	Kálájirá, B. H. Magrelá, H.	<i>Nigella sativa</i> , Linn.
Krisnakeli कृष्णकैलि [ti]	Krishnakeli, B.	<i>Mirabilis Jalapa</i> , Linn.
Kshetraparpa क्षेत्रपर्पटी	Khetpáprá, B. Daman papar, H.	<i>Oldenlandia herbacea</i> , DC. <i>Syn. Oldenlandia biflora</i> , Roxb.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Kshirakákoli श्रीरकाकोली		A bulb of the onion tribe brought from the Himalaya.
Kubjaka कुब्जक	Kujá, B. Kujáí H.	Rosa moschata, Mill. (variety of.) <i>Syn. Rosa pubescens, Roxb.</i>
Kuchilá कुचिला		See Vishamushṭi.
Kukubha कुकुभ		See Arjuna.
Kukuradru कुकरदु	Kukursungá, B.	Blumea lacera, DC.
Kuláhala कुलहल	Kukkurbandá, H. Koksimá, B.	<i>Syn. Conyza lacera, Burm.</i> Celsia Coromandeliana, Roxb.
Kulanjana कुलंजन	Mahábarivach, B. Kulinján, H.	Alpinia Galanga, Linn. <i>Syn. Galanga major, Rumph.</i>
Kulattha कुलत्थ	Kulthi, B. H.	Dolichos uniflorus, Lamk. <i>Syn. Dolichos biflorus, Roxb.</i>
Kulika कुलिका		See Kokiláksha.
Kumbhiká कुम्भिका	Tákápaná, B. H. Jalkumbhi, H.	Pistia Stratiotes, Linn.
Kumkuma कुङ्कुम	Jáfrán, B. H.	Crocus sativus, Linn. Saffron.
Kumuda कुमुद	Sáruk, B. Koi, H.	Nymphaea Lotus, Linn.
Kunda कुन्द	Kundphul, B. H.	Jasminum pubescens, Linn. also Jasminum hirsutum, Willd.
Kuaduru कुन्दुरु	Kundarkhaṭi, H.	Boswellia serrata, Colebr. <i>Syn. B. Thuriifera, Colebr.</i>
Kupilu कुपीलु	Kuchilá, B. H.	Strychnos nux vomica, Linn.
Kurunṭaka कुण्टक	Kántájáti. B. Kaṭsareyá, H.	Barleria Prionites, Linn.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Kuruvaka कुरुवक	Raktajhinṭi, H.	Barleria cristata, Linn. Red variety.
Kusa कुस	Kus, B. H.	Poa cynosuroides, Linn.
Kushmāṇḍa कुष्माण्ड	Kumrá, B.	Benincasa cerifera, Savi.
Kusumbha कुसुम्भ	Pethá, H.	Syn. <i>Cucurbita Pepo</i> , Roxb.
Kushṭha कुष्ठ	Kusamphul, B.	Carthamus tinctorius, Linn.
Kuṭaja कुटज	Kusum, H.	Safflower.
Lajjálu लज्जालु	Kur, B. Páchak,	Saussurea auriculata, Bth. et Hf.
Lakucha लकुचा	Kuṭ, H.	Syn. <i>Aplotaxis auriculata</i> , DC.
Lámajjaka लामज्जक	Knurchi, B. H.	Holarrhena antidysenterica, Wall.
Lāngaliká लाङ्गलिका	Kureyá, H.	Syn. <i>Echites antidysenterica</i> , Roxb.
Latákasturiká लताकस्तूरिका	Lájak, B.	Mimosa pudica, Linn.
Lavali लवली	Lajjávati, H.	The sensitive plant.
Lavanga लवङ्ग	Mádár, B.	Artocarpus Lakoocha, Roxb.
Lavangalatá लवङ्गलता	Barhal, Dahu, H.	Andropogon Iwarancusa, Linn.
Lavani लवणी	Lámjak, H.	Gloriosa superba, Linn.
Limpáka लिम्पाक	Bishalánguli, B.	Abelmoschus moschatus, Moench.
	Karihári, H.	Syn. <i>Hibiscus Abelmoschus</i> , Linn.
	Latákasturi, B.	Anona reticulata, Linn.
	Mushkdáná, H.	
	Loná, B.	
	Lang, H.	Caryophyllus aromaticus, Linn.
	Langa, B.	Cloves.
	Langphul, B.	Luvunga scandens, Ham.
		Syn. <i>Limonia scandens</i> , Roxb.
	Noári, B.	Phyllanthus distichus, Mull.
	Harfarauri, H.	Syn. <i>P. longifolius</i> , Roxb.
	Pátinebu, B.	Variety of <i>Citrus acida</i> , Roxb.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Lodhra लोध्र	Lodh, B. H.	<i>Symplocos racemosa</i> , Roxb.
Loni लोनि	Chhotaluniá, B. H.	<i>Portulaca oleracea</i> , Linn.
Madana मदन	Baraluniá, B. H.	Also <i>P. quadrifida</i> , L.
MádHAVi माधवी	Madan, B.	<i>Randia dumetorum</i> , Lamk.
Madhuka मधूक	Mayin, H.	<i>Syn. Posoqueria dumetorum</i> , Roxb.
Madhuriká मधुरिका	MádHAVilatá, B. H.	<i>Hiptage Madhablota</i> , Gaertn.
Madhválu मध्वालु	Maná, B. H.	<i>Syn. Gaertnera racemosa</i> , Roxb.
Mahábalá महाबाल	Mauri, B.	<i>Bassia latifolia</i> , Roxb.
Mahákála महाकाल	Sopf, H.	<i>Foeniculum vulgare</i> , Gaertn.
Mahánimba महानिम्ब	Mauálu, B.	Fennel seeds.
Makhánna मखान	Svet berelá, B.	<i>Dioscorea aculeata</i> , Roxb.
Makushtaka मकुष्टक	Sahadebi, H.	<i>Sida rhomboidea</i> , Roxb.
Málati मालती	Mákál, B.	<i>Trichosanthes palmata</i> , Roxb.
Malliká मल्लिका	Indráyan H.	
Mánaka मानक	Ghoránim, B.	<i>Melia Azedarach</i> , Linn.
Mandára मन्दार	Bakáin, H.	<i>Syn. Melia sempervirens</i> , Sw.
	Makháná, B. H.	<i>Euryale ferox</i> , Salisb.
	Mat, H.	<i>Syn. Anneslea spinosa</i> , Roxb.
	Banmudga, B.	<i>Phaseolus aconitifolius</i> , Jacq.
	Málati, H. B.	
	Malliká, B.	<i>Aganosma caryophyllata</i> , G. Don.
	Bel, H. B.	<i>Syn. Echites caryophyllata</i> , Roxb.
	Mán kachu, B.	<i>Jasminum Sambac</i> , Ait.
	Mán kand, H.	<i>Colocasia Indica</i> , Schott.
		<i>Syn. Arum Indicum</i> , Roxb.
		See <i>Párijáta</i> .

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Manḍukaparni मण्डुकपर्णी	Thulkuri, B. Brahmamanduki, B.	Hydrocotyle Asiatica, Linn.
Manjishṭā मंजिष्ठा	Manjishṭā, B.	Rubia cordifolia, Linn.
Maricha मरिच	Manjit, H. Golmarich, B.	Syn. <i>R. Munjista</i> , Roxb. Piper nigrum, Linn.
Mārisha मारिष	Kālimarich, H. Natiyā sāg, B.	Black pepper. Amaranthus oleraceus, Linn.
Mārisha मारिष	Marsā, H.	
Māsha माष	Māshkalāi, B. Urid, H.	Phaseolus Roxburghii, W. A. Syn. <i>P. radiatus</i> , Roxb.
Māshaparni माषपर्णी	Māshāni, B. Māshoni, H.	Teramnus labialis, Spreng. Syn. <i>Glycine debilis</i> , Roxb.
Masura मसूर	Masur, B. H.	Vicia lens, Benth. Syn. <i>Cicer lens</i> , Roxb.
Mātulunga मातुलुङ्ग	Chholanga nebu, B.	Citrus medica, Linn. var. acida.
Mayurasikhā मयूरसिखा	Lāl murgā, B. Kokan, H.	Celosia cristata, Linn.
Mendikā मेन्दिक्का	Mendi, B. Henā, H.	Lawsonia alba, Lamk. Syn. <i>L. inermis</i> , Linn.
Meshasingi मेससिंगी	Merāsingi, B. H.	Gymnema sylvestre, R. Br. Syn. <i>Asclepias geminata</i> , Roxb.
Methikā मेथिक्का	Methi, B. H.	Trigonella foenum-græcum, Linn.
Misreyā मिसेया	Sulpha, B. Sowā, H.	Peucedanum Sowa, Bth. & Hf. Dill seeds.
Muchukunda मुचुकुन्द	Muchkand, B. H.	Pterospermum suberifolium, Lamk. and <i>P. Heyneanum</i> , Wall.
Mudga मुद्गा	Moong, B. H.	Phaseolus Mungo, Linn.
Mudgaparni मुद्गपर्णी	Mugāni, B. H.	Phaseolus trilobus, Ait.

SANSKRIT.	VERNAICULAR.	SCIENTIFIC NAMES.
Mulaka मूलाक	Mulá, B. Muli, H.	Raphanus sativus, Linn. Garden radish.
Munditika मुण्डितिका	Murmuriá, B. Gorak mundi H.	Sphoeranthus hirtus, Willd. <i>Syn. S. mollis, Roxb.</i>
Munja मुञ्ज	Munj, B. H.	Saccharum Munja, Roxb.
Murvá मूर्वा	Goráchakra, B. Murvá, B.	Sansevieria Zeylanica, Willd. <i>Syn. S. Roxburghiana, Schult.</i>
Mushikaparni मूषिकपर्णी	Indurkáni, B.	Salvinia cucullata, Roxb.
Mushkaka मुष्कक	Ghanṭá páru, B. Banpalás, H.	Schrebera swietenioides, Roxb.
Mustaka मुस्तक	Muthá, B. Mothá, H.	Cyperus rotundus, Linn.
Nágabalá नागबला	Gorakcháuliá, B. Gulsakari, H.	Sida spinosa, Linn. <i>Syn. S. alba, Linn.</i>
Nágadamani नागदमनी	Nágdoná, B. Nágdoni, H.	Artemisia vulgaris, Linn. <i>Syn. A. Indica, Willd.</i>
Nágakesara नागकेसर	Nágkesar, B. H.	Mesua ferrea, Linn.
Naganá नगना [taka]		See Jantishmati.
Nágara mus- नागरमुस्तक	Nágarmuthá B. H.	Cyperus pertenuis, Roxb.
Nágaranga नागरङ्ग	Kamlá nebu, B. Nárangí, H.	Citrus Aurantium, Linn. The sweet orange.
Nágavalli नागवल्ली	Pán, B. H.	Piper Betle, Linn. <i>Syn. Chavica Betle, Miq.</i>
Náktamála नक्तमाला		See Karanja.
Nákuli नाकुली	Nái, B. H.	This is said to be a variety of Rásná (Vanda Roxburghii) which is substituted for it in prescriptions.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Nala	Nal, B.	Phragmites Karka, Trin.
नल	Narkul, H.	<i>Syn. Arundo Karka, Retz.</i>
Nāli	Mestāpāt, B.	Hibiscus cannabinus, Linn.
नाली	Nālitā, H.	
Nalikā	Nalipatāri, H.	A red bark used in scenting medicinal oils.
नलिका		
Nandi vriksha	Tun, B. H.	Cedrela Toona, Roxb.
नन्दीवृक्ष		
Nāḍika	Pāt, B. H.	Corchorus olitorius, Linn.
नाडीक		Jute plant.
Nārikela	Nārikel, B.	Cocos nucifera, Linn.
नारिकेल	Nārial, H.	Cocoa-nut palm.
Navamālikā	Nabamallikā, B.	Jasminum Sambac, Linn.
नवमालिका	Motiā, H.	Double flowered Jasmine.
Nidigdihikā		See Kanṭakāri.
निदिग्धिक्का		
Nila	Nil, B. H.	Indigofera tinctoria, Linn.
नील		Indigo plant.
Nilakamala		Blue Lotus ?
नीलकमल		
Nilotpala	Nilsāplā, B.	Nymphaea stellata, Linn.
नीलोत्पल	Nilofar, H.	var. cyanea, Hf. & T.
Nimba	Nim, B. H.	Melia Azadirachta, Linn.
निम्ब		<i>Syn. Azadirachta Indica, Juss.</i>
Nimbuka	Kāgjinembu, H. B.	Citrus medica, Linn. var. acida.
निम्बुक		
Nirgunḍi	Nisindā, B.	Vitex Negundo, Linn.
निर्गुण्डी	Sambhāln, H.	
Nirvishā	Nirbishi, B. H.	Kyllingia monocephala, Linn.
निर्विषा		
Nisā	Halud, B.	Curcuma longa, Linn.
निषा	Haldi, H.	Turmeric plant.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Nishpáya	Barbaṭi, B.	Vigna catjang, Endl.
निष्पाय	Lobia, H.	Syn. <i>Dolichos sinensis</i> , Linn.
Nivára	Uridhán, B.	Wild variety of <i>Oryza sativa</i> , Linn.
निवार		
Nyagrodha		See Vata.
न्यग्रोध		[Blume.
Olla	Ol, B. H.	<i>Amorphophallus campanulatus</i> ,
ओल्ल	Jimikand, H.	Syn. <i>Arum campanulatum</i> , Roxb.
Padma	Padma, B. H.	<i>Nelumbium speciosum</i> , Linn.
पद्म		
Padmachárinī		See Sthala padma.
पद्मचारिणी		
Padmakáshṭa	Padmakáshṭa, B.H.	A fragrant wood resembling toon brought from Malwa or South- ern India.
पद्मकाष्ठ		
Paláṇḍu	Piáj, B. H.	<i>Allium Cepa</i> , Linn.
पलान्डु		Common onion.
Pálanki	Pálang ság, B.	<i>Beta maritima</i> , Linn.
पालङ्की	Pálanki, H.	Syn. <i>B. Bengalensis</i> , Roxb.
Palása	Palás, B.	<i>Butea frondosa</i> , Roxb.
पलाश	Dhák, H.	
Panasa	Káṇṭál, B.	<i>Artocarpus integrifolia</i> , Linn.
पनस	Kathar, H.	[H. Indian jack-tree.
Párasikayamá-	Khurásáni jamáni,	Seeds of <i>Hyoscyamus niger</i> , Linn.
पारसिकयमानी		
Párijáta	Pálitá mandár, B.	<i>Erythrina Indica</i> , Lamk.
पारिजात	Pharhad, Pangrá, H.	Coral tree.
Párisa	Palás pipal, B.	<i>Thespesia populnea</i> , Corr.
परिश	Pares pipal, H.	Syn. <i>Hibiscus populneoides</i> , Roxb.
Parkaṭi	Pákur, B.	<i>Ficus infectoria</i> , Willd.
पर्कटी	Pakhar, H.	
Parpaṭa		See Kshetraparpati.
परपट		

