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THE VEGETATION OF THE DISTRICTS OF  
HUGHLI-HOWRAH AND THE 24-PERGUNNAHS.

BY


D. PRAIN.

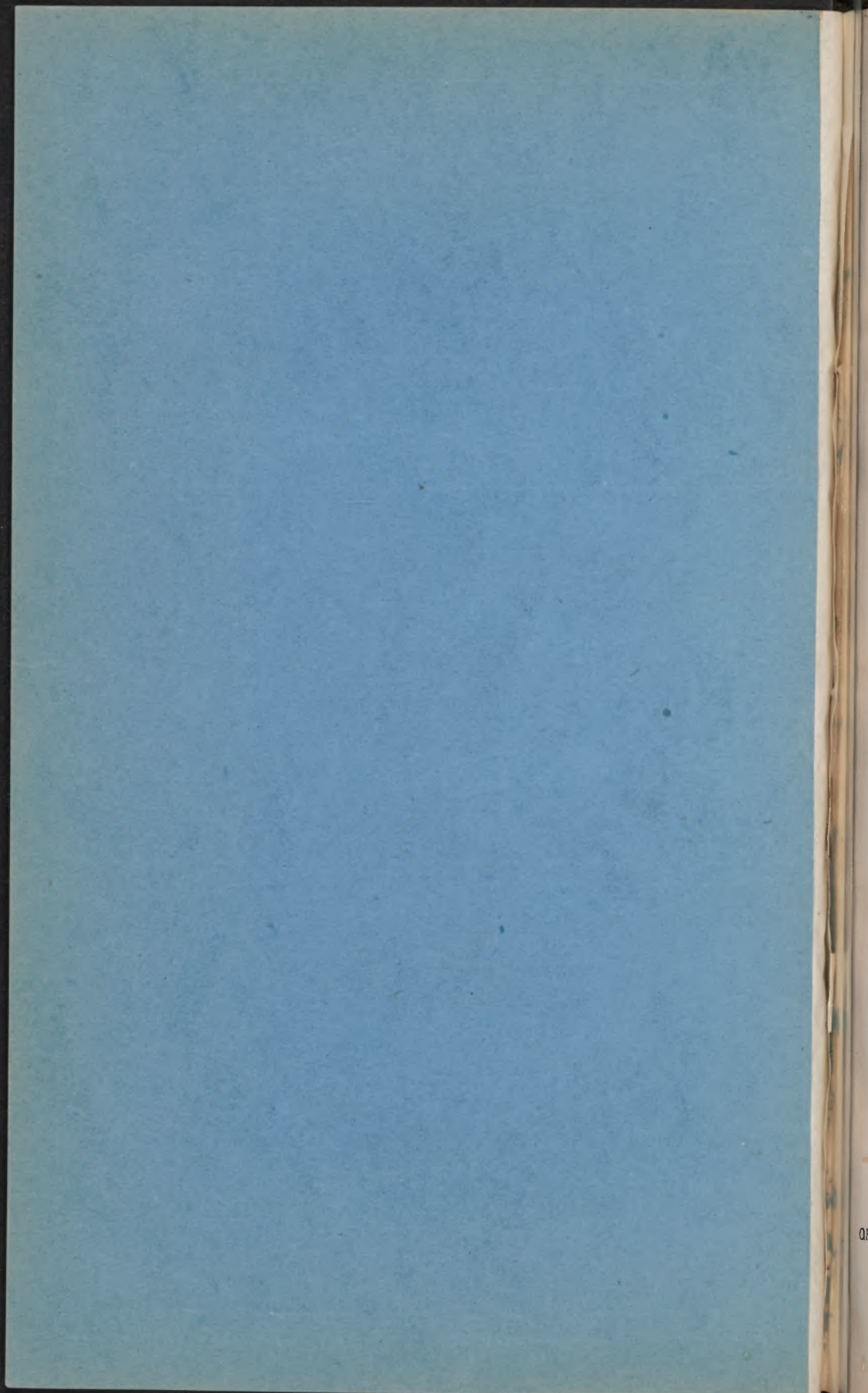


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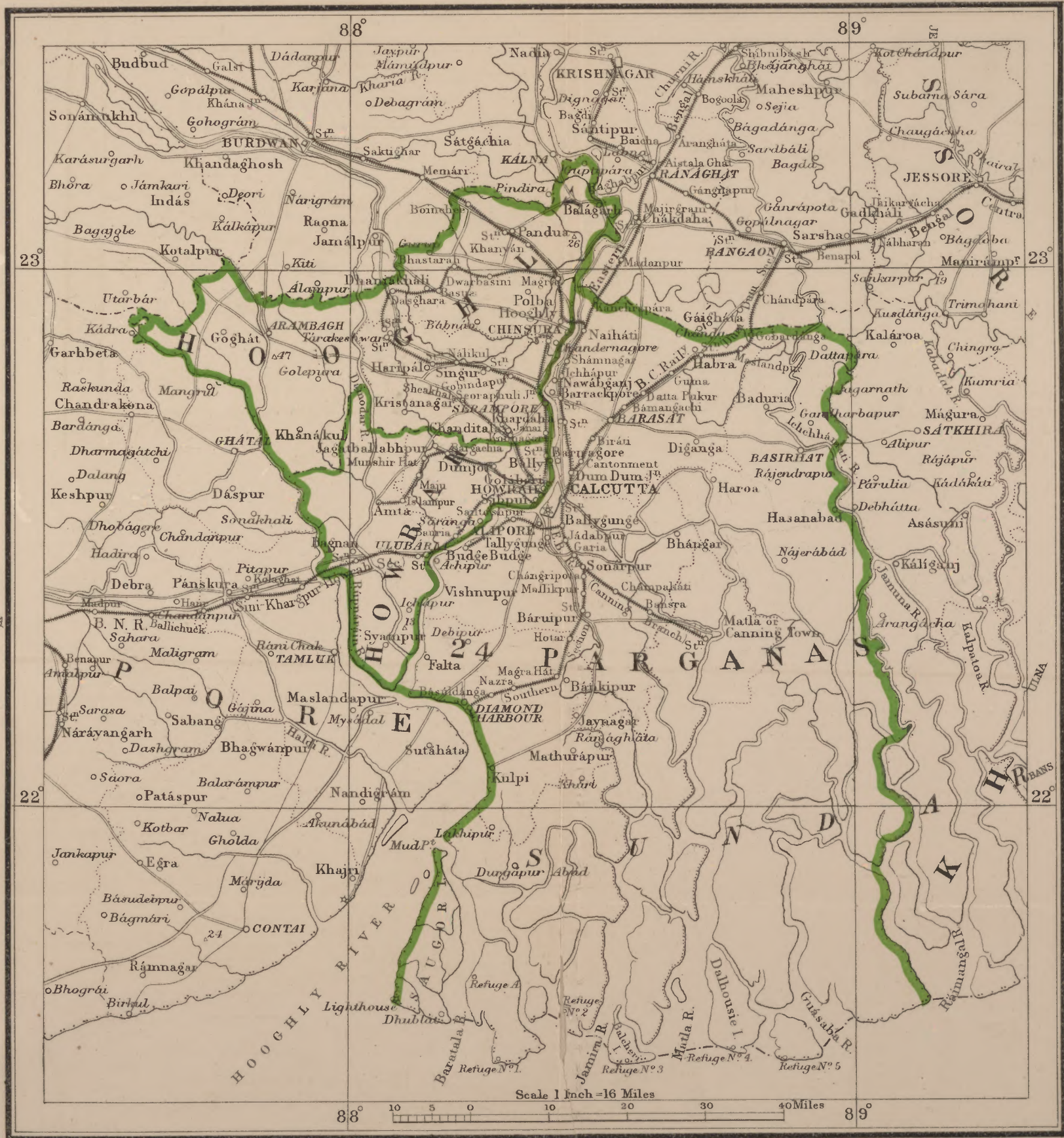
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Map to illustrate the PLANTS in the Districts of HOOGLY, HOWRAH, & 24-PARGANAS.



# THE VEGETATION OF THE DISTRICTS OF HUGHLI- HOWRAH AND THE 24-PERGUNNAHS.

—◆—  
By D. PRAIN.  
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## I.—INTRODUCTION.

It has often been impressed upon the writer that a concise list of the plants to be met with in the vicinity of Calcutta might be useful to those whom duty or pleasure lead to reside in that city. The present paper is an attempt to supply such a list.

This is by no means the first attempt to do what is required. It appears probable from letters that have been consulted by the writer, written between 1796 and 1823 by Dr. Francis Buchanan (afterwards Hamilton), once Superintendent of the Royal Botanic Garden, that in its original form the *Flora Indica* of Roxburgh only consisted of the brief diagnoses which accompany all the species, and that the long and lucid descriptions which in the work, as we know it, are given for many, but not all, of the plants dealt with, were intercalated subsequently. It further appears that manuscript copies of the original *Flora* were available for use as early as 1798 by at least some of Roxburgh's botanical friends. This, though it certainly covered a wider field than the vicinity of Calcutta, or indeed than the Presidency of Fort William, may be considered the first attempt to provide a list such as is required.

The first serious attempt to provide exactly what is wanted was made in 1839 by J. W. Masters on behalf of the members of the Agricultural and Horticultural Society of India. The title of Masters' paper, *Calcutta Flora, containing a Synopsis of Plants indigenous to or cultivated in the vicinity of Calcutta, arranged according to their natural families; with observations on the properties, and manner of cultivating some of the most interesting*,<sup>1</sup> shows that the design of the author was somewhat ambitious: it is not therefore surprising to

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<sup>1</sup> Transactions of the Agricultural and Horticultural Society of India, vii. 39-85 (1840). The paper was read 12th June 1839.

find that he only succeeded in carrying his synopsis as far as the *Malvaceæ*, and although it appears that he had intended to resume the project at a later date he never did so.<sup>1</sup> The portion actually published was, as he himself explains, only a rough copy of a portion of the projected work, and if one may judge from this portion it is possible that it would have proved less useful than Masters anticipated. The whole list, Masters says, was to have included 3,972 species.

It is probable that one reason why Masters never resumed his *Calcutta Flora* was that about the same time Voigt was engaged in preparing his well-known *Hortus Suburbanus Calcuttensis*, published at Calcutta in 1845. J. O. Voigt, one of the most painstaking botanists who has worked in India, was appointed Surgeon to the Danish Colony of Serampore in 1827, when 29 years of age. Under the influence of the veteran Dr. Carey he gave much of his spare time to botanical study, and in 1834, on Dr. Carey's death, he took charge of Dr. Carey's garden at Serampore, and out of pious regard for Carey's memory set to work almost at once to put into permanent form the results of Carey's botanical and cultural work during the preceding 30 years.

The Serampore Garden, in Carey's and Voigt's day almost as important as the Botanic Garden at Shibpur, worked hand in hand with the latter institution. Thus it was Dr. Carey, and not the Honourable Company, who in 1814 undertook the task of publishing Roxburgh's *Hortus Bengalensis*, in which are catalogued the 3,500 species in cultivation in the Royal Botanic Garden between 1786 and 1814. It is on this invaluable work which, but for the existence of the Serampore Garden, we should never have possessed, that Voigt's larger one was based. Voigt's *Hortus*, however, included the entries in Carey's *Garden Receipt Book*, so that it dealt with all plants that had lived at Serampore, but had succumbed at Shibpur, and all plants introduced at Serampore between 1814 and 1834. It included besides, the catalogue drawn up by Masters to serve as the basis of that writer's abandoned *Calcutta Flora*, showing all the plants introduced into the Shibpur Garden between 1814 and 1836. It included too a list by Dr. Wallich of plants introduced to the Royal Botanic Garden between 1836 and 1840, supplemented by a list made by Voigt himself, while acting in 1842 for Wallich, up to 1843. Voigt's

<sup>1</sup> The paper concludes as follows (*Trans. Agri.-Hort. Soc. India* vii. 85) :—  
 "Here I am obliged suddenly to break off being engaged in more important matters; the whole of my time is taken up with them, and I cannot devote any more to this subject at present.—J. W. Masters. May 3, 1830."

superintendence at Serampore enabled him to include all the species introduced there from 1834 to 1843.

The unfortunate illness and death of Voigt in 1843 prevented the issue of the work by the author. His manuscript, as it stood at the end of 1841, was made over to the Agricultural and Horticultural Society, and the printing of the work at the Society's expense was begun. After 16 pages had been printed, some hitch arose and the printing was suspended. However, after Voigt's death, Griffith, who considered the work very valuable, arranged to see it through the press. Before, however, the Indices were commenced Indian Botany had to lament Griffith's untimely death, and Mack who, in consequence, undertook their preparation also died before they were completed, so that it was 1845 before the work was issued.

The scope of the work is hardly completely indicated by its title, which is:—*Hortus Suburbanus Calcuttensis: A Catalogue of the Plants which have been cultivated in the Hon. East India Company's Botanical Garden, Calcutta, and in the Serampore Botanical Garden, generally known as Dr. Carey's Garden, from the beginning of both establishments (1786 and 1800) to the end of August, 1841: drawn up according to the Fussiaean arrangement, and mostly in conformity with the second edition (1836) of Lindley's Natural System of Botany.*<sup>1</sup>

It contains remarks on each natural order, the names of the plants enumerated, the Bengali names of those indigenous to or commonly cultivated in Lower Bengal, the habit, time of flowering and the flower of each individual species; the habitat, properties and uses of each. The number of natural families dealt with is 278, of genera 1,737, of species 5,515.

Of the great merit of the work it is hardly necessary to speak. Yet the value of the *Hortus Suburbanus* has been found, by those who have had to work with Indian plants elsewhere than in Lower Bengal, to be comparatively small. Hooker and Thomson, for example, have pointed out that the *Hortus* is "not available as a work of reference, nor can we refrain from expressing our regret that talents of so high an order should have been devoted to a work of so little practical use." This is in one sense perfectly true, for Voigt's references are not accompanied by adequate descriptions; and when Roxburgh, in whose *Flora Indica* a large proportion of the species are described, has been cited, the subsequent citation of Voigt is supererogatory. There is, however, a sense in which the verdict just quoted is inapplicable. The work, when

<sup>1</sup> Calcutta: Bishop's College Press, 1845, 1 vol., large 8vo.

employed as Voigt intended it to be, as a guide to the plants in cultivation in gardens in and about Calcutta, is not only the best, but, in the estimation of the native inhabitants of our districts, the only guide that is of the slightest use. This, however, is less because of any virtue in the arrangement or any merit in the scientific matter, than because the native names given are not only selected with much care and critical insight but are given in their original characters.

Perhaps the greatest defect in the work is that it goes too far and deals not only, as its title implies, with the plants cultivated in the two gardens at Calcutta and Serampore but includes, as Masters in his venture proposed, the indigenous plants as well. Its chief use is undoubtedly as a guide to the exotic plants cultivated in the neighbourhood of Calcutta; in this respect it still is, and will long continue to be, invaluable. As a guide to the non-exotic plants of the neighbourhood it is much less useful; indeed, as Hooker and Thomson say, it is not in this respect suitable as a work of reference.

In 1862 an attempt was made to utilise the information regarding the indigenous species enumerated in Voigt by R. Anderson in a *Catalogue of Plants indigenous in the neighbourhood of Calcutta with directions for the examination and preserving of plants*.<sup>1</sup> This compilation consists of a bare list of the plants given by Voigt as natives of Serampore with the names brought more or less up to date, but the list is badly printed and abounds with uncorrected printer's errors. Moreover, it does not give the vernacular names so carefully collected by Voigt, so that it is of no practical use except as a check list. The only valuable part of the pamphlet is the portion dealing with the examination and preservation of specimens which is taken from the introduction to the Colonial Floras published by the authority of Government. The number of natural families given is 86, of genera 327, of species 738.

In the present paper an attempt is made to do more thoroughly what was attempted by Anderson. It has not, however, appeared feasible to define the neighbourhood of Calcutta more rigidly than to consider this as including, to the east of the Hughli, the whole of the 24-Pergunnahs in which Calcutta lies, and on the west of the Hughli, the two districts of Howrah—where we have Shibpur and the Royal Botanical Garden, and Hughli—which includes Serampore. The list therefore enumerates all species hitherto collected within these three districts. But the district of the 24-Pergunnahs includes the Western Sundribuns where we have typical mangrove-swamp forests;

<sup>1</sup> Calcutta : Bishop's College Press : 1862.

at the same time the most westerly sub-division (Goghat) of the Hughli district, lies beyond the Dwarkeswar river and outside the limits of the deltaic alluvium on which Calcutta is built, so that its flora is to a considerable extent that characteristic of drier districts like Bardwan and Birbhum. On either side of the river Hughli therefore we find, within the districts with which we have to deal, types of vegetation that are very distinctive, each including a number of species that are not to be met with in the immediate vicinity of Calcutta. But the actual number of species of each class, as compared with the total number of species in the list, is not very great and it is hardly worth while, for the sake of excluding them, to have recourse to the unnatural step of proposing arbitrary boundary lines for the 'neighbourhood' of Calcutta.

In drawing up the systematic list an enumeration has been made of all the flowering plants hitherto collected in our districts and of all the cryptogams, except the Fungi, of which named specimens are preserved in the Calcutta herbarium. It is, however, certain that, except as regards the Pteridophyta and Bryophyta, these cryptogamic lists are quite incomplete. As regards the Fungi, though the Calcutta material is fairly extensive, it has been so inadequately studied that a list of its named species would serve little useful purpose.

In the case of the Phanerogams all plants that are certainly wild in the districts are included. That a plant is wild in these districts is, however, no indication that it is indigenous. There is a sense in which, except perhaps in the Goghat sub-division of the Hughli district, no species *can* be indigenous in our area; the whole or nearly the whole tract consists of land laid down by the great river Ganges or its distributaries, and therefore all the plants growing on its surface *must* be immigrants from elsewhere. Even, however, if we admit this to be the case, the fact is not altered that a considerable number of species, some of which have certainly been originally deliberately introduced, (*Bryophyllum calycinum*, *Turnera ulmifolia*, *Opuntia Dillenii*, *Passiflora suberosa* are examples), though not even originally natives of India, are now absolutely established as *wild* plants in our area. But besides wild plants, whether native in the sense that they may have spread to these alluvial tracts from the adjacent higher ground of West Bengal or that they may have been brought by ocean currents, by rivers, by winds, or by living creatures other than man, the list includes all the crops cultivated in fields or gardens in the districts; and such trees or shrubs or herbs as are to be found in native gardens, or in village-

shrubberies or by roadsides. Trees or shrubs or herbs that are only to be found in large public gardens or are only to be met with, as a rule, in the gardens of Europeans, are excluded except in the few cases, such as those of *Browallia elata*, *Hymenanthemum tenuifolium*, *Torenia Fournieri*, and *Helianthus argyrophyllus* which habitually, or such as those of *Phlox Drummondii*, *Petunia nyctaginifolia*, and *Alyssum maritimum* which occasionally occur as self-sown plants in garden plots or in waste corners where the soil is good.

The question of showing whether a species is or is not wild, or whether it is or is not native, by the use of distinctive types in the systematic list, therefore appears neither to be practically useful nor to be altogether possible. All that it has appeared advisable to do has been to distinguish by means of an asterisk such species as may be certainly deemed *native* in the sense that (1) they are not cultivated plants; (2) they are thoroughly established plants; (3) they have been either introduced by other than human agency, or, if they have been introduced by man, the introduction has been inadvertent and they have been obviously introduced from some part of South-Eastern Asia. On the other hand, plants that are not distinguished by an asterisk, and among phanerogams these are about as numerous as plants of the preceding class, include species that cannot be certainly deemed native, because (1) they are only to be found in cultivation; (2) they are weeds that only occur associated with *cold-weather* crops, and that do not re-appear unless their seeds are re-sown with these crops; (3) they are plants that, even if now spontaneous, have clearly been originally purposely introduced by man, or, if their original introduction was inadvertent, have as their natural habitat some country other than India, Indo-China or Malaya. With this class are necessarily included such species as have been recorded from our area by previous botanical writers, such as Roxburgh, Wallich, Griffith, and Voigt, but which have not been met with in recent years. The omission of the distinguishing asterisk, it is hardly necessary to remark, does not imply doubt as to the accuracy of the record; when there is a doubt as to this, the fact is mentioned in the text. The probability is that, in most instances, the old records which have not been repeated are records of species which have appeared only as casuals in our area. A considerable number of recent records belong obviously to the same class; these are similarly shown in the subjoined list without an asterisk.

As one of the uses to which it is hoped those who may employ it will put the present list, is the verification of some at least of these

former records the entries of all the species in the *Hortus Suburbanus Calcuttensis* have been cited. At the same time, with a view to assisting those who may employ the list in identifying the various species, references are also given to the writer's work entitled *Bengal Plants* in which will be found definitions of all the natural families and genera, accompanied by a series of keys to the great majority of the genera and species here enumerated. If in any case further reference is required to full specific descriptions or to figures, the necessary information will be found either in Roxburgh's *Flora Indica* to which both the *Hortus Suburbanus* and *Bengal Plants* will guide the student; or in Hooker's *Flora of British India* and Beddome's *Ferns of India and Ceylon*, to which references are made in *Bengal Plants*.

The present list deals with 120 natural families of phanerogams including 670 genera and 1,316 species. Of these 1,316 species about 120 are staple field or garden crops; 260 are plants that for one reason or another have been deliberately introduced, and 21 are species that have been certainly, though inadvertently, introduced by human agency. The remaining species may be considered native in a qualified sense; they include about 700 species fairly widely spread in South-Eastern Asia; 30 that are only to be found in the extreme north-west portion of our area (the Gohat sub-division of Hughli); 85 that are either confined to the Sundribuns or only extend a little way north from the Sundribuns into the Gangetic delta; and about 100 that extend from the northern part of our area into the Sundribuns.

The cryptogamic portion of the list deals with 37 natural families, including 92 genera and 175 species.

## II.—TOPOGRAPHY AND VEGETATION.

The whole of the area included in the three districts around Calcutta is, in appearance and almost in reality, a level plain, though there is, as a matter of fact, a very gentle and gradual rise from the Sundribuns sea-face in the south-east of the 24-Pergunnahs to Gohat in the north-west of Hughli, and about Badanganj—the extreme western portion of the Gohat sub-division—a slight amount of natural undulation in the ground is perceptible. Except this Gohat sub-division, which lies west of the Dwarkeswar river and as already explained belongs really to West Bengal, the rest of the Hughli district and the whole of the Howrah district belong to the rice swamp of Central

Bengal. The same is true of a considerable portion of the 24-Pergunnaks from the river Hughli eastward and southward to a line running roughly from Mud Point north-westward to Basirhát. The large irregularly triangular slice of territory bounded on the west by the Hughli from Saugor light-house to Mud Point and from Mud Point to Basirhát by the arbitrary line just mentioned, on the east by the Raimangal river, and on the south by Bay of Bengal, which completes our area, forms the western portion of the Sundribuns.

The Hughli-Howrah districts, with the exception of the Goghat sub-division west of the Dwarkeswar, and the non-Sundribun portion of the 24-Pergunnaks may be taken together. They form part of Central Bengal and are typically representative of the great alluvial rice-plain of the Gangetic delta. The only natural high ground is along the banks of the main streams, and the only other high lands met with are the more or less artificial patches around villages and towns and the obvious mounds and embankments thrown up around ponds and along canals, or as means of communication by road or rail.

The greater portion of the area is under cultivation, all the low land being under rice-cultivation. Along the banks of the chief waterways where these are under tidal influence, we find a narrow hedge, or scattered patches of species that are characteristic of the Sundribun region, while on the mounds or embankments that have been artificially raised, and in the immediate vicinity of most villages and towns, we find groves and thickets of trees and shrubs, many of them spontaneous only, a large proportion of them more or less economically useful, and a considerable number of them natives of countries other than India.

There is nothing that could possibly be termed genuine forest in the whole of this area, though in the north-eastern corner of Hughli in the Balagarh thana there is a certain amount of jungle including genuine forest trees as apart from the trees more characteristic of village and suburban shrubberies. Along the Damodar river there extends to the west a narrow strip, five or six miles wide, which is heavily flooded during every rainy season and is mostly uncultivated. This tract, which begins two or three miles west of the river bank,—for a narrow band along the western bank of the Damodar is highly cultivated during the cold weather—is under coarse grass and is practically uninhabited. In a few localities, where places formerly inhabited have been abandoned, as for instance, on the site of Satgaon, a little jungle, approaching to a true forest in character and appearance, may be met with.

The Goghat sub-division which, as has been explained, belongs to Western rather than Central Bengal, is as closely cultivated as the main portion of our area. The village-shrubberies are, however, less extensive and the species characteristic of roadsides and such waste places as exist include not a few that are unknown elsewhere in our area; *Cissampelos Pareira*, *Polycarpæa corymbosa*, *Salomonina oblongifolia*, *Ventilago maderaspatana*, *Desmodium heterophyllum*, *Cassia Absus*, *Drosera Burmanni*, *Wendlandia exserta*, *Morinda citrifolia*, *Cyathocline lyrata*, *Gnaphalium pulvinatum*, *Holarrhena antidysenterica*, *Mitrasacme alsinoides*, *Heliotropium ovalifolium*, *Striga lutea*, *Striga euphrasioides*, *Gmelina arborea*, *Moschosma polystachyum*, *Leucas mollissima*, *Commelina attenuata*, *Funcus prismatocarpus*, *Courtoisia cyperoides*, *Fimbristylis argentea*, *Panicum psilopodium*, *Digitaria pedicellaris*, *Tragus racemosus*, *Andropogon brevifolius*, *A. pertusus*, *Iseilema laxum*, *Aristida Adscencionis*, *Polypogon monspeliensis*, *Arundinella Wallichii*, *Eragrostis coarctata*, *Chloris virgata*; also as cultivated species, *Papaver somniferum*, *Guizotia abyssinica* and *Hordeum vulgare* exhaust the list of species that are only known from Goghat.

It has, however, to be remarked that a very considerable number of species which are only certainly known to the writer to occur, within our area, in Goghat west of the Dwarkeswar river have been reported from Serampore by Voigt. We know, however, from various passages in Voigt's *Hortus* that some at least of the plants he records were obtained, not by Voigt but by native collectors sent out by Carey or by himself, and it is, therefore, not improbable that these collectors in their search for additional species at times visited the corresponding country further south. This is rendered still more probable from the fact that Voigt's Serampore list includes not a few plants that have not been obtained even in Goghat and that we know to be strangers to or only casuals in the Gangetic delta.

A very noticeable feature in the list of these western, dry country species from Goghat is the number of species of grasses to be found there that do not grow on the mud of the delta. The vegetation of Goghat is in fact that characteristic of South Behar or Western Bengal, with which it is proposed to deal in a subsequent paper, and is quite different from that of the Delta.

The Western Sundribuns, or the swamp forest region of the 24-Pergunnahs, is covered throughout with a rather low forest for the most part unbroken, though here and there patches covered with tall grasses are interspersed, and towards the sea-face there occur at intervals considerable stretches of muddy shore sparingly wooded

with mangroves and occasionally with patches of salt-worts. At other times the sea-face ends in a line of sand hills with a true dune vegetation.

The plants characteristic of the mangrove belt, or of these sand-dunes do not extend into the central portion of our area; nor to any considerable extent do the species that are characteristic of the interior of the swamp forests. The species that throughout the Sundribun region are characteristic of the banks of creeks and rivers do, however, in a rather marked degree continue along the banks of many nullahs and along those of all the larger streams to the north and west of the Sundribun area. On this account while we have, especially to the west of the Hughli, a considerable number of species that are truly wild in our districts which are really characteristic of the drier western parts of India, we also have, especially to the east of the Hughli, a considerable number of species that are truly wild in our area which are really characteristic of the Sundribuns.

The majority of the Sundribun species, however, are peculiar and are confined to that region, and but for the accident that the district of the 24-Pergunnahs extends to the sea and so includes a portion of the Sundribuns, they would find no place in this list. The following list, corresponding to the similar list for Goghat, includes all the species that are confined to the Sundribun portion of our area: the Sundri itself, *Heritiera minor*, also *Hibiscus tortuosus*, *Brownlowia lanceolata*, *Amoora cucullata*, *Carapa obovata*, *Salacia prinoidea*, *Canavalia lineata*, *Dalbergia spinosa* and *D. torta*, *Desmodium umbellatum*, *Cæsalpinia Nuga*, *Rhizophora mucronata* and *R. conjugata*, *Cerriops Roxburghiana*, *Kandelia Rheedei*, *Bruguiera gymnorrhiza* and *B. parviflora*, *Lumnitzera racemosa*, *Barringtonia racemosa*, *Sonneratia acida*, *Sesuvium Portulacastrum*, *Pluchea indica*, *Launea pinnatifida*, *Ægialitis rotundifolia*, *Ægiceras majus*, *Cerbera Odollam*, *Parsonsia spiralis*, *Finlaysonia obovata*, *Sarcolobus globosus* and *S. carinatus*, *Merremia convolvulacea*, *Ipomœa Pes-capræ*, *Solanum trilobatum*, *Acanthus volubilis*, *Avicennia officinalis*, *Suaeda maritima*, *Arthrocnemum indicum*, *Salicornia brachiata*, *Sapium indicum*, *Nipa fruticans*, *Phœnix paludosa*, *Calamus tenuis*, *Mariscus albescens*, *Elæocharis spiralis*, *Fimbristylis halophila* and *F. subbispicata*, *Scirpus trigueter* and *S. littoralis*, *Oryza coarctata*, *Myriostachya Wightiana*, *Nephradium aridum*. There are also a few species that are only wild in our area because they occur as epiphytes on trees in the Western Sundribun forests, such as *Hoya parasitica*, *Dendrobium anceps* and *D. Pierardi*, *Luisia brachystachys*, *Sarcanthus insectifer*, *Polypodium*

*adnascens* and *Vittaria elongata*. These, however, are in no way distinctive of the Sundribuns; their presence is due to the fact that it is only in the Sundribun part of our area that the forest conditions suitable for their growth are really to be found. A full account of the Sundribun flora will be found in Vol. II of these Records.

The rest of the species included in the list belong to four distinct groups:—(1) Species that are common to the Gangetic delta north of the Sundribuns and to the Sundribuns; (2) Species that are common to the Gangetic delta and Western Bengal, but that do not go into the Sundribuns; (3) Species that are neither to be found in the Sundribun forests nor in Western Bengal or beyond; and (4) a residuum of species that are cultivated or are manifestly introduced plants.

The species of the first group include plants that have either been left behind as the conditions of our districts became altered from their former swamp forest state, or that have, under the influence of the tides which affect the various rivers and creeks, invaded our area from the Sundribuns. They, however, include a few that on the other hand have obviously invaded the Sundribuns from the north; these in some cases at least are common to Western Bengal and to the deltaic area. Taking first the plants of this latter sub-group we find that they include *Naravelia zeylanica*, *Cratæva religiosa*, *Capparis sepiaria*, *Flacourtia sepiaria*, *Tamarix gallica*, *Vitis quadrangularis*, *Vitis trifolia*, *Allophylus Cobbe*, *Odina Wodier*, *Crotalaria Saltiana*, *C. retusa* and *C. verrucosa*, *Derris scandens*, *Flemingia congesta*, *Cæsalpinia Bonducella*, *Cassia Fistula* and *C. Sophera*, *Acacia tomentosa* and *A. concinna*, *Barringtonia acutangula*, *Zehneria umbellata*, *Randia dumetorum*, *Vangueria spinosa*, *Ixora parviflora*, *Wedelia calendulacea*, *Diospyros Embryopteris*, *Hemidesmus indicus*, *Calotropis gigantea*, *Dregea volubilis*, *Cordia Myxa*, *Ipomœa paniculata*, *Ipomœa sepiaria*, *Cuscuta reflexa*, *Hygrophila phlomoides*, *Lippia nodiflora*, *Vitex trifolia* and *V. Negundo*, *Clerodendron Siphonanthus*, *Alternanthera sessilis*, *Aristolochia indica*, *Cassytha filiformis*, *Loranthus Scurrula*, *L. longiflorus* and *L. globosus*, *Viscum monoicum*, *Bridelia stipularis*, *Breynia rhamnoides*, *Croton oblongifolius* and *C. caudatus*, *Mallotus repandus*, *Streblus asper*, *Ficus retusa*, *Saccolabium papillosum*, *Aneilema nudiflorum*, *Pandanus fœtidus*, *Typha elephantina* and *T. angustata*, *Cryptocoryne ciliata*, *Juncellus inundatus*, *Cyperus malaccensis* and *C. exaltatus*, *Fimbristylis ferruginea*, *Scirpus grossus* and *S. articulatus*, *Panicum repens*, *Oryza sativa*, *Saccharum spontaneum*,

*Sporobolus tremulus*, *Phragmites Karka*, *Ceratopteris thalictroides*, *Polypodium quercifolium*, *P. adnascens* and *P. irioides*. The species in this list are exclusively plants that have extended into the Sundribuns and are established in the swamp-forests or at the sea-face. One or two of the species, such as *Cordia Myxa* and *Diospyros Embryopteris* may be plants that were originally deliberately introduced and that have persisted in abandoned clearings; all are, however, truly wild species in the Sundribun region. The species that occur as weeds or cultivated plants in existing Sundribun clearings are here dealt with along with the other species of the Lower Gangeic plain.

The species that extend northward into the Central Bengal rice-plain from the Sundribuns, especially along river banks, are less numerous. They include *Hibiscus tiliaceus*, *Thespesia populnea*, *Aphania Danura*, *Erythrina indica*, *Canavalia turgida*, *Phaseolus adenanthus*, *Vigna luteola*, *Pongamia glabra*, *Derris uliginosa*, *Sonneratia apetala*, *Morinda bracteata*, *Blumea amplexens*, *Sphæranthus africanus*, *Wedelia scandens*, *Azima tetracantha*, *Pentatropis microphylla*, *Tylophora tenuis*, *Stictocardia tiliæfolia*, *Acanthus ilicifolius*, *Premna integrifolia*, *Clerodendron inerme*, *Psilotrichum ferrugineum*, *Agyneia bacciformis*, *Trewia nudiflora*, *Excoecaria Agallocha*, *Ficus Rumphii*, *Crinum asiaticum*, *Alpinia Allughas*, *Flagellaria indica*, *Pandanus fascicularis*, *Ruppia rostellata*, *Pycreus polystachyus*, *Cyperus scariosus*, *Scirpus triqueter* var., *Paspalum distichum*, *Zoysia pungens*, *Acrostichum palustre* and *A. aureum*.