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Parusha	Phalsá, B.	Grewia Asiatica, Linn.
पदुष [dana	Pharsá H.	
Páshánabhe-	Háthájori, B. H.	Selaginella imbricata, spring.
पाषाणभेद		<i>Syn. Lycopodium imbricatum, Roxb.</i>
Páshánabhedi	Páthor chur, B. H.	Coleus Amboinicus, Lour.
पाषाणभेदो		<i>Syn. C. aromaticus, Benth.</i>
Pátálá	Páru, B.	Stereospermum suaveolens, DC.
पाटला	Pár, H.	<i>Syn. Bignonia suaveolens, Roxb.</i>
Pátha	Ákanádi, B.	Stephania hernandifolia, Walp.
पाठा	Nemuká, B.	<i>Syn. Cissampelos hernandifolia, Linn.</i>
Pathyá		See Haritaki.
पथ्या		
Paṭola	Paṭol, B.	Trichosanthes dioica, Roxb.
पटोल	Palwal, H.	
Pattanga	Bakam, B.	Cæsalpinia Sappan, Linn.
पटङ्ग	Pattang, B.	
Phenila	Riṭhā, H. B.	Sapindus trifoliatus, Linn.
पेचिला		<i>Syn. Sapindus emarginatus, Vahl.</i>
Pilu	Pilu, B. H.	Salvadora Persica, Linn.
पे लु		<i>Syn. Salvadora Indica, Wight.</i>
Pindākharijura	Pindākhejur, H. B.	Phœnix dactylifera, Linn.
पिण्डाखरजुर		The date palm.
Pindálu	Chupriálu, B.	Dioscorea globosa, Roxb.
पिण्डालु		
Pindára	Pindára, H.	Trewia nudiflora, Linn.
पिण्डार	Pitáli, B.	
Pippali	Pipul, B.	Piper longum, Linn.
पिपपली	Pipal, H.	<i>Syn. Chavica Roxburghii, Miq.</i>
Piyála	Piyál, B.	Buchanania latifolia, Roxb.
पिवाला		The nuts are called Cheraunji.
Plaksha		See Parkatī.
प्लक्ष		

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Prāchināmalaka	Paniālā, B.	Flacourtia cataphracta, Roxb.
प्राचीनामलक	Pānīāmlak, H.	
Prapaundarika	Panderiā, H.	Root-stock of Nymphaea Lotus, Willd.
प्रपाण्डुरीक		
Prasārani	Gandhabhāduliā, B.	Pæderia foetida, Linn.
प्रसारणी	Khip, Gandhāli, H.	
Prikkā	Piring sāk, B.	See Sprikkā.
प्रिका	Chini, H.	
Prisniparni	Piṭṭvan, H.	Uraria lagopodioides, DC.
प्रस्निपर्णी	Chākulia, B.	Syn. Doodia lagopodioides, Roxb.
Priyangu	Priangu, B. H.	Aglaia Roxburghiana, W. A.
प्रियङ्गु		
Puga		See Guvāka.
पूग		
Punarnavā	Punarnabā, B.	Boerhaavia diffusa, Linn.
पुनर्नवा	Sānt, H.	Syn. B. procumbens and erecta.
Pundarika	Svetpadma, B. H.	Nelumbium speciosum, Willd. white variety.
पुण्डरीक		
Punnāga	Punnāg, B.	Calophyllum inophyllum, Linn.
पुननाग	Polāng, Oorya.	
Pushkaramu-	Pohokarmuly, H.	This root is not available ; the root, of Apilotaxis auriculata is substituted for it.
पुष्करमुल		
Putikā	Puisāk, B.	Basella rubra, Linn.
पुतिका	Poi, H.	
Putikarāja	Nāśā, B.	Guilandina Bonducella, Linn.
पुतिकराज	Kaṭkaraunj, H.	Syn. Cæsalpinia Bonducella, Flem.
Putranjiva	Jiāputa, H. B.	Putranjiva Roxburghii, Wall.
पुत्रंजीव		Syn. Nageia Putranjiva, Roxb.
Rāgi	Maruā, B.	Eleusine corocana, Gaertn.
रागी	Manḍuā, Rāgi, H.	
Rājādani	Khirkhejur, B.	Mimusops Indica, DC.
राजादनी	Kshiri, H.	Syn. Mimusops hexandra, Roxb.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Rájakosháta	Dhundul, B.	<i>Luffa cylindrica</i> , Roem.
राजकोशातकी	Ghiátarui, H.	<i>Syn. Luffa pentandra</i> , Roxb.
Rája másha	Barbaṭi, B.	<i>Vigna sinensis</i> , Savi.
राजमाष	Lobiá, H.	<i>Syn. Dolichos sinensis</i> , Linn.
Rajanigandhá	Rajanigandha, B.	<i>Polyanthes tuberosa</i> , Linn.
राजनीगन्धा	Gulshabbá, H.	Tube-rose.
Rájasarsapa	Ráisarís, B.	<i>Brassica juncea</i> , Hf. and T.
राजसर्षप	Rái, H.	<i>Syn. Sinapis ramosa</i> , Roxb.
Raktachanda-	Raktachandan, B.	<i>Pterocarpus santalinus</i> , Linn.
रक्तचन्दन	Lálchandan, H.	Red sandal wood.
Raktachitraka	Lálchitá, B. H.	<i>Plumbago rosea</i> , Linn.
रक्तचित्रक		
Raktálu	Rángálu, B.	<i>Dioscorea purpurea</i> , Roxb.
रक्तालु	Ratálu, H.	
Raktotpala	Raktakambala, B.	<i>Nymphaea Lotus</i> , Linn.
रक्तोत्पल		<i>Syn. N. rubra</i> , Roxb.
Randá		See Mushikaparni.
रन्धा		
Rásná	Rásná, B. H.	<i>Vanda Roxburghii</i> , R. Br.
रास्ना		<i>Syn. Cymbidium tessaloides</i> , Roxb.
Rasonaka	Rasun, B.	<i>Allium sativum</i> , Linn.
रासोनक	Lahasun, H.	Garlic.
Renuká	Renuká, B.	<i>Piper aurantiacum</i> , Wall. ; probably.
रेणुका		
Rohitaka	Tiktaráj, B.	<i>Amoora Rohituka</i> , W. and A.
रोहितक	Harinhará H.	<i>Syn. Andersonia Rohituka</i> , Roxb.
Rudráksha	Rudráksha, B.	<i>Elæocarpus Ganitrus</i> , Roxb.
रुद्राक्ष [ya]	Rudrákh, H.	
Sailaja, Saile-	Chharilá, H.	A species of Lichen.
सैलज सैलेज		
Saivála	Seyálá, B.	<i>Blyxa octandra</i> , Rich.
सैवाल	Sivál, H.	<i>Syn. Vallisneria octandra</i> , Roxb.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Sāka शाक	Segun, B. H.	<i>Tectona grandis</i> , Linn. fil. Teak tree.
Sākhotāka शाकोटक	Syāorā, B. H. Siorā H.	<i>Streblus asper</i> , Lour. <i>Syn. Trophis aspera</i> , Retz.
Sāla शाल	Sāl, B. H.	<i>Shorea robusta</i> , Gaertn.
Sālaparni शालपर्णी	Sākhu, H. Sālpāni, B.	<i>Desmodium gangeticum</i> , Burm. <i>Syn. Hedysarum gangeticum</i> , Linn.
Sālincha शालिन्ध	Sarivan, H. Sānchi, B.	<i>Alternanthera sessilis</i> , R. Br. <i>Syn. Achyranthes triandra</i> , Roxb.
Sallaki शलकी	Salāi, B. H.	<i>Boswellia serrata</i> , Colebr.
Sālmali शाल्मली	Simul, B. Semal, H.	<i>Bombax Malabaricum</i> , DC. <i>Syn. B. heptaphylla</i> , Cav.
Sāluka शालुक	Sāluk, B.	Roots of different species of <i>Nymphaea</i> .
Sami शमी	Sāip, B. Chhikura, H.	<i>Acacia Suma</i> , Ham. <i>Syn. Mimosa Suma</i> , Roxb.
Sana शन	San, B. H.	<i>Crotalaria juncea</i> , Linn. Indian hemp.
Sanapushpi शनपुष्पी	Bansanui, B. Sanhuly, B.	<i>Crotalaria verrucosa</i> , Linn.
Sankhālu शङ्खालु	Sāpkālu, B.	<i>Prechyrhizus angulatus</i> , Rich. <i>Syn. Dolichos bulbosus</i> , Linn.
Sankhapushpi शङ्खपुष्पी	Dānkuni, B. Sankhahuli, H.	<i>Canscora decussata</i> , R. et. Sch. <i>Syn. Pladeria decussata</i> , Roxb.
Saptachhada सप्तच्छद	Chhātin, B. Chhātān, H.	<i>Alstonia scholaris</i> , R. Br. <i>Syn. Echites scholaris</i> , Roxb.
Sara शर	Sar, B. Rāmsar, H.	<i>Saccharum Sara</i> , Roxb. Pen reed grass.
Sarala शरल	Chir, Saral. H.	<i>Pinus longifolia</i> , Roxb.

SANSKRIT.	VERNAOCULAR.	SCIENTIFIC NAMES.
Sarapunkhā सरपुङ्खा	Sarphonkā, B. H.	Tephrosia purpurea, Pers. <i>Syn. Galega purpurea, Linn.</i>
Sārivā सारिवा	Syāmlatā, B.	Ichnocarpus frutescens, R. Br. <i>Syn. Echites frutescens. Roxb.</i>
Sarpagandhā सर्पगन्धा	Chandrā, B.	Ophioxylon serpentinum, Linn.
Sarpākshi सर्पाक्षि	Gandhanākuli, B.	Ophiorrhiza mungos, Willd.
Sarshapa सर्षप	Sarahaṭi H	A common name for mustard seeds.
Sarvajayā सर्वजया	Sariśā, B.	
	Sarson, H.	
Sarvajayā सर्वजया	Sarbajayā, B.	Canna Indica, Linn. Indian shot.
Satamuli सतमूली	Satābari, B.	Asparagus racemosus, Willd.
Satapatri सतपत्री	Satāvar, H.	
Satapushpi सतपुष्पा	Seuti, H. B.	Rosa moschata, Mill. <i>Syn. R. glandulifera, Roxb.</i> See Misreyā.
Saṭi सटी	Karchur, H.	Curcuma Zerumbet, Roxb.
Satilā सतीला	Saṭi, B.	
	Maṭar, H. B.	Pisum sativum, Linn.
Saureya सौरेय	Suklajhinṭi, B.	See Jhinṭi.
Solu सोलू	Bahubāra, B.	Cordia Myxa, Linn.
	Lasorā, H.	
Sephālikā सेफालिका	Seuli, B.	Nyctanthes arbor-tristis, Linn.
	Harsingār, H.	
Seva सेव	Seb, B.	Pyrus Malus, Linn.
	Sev, H.	The apple tree.
Sevati सेवती		See Satapatri.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Sigru		See Sobhánjana.
सिद्ध		
Silhaka	Silha, Siláras, B.	Liquidamber orientalis, Miller.
सिद्ध	Nágorigond, H.	Liquid storax.
Simbi	Sim, B.	A name for several species of Do- lichos.
सिन्धी		
Sindhuvára	Nishindá, B.	Vitex Negundo, Linn.
सिन्धुवार	Sambhá, H.	
Sinsapá	Sisu, B. H.	Dalbergia Sissoo, Roxb.
सिन्धुपा		
Sirisa	Siris, B. H.	Albizzia Lebbek, Benth.
सिरिष		Syn. <i>Mimosa sirissa</i> , Roxb.
Sitalapatriká	Muktápáti, B.	Maranta dichotoma, Wall.
शीतलपत्रिका	Sitalpáti gách, B.	Syn. <i>Phrynium dichotomum</i> , Roxb.
Sitali		
शीतली		See Kálánusárvá.
Snuhi	Mansá sij, B.	Euphorbia nerifolia, Linn.
सुन्ही	Thoha, H.	Syn. <i>E. ligularia</i> , Roxb.
Sobhánjana	Sajiná, B. H.	Moringa pterygosperma, Gaertn.
शोभाञ्जना	Sahinjan, H.	Syn. <i>Hyperanthera moringa</i> , Willd.
Somalatá	Somlatá B. H.	Sarcostemma brevistigma, W. A.
शोमलता		Syn. <i>Asclepias acida</i> , Roxb.
Somaráji	Somráj, B.	Vernonia anthelmintica Willd.
शोमराजि	Bákuchi H.	Syn. <i>Serratula anthelmintica</i> , Roxb.
Sprikká	Piring sák, B.	Trigonella corniculata, Linn.
सुप्रिका	Lankáyiká H.	
Sribása	Gandhabirajá, H. B.	Resin of Pinus longifolia, Roxb.
श्रीवास [ka]		
Brigálakanta-	Síal káptá, B.	Argemone Mexicana, Linn.
ब्रिगलकण्टक		
Brigálakoli	Síakul, B.	Zizyphus onoplia, Mill.
ब्रिगलकोलि		

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Sringāṭaka शृङ्गाटक	Pāniphāl, B. Singhārā H.	Trapa bispinosa, Roxb.
Sringi शृङ्गी		See Karkāṭasringi.
Sriphala श्रीफल		See Vilva.
Sthalapadma स्थलपद्म	Sthālpadma, B. Sthālkamal, H.	Hibiscus mutabilis, Linn.
Sthauneya स्थौनेय		See Grintheiparni.
Sthulailāḥ स्थूलैला	Baraēlāchi, B. H.	Amomum subulatum, Roxb.
Sudarsana सुदर्शन	Padma gulancha, B.	Tinospora tomentosa, Miers. <i>Syn. Menispermum tomentosum, Roxb.</i>
Sunandā सुनन्दा	Ishermul, B.	Aristolochia Indica, Linn.
Sunisannaka सुनिषत्तक	Sunsuniā, B.	Marsilea quadrifolia, Linn.
Surana सुरा	Chaupatte, H. Ol, B. H.	[Blume. Amorphophallus campanulatus,
Surjamani सुरजमणि	Jimikand, H. Surjamani, B.	<i>Syn. Arum campanulatum, Roxb.</i> Hibiscus phoeniceus, Willd.
Surjāvarta सुरजावर्त	Hurhuriā, B.	Gynandropsis pentaphylla, DC.
Sushavi सुशवी	Hul hul, H. Shiā jirā, H.	<i>Syn. Cleome pentaphylla, Linn.</i> Carum Carui, Linn.
Sushavi सुशवी	Uchchhe, B. Karelā, H.	Momordica Charantia, Linn. <i>Syn. Momordica muricata, Willd.</i>
Svarnajuthikā सर्वजुषिका	Svarnajui, B.	Jasminum revolutum, Sims. <i>Syn. J. chrysanthemum, Roxb.</i>
Svarnakshiri सर्वक्षीरी	Chos, Chok, H.	Cleome felina, Linn. f. <i>Syn. Polanisia felina, DC.</i>

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Syámaka	Syámá dhán, B.	<i>Panicum frumentaceum</i> , Roxb.
झामाक	Samak, H.	
Syámalatá	Syámalatá, B.	<i>Ichnocarpus frutescens</i> , R. Br.
झामलाता		<i>Syn. Ecthes frutescens</i> , Roxb.
Syonáka	Soná, B.	<i>Calosanthus Indica</i> , Bl.
झोनाक	Arlu, H.	<i>Syn. Bignonia Indica</i> , Linn.
Tagara	Tagar, B.	<i>Tabernæmontana coronaria</i> , Linn.
तगर	Chándni, H.	
Tála	Tál. H. B.	<i>Borassus flabelliformis</i> , Linn.
ताल		
Tálamuli	Mushali, H.	<i>Hypoxis orchioides</i> , Kurz.
तालमूली	Tál muli, B.	<i>Syn. Curculigo orchioides</i> , Gaertn.
Tálisapatra	Tálisapatra, B.	<i>Pinus Webbiana</i> , Lindl.
तालीसपत्र		<i>Syn. Abies Webbiana</i> , Loud.
Tamála	Tamá, B. H.	<i>Garcinia Xanthochymus</i> , Hook. f.
तमाल		Also a name for <i>Cinnamomum Tamala</i> , Nees.
Támbula	Pán, B. H.	<i>Piper Betle</i> , Linn.
ताम्बुल	Támbuli, H.	<i>Syn. Chavica Betle</i> , Miq.
Támrakūṭa	Támák, B.	<i>Nicotiana Tabacam</i> , Linn.
ताम्रकुट	Támbáku, H.	Tobacco plant.
Tandūliya *	Chámpá naṭiá, B.	<i>Amaranthus polygamus</i> , Willd.
तन्दुलीय	Cholái, H.	
Tankári	Tekári, B.	<i>Physalis Peruviana</i> , Linn.
टङ्करी	Tepuriá, B.	<i>Syn. P. edulis</i> , Sims.
Tarambuja	Tarmuj, B.	<i>Citrullus vulgaris</i> , Schrad.
तरबुज	Tarbuz, H.	<i>Syn. Cucurbita Citrullus</i> , Roxb.
Taruni	Seuti, B.	<i>Rosa alba</i> Linn.
तरुनी	Svet Goláb, B.	The Indian white rose.
Tejapatra	Tejpát, H. B.	<i>Cinnamomum Tamala</i> , Nees.
तेजपत्र		<i>Syn. Laurus Cassia</i> , Roxb.

* Some Bengali physicians use the *Amaranthus spinosus*, Linn. under the name of Tandulia.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Tila तिल	Til, B. H.	Sesamum Indicum, Linn. <i>Syn. S. orientale, Linn.</i>
Tindisa टिन्डिस	Dheras, B.	Hibiscus esculentus, Linn.
Tinduka टिन्दुक	Rámtarui, H.	<i>Syn. H. longifolius, Roxb.</i>
Tinduka टिन्दुक	Gáb, B. H.	Diospyros Embryopteris, Pers. <i>Syn. D. glutinosa, Kæmig.</i>
Tinisa तिनिश	Sandan, H.	Ougenia dalbergioides, Benth.
Tintiri तिन्तिरी	Tinis, B.	<i>Syn. Dalbergia oojainensis, Roxb.</i>
Tintiri तिन्तिरी	Tentul, B.	Tamarindus Indica, Linn.
Trapusa त्रपुष	Imli, Amli, H.	Tamarind tree.
Trapusa त्रपुष	Khira, H.	Cucumis sativus, Linn.
Tráyamáná त्रायमाना	Sasá, B.	
Tráyamáná त्रायमाना	Balábahulá, B.	Ficus heterophylla, Linn. fil.
Triputi त्रिपुटी	Balálatá, B.	
Triputi त्रिपुटी	Khesári, H. B.	Lathyrus sativus, Linn.
Trivrit त्रिवृत्	Teori, B.	Ipomoea Turpethum, R. Br.
Tuda, Tula तुद तुल	Nisoth, Turbud, H.	<i>Syn. Convolvulus Turpethum, Linn.</i>
Tulasi तुलसी	Tut, B. H.	Morus Indica, Linn.
Tulasi तुलसी	Tutri, H.	<i>Syn. M. parvifolia, Royle.</i>
Tulasi तुलसी	Tulsi, B. H.	Ocimum sanctum, Linn.
Tumburu तुम्बुरु	Tumru, H.	Zanthoxylum alatum, Roxb.
Tunna तुन्ना	Nepáldhaniá, B.	<i>Syn. Z. hostile, Wall.</i>
Tunna तुन्ना	Tun, B. H.	Cedrela Toona, Roxb.
Tvacha त्वच	Dálchini, B. H.	Cinnamomum Zeylanicum, Breyn.
Tvacha त्वच	Tvach, H.	
Udumbara उदुम्बर	Jagna dumar, B.	Ficus glomerata, Willd.
Ushira उशीर	Gular, H.	<i>Syn. Covellia glomerata, Miq.</i>
Ushira उशीर	Benámul, B.	Andropogon muricatum, Retz.
Ushira उशीर	Khas khas, H.	The root is so called.

SANSKRIT.	VERNACULAR.	SCIENTIFIC NAMES.
Utpala उत्पल		See Nilotpala.
Vachá वचा	Bach, H. B.	Acorus Calamus, Linn.
Vajri वज्री	Tekásaj, B.	Euphorbia antiquorum, Linn.
Vaka वक	Bak, B. H.	Sesbania grandiflora, Pers.
Vákuchi वाकुची	Agasti, H.	Syn. <i>Aeschynomene grandiflora</i> , Roxb.
Vakula वकुल	Bakul, B.	See Somaráji.
Vanaharidrā वनहरिद्रा	Maulsari, H.	Mimusops Elengi, Linn.
Vanakárpasa वनकार्पास	Banhalud, B.	Curcuma aromatica, Salisb.
Vanamallikā वनमल्लिका	Bankápa, B.	Syn. <i>Curcuma Zedoaria</i> , Roxb.
Vana methikā वनमेथिका	Banádā, B. H.	Hibiscus vitifolius, Linn.
Vanádraka वनार्द्रक	Bamallikā, B. H.	Jasminum Sambac, Ait.
Vanayamāni वनयमानि	Bamrethi, B. H.	The single flowered variety.
Vandāka वन्दाक	Banádā, B. H.	Melilotus parviflora, Desf.
Vansa वंश	Banádā, B. H.	Syn. <i>Trifolium Indicum</i> , Willd.
Vansarochanā वंशरोचना	Bonjoán, B.	Zingiber Cassumunar, Roxb.
Várahakrāntā वारहक्रान्ता	Bāps, B. H.	Seseli Indicum, W. A.
Vārāḥkrāntā वारहक्रान्ता	Lajjā vati, H.	Syn. <i>Cnidium diffusum</i> , DC.
		See Rāsā.
		Bambusa arundinacea, Retz.
		Bamboo manna.
		Mimosa pudica, Linn.
		The sensitive plant.

SANSKRIT.	VERNAICULAR.	SCIENTIFIC NAMES.
Vársiki वार्सिकी	Bel, H. B.	Jasminum Sambac, Ait. [see. Also a name for Triyamóná, which Solanum Melongena, Linn.
Vártáku वार्ताकु	Begun, B.	
Varuna वरुण	Bhanṭá, H.	Cratæva religiosa, Forst.
Varvara वरवर	Barná, H.	Syn. Capparis trifoliata, Roxb.
Vavula ववुल	Bábuitulsi, B.	Ocimum Basilicum, Linn.
Vásaka वासक	Bábul, H.	Syn. O. pilosum, Willd.
Vásphiká वाष्पिका	Báblá, B.	Acacia Arabica, Willd.
Vástuka वास्तुक	Bábul, H.	
Vata वट	Bákas, B.	Justicia Adhatoda, Roxb.
Vetasa, Vetra वेतस वेत	Arushá, H.	Syn. Adhatoda Vasica, Nees.
Vibhitaka विभितक	Rándhuni, B.	Pimpinella involucrata, Wight.
Vidānga विडङ्ग	Bethuá sák, B. H.	Syn. Apium involucratum, Roxb.
Vidári विदारी	Bar, H. B.	Chenopodium album, Linn.
Vijapuraka वीजपूरक	Bet, B. H.	Ficus Bengalensis, Linn.
Vijayá विजया	Bahera, H. B.	Syn. F. Indica, Roxb.
Vikankata विकङ्कत	Biranga, B.	Calamus Rotang, Linn.
	Báberang, H.	Syn. C. Roxburghii, Griff.
	Bhumi kumra, B.	Terminalia Bellerica, Roxb.
	Bilái kand, H.	
	Tábá nebu, B.	Embelia Ribes, Burm.
		Syn. E. glandulifera, Wight.
		Batatas paniculata, Choisy.
		Syn. Convolvulus paniculatus, Linn.
		Citrus Medica, Linn. var.
		See Bhangá.
	Baich, B.	Flacourtia Ramontchi, L'Hert.
	Kanṭái, H.	Syn. Flacourtia sapida, Roxb.

SANSKRIT.	VERNA CULAR.	SCIENTIFIC NAMES.
Vilva विवल	Bel, H. B.	Ægle Marmelos, Corr.
Vimbi विम्वी	Telákucha, B.	Coccinea Indica, W. A.
Virana वीरन	Kunduri, H.	Syn. <i>Momordica monodelpha</i> , Roxb.
Visha विष	Bená, B.	Andropogon muricatum, Retz.
Visalyakrit विषलकृत्	Khas khas, H.	Aconitum ferox, Wall.
Visamushṭi विषमुष्टि	Sringi bish, B.	Vallaris dichotoma, Wall.
Vitkhadira विटखर्दिर	Dagrá bish, H.	Syn. <i>Echites dichotoma</i> , Roxb.
Vridhadárak वृद्धदारक	Hápar máli, B.	Strychnos nux vomica, Linn.
Vrihati वृहती	Guá báblá, B.	Acacia Farnesiana, Willd.
Vrischikáli वृश्चिकाळी	Bijtarká, B.	Syn. <i>Mimosa Farnesiana</i> , Linn.
Yajnadumbur यज्ञदुम्बुर	Byákur, B.	Argyreia speciosa, Swt.
Yamáni यमानी	Gurkámái, B.	Syn. <i>Lettsomia nervosa</i> , Roxb.
Yashṭimadhu यष्टीमधु	Barhantá, H.	Solanum Indicum, Linn.
Yava यव	Bichaṭi, B.	Tragia involucrata, Jacq.
Yávanála यावनाल		See Udumbara.
Yuthiká यूथिका	Joán, B.	Ptychotis Ajowan, DC,
	Ájwán, H.	Syn. <i>Ligusticum Ajowan</i> , Flem.
	Jashṭimadhu, B.	Glycyrrhiza glabra, Linn.
	Jeṭi madhu, H.	
	Mulhatti, H.	
	Jab, B.	Hordeum hexastichum, Linn,
	Jav, H.	
	Joár, H.	Andropogon Sorghum, Roxb.
		Syn. <i>Holchus Sorghum</i> , Linn.
	Juiṭ, B.	Jasminum auriculatum, Vahl.
	Juthi, H.	

INDEX.

The Sanskrit terms in the glossary have not been included in this index as they are already in alphabetical order.