Turning now to the species that are common to Northern Bengal or to Western Bengal, of which the somewhat outlying Gohat sub-division of the Hughli district is an integral portion, or to the drier parts of India further west still, and to the deltaic alluvial portion of our area, but that do not enter the Sundribuns though in many cases they extend eastward to Indo-China and Malaya, we find that we have to deal with a considerable list, though it may be remarked that a remarkable proportion of these are species recorded as occurring near Serampore or Calcutta by Roxburgh, Carey, and Voigt, but not seen from our districts, except from Gohat, and by no means in all cases from that sub-division, since 1845. For this there are two possible explanations. In some cases it is certain that Voigt's "Serampore" plants were brought in by native collectors who probably went sufficiently far west in their journeys to reach the drier, and though still practically level, yet non-alluvial tract just south of Gohat. In other cases the species were collected

at or near Serampore, not impossibly even in Dr. Carey's garden, but were only casuals in our area, accidentally sown with the seeds, or brought in the soil about the roots, of purposely introduced species. This remark applies equally to a very considerable number of species seen by the writer, some indeed of these being species not met with either by Roxburgh or by Voigt. In the list now given all species of the kind are marked with an asterisk. The list is as follows:—

\**Nigella sativa*, *Ranunculus sceleratus*, *Cocculus villosus*, *Tinospora tomentosa* and *T. cordifolia*, *Tiliacora racemosa*, *Stephania hernandifolia*, *Fumaria parviflora*, *Nasturtium palustre* and *N. indicum*, \**Cardamine debilis*, *Cochlearia flava*, \**Capsella Bursa-Pastoris*, *Cleome viscosa*, *Gynandropsis pentaphylla*, *Capparis horrida* and \**C. zeylanica*, *Ionidium suffruticosum*, *Flacourtia sapida*, *Polygala chinensis*, \**Saponaria Vaccaria*, \**Stellaria media*, \**Spergula pentandra*, *Polycarpon Loefflingiæ*, *Portulaca oleracea*, and *P. quadrifida*, *Tamarix dioica*, *Bergia verticillata* and *B. ammannioides*, *Sida veronicæfolia*, *S. acuta*, *S. cordifolia*, *S. rhombifolia* and *S. rhomboidea*, *Urena lobata* and *U. sinuata*, *Abutilon indicum* and *A. hirtum*, *Hibiscus ficulneus*, \**H. tetraphyllus*, *H. vitifolius*, \**H. panduriformis*, \**H. hirtus* and \**H. Abemoschus*, *Bombax malabaricum*, *Helicteres Isora*, *Pentapetes phænicea*, *Melochia corchorifolia*, *Waltheria indica*, \**Grewia asiatica*, \**G. polygama*, *G. lævigata*, \**G. multiflora* and *G. hirsuta*, *Triumfetta rhomboidea*, *Corchorus acutangulus*, \**C. fascicularis*, and \**C. trilocularis*, \**Hiptage Madablota*, *Tribulus cistoides* and *T. terrestris*, *Oxalis corniculata*, *Biophytum sensitivum*, \**Acronychia laurifolia*, *Glycosmis pentaphylla*, *Clausena heptaphylla*, \**Feronia elephantum*, *Ægle Marmelos*, \**Garuga pinnata*, \**Melia Azadirachta*, \**Amoora Rohituka*, *Cedrela Toona*, \**Olex phœnicarpha*, *Zizyphus Enoplia*, \**Gouania leptostachya*, *Vitis latifolia*, *V. adnata*, \**V. lanata*, *V. repanda*, \**V. indica*, *V. pedata* and \**V. elongata*, *Leea macrophylla*, *L. crispa*, *L. robusta*, *L. aequata* and *L. sambucina*, *Cardiospermum Halicacabum*, \**Erioglossum edule*, *Vicia hirsuta*, \**Lathyrus Aphaca*, *Abrus precatorius*, \**Crotalaria quinquefolia*, \**C. laburnifolia*, \**C. medicaginea*, \**C. alata*, \**C. sericea*, *C. mysorensis*, \**C. calycina*, *C. prostrata* and *C. acicularis*, *Cylista scariosa*, *Rhynchosia rufescens*, *R. viscosa*, *R. sericea*, *Atylosia scarabæoides*, *Phaseolus trilobus* and *P. sublobatus*, *Vigna pilosa*, *Teramnus labialis* and *T. debilis*, *Canavalia virosa*, *Mucuna pruriens*, \**Butea frondosa*, *Sesbania aculeata* and *S. uliginosa*, *Tephrosia Hookeriana* and *T. purpurea*,

*\*Dalbergia Sissoo*, *\*D. lanceolaria* and *\*D. latifolia*, *Melilotus indica* and *\*M. alba*, *\*Trigonella corniculata*, *Smithia sensitiva*, *Uraria picta* and *U. lagopoides*, *\*Lourea vesperilionis*, *Desmodium triflorum*, *D. diffusum*, *\*D. pulchellum*, *D. Cephalotes*, *D. polycarpum*, *D. gangeticum* and *D. gyrans*, *Alysicarpus vaginalis*, *A. bupleurifolius* and *A. rugosus*, *Psoralea corylifolia*, *Indigofera linifolia*, *I. trifoliata*, *I. viscosa* and *\*I. trita*, *\*Cassia auriculata*, *C. Tora*, and *\*C. mimosoides*, *\*Bauhinia racemosa*, *\*Cæsalpinia Sappan* and *\*C. sepiaria*, *Mimosa rubricaulis*, *Acacia Suma*, *A. catechuoides*, *\*A. Farnesiana* and *\*A. arabica*, *Kalanchoe laciniata*, *\*Eugenia caryophyllifolia*, *Ammannia rotundifolia*, *A. peploides*, *A. pygmaea*, *A. pentandra*, *A. baccifera*, and *A. multiflora*, *\*Woodfordia floribunda*, *Fussiaea suffruticosa*, *Ludwigia parviflora*, *Trichosanthes cucumerina* and *T. palmata*, *Gymnopetalum cochinchinense*, *Luffa graveolens*, and *L. amara*, *Momordica dioica* and *M. cochinchinensis*, *Cucumis trigonus*, *Cephalandra indica*, *Mukia scabrella*, *Bryonia laciniata*, *Trianthema monogynum*, *Mollugo stricta*, *M. Spergula*, and *M. hirta*, *Hydrocotyle rotundifolia* and *H. asiatica*, *Ænanthe stolonifera* and *Æ. benghalensis*, *Seseli indicum*, *Alangium Lamarckii*, *\*Adina cordifolia*, *Stephegyne parvifolia*, *Dentella repens*, *Oldenlandia crystallina*, *O. diffusa*, *O. corymbosa*, and *O. paniculata*, *\*Randia uliginosa*, *Hyptianthera stricta*, *Pavetta indica*, *\*Coffea bengalensis*, *Ixora undulata*, *Pæderia fœtida*, *\*Knoxia corymbosa*, *Spermacoca hispida*, *\*Centrantherum anthelminticum*, *Vernonia cinerea*, *Elephantopus scaber*, *Adenostemma viscosum*, *Grangea maderaspatana*, *Blumea bifoliata*, *B. Wightiana*, *B. glomerata*, *B. lacera*, *B. laciniata* and *B. membranacea*, *Laggera flava* and *L. aurita*, *Sphæranthus indicus*, *Athroisma laciniatum*, *Gnaphalium luteo-album* and *G. indicum*, *Cæsulia axillaris*, *Emilia sonchifolia*, *Xanthium strumarium*, *Eclipta alba*, *\*Spilanthus Acmella*, *\*Galinsoga parviflora*, *Cotula hemispherica*, *Centipeda orbicularis*, *Onicus arvensis*, *Cretis japonica* and *C. acaulis*, *Sonchus asper*, *\*S. oleraceus* and *\*S. arvensis*, *Launea asplenifolia*, *\*Lobelia trigona*, *Sphenoclea zeylanica*, *Wahlenbergia gracilis*, *Stylidium tenellum*, *\*Androsace saxifragæfolia*, *\*Anagallis arvensis*, *Ardisia humilis*, *Diospyros cordifolia*, *Fasminum pubescens* and *\*F. elongatum*, *\*Carissa spinarum*, *Rauwolfia serpentina*, *\*Alstonia scholaris*, *Vallaris Heynei*, *Ichnocarpus frutescens*, *Cryptolepis Buchananii*, *Oxystelma esculentum*, *Calotropis gigantea*, *Cynanchum Callialata*, *Dæmia extensa*, *\*Sarcostemma brevistigma*, *Gymnema hirsutum*, *Pergularia pallida* and *\*P. minor*, *Tylophora asthmatica*, *Exacum*

*tetragonum* and *E. pedunculatum*, *Erythræa Roxburghii*, *Hoppea dichotoma*, *Canscora diffusa* and *C. decussata*, \**Enicostema littorale*, *Hydrolea zeylanica*, \**Ehretia laevis*, *Heliotropium strigosum* and *H. indicum*, *Coldenia procumbens*, *Cynoglossum lanceolatum*, *Trichodesma indicum* and \**T. zeylanicum*, \**Cuscuta chinensis*, \**C. capitata* and \**C. europæa*, *Evolvulus alsinoides*, \**Hewittia bicolor*, *Merremia vitifolia*, \**Merremia tridentata*, \**M. hastata*, and *M. emarginata*, \**Ipomœa hispida*, *I. Pes-tigridis*, and *I. obscura*, *Calonyction Bona-nox*, \**Rivea hypocrateriformis*, *Argyrea speciosa* and *A. argentea*, *Lettsomia strigosa*, *Solanum verbascifolium*, *S. nigrum*, *S. ferox*, *S. torvum*, *S. indicum* and *S. xanthocarpum*, *Physalis minima*, \**Withania somnifera*, *Celsia coromandeliana*, *Linaria ramosissima*, *Mazus rugosus*, *Lindenbergia urticifolia*, \**Limnophila Roxburghii*, *L. conferta*, *L. diffusa*, *L. heterophylla*, *L. gratissima*, *L. racemosa* and *L. gratioloides*, *Herpestis Monnieria* and \**H. Hamiltoniana*, *Dopatrium junceum*, \**Torenia cordifolia* and \**T. asiatica*, *Vardellia crustacea*, *V. multiflora*, *V. pedunculata*, *V. angustifolia*, and *V. pyxidaria*, *Ilysanthes parviflora*, \**I. hyssopoides* and *I. rotundifolia*, *Bonnaya brachiata*, *B. veronicæfolia*, *B. tenuifolia* and \**B. oppositifolia*, \**Veronica Anagallis* and *V. agrestis*, *Centranthera hispida* and *C. humifusa*, \**Æginetia pedunculata*, *Orobanche indica*, \**Utricularia racemosa* and *U. bifida*, \**Thunbergia grandiflora*, *Nelsonia campestris*, *Ebermaiera glutinosa*, *Cardanthera triflora*, *Hygrophila polysperma*, *H. quadrivalvis* and *H. spinosa*, *Ruellia prostrata*, *Hemigraphis hirta*, *Phayloopsis parviflora*, *Andrographis paniculata*, \**Barleria Prionitis* and *B. cristata*, *Asystasia gangetica*, *Ecbolium Linneanum*, *Justicia Gendarussa*, *J. quinqueangularis* and *J. simplex*, *Adhatoda Vasica*, *Peristrophe bicalyculata*, *Rungia parviflora*, *Dicliptera Roxburghiana*, *Verbena officinalis*, *Callicarpa macrophylla* and *C. longifolia*, *Clerodendron infortunatum*, \**Ocimum adscendens*, *Pogostemon plectranthoides*, *Dysophylla verticillata*, *Anisomeles ovata*, \**Leonurus sibiricus*, *Leucas aspera*, *L. linifolia*, *L. Cephalotes* and *L. procumbens*, \**Leonotis nepetifolia*, *Salvia plebeja*, *Boerhaavia repens*, \**Pisonia aculeata*, *Deeringia celosioides*, *Digera arvensis*, *Amarantus spinosus*, *A. mangostanus*, *A. fasciatus*, *A. viridis*, *A. polygamus* and *A. tenuifolius*, \**Pupalia atropurpurea*, *Ærua lanata* and \**Æ. scandens*, *Achyranthes aspera*, *Chenopodium album*, *Polygonum plebejum*, \**P. lapathifolium*, \**P. tomentosum*, \**P. lanigerum*, *P. barbatum*, *P. orientale*, *P. glabrum*, *P. serrulatum*, *P. Hydropiper*, and *P. flaccidum*, *Rumex maritimus* and *R. dentatus*, \**Piper longum*, *Litsæa sebifera* and *L. polyantha*,

*\*Euphorbia antiquorum*, *\*E. neriiifolia*, *\*E. Nivulia*, *E. dracunculoides*, *E. hypericifolia*, *E. pilulifera*, *E. thynifolia* and *E. microphylla*, *Bridelia tomentosa*, *\*Glochidion multiloculare*, *Flueggea microcarpa*, *Phyllanthus reticulatus*, *\*P. maderaspatensis*, *P. Urinaria*, *P. Niruri*, and *P. simplex*, *Antidesma Ghæsembhilla* and *A. diandrum*, *Chrozophora plicata*, *Gelonium multiflorum* and *\*G. lanceolatum*, *Baliospermum axillare*, *Acalypha indica* and *A. ciliata*, *Tragia involucrata* and *\*T. cannabina*, *Trema orientalis*, *Fleurya interrupta*, *Pouzolzia indica*, *Ficus bengalensis*, *F. religiosa*, *F. infectoria*, *F. hispida* and *F. glomerata*, *Pachystoma senile*, *Eulophia graminea*, *Geodorum dilatatum* and *\*G. purpureum*, *Vanda Roxburghii*, *\*Cleisostoma micranthum*, *Didymoplexis pallens*, *Pogonia plicata*, *P. juliana* and *P. carinata*, *Zeuxina sulcata*, *Habenaria digitata*, *\*H. commelinifolia*, *H. marginata* and *H. viridiflora*, *\*Hedychium coronarium*, *Curcuma aromatica*, *\*C. cæsia*, *C. ferruginea* and *C. rubescens*, *Costus speciosus*, *Curculigo orchoides*, *Crinum defixum* and *C. pratense*, *Dioscorea pentaphylla*, *D. bulbifera*, *D. spinosa*, *D. anguina* and *D. glabra*, *Asparagus racemosus*, *Smilax prolifera* and *\*S. macrophylla*, *Gloriosa superba*, *\*Asphodelus tenuifolius*, *Monochæria hastæfolia* and *M. vaginalis*, *Xyris pauciflora*, *Commelina nudiflora*, *C. salicifolia*, *C. Hasskarlii*, *C. bengalensis*, *C. obliqua* and *C. suffruticosa*, *Aneilema spiratum* and *A. vaginatum*, *\*Cyanotis cristata* and *C. axillaris*, *Calanus viminalis*, *Typhonium trilobatum*, *T. cuspidatum* and *\*T. divaricatum*, *Amorphophallus bulbifer*, *Plesmonium margaritifera*, *Alocasia fornicata*, *Colocasia nymphæifolia*, *Scindapsus officinalis*, *Lasia heterophylla*, *Alisma reniforme* and *A. oligococcum*, *Limnophyton obtusifolium*, *Sagittaria sagittifolia* and *S. guayanensis*, *Butomopsis lanceolata*, *Eriocaulon truncatum*, *E. Sieboldianum*, *E. luzulifolium*, *E. quinqueangulare* and *E. trilobum*, *Scleria biflora* and *S. lithosperma*, *Kyllinga monocephala*, *K. brevifolia* and *K. triceps*, *Pycneus sanguinolentus* and *P. nitens*, *Juncellus pygmaeus*, *Cyperus cuspidatus*, *\*C. castaneus*, *C. flavidus*, *C. difformis*, *C. Haspan*, *C. niveus*, *C. compressus*, *C. aristatus*, *C. Iria*, *C. pilosus*, *C. procerus*, *C. distans*, *C. nutans*, *C. articulatus*, *C. tegetiformis*, *C. corymbosus*, *\*C. tegetum*, *C. rotundus*, *C. tuberosus*, *C. radiatus* and *\*C. platyphyllus*, *Mariscus Dregeanus*, *M. squarrosus*, *M. paniceus*, *M. Sieberianus* and *M. microcephalus*, *Eleocharis plantaginea*, *E. fistulosa*, *E. capitata* and *E. palustris*, *Fimbristylis monostachya*, *F. acuminata*, *F. schœnoides*, *F. squarrosa*, *F. dichotoma*, *F. diphylla*, *F. æstivalis*, *F. tenera*, *F. globulosa*, *F. quinqueangularis*, *F. miliacea* and *F. complanata*, *Echinolytrum*

*dipsaceum*, *Bulbostylis barbata*, *Lipocarpa argentea*, *Fuirena glomerata*, *Scirpus Michelianus*, *S. squarrosus*, *S. supinus*, \**S. Isolepis*, *S. erectus* and *S. mucronatus*, \**Pennisetum setosum*, *Setaria glauca*, *S. intermedia* and *S. verticillata*, \**Isachne miliacea*, *Oplismenus compositus* and *O. Burmanni*, *Axonopus cimicinus*, *Panicum flavidum*, *P. punctatum*, *P. Crus-Galli*, *P. stagninum*, *P. colonum*, *P. prostratum*, *P. javanicum*, *P. setigerum*, *P. distachyum*, *P. Kursii*, *P. myosuroides*, *P. indicum*, *P. trypheron*, *P. humile* and \**P. trigonum*, *Digitaria sanguinalis*, *D. tenuiflora* and *D. puberula*, *Paspalum scrobiculatum*, *Eriochloa polystachya*, *Perotis latifolia*, \**Dimeria ornithopoda*, *Imperata arundinacea*, \**Saccharum arundinaceum*, *Pollinia argentea*, *Manisuris granularis*, *Rottboellia compressa*, *R. protensa* and *R. exaltata*, *Mnrsithea lævis*, *Apluda varia*, \**Ischæmum aristatum*, *I. rugosum*, \**I. semisagittatum*, \**I. conjugatum* and \**I. ciliare*, \**Arthraxon microphyllum*, *Andropogon intermedius*, \**A. halepensis*, \**A. squarrosus*, *A. aciculatus*, \**A. contortus*, *A. caricosus* and *A. annulatus*, \**Pseudanthistiria heteroclita*, \**Anthistiria ciliata* and \**A. gigantea*, *Polytoca barbata*, *Coix Lachryma-Jobi* and \**C. gigantea*, *Sporobolus diander* and *S. tremulus*, *Arundo Donax*, \**Eragrostis aspera*, *E. tenella*, *E. interrupta*, *E. amabilis*, *E. gangetica*, *E. stenophylla*, *E. major*, *E. minor*, *E. tremula*, *E. pilosa* and *E. cynosuroides*, \**Diplachne fusca*, *Leptochloa filiformis* and *L. chinensis*, *Microchloa setacea*, *Cynodon dactylon*, *Chloris barbata*, *Eleusine indica* and *E. ægyptiaca*, \**Davallia multiflora*, *Adiantum lunulatum* and \**A. caudatum*, *Pteris longifolia*, *Neprodium unitum* and *N. molle*, \**Nephrolepis cordifolia*, *Polypodium proliferum*, \**Drymoglossum piloselloides*, *Hemionitis arifolia*, \**Lygodium flexuosum* and *L. japonicum*, *Ophioglossum reticulatum*, *Helminthostachys zeylanica*, *Marsilea quadrifoliata* and *M. minuta*, \**Lycopodium Phlegmaria*, *Selaginella proniflora*, *Fissidens bengalensis*, *Calymperes tenerum*, *Barbula orientalis* and *B. gangetica*, *Splachnobryum indicum*, *Physcomitrium cyathocarpum*, *Cyathodium albonitens*, and possibly *Athalamia pinguis*.

In the foregoing list are included all the species of drier places that occur in Northern or Western Bengal or in parts of India further west than West Bengal even when the species has not yet been collected there. But besides these all the species of rice-fields and marshy places which have an erect habit are also enumerated. There are, however, a number of the submerged or floating aquatic plants so characteristic of our area that also occur in rice-fields, ponds and marshes throughout the regions to the west or north of our districts.

These it seems more satisfactory to enumerate separately; they are therefore given in the following list:—*Nymphæa Lotus*, *N. rubra* and *N. stellata*, *Nelumbium speciosum*, *Hydrocera triflora*, *Æschynomena indica* and *Æ. aspera*, *Neptunia oleracea*, *Aldrovanda vesiculosa*, *Myriophyllum tuberculatum* and *M. indicum*, *Jussiaea repens*, *Trapa bispinosa*, *Enhydra fluctuans*, *Limnanthemum cristatum* and *L. indicum*, *Ipomœa reptans*, *Utricularia stellaris*, *U. flexuosa*, *U. exoleta* and \**U. reticulata*, *Ceratophyllum demersum*, *Hydrilla verticillata*, *Lagarosiphon Roxburghii*, *Vallisneria spiralis*, *Blyxa Roxburghii*, *Hydrocharis cellulosa*, *Ottelia alismoides*, *Pistia Stratiotes*, *Cryptocoryne spiralis*, *Lemna paucicostata*, *L. trisulca*, *L. polyrrhiza* and *L. oligorrhiza*, *Wolffia arrhiza* and *W. microscopica*, *Aponogeton monostachya*, *A. echinatum* and *A. crispum*, *Potamogeton indicus*, *P. crispus* and *P. pectinatus*, *Najas indica*, *N. minor*, *N. foveolata* and *N. graminea*, *Eriocaulon Capillus-naiadis*, *Cyperus Cephalotes*, *Chamæraphis spinescens*, *Panicum Myurus*, *P. interruptum* and *P. proliferum*, *Leersia hexandra*, *Hygrorhiza aristata*, *Coix aquatica*, *Salvinia cucullata*, *Asolla pinnata*, *Isoetes coromandeliana*.

The species that are not to be found to the west of the Gangetic plain are strikingly few in number. Of those that are either plants of dry places or, if they occur in or near ponds or marshes, are erect we find the following:—*Brassica agrestis*, \**Spondias mangifera*, *Rhynchosia bracteata*, \**Erythrina ovalifolia*, *Sesbania paludosa*, *Ammannia salicifolia*, *Blumea amplexans*, *Bothriospermum tenellum*, *Cressa cretica*, *Merremia chryseides*, *Operculina Turpethum*, *Limnophila erecta*, *Lantana indica*, *Lippia geminata*, *Litsea salicifolia*, *Acalypha fallax*, *Pilea microphylla*, *Ficus heterophylla*, *Commelina appendiculata*, *Typhonium Schottii*, \**Alocasia cucullata*, \**Cyperus digitatus*, *Mariscus ferax*, *Scirpus affinis*, \**Saccharum fuscum*, *Pollinia conjugata*. The only floating or submerged aquatic species which do not extend westward from our districts are *Euryale ferox* and *Chamæraphis spinescens*.

In considering the residual species it is most convenient to deal separately with the staple crops grown in the districts; with the species that are systematically planted or that have been purposely introduced for various reasons; and finally with the species that have been accidentally or inadvertently introduced.

The crops cultivated are largely Indian, though a fair proportion are originally of foreign origin. They include *Brassica juncea*, Rai, probably originally Chinese, *Brassica Rapa*, the Turnip, probably originally Central Asiatic; *Brassica Sarson*, the Indian Colza, prob-

ably originally Indian; *Brassica dichotoma*, Indian Rape, probably originally Central Asian; *Brassica oleracea*, the Cabbage, originally Mediterranean; *Eruca sativa*, possibly originally Central Asian; *Lepidium sativum*, originally Mediterranean; *Raphanus sativus*, the Radish, originally Central Asian; *Hibiscus cannabinus*, native; *Hibiscus Sabdariffa*, originally African; *Gossypium herbaceum*, native; *Abroma augusta*, Indo-Chinese; *Corchorus olitorius*, Jute, native; *Corchorus capsularis*, Jute, Chinese; *Linum usitatissimum*, Flax, Mediterranean; *Cicer arietinum*, Chick-pea, Mediterranean; *Vicia sativa*, Tare, Mediterranean; *Lens esculenta*, Lentil, Mediterranean; *Lathyrus sativus*, Vetch, Mediterranean; *Pisum sativum*, Pea, Mediterranean; *Pisum arvense*, Field Pea, Western Asiatic; *Crotalaria juncea*, Sunn, native; *Cajanus indicus*, Pigeon Pea, African; *Phaseolus lunatus*, Lima Bean, S. American; *Phaseolus vulgaris*, French Bean, Mediterranean; *Phaseolus multiflorus*, Scarlet Runner, American; *Phaseolus Mungo*, native; *Phaseolus radiatus*, native; *Vigna Catjang*, Chinese; *Pachyrhizus angulatus*, American; *Dolichos Lablab*, African; *Dolichos biflorus*, native; *Psophocarpus tetragonolobus*, American; *Canavalia ensiformis*, native; *Mucuna utilis*, African; *Mucuna nivea*, native; *Sesbania cannabina*, native; *Arachis hypogæa*, American; *Trigonella Fœnum-græcum*, Mediterranean; *Cyamopsis psoraloides*, African; *Trichosanthes dioica*, native; *Trichosanthes anguina*, native; *Lagenaria vulgaris*, native; *Luffa ægyptiaca*, African; *Luffa acutangula*, native; *Benicasa cerifera*, native; *Momordica Charantia*, native; *M. muricata*, native; *Cucumis Melo*, Mediterranean, *Cucumis sativus*, Mediterranean; *Citrullus vulgaris*, Mediterranean; *Cucurbita Pepo*, Mediterranean; *Cucurbita maxima*, Mediterranean; *Cucurbita moschata*, Mediterranean; *Carum Roxburghianum*, native; *Carum copticum*, native; *Fœniculum vulgare*, Mediterranean; *Peucedanum Sowa*, native; *Coriandum sativum*, Mediterranean; *Daucus Carota*, Mediterranean; *Helianthus tuberosus*, S. American; *Chrysanthemum coronarium*, Chinese; *Lactuca sativa*, Mediterranean; *Carthamus tinctorius*, native; *Lycopersicum esculentum*, American; *Solanum tuberosum*, American; *Solanum Melongena*, native; *Capsicum annum*, American; *Capsicum frutescens*, American; *Nicotiana rustica*, American; *Nicotiana Tabacum*, American; *Sesamum indicum*, Western Asiatic; *Amarantus gangeticus*, native; *Amarantus tristis*, native; *Amarantus Blitum*, native; *Beta vulgaris*, Central Asian; *Spinacea oleracea*, African; *Basella rubra*, native; *Rumex vesicarius*, African; *Piper Chaba*, Malayan; *Piper Betle*, Malayan; *Piper nigrum*, native; *Ricinus communis*, African; *Bœhmeria nivea*, Chinese; *Kæmpferia Galanga*, Malayan; *Kæmpferia*

*rotunda*, Indo-Chinese ; *Curcuma Zedoaria*, native ; *Curcuma longa*, native ; *Curcuma Amada*, native ; *Zingiber Zerumbet*, Indo-Chinese ; *Zingiber Casumunar*, native ; *Zingiber officinale*, native ; *Maranta arundinacea*, American ; *Musa sapientum*, native ; *Sansevieria Roxburghiana*, doubtfully native ; *S. trifasciata*, African ; *Dioscorea fasciculata*, native ; *Dioscorea alata*, native ; *Allium Ascalonicum*, Mediterranean ; *Allium Cepa*, Mediterranean ; *Allium tuberosum*, native ; *Allium Ampeloprasum*, Mediterranean ; *Allium sativum*, Mediterranean ; *Amorphophallus campanulatus*, native ; *Alocasia indica*, native ; *Alocasia macrorrhiza*, Indo-Chinese ; *Colocasia antiquorum*, native ; *Pennisetum typhoideum*, African ; *Setaria italica*, Mediterranean ; *Panicum miliaceum*, native ; *Panicum miliare*, native ; *Panicum maximum*, African ; *Oryza sativa*, native ; *Saccharum Sara*, native ; *Saccharum officinarum*, native ; *Andropogon Schœnanthus*, native ; *Andropogon Nardus*, native ; *Andropogon Sorghum*, native ; *Eleusine Coracana*, native ; *Triticum vulgare*, Central Asiatic ; *Zea Mays*, American.

Of the crops grown in our districts about 50 are almost certainly natives of India itself, but of these four-fifths are crops of the monsoon season, only one-fifth are cold-weather crops. On the other hand, 35 crops or so are natives of Central or Western Asia or of the Mediterranean region ; with hardly an exception these are crops of great antiquity in India and from the situation of their native countries it is almost certain that they were originally brought with them to India by early invaders from the north-west. In this case, with, perhaps, one or two exceptions, the crops are crops of the cold weather only. About 15 of our crops are of African origin and the majority of these are introductions of later date, many of them not going beyond the period of Mussalman invasions. A few of these African crops, however, like *Guizotia abyssinica*, are very interesting because their cultivation is as old as, or older than, that of the crops probably introduced by Aryan invaders, and because their use is practically confined to peoples of Central Indian affinity. Of these African crops two-thirds are monsoon crops. Crops introduced from America, and therefore mostly, if not wholly, introductions that date from the discovery of the New World, are almost as numerous as the African ones. In this case, however, two-thirds of the crops are cold season ones. Some of the American crops like the Potato, and various vegetables, have obviously been introduced by way of Europe. Others, however, like the Tobaccos, the Chillies and Maize would appear to have come by the Eastern route, and perhaps, by way of China and independent of, if not prior to, European intercourse with America. About a dozen crops have clearly come to India

by eastern and north-eastern channels from Malaya, Indo-China or China. Of these, nearly one-half are Chinese and all of these are cold-weather crops, the rest from Indo-China or Malaya are crops of the rainy season.

Of the crops about 70 consist of vegetables of various kinds, half of these being rains' crops and half of them cold-weather ones. Of the remaining 50 crops, 12 are cereals, as many are pulses, 11 are fibre plants, 9 are oil-seed crops, the rest are food accessories, dyes, etc. Of the cereals three-fourths are rains' crops; of the pulses two-thirds are cold-weather crops; the fibre plants are almost all crops of the rainy season.

In considering the species that are not staple crops but that have nevertheless been purposely introduced or planted for various reasons we may most conveniently commence by considering those shrubs and trees that are natives of South-Eastern Asia or Polynesia. A very considerable number of these only occur as planted trees or shrubs—others, however, are frequently self-sown and still others are so thoroughly established that they may be looked on as naturalized in our area. These last in the following list are marked by an asterisk:—\* *Dillenia indica*, *Michelia Champaca*, *Artabotrys odoratissimus*, *Cananga odorata*, *Polyalthia longifolia*, *P. cerasoides* and \* *P. suberosa*, *Calophyllum inophyllum*, *Garcinia Xanthochymus*, *Hibiscus mutabilis*, *Eriodendron anfractuosum*, *Sterculia alata*, *S. colorata* and *S. fætida*, *Kleinhovia Hospita*, *Pterospermum acerifolium*, \* *Averrhoa Carambola* and \* *A. Bilimbi*, \* *Murraya exotica* and *M. Kænigii*, *Citrus decumana* and *C. medica*, *Elæodendron glaucum*, *Zizyphus Fuzuba*, *Sapindus trifoliatus* and *S. Mukorossi*, *Nephelium Longana*, *Mangifera indica*, *Spondias dulcis*, *Moringa pterygosperma*, *Sesbania grandiflora*, *Cassia glauca* and *C. siamea*, \* *Bauhinia acuminata*, *B. tomentosa*, *B. variegata* and \* *B. purpurea*, \* *Saraca indica*, *Cæsalpinia pulcherrima*, *Parkia biglandulosa*, *Albizzia Lebbek*, *A. procera* and *A. lucida*, *Rosa involucrata*, *Terminalia Catappa*, *Quisqualis indica*, *Eugenia malaccensis*, *E. javanica*, *E. Fambos*, *E. æquea*, and *E. Fambolana*, *Lagerstræmia indica* and *L. Flos-Reginæ*, *Panax fruticosum*, \* *Anthocephalus Cadamba*, *Ixora coccinea*, \* *Canthium parvifolium*, \* *Mimusops Elengi*, *Diospyros discolor*, *Fasminum auriculatum*, *Nyctanthes Arbor-tristis*, \* *Carissa Carandas*, *Kopsia fruticosa*, \* *Alstonia macrophylla*, \* *Tabernæmontana coronaria*, *Wrightia coccinea*, *Vallis Pergulana*, *Beaumontia grandiflora*, *Porana paniculata*, *Ipomæa Nil*, *Ipomæa Learii*, *Ipomæa pulchella*, \* *Oroxylum indicum*, \* *Millingtonia hortensis*, \* *Callicarpa cana*, *Tectona*

*grandis*, *Gmelina asiatica*, *Premna esculenta*, *Cinnamomum Tamala*, *Bischofia javanica*, *Phyllanthus Emblica* and *P. distichus*, \* *Putranjiva Roxburghii*, \* *Aleurites moluccana*, \* *Croton Tiglium*, *Codæzum variegatum*, *Mallotus philippinensis*, \* *Morus indica*, *Ariocarpus integrifolia* and *A. Lakoocha*, \* *Ficus comosa*, *Casuarina equisetifolia*, *Corypha umbraculifera*, *C. Talliera* and *C. elata*, *Phoenix sylvestris*, *Cocos nucifera*, *Areca Catechu*, *Bambusa Tulda*, *B. vulgaris*, *B. Balcooa* and \* *B. arundinacea*.

Perhaps the most striking facts in connection with this list are that, although the species as a class belong to plants that one would expect to be readily naturalized in our area, hardly more than 20 per cent. readily reproduce themselves without human assistance; and that in spite of what is so often said to the contrary, over 50 per cent. of these species must have been introduced on purely æsthetic grounds, as there is no obvious economic quality associated with fully one-half of the plants in this list. About 25 per cent. have edible fruits or foliage, other 25 per cent. have useful timbers or are valuable as hedge-plants.

Herbaceous species, natives of South-Eastern Asia that have been deliberately introduced, include the following:—\* *Wissadula rostrata*, *Hibiscus radiatus*, \* *Impatiens Balsamina*, \* *Clitoria Ternatea*, \* *Bryophyllum calycinum*, \* *Plumbago rosea* and \* *P. zeylanica*, \* *Datura fastuosa*, \* *Torenia Fournieri*, *Crossandra undulæfolia*, *Justicia Betonica*, *Rhinacanthus communis*, \* *Peristrophe tinctoria*, \* *Ocimum sanctum*, \* *O. gratissimum* and \* *O. Basilicum*, *Coleus aromaticus* and *C. scutellarioides*, \* *Celosia argentea* and \* *C. cristata*, \* *Globba sessiliflora*, \* *Canna indica*, *Crinum latifolium*, \* *Typhonium Roxburghii*, \* *Selaginella tenera*. The high proportion of species in this list that readily reproduce themselves means very little, because, as regards species of this kind, only those have been admitted into the systematic census which show a tendency to perpetuate themselves in our districts, or which are of economic interest or both.

The number of species purposely introduced from China or Japan is not very great; it includes the following, those that show a tendency to naturalise themselves being again distinguished by an asterisk; in this case it is not necessary to distinguish herbaceous from woody plants:—\* *Hibiscus Manihot* and *H. Rosa-sinensis*, \* *Triphasia Aurantiola*, *Nephelium Litchi*, *Rosa indica*, *Eriobotrya japonica*, *Gardenia florida*, *Ixora stricta*, *Diospyros Kaki*, *Nerium odorum*, \* *Clerodendron fragrans*, *Cinnamomum Camphora*, \* *Sapium sebiferum*, \* *Brousonetia papyrifera*, *Ficus pumila*, *Thuja orientalis*,

*Cycas revoluta*, *Belamcanda chinensis*, *Hemerocallis fulva*, *Bambusa fnana*. Not very many of these Chinese species, which are all very amiliar plants in Indian gardens and shrubberies, tend to reproduce themselves unaided.