Abelmoschus moschatus	307	Æschynomene grandiflora	322
Abhayá	160	A. Sesban	301
Abhayálavana	91	Aganosma caryophyllata	308
Abhra	76	Agar	289
Abies Webbiana	245, 320	Agasti	322
Abrus precatorius	151, 299	Agasti haritaki	162
Acacia Arabica	160, 323	Agetha	289
A. Catechu	158, 304	Aglaia Roxburghiana	314
A. Farnesiana	291, 324	Agnijvála	165
A. Suma	316	Agnikumára rasa	83, 77
Acampe papillosa	258	Agnimantha	219
Acanthaceæ	214	Agnimukha churna	181
Ách	289	Agnimukha lauha	49
Achyranthes aspera	221, 291	Agnishikhá	263
A. bidentata	221, 291	Ahiphena	111
A. triandra	316	Ajamodá	173
Aconitum ferox	97, 324	Ajamodádi churna	206
A. heterophyllum	101, 293	Ájmad	173, 289
A. Napellus	97	Ájowan	172, 325
Acorus Calamus	251, 322	Ák	265, 300
Ádá	253, 291	Ákanádi	103, 313
Ádhaki	150	Ákanda	196
Adhatoda Vasica	214, 323	Ákand	291
Adina cordifolia	296	Akarádi churna	113
Ádityapáka guggulu	133	Ákarkará	185, 290
Ádityapáka taila	27	Ákásbel	290
Ádrak	291, 253	Ákhrot	290
Ægle Marmelos	324, 129	Ál	289

Alangium hexapetalum	291	Amomum subulatum	257, 297, 319
A. Lamarkii	291	Amoora Rohituka	315
Alarka	196	Amorphophallus	
Albizia Lebbek	318	campanulatus	251, 312, 319
Alhagi Maurorum	145, 297	Ampelidæ	138
Alkaline ashes	90	Ámrá	140, 291
Álkusi	147, 293, 303	Amrita	105
Allium Cepa	262, 312	Amritabhallátaka	142
A. sativum	262, 315	Amrita haritaki	162
Alocasia Indica	252	Amrita kalparasa	81
Aloe Indica	259, 298	Amritáshtaka	136, 192
A. perfoliata	259, 298	Amrita vaṭi	83
Aloes	259	Ámrul sák	124, 290, 295
Alpinia Galanga	255, 306	Amaltás	155, 291
Alstonia scholaris	191, 316	Amygdalus communis	293
Alternanthera sessilis	316	Anacardiaceæ	140
Alum	80	Anacyclus Pyrethrum	185, 290
Ám	140, 291	Ánanda bhairavarasa	99
Ámádá	257, 304	Anantamula	195, 291
Ámalakádya lauha	50	Ánár	166, 295
Ámaluki	225	Andersonia Rohituka	315
Ámarákshasi	111	Andrographis paniculata	216
Amarantaceæ	221	Andropogon acicularis	295
Amarbeli	290	A. Iwarancusa	271, 307
Amaranthus oleraceus	309	A. muricatum	270, 321
A. polygamus	320	A. saccharatus	268, 296
A. spinosus	221	A. serratus	296
Ámbahaldi	291	A. Schoenanthus	271, 294
Ambashthá	103	A. Sorghum	324
Ámbrá	291	Anethum Sowa	173
Ambuprasáda	200	Angáraka taila	276
Ámlá	290	Ángur	138, 297
Ámalaki	225	Animal Materia Medica	275
Ámalakádya lauha	50	Anjana	73
Amlaloniká	124	Ánjir	291
Ámli	321	Anneslea spinosa	308
Ámliká	157	Anogeissus latifolia	297
A mliká pána	158	Anona reticulata	307

<i>Anona squamosa</i>	298	<i>Artocarpus integrifolia</i>	312
<i>Anthocephalus Cadamba</i>	801	<i>A. Lakeocha</i>	295, 307
Áonlá	225, 290	<i>Arum campanulatum</i>	251, 312, 319
Apámarga	221	<i>A. Colocasía</i>	301
Apámarga taila	221	<i>A. Indicum</i>	252, 308
Apáng	221, 291	<i>Arunda Karka</i>	311
Aparájitá	147, 291	<i>Arushá</i>	214, 323
Áphim	111, 289	<i>Arushkara</i>	141
<i>Apium involucratum</i>	289, 323	<i>Asan</i>	292
<i>Aplotaxis auriculata</i>	180, 307	<i>Asclepiadæ</i>	195
<i>Apocynæ</i>	191	<i>Asclepias acida</i>	318
<i>Aquilaria Agallocha</i>	289	<i>A. Curassavica</i>	302
<i>Aralu</i>	202	<i>A. gigantea</i>	196, 291, 309
Áragbadha	155	<i>A. pseudosarsa</i>	291
Áragbadhádi	155	<i>A. rosea</i>	297
Arar	150	<i>Asgandh</i>	210, 292
Ádraka	253	<i>Ashtadasánga páchana</i>	146
Ádraka khanda	254	<i>Ashtakattara taila</i>	244
<i>Areca Catechu</i>	249, 299	<i>Ashtavakra rasa</i>	61
<i>Argemone Mexicana</i>	318	<i>Asmarighna,</i>	115
<i>Argyreia speciosa</i>	206, 324	<i>Asoka</i>	143, 292
Arhar	289	<i>Asoka ghrita</i>	143
<i>Aristolochia Indica</i>	291, 319	<i>Asparagus racemosus</i>	260, 317
Arjun	163, 291	<i>Asteracantha longifolia</i>	215
Arjuna	163	<i>Asvagandhá</i>	210, 292
Arjunábhra	78	<i>Asvagandhá ghrita</i>	211
Arjuna ghrita	163	<i>Asvakarna</i>	120
Arka	196	<i>Asvamáraka</i>	191
Arkahuli	292	<i>Asvattha</i>	292, 235
Arkataila	193	Átá	293
Arlu	202, 320	Átaicha	101
<i>Aroideæ</i>	251	Átarusha	214
Arni	219, 289, 298	<i>Atibalá</i>	120
Arsári lauha	49	Átis	101, 293
Arsenic	38	<i>Ativishá</i>	101
<i>Artemisia Indica</i>	310	<i>Átmaguptá</i>	147
<i>A. sternutatoria</i>	295	<i>Átmorá</i>	293
<i>A. vulgaris</i>	296	<i>A udbhid</i>	85

▲valguja	183	Bándhuli	293
Averrhoa Carambola	124, 303	Banhalud	257, 322
Áyurveda	vi	Banjoán	172, 322
Azadirachta Indica	136, 311	Bankápás	322
Báberang	187, 323	Ban methi	322
Báblá	323	Ban malliká	322
Bábui tulsi	220	Ban mudga	308
Bábul	160, 323	Banpalás	310
Bach	251, 322	Báps	271, 322
Bádám	293	Bansalochana	322
Baer	305	Bansanui	316
Bágbherendá	302	Bar	235, 323
Bahera	162, 323	Barabet	290
Bahuári	293	Bara eláchi	319
Bahubára	317	Barambhi	294
Bainch	324	Barbañi	149, 312, 315
Bak	322	Barhanñá	210, 325
Bakáin	308	Barhal	307
Bakam	313	Bariár	293
Bákas	214, 323	Barleria cristata	301, 307
Bákuchi	183, 318	B. Prionites,	306
Bakul	322	Barringtonia acutangula	299
Balá	120	Barun	115, 323
Bálá	123, 293, 300	Basella rubra	314
Balábahulá	321	Bassia latifolia	188, 308
Bála chaturbhadraka	102	Bañ	324
Balálatá	321	Batatns paniculata	205, 323, 294
Balá taila	121	Bátávi nebu	127
Balanites Roxburghii	300	Bátyálaka	120
Baliospermum Montanum	229, 296	Bauhinia acuminata	156, 302
Balsamodendron Agallocha	132	B. variegata	156, 302
B. Mukul	132, 299	Begun	323
B. pubescens	299	Bel	129, 190, 308, 323, 324
Báluchar	180, 300	Belleric myrobalan	162
Bálya sakrásana	240	Bell metal	75
Bambusa arundinacea	268, 271, 322	Bená	270, 324
Bámanháñi	219, 294	Bená mul	321
Banádá	255, 322	Benincassa cerifera	167, 307

Berberidæ	107	Biḍanga	187
Berberis Asiatica	107, 296	Bignoniaceæ	202
B. aristata	296	Bignonia Indica	202, 320
Berelá	120, 293	Bignonia suaveolens	203, 313
Bet	323	Bijtarká	206, 325
Beta Bengalensis,	312	Biláikand	205, 324
B. maritima	312	Bile	284
Bethuá ság	323	Biranga	323
Betula Bhojpattra	294	Bishalánguli	263, 307
Bhairava rasa	100	Blumea lacera	306
Bhallátaka	141	Blyxa octandra	315
Bháng	235, 293	Boerhaavia diffusa	314, 321
Bhangá	235	Bombax Malabaricum	122, 316
Bhánrá	181, 294	B. heptaphylla	316
Bhánt	293	Bonjoán	323
Bhantá	323	Borax	81
Bhantáki	210	Borassus flabelliformis	248, 320
Bhárange	219, 294	Boswellia serrata	306, 316
Bhárgi	219	B. Thurifera	135. 306, 316
Bhárgi guḍa	219	Brahmamanḍuki	176, 309
Bháshkara lavana	86	Brahmayastiká	219
Bhávaprakása	xi	Brahmi	213
Bhelá	141, 293	Brahmi ghrita	213
Bherendá	231, 297	Brass	75
Bhiláwá	293	Brassica campestris	114
Bhimráj	294	Brassica juncea	114, 315
Bhriguharitaki	162	Brimhi sák	294
Bhringarája	181	Buchanania latifolia	313
Bhringarája taila	183	Burra lunia	308
Bhuiámlá	294	Burseraceæ	132
Bhuichámpá	294	Buṭ	149
Bhuijá	294	Butea frondosa	148, 276, 312
Bhuikumrá	205, 294, 323	B. superba	299
Bhunimba	200	Byákur	210, 325
Bhumikushmánḍa	205	Cælogyne ovalis	301
Bhurjapatra	294	Cæsalpinia Bonducella	314
Bhustrina	271	C. pulcherrima	305
Bhutkesi	294	C. Sappan	224, 313
Bichaṭi	325	Cajanus Indicus	150, 289

<i>Calamus fasciculatus</i>	290	<i>Celsia Coromandelina</i>	306
<i>C. Rotang</i>	323	<i>Centipeda minuta</i>	295
<i>C. Roxburghii</i>	323	<i>Cháb</i>	244
<i>Calophyllum inophyllum</i>	232, 314	<i>Chachenḍa</i>	295
<i>Calosanthos Indica</i>	202, 320	<i>Chai</i>	244, 295
<i>Calotropis gigantea</i>	196, 290, 291	<i>Chakaund</i>	155, 294
<i>C. procera</i>	196, 290	<i>Chakra datta</i>	xi
<i>Canna Indica</i>	317	<i>Chakra marda</i>	155
<i>Cannabis sativa</i>	235, 293	<i>Chákuliá</i>	147, 314
<i>Canscora decussata</i>	201, 296, 316	<i>Chákundiá</i>	155, 294
<i>Capparidaceæ</i>	115	<i>Cháltá</i>	294
<i>Capparis aphylla</i>	303	<i>Chámeli</i>	190, 300
<i>C. Sodada</i>	303	<i>Champá</i>	294
<i>C. sepiaria</i>	289, 301	<i>Champá natiá</i>	320
<i>C. trifoliata</i>	115, 323	<i>Chaná</i>	295
<i>Capsicum frutescens</i>	212	<i>Chanaka</i>	149
<i>C. minimum</i>	212	<i>Chanakámila</i>	150
<i>Carbonate of potash</i>	87	<i>Chandana</i>	224, 295
<i>Carbonate of soda</i>	88	<i>Chandanádi taila</i>	276
<i>Cordia Myxa</i>	293	<i>Chandanádyá lauha</i>	48
<i>C. latifolia</i>	293	<i>Chandesvara rasa</i>	40, 44
<i>Cardiospermum Halicacabum</i>	139, 301	<i>Chándni</i>	320
<i>Carissa Carandas</i>	303	<i>Chandra</i>	317
<i>C. congesta</i>	303	<i>Chandráhba</i>	222
<i>Carpopogon pruriens</i>	293, 303	<i>Chandrámrta rasa</i>	81
<i>Carthamus tinctorius</i>	307	<i>Chandraprabhá varti</i>	45
<i>Carum Carui</i>	173, 319	<i>Chandrasura</i>	115
<i>C. Roxburghianum</i>	173	<i>Chandrodaya makaradhvaja</i>	60
<i>Caryophyllus aromaticus</i>	164, 307	<i>Chángeri</i>	124
<i>Cassia alata</i>	155, 295	<i>Chángeri ghrita</i>	124
<i>C. fistula</i>	155, 291	<i>Charaka</i>	vi
<i>C. Sophora</i>	155, 304	<i>Cháruka</i>	268
<i>C. Tora</i>	155, 294	<i>Chatuhsama vati</i>	164
<i>Cassytha filiformis</i>	290	<i>Chaturmukha rasa</i>	35
<i>Cathartocarpus fistula</i>	291	<i>Chatarthakári</i>	67
<i>Caustics, preparation of</i>	21	<i>Chaupatte</i>	319
<i>Cedrela Toona</i>	311, 321	<i>Chavi</i>	295
<i>Cedrus Deodara</i>	247, 296	<i>Chavica Betle</i>	310, 320
<i>Celosia cristata</i>	309	<i>Chavica officinarum</i>	295

Chavica Roxburghii	243, 313	Cicer lens	309
Chaviká	244	Cinnamomum Camphora	222, 304
Chena	149, 295	C. Tamála	224, 320
Chenopodium album	323	C. Zeylanicum	224, 321
Chhágáládí ghrita	287	Cissampelos hernandifolia	103, 318
Chharilá	315	Cissampelos hexandra	103
Chhástán	316	Cissus pedatus	298
Chhástin	191, 316	Citrullus Colocynthis	172, 300
Chhikura	316	Citrullus vulgaris	320
Chholá	295	Citrus	126
Chholanga nebu	309	Citrus acida	126, 300
Chhoṭa eláchi	297	Citrus Aurantianum	126, 310
Chhoṭaluniá	308	Citrus decumana	127
Chichingá	295	Citrus medica	126, 309, 311, 323
Chin	295	Oivet cat	280
China	267	Cleome pentaphylla	292, 319
Chinághás	267, 295	C. felina	319
Chini	314	C. viscosa	289
Chintámani chaturmukha	35	Clerodendron infortunatum	293
Chir	246, 316	C. Siphonanthus	219, 294
Chirchirá	221	Clitorea Ternatea	147, 291
Chiretá	200	Cnidium diffusum	322
Chirmiṭi	151, 299	Coccinia Indica	171, 324
Chitá	185, 295	Coccus lacca	276
Chitraka	185	Cocos nucifera	311, 247
Chloride of ammonium	90	Coleus Amboinicus	313
Chloride of sodium	84	C. aromaticus	313
Chobchini	264, 295	Colocasia antiquorum	301
Chok	319	Colocasia Indica	308
Choláí	221, 320	Combretaceæ	160
Chondodendron tomentosum	104	Commelina Bengalensis	303
Chorkántá	295	Commelina salicifolia	300
Chos	319	Compositæ	180
Chukapálang	295	Coniferæ	245
Chukeká sák	295	Conocarpus latifolia	297
Chupriálu	313	Convolvulaceæ	203
Churá	269	Convolvulus paniculatus	205, 294,
Churna	82	C. repens	302
Cicer arietinum	149, 295	C. Turpethum	203, 321

' <i>Conyza lacera</i>	306	<i>Cyperaceæ</i>	264
Copper	62	<i>Cyperus portensis</i>	264, 310
Coral	93	<i>C. rotundus</i>	264, 310
<i>Corchorus capsularis</i>	302	<i>Cytisus Cajan</i>	289
<i>Chorchorus olitorius</i>	311	Dábh	296
<i>Cordia Myxa</i>	317	Dáðima	166
<i>Coriandrum sativum</i>	173 296	Dáðimáshaka	166
<i>Corydalis Govaniana</i>	294	Dádmardan	295, 155
<i>Costus speciosus</i>	304	Dadrughna	155
<i>Covelia glomerata</i>	321	Dagrá	97, 324
<i>Cratæva religiosa</i>	115, 323	Dahar karanja	303
<i>Crocus sativus</i>	306	Dahu	295, 307
<i>Crotolaria juncea</i>	316	<i>Dalbergia oojeinensis</i>	321
<i>Crotolaria sericea</i>	298	<i>Dalbergia Sissoo</i>	318
<i>Crotolaria verucosa</i>	316	Dálchini	321
<i>Croton polyandrum</i>	296	Dálim	295
<i>C. Tigilium</i>	301, 228	Damanpapar	305
Cruciferae	114	Dánkuni	201, 296, 316
<i>Cucumis acutangula</i>	301	Danti	229, 296
<i>C. Colocynthis</i>	172, 300	Danti haritaki	230
<i>C. Melo</i>	171, 297, 298, 305,	Daoná	296
<i>C. Madraspatanus</i>	298	Darkaranja	153
<i>C. Momordica</i>	297	Dárubrahma rasa	40
<i>C. sativus</i>	171, 321	Dáruhaldi	107, 296
<i>C. utilissimus</i>	171, 303,	Dáruharidrá	107, 296
Cucurbitaceæ	167	Dárumuch	39
<i>Cucurbita Citrullus</i>	320	Darbha	266
<i>C. lagenaria</i>	290	Dárvi	107
<i>C. Pepo</i>	167, 307	Dárvyádi kvátha	108
<i>Cuminum Cyminum</i>	173, 301	Dasamula	145
<i>Curculigo orchoides</i>	250, 320	Dasamula haritaki	162
<i>Curcuma Amada</i>	257, 304	Dasamula taila	146
<i>C. aromatica</i>	257, 322	Dastá	71
<i>C. longa</i>	299, 255, 311	<i>Datura alba</i>	207
<i>C. reclinata</i>	291	<i>D. fastuosa</i>	207, 297
<i>C. Zedoaria</i>	257, 317, 322	<i>D. metel</i>	927
<i>C. Zerumbet</i>	257, 317	<i>Daucus carota</i>	298
<i>Cymbidium tessaloides</i>	258, 315	Debdáru	247, 296
<i>Cynodon Dactylon</i>	272, 297	Deodár	247, 296

Deodhán	268, 296	D. bulbosus	316
Desmodium gangeticum	145, 316	D. sinensis	312
Detára	296	D. uniflorus	149, 306
Devadhánya	268	Doná	296
Dháí	165, 296	Doodia lagopodioides	147, 314
Dhalákurá	291	Dopohoriá.	293
Dháiphul	165, 296	Drákshá	138
Dhák	148, 312	Drákshá arishta	138
Dháman	296	Dryobalanops aromatica	223
Dhán	267, 296	Dub	272, 297
Dhane	296	Dudhiálatá	297
Dhaniá	173, 296	Dugdha vati	112
Dhánya	267	Duralabhá	145, 297
Dhanyáka	173	Durbá	297
Dháoyá	297	Durvá, Durbá	272
Dhátaki	165	Ecliptá alba	304
Dhátri	225	E. prostrata	181, 304
Dhátri arishta	228	E. erecta	304
Dhátri lauha	227	Echites antidysenterica	307
Dhátri modaka	105	E. caryophyllata	308
Dhaturá	297	E. dichotoma	293
Dherá	291	E. frutescens	317, 320
Dheras	321	E. scholaris	316
Dholsamudra	297	Elá	257
Dhuná	120	Eláchi	257
Dhundul	297, 315	Elæocarpus Ganitrus	315
Dhustura	207	Elephantopus scaber	298
Dhuturá	207, 297	Elettaria cardamomum	257, 297
Diamond	92	Eleusine corocana	268, 314
Dillenia Indica	294	Eluá	291
D. speciosa	294	Embelia Ribes	187, 323
Dioscorea alata	296	Embelia glandulifera	323
D. aculeata	308	Emblica officinalis	225, 290
D. embryopteris	321	Enhydra Heloncha	185, 300
D. globosa	313	Erand, Eranda	297, 281
D. glutinosa	321	Erend	231, 297
D. purpurea	315	Erythrina Indica	312
Diospyros melanoxydon	302	Eugenia acutangula	299
D. tomentosa	302	E. Jambolana	164, 300
Dipterocarpeæ	120	Euphorbiaceæ	225
Dolichos biflorus	306	Euphorbia antiquorum	233, 322

<i>E. ligularia</i>	233, 318	<i>Gandha márjára</i>	280
<i>E. Neriifolia</i>	233, 318	<i>Gandha nákulí</i>	258, 317
<i>Euryale ferox</i>	110, 308	<i>Gandharáj</i>	298
<i>Ferula Assafoetida</i>	175, 300	<i>Gandha taila</i>	26
<i>Feronia elephantum</i>	131, 303	<i>Gandpater</i>	299
<i>Ficus Bengalensis</i>	235, 323	<i>Gangádhara churna</i>	194
<i>F. Carica</i>	291	<i>Gánjá</i>	235, 237
<i>F. glomerata</i>	235, 321	<i>Ganiári</i>	219, 289, 298
<i>F. heterophylla</i>	321	<i>Ganikáriká</i>	219
<i>F. hispida</i>	301	<i>Gántiálá</i>	298
<i>F. Indica</i>	323	<i>Garbhavilása rasa</i>	68
<i>F. infectoria</i>	235, 312	<i>Garbhavinoda rasa</i>	56
<i>F. oppositifolia</i>	301	<i>Gardenia florida</i>	298
<i>F. religiosa</i>	235, 292	<i>Gargaredhán</i>	268, 298
<i>Flacourtia cataphracta</i>	314	<i>Garlic</i>	262
<i>F. Ramontchi</i>	323	<i>Gavedhuká</i>	268
<i>F. sapida</i>	323	<i>Genhu</i>	267, 298
<i>Fœniculum vulgare</i>	173, 308	<i>Gentianaceæ</i>	200
<i>Gáb</i>	321	<i>Gentiana Chirayta</i>	200
<i>Gaertnera racemosa</i>	308	<i>Geraniaceæ</i>	124
<i>Gairika</i>	96	<i>Ghantáparul</i>	298, 310
<i>Gajahanda</i>	298	<i>Ghiátorai</i>	297, 315
<i>Gajapipal</i>	252, 297	<i>Ghikumár</i>	298
<i>Gaja pippuli</i>	252	<i>Ghikumári</i>	259
<i>Gájar</i>	298	<i>Ghinálitá</i>	302
<i>Gálá</i>	276	<i>Ghóránim</i>	308
<i>Galanga major</i>	306	<i>Ghoshálatá</i>	305
<i>Galedupa Indica</i>	303	<i>Ghritakumári</i>	259, 298
<i>Galega purpurea</i>	317	<i>Gimásák</i>	299
<i>Galena</i>	73	<i>Gloriosa superba</i>	263, 307
<i>Galitakushthári rasa</i>	80	<i>Glycine labialis</i>	150
<i>Gam</i>	267, 298	<i>Glycine debilis</i>	309
<i>Gámári</i>	218, 297	<i>Glycyrrhiza glabra</i>	143, 324
<i>Gambhár</i>	218	<i>Gmelina arborea</i>	218, 297
<i>Gambhári</i>	218	<i>Goálilátá</i>	298
<i>Gandhaka</i>	26	<i>Gobhi</i>	298
<i>Gandhabená</i>	271, 294	<i>Godhuma</i>	267
<i>Gandhabirajá</i>	246, 318	<i>Gojiálatá</i>	298
<i>Gand bábul</i>	291	<i>Gokshura</i>	298
<i>Gandhabháduliá</i>	178, 314	<i>Gokshurádyavaleha</i>	125
<i>Gandháli</i>	178, 314	<i>Gokshuri</i>	125

Gokhuru	125, 298	Gunjábhadra rasa	152
Gold	57	Gunjádyá taila	152
Golmarich	241, 309	Gutiká	86
Gomphrena globosa	290	Gurach	105, 299
Gomuk	298	Gurkámái	302, 325
Goráchakra	310	Guttiferæ	119
Gorakcháuliá	310	Guváka	249
Gorakmundi	310	Gymnema sylvestre	309
Gorá nebu	126, 300	Gynandropsis pentaphylla	292, 319
Gorochoná	284	Habush	299
Gossypium herbaceum	303	Hákuch	183
Grahanikapáta rasa	67, 112	Haldí	255, 299, 311
Grahanimihira taila	194	Hálim	115, 295
Gramineæ	265	Halkasá	297
Granateæ	166	Halud	255, 296, 299, 311
Grapes	138	Hamamelideæ	166
Gratiola Monnieria	213, 294	Hansádi ghrita	287
Grewia Asiatica	313	Háparmáli	293, 325
G. elastica	296	Har	299
Ghrita	283	Harfauri	307
Grislea tomentosa	165, 296	Harhuch	185, 300
Guá	249, 299	Haridrá	255
Guábáblá	291, 324	Haridrá khanda	256
Guda mandura	50	Haritaki	160, 299
Gudatvak	224	Haritála	41
Gudhal	300	Harinhará	315
Guduchi	105	Harisankara rasa	78
Guduchyádi taila	52, 106	Hárjorá	292
Guggul	299	Harsankari	292
Guggulu	132	Harsingár	189, 317
Guilandina Bonducella	153, 314	Hartshorn	281
Gujráti eláchi	297	Háthájori	313
Gulancha	105, 299	Hátisurá	299
Gular	235, 321	Hedysarum Alhagi	297
Gulma kálánala rasa	65	Hedysarum gangeticum	145, 316
Gulsakari	310	Helicteres Isora	293
Gulshabbá	315	Heliophytum Indicum	299
Gumá	297	Heliotropium Indicum	299
Gudáshtaka	231	Hemidesmus Indicus	195, 291
Gunj	299	Hená	309
Gunjá	151	Hentál	300

<i>Herpestis Monniera</i>	213, 294	<i>Iohnocarpus frutescens</i>	195, 317, 320
<i>Hibiscus cannabinus</i>	311	<i>Ikshu</i>	265, 266
<i>H. esculentus</i>	321	<i>Ikshugandhá</i>	125, 215
<i>H. longifolia</i>	321	<i>Imli</i>	157, 321
<i>H. moschatus</i>	123	<i>Imperata cylindrica</i>	266, 296
<i>H. mutabilis</i>	319	<i>Indigofera tinctoria</i>	311
<i>H. phoeniceus</i>	319	<i>Indrajab</i>	300
<i>H. Populneoidea</i>	298, 312	<i>Indrásana</i>	235
<i>H. Rosa-sinensis</i>	300	<i>Indraváruni</i>	172
<i>H. vitifolius</i>	322	<i>Indráyan</i>	172, 300, 308
<i>Hijjal</i>	299	<i>Indrayava</i>	192
<i>Hilamochiká</i>	185	<i>Indurkáni</i>	310
<i>Hinchá</i>	185, 300	<i>Inguá</i>	300
<i>Hing</i>	175, 300	<i>Ipomœa Quamoclit</i>	302
<i>Hingan</i>	300	<i>I. reptans</i>	302
<i>Hingtsha repens</i>	185, 300	<i>I. Turpethum</i>	203, 321
<i>Hingu</i>	175	<i>Iron</i>	46
<i>Hingulesvara</i>	31	<i>Iron pyrites</i>	56
<i>Hingvástaka churna</i>	175	<i>Ishermul</i>	291, 319
<i>Hiptage Madhablota</i>	308	<i>Isora corylifolia</i>	293
<i>Hiraka</i>	92	<i>Jab</i>	267, 325
<i>Hoglá</i>	297	<i>Jabá</i>	300
<i>Holarrhena antidysenterica</i>	192, 307	<i>Jáfrán</i>	306
<i>Holchus sorghum</i>	267, 324	<i>Jagnadumar</i>	235, 321
<i>Honey</i>	277	<i>Jalkumbhi</i>	306
<i>Hordeum hexastichum</i>	267, 324	<i>Jalpipari</i>	300
<i>Hrasvapanchamula</i>	146	<i>Jamálgotá</i>	228, 301
<i>Hridayárnava rasa</i>	66	<i>Jáman</i>	300
<i>Hriversa</i>	123	<i>Jámbava</i>	164
<i>Hriverádi</i>	102	<i>Jambira</i>	126
<i>Hulhul</i>	319	<i>Jambir nebu</i>	300
<i>Hurhur</i>	289	<i>Jambu</i>	164
<i>Hurhuriá</i>	289, 319	<i>Jámun</i>	164
<i>Hutásana rasa</i>	100	<i>Jangi haritaki</i>	160
<i>Hydrocotyle Asiatica</i>	176, 309	<i>Járak nebu</i>	127
<i>Hygrophila spinosa</i>	215, 305	<i>Jarámlá</i>	294
<i>Hyoscyamus niger</i>	211, 312	<i>Jashtimadhu</i>	324
<i>Hyperanthera moringa</i>	318	<i>Jasminaceæ</i>	189
<i>Hypoxidææ</i>	250	<i>Jasminum auriculatum</i>	324
<i>Hypoxis orchioidea</i>	250, 320	<i>J. chrysanthenum</i>	319
<i>Ichchhávedi vatiká</i>	228	<i>J. grandiflorum</i>	190, 300