As might be expected, the number of perennial species, introduced from Central or Western Asia or the Mediterranean littoral is remarkably small. A considerable number of herbaceous species from these regions are included among the plants sown annually during the cold weather, but very few of them appear as self-sown species and none of them do so regularly. The list is as follows:—*Alyssum maritimum*, very occasionally spontaneous; *Hibiscus syriacus*; *Melia Azedarach*, not common; *Vitis vinifera*, very occasionally planted and practically only as a curiosity; *Parkinsonia aculeata*; *Rosa centifolia*; *Lawsonia alba*, as a hedge but thrives very indifferently; *Silybum Marianum*, practically only in European gardens as an annual; \**Fasminum Sambac*; \**Cannabis sativa*, *Cupressus sempervirens*.

The number of purposely introduced African species is not remarkably large. It includes the following:—*Hibiscus schizopetalus*, *Sesbania ægyptiaca*, *Bauhinia monandra*, \**Tamarindus indica*, *Poinciana regia*, *Colvillea racemosa*, *Punica Granatum*, *Vangueria edulis*, *Roupellia grata*, *Cryptostegia grandiflora*, *Jacquemontia cærulea*, \**Thunbergia alata*, *Ocimum viride*, *Meriandra bengalensis*, \**Euphorbia Tirucalli*, \**Borassus flabellifer*, \**Pennisetum borbonicum* \**Panicum muticum*, \**Panicum flavescens*. The percentage of species in the list that have established themselves as an integral part of the flora of the Gangetic delta is unexpectedly small.

When now we turn to the American species that have been deliberately introduced we find a quite different state of affairs. The list is here sufficiently long to render it advisable to separate the herbaceous species from the trees and shrubs, which are as follows:—\**Anona squamosa* and \**A. reticulata*, \**Bixa Orellana*, \**Malvastrum tricuspidatum* and \**M. spicatum*, \**Guazuma tomentosa*, \**Malpighia coccifera*, *Blighia sapida*, *Swietenia Mahagoni* and *S. macrophylla*, \**Anacardium occidentale*, \**Cassia bicapsularis*, *Cæsalpinia coriaria*, \**Desmanthus virgatus*, \**Leucæna glauca*, \**Pithecolobium dulce*, \**Enterolobium Saman*, \**Psidium Guyava*, \**Carica Papaya*, \**Cereus pterogonus*, \**Opuntia Dillenii*, \**Hamelia patens*, *Achras Sapota*, *Allamanda cathartica*, \**Thevetia nerifolia*, *Plumeria acutifolia*, *Cordia Sebestena*, \**Lantana Camara*, \**Duranta Plumieri*, *Bougainvillea glabra* and *B. spectabilis*, *Antigonon leptopus*, \**Pedilanthus tithymaloides*, \**Fatropa multifida* and \**J. Curcas*, \**Agave Vera Cruz*.

Over 60 per cent. of the species in this list, which is largely composed of plants introduced for economic reasons, have already become so completely naturalised as to form an integral portion of the wild vegetation of our districts. In some cases it will be seen the species have become so familiar to the inhabitants that they have received distinct vernacular names; some of them, indeed, like the *Agave*, one species at least of which was introduced over three hundred years ago, and like *Theretia*, which was introduced a century ago, enjoy in other parts of India, if not in our districts, the distinction and dignity of having had Sanscrit names evolved to designate them!

But if the extent to which woody species that are natives of the New World have acclimatised themselves in Lower Bengal is very striking, still more striking is the extent to which herbaceous species have accommodated themselves to our deltaic conditions. The following list of American plants that are very familiar in the Calcutta neighbourhood shows that out of 50 species, 80 per cent. have become quite naturalised:—\**Talinum patens*, \**Crotalaria Brownei* and \**C. incana*, \**Phaseolus s. mierectus*, \**Cassia alata*, \**Neptunia plena*, \**Turnera ulmifolia*, \**Passiflora suberosa* and \**P. fætida*, \**Eupatorium Ayapana* and \**E. odoratum*, \**Hymenanthemum tenuifolium*, \**Tagetes patula* and \**T. erecta*, \**Zinnia pauciflora*, \**Tithonia tagetiflora*—this species is not self-sown but propagates itself by its rootstocks, \**Helianthus annuus* and \**H. argyrophyllus*, \**Cosmos sulfureus*, \**Vinca rosea*, \**Asclepias Curassavica*, \**Phlox Drummond*;—only occasionally self-sown, \**Merremia umbellata*, \**Ipomœa purpurea* and \**I. tricolor*, \**Quamoclit phænicea* and \**Q. pinnata*, \**Solanum glaucum* and \**S. sisymbriifolium*, \**Physalis peruviana*, \**Petunia nyctaginiiflora*—only occasionally, \**Browallia elata*, \**Martynia diandra*, \**Ruellia tuberosa*, \**Stachytarpheta indica*, \**Hyptis capitata*—only occasionally, \**Salvia coccinea*, \**Mirabilis Jalapa*, \**Gomphrena globosa*, \**Rivina humilis*, \**Euphorbia pulcherrima*, \**E. geniculata*—only occasionally, and \**E. heterophylla*, \**Ananassa sativa*, \**Cipura paludosa*, \**Zephyranthes tubispatha*—occasionally, \**Polianthes tuberosa*, \**Tradescantia discolor*—occasionally, \**Pteris cretica*.

In addition, however, to these intentionally introduced species there are a considerable number of inadvertently introduced plants in our districts. To what extent the species in our districts which are undoubtedly natives of Northern or Western Bengal belong to this category is a matter that hardly repays speculation. Some there certainly are, such as *Andropogon contortus*, *Saponaria Vaccaria*, *Cardamine debilis*, *Lathyrus Aphaca*, *Melilotus alba*, that

not only belong to this class but that only appear in our districts owing to repeated introductions, and could no more survive under the conditions prevalent during the south-west monsoon that could many of the cold-weather crops. But, as already explained, there is one point of view from which every species growing on the deltaic alluvium is an introduced species, and nothing can be learned from an examination of the plants with reference to this question that could not be better learned elsewhere and by other means. When, however, it is a question of the species known to be natives of countries other than India, a brief examination of these repays the trouble. The list includes the following:—*Argemone mexicana*, American; *Senebiera pinnatifida*, Mediterranean; *Malachra capitata*, American; *Crotalaria patula*, Indo-Chinese; *Cassia occidentalis*, American; *Mimosa pudica*, American; *Ageratum conyzoides*, American; *Xanthium spinosum*, Mediterranean; *Lagascea mollis*, American; *Synedrella nodiflora*, American; *Tridax procumbens*, American; *Evolvulus nummularifolius*, American; *Nicotiana plumbaginifolia*, American; *Herpestis chamædroides*, American; *Scoparia dulcis*, American; *Peperomia pellucida*, American; *Euphorbia graminea*, American; *Croton sparsiflorus*, American; *Fatropa gossypifolia*, American; *Typhonium inopinatum*, Indo-Chinese; *Paspalum conjugatum*, American.

Of these species one-tenth are of Mediterranean and one-tenth of Indo-Chinese origin, while four-fifths are originally American; these American species include in *Ageratum conyzoides*, *Tridax procumbens*, *Cassia occidentalis*, *Scoparia dulcis*, *Peperomia pellucida*, some of the very commonest species in the neighbourhood of Calcutta.

There is, however, another very interesting feature in connection with these introduced weeds. Their presence indicates a process that is steadily going on; year by year new species become added to the flora of the neighbourhood of Calcutta. Of the species in the list we know that *Argemone mexicana*, *Ageratum conyzoides*, *Cassia occidentalis*, *Mimosa pudica*, *Tridax procumbens* were already members of the flora in 1795. But we also know that as late as 1814 none of the others were yet introduced and naturalised. By 1845, however, *Scoparia dulcis*, *Senebiera pinnatifida*, *Lagascea mollis*, *Malachra capitata*, *Nicotiana plumbaginifolia* had all become established. By 1885 *Evolvulus nummularius*, *Crotalaria patula*, *Fatropa gossypifolia*, *Peperomia pellucida*, *Paspalum conjugatum*, *Synedrella nodiflora* and *Euphorbia graminea* had become established as members of the Calcutta flora. The period

since 1885 has seen the introduction and thorough establishment of *Xanthium spinosum*, *Typhonium inopinatum*, *Herpestis chamædroides* and *Croton sparsiflorus*.

### III.—SYSTEMATIC CENSUS.

#### PHANEROGAMIA

#### THALAMIFLORÆ.

#### I.—RANUNCULACEÆ.

##### 1. *Naravelia* DC.

\* *Naravelia zeylanica* DC.; H. S. 2; B. P. 193.

v. *Chagal-bati*, *murcha*.

Hedges, thickets; everywhere.

##### 2. *Ranunculus* Linn.

\* *Ranunculus sceleratus* Linn.; H. S. 3; B. P. 193.

Banks of nalas and rivers; general.

##### 3. *Nigella* Linn.

*Nigella sativa* Linn.; H. S. 4; B. P. 194.

v. *Mugréla*, *kaljira*.

A crop; also a weed in fields; native of S. Europe.

#### II.—DILLENiaceÆ.

##### 4. *Dillenia* Linn.

*Dillenia indica* Linn.; B. P. 195. *D. speciosa* H. S. 18.

v. *Chalta*, *chalita*.

Planted generally; native of S. E. Asia.

#### III.—MAGNOLIACEÆ.

##### 5. *Michelia* Linn.

*Michelia Champaca* Linn.; H. S. 12; B. P. 197.

v. *Champá*, *champaka*.

Planted near villages and temples; native of S. E. Asia.

#### IV.—ANONACEÆ.

##### 6. *Artabotrys* R. Br.

*Artabotrys odoratissimus* R. Br.; H. S. 15; B. P. 202.

v. *Kantali-champ*.

Planted in gardens; native of S. E. Asia.

7. *Cananga* Rumph.

- Cananga odorata* H. f. & T.; B. P. 202. *Uvaria odorata* H. S. 14.  
Planted in avenues; native of Malaya.

8. *Polyalthia* Bl.

- Polyalthia longifolia* Bth. & Hk. f.; B. P. 204. *Guatteria longifolia* H. S. 16.  
v. *Debdáru*.  
Planted, roadsides and avenues; native of S. E. Asia.
- Polyalthia cerasoides* Bth. & Hk. f.; B. P. 204. *Guatteria cerasoides* H. S. 16.  
In village-shrubberies, occasionally; native of India.
- Polyalthia suberosa* Bth. & Hk. f.; B. P. 204. *Guatteria suberosa* H. S. 16.  
v. *Bara cháli*.  
In village-shrubberies, frequent; native of India.

9. *Anona* Linn.

- Anona squamosa* Linn.; H. S. 14; B. P. 206.  
v. *Ata*.  
In village-shrubberies, common; also cultivated; native of tropical America.
- Anona reticulata* Linn.; H. S. 14; B. P. 206.  
v. *Nona*.  
In village-shrubberies, self-sown, very common; also cultivated; native of tropical America.

## V.—MENISPERMACEÆ.

10. *Tinospora* Miers.

- \* *Tinospora tomentosa* Miers; B. P. 209. *Cocculus tomentosus* H. S. 331.  
v. *Padma gulanča*.  
Hedges and thickets, general, but rather rare.
- \* *Tinospora cordifolia* Miers; B. P. 209. *Cocculus cordifolius* H. S. 330.  
v. *Gulanča*.  
Hedges and thickets, general and common.

11. *Tiliacora* Colebr.

- \* *Tiliacora racemosa* Colebr. ; B. P. 210. *Cocculus acuminatus* H. S. 331.  
 v. *Tiliacora, bhága lata*.  
 Hedges and shrubberies, general.

12. *Cocculus* DC.

- \* *Cocculus villosus* DC. ; H. S. 331 ; B. P. 210.  
 v. *Huyer*.  
 Waste places, Hughli district, rare.

13. *Stephania* Lour.

- \* *Stephania hernauidifolia* Walp. ; B. P. 208. *Clypea hernauidifolia* H. S. 330.  
 v. *Ákanádi nimukha*.  
 Hedges and thickets, general.

14. *Cissampelos* Linn.

- \* *Cissampelos Pareira* Linn. ; B. P. 208. *C. convolvularia* H. S. 330.  
 v. *Ekleja*.  
 Waste ground, Goghat (Western Hughli district).

## VI.—NYMPHÆACEÆ.

15. *Nymphaea* Linn.

- \* *Nymphaea Lotus* Linn. ; B. P. 213. *N. pubescens* H. S. 8. *N. edulis* H. S. 8.  
 v. *Kambal*.  
 Ponds and ditches, everywhere.
- \* *Nymphaea rubra* Roxb. ; H. S. 8 ; B. P. 213.  
 v. *Rakto kambal*.  
 Ponds and ditches, general.
- \* *Nymphaea stellata* Willd. ; H. S. 9 ; B. P. 213.  
 v. *Nil padma*.  
 Ponds and ditches, general.
- VAR. \* *major* Voigt ; H. S. 9 ; B. P. 213.  
 v. *Bara nil padma*.  
 Ponds and ditches, general.

16. *Euryale* Salisb.\* *Euryale ferox* Salisb.; H. S. 8; B. P. 214.v. *Makána*.

Ponds and jhils, 24-Pergunnahs.

17. *Nelumbium* Juss.\* *Nelumbium speciosum* Willd.; H. S. 9; B. P. 214.v. *Padma*.

Ponds, everywhere.

## VII.—PAPAVERACEÆ.

18. *Papaver* Linn.*Papaver somniferum* Linn.; H. S. 5; B. P. 215.v. *Posto*.

In fields, Goghat (Western Hughli district).

19. *Argemone* Linn.*Argemone mexicana* Linn.; H. S. 6; B. P. 216.v. *Bara shil kanta*.

Waste places, general; native of West Indies.

## VIII.—FUMARIACEÆ.

20. *Fumaria* Linn.\* *Fumaria parviflora* Lamk; H. S. 7; B. P. 217.v. *Ban salpha*.

A weed of cultivated ground in the cold weather, general.

## IX.—CRUCIFERÆ.

21. *Nasturtium* R. Br.\* *Nasturtium palustre* DC.; B. P. 219.

A field weed, 24-Pergunnahs; rare.

\* *Nasturtium indicum* DC.; B. P. 219. *Sinapis divaricata* H.S 72.

A field weed, general.

VAR. \* *benghalense* H. f. & T.; B. P. 219.v. *Bil rai*.

A field weed, everywhere.

22. *Cardamine* Linn.*Cardamine debilis* Don; B. P. 219.

A garden weed about Calcutta in cold weather, rare; native of most temperate countries.

23. *Brassica* Linn.

*Brassica juncea* H. f. & T.; B. P. 220 *Sinapis ramosa* H. S. 71.

v. *Rai sarisha, chanchi, jhuni.*

A field crop of cold season, sometimes also an escape. Indian mustard.

VAR. \* *agrestis*; B. P. 220. *Sinapis patens* H. S. 72.

v. *Bil rai, keel rai.*

Shady places and drier fields; a rains' weed.

*Brassica campestris* Linn. VAR. *Rapa*. *B. Rapa* H. S. 71.

v. *Shalgám.*

Cultivated about Calcutta; the Turnip.

VAR. *Sarson*; B. P. 220.

v. *Swet rai, swet sarisha, depo.*

A field crop of cold season. Indian Colza or Sarson crop.

*Brassica Napus* Linn. VAR. *dichotoma*; B. P. 221. *Sinapis dichotoma* H. S. 71.

v. *Sarisha.*

A field crop of cold season. Indian Rape or Tori crop.

*Brassica oleracea* Linn.; H. S. 70.

v. *Kopi.*

Cultivated especially near Calcutta. The Cabbage. The only variety with a distinctive vernacular name is the Cauliflower, *Phul kopi.*

24. *Eruca* Linn.

*Eruca sativa* Lamk; H. S. 72; B. P. 221.

v. *Swet sarisha.*

A cold-weather crop on a small scale about Hughli.

25. *Cochlearia* Linn.

\* *Cochlearia flava* Ham.; B. P. 222.

Banks of river Hughli, very rare.

26. *Alyssum* Linn.

*Alyssum maritimum* Linn.; B. P. 222. *Koniga maritima* H. S. 68.

In gardens of Europeans in cold weather; occasionally spontaneous on rubbish heaps towards close of rainy season; native of S. Europe.

27. *Capsella* Linn.

*Capsella Bursa-pastoris* Moench ; H. S. 68 ; B. P. 222.

A garden weed of cold weather near Calcutta, very rare ; native of most temperate countries.

28. *Lepidium* Linn.

*Lepidium sativum* Linn. ; H. S. 70 ; B. P. 223.

v. *Halim*.

Occasionally cultivated in Hughli district ; native of the Orient.

29. *Senebiera* DC.

*Senebiera pinnatifida* DC. ; H. S. 69 ; B. P. 223.

A weed of garden ground and waysides ; very plentiful about Port Canning ; native of S. Europe.

30. *Raphanus* Linn.

*Raphanus sativus* Linn. ; H. S. 72 ; B. P. 224.

v. *Mula*.

A cold-weather crop. The Radish.

## X.—CAPPARIDEE.

31. *Cleome* Linn.

\* *Cleome viscosa* Linn. ; B. P. 225. *Polanisia icosandria* H. S. 74.

v. *Hurhuria*.

Waste places, fields ; general.

32. *Gynandropsis* DC.

*Gynandropsis pentaphylla* DC. ; H. S. 73 ; B. P. 225.

v. *Ansarisha, sada hurhuria*.

In gardens, everywhere ; also in waste places naturalised, general ; cosmopolitan in the Tropics.

33. *Capparis* Linn.

\* *Capparis horrida* Linn. f. ; H. S. 74 ; B. P. 226.

v. *Asaria, bagnai*.

Hedges and thickets, mostly west of river Hughli.

*Capparis zeylanica* Linn. ; B. P. 226. *C. brevispina* H. S. 74.

v. *Kalu kera*.

Recorded from Serampore by Voigt ; wants confirmation. The species is in the Midnapore jungles and may occur in the western part of the Hughli district.

- \* *Capparis sepiaria* Linn.; H. S. 75; B. P. 227.

v. *Kanta gur kamaï*.

Hedges and thickets, everywhere; Sundribuns, sea-face.

34. *Cratæva* Linn.

- Cratæva religiosa* Forst.; B. P. 227. *C. Roxburghii* H. S. 74.

v. *Tikta shak*.

Village gardens and shrubberies, planted; native of S. E. Asia.

XI.—VIOLACEÆ.

35. *Ionidium* Vent.

- \* *Ionidium suffruticosum* Ging.; H. S. 77; B. P. 228.

v. *Nunbora*.

Open grassy places, on drier ground, general.

XII.—BIXINEÆ.

36. *Bixa* Linn.

- Bixa Orellana* Linn.; H. S. 85; B. P. 230.

v. *Latkan*.

Cultivated generally, sometimes as if wild near villages; native of tropical America. The Anatto, Arnotto or Rocou.

37. *Flacourtia* Comm

- \* *Flacourtia Ramontchi* L'Herit. VAR. *sapida*; B. P. 231. *F. sapida* H. S. 83.

v. *Bénchi, katai tambat*.

Hughli district.

- \* *Flacourtia sepiaria* Roxb.; H. S. 84; B. P. 231.

v. *Bénchi*.

Everywhere; extends into Northern Sundribuns.

XIII.—POLYGALACEÆ.

38. *Salomonina* Lour.

- \* *Salomonina oblongifolia* DC.; B. P. 233.

Hughli district, Gohat sub-division, scarce.

39. *Polygala* Linn.

- \* *Polygala chinensis* Linn.; B. P. 235. *P. ciliata* H. S. 98.

v. *Meradu*.

Pasture-land and roadsides, general.

## XIV.—CARYOPHYLLACEÆ.

40. *Saponaria* Linn.

*Saponaria Vaccaria* Linn. ; B. P. 237. *Gypsophila Vaccaria* H. S. 175.

v. *Sabuni*.

In fields, a cold-weather weed, Hughli district, occasional ; east of the Hughli, rare and casual.

41. *Stellaria* Linn.

*Stellaria media* Linn. ; H. S. 178 ; B. P. 237.

Occasionally in gardens near Calcutta as a cold-weather weed ; does not persist and probably is always introduced with garden seeds from Europe ; native of Asiatic and northern temperate countries.

42. *Spergula* Linn.

*Spergula pentandra* Linn. ; H. S. 180 ; B. P. 238.

In gardens near Calcutta ; like the preceding species, but never seen except by Roxburgh ; native of Europe.

43. *Polycarpon* Linn.

\* *Polycarpon Loefflingiæ* Bth. & Hk. f. ; B. P. 238. *Hapalosia Loefflingiæ* H. S. 180.

v. *Ghima*.

Fields and waste places, general.

44. *Polycarpæa* Lamk.

\* *Polycarpæa corymbosa* Lamk ; B. P. 239.

Hughli district, Goghat sub-division.

## XV.—PORTULACACEÆ.

45. *Portulaca* Linn.

\* *Portulaca oleracea* Linn. ; H. S. 173 ; B. P. 240.

v. *Bara laniya*.

Waste ground, everywhere.

\* *Portulaca quadrifida* Linn. ; H. S. 173 ; B. P. 240. *P. meridiana* H. S. 173.

v. *Chhota laniya*.

Waste ground, general but never very common.

46. *Talinum* Adans.

*Talinum patens* Willd.; B. P. 240. *T. cuneifolium* H. S. 174, at least in part.

In gardens, very rarely cultivated, but near Calcutta not infrequent as a naturalised weed; native of America. *T. cuneifolium*, a native of Asia and wild in some parts of India, is also occasionally cultivated, but the writer has never seen it occurring spontaneously.

## XVI.—TAMARICACEÆ.

47. *Tamarix* Linn.

\* *Tamarix gallica* Linn.; H. S. 179; B. P. 242.

v. *Jhau*, *bán jháu*, *jaura*.

Banks of rivers and edges of marshes.

\* *Tamarix dioica* Roxb.; H. S. 179; B. P. 242.

v. *Lal jháu*.

Banks of rivers and edges of marshes.

## XVII.—ELATINACEÆ.

48. *Bergia* Linn.

\* *Bergia verticillata* Willd.; H. S. 99; B. P. 243.

v. *Lal keshuriya*.

Rice-fields and river-banks, general but not common.

\* *Bergia ammannioides* Roxb.; H. S. 99; B. P. 243.

v. *Lal keshuriya*.

Rice-fields and river-banks, common and general.

## XVIII.—GUTTIFERÆ.

49. *Calophyllum* Linn.

*Calophyllum inophyllum* Linn.; H. S. 87; B. P. 246.

v. *Káth champa*, *sultana champa*.

Planted occasionally about Calcutta; native of coasts of S. E. Asia.

50. *Garcinia* Linn.

*Garcinia Xanthochymus* Hook. f.; B. P. 247.

v. *Dampel*.

Planted occasionally in native gardens; native of S. E. Asia.

## XIX.—MALVACEÆ.

51. *Malvastrum* A. Gray.

*Malvastrum tricuspidatum* A. Gray ; B. P. 257. *Malva americana*  
H. S. 111.

Hedges and waste places, general ; native of America.

*Malvastrum spicatum* A. Gray ; B. P. 257.

Waste places near Calcutta, occasional ; native of America.

52. *Sida* Linn.

\* *Sida veronicæfolia* Lamk ; B. P. 258. *S. humilis* H. S. 113.

v. *Funka*.

Waste places, everywhere.

\* *Sida cordifolia* Linn. ; H. S. 113 ; B. P. 258.

v. *Beréla, barjala*.

Waste ground, Goghat ; also reported from Serampore by Voigt.

\* *Sida acuta* Burm. ; H. S. 113 ; B. P. 259.

v. *Kuréta*.

Waste places, everywhere.

\* *Sida rhombifolia* Linn. ; H. S. 113 ; B. P. 259.

v. *Lal beréla, lal barjala*.

Fields and waste places, common, everywhere.

\* *Sida rhomboidea* Roxb. ; H. S. 113. *S. rhombifolia* VAR.

*rhomboidea* B. P. 259.

v. *Sweet beréla, sweet barjala*.

Fields and waste places, general but not common.

53. *Abutilon* Gærtn.

\* *Abutilon indicum* G. Don ; H. S. 114 ; B. P. 260. *A. populifolium*

H. S. 114. *A. asiaticum* H. S. 114.

v. *Petari jhampi*.

Waste places, everywhere.

\* *Abutilon hirtum* G. Don ; B. P. 1271. *A. graveolens* H. S. 114.

v. *Jhampi, kangani*.

Waste places, general but not common.

54. *Wissadula* Medik.

*Wissadula rostrata* Planch. ; B. P. 260. *Abutilon periplocifolium*

H. S. 114.

Sometimes cultivated and often spontaneous ; native of Malaya.

55. *Urena* Linn.

- \* *Urena lobata* Linn. ; H. S. 112 ; B. P. 261.

v. *Ban okra*.

Waste places, everywhere.

- \* *Urena sinuata* Linn. ; H. S. 112 ; B. P. 261.

v. *Kunguiya*.

Waste places, western parts, rare.

56. *Malachra* Linn.

- Malachra capitata* Linn. ; H. S. 112 ; B. P. 262.

v. *Ban bhindi*.

Waste places, everywhere ; native of West Indies.

57. *Hibiscus* Medik.

- \* *Hibiscus ficulneus* Linn. ; B. P. 265. *Abelmoschus ficulneus* H. S. 119.

v. *Ban dhéras, jangli bhindi*.

Waste places, Hughli district, rare.

- Hibiscus esculentus* Linn. ; B. P. 265. *Abelmoschus esculentus* H. S. 118.

v. *Bhindi, dhéras*.

In gardens ; cultivated throughout the Tropics.

- Hibiscus Abelmoschus* Linn. ; B. P. 265. *Abelmoschus moschatus* H. S. 119.

v. *Kalkastári, mushak-dhana*.

Near villages, very rare, perhaps only an escape ; native of S. E. Asia.

- Hibiscus Manihot* Linn. ; B. P. 266. *Abelmoschus Manihot* H. S. 120.

In gardens, also naturalised near Calcutta ; native of China.

- Hibiscus tetraphyllus* Roxb. ; B. P. 266. *Abelmoschus tetraphyllus* H. S. 119.

Thickets near Calcutta ; reported by Roxburgh but not met with since ; wild in Concan and Canara.

- Hibiscus hirtus* Linn. ; H. S. 118 ; B. P. 266.

v. *Lal surgumuni*.

Waste places, occasionally ; probably almost always only as an escape ; native of India.

- \* *Hibiscus vitifolius* Linn. ; H. S. 117 ; B. P. 267.

v. *Ban kapás*.

Margins of fields and village-shrubberies, everywhere.

**Hibiscus panduriformis** Burm. ; H. S. 117 ; B. P. 267.  
Serampore ; reported by Voigt, but not met with since ; wild in India.

**Hibiscus radiatus** Willd., H. S. 116 ; B. P. 267.  
In gardens, often ; native of Indo-China and Malaya.

**Hibiscus cannabinus** Linn. ; H. S. 117. B. P. 267.  
v. *Mesta pát, Ambya pát.*  
In fields, cultivated, but very seldom.

**Hibiscus Sabdariffa** Linn. ; H. S. 118 ; B. P. 267.  
v. *Mesta.*  
In gardens, general ; cultivated throughout the Tropics.

**Hibiscus syriacus** Linn. H. S. 117 ; B. P. 268.  
v. *Sada juva.*  
In gardens, everywhere : native of the Orient.

**Hibiscus Rosa-sinensis** Linn. ; H. S. 116 ; B. P. 268.  
v. *Juva.*  
In gardens, everywhere ; native of China.

**Hibiscus schizopetalus** Hook. f.  
In gardens, general ; native of Africa.

**Hibiscus mutabilis** Linn. ; H. S. 118 ; B. P. 268.  
v. *Thalpadma.*  
In gardens, everywhere ; native of Malaya.

\* **Hibiscus tortuosus** Wall. ; B. P. 268.  
Estuary of the Hughli, collected by Wallich.

\* **Hibiscus tiliaceus** Linn. ; B. P. 269. *Paritium tiliaceum* H. S. 120.  
*P. tortuosum* H. S. 120.  
v. *Bola.*  
Sundribuns ; also river banks as far north as Calcutta.

#### 58. *Gossypium* Linn.

**Gossypium herbaceum** Linn. ; H. S. 121 ; B. P. 269.  
v. *Kapás, tula, rui.*  
Cultivated ; native of India.

#### 59. *Thespesia* Corr.

\* **Thespesia populnea** Corr. ; H. S. 120 ; B. P. 270.  
v. *Parás, parás pipal.*  
Sundribuns ; also planted about Calcutta.

60. *Bombax* Linn.

- \**Bombax malabaricum* DC. ; B. P. 271. *Salmalia malabarica*  
H. S. 106.  
v. *Simal*.  
Wild and planted, everywhere.

61. *Eriodendron* L.C.

- Eriodendron anfractuosum* DC. ; B. P. 271. *Gossampinus Rumphii*  
H. S. 105.  
v. *Swet simal*.  
Planted and very occasionally spontaneous, near Calcutta chiefly ;  
native of S. E. Asia.

## XX.—STERCULIACEÆ.

62. *Sterculia* Linn.

- Sterculia alata* Roxb. ; B. P. 274. *Pterygota Roxburghii* H. S. 103.  
v. *Buddha ki narikel*.  
Planted in avenues ; native of Indo-China.
- Sterculia colorata* Roxb. ; B. P. 274. *Erythropsis Roxburghiana*  
H. S. 104.  
v. *Samarri*.  
Planted occasionally near Calcutta ; native of India.
- Sterculia foetida* Linn. ; H. S. 108 ; B. P. 274.  
v. *Jangli badám*.  
Planted, roadsides and near temples ; native of S. E. Asia.

63. *Heritiera* Ait.

- \**Heritiera minor* Roxb. ; H. S. 103 ; B. P. 274.  
v. *Sundri*.  
Sundribuns.

64. *Kleinhovia* Linn.

- Kleinhovia hospita* Linn. ; H. S. 109 ; B. P. 1272.  
v. *Bola*.  
Planted about Calcutta ; native of S. E. Asia.

65. *Helicteres* Linn.

- \**Helicteres Isora* Linn. ; B. P. 275. *Isora corylifolia* H. S. 102.  
v. *Atmora*.  
Hughli district, in the drier parts, not uncommon.

66. *Pterospermum* Schub.

*Pterospermum acerifolium* Willd.; H. S. 107; B. P. 276.

v. *Kanak champa*.

Planted very often on roadsides and in native enclosures; native of S. E. Asia.

67. *Pentapetes* Linn.

\* *Pentapetes phœnicea* Linn.; H. S. 107; B. P. 277.

v. *Kat lata, bandhuli*.

Waste places and wet rice-fields, general.

68. *Melochia* Linn.

\* *Melochia corchorifolia* Linn.; B. P. 277. *Lochenia corchorifolia*  
H. S. 109.

v. *Tiki okra, bil pata*.

Waste places, dry fields and grassy glades, everywhere.

69. *Waltheria* Linn.

\* *Waltheria indica* Linn.; H. S. 110; B. P. 278.

v. *Khar dudhi*.

Waste places, general but scarce.

70. *Abroma* Jacq.

*Abroma augusta* Linn.; H. S. 108; B. P. 278.

v. *Ulat kambal*.

Occasionally cultivated, frequent as an escape; native of Eastern Asia.

71. *Guazuma* Plum.

*Guazuma tomentosa* Kunth; H. S. 108; B. P. 278.

v. *Nipál tunth*.

Planted, but more often self-sown, everywhere, and very plentiful; native of tropical America.

## XXI.—TILIACEÆ.

72. *Brownlowia* Roxb.

\* *Brownlowia lanceolata* Benth.; B. P. 281.

v. *Bola sundri, kedar sundri*.

Sundribuns.

73. *Grewia* Linn.

*Grewia asiatica* Linn.; H. S. 128; B. P. 283.

v. *Phalsa*.

Serampore, according to Voigt, but almost certainly only planted as it occasionally is in native gardens elsewhere ; native of India.

**Grewia polygama** Roxb. ; H. S. 127.

Also stated by Voigt to occur at Serampore, but more certainly only as a planted species ; native of India.

\* **Grewia lævigata** Vahl ; H. S. 127 ; B. P. 283.

v. *Káth bimla*.

Village shrubberies, west of the river Hughli, occasional.

**Grewia multiflora** Juss. ; B. P. 284. *G. sepiaria* H. S. 128.

v. *Pani sara*.

A favourite hedge-plant, sometimes also self-sown ; native of India.

\* **Grewia hirsuta** Vahl ; B. P. 284. *G. trichodes* H. S. 127.

Waste places in Goghat, Western Hughli district ; also at Serampore, according to Voigt.

#### 74. **Triumfetta** Linn.

\* **Triumfetta rhomboidea** Jacq. ; B. P. 285. *T. angulata* H. S. 127.

*T. trilocularis* H. S. 127.

v. *Ban okra*.

Waste places, everywhere.

#### 75. **Corchorus** Linn.

\* **Corchorus acutangulus** Lamk ; H. S. 127 ; B. P. 286.

v. *Tita pát*.

Waste places and dry fields, everywhere.

\* **Corchorus fascicularis** Lamk ; H. S. 126 ; B. P. 286.

v. *Fangli pát, bil nalíta*.

Serampore, according to Voigt ; needs verification.

\* **Corchorus trilocularis** Linn. ; H. S. 126 ; B. P. 286.

Serampore, according to Voigt ; needs verification.

\* **Corchorus olitorius** Linn. ; H. S. 126 ; B. P. 286.

v. *Pát*.

An annual crop in the rains ; native of Bengal. Jute.

**Corchorus capsularis** Linn. ; H. S. 127 ; B. P. 286.

v. *Pát, ghi nalíta pát*.

An annual crop in the rains ; native of China. Jute.

## XXII.—LINACEÆ.

76. *Linum* Linn.

*Linum usitatissimum* Linn. ; H. S. 100 ; B. P. 289.

v. *Masina, tisi*.

A cold-weather crop ; native of the Orient.

## XXIII.—MALPIGHIACEÆ.

77. *Malpighia* Linn.

*Malpighia coccifera* Linn. ; H. S. 170.

Planted as a hedge, but sometimes also as if wild, e.g. near Rajapur (*Kurz*).

78. *Hiptage* Gærtn.

*Hiptage Madablota* Gærtn. ; H. S. 170 ; B. P. 290.

v. *Basanti, mahadeo lata*.

Planted frequently ; recorded by Voigt from Serampore, but almost certainly only as a garden species ; native of S. E. Asia.

## XXIV.—ZYGOPHYLLACEÆ.

79. *Tribulus* Linn.

*Tribulus cistoides* Linn. ; H. S. 184 ; B. P. 292.

Collected once near Calcutta by Edgeworth, most probably only a garden escape ; native of the Tropics.

*Tribulus terrestris* Linn. ; B. P. 292. *T. lanuginosus* H. S. 184.

Serampore, according to Voigt ; needs confirmation.

## XXV.—GERANIACEÆ.

80. *Oxalis* Linn.

\* *Oxalis corniculata* Linn. ; H. S. 191 ; B. P. 294.

v. *Amrúl, chuka-tripati*.

Fields, gardens and waste places, everywhere.

81. *Biophytum* DC.

\* *Biophytum sensitivum* DC. ; H. S. 191 ; B. P. 295.

v. *Ban naranga*.

Fields, gardens and waste places, everywhere.

82. *Averrhoa* Linn.

*Averrhoa Carambola* Linn. ; H. S. 191 ; B. P. 296.

v. *Kamaranga*, *kamarak*.