J. pubescens	306	Jvarakunjara páribhadra rasa	96
J. hirsutum	306	Jvaramurári rasa	99
J. revolutum	319	Jvaráukusa	207
J. Sambac	190, 308, 311, 322	Jvárásani rasa	77
Jatámánsi	180, 300	Jyautishmati	139
Játi	190, 300	Kachnár	156, 302
Játiphaládi churna	182, 239	Káchrádám	303
Jatropa curcas	302	Kachu	301
Jaw	267, 324	Kachur	257
Jawásá	297	Kadali	257
Jayamangala rasa	58	Kadalyádi ghrita	258
Jayanti	301	Kadam	301
Jayapál	228, 301	Kæmferia rotunda	294
Jayapála	228	Káephal	234, 304
Jayphal	300	Káguji nebu	126, 311
Jedwár	257	Kahu	163, 291
Jetimadhu	325	Kaisara guggulu	134
Jháu	301	Kaith	303
Jhanjhaniá	298	Kajjali	31
Jhánti	301	Kákalá	302
Jhingá	301	Kákamáchi	210
Jiáputá	314	Kákar sing	140, 303
Jibai	301	Kákdumar	301
Jiba ság	301	Kákjanghá	301
Jimikand	312, 319	Kákali	302
Jingan	301	Kákrásringi	140, 303
Jiol	301	Kákri	171, 303
Jirá	173, 301	Kákrol	303
Jiraka	173	Kákur	303
Jirakádi modaka	174	Kalá	257, 301
Jirakádi taila	174	Kálágnirudra rasa	53
Joán	325	Kálajám	164, 300
Joár	267, 325	Kálájirá	102, 305
Jonesia Asoka	143, 292	Kálánala rasa	279
Juglans regia	290	Kála nimak	85
Juin	325	Kálári rasa	207
Justicia Adhatoda	214, 323	Káliakará	301
Juthi	325	Kalikári	263
Jválánala rasa	240	Kálimarich	241, 309
Jvarabrahmastra	39	Kálinga	192
Jvaraghni gutiká	172	Kálkásundá	155, 304

Kálmeg	216	Kapittha	131
Kalmi sák	302	Kapittháshtaka churna	131
Kamal	302	Kápur	222, 304
Kamalá	232	Karabi	191, 303
Kamala	109	Karalá	303
Kamaláguri	302	Karamchá	303
Kamarakh	303	Karanja	153
Kambilá	232, 302	Karaundá	303
Kámesvara modaka	240, 250	Karankusa	271
Kamilá	232, 302	Karavira	191
Kamlá nebu	126, 310	Karavirádyá taila	191
Kampilla	232	Karchur	317
Kámrángá	124, 303	Karelá	320
Kaná	243	Kareli	303
Kanak champá	303	Karibári	263, 307
Kanakphala	228	Karil	303
Kánchan	302	Karkach salt	84
Kánchanára	156	Karkatasringi	140
Kánchanára guggulu	157	Karkati	171
Kánchará	303	Karmaranga	124
Kandarpakumarábhra	78	Kárpás	303
Kaner	191, 303	Karpur	222, 304
Kángni	267, 303	Karpura	222
Kangu	267, 303	Karpura haridrá	257
Kaniár	303	Karpura rasa	223
Kankáyana modaka	252	Karpura taila	223
Kámkur	171	Karpurhaldi	304
Kánsa	75	Karuná	126
Kantái	323	Karuná nebu	304
Kántágurkámái	289, 301	Karwi tarui	305
Kántajáti	306	Kás	304
Kantakári	208, 303	Kása	266
Kantakári ghrita	210	Kásamarda	155
Kantakáryavaleha	209	Kasaundá	155, 304
Kantakulika	305	Kásisa	55
Kántál	312	Kásisádyá taila	55
Kántá natiá	221	Kásmari	218
Kapardaka vasma	82	Kasuru	304
Kápás	303	Kasturi	279
Kaphaketu rasa	100	Kat	158, 304
Kapikachchhu	147	Katái	208, 303

Kataka	200	Khas	270
Kateli	208, 303	Khas khas	321, 324
Kathar	312	Khátási	280
Kathbel	131, 303	Khayer	304
Katkaraunj	314	Khejur	250, 305
Katki	304	Khesári	150, 321
Katphala	234	Khetpáprá	176, 305
Katphaládi churna	234	Khip	314
Katsareyá	306	Khirá	171, 321
Katuka	212	Khirai	297
Katurohini	212	Khirkhejur	314
Káyaphal	304	Khorásáni yamáni	211, 312
Kelá	301	Kinsuka	148
Kelikadamba	296	Kiramál	153, 303
Keorá	304	Kirátádi taila	201
Kesarája	181	Kirátatikta	200
Kesur	304	Kismis	138
Kesuriá	181, 304	Kiwanch	147, 293, 303
Keu	304	Kodo	305
Keuá	304	Kodoá dhán	267, 305
Keute sáp	278	Kodrava	267
Keyá	304	Koi	109, 306
Khadira	158	Kokan	309
Khadiráshtaka	159	Kokiláksha	215
Khaer	158	Koksima	306
Khágrá	305	Korá	267, 303
Khai	269	Koshám	305
Khajur	305	Kososthá	286
Khámálu	296	Kovidára	156
Khambhári	297	Kowádodi	302
Khandakushmándaka	167	Kramuka	249
Khandakádyá lauha	50	Kravyádi churna	128
Khandámalagi	226	Krisnabhasma	29
Kharamanjari	221	Krishnábhra	76
Kharbujá	305	Krishnachurá	305
Khareti	120, 293	Krisna jiraka	102
Khári lavana	90	Krishnakeli	305
Khári noon	90	Krishna surmá	73
Kharjura	250	Kshára	90
Kharpara	71	Kshiri	314
Kharpara varti	72	Kubjaprasáraní taila	179

Kuch	151	Lac	276
Kuchilá	198, 306	Lagenaria vulgaris	290, 304
Kujá	306	Laghu gangádhara churua	195
Kujái	306	Laghu surana modaka	252
Kukkurbandá	306	Lahasun	315
Kukkutádi ghrita	287	Lájá	269
Kukubha	163	Lájak	307, 322
Kukursungá	306	Lajjávati	307, 322
Kul	305	Lákshá, lákh	276
Kulaka	198	Láksháditaila	276
Kulattha	149	Lálchandan	154, 315
Kuliákkhará	215, 305	Lálohitá	186, 315
Kulinján	255, 306	Lál gulmakhmal	290
Kulthi	149, 306	Lálmurgá	309
Kumrá	167, 307	Láhluká	297
Kunch	299	Lámajjaka	271
Kundarkhati	306	Lámjak	271, 307
Kundphul	306	Lang	307
Kunduri	324	Langa	307
Kunduru	136	Lángaliká	263
Kumuda	109	Langphul	307
Kupilu	198	Lankáyiká	318
Kur	180, 307	Lasorá	293, 317
Kurchi	192, 307	Lasuna	262
Kureyá	192, 307	Latá kasturi	123, 307
Kus	307	Latá kasturiká	123
Kusa	266	Latáphatkari	139
Kusamphul	307	Lathyrus sativus	150, 321
Kusávaleha	267	Latjirá	221, 291
Kushmánda	167	Láu	290
Kushmánda ghrita	169	Lauha	46
Kustha	180	Lauhásava	49
Kusum	307	Lauká	290
Kut	307	Lauraceæ	222
Kutaja	192	Laurus Cassia	320
Kutajaleha	193	Lavana	84
Kutajárishta	194	Lavanga	164
Kutajáshtaka	192	Lawsonia alba	309
Kutki	304	Lead	72
Kyllingia monocephala	311	Leea hirta	301
Labiatae	219	Leea macrophylla	297

Leeches	275	Mahámritunjaya lauha	64
Leguminosæ	143	Mahánárach rasa	229
Lepidium sativum	115, 295	Mahásvásári lauha	52
Lettsomia nervosa	206	Mahátálesvara	43
Leucas linifolia	297	Mákál	300, 308
Liquidambar orientale	166, 317	Makaradhvaja	59
Ligusticum Ajowan	324	Makháná	110, 308
Liliaceæ	259	Makkai	270
Lime	82	Mako	302
Limonia scandens	307	Makoy	210
Limnanthenum cristatum	302	Mákrákendu	302
Limpáka	126	Mákshika	277
Linum usitatissimum	292	Makushtha	149
Litharge	73	Málati	308
Lobia	312, 315	Malliká	308
Lodh	189, 308	Mallotus Philippensis	232, 302
Lodhra	189	Malvaceæ	120
Loganiaceæ	198	Manahsilá	44
Loná	307	Mánaka	252
Luffa acutangula	301	Manakká	138
Luffa amara	305	Mánamanda	253
Luffa cylindrica	297, 315	Mána suranádyá lauha	49
Luffa pentandra	297, 315	Mauda	268
Luvunga scandens	307	Mandué	314
Lycopodium imbricatum	313	Mandukaparni	176
Lythraceæ	165	Manduki	213
Madana	177, 308	Mangifera Indica	140, 291
Madana modaka	240, 241	M. sylvatica	305
Mádár	196, 290, 291, 295, 307	Mango	140
Mádhavilatá	308	Manjishtá	309
Madhu	277	Manjistádyá ghrita	178
Madhuka	188	Manjit	178, 309
Madhukarkatiká	126, 127	Mánkaechu	252, 308
Madhuriká	173	Mánkand	252, 308
Madhyama náráyana taila	261	Manmathábhra rasa	80
Magrelá	102, 305	Mansásij	233, 318
Májoon	238	Maranta dichotoma	318
Mahábalá	120	Mararphali	293
Mahábari bach	255, 306	Maricha	241
Mahágandha rasa	33	Marichádyá taila	285
Mahálakshibilás rasa	79	Marsá	309

Marsilea quadrifolia	319	Metals, calcination of	24
Maruá	268, 314	Methi	144, 309
Marwá	296	Methi modaka	144
Másha	149	Mica	76
Máshabeládi kvátha	121	Michelia Champaca	294
Másháni	150, 309	Milk and its preparations	281
Máshaparni	150	Mimosa Catechu	304
Másha taila	288	M. Farnesiana	291
Máshkalái	309	M. Indica	307, 322
Máshoni	309	M. Sirisa	318
Masiná	292	M. Suma	316
Masur	149, 309	Mimusops Elengi	188, 322
Masura	149	M. hexandra	314
Mat	308	M. Indica	314
Matar	149, 302, 317	Mineral acids	12
Material objects, classification of	1	Minerals, classification of	21, 23
Mátulunga	126	Mirabilis Jalapa	305
Mauá	188, 308	Misreyá	173
Mauálu	308	Mithábish	97
Maulsarau	188, 322	Mithá nebu	126
Mauri	173, 308	Mithi tumbi	290
Mayin	177, 308	Mochá	122
Medicated oils, preparation of	13	Mocharasa	122
Medicines, action of	5	Mollugo Spergula	299
———, administration of	9	Momordica charantia	303, 319
———, classification of	2	M. mixta	303
———, forms of	9, 17	M. muricata	303, 319
Mehamudga rasa	53	M. monodelpha	171, 324
Melia Azadirachta 136	308, 311	Moong	309
Melia sempervirens	308	Morinda citrifolia	289
Meliaceæ	136	M. tinctoria.	289
Melilotus parvifolia	322	Moringaceæ	117
Mendi	309	Moringa pterygos-	
Menispermaceæ	103	perma	117, 318, 320
Menispermum cordifolium	299	Morus Indica	321
M. tomentosa	319	M. parvifolia	321
Menyanthes cristata	302	Mot	149
Merásingi	309	Mothá	310
Mercury	27	Motiá	311
Mestápát	311	Mridviká	138
Mesua ferrea	119, 310	Mriganábhi	279

Mriganábhýádyavaleha	280	Nágabala	120
Mrigánka rasa	58	Nágara mustaka	264
Mrigá sringa	281	Nágar muthá	264, 310
Mrinála	109	Nágaranga	126
Mritasanjivani surá	274	Naga tripudians	278
Mritunjaya rasa	98	Nágdouá	310
Muchkand	309	Nágdoni	310
Muchukanda	123	Nagia Putranjiva	314
Mucuna pruriens	147, 293, 303	Nágkesar	119, 310
Mudga	149	Nágorigond	318
Múdgaparni	149	Násona	202
Mug	149	Náshpáti	291
Mugáni	149, 309	Nái	310
Muktá	93	Nák	291
Muktápáti	318	Nákclhikni	295
Mulá	310	Nakhi	15
Mulhatti	143, 325	Naktamála	153
Muli	310	Nakuládyá ghrita	287
Munj	310	Nal	311
Murdásang	73	Nalipatári	311
Murmuriá	310	Nálitá	311
Murvá	310	Nárácha churna	204
Musa Paradisiaca	257, 301	Nárácha rasa	230
Musa sapientum	257, 301	Nárangi	310
Musaceæ	257	Narasára	90
Mushabbar	259	Naráyana taila	261
Mushali	250, 320	Narchá	302
Musk	279	Nardostachys Jatamansi	180, 300
Mushkdáná	307	Nárial	247, 311
Mustaka	264	Nárikela	247, 311
Mutrakrichchhántaka rasa	205	Nárikela khanda	248
Muthá	264, 310	Nárikela khára	86
Myrica sapida	234, 304	Narkul	311
Myriceæ	234	Nátá	314
Myristicæ	224	Nátákaranja	153
Myristica officinalis	224, 300	Natiyá ság	309
Myrrh	136	Naucolea Cadamba	301
Myrsinacæ	187	N. cordifolia	296
Myrtacæ	164	Nausádar	90
Nabamalliká	311	Nava jvaránkusa	207
		Naváyasa lauha	51