Near villages, often, cultivated ; occasionally as if wild ; native of Malaya.

*Averrhoa Bilimbi* Linn. ; H. S. 191 ; B. P. 296.

v. *Bilimbi*.

Near villages, everywhere, cultivated ; often as if wild ; native of Malaya.

83. *Impatiens* Linn.

*Impatiens Balsamina* Linn. ; H. S. 189 ; B. P. 296.

v. *Dúpati*.

In gardens, everywhere ; often also as an escape ; native of S. E. Asia.

84. *Hydrocera* Bl.

\* *Hydrocera triflora* W. & A. ; H. S. 189 ; B. P. 297.

v. *Domuti*.

Ditches, 24-Pergunnahs, rare.

## XXVI.—RUTACEÆ.

85. *Acronychia* Forst.

*Acronychia laurifolia* Bl. ; B. P. 300. *Cyminosma pedunculata* H. S. 183.

In scrub jungles near Matla (*Kurz!*) ; probably an escape from cultivation ; native of Indo-China and Malaya.

86. *Glycosmis* Corr.

\* *Glycosmis pentaphylla* Corr. ; H. S. 139 ; B. P. 300.

v. *Ashhoura*.

Thickets and village-shrubberies, everywhere.

87. *Clausena* Burm.

\* *Clausena heptaphylla* W. & A. ; H. S. 141 ; B. P. 301.

v. *Karan phál*.

Village-shrubberies, general, but not plentiful.

88. *Murraya* Linn.

*Murraya exotica* Linn. ; H. S. 139 ; B. P. 302. *M. paniculata* H. S. 140.

v. *Kamini*.

A common hedge; often also in village-shrubberies, but neither the shrubby nor the arboreous form truly wild in our districts; native of S. E. Asia.

**Murraya Koenigii** Spreng.; B. P. 302. *Bergera Koenigii* H. S. 139.  
v. *Barsanga*.

Planted near villages. Curry leaf; native of India and Indo-China.

#### 89. *Triphasia* Lour.

**Triphasia Aurantiola** Lour.; B. P. 303. *T. trifoliata* H. S. 138.  
v. *Chini narangi*.

In gardens, but also not infrequently as if wild in village-shrubberies; native of China.

#### 90. *Feronia* Gærtn.

**Feronia Elephantum** Corr.; H. S. 141; B. P. 305.  
v. *Káth bél*.

In village-shrubberies planted and occasionally self-sown; considered by Voigt wild at Serampore; native of drier parts of India.

#### 91. *Egle* Corr.

\* **Egle Marmelos** Corr.; H. S. 141; B. P. 305.  
v. *Bél, vilva*.

Near villages, everywhere; often planted, but so frequently as if wild that it may almost be considered native generally; is truly native in Western Hughli district (Goghat).

#### 92. *Citrus* Linn.

**Citrus decumana** Linn.; H. S. 141; B. P. 307.  
v. *Batavi-nimbu*.

Cultivated everywhere, but occasionally as if wild in village shrubberies; native of Malaya and Polynesia.

**Citrus medica** Linn.; B. P. 306. VAR. *typica*. *C. medica* H. S. 142.

v. *Beg pura*.

Occasionally cultivated. The Citron; native of Eastern Asia.

VAR. *Limonum*. *C. Limonum* H. S. 142.

v. *Karna-nimbu*.

Cultivated fairly generally. The Lemon; native of India.

VAR. *acida*. *C. Bergamia* H. S. 142.

v. *Pati-nimbu, kaggi-nimbu, gora-nimbu, kamarali-nimbu*.

Cultivated everywhere in many varieties, the two chief forms being the *Pati* or "common, round" and the *Kaggi* or "long, small" and particularly the latter. The Acid Lime; native of S. E. Asia.

### XXVII.—BURSERACEÆ.

#### 93. *Garuga* Roxb.

*Garuga pinnata* Roxb.; H. S. 150; B. P. 311.

v. *Júm, túm kharpat, nil bhádi.*

Planted occasionally and perhaps sometimes self-sown; given by Voigt as occurring at Serampore, but certainly not truly wild; native of India and Indo-China.

### XXVIII.—MELIACEÆ.

#### 94. *Melia* Linn.

*Melia Azedarach* Linn.; H. S. 133; B. P. 313.

v. *Bakarjan, gora nim, maha nem.*

Planted on roadsides and in avenues; native of the Orient and perhaps wild in Upper India.

\* *Melia Azadirachta* Linn.; B. P. 314. *Azadirachta indica* H. S. 133.  
v. *Nim.*

In village-shrubberies, everywhere; so often spontaneous that it may almost be considered native. The Margosa. Voigt is almost certainly correct in considering that the *Nim* is not a *Melia*.

#### 95. *Amoora* Roxb.

*Amoora Rohituka* W. & A.; H. S. 134; B. P. 316.

v. *Tikta-ráj.*

Planted very often; given by Voigt as occurring at Serampore, but certainly not truly wild in our districts; native of India and Indo-China.

\* *Amoora cucullata* Roxb.; H. S. 134; B. P. 316.

v. *Amúr latmi.*

Sundribuns.

#### 96. *Carapa* Aubl.

\* *Carapa obovata* Bl.; B. P. 318. *Xylocarpus Granatum* H. S. 136.

v. *Dhundol, posher, pussur.*

Sundribuns.

There is another species of *Carapa* to which the name *Pussur* more properly belongs; it is also met with in the Sundribuns, but it

is not certain that it occurs in the western or 24-Pergunnahs portion of that region.

97. *Swietenia* Linn.

*Swietenia Mahagoni* Linn. ; H. S. 137 ; B. P. 319.

v. *Mahagni* (the American name).

Planted in avenues.

*Swietenia macrophylla* King ; B. P. 319.

v. *Bara mahagni*.

Largely planted in avenues and on roadsides.

98. *Cedrela* Linn.

*Cedrela Toona* Roxb. ; H. S. 137 ; B. P. 320.

v. *Tán*.

Planted everywhere, and often self-sown near villages ; given by Voigt as occurring at Serampore, but probably not truly wild in our districts ; native of India.

XXIX.—OLACINEÆ.

99. *Olax* Linn.

*Olax phœnicarpa* Roxb. ; H. S. 31.

v. *Moicha*.

Serampore, *Voigt* ; an altogether doubtful plant ; it may be a form of *Olax scandens* which has not, however, been collected within our districts, though it occurs both in the damp forests of the North-Eastern Sundribuns and in the drier parts of Western Bengal and Behar just beyond their borders : the plant ought, therefore, to be carefully looked for.

XXX.—CELASTRINEÆ.

100. *Elæodendron* Jacq.

*Elæodendron glaucum* Pers. ; H. S. 167 ; B. P. 329.

Planted about Calcutta ; native of India.

101. *Salacia* Linn.

\* *Salacia prinoides* DC. ; H. S. 168 ; B. P. 331.

v. *Modhu phál*.

Western Sundribuns.

## XXXI.—RHAMNACEÆ.

102. *Zizyphus* Juss.

*Zizyphus Jujuba* Linn.; H. S. 145; B. P. 333.

v. *Bér, kul gachh.*

Planted, everywhere; native of S. E. Asia.

\* *Zizyphus Cnopia* Mill.; H. S. 145; B. P. 334.

v. *Shiakol.*

Village-shrubberies, everywhere.

103. *Ventilago* Gærtn.

\* *Ventilago maderaspatana* Gærtn.; H. S. 146; B. P. 334.

v. *Ruktu pita.*

Western Hughli district, Goghat.

104. *Gouania* Linn.

\* *Gouania leptostachya* DC.; H. S. 147; B. P. 335.

Serampore, according to Voigt; not met with by others in our districts.

## XXXII.—AMPELIDÆÆ.

105. *Vitis* Linn.

\* *Vitis latifolia* Roxb.; H. S. 29; B. P. 337.

v. *Govila.*

Woods and thickets, everywhere.

\* *Vitis quadrangularis* Wall.; H. S. 27; B. P. 338.

v. *Harjora.*

Woods and thickets, general.

\* *Vitis aduata* Wall.; H. S. 38; B. P. 338.

Village-shrubberies, everywhere.

*Vitis lanata* Roxb.; H. S. 29.

Serampore, according to Voigt; not impossibly, but needs verification; is plentiful in West Bengal.

\* *Vitis repanda* W. & A.; B. P. 338. *V. pallida* H. S. 28. *V. glauca* H. S. 28.

v. *Goáliya lata, gar goáliya.*

Hedges and thickets, Hughli district.

*Vitis indica* Linn.; H. S. 29.

v. *Amclouka.*

Serampore, according to Voigt, needs verification. Probably some other species is intended, *V. indica* being apparently confined to S. India.

*Vitis vinifera* Linn. ; H. S. 29.

v. *Angúr gachh*.

Very occasionally cultivated in our districts.<sup>1</sup>

\* *Vitis trifolia* Linn. ; B. P. 338. *V. carnos*a H. S. 28.

v. *Amal lata, soné kesar*.

Thickets, hedges and forests, everywhere, is very plentiful in the Western Sundribuns.

\* *Vitis pedata* Vahl ; H. S. 28 ; B. P. 339.

v. *Goáli lata*.

Hedges and thickets, general.

*Vitis elongata* Wall. ; H. S. 28.

Serampore, according to Voigt ; not impossibly, but needs verification ; is plentiful in the submontane forests of Sikkim.

#### 106. *Leea* Linn.

\* *Leea macrophylla* Roxb. ; H. S. 29 ; B. P. 341.

v. *Dhól samudra*.

Village-shrubberies, general, but not plentiful.

\* *Leea crispa* Linn. ; H. S. 29 ; B. P. 340.

v. *Ban chaita*.

Village-shrubberies, rare.

\* *Leea robusta* Roxb. ; H. S. 29 ; B. P. 340.

v. *Havamada*.

Village-shrubberies, rare.

\* *Leea æquata* Linn. ; B. P. 340. *L. hirta* H. S. 30.

v. *Kák jhanga*.

Village-shrubberies, not uncommon, general.

\* *Leea sambucina* Willd. ; B. P. 340. *L. Staphylea* H. S. 30.

v. *Kukur jhiwa*.

Village-shrubberies, general.

#### XXXIII.—SAPINDACEÆ.

##### 107. *Cardiospermum* Linn.

\* *Cardiospermum Halicacabum* Linn. ; H. S. 93 ; B. P. 342.

v. *Shibjhul, nayaphutki*.

Hedges, thickets and waste places, everywhere.

108. *Allophylus* Bl.

- \* *Allophylus* Cobbe Linn. VAR. *serrata*; B. P. 343. *Schmiedelia serrata* H. S. 93.  
 v. *Rakhal phul*.  
 Village-shrubberies, general.

109. *Sapindus* Linn.

- Sapindus trifoliatum* Linn.; B. P. 344. *S. emarginatum* H. S. 94.  
 v. *Bor ritha*.  
 Planted near villages; native of India.
- Sapindus Mukorossi* Gærtm.; B. P. 344. *S. detergens* H. S. 94.  
 v. *Ritha*.  
 Planted near villages; native of India.

110. *Erioglossum* Bl.

- Erioglossum edule* Bl.; B. P. 344. *Sapindus rubiginosus* H. S. 94.  
 Village-shrubberies and about tanks, not very general, but usually as if wild; native of S. E. Asia.

111. *Aphania* Bl.

- \* *Aphania Danura* Radlk.; B. P. 345. *Sapindus Danura* H. S. 94.  
 v. *Danúra*.  
 Western Sundribuns; village-shrubberies south of Calcutta and Howrah.

112. *Blighia* Koen.

- Blighia sapida* Koen. *Cupania sapida* H. S. 94.  
 In gardens near Calcutta, occasionally; native of America.

113. *Nephelium* Linn.

- Nephelium Litchi* Camb.; H. S. 95; B. P. 346.  
 v. *Litchi*.  
 Planted generally; native of China. The Lichi.
- Nephelium Longana* Camb.; H. S. 95; B. P. 346.  
 v. *Ashphál*.  
 Planted occasionally; native of Malaya. The Longan.

## XXXIV.—ANACARDIACEÆ.

114. *Mangifera* Linn.

- Mangifera indica* Linn.; H. S. 272; B. P. 352.  
 v. *Ám, ámb*.  
 Planted everywhere; native of Indo-China. The Margo.

**115. Anacardium Linn.****Anacardium occidentale** Linn. ; H. S. 270 ; B. P. 354.v. *Hidgli badám, kaju.*

Planted occasionally ; native of America.

**116. Odina Roxb.**\* **Odina Wodier** Roxb. ; H. S. 275 ; B. P. 354.v. *Fiyal.*

Village-shrubberies, everywhere.

**117. Spondias Linn.****Spondias mangifera** Willd. ; H. S. 143 ; B. P. 356.v. *Amra.*

In village-shrubberies, everywhere ; often planted, still oftener self-sown ; native of S. E. Asia.

**Spondias dulcis** Willd. ; H. S. 144 ; B. P. 356.v. *Bilati amra.*

Occasionally planted ; native of Polynesia.

**XXXV.—MORINGACEÆ.****118. Moringa Lamk.****Moringa pterygosperma** Gærtn. ; H. S. 78 ; B. P. 357.v. *Sajina.*

Planted, everywhere, but often also self-sown near villages ; cultivated throughout the Tropics.

**CALYCIFLORÆ.****XXXVI.—LEGUMINOSÆ.****119. Cicer Linn.****Cicer arietinum** Linn. ; H. S. 226 ; B. P. 366.v. *Channa.*

A cold-weather crop, not much grown in our districts ; native of countries bordering on the Mediterranean. The Chick-Pea.

**120. Vicia Linn.****Vicia sativa** Linn. ; H. S. 226 ; B. P. 366.v. *Ankári.*

A cold-weather crop, rarely met with in our districts ; also in one form, a cold-weather field weed, general ; native of Europe and the Orient. The Tare.

\* *Vicia hirsuta* Linn.; B. P. 367. *Ervum hirsutum* H. S. 226.

v. *Masúr-channa*.

A cold-weather field weed, everywhere; very occasionally also a fodder crop.

#### 21. *Lens* Gren. & Godr.

*Lens esculenta* Moench; B. P. 367. *Ervum Lens* H. S. 226.

v. *Masúr, masuri*.

A cold-weather field crop, mostly in Hughli district; native of Europe. The Lentil.

#### 122. *Lathyrus* Linn.

*Lathyrus Aphaca* Linn.; H. S. 227; B. P. 368.

v. *Fangli mátár, masúr channa*.

A cold-weather field weed, general, also often in grassy places where cattle feed; has no claim to be a native of our districts; native of Europe.

*Lathyrus sativus* Linn.; H. S. 227; B. P. 368.

v. *Kesári, kassúr*.

A cold-weather field crop; native of S. Europe. The Vetch.

#### 123. *Pisum* Linn.

*Pisum sativum* Linn.; H. S. 226; B. P. 369.

v. *Mátár, kabuli mátár*.

In gardens about Calcutta and occasionally as a field crop in the Hughli district; native, probably, of the Orient.

*Pisum arvense* Linn.; B. P. 369. *P. sativum* VAR. *quadratum* H. S. 227.

v. *Mátár, chhoto mátár*.

A field crop of the cold weather, general; native, probably, of Western Asia.

#### 124. *Abrus* Linn.

\* *Abrus precatorius* Linn.; H. S. 228; B. P. 369.

v. *Kúnch, chun-hati*.

Hedges and thickets, general.

#### 125. *Crotalaria* Linn.

*Crotalaria quinquefolia* Linn., H. S. 208; B. P. 373.

Serampore, according to Voigt.; by no means impossible, but needs verification; native of India and Indo-China.

**Crotalaria Brownei** Bert. ; H. S. 207 ; B. P. 373.

In gardens occasionally, and sometimes as an escape in the neighbourhood of Calcutta, introduced from the West Indies.

**Crotalaria incana** Linn. ; H. S. 207 ; B. P. 373.

In gardens occasionally, and frequent as an escape in the neighbourhood of Calcutta ; introduced from the West Indies.

**Crotalaria Saltiana** Andr. ; B. P. 373. *C. striata* H. S. 207.

v. *Ban çan*.

Waysides and waste places, everywhere ; especially common in Sundribuns cleanings. Though now one of our most plentiful weeds this is not mentioned by Roxburgh and is probably an introduction to Bengal of less than 100 years' standing ; now cosmopolitan in the Tropics ; probably originally native of Africa.

**Crotalaria laburnifolia** Linn. ; H. S. 207 ; B. P. 373.

v. *Mûna*.

Serampore, according to Voigt ; not improbably, as it is fairly abundant in East Bengal, but needs verification for our districts ; native of Eastern Asia.

**Crotalaria medicaginea** DC. ; B. P. 373. *C. trifoliastrum* H. S. 207.

Serampore, according to Voigt ; not altogether impossible, as it is plentiful in Chota Nagpur, but needs verification for our districts ; native of the drier parts of India.

**Crotalaria alata** Ham. ; H. S. 205 ; B. P. 373.

Waste places near Calcutta and Howrah, but rare and certainly introduced in our districts ; native of S. E. Asia.

**\* Crotalaria verrucosa** Linn. ; H. S. 206 ; B. P. 373.

v. *Ban çan*.

Waste places and fairly dry fields, everywhere.

**Crotalaria juncea** Linn. ; H. S. 206 ; B. P. 374.

v. *Çan*.

A field crop, everywhere. The Sunn or Indian Hemp ; native of S. E. Asia.

**\* Crotalaria retusa** Linn. ; H. S. 206 ; B. P. 374.

v. *Bhîl jhanjhan*.

Waste places, everywhere.

**Crotalaria sericea** Retz ; H. S. 206 ; B. P. 374.

v. *Pipali jhanjhan*.

Waste places, but only about Calcutta, Howrah, Chinsura and Serampore ; hardly native in our districts ; native of S. E. Asia.

\* *Crotalaria mysorensis* Roth ; B. P. 374.

Drier grassy glades and fields, west of the Hughli only, and not very common.

*Crotalaria nana* Burm. VAR. *patula* B. P. 374.

Dry grassy glades about Shibpur, introduced ; native of Burma.

*Crotalaria calycina* Schrank ; B. P. 375. *C. anthylloides* H. S. 205.

Serampore, according to Voigt ; not at all impossible, but needs verification for our districts ; native of S. E. and E. Asia.

\* *Crotalaria prostrata* Roxb. ; H. S. 207 ; B. P. 375.

v. *Chhota jhanjhan*.

Drier grassy glades and fields, everywhere.

\* *Crotalaria acicularis* Ham. ; B. P. 375.

v. *Chhota jhanjhan*.

Drier grassy glades and fields, general ; often confused with *C. prostrata*.

126. *Flemingia* Roxb.\* *Flemingia congesta* Roxb. ; H. S. 229 ; B. P. 378.

v. *Bara salphan, bhalia*.

Sundribuns, Calcutta, Serampore, according both to Roxburgh and Voigt, but evidently rare ; no example from our districts exists in the Calcutta Herbarium, and the writer has never succeeded in meeting with the plant : it is common in North Bengal.

127. *Cylista* Ait.\* *Cylista scariosa* Ait. ; H. S. 236 ; B. P. 379.

Hedges and thickets, but not very common.

128. *Rhynchosia* Lour.\* *Rhynchosia rufescens* DC. ; B. P. 380.

Waste places, rare.

\* *Rhynchosia viscosa* DC. ; B. P. 380. *Dolichos glutinosus* H. S. 231.

v. *Shim bhatráji*.

Hedges and thickets, general, but not plentiful.

\* *Rhynchosia sericea* Span. ; B. P. 381.

Hedges and thickets, general, but not common.

\* *Rhynchosia bracteata* Benth. ; B. P. 381.

Hedges and thickets, rare.

**129. Atylosia W. & A.**

\* *Atylosia scarabaeoides* Benth.; B. P. 383. *Cantharospermum pauciflorum* H. S. 236.

v. *Banúr kalai*.

Hedges and thickets, everywhere.

**130. Cajanus DC.**

*Cajanus indicus* Spreng.; H. S. 236; B. P. 383.

v. *Arhar*.

A field crop, everywhere. The Pigeon Pea; native possibly of Africa; certainly nowhere wild in India; probably nowhere wild in Asia.

**131. Phaseolus Linn.**

*Phaseolus semierectus* Linn.; H. S. 230; B. P. 386.

In village-shrubberies and waste places, near Calcutta and Howrah only; introduced; native of America.

\* *Phaseolus adenanthus* G. F. Mey.; B. P. 386. *P. rostratus* H. S. 230.

v. *Ban barbati*.

Western Sundribuns, on river banks; banks of the Hughli as far north as Serampore; occasionally in village-shrubberies near the river Hughli.

*Phaseolus lunatus* Linn.; H. S. 250; B. P. 386.

In gardens, cultivated; native of S. America. The Lima Bean.

*Phaseolus vulgaris* Linn.; H. S. 229; B. P. 386.

In gardens, cultivated; native of S. Europe and the Orient. The French Bean.

*Phaseolus multiflorus* Willd.; H. S. 230; B. P. 389.

In gardens of European residents, cultivated; native of America. The Scarlet Runner.

*Phaseolus trilobus* Ait.; H. S. 231; B. P. 387.

v. *Mugáni*.

Fields and waste places, everywhere.

\* *Phaseolus sublobatus* Roxb.; H. S. 230; B. P. 387.

v. *Ghora mung*.

Serampore, according to Voigt.; not impossible, as it is plentiful in Behar and Chota Nagpur, but it needs verification for our districts.

*Phaseolus Mungo* Linn.; B. P. 387.

v. *Tikuri kalai*.

Cultivated, everywhere; native of India.

There is some confusion in the H. S. as regards this plant; the vernacular name *Tikari* is always applied to this plant, which has yellow flowers, whereas Voigt associates the name with *Dolichos pilosus*, which is a *Vigna* with blue flowers: this plant is in fact omitted by Voigt though it is the commonest of the five allied forms cultivated in our districts. The confusion has, however, been shared by the majority of those who have dealt with these pulses.

VAR. *Roxburghii* B. P. 387. *Phaseolus Roxburghii* H. S. 221.

v. *Másh kalai, urid.*

Cultivated, mainly in the Hughli district; native of India.

**Phaseolus radiatus** Linn.; B. P. 387. *P. Mungo* H. S. 230.

v. *Mung, háli mung.*

A field crop, everywhere; native of India.

VAR. *aurea* B. P. 388. *P. aureus* H. S. 231.

v. *Sona mung.*

A field crop, about Calcutta; native of China.

VAR. *grandis* B. P. 388. *P. Mungo* VAR. *melanosperma* H. S. 230.

v. *Krishna mung, kála mung.*

An occasional field crop; native of China.

### 132. *Vigna Savi.*

\* *Vigna pilosa* Bak.; B. P. 389. *Dolichos pilosus* H. S. 232.

v. *Fhikrai, malkonia.*

Hedges and thickets, rare.

\* *Vigna luteola* Benth.; B. P. 389. *Dolichos gangeticus* H. S. 232.

Western Sundribuns on river banks, banks of the Hughli as far north as Uluberia.

*Vigna Catjang* Endl.; B. P. 389. *Dolichos sinensis* VAR. *orthocarpus* H. S. 232.

v. *Barbati.*

Cultivated everywhere; native of China.

VAR. *sinensis* B. P. 389. *Dolichos sinensis* VAR. *eccremocarpus* H. S. 232.

Cultivated generally; native of China.

### 133. *Pachyrhizus Rich.*

**Pachyrhizus angulatus** Rich.; H. S. 234; B. P. 390.

v. *Sankálu.*

Cultivated generally; sometimes as if wild in village-shrubberies; native of America.

134. *Dolichos* Linn.

**Dolichos Lablab** Linn.; B. P. 391. *Lablab cultratum* H. S. 233.

v. *Shím.*

Cultivated everywhere, in many different races; native of Africa.

VAR. **lignosus** B. P. 391. *Lablab vulgare* H. S. 233.

v. *Shím.*

Cultivated everywhere, in several distinct races; native of Africa.

**Dolichos biflorus** Linn.; B. P. 391. *D. uniflorus* H. S. 232.

v. *Kurti kalai.*

Cultivated sparingly in the Hughli district; native of India.

135. *Psophocarpus* Neck.

**Psophocarpus tetragonolobus** DC.; H. S. 234; B. P. 391.

v. *Chari kona shím.*

In native gardens about Calcutta, occasionally; native of Africa.

136. *Teramnus* Sw.

\* **Teramnus labialis** Spreng.; B. P. 393. *Glycine labialis* H. S. 214.

v. *Ban kalai.*

Hedges, thickets and waste places, everywhere.

\* **Teramnus debilis** Prain; B. P. 393. *Glycine debilis* H. S. 214.

v. *Masháni.*

Hedges and thickets, general.

137. *Canavalia* DC.

**Canavalia ensiformis** DC.; B. P. 394. *C. gladiata* H. S. 234.

v. *Makhan sim.*

Cultivated, in several varieties, generally throughout the Tropics; nowhere really wild.

\* **Canavalia virosa** W. & A.; H. S. 235; B. P. 394.

v. *Kath sim, kala sim.*

Hedges and thickets, not common, and not met with in 24-Pergunnahs: if the fruits are not seen this is very easily mistaken for *C. obtusifolia*.

\* **Canavalia lineata** DC.; B. P. 394. *C. obtusifolia* H. S. 235.

Western Sundribuns, sea-face in sandy places, rather rare.

\* **Canavalia obtusifolia** DC.; B. P. 394. *C. turgida* Grah.

Western Sundribuns, on river banks, very common; also plentiful on the banks of the river Hughli as far north as Calcutta. This is the only wild *Canavalia* at all common in our districts; in literature it is

very much confused with *C. lineata*, perhaps from the fact that both are essentially sea-shore plants. In the field it is more often confused with *C. virosa* owing to their great similarity except as regards fruit. The name *C. obtusifolia*, though it belongs to this plant, is not particularly appropriate; it would be much more convenient if it were possible to employ Graham's name *C. turgida* which is most suitable to its pods. For *C. lineata*, on the other hand, the name *C. obtusifolia* would, had its use been permissible, have been quite appropriate.

### 138. *Erythrina* Linn.

\* *Erythrina indica* Lamk ; H. S. 237 ; B. P. 398.

v. *Palita mandar*.

Western Sundribuns, along the sea-face, wild; not met with in the swamp forests; often elsewhere in our districts, but only planted as a support for climbing vegetables or as a native hedge.

*Erythrina ovalifolia* Roxb. ; H. S. 237 ; B. P. 398.

v. *Hari kakra*.

In village-shrubberies, especially to the south of Calcutta and Howrah; probably not wild in our districts; used by the inhabitants as they do the preceding species; native of S. E. Asia and Polynesia.

### 139. *Mucuna* Adans.

\* *Mucuna pruriens* DC. ; B. P. 400. *M. pruritus* H. S. 235.

v. *Alkúshi*.

Hedges, thickets and village-shrubberies, everywhere.

The cowhage; pods covered with intolerably stinging hairs.

*Mucuna utilis* Wall. ; H. S. 235 ; B. P. 400.

v. *Alkúshi, bilati alkúshi, kála khamach*.

In native gardens, often; introduced from Africa; most probably derived originally from *M. pruriens*; but pods only velvety and devoid of stinging hairs.

*Mucuna nivea* DC. ; H. S. 236 ; B. P. 400.

v. *Khamach*.

In native gardens, everywhere; also most probably derived originally from *M. pruriens*, but evolved in India; pods only velvety and devoid of stinging hairs. In this plant the flowers are white, in *M. pruriens* and *M. utilis* they are dark purple.

140. *Butea* Roxb.*Butea frondosa* Roxb.; H. S. 238; P. B. 401.v. *Palás*.

Planted occasionally on roadsides and in avenues; given by Voigt as occurring at Serampore but there almost certainly not wild; native of the drier parts of India and Indo-China.

141. *Clitoria* Linn.*Clitoria Ternatea* Linn.; H. S. 213; B. P. 402.v. *Aparajita*.

In gardens, everywhere, also often self-sown and spontaneous in hedges and thickets; introduced from Malaya.

142. *Sesbania* Pers.*Sesbania ægyptiaca* Pers.; B. P. 403. *S. ægyptiaca* H. S. 216.v. *Fainti*.

Planted, but only occasionally; native of Africa.

VAR. *picta*; B. P. 403. *S. ægyptiaca* VAR. *concolor* H. S. 216.

Planted generally; native of Africa.

VAR. *bicolor* W. & A.; H. S. 216; B. P. 404.

Planted everywhere, and often spontaneous in village-shrubberies; native of Africa.

\* *Sesbania paludosa* Prain; B. P. 404. *Æschynomene paludosa* H. S. 219.

v. *Káth-sola*.

In ditches and marshes, in deep water, during the rainy season everywhere; never cultivated.

*Sesbania cannabina* Pers.; B. P. 404. *S. aculeata* H. S. 216.v. *Dhunchi*.

A regular field crop in the rainy season, everywhere; not known wild; possibly evolved from *S. aculeata*.

\* *Sesbania aculeata* Pers.; B. P. 404. *S. procumbens* H. S. 216.

Edges of wet rice-fields, general. Voigt has confused this species, which is not uncommon in our districts nominally with the commonly cultivated *S. cannabina*, but really with the not very dissimilar *S. procumbens*; which he gives as occurring at Serampore. *S. procumbens* has never, however, been found anywhere except in the Madras and Bombay Presidencies.

\* *Sesbania uliginosa* Sweet; H. S. 216; B. P. 404.

Wet fields, very rare.

Both Roxburgh and Voigt have found this species in our districts; from Roxburgh's figure of the plant it is clearly very different from *S. aculeata*; no one has gathered it since Voigt wrote. Mr. Baker, indeed, unites *S. paludosa* and *S. uliginosa*; the latter is, however, prostrate with stems that measure fewer inches than those of the former, which is erect, do in feet.

**Sesbania grandiflora** Pers.; B. P. 404. *Agati grandiflora* H. S. 216.

v. *Agati, agasthi*.

Planted everywhere, as a support for climbing vegetables; native of Malaya.

#### 143. *Tephrosia* Pers.

\* ***Tephrosia Hookeriana*** W. & A.; B. P. 405. *T. villosa* H. S. 215.  
Waste places and roadsides, rare.

\* ***Tephrosia purpurea*** Pers.; H. S. 215; B. P. 405.  
v. *Sarphonka, ban nil*.  
Waste places and roadsides, general.

#### 144. *Pongamia* Vent.

\* ***Pongamia glabra*** Vent.; H. S. 239; B. P. 407.  
v. *Karanja*.

Western Sundribuns; banks of Hughli as far north as Chinsura.

#### 145. *Derris* Lour.

\* ***Derris scandens*** Benth.; B. P. 408. *Brachypterum scandens*.  
H. S. 240.

v. *Noa lata*.

Woods and thickets, everywhere.

\* ***Derris uliginosa*** Benth.; B. P. 408. *Pongamia uliginosa* H. S. 239.  
v. *Pan lata*.

Western Sundribuns; banks of Hughli as far north as Chinsura.

#### 146. *Dalbergia* Linn. f.

***Dalbergia lanceolaria*** Linn. f.; B. P. 411. *D. frondosa* H. S. 241.  
Planted on roadsides and in avenues occasionally.

***Dalbergia Sissoo*** Roxb.; H. S. 241; B. P. 411.  
v. *Sisoo*.

Roadsides and avenues, and near villages, often planted; given by Voigt as occurring at Serampore, but not wild though sometimes self-sown in our districts; native of submontane (Himalayan) forests.

**Dalbergia latifolia** Roxb. ; H. S. 240 ; B. P. 411.

v. *Swet sál, sít sál.*

Occasionally planted on roadsides and in avenues, not infrequently so near villages ; given by Voigt as occurring at Serampore, but certainly not wild in our districts ; native of India.

\* **Dalbergia spinosa** Roxb. ; H. S. 241 ; B. P. 411.

v. *Amanta.*

Western Sundribuns, very plentiful.

\* **Dalbergia torta** Grah. *D. candenatensis* B. P. 411.

v. *Panchioli.*

Western Sundribuns.

#### 147. **Melilotus** Linn.

\* **Melilotus indica** All. ; B. P. 413. *M. parviflora* H. S. 209.

v. *Ban méthi.*

A field weed in the cold season, everywhere.

\* **Melilotus alba** Lamk ; B. P. 413. *M. leucantha* H. S. 209.

v. *Safed ban méthi, ban piring.*

A field weed in the cold season, general.

#### 148. **Trigonella** Linn.

**Trigonella Fœnum-græcum** Linn. ; H. S. 209 ; B. P. 414.

v. *Méthi, bara méthi.*

In native gardens, occasionally ; native of S. Europe.

**Trigonella corniculata** Linn. ; H. S. 209 ; B. P. 414.

v. *Piring.*

Sometimes cultivated, but usually in our districts only a cold-weather field weed, rare and with no claim to be a native ; native of Europe.

#### 149. **Arachis** Linn.

**Arachis hypogæa** Linn. ; H. S. 243 ; B. P. 415.

v. *At ke kalai, mat kalai, belati mung, chiné badam, mung phuli.*

In fields, but not at all commonly cultivated, and only near Calcutta ; native of America.

#### 150. **Smithia** Ait.

\* **Smithia sensitiva** Ait. ; H. S. 220 ; B. P. 417.

v. *Nala kashina, kalkashonda.*

In waste places, general.

151. *Æschynomene* Linn.

- \* *Æschynomene indica* Linn.; B. P. 418. *A. Roxburghii* H. S. 219.  
v. *Sola*, *bhâth sola*.  
In ditches and marshes, everywhere.
- \* *Æschynomene aspera* Linn.; H. S. 219; B. P. 418.  
v. *Bhâth sola*, *phul sola*.  
In ditches and marshes, general.

152. *Uraria* Desv.

- \* *Uraria picta* Desv.; H. S. 220; B. P. 420.  
v. *Sankar jata*.  
In grassy glades and fields, general.
- \* *Uraria lagopoides* DC.; B. P. 420. *U. lagopodioides* H. S. 220.  
v. *Golak chakûliya*, *gurkiya chakûlia*.  
In grassy open spaces, general.

153. *Lourea* Neck.

*Lourea vespertilionis* Desv., H. S. 220; B. P. 421.

v. *Cham chika*.

Sometimes in gardens; occasionally in waste places in our districts; given by Voigt as occurring at Serampore, but with little, if any, claim to be native in our districts; native of S. E. Asia.

154. *Desmodium* Desv.

- \* *Desmodium triflorum* DC.; H. S. 223; B. P. 424.  
v. *Kudaliya*.  
Grassy open places and roadsides, everywhere.
- \* *Desmodium heterophyllum* DC.; H. S. 223; B. P. 424.  
Goghat, Western Hughli district; also Serampore, according to Voigt.
- \* *Desmodium diffusum* DC.; B. P. 424. *D. elongatum* H. S. 222.  
Grassy open places, very rare in our districts, and only west of the river Hughli.
- Desmodium pulchellum* Benth.; B. P. 424. *Dicerna pulchellum*  
H. S. 223.  
v. *Futa salpani*.  
Given by Voigt as occurring at Serampore; not impossibly, but requires verification; native of S. E. Asia.
- \* *Desmodium umbellatum* DC.; H. S. 221; B. P. 424.  
Western Sundribuns.