Nayáphatki	139, 301	Oldenlandia biflora	176, 305
Nelumbium speciosum	109, 302 305, 312, 314	O. herbacea	176, 305
Nemuka	103, 313	Olibanum	135
Nepáli dhaniá	132, 321	Olla	251
Nerijum odorum	191, 303	Ophelia Chirata	200
Nicotiana Tabacum	212, 320	Ophioxylon serpentinum	317
Nidána	x	Orchidaceæ	258
Nidigdhiká	208	Orpiment	41
Nigella sativa	102, 305	Oryza sativa	267, 268, 296
Nihisuki	269	Ougenia dalbergioides	321
Nil	311	Oxalis corniculata	124, 290, 295
Nilofar	311	Oxystelma esculentum	297
Nilotpala	109		
Nilsáplá	109, 311	Páchak	180, 307
Nim	136, 311	Pachyrhizus angulatus	316
Nim oil	136	Pád	203
Nimba	136	Padma	109, 302, 312
Nimbuka	126	Padma gulancha	319
Nirbishi	311	Padmakáshta	312
Nirgundi	217	Pæderia foetida	178, 314
Nirmali	200, 304	Páhári eraud	302
Nisá	255	Pákhār	312
Nisindá	217, 311, 318	Pákri	235
Nisoth	203, 321	Pákur	235, 312
Nitrate of potash	89	Palás	312
Nityánanda rasa	75	Palása	148
Nivára	267	Palás pipal	312
Noári	307	Pálanki	312
Nyctaginaceæ	221	Pálitámandár	312
Nyctanthes arbor tristis	189, 317	Palmaceæ	247
Nymphæaceæ	109	Pálong ság	312
Nyphæa Lotus	109, 306, 315	Palwal	169, 313
N. rubra	109, 299	Pán	244, 310, 320
N. stellata	109, 311	Panchabhadra	177
		Pancha jiraka páka	103
Ocimum Basilicum	220, 323	Pancha kasáya	137, 177
O. pilosum	220, 323	Panchámrita parpati	33
O. sanctum	219, 321	Panoha nimba gudiká	137
Odina Wodier	301	Pancha pitta	284
Ol	251, 312, 319	Panchatikta ghrita	137
		Panchavalkala kasáya	235

Panchavaktra rasa	99	Páyasa	269
Pandanus odorátissimus	304	Pearls	93
Panderiá	314	Pellitory root	185
Pándusudana rasa	84	Pentapetes phœnicea	293
Pangrá	312	Pentaptera Arjuna	291
Paniálá	314	P. tomentosa	292
Pániámlak	314	Pethá	167, 307
Panicum frumentaceum	267, 320	Peucedanum Sowa	309
P. Italicum	303	Peyá	268
P. miliaceum	267, 295	Phalaghrita	260
P. uliginosum	299	Phalsá	313
Pánikáuchirá	300	Pharbitis Nil	205
Pániphal	319	Pharhad	312
Pánsuja	86	Pharnaceum Mollugo	299
Panwar	294	Phársá	313
Papaveraceæ	111	Phaseolus aconitifolius	149, 308
Papaver somniferum	111, 289	P. Mungo	149, 309
Pár	313	P. Roxburghii	149, 309
Párada	27	P. radiatus	149, 309
Pareira Brava	103	P. trilobus	149, 309
Parespipal	298, 312	Phlomis Zeylanica	297
Parkati	235	Phoenix dactylifera	250, 313
Parnása	219	P. paludosa	300
Parpata	176	P. sylvestris	250, 305
Páruł	203, 313	Phoot	297
Paspalum scrobiculatum	267, 305	Phragmites Karka	311
Pát	311	Phuti	297
Pátalá	203	Phyllanthus distichus	307
Pater	297	P. Emblica	225, 290
Páthá	103	P. longifolia	307
Pathádyá churna	193	P. Niruri	294
Páthor chur	313	Physalis flexuosa	210, 292
Pathyá	160	P. Peruviana	320
Pathyádi kvátha	161	P. edulis	320
Pátinebu	126, 307	Piáj	312
Patol	313	Piásál	292
Patola	169	Picrorrhiza Kurroa	212, 304
Patoládi kvátha	170	Pilu	313
Patoládyá churna	170	Pimpinella involucratum	289, 323
Pattanga	224, 313	Pindakhejur	313
Pavonia odorata	123, 293, 300	Pindára	313

<i>Pinus Deodara</i>	247	<i>P. quadrifida</i>	308
<i>P. longifolia</i>	246, 316	<i>Posoqueria dumetorum</i>	308
<i>P. Webbiana</i>	245, 320	<i>Pothos officinalis</i>	297, 252
Pipal	235, 243, 292, 313	<i>Pottali hemagarbha</i>	58
Piperaceæ	241	<i>Pradarári lauha</i>	194
<i>Piper aurantiacum</i>	315	<i>Pramehamihira taila</i>	262
<i>P. Betle</i>	244, 310, 320	<i>Pránadá gudiká</i>	242
<i>P. Chaba</i>	244, 295	<i>Prasárani</i>	178
<i>P. longum</i>	243, 318	<i>Prasárani leha</i>	178
<i>P. nigrum</i>	241, 309	<i>Pravála</i>	93
Pippali	243	<i>Precious stones</i>	23
Pipul	243, 313	<i>Premna herbacea</i>	294
Pippuládi lauha	52	<i>P. serratifolia</i>	219, 289, 298
Piring sák	314, 318	<i>P. spinosa</i>	219, 289, 298
<i>Pistia Stratiotes</i>	306	<i>Priangu</i>	314
<i>Pisum sativum</i>	149, 302, 317	<i>Prisniparni</i>	147
<i>Pita bhasma</i>	30	<i>Prithisára taila</i>	153
<i>Pita chandana</i>	225	<i>Prithuká</i>	269
Pitáli	313	<i>Psidium pomiferum</i>	291
Pitasála	154	<i>Pterocarpus marsupium</i>	154
Pitbalá	292	<i>P. santalinus</i>	154, 315
Pitchandan	299	<i>Pterospermum acerifolium</i>	303
Pittala	75	<i>P. suberifolium</i>	123
Pittántaka rasa	93	<i>P. Heyneanum</i>	309
Pitvan	147, 314	<i>Ptychotis Ajowan</i>	172, 324
Piyál	318	<i>Puga</i>	249
<i>Pladera decussata</i>	201, 296, 316	<i>Puisák</i>	314
<i>Pliha panchánana rasa</i>	63	<i>Punarnabá</i>	314
Plumbaginaceæ	185	<i>Punarnavá</i>	221
<i>Plumbago rosea</i>	186, 315	<i>Punarnavá mandura</i>	285
<i>Plumbago Zeylanica</i>	185, 295	<i>Punarnaváshtaka</i>	222
<i>Poa cynosuroides</i>	266, 307	<i>Punarnavá taila</i>	222
<i>Pohokarmuly</i>	314	<i>Punarnavávaleha</i>	222
Poi	314	<i>Punica Granatum</i>	166, 293
Poisons	7	<i>Punnág</i>	314
Poláng	314	<i>Punnága</i>	232
<i>Polanasia felina</i>	319	<i>Purána ghrita</i>	283
<i>P. icosandra</i>	289	<i>Pushpánjana</i>	74
<i>Polyanthes tuberosa</i>	315	<i>Putikaranja</i>	158
<i>Pongamia glabra</i>	153, 303	<i>Putranjiva Roxburghii</i>	314
<i>Portulaca oleracea</i>	308	<i>Pyrus communis</i>	291

P. Malus	317	Rásná guggulu	259
Quamoclit vulgaris	302	Rásná panchaka	259
Rági	268, 314	Rasot	107
Rái	315	Rasun	315
Rái sarisá	114, 315	Rasuna	262
Rája másha	149	Ratálu	315
Rája mrigánka rasa	34	Rativallava pugapáka	250
Rajanigandha	315	Ratnagarbha pottali rasa	58
Rajanihásá	189	Ratnagiri rasa	92
Rájiká	114	Realgar	44
Rájanirghantu	xi	Rechana	232
Rakta chandana	154, 224, 315	Red ochre	96
Raktachitraka	186	Renuká	315
Raktajhinti	307	Rhus acuminata	303
Rakta kamal	305	R. succedanea	140, 303
Rakta kambal	109, 299, 315	Ricinis communis	231, 297
Rakta kánchan	156, 302	Rithá	313
Rakta simul	122	Rohish	304
Raktotpala	109	Rohitaka lauha	52
Rála	120	Romaka	85
Rámavána rasa	100	Rosa alba	320
Rambhá	257	Rosa glandulifera	317
Rámkarpura	304	Rosa moschata	306
Rámsar	293, 316	Rosa pubescens	306
Ramtarui	321	Rottlera tinctoria	232, 302
Rándhuni	173, 289, 323	Rubiaceæ	176
Randia dumetorum	177, 308	Rubia cordifolia	178, 309
Ráng	68	Rubia Munjista	178, 309
Rángálu	315	Rudrákh	315
Ranunculacæ	97	Rudráksha	315
Raphanus sativus	310	Ruellia longifolia	305
Rasa	27	Rukkesa	228
Rasakarpura	29, 37	Rumex vesicarius	295
Rasánjana	74, 107	Rupya	61
Rasánjanádi churna	107	Rutacæ	126
Rasaparpati	31, 32	Ruvuka	231
Rasasindura	30	Saccharum cylindricum	296
Rasáyanámrita lauha	128	S. Munja	293, 310
Rasendra gudiká	34	S. officinarum	265, 266, 300
Rásná	258, 315	S. Sara	266, 268, 316

S. spontaneum	266, 304	Sánchi	316
Sádá hurhuriá	292	Sandan	321
Sadanga guggulu	135	Sanhuly	316
Saffedá	73	Sánkálu	316
Safed chandan	224, 295	Sankha drávak	13
Safed sambal	39	Sankhabuli	201, 316
Sahadebi	308	Sankhapushpi	201
Sahinjan	318	Sankha vashma	82
Sáin	316	Sankha visha	39
Saindhava	84	Sanseviera Zeylanica	310
Saindhavádyá taila	255	S. Roxburghiana	310
Sáji	88	Sánt	221, 314
Sájimáti	89	Santaleæ	224
Sajiná	318	Santalum album	224, 295
Sajnábij	320	Sapindaceæ	139
Sákambari	85	Sapindus emarginatus	313
Sákhu	316	S. trifoliatu	313
Saktu	269	Sapotaceæ	188
Sál	292, 316	Saptaparna	191
Salái	316	Saptasáli vati	86
Sála	120	Sar	316
Sálmali	122	Sara	266
Sálpáni	145, 316	Saraca Indica	143, 292
Sálaparni	145	Saral	246, 316
Salts	23	Sarala	246
Sáluk	306, 316	Sarala drava	246
Sáluka	109	Sarahati	317
Salvadora Indica	313	Sárangadhara	xii
S. Persica	313	Sarbajayá	317
Salvinia cucullata	310	Sarcostemua brevistigma	318
Samak	320	Sarisá	114, 317
Samasarkara churna	253	Sárivá	195
Sambalakhára	39	Sarivan	145, 316
Sambhal	318	Sarjikádyá churna	89
Sambhálu	217, 311	Sarjikákshára	88
Sambhunáth rasa	112	Sarphonká	317
Sámbukádi taila	287	Sarson	317
Sambuka vasma	82	Sarvángasundara rasa	92
Samira gajakesari	199	Sasá	321
Sámudra	84	Satamuli	260
San	316	Satábari	317

Satávari	260	Shaddharana yoga	186
Satávar	317	Shadgranthá	251
Satávari ghrita	260	Shadguna balijárita rasa	28
Sati	257, 317	Shahad	277
Satílá	149	Sharifá	298
Saubhágya sunti	254	Shiájirá	173, 319
Saubhágya vatiká	99	Shiulichhop	302
Saurástra mrittiká	96	Shorea camphorifera	223
Saussurea auriculata	180, 307	Shorea robusta	120, 292, 316
Sauvarchala	85	Shyámádhán	267
Sauviránjana	73	Siákul	318
Schrebera swietenoides	298, 310	Siál kántá	318
Scindapsus officinalis	252, 297	Sida alba	120, 310
Scirpus Kysoor	304	S. cordifolia	120, 293
Scitamineæ	253	S. rhombifolia	120, 292
Scrophulariaceæ	212	S. rhomboidea	120, 308
Seb	317	S. spinosa	310
Segun	316	Siddhártha	114
Sehund	233	Siddhi	235, 237, 293
Sehunda	233	Sigru	117
Selaginella imbricata	313	Siktha	278
Semal	316	Silájatu	95
Semicarpus Anacardium	141, 293	Siláras	166, 318
Senna Sophora	304	Silha	318
Senna Tora	294	Silhaka	166
Seorá	316	Silver	61
Sepháliká	189	Sim	318
Serpent poison	278	Simbi	149
Serratula anthelmintica	183	Simul	122, 316
Sesameæ	216	Sinapis	114
Sesamum Indicum	216, 321	Sinapis glauca	114
Sesbania aculeata	301	Sinapis racemosa	315
S. grandiflora	322	Sindhuvára	217
Sesili Indicum	172, 322	Sindura	73
Setaria Italica	303	Sindurádyá taila	73
Seuli	317	Sinhanáda guggulu	27
Seuti	317, 320	Singhárá	319
Sev	317	Siphonanthus Indica	219, 294
Seyálá	315	Siris	318
Shadanga pániya	265, 270	Sisá	72
Shadbindu taila	182	Sisaka	72