- \* **Desmodium Cephalotes** Wall.; H. S. 221; B. P. 424.  
Village-shrubberies and hedges, rare in our districts.
- \* **Desmodium polycarpum** DC.; H. S. 221; B. P. 425.  
Waste places; very rare in our districts.
- \* **Desmodium gangeticum** DC.; H. S. 221; B. P. 425.  
*v. Salpani.*  
Open glades, dry grassy fields and waste places, everywhere.
- \* **Desmodium gyrans** DC.; H. S. 222; B. P. 426.  
*v. Gora chand, ban charal.*  
Grassy glades and waste places, general but nowhere common.  
The Semaphore Plant.

155. **Alysicarpus** Neck.

- \* **Alysicarpus vaginalis** DC.; H. S. 224; B. P. 428.  
*v. Kurila.*  
Drier grassy glades and fields, general.  
VAR. \* **nummularifolia** Bak.; B. P. 428.  
*v. Kurila.*  
Drier grassy glades and fields, everywhere.
- \* **Alysicarpus bupleurifolius** DC.; H. S. 224; B. P. 428.  
Drier grassy glades and fields, general.
- \* **Alysicarpus rugosus** DC.; B. P. 428.  
Drier grassy glades and fields; west of the river Hughli only  
and not common.  
VAR. \* **minor** Prain; B. P. 428.  
Drier grassy glades; very rare in our districts.

156. **Psoralea** Linn.

- \* **Psoralea corylifolia** Linn.; H. S. 211; B. P. 429.  
*v. Barachi, hakuchi.*  
Waste places, sides of fields, roadsides, everywhere.

157. **Cyamopsis** DC.

- Cyamopsis psoraloides** DC.; H. S. 210; B. P. 429.  
Occasionally cultivated in our districts, but not a general crop;  
native of Africa.

158. **Indigofera** Linn.

- \* **Indigofera linifolia** Retz; H. S. 211; B. P. 431.  
*v. Bhángra.*

Drier grassy glades and fields, roadsides and waste places, everywhere.

\* *Indigofera trifoliata* Linn.; B. P. 431.

Waste places, not at all common in our districts, and only west of the river Hughli.

\* *Indigofera viscosa* Lamk; H. S. 211; B. P. 432.

Grassy glades and waste places, west of the river Hughli; rare in our districts.

*Indigofera trita* Linn. f.; H. S. 212; B. P. 432.

Given by Voigt as occurring at Serampore, but almost certainly by mistake; the species occurs in Chota Nagpur but is rare even there; native of the drier parts of India.

#### 159. *Cassia* Linn.

*Cassia Fistula* Linn.; B. P. 437. *Cathartocarpus Fistula* H. S. 247.  
v. *Amaltás, sonálu, bandar lathi gach.*

In village-shrubberies, planted and self-sown; Western Sundribuns, but only in abandoned settlements; given by Voigt as occurring at Serampore, but hardly wild in our districts; native of S. E. Asia.

*Cassia glauca* Lamk; H. S. 249; B. P. 437.

In gardens generally; native of India and Indo-China.

*Cassia occidentalis* Linn.; H. S. 250; B. P. 437.

v. *Kalkashonda.*

In waste places, everywhere; native of America.

\* *Cassia Sophera* Linn.; H. S. 248; B. P. 438.

v. *Kalkashonda.*

In waste places, everywhere.

VAR. \* *purpurea* Voigt; H. S. 248; B. P. 438.

v. *Lal kalkashonda.*

In waste places; very rare.

*Cassia bicapsularis* Linn.; H. S. 248; B. P. 438.

In village-shrubberies and waste places, mostly nearly Calcutta; native of America.

*Cassia auriculata* Linn.; H. S. 250; B. P. 248.

In hedges often, sometimes in village-shrubberies; native of drier parts of India.

\* *Cassia Tora* Linn.; H. S. 250; B. P. 438.

v. *Chakúnda.*

In waste places, everywhere.

**Cassia alata** Linn. ; H. S. 249 ; B. P. 438.

v. *Dád mardán*.

In waste places, occasional ; native of America.

**Cassia siamea** Lamk ; B. P. 438.

In avenues, planted everywhere ; native of Indo-China and Malaya.

\* **Cassia mimosoides** Linn. ; B. P. 439. *C. Wallichiana* H. S. 251.  
*C. angustissima* H. S. 251. *C. Leschenaultiana* H. S. 251. *C. tenella* H. S. 251.

Serampore according to Voigt ; not collected by others.

\* **Cassia Absus** Linn. ; H. S. 251 ; B. P. 438.

Goghat, Western Hughli district.

#### 160. **Bauhinia** Linn.

**Bauhinia acuminata** Linn. ; H. S. 253 ; B. P. 441.

v. *Kanchan*.

Planted in gardens and elsewhere, but often in village-shrubberies and neglected gardens as if wild ; native of S. E. Asia generally.

**Bauhinia racemosa** Lamk ; H. S. 253 ; B. P. 441.

v. *Ban-ráj*.

Given by Voigt as occurring at Serampore, but almost certainly only planted, and very rarely so, anywhere in our districts ; native of the drier parts of S. E. Asia.

**Bauhinia tomentosa** Linn. ; H. S. 253 ; B. P. 441.

A favourite shrub in gardens ; occasionally an escape ; native of India,

**Bauhinia variegata** Linn. ; H. S. 253 ; B. P. 442.

v. *Rakto kamhar*, *swet kanchan*, according to the colour of the flowers, which vary a good deal but are never either entirely red or wholly white: *Swet kanchan* is also termed *kana ráj*.

A favourite tree in gardens ; native of India, the Himalayas, and Indo-China.

**Bauhinia purpurea** Linn. ; H. S. 254 ; B. P. 442. *B. triandra* H. S. 254.

v. *Deva kanchan*, *koiral*.

Often planted, but also very readily self-sown ; native of India and Indo-China.

**Bauhinia monandra** Kurz ; B. P. 442.

Occasionally planted ; native of Madagascar.

161. *Saraca* Linn.

*Saraca indica* Linn.; B. P. 444. *Jonesia Asoca* H. S. 246.

v. *Asóka*.

Planted in gardens and near temples; occasionally self-sown; native of Indo-China.

Somewhat similar in appearance are *Amherstia nobilis* native of Indo-China, and several species of *Brownea*, American, planted by Europeans in gardens and on lawns, but not met with about villages or near temples.

162. *Tamarindus* Linn.

*Tamarindus indica* Linn.; H. S. 247; B. P. 444.

v. *Tintuli, tinturi, imli*.

Planted everywhere about villages and on roadsides; often self-sown; native of Africa.

163. *Parkinsonia* Linn.

*Parkinsonia aculeata* Linn.; H. S. 246; B. P. 446.

v. *Belati kīkar*.

In native gardens and in village-shrubberies as if wild, everywhere.

164. *Poinciana* Linn.

*Poinciana regia* Boj.; H. S. 245; B. P. 446.

Planted on roadsides and in avenues everywhere; introduced from Mauritius.

165. *Colvillea* Boj.

*Colvillea racemosa* Boj.; H. S. 245; B. P. 447.

Planted occasionally in avenues; introduced from Mauritius.

166. *Cæsalpinia* Linn.

\* *Cæsalpinia Bonducella* Flem.; B. P. 449. *Guilandina Bonduc* H. S. 244.

v. *Nata karanj*.

Western Sundribuns; village-shrubberies and hedges generally.

\* *Cæsalpinia Nuga* Ait.; B. P. 449.

v. *Natua shingri lata*.

Western Sundribuns; plentiful.

*Cæsalpinia pulcherrima* Sw.; B. P. 449. *Poinciana pulcherrima* H. S. 245.

v. *Krishna chúra*.

In gardens everywhere, also as if wild in neglected gardens and village-shrubberies; native of S. E. Asia.

**Cæsalpinia Sappan** Linn.; H. S. 244; B. P. 449.

v. *Bakám, patang*.

Planted occasionally in our districts; given by Voigt as occurring at Serampore, but certainly not native; native of S. E. Asia.

**Cæsalpinia coriaria** Willd.; H. S. 245.

v. *Debi-dibi* (from the American name).

Sometimes planted, but not on a large scale, in our districts; native of West Indies.

**Cæsalpinia sepiaria** Roxb.; H. S. 245; B. P. 449.

A favourite hedge-plant near villages, especially west of the river Hughli; now often quite naturalized; native of the drier parts of India and Indo-China.

#### 167. *Parkia* R. Br.

***Parkia biglandulosa*** W. & A.; H. S. 257; B. P. 451.

Planted in avenues; native of S. E. Asia.

#### 168. *Neptunia* Lour.

\* ***Neptunia oleracea*** Lour.; B. P. 454. *Desmanthus natans* H. S. 258.

v. *Pani najak*.

In marshes, general.

***Neptunia plena*** Benth.; B. P. 454. *Desmanthus punctatus* H. S. 259.

v. *Belati pani najak*.

In gardens, occasionally; on foreshores of river Hughli near Calcutta and Howrah, naturalized, rare; native of America.

#### 169. *Desmanthus* Willd.

***Desmanthus virgatus*** Willd.; H. S. 258; B. P. 455.

In waste places about Calcutta, rather uncommon, but quite naturalized; native of America.

#### 170. *Mimosa* Linn.

***Mimosa pudica*** Linn.; H. S. 257; B. P. 456.

v. *Najak*.

Roadsides and waste places, everywhere: looks as if a native, but probably originally introduced from America.

\* ***Mimosa rubricaulis*** Lamk; H. S. 257; B. P. 456.

v. *Kuchi kanta, shiah kanta*.

Goghat, western part of Hughli district; also given by Voigt as occurring at Serampore.

171. *Acacia* Willd.

\* *Acacia Suma* Ham. ; H. S. 260 ; B. P. 458.

v. *Sau kanta, shai kanta*.

Hughli district, in village shrubberies, occasional.

\* *Acacia catechuoides* Wall, B. P. 458. *A Catechu* H. S. 260. *A. Sundra* H. S. 260.

v. *Khayar*.

In village-shrubberies, general.

*Acacia Farnesiana* Willd. ; B. P. 458. *Vachellia Farnesiana* H. S. 264.

v. *Guhiya bábul*.

Planted very generally ; given by Voigt as occurring at Serampore, but certainly not wild in our districts ; native of Western India and the Orient.

\* *Acacia arabica* Willd. ; H. S. 262 ; B. P. 458.

v. *Bábul*.

In fields and about villages, everywhere ; sometimes planted.

\* *Acacia tomentosa* Willd. ; H. S. 262 ; B. P. 458.

v. *Salsain bábul*.

In village-shrubberies, general.

*Acacia concinna* DC. ; B. P. 458. *A. rugata* H. S. 263.

v. *Ban ritha, ritha*.

Given by Voigt as occurring at Serampore ; but probably only planted, which it occasionally is near villages throughout our districts ; native of S. E. Asia.

172. *Albizzia* Duraz.

*Albizzia Lebbek* Benth. ; B. P. 461. *Acacia Sirissa* H. S. 261.

v. *Sirissa*.

In avenues, on roadsides, and near villages ; everywhere planted ; native of Sub-Himalayan forests and of Indo-China.

*Albizzia procera* Benth. ; B. P. 461.

v. *Koroi*.

Planted in avenues, now quite naturalized in village-shrubberies near Calcutta ; native of drier parts of India and Indo-China.

*Albizzia lucida* Benth. ; B. P. 461.

v. *Sil koroi*.

Planted, but also often self-sown in village-shrubberies near Calcutta ; native of lower Himalayan slopes and of moister parts of Indo-China.

173. *Leucæna* Benth.

*Leucæna glauca* Benth.; B. P. 455. *Mimosa glauca* H. S. 262.

Hedges, river banks, thickets and village shrubberies, everywhere; native of America.

In Voigt's time only planted in gardens; now one of the commonest shrubs in the neighbourhood of Calcutta.

174. *Pithecolobium* Mart.

*Pithecolobium dulce* Benth.; B. P. 462. *Inga dulcis* H. S. 257.

v. *Belati ámli, dekhani bábul.*

Planted everywhere, but also self-sown and very plentiful in village-shrubberies; native of America.

In Voigt's time only cultivated; now a very common denizen of village woods, almost as plentiful as *Guazuma tomentosa*: introduced to India by way of the Philippines and Malaya.

175. *Enterolobium* Mart.

*Enterolobium Saman* Prain; B. P. 463.

v. *Belati sirissa.*

Planted in avenues and on roadsides, everywhere; occasionally self-sown; native of America. The Rain Tree.

## XXXVII.—ROSACEÆ.

176. *Rosa* Linn.

*Rosa involucrata* Roxb.; H. S. 194; B. P. 466.

v. *Ban guláb.*

In gardens, not common: not wild apparently within our districts, but plentiful, wild, in marshes in North and East Bengal.

*Rosa centifolia* Linn.; H. S. 194; B. P. 467.

v. *Basaraiya guláb.*

In gardens, general; native of Europe.

*Rosa indica* Linn.; H. S. 194; B. P. 467.

v. *Kanta guláb.*

In gardens, everywhere; native of China.

177. *Eriobotrya* Lindl.

*Eriobotrya japonica* Lindl.; H. S. 198; B. P. 468.

Cultivated, sparingly, in gardens; native of China. The Loquat.

The Peach is also sparingly cultivated but does not produce fruit so freely as the Loquat.

## XXXVIII.—CRASSULACEÆ.

178. *Bryophyllum* Salisb.

*Bryophyllum calycinum* Salisb. ; H. S. 268 ; B. P. 470.

v. *Kop-pata*.

In waste places and thickets, everywhere ; native of Moluccas, first brought to Calcutta in 1799.

179. *Kalanchoë* Adans.

\* *Kalanchoë laciniata* DC. ; H. S. 268 ; B. P. 471.

v. *Hem ságar*.

Hughli district, in waste places, rare.

## XXXIX.—DROSERACEÆ.

180. *Drosera* Linn.

\* *Drosera Burmanni* Vahl ; H. S. 79 ; B. P. 472.

Goghat, Western Hughli district.

181. *Aldrovanda* Linn.

\* *Aldrovanda vesiculosa* Linn. ; H. S. 79 ; B. P. 472.

v. *Malacca jhángi*.

Jhils south of Calcutta, very rare ; has been collected by Roxburgh, T. Thomson, and Kurz.

## XL.—HALORAGEÆ.

182. *Myriophyllum* Linn.

\* *Myriophyllum tuberculatum* Roxb. ; H. S. 35 ; B. P. 474. *M.*

*verticillatum* H. S. 35, not of Linn.

v. *Jhángi*.

In marshes east of the river Hughli, very common ; west of the Hughli, very rare.

\* *Myriophyllum indicum* Willd. ; H. S. 35 ; B. P. 474. *M. tetrandrum* H. S. 35.

v. *Jhángi*.

In marshes and ditches ; everywhere.

## XLI.—RHIZOPHORACEÆ.

183. *Rhizophora* Linn.

\* *Rhizophora mucronata* Lamk ; H. S. 41 ; B. P. 475.

v. *Khamo, bhora*.

Western Sundribuns.

\* *Rhizophora conjugata* Linn. ; H. S. 41 ; B. P. 475.

v. *Khamo, bhora.*

Western Sundribuns.

184. *Ceriops* Arn.

\* *Ceriops Roxburghiana* Arn. ; H. S. 41 ; B. P. 476.

v. *Gorán.*

Western Sundribuns.

185. *Kandelia* W. & A.

\* *Kandelia Rheedei* W. & A. ; H. S. 41 ; B. P. 476.

v. *Gória.*

Western Sundribuns.

186. *Bruguiera* Lamk.

\* *Bruguiera gymnorhiza* Lamk ; B. P. 477. *B. Rheedei* H. S. 41.

v. *Kankra.*

Western Sundribuns.

*Bruguiera parviflora* W. & A. ; H. S. 41.

Sundribuns, according to Roxburgh and Voigt, but needs confirmation ; native of other S. E. Asian shores.

**XLII.—COMBRETACEÆ.**

187. *Terminalia* Linn.

*Terminalia Catappa* Linn. ; H. S. 36 ; B. P. 481.

v. *Deshi badám.*

Planted on roadsides and in avenues ; native of Malaya.

188. *Lumnitzera* Willd.

*Lumnitzera racemosa* Willd. ; H. S. 39 ; B. P. 484.

v. *Kripa.*

Western Sundribuns.

189. *Quisqualis* Linn.

*Quisqualis indica* Linn. ; H. S. 39 ; B. P. 484.

In gardens, everywhere ; native of Malaya.

**XLIII.—MYRTACEÆ.**

190. *Psidium* Linn.

*Psidium Guyava* Linn. ; B. P. 487. *P. pyriferum* H. S. 46. *P.*

*pomiferum* H. S. 46.

v. *Piyár.*

Planted, and semi-spontaneous in village-shrubberies, everywhere; native of America.

### 191. *Eugenia* Linn.

*Eugenia malaccensis* Linn.; H. S. 47; B. P. 490.

v. *Malacca jamrúl*.

In native gardens, frequent; native of Malaya.

*Eugenia javanica* Lamk.; *E. alba* H. S. 48.

v. *Jamrúl*.

In native gardens, frequent; native of Malaya. Voigt by an oversight gives the vernacular name as *Amrúl*, which is in our districts, used only for *Oxalis corniculata*.

*Eugenia Jambos* Linn.; H. S. 47; B. P. 490.

v. *Goláb jámb*.

In native gardens, often; native of India.

*Eugenia aquea* Roxb.; H. S. 47; B. P. 490.

v. *Jambo*.

In gardens, often; native of Malaya.

*Eugenia Jambolana* Lamk.; H. S. 49; B. P. 491.

v. *Kála jámb, jámb*.

Planted generally, occasionally semi-spontaneous; native of India.

VAR. *caryophyllifolia* B. P. 491. *E caryophyllifolia* H. S. 49.

v. *Chhota jámb*.

Given by Voigt as occurring at Serampore, not impossibly, but needs verification; is plentiful to the west of our districts; native of India.

### 192. *Barringtonia* Forst.

\* *Barringtonia racemosa* Bl.; H. S. 51; B. P. 493.

v. *Samundra*.

Western Sundribuns.

\* *Barringtonia acutangula* Gærtn.; H. S. 51; B. P. 493.

v. *Hidjal*.

Near river banks, general.

## XLIV.—LYTHRACEÆ.

### 193. *Ammannia* Linn.

\* *Ammannia rotundifolia* Ham.; B. P. 500. *Ameletia rotundifolia* H. S. 130.

Edges of wet rice-fields, sides of ditches; very rare.

- \* *Ammannia peploides* Spreng.; B. P. 500. *Ameletia indica* H. S. 130.  
Edges of wet rice-fields, sides of ditches; frequent.
- \* *Ammannia pygmæa* Kurz; B. P. 500.  
Damp paths and open waste places, general.
- \* *Ammannia pentandra* Roxb.; B. P. 500. *Rotala Roxburghiana*. H. S. 129.  
A weed of wet places; general.  
VAR. \* *fimbriata* Wight; B. P. 500.  
A weed of wet places; general.
- \* *Ammannia baccifera* Linn.; B. P. 500. *A. vesicatoria* H. S. 130.  
*A. indica* H. S. 130.  
v. *Dád mári*.  
A weed of wet places; everywhere.
- \* *Ammannia salicifolia* Monti; B. P. 501.  
v. *Dád mári*.  
A weed of wet places; 24-Pergunnahs only.
- \* *Ammannia multiflora* Roxb.; H. S. 130; B. P. 501.  
A weed of wet places, general.

194. *Woodfordia* Salisb.

- Woodfordia floribunda* Salisb.; B. P. 502. *Grislea tomentosa* H. S. 131.  
v. *Dhai phul, dhás, dhani*.  
Given by Voigt as occurring at Serampore, but there certainly only planted; it may occur in the extreme west of Hughli district; native of S. E. Asia.

195. *Lawsonia* Linn.

- Lawsonia alba* Lamk; H. S. 131; B. P. 502.  
v. *Mehndi*.  
Planted in hedges, chiefly in Hughli district; native of the Orient. The Henna.

196. *Lagerstrœmia* Linn.

- Lagerstrœmia indica* Linn.; H. S. 131; B. P. 504.  
v. *Telinga china*.  
In gardens everywhere, in hedges or on lawns; native of S. E. Asia.
- Lagerstrœmia Flos-Reginæ* Re'z; B. P. 504. *L. Reginæ* H. S. 131.  
v. *Jarúl*.  
Planted on roadsides and in avenues; native of Indo-China and India.

197. *Sonneratia* Linn. f.

\* *Sonneratia apetala* Ham. ; H. S. 50 ; B. P. 505.

v. *Keóra*.

Western Sundribuns and banks of river and creeks as far north as Uluberia and the Salt-lakes of Calcutta.

\* *Sonneratia acida* Linn. f. ; H. S. 50 ; B. P. 505.

v. *Óra*.

Western Sundribuns.

198. *Punica* Linn.

*Punica Granatum* Linn. ; H. S. 50 ; B. P. 505.

v. *Dalim*.

Occasionally in native gardens about Calcutta ; native of Africa. The Pomegranate.

## XLV.—ONAGRACEÆ.

199. *Jussiaea* Linn.

\* *Jussiaea repens* Linn. ; H. S. 33 ; B. P. 507.

v. *Kesara-dám*.

Floating on ponds or ditches, or creeping on their muddy margins ; everywhere.

\* *Jussiaea suffruticosa* Linn. ; B. P. 507. *J. villosa* H. S. 33.

v. *Lál banlanga*.

A weed of moist places ; general.

200. *Ludwigia* Linn.

\* *Ludwigia parviflora* Roxb. ; H. S. 34 ; B. P. 507.

v. *Banlanga*.

A weed of wet rice-fields, Hughli district.

201. *Trapa* Linn.

\* *Trapa bispinosa* Roxb. ; H. S. 35 ; B. P. 508.

v. *Singhára, pani phál*.

Floating on ponds, everywhere. The Water Chestnut.

## XLVI.—TURNERACEÆ.

202. *Turnera* Linn.

\* *Turnera ulmifolia* Linn. ; B. P. 511. *T. ulmifolia* VAR. *angustifolia* H. S. 85.

In waste places, everywhere; originally an escape from gardens, but now thoroughly established throughout our districts; native of America.

Voigt gives *T. trioniflora* as similarly domesticated about Serampore, but though there are parts of India, *e.g.* Tenasserim, where this species also is quite naturalized, the writer has never met with it in a wild state in our districts.

#### XLVII.—PASSIFLORACEÆ.

##### 203. *Passiflora* Linn.

*Passiflora suberosa* Linn.; H. S. 85; B. P. 512.

In hedges and thickets throughout our districts; thoroughly naturalized everywhere; native of America.

*Passiflora foetida* Linn.; H. S. 81; B. P. 512.

In hedges and thickets about Shibpur, Serampore, Chandernagore, Hughli; apparently quite naturalized; native of America.

Both these species are originally escapes from gardens; both appear to have become domesticated since Voigt's time, but the first of the two, which is now invading the Sundribuns, must certainly be reckoned one of the wild plants of our area. Various other species of *Passiflora* are cultivated; at least two of them have been found by the writer naturalized in hedges and thickets in Northern Bengal and no doubt in time others will establish themselves in our districts, and may, indeed, have already casually done so.

##### 204. *Carica* Linn.

*Carica Papaya* Linn.; H. S. 83; B. P. 514.

*v. Pippiya* (from the American name).

Generally cultivated, but often also spontaneous in village-shrubberies. The Papaw.

#### XLVIII.—CUCURBITACEÆ.

##### 205. *Trichosanthes* Linn.

*Trichosanthes dioica* Roxb.; H. S. 58; B. P. i. 517.

*v. Patal.*

Cultivated and occasionally as if wild in village-shrubberies; native of India.

\**Trichosanthes cucumerina* Linn.; H. S. 57; B. P. i. 518. *T.*

*lobata* H. S. 58.

*v. Ban chichinga.*

In hedges and thickets; sometimes also cultivated.

**Trichosanthes anguina** Linn.; H. S. 57; B. P. i. 518.

v. *Chichinga*.

Cultivated everywhere; native of S. E. Asia.

\* **Trichosanthes palmata** Roxb.; B. P. i. 518. *T. bracteata* H. S. 58.

v. *Makal*.

In village-shrubberies and hedges, common.

#### 206. *Gymnopetalum* Arn.

\* **Gymnopetalum cochinchinense** Kurz; B. P. i. 518.

Hedges and thickets near Calcutta; not common.

#### 207. *Lagenaria* Ser.

**Lagenaria vulgaris** Ser.; H. S. 57; B. P. i. 519.

v. *Kaddu, kodu, laú*.

Cultivated about villages; sometimes as if wild; native of India.

#### 208. *Luffa* Cav.

\* **Luffa graveolens** Roxb.; H. S. 57; B. P. i. 520.

North-Western Sundribuns, at Jatta.

**Luffa ægyptiaca** Mill.; B. P. i. 520; *L. pentandra* H. S. 56. *L.*

*clavata* H. S. 57.

v. *Dhundul*.

Cultivated about villages, but often also as if wild; native of Eastern Hemisphere.

**Luffa acutangula** Roxb.; B. P. i. 520. *L. fætida* H. S. 56.

v. *Jhinga*.

Cultivated generally, near villages; native of India.

\* **Luffa amara** Roxb.; H. S. 57; B. P. i. 520.

v. *Tita-jhinga, tita dhundul*.

Serampore, according to Voigt; not improbably, but the record needs confirmation.

#### 209. *Benincasa* Savi.

**Benincasa cerifera** Savi; H. S. 57; B. P. i. 521.

v. *Chal kamra*.

Cultivated generally, near villages; native of S. E. Asia.

#### 210. *Momordica* Linn.

**Momordica Charantia** Linn.; H. S. 56; B. P. i. 521.

v. *Karéla*.

Cultivated everywhere; sometimes as if wild in village-shrubberies; native of S. E. Asia.

VAR. *muricata* W. & A.; H. S. 56.

v. *Ūchhiya*.

Cultivated everywhere; much more plentiful than the *karéla*; native of S. E. Asia.

\* *Momordica dioica* Roxb.; H. S. 56; B. P. i. 521.

In hedges and thickets, everywhere.

\* *Momordica cochinchinensis* Spreng.; H. S. 56; B. P. i. 522.

v. *Gol kákra*.

Hedges and thickets, especially about Calcutta.

### 211. *Cucumis* Linn.

\* *Cucumis trigonus* Roxb.; H. S. 59; B. P. i. 522. *C. pubescens*.

H. S. 59.

v. *Ban-gamak*.

Waste places, especially west of river Hughli.

*Cucumis Melo* Linn.; H. S. 58; B. P. i. 522. *C. utilissimus* H. S. 58.

v. *Karbúz* (*C. Melo*, the sweet); *Kákri* (*C. utilissimus*, the vegetable).

Cultivated everywhere; native of the Orient.

*Cucumis sativus* Linn.; H. S. 58; B. P. i. 523.

v. *Khirá*.

Cultivated about Calcutta; native of the Orient.

### 212. *Citrullus* Schrad.

*Citrullus vulgaris* Schrad.; B. P. i. 523. *C. cucurbita* H. S. 55.

v. *Tarbúz*.

Cultivated about Calcutta; native of the Orient.

### 213. *Cephalandra* Schrad.

\* *Cephalandra indica* Naud.; B. P. i. 523. *Coccinia grandis* H. S. 59.

v. *Tela kucha*, *bhimba*.

Hedges and thickets, everywhere.

### 214. *Cucurbita* Linn.

*Cucurbita Pepo* DC.; B. P. i. 524.

v. *Kúmra*.

Cultivated occasionally; native of the Orient.

*Cucurbita maxima* Duch.; B. P. i. 524.

v. *Mitha kaddu*.

Cultivated occasionally; native of the Orient.

- Cucurbita moschata* Duch. ; B. P. i. 524. *C. maxima* H. S. 59.  
v. *Sajra kúmra*.  
Cultivated fairly generally ; native of the Orient.

215. *Mukia* Arn.

- \* *Mukia scabrella* Arn. ; H. S. 55 ; B. P. i. 525.  
v. *Agu makhi, bilári*.  
Hedges, thickets and waste places, everywhere.

216. *Bryonia* Linn.

- \* *Bryonia laciniosa* Linn. ; H. S. 55 ; B. P. i. 526.  
v. *Mala*.  
Village-shrubberies, not common.

217. *Zehneria* Endl.

- \* *Zehneria umbellata* Thev. ; B. P. i. 527. *Karivia umbellata* H. S.  
55.  
v. *Kudári, rakkhal susa*.  
Hedges and thickets, general, but not very common.

XLIX.—CACTACEÆ.

218. *Cereus* DC.

*Cereus pterogonus* Lemaire.

Planted as a fence, especially in the Hughli district ; occasionally as if wild in waste places, e.g. in the Goghat sub-division ; native of America.

219. *Opuntia* Mill.

- Opuntia Dillenii* Haw. ; H. S. 62 ; B. P. i. 531.  
v. *Nág phana*.

In waste places and by roadsides, quite naturalised in many places ; native of America.

L.—FICOIDEÆ.

220. *Sesuvium* Linn.

- \* *Sesuvium Portulacastrum* Linn. ; B. P. i. 532. *S. repens* H. S. 323.  
Western Sundribuns, on muddy river banks, general.

221. *Trianthema* Linn.

- \* *Trianthema monogynum* Linn. ; B. P. i. 533. *T. obcordatum*  
H. S. 173.  
v. *Sabuni ; gada-bani*.

Waste places and garden ground, general.

Voigt records also *T. decandrum* from Serampore, but says it is rare; he restricts the name *gada-bani* to *T. decandrum*. The writer has never found any 2-styled species of *Trianthema* in our area and believes that the two vernacular names are applied to *T. monogynum*. There is nothing, however, to prevent the occurrence of both *T. decandrum* and *T. pentandrum* alongside of *T. monogynum* in Lower Bengal and they should be looked for; they are quite like *T. monogynum* but may be at once distinguished by their 2 styles, *T. monogynum* having but 1 style.

Voigt further reports *T. crystallinum* from Serampore, but Clarke in Hooker's *Flora of British India* says that this species does not occur in Bengal: in this it is almost certain that Clarke is right and that Voigt's supposed *T. crystallinum* was only a state of *T. monogynum*.

#### 222. Mollugo Linn.

\* *Mollugo stricta* Linn.; B. P. i. 533. *M. pentaphylla* H. S. 180.  
*M. triphylla* H. S. 180.

v. *Khét papara*, *jul papara*.

A weed of river-foreshores and sand-banks.

\* *Mollugo Spergula* Linn.; H. S. 180; B. P. i. 533.

v. *Ghimi shák*.

A field weed; everywhere, common.

\* *Mollugo hirta* Thunb.; B. P. i. 533. *Glinus dictamnoides* H. S. 65.  
Waste places and dry fields, everywhere.

This appears to have no distinctive vernacular name in spite of its being a common plant; both by Roxburgh and by Voigt, it is quoted simply as *Dusera-sag* or *Dusra-suk*, "another pot-herb."

### LI.—UMBELLIFERÆ.

#### 223. Hydrocotyle Linn.

\* *Hydrocotyle rotundifolia* Roxb.; H. S. 20; B. P. i. 535.

A weed of gardens about Calcutta.

\* *Hydrocotyle asiatica* Linn.; H. S. 20; B. P. i. 535.

v. *Brahma manduki*, *thalkuri*.

Grassy glades and moist shady places, general.

#### 224. Carum Linn.

*Carum Roxburghianum* Benth.; B. P. i. 536. *Pimpinella involu-*  
*crata* H. S. 21.

v. *Chanu*, *rajani*, *radhani*.

Everywhere cultivated; native of India.

**Carum copticum** Benth. ; B. P. i. 536. *Ptychotis*, *Ajowan* H. S. 21.  
v. *Furáni*, *buro-jowán*.  
Everywhere cultivated ; native of India.

225. **Foeniculum** Adans.

**Foeniculum vulgare** Gærtm. ; H. S. 22 ; B. P. i. 537. *F. Panmori*  
H. S. 22.  
v. *Pan mohuri*.  
Sparingly cultivated, mostly in Hughli district ; native of the  
Orient.

226. **Seseli** Linn.

\* **Seseli indicum** W. & A. ; B. P. i. 533. *Cnidium diffusum* H. S. 22.  
v. *Ban jowán*.  
A field weed, occasional only.

227. **Enanthe** Linn.

\* **Enanthe stolonifera** Wall. ; H. S. 21 ; B. P. i. 539.  
v. *Pan turási*.  
In and around ponds and ditches, general.  
\* **Enanthe benghalensis** Benth. ; B. P. i. 539. *Dasyloma bengalense*  
H. S. 22.  
Moist shady spots near water, common.

228. **Peucedanum** Linn.

**Peucedanum Sowa** Kurz ; B. P. i. 540. *Anethum Sowa* H. S. 22.  
v. *Salpha*, *sowa*.  
Cultivated generally ; native of India.

229. **Coriandrum** Linn.

**Coriandrum sativum** Linn. ; H. S. 23 ; B. P. i. 540.  
v. *Dhané*.  
Cultivated sparingly, especially in the Hughli district ; native of  
the Orient.

230. **Daucus** Linn.

**Daucus Carota** Linn. ; H. S. 23 ; B. P. i. 541.  
v. *Gájar*.  
Cultivated occasionally ; native of Europe and the Orient.

## LII.—ARALIACEÆ.

231. *Panax* Linn.

*Panax fruticosum* Linn.; H. S. 24; B. P. i. 543.  
In gardens generally; native of Malaya.

## LIII.—CORNACEÆ.

232. *Alangium* Lamk.

\* *Alangium Lamarekii* Thw.; B. P. i. 543. *A. decapetalum* H. S. 40.  
v. *Ankúra*.  
In village-shrubberies, general.

## COROLLIFLORÆ.

## LIV.—RUBIACEÆ.

233. *Anthocephalus* A. Rich.

*Anthocephalus Cadamba* Miq.; B. P. i. 551. *Nauclea Cadamba*  
H. S. 375.  
v. *Kadam*.

Planted in avenues, on roadsides and near villages; sometimes  
spontaneous in village-shrubberies; native of S. E. Asia.

234. *Adina* Salisb.

*Adina cordifolia* Hook. f.; B. P. i. 552. *Nauclea cordifolia* H. S.  
375.

v. *Káli kadam*, *da kóm*, *petpuria*, *bangka*.

Planted occasionally on roadsides and about village tanks; native  
of drier parts of India and Indo-China.

235. *Stephegyne* Korth.

\* *Stephegyne parvifolia* Korth.; B. P. i. 552. *Nauclea parvifolia*  
H. S. 375.

Hughli district, Goghat sub-division, wild; also reported by Voigt  
from Serampore but there probably only planted, as it occasionally is  
in other places west of the Hughli.

236. *Wendlandia* Bartl.

\* *Wendlandia exserta* DC.; H. S. 383; B. P. i. 554.  
v. *Chilkiya*.

Hughli district, Goghat sub-division, wild.

237. *Dentella* Forst.

- \* *Dentella repens* Forst.; H. S. 383; B. P. i. 555.

v. *Bhumi pát.*

Damp foot-paths and shady places, general.

238. *Oldenlandia* Linn.

- \* *Oldenlandia crystallina* Roxb.; B. P. i. 559. *Hedyotis pumila*  
H. S. 384.

v. *Panki.*

Waste places, general.

- \* *Oldenlandia diffusa* Roxb.; B. P. i. 559. *Hedyotis dichotoma*  
H. S. 384.

Waste places and thickets, general.

- \* *Oldenlandia corymbosa* Linn.; B. P. i. 559. *Hedyotis Burman-*  
*niana* H. S. 384.

v. *Khet pápra.*

Waste places, not uncommon.

- \* *Oldenlandia paniculata* Linn.; B. P. i. 560. *Hedyotis racemosa* H.  
S. 384.

v. *Gándha bhaduli.*

Edges of rice-fields and moist places, general.

239. *Hamelia* Jacq.

*Hamelia patens* Jacq.; H. S. 385; B. P. i. 563.

In gardens and on lawns; also now often sub-spontaneous near villages about Calcutta; native of America.

240. *Gardenia* Linn.

*Gardenia florida* Linn.; H. S. 377; B. P. i. 565.

v. *Gándha ráj.*

In gardens everywhere; native of China.

241. *Randia* Linn.

*Randia uliginosa* DC.; H. S. 381; B. P. i. 566.

v. *Pirálo.*

Planted occasionally; given by Voigt as occurring at Serampore, but almost certainly not wild anywhere in our districts; native of India and common in West Bengal beyond our limits.

- \* *Randia dumetorum* Lamk; H. S. 381; B. P. i. 567.

v. *Menphíl, madan.*

Hughli district, Goghat sub-division, wild; Western Sundribuns, in old cleanings, naturalized; sometimes also in native gardens, planted.

242. *Hyptianthera* W. & A.

- \* *Hyptianthera stricta* W. & A.; H. S. 382; B. P. i. 568.  
In thickets, west of the river Hughli; rare.

243. *Pavetta* Linn.

*Pavetta indica* Linn.; H. S. 391; B. P. i. 569.

v. *Kukur chura*.

Reported by Voigt as occurring at Serampore, but almost certainly only planted, as it sometimes is elsewhere.

VAR. \* *tomentosa* B. P. i. 570. *Pavetta tomentosa* H. S. 392.

v. *Jui*.

Hedges, village-shrubberies and waste places, general.

244. *Ixora* Linn.

- \* *Ixora parviflora* Vahl; H. S. 397; B. P. i. 571.

v. *Gandhal rangan*.

Hughli district, Goghat sub-division, in waste places; elsewhere general in village-shrubberies.

- \* *Ixora undulata* Roxb.; H. S. 390; B. P. i. 571.

v. *Palaka jui*.

In village-shrubberies, general.

*Ixora coccinea* Linn. VAR. *Bandhuca*; B. P. i. 571. *I. Bandhuca* H. S. 389

v. *Rangan*.

In gardens and on lawns, everywhere; native of India and Indo-China.

*Ixora stricta* Roxb.; H. S. 389; B. P. i. 571.

In gardens, generally; native of China.

245. *Coffea* Linn.

*Coffea bengalensis* Roxb.; H. S. 392; B. P. i. 572.

Recorded by Voigt from Serampore, but almost certainly not wild in our districts; plentiful in Chota Nagpur.

246. *Morinda* Linn.

\* *Morinda bracteata* Roxb.; H. S. 386; B. P. i. 573. *M. exserta* H. S. 386.

v. *Haldi kunch, ronch, hardi, ban ach*.

Western Sundribuns and along the banks of the Hughli as far north as Calcutta; occasionally also in village-shrubberies near the river.

\* *Morinda citrifolia* Linn.; H. S. 385; B. P. i. 573. *M. tinctoria*?  
H. S. 386.

v. *Ach.*

Goghat sub-division, Hughli district. *M. tinctoria* is reported by Voigt from Serampore, but this record is doubtful; possibly *M. citrifolia* may have been the species seen; in any case it was probably only planted.

#### 247. *Canthium* Lamk.

*Canthium parvifolium* Roxb.; H. S. 388; B. P. i. 574.

Village-shrubberies, but only near Calcutta and only occasionally; this was introduced from Chittagong in 1814 and had not flowered up to 1845; it is interesting to find it now becoming naturalized.

#### 248. *Vangueria* Juss.

*Vangueria edulis* Vahl; H. S. 386; B. P. i. 575.

Cultivated occasionally in native gardens; introduced from Madagascar.

\* *Vangueria spinosa* Roxb.; H. S. 386; B. P. i. 575.

v. *Moyena*.

In village-shrubberies, not uncommon.

#### 249. *Pæderia* Linn.

\* *Pæderia fœtida* Linn.; H. S. 388; B. P. i. 578.

v. *Gândha bhadulia*.

Hedges and thickets, general.

#### 250. *Knoxia* Linn.

*Knoxia corymbosa* Willd.; H. S. 395; B. P. i. 578.

Reported from Serampore by Voigt; the record requires verification.

#### 251. *Spermacoce* Linn.

\* *Spermacoce hispida* Linn.; H. S. 394; B. P. i. 580.

Waste places, but only west of the Hughli river; not uncommon.

### LV.—COMPOSITE.

#### 252. *Centratherum* Cass.

\* *Centratherum anthelminticum* O. Kuntze; B. P. i. 589. *Vernonia anthelmintica* H. S. 405.

v. *Somrâj*.

Rubbish heaps, rare, possibly not truly native of our area; plentiful to the west of our districts.

**253. Vernonia Schreb.**

- \* **Vernonia cinerea** Less.; H. S. 405; B. P. i. 590.  
 v. *Kok-shim, kála jhira.*  
 Fields, roadsides and waste places, everywhere.

**254. Elephantopus Linn.**

- \* **Elephantopus scaber** Linn.; H. S. 406; B. P. i. 590.  
 v. *Samdulun.*  
 Waste places, open glades and dry fields, general.

**255. Adenostemma Forst.**

- \* **Adenostemma viscosum** Forst.; B. P. i. 591. *A. leiocarpum* H. S. 406.  
 v. *Buro keshuti.*  
 Waste places and rubbish heaps, occasional.

**256. Ageratum Linn.**

- Ageratum conyzoides** Linn.; H. S. 406; B. P. i. 591.  
 v. *Oochunti.*  
 Fields, open glades, waste places, everywhere; originally American.

**257. Eupatorium Linn.**

- Eupatorium Ayapana** Vent.; B. P. i. 592. *E. triplinerve* H. S. 407.  
 v. *Ayapana* (from its American name).  
 Commonly cultivated in native gardens about Calcutta; native of Brazil.

- Eupatorium odoratum** Linn.; B. P. i. 592.  
 Occasionally in native gardens about Calcutta; introduced from West Indies.

**258. Cyathocline Cass.**

- \* **Cyathocline lyrata** Cass.; B. P. i. 593.  
 Hughli district, Gohat sub-division, in waste places.

**259. Grangea Forsk.**

- \* **Grangea maderaspatana** Poir.; H. S. 409; B. P. i. 593.  
 v. *Namúti.*  
 Roadsides, dry fields and waste places, general.

**260. Blumea DC.**

- \* **Blumea ampletens** DC.; B. P. i. 597.  
 Moist fields east of the Hughli and south of Calcutta, also in cleanings in the North-Western Sundribuns.

\* *Blumea bifoliata* DC. ; H. S. 410 ; B. P. i. 597.

Dry grassy places and hedges, mostly about Calcutta, Howrah, and other towns near the Hughli.

\* *Blumea Wightiana* DC. ; B. P. i. 597.

Drier grassy glades, everywhere.

\* *Blumea glomerata* DC. ; B. P. i. 598.

Waste places, occasional only and possibly not truly native in our districts ; plentiful in most parts of Bengal.

\* *Blumea lacera* DC. ; H. S. 410 ; B. P. i. 598.

v. *Kukur sunga, bara koksing, buro kukshim, bara suksunga.*

Drier grassy glades, general.

\* *Blumea laciniata* DC. ; H. S. 410 ; B. P. i. 598.

Drier grassy glades, especially west of the river Hughli.

\* *Blumea membranacea* DC. ; B. P. i. 598. *Conyza diffusa* H. S. 409.

Grassy places, everywhere.

#### 261. *Laggera* Sch.-Bip.

\* *Laggera flava* Benth. ; B. P. i. 599.

Dry grassy places, but only west of the Hughli river, and rare in our districts.

\* *Laggera aurita* Sch.-Bip. ; B. P. i. 599. *Blumea aurita* H. S. 410.

Dry fields, roadsides, hedges, general.

#### 262. *Pluchea* Cass.

\* *Pluchea indica* Less. ; H. S. 410 ; B. P. i. 600.

v. *Munjhu rukha, kukronda.*

Western Sundribuns, plentiful.

#### 263. *Sphaeranthus* Linn.

\* *Sphaeranthus africanus* Linn. ; B. P. i. 601. *S. hirtus* H. S. 409.

v. *Mundi.*

Swampy places and rice-fields especially south of Calcutta and in cleanings in the North-Western Sundribuns ; very rare west of the Hughli.

\* *Sphaeranthus indicus* Linn. ; B. P. i. 601. *S. mollis* H. S. 409.

v. *Chaggul nadi, ghik-nunli, murmuria.*

Dry rice-fields, very plentiful west of the river Hughli ; east of the river rather rare.

#### 264. *Athroisma* DC.

\* *Athroisma laciniatum* DC. ; B. P. i. 601.

Dry rice-fields, occasional.

265. *Gnaphalium* Linn.

\* *Gnaphalium luteo-album* Linn. VAR. *pallidum* B. P. i. 602.  
Dry fields west of the Hughli and north of Calcutta.

\* *Gnaphalium indicum* Linn.; H. S. 421; B. P. i. 602.  
Dry fields, gardens, and places where water has lodged during the rains, general.

\* *Gnaphalium pulvinatum* DC.; B. P. i. 603.  
Hughli district, Goghat sub-division.

266. *Cæsulia* Roxb.

\* *Cæsulia axillaris* Roxb.; H. S. 411; B. P. i. 603.  
Rice-fields and wet places, everywhere.

267. *Emilia* Cass.

\* *Emilia sonchifolia* DC.; H. S. 421; B. P. i. 605.  
v. *Sadi modi*.  
Shady places, general.

268. *Hymenanthemum* Cass.

*Hymenanthemum tenuifolium* Cass.

In gardens general, readily self-sown on dry paths and in dry waste places; native of Mexico.

269. *Tagetes* Linn.

*Tagetes patula* Linn.; H. S. 416; B. P. i. 607.  
v. *Chhota genda*.

In gardens everywhere, often also as an escape; native of Mexico.

*Tagetes erecta* Linn.; H. S. 417.  
v. *Buro genda*.

In gardens generally, sometimes also as an escape; native of Mexico.

270. *Xanthium* Linn.

\* *Xanthium strumarium* Linn.; B. P. i. 607. *X. orientale* H. S. 413.

v. *Ban okra, chhota gokhru*.

River banks, sides of ponds and ditches, waste places and rubbish heaps, general.

*Xanthium spinosum* Linn.; B. P. i. 608.

Waste places, occasional; very abundant at Canning Town along the Matla river; introduced from S. Europe.

271. *Lagascea* Cav.

*Lagascea mollis* Cav. ; H. S. 406 ; B. P. i. 608.

Garden ground, waste places and river banks about Calcutta, a very frequent weed ; introduced from the West Indies.

272. *Zinnia* Linn.

*Zinnia pauciflora* Linn. ; H. S. 413 ; B. P. i. 609.

In gardens everywhere ; sometimes also sub-spontaneous ; native of Mexico.

Other species of *Zinnia*, and especially *Z. elegans*, are generally cultivated in gardens both Native and European, but the writer has not observed this tendency to become naturalised in any save *Z. pauciflora*.

273. *Enhydra* Lour.

\* *Enhydra fluctuans* Lour. ; B. P. i. 610. *E. Hingcha* H. S. 416.

v. *Hingcha*.

Edges of ponds and ditches and sometimes partly floating ; everywhere.

274. *Eclipta* Linn.

\* *Eclipta alba* Hassk. ; B. P. i. 610. *E. erecta* H. S. 411.

v. *Kesari, keshuti*.

Fields, roadsides, waste places everywhere.

275. *Wedelia* Jacq.

\* *Wedelia calendulacea* Less. ; H. S. 414 ; B. P. i. 611.

v. *Kesaráj, bhimráj*.

Wet places, banks of ponds, ditches and khals ; general.

\* *Wedelia scandens* Clarke ; B. P. i. 612. *Wollastonia scandens* H. S. 414.

v. *Bhimráj*.

Western Sundribuns, climbing on bushes along river banks and at sea-face, very common ; extends along banks of Hughli almost to Calcutta.

276. *Tithonia* Desf.

*Tithonia tagetiflora* Desf. ; B. P. i. 612.

In gardens and on lawns, general ; native of America.

277. *Helianthus* Linn.

*Helianthus annuus* Linn. ; H. S. 415 ; B. P. 613.

v. *Suraj mukhi, shuriya mukti*.

In gardens everywhere ; native of S. America.

**Helianthus argyrophyllus** Torr. & Gr.; B. P. i. 613.

v. *Safed suraj mukhi*, *swet shuriya mukti*.

In gardens generally, and freely sub-spontaneous in cultivated ground and waste places; native of N. America.

**Helianthus tuberosus** Linn.; H. S. 415; B. P. i. 613.

v. *Brahmokha*.

In vegetable and market gardens, especially near Calcutta; native of Brazil.

#### 278. Guizotia Cass.

**Guizotia abyssinica** Cass.; H. S. 414; B. P. i. 614.

v. *Surguja*, *ram tila*.

A field crop in Goghat sub-division of Hughli district; native of Africa.

#### 279. Synedrella Gærtn.

**Synedrella nodiflora** Gærtn.; B. P. i. 615.

In cultivated ground and waste places about Calcutta; occasional; native of tropical America.

#### 280. Cosmos Cav.

**Cosmos sulfureus** Cav.; H. S. 416; B. P. i. 616.

In gardens; also not infrequent as a weed in waste places near Calcutta (quite naturalised in the drier districts to the west of our area); native of Mexico.

#### 281. Spilanthes Linn.

**Spilanthes Acmella** Linn.; H. S. 416; B. P. i. 614.

v. *Marhata tuga*.

Reported by Voigt from Serampore, but the record requires verification; the species occurs in Chota Nagpur, North Bengal, and Chittagong, but is probably only a casual on the deltaic alluvium.

#### 282. Galinsoga Ruiz & Pav.

**Galinsoga parviflora** Cav.; B. P. i. 618.

A not uncommon weed in cultivated ground in the cold weather but not persisting; probably always a casual introduction from the Himalaya where it is abundant; originally introduced from America.

#### 283. Tridax Linn.

**Tridax procumbens** Linn.; H. S. 417; B. P. i. 618.

Grassy glades, dry roadsides, old walls, everywhere; native of Mexico.

284. *Chrysanthemum* Linn.

*Chrysanthemum coronarium* Linn.; B. P. i. 619. *C. Roxburghii*  
H. S. 419.  
v. *Gúl-dandi*.

Reported by Voigt from Serampore, but possibly only from Carey's Garden; it is a staple cold-weather crop in Northern Bengal and the Assam Valley, but is not grown in Central Bengal; native certainly of China and, it is said, also of the Mediterranean region. Voigt refers the vernacular name only to the garden *Chrysanthemum* (*C. indicum*) which is also a native of China, introduced to general horticulture by way of Japan.

285. *Cotula* Linn.

\* *Cotula hemisphaerica* Wall.; B. P. i. 620. *Machlis hemisphaerica*  
H. S. 420.

A weed of cultivated ground and waste places, west of the river Hughli.

286. *Centipeda* Lour.

\* *Centipeda orbicularis* Lour.; B. P. i. 620. *Myriogyne minuta* VAR.  
*lunuginosa* H. S. 420.  
v. *Mechitta, hachuti*.

Damp ground, everywhere.

287. *Cnicus* Linn.

\* *Cnicus arvensis* Hoff.n.; B. P. i. 622. *Aplotaxis cirsoides* H.  
S. 424.  
v. *Tikbhuma, silkánta*.

Cultivated ground, everywhere.

288. *Silybum* Gærtn.

*Silybum Marianum* Gærtn.; H. S. 425; B. P. i. 623.

In gardens, mostly, however, of European residents; native of the Mediterranean region, the Orient and the Western Himalaya.

289. *Carthamus* Linn.

*Carthamus tinctorius* Linn.; H. S. 425; B. P. i. 625.  
v. *Kusumb*.

A cold-weather field crop, general; native of India.

290. *Crepis* Linn.

\* *Crepis japonica* Benth.; B. P. i. 627. *Youngia procumbens* H. S.  
432 (not *Prenanthes procumbens* Roxb.)

Hedges, waste places, margins of partially dried ponds, general.

- \* *Crepis acaulis* Hook. f.; B. P. i. 627. *Youngia acaulis* H. S. 432.  
*Y. linifolia* H. S. 432.

Waste places, margins of paths, west of river Hughli, rare.

291. *Lactuca* Linn.

- Lactuca sativa* Linn.; H. S. 430; B. P. i. 628.

v. *Káhú, salád.*

In vegetable and market gardens about Calcutta and other towns.

292. *Sonchus* Linn.

- \* *Sonchus asper* Vill.; B. P. i. 629. *S. ciliatus* H. S. 432.

In fields and waste places, quite common.

- Sonchus oleraceus* Linn.; B. P. i. 629.

In gardens an occasional weed; native of Europe.

- Sonchus arvensis* Linn.; B. P. i. 629. *S. orixensis* H. S. 432.

v. *Ban palang.*

In gardens and waste places, rather rare. This in the writer's experience is the rarest of the three Sow-thistles that are to be met with in our area; it is common in various parts of India but can hardly be considered a native of these districts.

293. *Launea* Cass.

- \* *Launea aspleniifolia* Hook. f.; B. P. i. 630. *Microrhynchus asplenifolius* H. S. 431.

v. *Tik-chana.*

In grassy glades and open fields, everywhere.

- \* *Launea pinnatifida* Cass.; B. P. i. 630.

Western Sundribuns, creeping on sand at the sea-face.

LVII.—CAMPANULACEÆ.

294. *Lobelia* Linn.

- Lobelia trigona* Roxb.; B. P. i. 633. *L. triangulata* H. S. 367.

Reported by Voigt from Serampore; quite possibly, but the record requires confirmation; native of India, common in wet pastures in Western Bengal.

295. *Sphenoclea* Gærtn.

- \* *Sphenoclea zeylanica* Gærtn.; B. P. i. 635. *Pongatium indicum* H. S. 371.

v. *Fhil mirich.*

Edges of pools and ditches and rice-fields, general.

296. *Wahlenbergia* Schrad.

\* *Wahlenbergia gracilis* DC. ; B. P. i. 636. *W. dehiscens* H. S. 359.

Dry fields west of the river Hughli, general, but not anywhere common; has been collected near Shibpur (*Kurz*), Serampore (*Voigt*), and Chandernagore (*Prain*).

## LVI.—STYLIDEE.

297. *Stylidium* Sw.

\* *Stylidium tenellum* Sw. ; H. S. 372 ; B. P. i. 631.

Ditches about Serampore (*Voigt*) ; should be looked for again as it has not been collected, since *Voigt's* record, in our districts.

## LVIII.—PLUMBAGINEÆ.

298. *Ægialitis* R. Br.

\* *Ægialitis rotundifolia* Roxb. ; H. S. 439 ; B. P. i. 638.

v. *Sátári*.

Western Sundribuns, plentiful.

299. *Plumbago* Linn.

*Plumbago zeylanica* Linn. ; H. S. 438 ; B. P. i. 639.

v. *Chita, chitra*.

In gardens ; also occasionally as a weed in waste places but with no claim to be a native of our districts ; native of S. E. Asia.

*Plumbago rosea* Linn. ; H. S. 439 ; B. P. i. 639.

v. *Rakto-chita, Rakto-chitra*.

In gardens, generally, also sometimes as a weed in waste places ; native of S. E. Asia.

## LIX.—PRIMULACEÆ.

300. *Androsace* Linn.

\* *Androsace saxifragæfolia* Bunge ; B. P. i. 640.

Sides of moat round Fort William.

This was once collected by Dr. T. Anderson, but has not been met with again in our districts.

301. *Anagallis* Tournef.

*Anagallis arvensis* Linn. ; H. S. 335 ; B. P. i. 641.

A cold-weather weed of fields and gardens near Calcutta ; generally to be met with if looked for, but always very rare, and

apparently not persisting, so that it probably has no claims to be a native of our districts. Only the blue-flowered form, characteristic of Upper India, is to be found; possibly it is annually re-introduced with up-country seed.

#### LX.—MYRSINEÆ.

##### 302. *Ardisia* Sw.

\* *Ardisia humilis* Vahl.; H. S. 337; B. P. i. 645.

v. *Ban jám.*

Village shrubberies, chiefly east of the river Hughli.

##### 303. *Ægiceras* Gærtn.

\* *Ægiceras majus* Gærtn.; B. P. i. 645. *A. fragrans* H. S. 336.

v. *Halsi, khalsi, koilsha.*

Western Sundribuns, common; salt-lakes near Calcutta.

#### LXI.—SAPOTACEÆ.

##### 304. *Achras* Linn.

*Achras Sapota* Linn.; H. S. 339; B. P. i. 648.

v. *Sapota* (the American name adapted).

Cultivated in orchards about Calcutta; native of S. America.

##### 305. *Mimusops* Linn.

*Mimusops Elengi* Linn.; H. S. 341; B. P. i. 649.

v. *Bakul.*

Planted generally near villages, occasionally also self-sown; native of S. E. Asia.

#### LXII.—EBENACEÆ.

##### 306. *Diospyros* Linn.

\* *Diospyros Embryopteris* Pers.; H. S. 345; B. P. i. 653.

v. *Gáb.*

Village-shrubberies general; also in Western Sundribuns, e.g. at Jatta.

\* *Diospyros cordifolia* Roxb.; H. S. 344. *D. montana* VAR. *cordifolia* B. P. i. 653.

v. *Ban gáb.*

Village-shrubberies, general; also in Western Sundribuns, e.g. at Jatta.

**Diospyros Kaki** Linn. f.; H. S. 345; B. P. i. 653.

In gardens and orchards; native of China.

**Diospyros discolor** Willd.; H. S. 345; B. P. i. 654.

In gardens, occasionally; native of the Philippines.

### LXIII.—OLEACEÆ.

#### 307. *Jasminum* Linn.

\* ***Jasminum pubescens*** Willd.; H. S. 550; B. P. i. 659.

v. *Kundá*.

Goghat sub-division, Hughli district; also reported by Voigt from Serampore, but this last record needs confirmation.

***Jasminum Sambac*** Ait.; H. S. 549; B. P. i. 659.

v. *Bél, ban mallika*.

In gardens generally; occasionally in village-shrubberies; native of the Orient.

***Jasminum auriculatum*** Vahl; H. S. 551; B. P. i. 659.

v. *Fui, jut'hi*.

In gardens occasionally; native of India.

***Jasminum elongatum*** Vahl; H. S. 550. *J. Roxburghianum* H. S. i. 658, partly.

Reported by Roxburgh from Hidguli, and reported by Voigt from the Sundribuns; is a plant that should be looked in the southern part of our districts.

#### 308. *Nyctanthes* Linn.

***Nyctanthes Arbor-tristis*** Linn.; H. S. 552; B. P. i. 660.

v. *Singhar, septalika*.

Sometimes planted about tanks and near villages; native of India.

### LXIV.—SALVADORACEÆ.

#### 309. *Azima* Lamk.

\* ***Azima tetracantha*** Lamk.; B. P. i. 663. *Monetia tetracantha* H. S. 348.

v. *Trikanta gati*.

Western Sundribuns (*Praïn*); Serampore (*Voigt*); Chandernagore and Hughli (*Praïn*).

## LXV.—APOCYNACEÆ.

310. *Allamanda* Linn.

*Allamanda cathartica* Linn. ; H. S. 528 ; B. P. ii. 667.

v. *Har-kakra*.

In gardens generally ; introduced from Guiana.

311. *Carissa* Linn.

*Carissa Carandas* Linn. ; H. S. 529 ; B. P. ii. 668.

v. *Karamcha*.

In gardens, and sometimes sub-spontaneous in village-shrubberies ; native of S. E. Asia.

*Carissa spinarum* A. DC. ; B. P. ii. 669. *C. diffusa* H. S. 529.

Reported by Voigt from the Sundribuns, but this is very doubtful ; there are no specimens from our area at Calcutta ; the species is very common in the western parts of Bengal.

312. *Thevetia* Juss.

*Thevetia neriifolia* Juss. ; H. S. 531 ; B. P. ii. 669.

v. *Kokla phul, haldi korubi*.

In gardens everywhere, but also often sub-spontaneous in village-shrubberies and now occasionally found also in waste places ; has been found as if wild even in the Goghat sub-division of the Hughli district ; native of tropical America.

313. *Cerbera* Linn.

\* *Cerbera Odollam* Gærtn. ; H. S. 531 ; B. P. ii. 670.

v. *Dákúr*.

Western Sundribuns, on river banks, common.

314. *Plumeria* Linn.

*Plumeria acutifolia* Poir. B. P. ii. 670. *P. acuminata* H. S. 528.

v. *Gorur champã, goburiya champã*.

Planted everywhere about villages and near temples but shows little tendency to appear spontaneously ; native of S. America.

315. *Rauwolfia* Linn.

\* *Rauwolfia serpentina* Benth. ; B. P. ii. 671. *Ophioxylon serpentinum* H. S. 532.

v. *Chandrá, chhota chand*.

Shady groves, general ; but doubtfully a native of our districts.

**Rauwolfia canescens** Linn.; H. S. 532; B. P. ii. 671.

In gardens, also quite naturalized in village-shrubberies and, at least about Calcutta, commoner than the preceding species; native of the West Indies.

316. **Kopsia** Bl.

**Kopsia fruticosa** A. DC.; B. P. ii. 671. *Calpicarpum Roxburghii* H. S. 531.

In gardens and on lawns, often; native of Tenasserim and the Andamans.

317. **Vinca** Linn.

**Vinca rosea** Linn.; H. S. 526; B. P. ii. 672.

v. *Gul feringhi*.

In gardens and near shrines and temples everywhere; also often sub-spontaneous on rubbish heaps; native of West Indies.

318. **Alstonia** R. Br.

**Alstonia scholaris** R. Br.; H. S. 525; B. P. ii. 672.

v. *Chhattin*.

Reported by Voigt from Serampore, but in our districts is almost certainly only planted; it is, however, wild in Western Bengal.

**Alstonia macrophylla** Wall.; H. S. 526.

Occasionally planted, and about Calcutta and Howrah also appearing spontaneously in village thickets; native of Malaya and one of the few Malayan species that show a tendency to become naturalized in Lower Bengal.

319. **Tabernæmontana** Linn.

**Tabernæmontana coronaria** R. Br.; H. S. 527; B. P. ii. 673.

v. *Vagúr*.

In gardens everywhere; but sometimes also sub-spontaneous, e.g. at Mátla; native of India.

320. **Holarrhena** R. Br.

\* **Holarrhena antidysenterica** Wall.; H. S. 524; B. P. ii. 674.

v. *Kurchi*.

Goghat, Western Hughli district.

321. **Wrightia** R. Br.

**Wrightia coccinea** Sims; H. S. 526; B. P. ii. 674.

In gardens, general.

322. *Vallis* Burm.

- \* *Vallis Heynei* Spreng.; B. P. ii. 675. *V. dichotoma* H. S. 524.  
v. *Hápar mali*.

Village-shrubberies; apparently quite entitled to be considered native, though it is sometimes also found in gardens.

- Vallis Pergulana* Burm.; H. S. 524; B. P. ii. 675.

In gardens, occasionally; native of S. E. Asia.

323. *Parsonsia* R. Br.

- \* *Parsonsia spiralis* Wall.; H. S. 524; B. P. ii. 676.

Western Sundribuns.

324. *Nerium* Linn.

- Nerium odorum* Soland.; H. S. 524; B. P. ii. 676.

v. *Karabi*.

In gardens everywhere; native of China.

325. *Roupellia* Wall.

- Roupellia grata* Wall.; B. P. ii. 677.

In gardens and on lawns, rather common; native of Madagascar.

326. *Beaumontia* Wall.

- Beaumontia grandiflora* Wall.; H. S. 524; B. P. ii. 678.

Grown on trellises and porches in gardens about Calcutta; native of Eastern Himalaya and Indo-China.

327. *Ichnocarpus* R. Br.

- \* *Ichnocarpus frutescens* R. Br.; H. S. 523; B. P. ii. 680.

v. *Siama lata*.

Hedges, thickets and waste places, everywhere.

## LXVI. —ASCLEPIADACEÆ.

328. *Cryptostegia* R. Br.

- Cryptostegia grandiflora* R. Br.; H. S. 544; B. P. ii. 684.

In gardens, general; native of Madagascar.

329. *Cryptolepis* R. Br.

- \* *Cryptolepis Buchanani* R. & S.; B. P. ii. 685. *C. reticulata* H. S. 544.

v. *Karanta*.

Hedges and village-shrubberies, general.

330. *Hemidesmus* R. Br.

- \* *Hemidesmus indicus* R. Br. ; H. S. 544 ; B. P. ii. 686.  
v. *Ananta mul.*  
Hedges, thickets and waste places, everywhere.

331. *Finlaysonia* Wall.

- \* *Finlaysonia obovata* Wall. ; B. P. ii. 686. *Gurua obovata* H. S. 544.  
v. *Dudhi-lata.*  
Western Sundribuns.

332. *Oxystelma* R. Br.

- \* *Oxystelma esculentum* R. Br. ; H. S. 541 ; B. P. ii. 683.  
v. *Kirni.*  
Waste places, general but never common.

333. *Calotropis* R. Br.

- \* *Calotropis gigantea* R. Br. ; H. S. 540 ; B. P. ii. 683.  
v. *Åkanda, gurtakand.*  
Roadsides and waste places, everywhere.

334. *Asclepias* Linn.

- Asclepias Curassavica* Linn. ; H. S. 539 ; B. P. ii. 689.  
Waste places near villages, everywhere ; native of America.

335. *Cynanchum* Linn.

- \* *Cynanchum Callialata* Ham. ; B. P. ii. 690. *C. pauciflorum* H. S.  
541.  
v. *Chagulbati.*  
Hedges and thickets, general.

336. *Pentatropis* R. Br.

- \* *Pentatropis microphylla* W. & A. ; H. S. 540 ; B. P. ii. 601.  
Hedges and thickets or banks of khals and rivers, from Calcutta  
salt-lakes southwards.

337. *Dæmia* R. Br.

- \* *Dæmia extensa* R. Br. ; H. S. 541 ; B. P. ii. 692.  
v. *Chagul-bati.*  
Hedges and thickets, everywhere.

338. *Sarcostemma* R. Br.

- Sarcostemma brevistigma* Wight ; B. P. ii. 692. *S. acida* H. S. 542.  
v. *Soma lata.*

Reported by Voigt to have been once obtained by Dr. Carey at Serampore; probably only a casual in our districts: it is wild in South-West Chota Nagpur (Singbhum).

339. *Sarcolobus* R. Br.

\* *Sarcolobus globosus* Wall.; H. S. 538; B. P. ii. 693.

v. *Baoli-lata*.

Western Sundribuns.

\* *Sarcolobus carinatus* Wall.; H. S. 538; B. P. ii. 693.

v. *Baoli-lata*.

Western Sundribuns.

340. *Gymnema* R. Br.

*Gymnema hirsutum* W. & A.; B. P. ii. 694. *G. sylvestre* H. S. 538.

v. *Chhoto dudhi lata*.

Reported by Voigt from Serampore and should be looked for; it is common in Behar and Chota Nagpur.

341. *Pergularia* Linn.

\* *Pergularia pallida* W. & A.; H. S. 538; B. P. ii. 696.

Goghat, Western Hughli district in low jungles; reported also by Voigt from Serampore, this last recorded locality needs confirmation.

*Pergularia minor* Andr.; H. S. 537; B. P. ii. 697. *P. odoratissima* H. S. 537.

v. *Kanja lata*.

In gardens, generally; reported by Voigt from Serampore but probably there only sub-spontaneous; native of S. E. Asia.

342. *Dregea* E. Mey.

\* *Dregea volubilis* Benth.; B. P. ii. 697. *Hoya viridiflora* H. S. 537.

v. *Tita-kunga*.

Hedges and thickets, general.

343. *Tylophora* R. Br.

\* *Tylophora tenuis* Bl.; B. P. ii. 698. *T. tenuissima* H. S. 539.

Hedges, thickets and banks of creeks, from salt-lakes near Calcutta southwards.

- \* *Tylophora asthmatica* W. & A.; B. P. ii. 698. *T. vomitoria* H. S. 539.  
v. *Anta-mal*.  
Waste places and hedges, general.

344. *Hoya* R. Br.

- \* *Hoya parasitica* Wall.; B. P. ii. 700. *H. pallida* H. S. 536.  
v. *Pargátcha*.  
Western Sundribuns.

LXVII.—LOGANIACEÆ.

345. *Mitrasacme* Labill.

- \* *Mitrasacme alsinoides* R. Br.; B. P. ii. 702.  
Waste places, Goghat, Western Hughli.

LXVIII.—GENTIANACEÆ.

346. *Exacum* Linn.

- \* *Exacum tetragonum* Roxb.; H. S. 520; B. P. ii. 706.  
v. *Kuchári*.  
Wet meadows, occasional.

*Exacum pedunculatum* Linn.; H. S. 520; B. P. ii. 706.

Reported by Voigt from Serampore, but the record needs verification; is found in Behar and Chota Nagpur.

347. *Erythraea* L. C. Rich.

- \* *Erythraea Roxburghii* G. Don; B. P. ii. 707. *E. centaurooides* H. S. 520.  
v. *Gima, girmi*.  
Grassy places, occasional.

348. *Hoppea* Willd.

- \* *Hoppea dichotoma* Willd.; B. P. ii. 707. *Canscora ? pusilla* H. S. 520.  
Damp meadows and drying rice-fields, everywhere.

349. *Canscora* Lamk.

- \* *Canscora diffusa* R. Br.; H. S. 520; B. P. ii. 708.  
Grassy places and sides of paths, everywhere.
- \* *Canscora decussata* R. & S.; H. S. 520; B. P. ii. 708.  
v. *Dánkuni*.  
Grassy places, paths and waste ground, everywhere.

350. *Enicostema* Bl.*Enicostema littorale* Bl. *Slevogtia verticillata* H. S. 520.v. *Chhota-kirata*.

Reported by Voigt from Serampore and should therefore be looked for; the record is not a very probable one, and no other botanist has ever reported the species from Bengal.

351. *Limnanthemum* S. P. Gmel.\* *Limnanthemum cristatum* Griseb.; B. P. ii. 709. *Villarsia cristata* H. S. 521.v. *Pan-chuli, chand malla, chhota pan chuli*.

Floating on ponds and jhils, everywhere.

\* *Limnanthemum indicum* Thw.; B. P. ii. 709. *Villarsia indica* H. S. 321.v. *Pan-chuli, chand malla, bara pan chuli*.

Floating on ponds and jhils, everywhere.

## LXIX.—POLEMONIACEÆ.

352. *Phlox* Linn.*Phlox Drummondii* Hook.; B. P. ii. 710.

In gardens in the cold weather; occasionally sub-spontaneous on rubbishy places near Calcutta, but only the white-flowered kinds, so far as the writer's observations go, and not every year: native of Texas. It may be noted that, though now so general a favourite, this species, according to Voigt, had not been introduced up to 1845.

## LXX.—HYDROPHYLLACEÆ.

353. *Hydrolea* Linn.\* *Hydrolea zeylanica* Vahl.; H. S. 366; B. P. ii. 711.v. *Kasschra* or (*fide* Voigt) *kankra*.

Marshy places and edges of rice-fields, general.

## LXXI.—BORAGINEÆ.

354. *Cordia* Linn.\* *Cordia Myxa* Linn.; H. S. 440; B. P. ii. 714.v. *Bohnari, lashora*.

In hedges and village-shrubberies, but sometimes also planted.

*Cordia Sebestena* Linn.; H. S. 440; B. P. ii. 714.

In gardens; native of West Indies.

355. *Ehretia* Linn.

*Ehretia laevis* Roxb. ; H. S. 445 ; B. P. ii. 718.

Reported by Voigt from Serampore, but the record needs confirmation ; is common everywhere west of our districts.

356. *Heliotropium* Linn.

\* *Heliotropium ovalifolium* Forsk. ; B. P. ii. 716. *H. coromandelianum* H. S. 444.

v. *Naga phuli*.

Goghat, Western Hughli ; reported also from Serampore by Voigt.

\* *Heliotropium strigosum* Willd. VAR. *brevifolia* B. P. ii. 716. *H. brevifolium* H. S. 445.

v. *Chiti phuli*.

Dry fields and waste places, principally west of the Hughli.

\* *Heliotropium indicum* Linn. ; B. P. ii. 716. *Tiaridium indicum* H. S. 445.

v. *Hati sura*.

Rubbish heaps and waste places, everywhere.

Voigt records *H. curassavicum* as naturalised about Serampore prior to 1843, it does not appear to have persisted.

357. *Coldenia* Linn.

\* *Coldenia procumbens* Linn. ; H. S. 445 ; B. P. ii. 718.

v. *Triphunki*.

Dry rice-fields, everywhere.

358. *Bothriospermum* Barge.

*Bothriospermum tenellum* F. & M. ; B. P. ii. 719. *Cynoglossum diffusum* H. S. 443.

Reported by Voigt from Serampore ; quite possibly, but the record needs confirmation ; plentiful in E. Bengal.

359. *Cynoglossum* Linn.

\* *Cynoglossum lanceolatum* Forsk. ; B. P. ii. 719. *C. canescens* H. S. 443.

Waste places, especially about Calcutta.

360. *Trichodesma* R. Br.

\* *Trichodesma indicum* R. Br. ; H. S. 444 ; B. P. ii. 720.

v. *Chhoto kulpa*.

Fields and waste places, everywhere.

**Trichodesma zeylanicum** R. Br. ; H. S. 444 ; B. P. ii. 720.

v. *Buro kulpa*.

Reported by Voigt from Serampore, but the record needs confirmation ; it is wild throughout the drier parts of India and Ceylon.

## LXXII.—CONVOLVULACEÆ.

### 361. *Cuscuta* Linn.

\* ***Cuscuta reflexa*** Roxb. ; H. S. 349 ; B. P. ii. 723.

v. *Haldi algusi*.

Parasitic on trees and shrubs, everywhere ; attaches itself to very many species.

***Cuscuta chinensis*** Lamk. *C. sulcata* H. S. 349.

Reported by Voigt from Serampore ; also reported by Roxburgh as occurring on *Amarantus oleraceus*, etc.; not at all improbably, but the record needs verification ; occurs in Chota Nagpur.

***Cuscuta capitata*** Roxb. ; H. S. 349.

v. *Algusi*.

Reported by Roxburgh as occurring on *Crotalaria juncea*, also by Voigt as appearing at Serampore on the same species ; probably only a casual introduced also with seed of *Çan* from outside Bengal ; occurs throughout the North-West Himalaya.

***Cuscuta europæa*** Linn. *C. aggregata* H. S. 349.

Roxburgh records this as having once appeared on *Flax* the seeds of which were imported from Bagdad ; no doubt a mere casual ; native of the Orient, Central Asia, and Europe.

### 362. *Porana* Burm.

***Porana paniculata*** Roxb. ; H. S. 363 ; B. P. ii. 724.

In gardens on trellises or on trees ; native of India.

### 363. *Cressa* Linn.

\* ***Cressa cretica*** Linn. ; B. P. ii. 725. *C. indica* H. S. 363.

Salt-lakes near Calcutta, in dried up muddy places.

### 364. *Evolvulus* Linn.

\* ***Evolvulus alsinoides*** Linn. ; H. S. 363 ; B. P. ii. 725.

Dry grassy places west of the Hughli.

***Evolvulus nummularius*** Linn. ; B. P. ii. 726.

Grassy glades around Calcutta, Howrah, etc., quite naturalised ; a recent introduction from the West Indies.

365. *Hewittia* W. & A.

*Hewittia bicolor* W. & A. ; H. S. 362 ; B. P. ii. 727.

v. *Farad-kalmi*.

Recorded from Serampore by Voigt ; quite possibly, but requires to be verified ; native of India.

366. *Jacquemontia* Choisy.

*Jacquemontia cœrulea* Choisy ; B. P. ii. 728.

In gardens generally ; native of Africa.

367. *Merremia* Dennst.

*Merremia umbellata* Hallier f. ; B. P. ii. 730. *Ipomœa platanifolia*  
H. S. 359.

A form of this species not distinguishable from the American variety of the plant, VAR. *occidentalis*, has been reported by Voigt from Serampore and met with by Kurz climbing on bushes on the banks of the Hughli, near Calcutta, probably, however, only as an escape from cultivation that has not persisted, for there is no recent gathering of the plant ; the Indian variety, VAR. *orientalis* = *Ipomœa cymosa* (H. S. 358) has not been found in our districts.

\* *Merremia vitifolia* Hallier f. ; B. P. ii. 730. *Ipomœa vitifolia* H. S. 361.

Occasionally in village-shrubberies.

*Merremia tridentata* Hallier f. ; B. P. ii. 730. *Ipomœa tridentata*  
H. S. 356.

Reported by Voigt from Serampore, but the record requires confirmation ; common in Western Bengal and Behar.

*Merremia hastata* Hallier f. ; B. P. ii. 730. *Ipomœa filiformis*  
H. S. 356.

Reported by Voigt from Serampore, but the record is not very probable ; nearest authentic locality Orissa.

\* *Merremia chryseides* Hallier, f. ; B. P. ii. 730. *Ipomœa dentata* H. S. 359.

Banks of the Hughli, below Calcutta, rare ; Serampore, according to Voigt ; perhaps only an escape in our districts ; native of Eastern Asia.

\* *Merremia convolvulacea* Dennst. *M. hederacea* B. P. ii. 730.  
Sundribuns.

\* *Merremia emarginata* Hallier f. ; B. P. ii. 730. *Ipomœa gangetica*  
H. S. 356.

v. *Bhui kamri*.

In grassy glades and open sandy places, everywhere.

368. *Operculina* Manso.

*Operculina Turpethum* Manso ; B. P. ii. 731. *Ipomœa Turpethum*  
H. S. 357.

v. *Tohri*, *dudh-kalmi*.

Hedges, thickets and river banks, general.

369. *Ipomœa* Linn.

*Ipomœa hispida* R. & S. ; H. S. 357 ; B. P. ii. 734.

Reported by Voigt from Serampore, and found by the writer at Shibpur, but by the latter only in plots where seeds from Central or Upper India had been sown ; the species is probably not entitled to rank as a native of our districts ; it is not uncommon in the drier parts of India.

\* *Ipomœa Pes-tigridis* Linn. ; H. S. 361 ; B. P. ii. 734.

v. *Kanguli lata*.

Occasional in hedges and thickets.

*Ipomœa Learii* Paxt. ; B. P. ii. 734.

In gardens, on trellises, general.

*Ipomœa Nil* Roth. ; B. P. ii. 734. *Pharbitis Nil* H. S. 354.

v. *Nil kalmi*.

In gardens everywhere and occasionally in waste places as if wild ; cosmopolitan now in the Tropics, but true native place uncertain.

*Ipomœa purpurea* Lamk. ; B. P. ii. 735. *Pharbitis purpurea* H. S. 354.

In gardens generally ; native of S. America.

\* *Ipomœa paniculata* R. Br. ; B. P. ii. 735. *Batatas paniculata*  
H. S. 353.

v. *Bilxi kand*, *bhui kumra*.

Hedges and thickets everywhere.

*Ipomœa Batatas* Lamk ; B. P. ii. 735. *Batatas edulis* H. S. 353.

v. *Mita álu*, *shakarkand*.

Cultivated generally in gardens and market gardens ; native of America.

\* *Ipomœa Pes-Capræ* Sw. ; H. S. 356 ; B. P. ii. 736.

v. *Chhagal kuri*.

Western Sundribuns on sandy shores.

\* *Ipomœa reptans* Poir. ; H. S. 355 ; B. P. ii. 736.

v. *Kalmi sák*.

In ponds and marshes, everywhere.

\* *Ipomœa sepiaria* Koen.; B. P. ii. 736. *Ipomœa striata* H. S. 358.  
*I. stipulacea* H. S. 359.

v. *Ban kalmi*.

Hedges, thickets and waste places, everywhere, in two not very distinct forms or varieties.

\* *Ipomœa obscura* Ker; H. S. 359; B. P. ii. 736.

Hedges, thickets and waste places, general.

*Ipomœa tricolor* Cav.; B. P. ii. 736.

In gardens generally, on trellises; native of Mexico.

*Ipomœa pulchella* Roxb.; B. P. ii. 737. *I. heptaphylla* H. S. 360.

In gardens on trellises, general; native of India and Indo-China.

### 370. *Quamoclit* Mœnch.

*Quamoclit phœnicea* Choisy; H. S. 353; B. P. ii. 737.

In waste places, general, sometimes also in gardens; originally doubtless a garden escape but now completely naturalised; native of America.

*Quamoclit pinnata* Boj.; H. S. 353; B. P. ii. 738.

v. *Taru-lata, kan lata*.

In gardens everywhere; sometimes also in waste places as an escape; native of America.

### 371. *Calonyction* Choisy.

\* *Calonyction Bona nox* Boj.; B. P. ii. 738. *C. Roxburghii* H. S. 355.

v. *Dudh kalmi, dal kalmi*.

In hedges and village-shrubberies, everywhere; occasionally, but very rarely, cultivated. This species is so general that it appears to have a good claim to be considered a native.

### 372. *Rivea* Choisy.

*Rivea hypocrateriformis* Choisy; B. P. ii. 739. *R. Bona nox*  
H. S. 351.

v. *Kalmi lata*.

Reported by Voigt from Serampore, but the record is not very probable; nearest known locality Midnapore.

### 373. *Stictocardia* Hallier. f.

\* *Stictocardia tiliæfolia* Hallier f.; B. P. ii. 740. *Rivea tiliæfolia*  
H. S. 350.

Banks of Hughli river, Salt-lakes, Sundribuns.

374. *Argyrea* Lour.

\* *Argyrea speciosa* Sw. ; H. S. 351 ; B. P. ii. 741.

v. *Bich tarak, guguli.*

In village-shrubberies, occasional.

\* *Argyrea argentea* Choisy ; H. S. 352 ; B. P. ii. 741.

v. *Chhota bich-tarak.*

Serampore, *Voigt* ; Chandernagore, *Prain's collector* ; Hughli, *Prain.* Apparently very rare in our area.

375. *Lettsomia* Roxb.

\* *Lettsomia strigosa* Roxb. ; B. P. ii. 742. *Argyrea capitata* H. S. 352.

In village-shrubberies and hedges.

## LXXIII.—SOLANACEÆ.

376. *Lycopersicum* Mill.

*Lycopersicum esculentum* Mill. ; H. S. 513 ; B. P. ii. 743.

v. *Gur-bagun.*

Cultivated and sometimes on rubbish heaps as an escape ; native of America.

377. *Solanum* Linn.

*Solanum tuberosum* Linn. ; H. S. 510 ; B. P. ii. 745.

v. *Bilati alu.*

Cultivated, especially in Hughli district.

\* *Solanum nigrum* Linn. ; B. P. ii. 745. *S. rubrum* H. S. 511.

v. *Gurki, gurkamai.*

Shady places, garden ground and waste spots ; general.

\* *Solanum verbascifolium* Linn. ; H. S. 511 ; B. P. ii. 746.

v. *Arasa.*

Village-shrubberies, roadsides and waste places ; general.

*Solanum glaucum* Dun.

Naturalised and very abundant at Canning Town ; native of America.

*Solanum sisymbriifolium* Lamk. ; B. P. ii. 746.

Occasionally as if wild about Shibpur and on the banks of the river Hughli ; native of America.

\* *Solanum ferox* Linn. ; H. S. 512 ; B. P. ii. 746.

v. *Ram-begun.*

Waste places, not very common.

- \* **Solanum torvum** Sw. ; H. S. 511 ; B. P. ii. 746.  
 v. *Gota begun*.  
 Village-shrubberies, roadsides and waste places ; everywhere.
- \* **Solanum indicum** Linn. ; H. S. 512 ; B. P. ii. 746.  
 v. *Byakur*.  
 Waste places near villages, general.
- Solanum Melongena** Linn. ; H. S. 512 ; B. P. ii. 746.  
 v. *Begun*.  
 In gardens and market gardens, everywhere.  
 VAR. *esculenta* H. S. 512 ; B. P. ii. 746.  
 v. *Kuli begun*.  
 In gardens and market gardens, everywhere.  
 VAR. *insana* H. S. 512 ; B. P. ii. 746.  
 In village-shrubberies and waste places, general. This is rather a state of the cultivated *Begun* become general after escape than a truly wild stock ; native of India.
- \* **Solanum xanthocarpum** Schr. & Wendl. ; B. P. ii. 746. *S. Jacquini* H. S. 513.  
 v. *Kantee kari*.  
 Waste places and dry fields, everywhere.
- \* **Solanum trilobatum** Linn. ; H. S. 513 ; B. P. ii. 747.  
 Western Sundribuns.

378. **Capsicum** Linn.

- Capsicum annum** Linn. VAR. *abbreviata* ; B. P. ii. 748. *C. frutescens* H. S. 510.  
 v. *Lanka mirich*.  
 In fields and market gardens, everywhere ; native of America.  
 VAR. *grossa* B. P. ii. 748. *C. grossum* H. S. 510.  
 v. *Kápkari mirich*.  
 In gardens of natives and Europeans, general ; native of America.
- Capsicum frutescens** Linn. ; B. P. ii. 749. *C. fastigiatum* H. S. 510.  
 v. *Dhan mirich*.  
 In gardens occasionally ; as if wild in waste places, general ; native of S. America.

379. **Physalis** Linn.

- \* **Physalis minima** Linn. ; H. S. 514 ; B. P. ii. 750.  
 v. *Ban-tipariya*.  
 A weed of garden ground, everywhere.

**Physalis peruviana** Linn. ; H. S. 514 ; B. P. ii. 750.

v. *Tipariya*.

In gardens and market gardens, general ; native of S. America.

380. **Withania** Paug.

**Withania somnifera** Dun. ; B. P. ii. 750. *Physalis somnifera* H. S. 513.

v. *Ashva gandha*.

Reported from Serampore by Voigt, but almost certainly not wild ; it is cultivated in small gardens in Northern Bengal and may perhaps be met with in our provinces in the gardens of native herbalists ; native of Western India.

381. **Datura** Linn.

**Datura fastuosa** Linn. ; H. S. 515 ; B. P. ii. 751.

v. *Kala Dhutra*.

In gardens generally, sometimes as if wild ; native of India.

VAR. *alba* B. P. ii. 751. *D. alba*, H. S. 515.

v. *Dhutra*.

In gardens everywhere, and in waste places, as if wild, generally ; native of India.

382. **Petunia** Juss.

**Petunia nyctaginiflora** Juss. ; H. S. 516.

In gardens of Europeans ; occasionally sub-spontaneous in garden beds and on rubbish heaps.

383. **Nicotiana** Linn.

**Nicotiana rustica** Linn. ; H. S. 516 ; B. P. ii. 752.

v. *Hamaku, angrezi tamaku*.

Cultivated sparingly in fields ; native of America.

**Nicotiana Tabacum** Linn. ; H. S. 516 ; B. P. ii. 752.

v. *Tamaku*.

In fields, fairly generally ; native of America.

**Nicotiana plumbaginifolia** Viv. ; H. S. 516 ; B. P. ii. 752.

v. *Ban tamaku*.

A weed of shady places, general ; native of America.

384. **Browallia** Linn.

**Browallia elata** Linn. ; H. S. 500 ; B. P. ii. 753.

In gardens of Europeans, general, but often also occurring spontaneously in garden beds and on rubbish heaps.

## LXXIV.—SCROPHULARINEÆ.

385. *Celsia* Linn.

- \* *Celsia coromandeliana* Vahl. ; H. S. 497 ; B. P. ii. 757.

v. *Koksima*.

A weed of fields and gardens, general.

386. *Linaria* Juss

- \* *Linaria ramosissima* Wall. ; H. S. 498 ; B. P. ii. 757.

Waste places, west of the Hughli, rare.

387. *Mazus* Lour.

- \* *Mazus rugosus* Lour. ; B. P. ii. 759.

In grassy glades and on garden paths about Calcutta, not very common, and possibly an introduction from elsewhere, not recorded by Voigt though it was known previously to Roxburgh.

388. *Lindenbergia* Lehm.

- \* *Lindenbergia urticifolia* Lehm. ; B. P. ii. 760. *L. ruderalis* H. S.

501.

v. *Haldi basanta*.

Old walls and sloping banks, everywhere.

389. *Limnophila* R. Br.

- Limnophila Roxburghii* G. Don. ; H. S. 502 ; B. P. ii. 763.

v. *Kala karpur*.

In native gardens occasionally ; recorded from Serampore by Voigt but very doubtfully wild in our area ; is wild in Chota Nagpur and North Bengal.

- \* *Limnophila conferta* Benth. ; B. P. ii. 764.

Damp places, occasional.

- Limnophila diffusa* Benth. ; B. P. ii. 764. *L. albiflora* H. S. 502.

Damp places, occasional.

- \* *Limnophila erecta* Benth.

Serampore, *Griffith*. Not referred to either by Roxburgh or by Voigt, but once collected at Serampore by Griffith. The species is plentiful in Tenasserim and the Malay Peninsula, and it may have been only as a casual, introduced with plants from Southern Burma or Malaya to Dr. Carey's garden, that Griffith met with it.

- \* *Limnophila heterophylla* Benth. ; H. S. 502 ; B. P. ii. 764.

Rice-fields and swampy places, general.

- \* **Limnophila gratissima** Bl. ; B. P. ii. 764.  
Western Sundribuns at Jatta, in a sweet water tank.
- \* **Limnophila racemosa** Benth. ; H. S. 502 ; B. P. ii. 764.  
Rice-fields and swamps, occasional.
- \* **Limnophila gratioloides** R. Br. ; H. S. 502 ; B. P. ii. 764. *L. gratioloides* VAR. *myriophylloides* H. S. 502.  
v. *Karpur*.  
Rice-fields, swamps and damp places everywhere.

390. **Herpestis** Gärtn. f.

- \* **Herpestis Monnieria** H. B. & K. ; H. S. 502 ; B. P. ii. 765.  
v. *Adha birni*.  
Marshes, rice-field borders, and wet places everywhere.

**Herpestis chamædroides** Linn. ; B. P. ii. 765.

A fairly common weed of garden paths about Calcutta ; a quite recent introduction from America.

**Herpestis Hamiltoniana** Benth. ; B. P. ii. 765. *H. sessiliflora* H. S. 502.

Reported by Voigt from Serampore, quite a probable record as the species occurs both to the west and to the east of our districts ; the record for this area, however, requires verification.

391. **Dopatrium** Ham.

- \* **Dopatrium junceum** Ham. ; (H. S. 503) ; B. P. 766. *D. nudicaule* H. S. 503.  
Rice-fields and swamps, mostly west of the Hughli.  
Voigt in H. S. appears to have reversed the incidence of the two names cited confining *D. junceum* to Coromandel and recording *D. nudicaule* from Bengal. The experience of all subsequent collectors has been that it is *D. junceum* which occurs in our districts.

392. **Torenia** Linn.**Torenia cordifolia** Roxb. ; H. S. 505 ; B. P. ii. 767.

Reported from Serampore by Voigt, but certainly not a native of our districts, though it may quite possibly have been met with by him as a casual, introduced with seeds from other parts of India ; native of the higher parts of India and of the lower Himalayan spurs.

**Torenia asiatica** Linn. ; H. S. 505.

Reported from Serampore by Voigt, but certainly not a native of our districts. From his citations it would appear that Voigt refers to

two other species, *T. vagans* and *T. peduncularis* and not to the true *T. asiatica* at all. But in any case the plant he refers to can only have occurred as an escape from cultivation (if he means the true *T. asiatica*) or as possibly a casual (if he means either of the others). All three occur both in India and in Malaya.

**Torenia Fournieri** Linden; B. P. ii. 767.

In gardens of European residents, general; but also coming up spontaneously on rubbish heaps and in waste ground; native of Cochin-China.

This plant shows every sign of becoming quite domesticated in our districts; none of the Indian or Malayan species.

### 393. *Vandellia* Linn.

\* *Vandellia crustacea* Benth.; H. S. 504; B. P. ii. 768. *V. varians* H. S. 505.

Fields, gardens and paths, everywhere.

\* *Vandellia multiflora* G. Don; B. P. ii. 768.

A field and garden weed, general.

\* *Vandellia pedunculata* Benth.; B. P. ii. 769. *V. Roxburghii* H. S. 504.

Damp places and rice-fields, occasional.

\* *Vandellia angustifolia* Benth.; B. P. ii. 769.

Rice-fields in Western Hughli district, rare.

\* *Vandellia pyxidaria* Maxim.; B. P. ii. 769. *Bonnaya integrifolia* H. S. 504.

Gardens, fields and path-ways, everywhere.

### 394. *Ilysanthes* Raf.

\* *Ilysanthes parviflora* Benth.; B. P. ii. 769. *Bonnaya parviflora* H. S. 504.

Rice-fields, west of the Hughli, occasional.

*Ilysanthes hyssopoides* Benth.; B. P. ii. 1277. *Bonnaya hyssopoides* H. S. 504.

Recorded by Voigt from Serampore, but not a likely record; the nearest known localities are Silhet and Southern Chota Nagpur; possibly it was the preceding species that Voigt met with.

*Ilysanthes rotundifolia* Benth. *Bonnaya rotundifolia* H. S. 504.

Recorded by Voigt from Serampore, but a less likely record than the preceding, as the species is apparently confined to Southern India and Ceylon, Mauritius and Madagascar.

Voigt does not report *I. parviflora* from Bengal though that species does certainly occur in our area.

### 395. *Bonnaya* Link & Otto.

- \* *Bonnaya brachiata* Link & Otto; B. P. ii. 770. *B. serrata* H. S. 503.  
v. *Bhumi nim*.  
A weed of fields, gardens and path-ways.
- \* *Bonnaya veronicæfolia* Spreng.; H. S. 503; B. P. ii. 770.  
Wet places, everywhere.  
VAR. \* *verbenæfolia* B. P. ii. 770. *B. verbenæfolia* H. S. 503.  
Wet places, general.  
VAR. \* *grandiflora* B. P. ii. 771. *B. grandiflora* H. S. 504.  
Fields, gardens and path-ways, everywhere.
- \* *Bonnaya tenuifolia* Spreng.; H. S. 504; B. P. ii. 771.  
Wet places, occasional.

*Bonnaya oppositifolia* Spreng.; H. S. 504.

Reported by Voigt from Serampore, but the record is very doubtful, since the species is apparently confined to the Deccan.

### 396. *Scoparia* Linn.

*Scoparia dulcis* Linn.; H. S. 507; B. P. ii. 772.

Fields, paths and waste places everywhere; not mentioned by Roxburgh though now one of the commonest and most troublesome of weeds; native of America.

### 397. *Veronica* Linn.

*Veronica Anagallis* Linn.; H. S. 507; B. P. ii. 773.

Reported from the banks of the Hughli about Serampore by Voigt, a very probable record but one that should be confirmed; the species is quite plentiful in North Bengal.

*Veronica agrestis* Linn.; H. S. 507; B. P. ii. 773.

An occasional weed in gardens about Calcutta in the cold season; probably, however, only a casual and always reintroduced with seed from Upper India or from Europe.

### 398. *Striga* Lour.

\* *Striga lutea* Lour.; H. S. 505; B. P. ii. 775.

Goghat, Western Hughli district.

\* *Striga euphrasioides* Benth.; H. S. 506; B. P. ii. 775.

Goghat, Western Hughli district.

399. *Centranthera* R. Br.

- \* *Centranthera hispida* R. Br. ; H. S. 507 ; B. P. ii. 776.

Goghat, Western Hughli district ; also recorded by Voigt from Serampore.

- \* *Centranthera humifusa* Wall. ; H. S. 508 ; B. P. ii. 776.

Goghat, Western Hughli district ; also recorded by Voigt from Serampore.

## LXXV.—OROBANCHACEÆ.

400. *Eginetia* Linn.

- \* *Eginetia pedunculata* Wall. ; H. S. 496 ; B. P. ii. 778. *Orobanche acaulis* H. S. 496.

On roots of grasses at Shibpur (*Roxburgh*) and Serampore (*Voigt*) ; probably, however, only casual in our area : is common in Northern Bengal.

401. *Orobanche* Tournef.

- \* *Orobanche indica* Ham. ; H. S. 496 ; B. P. ii. 779.

On roots of Brassica, occasional.

## LXXVI.—LENTIBULARIACEÆ.

402. *Utricularia* Linn.

- \* *Utricularia stellaris* Linn. f. ; H. S. 494 ; B. P. ii. 780.

v. *Jhangi*.

Floating in pools and marshes, general.

VAR. *reflexa* B. P. ii. 780.

Floating in pools and marshes, general.

- \* *Utricularia flexuosa* Vahl ; B. P. ii. 780. *U. fasciculata* H. S. 494.

v. *Jhangi*.

Floating in pools and marshes, everywhere.

- \* *Utricularia exoleta* R. Br. ; B. P. ii. 781. *U. diantha* H. S. 494.

v. *Chhota jhangi*.

Marshes, ditches and wet places, occasional.

*Utricularia reticulata* Sw. VAR. *uliginosa* B. P. ii. 781. *U. reticulata* H. S. 494.

v. *Nil jhangi*.

Reported by Voigt from Serampore ; the record needs confirmation but is a quite probable one ; the species occurs in Burdwan.

*Utricularia racemosa* Wall. ; B. P. ii. 781. *U. nivea* also *U. nivea*

VAR. *cærulea* H. S. 494.

Both varieties of this species are recorded from Serampore by Voigt, but both records need verification; the blue-flowered variety is common in Chota Nagpur and West Bengal, the white flowered one also occurs there.

\* *Utricularia bifida* Linn.; B. P. ii. 781.

v. *Chhota jhangi*.

Rice-fields near Hughli, and possibly elsewhere.

#### XXVII.—BIGNONIACEÆ.

##### 403. *Oroxylum* Vent.

*Oroxylum indicum* Vent.; B. P. ii. 787. *Calosanthus indica* H. S. 477.

Occasionally planted and sometimes self-sown about Calcutta; native of India.

##### 404. *Millingtonia* Linn. f.

*Millingtonia hortensis* Linn. f.; B. P. ii. 783. *Bignonia suberosa* H. S. 476.

In avenues, general, sometimes sub-spontaneous; native of Burma.

#### LXXVIII.—PEDALINEÆ.

##### 405. *Martynia* Linn.

*Martynia diandra* Glox.; H. S. 475; B. P. ii. 791.

v. *Bagh noki*.

In waste places and on rubbish heaps not uncommon; native of America.

##### 406. *Sesamum* Linn.

*Sesamum indicum*. DC.; H. S. 475; B. P. ii. 792.

v. *Til*.

A field crop; probably native of Asia.

#### LXXIX.—ACANTHACEÆ.

##### 407. *Thunbergia* Linn. f.

*Thunbergia alata* Boj.; H. S. 481; B. P. ii. 795.

In gardens, but occasionally as if wild on rubbish heaps near Calcutta.

*Thunbergia grandiflora* Roxb.; H. S. 481; B. P. ii. 796.

v. *Nil lata*.

Recorded by Voigt from Serampore; occasionally as if wild in village-shrubberies near Calcutta, but probably only as an escape

from gardens in our area; often grown on trellises; nearest locality where wild, Western Bengal.

408. *Nelsonia* R. Br.

- \* *Nelsonia campestris* R. Br.; B. P. ii. 797. *N. tomentosa* H. S. 482.  
v. *Parámul*.  
Grassy glades, general.

409. *Ebermaiera* Nees.

- \* *Ebermaiera glutinosa* Wall.; B. P. ii. 798.  
A weed of rice-fields, general.

410. *Cardanthera* Ham.

- \* *Cardanthera triflora* Ham.; H. S. 482; B. P. ii. 799.  
v. *Kala*.  
A weed of wet places and margin of ponds and ditches, general.

411. *Acanthus* Linn.

- \* *Acanthus ilicifolius* Linn.; B. P. ii. 800. *Dilivaria ilicifolia* H. S. 487.  
v. *Harkuch kanta, hargoza*.  
Sundribuns, and banks of Hughli as far north as Calcutta.  
\* *Acanthus volubilis* Wall.; B. P. ii. 800.  
Western Sundribuns.

412. *Hygrophila* R. Br.

- \* *Hygrophila polysperma* T. And.; B. P. ii. 801. *Hemiadelphia polysperma* H. S. 483.  
v. *Chhota mechitta*.  
Dampish spots, general.  
\* *Hygrophila quadrivalvis* Nees; B. P. ii. 802.  
Moist places, general.  
\* *Hygrophila phlomoidea* Nees VAR. *Roxburghii* B. P. ii. 802. *H. obovata* H. S. 483.  
Western Sundribuns, in wet swampy places in cleanings, rare elsewhere.  
\* *Hygrophila spinosa* T. And.; B. P. ii. 802. *Asteracantha longifolia* H. S. 485.  
v. *Kanta kalika, kúliakhara*.  
Wet or swampy places, everywhere.

413. *Ruellia* Linn.

- \* *Ruellia prostrata* Lamk. VAR. *dejecta* B. P. ii. 803. *Dipteracanthus dejectus* H. S. 483.  
v. *Burigopana*.  
Waste places ; general.

*Ruellia tuberosa* Linn. ; B. P. ii. 803.

In gardens and often as an escape ; not yet introduced in 1845 ; native of America.

414. *Hemigraphis* Nees.

- \* *Hemigraphis hirta* T. And. ; B. P. ii. 805. *Ruellia sarmentosa* H. S. 484.  
Grassy glades, occasional.

415. *Phayloopsis* Willd.

- \* *Phayloopsis parviflora* Willd. ; B. P. ii. 806. *Ætheilema reniforme* H. S. 486.  
Grassy glades, general.

416. *Andrographis* Wall.

- \* *Andrographis paniculata* Nees. ; H. S. 493 ; B. P. ii. 809.  
v. *Mahatita, kátmegh*.  
Roadsides and waste places, everywhere.

417. *Crossandra* Salisb.

- \* *Crossandra undulæfolia* Salisb. ; B. P. ii. 811.  
In gardens, generally ; native of India.

418. *Barleria* Linn.

*Barleria Prionitis* Linn. ; H. S. 486 ; B. P. ii. 812.

v. *Kánta játi*.

A common hedge plant ; reported by Voigt from Serampore ; it is wild in West Bengal, but can hardly be claimed as wild in our area.

- \* *Barleria cristata* Linn. ; H. S. 485 ; B. P. ii. 812.

v. *Játi*.

Hedges and thickets, occasional.

VAR. \* *dichotoma* B. P. ii. 812. *B. dichotoma* H. S. 485.

v. *Sada játi*.

Hedges and thickets, general.

419. *Asystasia* Bl.

- \* *Asystasia gangetica* T. And.; B. P. ii. 813. *A. coromandeliana* H. S. 484.

River banks and hedges, occasional.

420. *Ecbolium* Kurz.

- \* *Ecbolium Linneanum* KUNZ VAR. *dentata*; B. P. ii. 816. *Justicia dentata* H. S. 490.

v. *Udu jâti*.

Hedges and thickets, general.

421. *Justicia* Linn.

- Justicia Betonica* Linn.; B. P. ii. 817. *Adhatoda Betonica* H. S. 488.

In gardens, general; native of India.

- \* *Justicia Gendarussa* Linn. f.; B. P. ii. 818. *Gendarussa vulgaris* H. S. 489.

v. *Jagat madun, gandho-rusa*.

Hedges and thickets, everywhere, as an escape from cultivation; often also cultivated, but it may perhaps be accepted as wild in our area.

- \* *Justicia quinqueangularis* Koen.; B. P. ii. 818. *Rostellularia quinqueangularis* H. S. 488.

Goghat sub-division, Hughli district; also reported by Voigt from Serampore.

- VAR. \* *peplodes* B. P. ii. 818. *Rostellularia glaberrima* H. S. 488.

Damp waste places, general.

- \* *Justicia simplex* D. Don; B. P. ii. 818. *Rostellularia mollissima* H. S. 488.

Grassy glades, everywhere.

422. *Adhatoda* Nees.

- \* *Adhatoda Vasica* Nees; H. S. 488; B. P. ii. 819.

v. *Bakús, Vâsaka*.

Hedges and village-shrubberies, everywhere.

423. *Rhinacanthus* Nees.

- Rhinacanthus communis* Nees; H. S. 490; B. P. ii. 819.

v. *Palak jui, jui pana*.

In gardens generally; native of India.

424. *Peristrophe* Nees.

- \* *Peristrophe bicalyculata* Nees; H. S. 492; B. P. ii. 820.

v. *Nasa bhaga*.

Dry waste places and fields, west of the river Hughli only.

- \* *Peristrophe tinctoria* Nees; H. S. 492; B. P. ii. 820.

v. *Bet rang, chatia rang*.

Village-shrubberies near Calcutta; occasionally also in native gardens, cultivated; no doubt originally an introduced plant, but where truly wild is not now known.

425. *Rungia* Nees.

- \* *Rungia parviflora* Nees. VAR. *pectinata*; H. S. 491; B. P. ii. 821.

Drier sloping banks, earth weels and waste places, general.

426. *Dicliptera* Juss.

- \* *Dicliptera Roxburghiana* Nees; H. S. 492; B. P. ii. 822.

Waste places about Calcutta, occasional; probably not truly wild in our area; it is plentiful in Northern and Eastern Bengal.

## LXXX.—VERBENACEÆ.

427. *Lantana* Linn.

- \* *Lantana indica* Roxb.; H. S. 472; B. P. ii. 824. *L. gogchana* H. S. 472.

Banks of river and nálás everywhere.

- Lantana Camara* Linn.; B. P. ii. 825. *L. aculeata* H. S. 472.

Village-shrubberies and hedges, general; native of Central America.

428. *Lippia* Linn.

- \* *Lippia nodiflora* Rich.; B. P. ii. 825. *Zapania nodiflora* H. S. 472.

v. *Bhui-okra, chhota okra*.

Wet places, everywhere.

- Lippia geminata* H. B. & K.; B. P. ii. 825.

Banks of river and nálás, general; native of America.

429. *Stachytarpheta* Vahl.

- Stachytarpheta indica* Vahl.; B. P. ii. 826. *S. jamaicensis* H. S. 471.

In native gardens; also sometimes as an escape; seems wild in many parts of India, but probably was originally introduced from America.

430. *Verbena* Linn.

\* *Verbena officinalis* Linn. ; H. S. 471 ; B. P. ii. 826.

A weed in gardens and waste places, frequent.

Though not claimed by Voigt as being wild in our area, it has quite as much right to be so considered as many of the other common weeds.

431. *Duranta* Jacq.

*Duranta Plumieri* Jacq. ; H. S. 471 ; B. P. ii. 827.

Planted in hedges and on lawns ; also sometimes sub-spontaneous in abandoned gardens and, rarely, in village-shrubberies.

432. *Callicarpa* Linn.

*Callicarpa cana* Linn. ; H. S. 467 ; B. P. ii. 828.

v. *Arusha*.

Often planted in native gardens ; sometimes as if wild in village-shrubberies ; native of Malaya.

\* *Callicarpa macrophylla* Vahl. ; B. P. ii. 828. *C. incana* H. S. 467.

v. *Mathara*.

Village-shrubberies and roadsides, general.

\* *Callicarpa longifolia* Lamk. VAR. *lanceolaria* ; B. P. ii. 828.

*C. lanceolaria* H. S. 467.

Village-shrubberies and roadsides, rare.

433. *Tectona* Linn. f.

*Tectona grandis* Linn. f. ; H. S. 470 ; B. P. ii. 828.

v. *Sagun*.

Planted occasionally in avenues ; native of drier parts of India and Indo-China.

434. *Gmelina* Linn.

\* *Gmelina arborea* Roxb. : H. S. 470 ; B. P. ii. 829.

v. *Gámbár*.

Goghat sub-division of Hughli district ; elsewhere often planted or semi-wild in village-shrubberies.

*Gmelina asiatica* Linn. ; H. S. 470 ; B. P. ii. 829.

v. *Badhára*.

In gardens generally ; native of India.

435. *Premna* Linn.

- \* *Premna integrifolia* Linn. ; B. P. ii. 830. *P. barbata* H. S. 468.  
*P. spinosa* H. S. 468. *P. hircina* H. S. 468.  
 v. *Bhút biravi, goniari*.  
 Banks of rivers and village-shrubberies, especially plentiful in the Sundribuns.

*Premna esculenta* Roxb. ; H. S. 467 ; B. P. ii. 831.  
 Cultivated near villages.

436. *Vitex* Linn.

- \* *Vitex trifolia* Linn. ; H. S. 468 ; B. P. ii. 833.  
 v. *Pani sanbhaki*.  
 Hedges and thickets, general.
- \* *Vitex Negundo* Linn. ; H. S. 469 ; B. P. ii. 833.  
 v. *Sanbhalu, nishinda*.  
 Hedges and thickets, general ; Western Sundribuns, common.

437. *Clerodendron* Linn.

- \* *Clerodendron inerme* Gært. ; H. S. 465 ; B. P. ii. 835.  
 v. *Ban jai, ban jumat, bat raj*.  
 Western Sundribuns ; salt-lakes near Calcutta.
- \* *Clerodendron infortunatum* Gært. ; B. P. ii. 835. *C. viscosum*  
 H. S. 465.  
 v. *Bhánt*.  
 Roadsides, waste places, village-shrubberies ; everywhere.
- Clerodendron fragrans* Vent. ; H. S. 466 ; B. P. ii. 835.  
 In gardens everywhere, but often as an escape ; native of China.
- \* *Clerodendron Siphonanthus* R. Br. ; H. S. 465 ; B. P. ii. 836.  
 v. *Bamun-hatti*.  
 Waste places, everywhere.

438. *Avicennia* Linn.

- \* *Avicennia officinalis* Linn. ; B. P. ii. 838. *A. tomentosa* H. S. 473.  
 v. *Báen, Bina*.  
 Western Sundribuns, very common.

## LXXXI.—LABIATÆ.

439. *Ocimum* Linn.

- Ocimum sanctum* Linn. ; H. S. 448 ; B. P. ii. 843.  
 v. *Tulsi, kala tulsi, krishna tulsi*.

Near temples and shrines everywhere, planted or as an escape ; native of India.

**Ocimum gratissimum** Linn. ; H. S. 448 ; B. P. ii. 843.

v. *Ram tulsi*.

In gardens and sometimes as an escape ; native of S. E. Asia.

**Ocimum Basilicum** Linn. ; H. S. 447 ; B. P. ii. 843.

v. *Babui tulsi, gulál tulsi*.

In gardens and also in waste places as if wild ; native of S. E. Asia.

**Ocimum viride** Willd.

v. *Belati Tulsi*.

In gardens, recently introduced owing to its reputed property of keeping off mosquitoes ; native of Africa.

**Ocimum adscendens** Willd. ; H. S. 448.

v. *Ban tulsi*.

Reported by Voigt from Serampore, not at all a likely record as the species seems naturally confined to the Deccan and C. India ; examples may of course have been met with at Serampore ; but, if so, they are almost certain to have been casuals introduced with seed of other plants from the drier parts of India.

#### 440. *Moschosma* Reichb.

\* ***Moschosma polystachyum*** Reichb. ; H. S. 449 ; B. P. ii. 845.

Gohat sub-division, Hughli district.

#### 441. *Coleus* Lour.

***Coleus aromaticus*** Benth. ; B. P. ii. 847. *C. amboinicus* H. S. 450.

v. *Pathorchur*.

In gardens everywhere.

***Coleus scutellarioides*** Benth. ; H. S. 450 ; B. P. ii. 847.

In gardens generally.

#### 442. *Hyptis* Jacq.

***Hyptis capitata*** Jacq. ; B. P. ii. 848.

In gardens, and sometimes self-sown.

#### 443. *Pogostemon* Desf.

\* ***Pogostemon plectranthoides*** Desf. ; H. S. 451 ; B. P. ii. 849.

v. *Fui lata, bil lata*.

Hedges and thickets, general.

444. *Dysophylla* Bl.

- \* *Dysophylla verticillata* Benth.; H. S. 452; B. P. ii. 851.

v. *Pani kala*.

Rice-fields and ditches, general.

445. *Anisomeles* R. Br.

- \* *Anisomeles ovata* R. Br.; H. S. 460; B. P. ii. 853.

v. *Gobura*.

Hedges, thickets and waste places, everywhere.

446. *Leonurus* Linn.

- Leonurus sibiricus* Linn.; H. S. 460; B. P. ii. 854.

v. *Gúma*.

A weed of roadsides and waste places, and one of the commonest plants in such localities, but obviously only naturalised; native of temperate Asia.

447. *Leucas* R. Br.

- \* *Leucas aspera* Spreng.; H. S. 461; B. P. ii. 855.

v. *Chhota halkúsa*.

A weed of fields and waste places, general.

- \* *Leucas linifolia* Spreng.; H. S. 462; B. P. ii. 856.

v. *Halkúsa*.

A weed of fields and waste places, everywhere.

- \* *Leucas Cephalotes* Spreng.; H. S. 461; B. P. ii. 856.

v. *Bara halkúsa*.

A weed of field and waste places, fairly general.

- \* *Leucas mollissima* Wall.; H. S. 461; B. P. ii. 856.

Goghat sub-division, Hughli district.

- \* *Leucas procumbens* Desf.; H. S. 461; B. P. ii. 857.

v. *Basantá*.

A weed of gardens, fields and grassy glades, general.

448. *Leonotis* R. Br.

- Leonotis nepetifolia* R. Br.; H. S. 462; B. P. ii. 857.

v. *Khajur churi, hejurchi*.

Roadsides and waste places, general; associated with but always less common than *Leonurus sibiricus*, and like the *Leonurus* doubtless only a naturalised species anywhere in India; native of Africa.

449. *Meriandra* Benth.

*Meriandra bengalensis* Benth. ; H. S. 453 ; B. P. ii. 858.

v. *Kafur-ka-pat*.

In native gardens, generally ; native of Africa.

450. *Salvia* Linn.

\* *Salvia plebeja* R. Br. ; H. S. 455 ; B. P. ii. 859.

v. *Koka buradi*, *bhu-tulsi*.

In fields and gardens, a general weed.

*Salvia coccinea* Linn. ; H. S. 455 ; B. P. ii. 859.

In gardens, generally ; sometimes also self-sown.

## INCOMPLETÆ.

## LXXXII.—NYCTAGINEÆ.

451. *Mirabilis* Linn.

*Mirabilis Jalapa* Linn. ; H. S. 328 ; B. P. ii. 862.

v. *Krishno káli*.

In gardens everywhere, and often as an escape ; native of S. America.

452. *Boerhaavia* Linn.

\* *Boerhaavia repens* Linn. VAR. *procumbens* B. P. ii. 863. *B. erecta*

H. S. 328.

v. *Purna*.

Waste places, fields and roadsides, everywhere.

453. *Bougainvillea* Comm.

*Bougainvillea glabra* Choisy ; B. P. ii. 863.

In gardens generally ; native of Brazil.

*Bougainvillea spectabilis* Willd. ; H. S. 329 ; B. P. ii. 864.

In gardens, often ; native of Brazil.

454. *Pisonia* Linn.

*Pisonia aculeata* Linn. ; B. P. ii. 864. *P. villosa* H. S. 328.

v. *Baghachura*.

Recorded by Voigt from Serampore ; it is occasionally used as a hedge in our area but is not with us a wild plant ; native of India and Indo-China.

## LXXXIII.—AMARANTACEÆ.

455. *Deeringia* R. Br.

- \* *Deeringia celosioides* R. Br. ; B. P. ii. 866. *D. indica* H. S. 315.  
 v. *Gola mohani*.  
 Hedges and thickets, occasional.

456. *Celosia* Linn.

*Celosia argentea* Linn. ; H. S. 318 ; B. P. ii. 867.

v. *Swet murgha phul*.

In gardens, also self-sown, everywhere ; native of S. E. Asia.

*Celosia cristata* Linn. ; H. S. 318 ; B. P. ii. 869.

v. *Lalmurgha phul*.

In gardens, generally, occasionally also as an escape ; native of S. E. Asia.

457. *Digera* Forsk.

- \* *Digera arvensis* Forsk. ; B. P. ii. 868. *D. muricata* H. S. 314.

v. *Luta mahauria, gungatiya*.

Fields and roadsides, everywhere.

458. *Amarantus* Linn.

- \* *Amarantus spinosus* Linn. ; H. S. 317 ; B. P. ii. 869.

v. *Kanta nuti, kanta miris*.

Fields and roadsides, everywhere.

- \* *Amarantus gangeticus* Linn. ; H. S. 316 ; B. P. ii. 870.

v. *Lal shak, rakna shak*.

Cultivated in many races and varieties, the chief of these, apart from the type, being the *bans pati nati* (*A. lanceolatus*) ; the *lal bans pati nati* (*A. atropurpureus*) ; and the *gobura nati* (*A. lividus*).

- \* *Amarantus tristis* Linn. ; H. S. 315. *A. gangeticus* VAR. *tristis* ;

B. P. ii. 870. *A. polygamus* H. S. 870.

v. *Champa nati*.

Cultivated in many races and varieties.

- \* *Amarantus mangostanus* Linn. ; B. P. ii. 871.

v. *Shak*.

A weed of fields and gardens, everywhere.

- \* *Amarantus viridis* Linn. ; H. S. 316 ; B. P. ii. 871.

v. *Ban nati*.

A weed of fields and gardens, general.

- \* **Amarantus fasciatus** Roxb.; H. S. 316. *A. viridis* VAR. *fasciata*  
B. P. ii. 871.  
v. *Tun-tuni nati*.  
A weed of fields and gardens, general.
- \* **Amarantus Blitum** Linn. VAR. *oleracea*; B. P. ii. 871. *A. oleraceus*  
VAR. *alba* H. S. 316.  
v. *Sadɔ nati*.  
Cultivated generally.
- \* **Amarantus polygamus** Linn.; B. P. ii. 871. *A. polygonoides* H. S.  
315.  
v. *Chiru nati*.  
A weed of fields and gardens, general.
- \* **Amarantus tenuifolius** Willd.; H. S. 315; B. P. ii. 871.  
v. *Ghenti nati*, *jelchumli*.  
A weed of roadsides, waste places and fields, everywhere.

#### 459. *Pupalia* Juss.

- Pupalia atropurpurea*** Moq.; B. P. ii. 872. *Desmochæta atropurpurea*  
H. S. 319.  
v. *Duya kuya*, *kuya duya*.  
Recorded by Voigt from Serampore, a quite probable record, as  
the species is plentiful in districts to the west of our area.

#### 460. *Psilotrichum* Moq.

- \* ***Psilotrichum ferrugineum*** Moq.; H. S. 318; B. P. ii. 873.  
v. *Rakto sirinchi*, *lal sirinchi*.  
A weed of fields and wet places, mostly to the east of the Hughli.

#### 461. *Ærua* Forsk.

- \* ***Ærua lanata*** Juss.; H. S. 317; B. P. ii. 874.  
v. *Chaya*.  
Waste places and thickets, not uncommon.
- Ærua scandens*** Mart.; H. S. 317; B. P. ii. 874.  
v. *Nuriya*.  
Reported by Voigt from Serampore; the record is possible but  
needs confirmation; the species is common in districts to the west  
of our area.

#### 462. *Achyranthes* Linn.

- \* ***Achyranthes aspera*** Linn.; H. S. 318; B. P. ii. 875.  
v. *Apáng*.  
Waste places and roadsides, everywhere.

463. *Alternanthera* Forsk.\* *Alternanthera sessilis* R. Br. ; H. S. 318 ; B. P. ii. 875.v. *Chanchi*.

Waste places, roadsides and fields, everywhere.

464. *Gomphrena* Linn.*Gomphrena globosa* Linn. ; H. S. 318 ; B. P. ii. 876.v. *Gul makhmal*.

In gardens, and in waste places as an escape, general ; probably originally introduced from America.

## LXXXIV.—CHENOPODIACEÆ.

465. *Suaeda* Linn.\* *Suaeda maritima* Dumort. ; B. P. ii. 878. *Salsola indica* H. S. 322.

Western Sundribuns.

466. *Chenopodium* Linn.\* *Chenopodium album* Linn. H. S. 321 ; B. P. ii. 879. *C. laciniatum*

H. S. 322.

v. *Chandan betu, betu shak*.

In gardens and also as a weed, everywhere.

*Chenopodium ambrosioides* Linn. ; H. S. 321 ; B. P. ii. 879.

In waste places, naturalised, general ; originally American.

467. *Beta* Linn.*Beta vulgaris* Linn. ; H. S. 320 ; B. P. ii. 879. *B. bengalensis* H. S.

321.

v. *Palang shak*.

In native gardens, general ; native of Europe and temperate Asia.

468. *Spinacia* Linn.*Spinacia oleracea* Linn. ; H. S. 320 ; B. P. ii. 880. *S. tetrandra* H. S.

320.

v. *Palang, pinis*.

In gardens, general ; native of Africa.

469. *Arthrocnemum* Moq.\* *Arthrocnemum indicum* Moq. ; B. P. ii. 881. *Salicornia indica* H.

S. 320.

v. *Jadu palang*.

Western Sundribuns.

470. *Salicornia* Linn.

- \* *Salicornia brachiata* Roxb.; H. S. 329; B. P. ii. 881.  
Western Sundribuns.

471. *Basella* Linn.

- \* *Basella rubra* Linn.; B. P. ii. 882. *B. alba* H. S. 322. *B. cordifolia*  
H. S. 322.  
v. *Poi, ban poi*.  
In gardens, cultivated; also in hedges and thickets, everywhere.

## LXXXV.—PHYTOLACCACEÆ.

472. *Rivna* Linn.

- Rivina humilis* Linn.; B. P. ii. 883. *R. lævis* H. S. 323.  
In village-shrubberies, naturalised, not uncommon; native of  
America.

## LXXXVI.—POLYGONACEÆ.

473. *Polygonum* Linn.

- \* *Polygonum plebejum* R. Br. VAR. *effusa*; B. P. ii. 886.  
In damp places, everywhere.  
VAR. \* *brevifolia*; B. P. ii. 886.  
In dry places, west of river Hughli.  
VAR. \* *elegans*; B. P. ii. 886. *P. herniarioides* H. S. 325.  
In dry uncultivated or waste places, everywhere.
- \* *Polygonum orientale* Linn.; H. S. 324; B. P. ii. 886.  
v. *Bara pani mirich*.  
In damp places, general.
- Polygonum tomentosum* Willd.; H. S. 324; B. P. ii. 886.  
Reported by Voigt from Serampore; not improbably, but the  
record needs confirmation.
- Polygonum lanigerum* R. Br.; H. S. 325. VAR. *effusa*; B. P. ii. 886.  
v. *Swet pani mirich*.  
Reported by Voigt from Serampore; quite possibly, but the record  
needs confirmation.
- \* *Polygonum glabrum* Willd.; H. S. 325; B. P. ii. 886.  
In ditches and swamps, general.
- Polygonum lapathifolium* Linn.; B. P. ii. 325. *P. nutans* H. S.  
324.  
Once collected by Kurz near Shibpur, probably, however, only  
as an escape from the Botanic garden where it occurs as a casual

immigrant. It is a common species in Eastern Bengal and Assam. *P. stagninum* is a species to be looked for in our areas as it is common both to the west and the north-east of our districts, though it has not been recorded by Voigt or by any subsequent collector.

\* *Polygonum barbatum* Linn.; B. P. ii. 887, not of H. S. *P. rivulare* H. S. 325.

v. *Bikh anjubaz*.

In damp places, general.

\* *Polygonum serrulatum* Lagasc.; B. P. ii. 887. *P. flaccidum* H. S. 325.

v. *Pani mirich*.

In ditches and swampy places, general.

\* *Polygonum Hydropiper* Linn.; B. P. ii. 887.

v. *Pakurmal*.

In ditches and beside ponds, not infrequent.

\* *Polygonum flaccidum* Meisn.; B. P. ii. 887, not of H. S. *P. tenellum* H. S. 325.

In swamps and ditches, occasional.

#### 474. *Rumex* Linn.

\* *Rumex maritimus* Linn.; B. P. ii. 888. *R. Wallichianus* H. S. 326.

v. *Ban palang*.

In marshy spots, general.

\* *Rumex dentatus* Linn.; B. P. ii. 889.

In waste places, general.

*Rumex vesicarius* Linn.; H. S. 326; B. P. ii. 889.

v. *Chuka palang*. Country Sorrel.

In native gardens, occasionally; native of Africa.

#### 475. *Antigonon* Endl.

*Antigonon leptopus* Endl.; B. P. ii. 889.

Sandwich Island creeper.

In gardens, general; growing on trellises and fences.

### LXXXVII.—ARISTOLOCHIACEÆ.

#### 476. *Aristolochia* Linn.

\* *Aristolochia indica* Linn.; H. S. 313; B. P. ii. 891.

v. *Isharmal*.

Hedges, roadsides and waste places, general.

## LXXXVIII.—PIPERACEÆ.

477. *Piper* Linn.

*Piper Chaba* Hunter; H. S. 299; B. P. ii. 893.

v. *Choi*.

Cultivated generally; native of Malaya.

*Piper Betle* Linn.; H. S. 299; B. P. ii. 893.

v. *Pán, tambuli*. Betle-leaf.

Cultivated generally; native of S. E. Asia.

\* *Piper longum* Linn.; H. S. 299; B. P. ii. 893.

v. *Pipla, pipla-mal*. Long Pepper.

In hedges and thickets, general, but possibly not truly wild in our area; native of India.

*Piper nigrum* Linn.; H. S. 299; B. P. ii. 893.

v. *Gulmirich, kala mirich*. Black Pepper.

Cultivated generally.

478. *Peperomia* Ruiz & Pav.

*Peperomia pellucida* Kunth; B. P. ii. 894.

Paths, roadsides, waste places, open glades, everywhere; introduced since 1845; native of America. Now one of the most plentiful of our annual weeds.

## LXXXIX.—LAURINEÆ.

479. *Cinnamomum* Bl.

*Cinnamomum Tamala* Fr. Nees; B. P. ii. 899. *C. albiflorum* H. S. 308.

v. *Tezpat*.

Often planted in native gardens; native of E. Himalaya and Indo-China.

*Cinnamomum Camphora* Fr. Nees; B. P. ii. 899. *Camphora officinarum* H. S. 308.

v. *Kaphur*.

Occasionally planted in native gardens; native of China.

480. *Litsæa* Lamk.

\* *Litsæa sebifera* Pers.; B. P. ii. 902. *Tetranthera Roxburghii* VAR. *apetala* H. S. 309.

v. *Kukur chita*.

Thickets and village-shrubberies, everywhere.

VAR. \* *glabraria* Hook. f.; B. P. ii. 902. *Tetranthera laurifolia*  
H. S. 310.

Hedges, thickets and village-shrubberies; less common than the preceding and chiefly west of the river Hughli.

\* *Litsea polyantha* Juss.; B. P. ii. 903. *Tetranthera monopetala*  
H. S. 310.

v. *Bara kukur chita*.

Thickets and village-shrubberies, general.

\* *Litsea salicifolia* Hook. f. VAR. *laurifolia* Hook. f.; B. P. ii. 903.  
v. *Sám*.

Thickets, east of the river Hughli, occasional.

#### 481. *Cassytha* Linn.

*Cassytha filiformis* Linn.; H. S. 312; B. P. ii. 904.

v. *Akás-bél*.

Parasitic in hedges and thickets, general but not plentiful.

### XC.—LORANTHACEÆ.

#### 482. *Loranthus* Linn.

\* *Loranthus Scurrula* Linn. VAR. *bengalensis*; B. P. ii. 911.

v. *Manda*.

Parasitic on trees, general.

\* *Loranthus longiflorus* Desr.; H. S. 54; B. P. ii. 911.

v. *Bara manda*.

Parasitic on trees, everywhere.

\* *Loranthus globosus* Roxb.; H. S. 54; B. P. ii. 912.

v. *Chhota manda*.

Parasitic on trees, everywhere.

#### 483. *Viscum* Linn.

\* *Viscum monoicum* Roxb.; B. P. ii. 912.

v. *Manda, banda*.

Parasitic on trees in the Western Sundribuns, less often near Calcutta.

### XCI.—EUPHORBIACEÆ.

#### 484. *Euphorbia* Linn.

*Euphorbia antiquorum* Linn.; H. S. 162; B. P. ii. 923.

v. *Bajvaran, tikata sij*.

In hedges generally; native of drier parts of India.

**Euphorbia neriifolia** Linn.; B. P. ii. 923. *E. ligularia* H. S. 161.

v. *Mansa sij*.

In hedges occasionally; native of drier parts of India.

**Euphorbia Nivulia** Ham.; H. S. 162; B. P. ii. 923.

v. *Sij*.

Hedges and village-shrubberies everywhere; native of drier parts of India.

**Euphorbia Tirucalli** Linn.; H. S. 162; B. P. ii. 924.

v. *Lanka sij*.

Hedges generally; native of Africa.

**Euphorbia pulcherrima** Willd.; B. P. ii. 924. *Poinsettia pulcherrima* H. S. 164.

Gardens and lawns, general; native of America.

**Euphorbia geniculata** Ortega; B. P. ii. 924. *E. prunifolia* H. S. 163.

In gardens occasionally, sometimes also self-sown on rubbish heaps and in waste places; native of S. America.

**Euphorbia heterophylla** Linn.; B. P. ii. 924.

In gardens generally, also naturalized in waste places about Calcutta; native of America.

\* **Euphorbia dracunculoides** Lamk; H. S. 164; B. P. ii. 924.

v. *Jychi, chhagal puputi*.

A field weed, west of the river Hughli only.

**Euphorbia graminea** Jacq.; B. P. ii. 924.

A weed of waste places about Calcutta; recently introduced; native of America.

\* **Euphorbia hypericifolia** Linn. VAR. *indica*; B. P. ii. 924. *E. uniflora* H. S. 163.

Fields and waste places, general.

VAR. *parviflora*; B. P. ii. 924. *E. parviflora* H. S. 163.

Fields and waste places, west of the Hughli.

\* **Euphorbia pilulifera** Linn.; B. P. ii. 925. *E. hirta* H. S. 163.

v. *Bara kerui*.

A weed of fields, gardens, waste places and roadsides, everywhere.

\* **Euphorbia thymifolia** Linn.; H. S. 163; B. P. ii. 925.

v. *Swet kerui*.

A weed of fields, gardens and paths, everywhere.

\* *Euphorbia microphylla* Heyne; B. P. ii. 925. *E. Chamæsyce* H. S. 163.

v. *Chhota kerui*.

A weed of waste places, west of the Hughli, rare.

485. *Pedilanthus* Neck.

*Pedilanthus tithymaloides* Poit.; H. S. 164; B. P. ii. 925.

v. *Belati sij*.

A hedge plant everywhere, sometimes also naturalized in village-shrubberies; native of America.

486. *Bischofia* Bl.

*Bischofia javanica* Bl.; B. P. ii. 926. *Stylodiscus trifoliatus* H. S. 160.

Planted in avenues and occasionally on roadsides; native of India, Indo-China and Malaya.

487. *Bridelia* Willd.

\* *Bridelia stipularis* Bl.; B. P. ii. 928. *B. scandens* H. S. 156.

v. *Harin hara*.

Village-shrubberies, also Western Sundribuns.\*

\* *Bridelia tomentosa* Bl.; B. P. ii. 928. *B. lanceæfolia* H. S. 156.

v. *Mindri, sirai*.

Village-shrubberies, occasional.

488. *Glochidion* Forst.

*Glochidion multiloculare* Voigt; H. S. 152; B. P. ii. 930. *Agyneia puber* H. S. 155.

Reported by Voigt from Serampore, a quite possible record, but one that needs confirmation; the shrub may be looked for in village-shrubberies; it is common in most other parts of Bengal.

489. *Flueggea* Willd.

\* *Flueggea microcarpa* Bl.; B. P. ii. 931. *F. retusa* H. S. 152. *F. virosa* H. S. 152.

Village-shrubberies, hedges, waysides and river banks, general.

490. *Agyneia* Vent.

\* *Agyneia bacciformis* A. Juss.; B. P. ii. 932. *Phyllanthus bacciformis* H. S. 154.

Damp fields in 24-Pergunnahs, south-east of Calcutta, also in the North-Western Sundribuns.

491. *Breynia* Forst.

- \* *Breynia rhamnoides* Muell.-Arg.; B. P. ii. 933. *Phyllanthus reticulatus* H. S. 154.  
v. *Kali sitki, hamkatoguli*.  
Hedges and thickets, general.

492. *Phyllanthus* Linn.

- \* *Phyllanthus reticulatus* Poir.; B. P. ii. 935. *P. multiflorus* H. S. 154.  
v. *Panjuli*.  
Hedges and thickets, everywhere.

*Phyllanthus Emblica* Linn.; B. P. ii. 935. *Emblica officinalis* H. S. 153.  
v. *Amla*.

In gardens, occasionally; native of drier parts of India.

*Phyllanthus maderaspatensis* Linn.; H. S. 153; B. P. ii. 935.  
*P. obcordatus* H. S. 154.

Both the decumbent form (*P. maderaspatensis* proper) and the tall slender form (*P. obcordatus*) of this species are reported from Serampore by Voigt, but both records are somewhat unlikely and both need confirmation; the species is common in the drier parts of India, but there are no specimens of any of its varieties from our area in the Calcutta herbarium.

- \* *Phyllanthus urinaria* Linn.; H. S. 154; B. P. ii. 935.  
v. *Hazar mani*.

In waste shady places, general.

- \* *Phyllanthus simplex* Retz; H. S. 153; B. P. ii. 936.  
A weed in cultivated ground, mostly west of the river Hughli.

- \* *Phyllanthus Niruri* Linn.; H. S. 154; B. P. ii. 936.  
v. *Bhui amla, sada hazar mani*.

A weed of cultivated ground, everywhere.

*Phyllanthus distichus* Muell.-Arg.; B. P. ii. 936. *Cicca disticha* H. S. 153.

v. *Noari, nubari, loda, hariphul*.

In native gardens, general; native place uncertain.

493. *Putranjiva* Wall.

*Putranjiva Roxburghii* Wall.; H. S. 296; B. P. ii. 936.  
v. *Fia pata, putranjiva*.

In avenues and on roadsides, also often spontaneously in village-shrubberies; native of India.

494. *Antidesma* Linn.

- \* *Antidesma Ghæsemhillia* Gærtn.; B. P. ii. 938.

v. *Khudi jamb, tim tóa.*

In village-shrubberies, general.

- \* *Antidesma diandrum* Roth.; B. P. ii. 938.

v. *Multa.*

In village-shrubberies, occasional.

495. *Jatropha* Linn.

*Jatropha multifida* Linn.; H. S. 159; B. P. ii. 941.

In native and other gardens, and near temples and shrines, cultivated; also occasionally self-sown in waste places; native of America.

*Jatropha gossypifolia* Linn.; B. P. ii. 941.

v. *Lal bherenda.*

Waste places, roadsides, village-shrubberies everywhere, never cultivated; native of America. Though now one of the commonest and most striking of the shrubby weeds of our area, this species is not included in Voigt's list, published so recently as 1845.

*Jatropha Curcas* Linn.; H. S. 158; B. P. ii. 941.

v. *Bagh bherenda.*

In native gardens and hedges everywhere, and sometimes sub-spontaneous in village-shrubberies.

496. *Aleurites* Forst.

*Aleurites moluccana* Willd.; B. P. ii. 942. *A. triloba* H. S. 159.

v. *Akrot.*

Planted generally; Voigt even records it from Serampore as wild, and it does sometimes occur sub-spontaneously, but it has no claim to be indigenous; native of Papuaasia.

497. *Croton* Linn.

- \* *Croton oblongifolius* Roxb.; H. S. 156; B. P. ii. 943.

v. *Chucka, bara gachh.*

Village-shrubberies, everywhere.

- \* *Croton caudatus* Geisel.; B. P. ii. 943. *C. drupaceus* H. S. 156.

v. *Nan bhantúr.*

Village-shrubberies and thickets on river banks, chiefly east of the river Hughli; also in the North-Western Sundribuns.

- \* *Croton Tiglium* Linn.; H. S. 156; B. P. ii. 943.

v. *Fayapala, jeypal.*

In hedges near villages everywhere, also often self-sown in village thickets; native of S. E. Asia.

**Croton sparsiflorus** Morong.

Abundant in waste places to the south of Calcutta, particularly about Diamond Harbour, a recently introduced weed; native of Paraguay.

498. **Codiaeum** Juss.

**Codiaeum variegatum** Bl.; B. P. ii. 944. *C. chrysosticta* H. S. 157.

In gardens everywhere: the "Croton" of English denizens; native of the Moluccas.

499. **Chrozophora** Neck.

\* **Chrozophora plicata** A. Juss.; H. S. 156; B. P. ii. 944.

v. *Khúdi okra*.

Waste ground and dry fields, everywhere.

500. **Gelonium** Roxb.

\* **Gelonium multiflorum** A. Juss.; B. P. ii. 945. *G. fasciculatum* H. S. 158.

v. *Ban naranga*.

In village-shrubberies, general.

Voigt also reports *G. lanceolatum*, a native of S. India and Ceylon, from Serampore, but if the species did exist there in 1845, it can only have been as a planted tree.

501. **Baliospermum** Bl.

\* **Baliospermum axillare** Bl.; B. P. ii. 946. *Croton polyandrum* H. S. 156.

v. *Dánti, hakun*.

Waste places and fields in Gogbat sub-division; also reported by Voigt from Serampore.

502. **Acalypha** Linn.

\* **Acalypha fallax** Muell.-Arg.; B. P. ii. 947.

Fields, gardens and waste places about Calcutta, very common.

\* **Acalypha indica** Linn.; H. S. 160; B. P. ii. 948.

v. *Makta juri, kokli*.

Fields, gardens and waste places, general.

**Acalypha ciliata** Forsk.; H. S. 159; B. P. ii. 948.

Reported by Voigt from Serampore, but the record needs confirmation; the species is found in Behar and westward to Arabia and Africa.

503. *Trewia* Linn.

\* *Trewia nudiflora* Linn.; H. S. 279; B. P. ii. 948.

v. *Pitáli*.

River banks, everywhere.

504. *Mallotus* Lour.

• *Mallotus repandus* Muell. Arg.; B. P. ii. 949. *Rottlera laccifera*  
H. S. 157.

v. *Akás, nun bhantúr*.

Village-shrubberies and hedges, general.

*Mallotus philippinensis* Muell. Arg.; B. P. ii. 950. *Rottlera tinctoria* H. S. 157.

v. *Kamala*.

Sometimes planted about villages; native of the drier parts of India. Voigt records this as not having flowered in the Royal Botanic Garden between 1797, when it was first introduced, and 1814; and adds that at Serampore it had not flowered up to 1845. In some years at least it flowers freely, and occasionally self-sown young plants are to be met with in the Royal Botanic Garden.

505. *Ricinus* Linn.

*Ricinus communis* Linn.; H. S. 158; B. P. ii. 952.

v. *Bherenda*.

Cultivated everywhere in gardens and fields, and very common spontaneously in village shrubberies; native of Africa.

506. *Tragia* Linn.

\* *Tragia involuerata* Linn.; H. S. 160; B. P. ii. 952.

v. *Bichchati*.

Hedges, everywhere. Voigt also records the narrowly 3-partite leaved variety (VAR. *cannabina* = *T. cannabina* Linn.) from Serampore; this is a quite possible record, but it needs to be confirmed.

507. *Sapium* P. Br.

\* *Sapium indicum* Willd.; H. S. 161; B. P. ii. 954.

v. *Hurna batul*.

Western Sundribuns.

*Sapium sebiferum* Roxb.; B. P. ii. 954. *Stillingia sebifera* H. S. 161.

v. *Móm china*.

In village-shrubberies, general; native of China.

508. *Excoecaria* Linn.

- \* *Excoecaria Agallocha* Linn.; H. S. 161; B. P. ii. 955.  
v. *Géngwa, géo, ghéria.*

Western Sundribuns; salt lakes near Calcutta and banks of Hughli as far north as Uluberia.

## XCH.—URTICACEÆ.

509. *Trema* Lour.

- \* *Trema orientalis* Bl.; B. P. ii. 960. *Sponia orientalis* H. S. 294.  
v. *Filun, chikun.*

Village-shrubberies, hedges and waste places, everywhere.

510. *Cannabis* Linn.

*Cannabis sativa* Linn.; H. S. 282; B. P. ii. 960.

v. *Ganja.* The Hemp Plant.

A prohibited plant in our area, but occasionally occurring as a roadside weed; native of Siberia.

511. *Fleurya* Gaud.

- \* *Fleurya interrupta* Gaud.; B. P. ii. 961. *Bœhmeria interrupta* H. S. 281.

v. *Lal bichchiti.*

Waste places and roadsides, general.

512. *Pilea* Lindl.

- \* *Pilea microphylla* Liebn.; B. P. ii. 962.

Damp paths, old walls, rubbishy places; everywhere.

513. *Bœhmeria* Jacq.

*