Sisu	318	Sringibish	97, 324
Sitabhanji rasa	63	Sringyádi churna	140
Sital chini	302	Srikhanda	224
Sitalpátir gach	318	Sriparni	218
Sitáphal	298	Srivása	246
Sitopaládi churna	271	Srotánjana	74
Siuli	189	Sterculiaceæ	123
Sivá ghríta	287	Stereospermum suaveolens	203, 313
Sival	315	Stephania hernandifolia	103, 313
Smilacæ	264	Sthalkamal	319
Smilax China	264, 295	Sthalpadma	319
Snehaphala	216	Sthulagranthi	255
Snuhi	233	Storax	166
Sobhánjana	117	Streblus asper	316
Sohága	81	Styracæ	189
Solanacæ	207	Strychnos potatorum	200, 304
Solanum Indicum	210, 324	Strychnos nux vomica	198, 306
S. Jacquinii	208, 303	Suchiká bharana rasa	278
S. Melongena	323	Sudhá	160
S. nigrum	210, 302	Sudhánidhi rasa	50
S. xanthocarpum	208, 303	Suffed musli	251
Somaráji taila	184	Sugandha bálá	123, 293, 300
Somesvara rasa	54	Sugar	265
Somlatá	318	Suklajhinti	317
Somráj	318	Sukti vashma	82
Somráji	183	Sulachanámrítábhra	78
Soná	320	Sulharana yoga	199
Sondháli	155, 291	Sulpha	173, 309
Sonf	173, 308	Sulphate of copper	66
Sorá	89	Sulphate of iron	55
Soraka	89	Sulphur	26
Sorghum saccharatum	296	Sunsuniá	319
Sothaghui	221	Sunti	253
Sowá	173, 309	Sunti ghríta	254
Sphatikári	80	Supárf	249, 299
Sphœranthus hirtus	310	Surana	251
Sphœranthus mollis	310	Surjamani	319
Spirituous liquors	272	Surmá	72
Spondias mangifera	291	Surana pindi	252
Sringarábhra	79	Suryávarta rasa	65
Sringavera	253	Sushavi	173

Susruta	viii	Talishádyá churna	246
Sutikávinoda	68	Tálmakháná	215, 305
Suvarna	57	Tál muli	250, 320
Suvarnaka	155	Támák	321
Svachohhanda bhairava rasa	63	Tamál	320
Svalpa drávaka	13	Tamarindus Indica	157, 321
Svalpa jvaránkusa	207	Tamarix gallica	301
Svalpa kasturi bhairava	279	T. Indica	301
Svalpa khadira vatiká	159	Tambáku	321
Svalpa másha taila	151	Támbula	244
Svalpa rasuna pinda	263	Tambulí	320
Svarnajui	319	Támra	62
Svarna mákshika	56	Támrakuta	212
Svarna parpati	59	Támresvara	66
Svarna sindura	36	Tandulámbu	269
Svarna vanga	70	Tandulia	221
Svása kuthára rasa	45	Taukana	81
Svetákand	290	Tankanádi vati	181
Sveta punarnavá	221	Tára	61
Svet berelá	308	Tára mákshika	56
Svet goláb	320	Tarbud	203
Svetpadma	314	Tarbuz	320
Syámá dhán	320	Tarmuj	320
Syámaka	267	Tarulatá	302
Syámalatá	195, 317, 320	Taruna jvarári	32
Syonáka	202	Tectona grandis	316
Syáorá	316	Tejpát	224, 320
Symplocos racemosa	189, 308	Tejapatra	224
Syzygium Jambolanum	164, 300	Tekári	320
Tábá nebu	126, 323	Tekátásij	233, 322
Tábásir	322	Telákuchá	171, 324
Tabernæmontana coronaria	320	Tentul	157, 321
Tagar	320	Teori	203, 321
Tagarmul	302	Tephrosia purpurea	317
Tákápáná	306	Tepuria	320
Tál	243, 320	Teramnus labialis	309
Tála	243	Terminalia Arjuna	163, 291
Tálakesari rasa	43	T. Bellerica	162, 323
Talc	76	T. Chebula	160, 299
Tálisapatra	245, 320	T. tomentosa	292
		Thalkurí	176, 309

<i>Thespesia populnea</i>	298, 312	<i>Trivrit</i>	203
<i>Thivan</i>	298	<i>Trophis aspera</i>	316
<i>Thohar</i>	238, 318	<i>Tryushanádi lauha</i>	53
<i>Tikta láu</i>	304	<i>Tulasi</i>	219
<i>Tiktádyá ghrita</i>	153	<i>Tulsi</i>	219, 321
<i>Tíktaráj</i>	315	<i>Tuttha</i>	66
<i>Til</i>	216, 321	<i>Tumbi</i>	304
<i>Tila</i>	216	<i>Tumburádyá churna</i>	204
<i>Tillaka</i>	189	<i>Tumburu</i>	132
<i>Tin</i>	68	<i>Tumri</i>	132
<i>Tinis</i>	321	<i>Tumru</i>	320
<i>Tinospora cordifolia</i>	105, 299	<i>Tun</i>	311, 321
<i>Tinospora tomentosa</i>	319	<i>Turbud</i>	321
<i>Tisi</i>	292	<i>Turpentine</i>	246
<i>Tintiri</i>	157	<i>Tut</i>	321
<i>Tor</i>	150, 289	<i>Tutri</i>	321
<i>Torái</i>	301	<i>Tvach</i>	321
<i>Totmilá</i>	301	<i>Typha augustifolia</i>	297
<i>Tragia involucrata</i>	324	<i>T. elephantina</i>	297
<i>Trailakya chintámani rasa</i>	93	<i>Uchchhe</i>	319
<i>Trapa bispinosa</i>	319	<i>Udakamanjari rasa</i>	284
<i>Trapusha</i>	171	<i>Udumbara</i>	235
<i>Trayadasánga guggulu</i>	133	<i>Uk</i>	265, 300
<i>Treacle</i>	266	<i>Ulu</i>	296
<i>Trewia nudiflora</i>	313	<i>Umbelliferae</i>	172
<i>Tribulus terrestris</i>	125, 298	<i>Unmádankura rasa</i>	207
<i>T. lanuginosus</i>	298	<i>Unmatta</i>	207
<i>Trichosanthes anguina</i>	295	<i>Usira</i>	270
<i>T. dioica</i>	169, 313	<i>Utpaládi sritam</i>	110
<i>T. palmata</i>	308	<i>Uraria lagopodioides</i>	147, 314
<i>Trifolium Indicum</i>	322	<i>Urid</i>	149, 309
<i>Trigonella corniculata</i>	318	<i>Uridhán</i>	267, 312
<i>T. fœnum græcum</i>	144, 309	<i>Urine</i>	284
<i>Trijátaka</i>	224	<i>Urostigma religiosum</i>	292
<i>Trikatu</i>	253	<i>Urticeæ</i>	235
<i>Trinarája</i>	248	<i>Vabbula</i>	160
<i>Trinetra rasa</i>	69	<i>Vachá</i>	251
<i>Triphalá</i>	161	<i>Vágbhatta</i>	x
<i>Tripata</i>	203	<i>Vaisvánara kshára</i>	90
<i>Triputi</i>	150		
<i>Triticum vulgare</i>	267, 269, 298		

Vajrakapáta rasa	32	Vidári	205
Vajri	233	Vidyádharábhra	50
Vákuchi	183	Vidyádhara rasa	43
Vakula	188	Vigna catjang	312
Valeriana Jatamansi	180, 300	Vigna sinensis	149
Valerianaceæ	180	Vijapura	126
Vallaris dichotoma	293	Vijayá	235
Vallisneria octandra	315	Vijayaparpati	59
Vanaharidrâ	257	Vilepi	268
Vanârdra	255	Vilva	129
Vânari	147	Vilva taila	130
Vânari vati	148	Vimba	171
Vanayamáni	172	Vindu ghrita	233
Vanda Roxburghii	258, 315	Virana	270
Vanga	68	Visálatvak	191
Vangesvara rasa	69	Visha	97
Vansa	271	Vishamushti	198
Vansarochoha	271	Visha taila	101
Vârshiki	190	Vishama jvarântaka lauha	48
Varuna	115	Vishnukrántâ	147, 291
Varunâdya churna	116	Vishnu taila	262
V. ghrita	116	Vitex Negundo	217, 311, 318
V. guda	116	V. trifolia	217
V. taila	117	Vit lavana	84
Varvara	220	Vitis quadrangularis	292
Vásâchandanâdi taila	215	V. pedata	298
Vásaka	214	V. vinifera	138, 297
Vásâkushmânda khanda	168	Viverra Zibetha	280
Vasanta kusumâkara rasa	94	Vridhdhârâka	206
V. málâti	72	Vrihat panchamula	146
V. tilaka rasa	280	V. sarbajvarahara lauha	47
Vásâvaleha	214	V. somanâtha rasa	54
Vâtari rasa	134	V. surana modaka	252
Vatsanáva	97	Vrihat vâta gajânkusa	62
Venuja	268	Vrihat vangesvara rasa	70
Verbenaceæ	217	Vrihati	210
Verbesina calendulacea	181, 294	Volkameria infortunatum	293
Vernonia anthelmintica	183, 318		
Vetâla rasa	43	Wax	277
Vibhitaki	162	Wedelia calendulacea	181, 294
Vicia lens	149, 309	Weights and measures	7

Withania somniferum	210 292	Zanthoxylum alatum	321
Woodfordia floribunda	165, 296	Z. hostile	321
		Zea Mays	270
Yakridári lauha	52	Zingiber Cassumunar	255, 322
Yamáni	172	Z. officinale	253, 291
Yasada	71	Z. zerumbet	255
Yashtimadhu	143	Zizyphus Jujuba	305
Yava	267	Z. ænoplia	318
Yavakshára	87		

ERRATA.

- Page 27, line 28, *for* "Reduced mercury," *read* "prepared mercury."
 " 97, " 1, *for* "SANSKRIT' MATERIA MEDICA," *read* "THE
 MATERIA MEDICA OF THE HINDUS."
 " 30, " 13, *for* "Phyllanthus neruri," *read* "Phyllanthus Niruri."
 " 40, " 19, *for* "Vitex nigundo," *read* "Vitex Negundo."
 " 102, " 16, *for* "Mugrelá," *read* "Magrelá."
 " 171, " 12, *for* "Cucumis sativa," *read* "Cucumis sativus."
 " 198, " 28, *for* "of ous," *read* "of our."
 " 198, " 31, *for* "about Manbhom," *read* "about Mánbhum."
 " 208, " 20, *for* "Var. Jacquinis," *read* "Var. Jacquinií."
 " 218, " 13, *for* "Ghambhári," *read* "Gambhári."
 " 320, " 3, *for* "Echtes frutescens," *read* "Echites frutescens."

THE END.

NIDĀNA: A SANSKRIT SYSTEM OF PATHOLOGY.

TRANSLATED INTO BENGALI

BY UDOY CHAND DUTT,
CIVIL MEDICAL OFFICER.

EXTRACTS FROM REVIEWS.

"Nidāna is a Sanskrit treatise on Hindu Medicine, compiled by Madhub Kur, a Sudra, who lived many hundred years ago. It was intended for the benefit of the ordinary class of students, who, for certain reasons, had no access to the more learned works of Charaka and Susruta. It may, therefore, be accepted as one of the text-books of the Hindu Medical Schools. It gives a clear and concise account of all the diseases and injuries known to the Hindu physicians up to the time when it was written, including their diagnosis and prognosis. The whole work is evidently based on clinical experience, and, as a didactic record of facts, it is very valuable. But, for the explanations of these facts, they are often interwoven with absurd theories and doctrines which take the place of physiology and pathology. The object of this work was simply to teach diseases, leaving their treatment to be dealt with in a separate book; and it would be a great thing if we could have a similar book composed in Bengali, with the light of modern science, for the use of our vernacular medical students. That is a great want which, however, could only be supplied by oriental scholars like Baboo Udo Chand Dutt, the learned translator of this work. As it is, the Baboo has done great service to vernacular medicine, and our best acknowledgments are due to him for it.

"Being free from barbarous interpolations and foreign words, it is calculated to chasten the language of the new vernacular medical literature. On this account we trust Government will insist on a knowledge of this work by all their licentiates in Bengali or English. In that way alone can a proper taste be created for the careful study of Bengali, the want of which is painfully apparent in many of the recently issued vernacular medical publications."—*Indian Medical Gazette*, January, 1874.

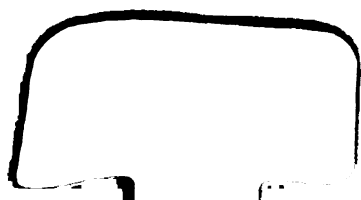
"The author before us belongs to the pre-university era. A good English scholar, a reputed master of the healing art, with an inquisitive turn of mind, and thoroughly alive to the merits of the indigenous system of medicine, he possesses many qualifications for expounding the principles of the Sanskrit system of medicine, and has performed well his self-elected task. In his preface to the work before us he says that it is a literal translation of the Sanskrit treatise on pathology, compiled by Mādhava Kar, and generally known under the name of Nidāna. It gives a pretty full account of the diseases known to the ancient Hindus, and it has been the text-book on medicine for native physicians from a long time past. With a view to enable the reader versed in English medicine readily to identify the diseases described in this work, our author, wherever it has been practicable, has given their equivalent English names in foot-notes. This translation is a valuable contribution to Indian Medical Literature."—*Hindoo Patriot*, October 20, 1873.

Price One Rupee.

To be had of MESSRS. THACKER, SPINK & Co., WYMAN & Co., and C. K. SEN & Co., Native Medical Hall, Fouzdarree Balakhana.



MAY 15 1967



MAY 13 1967



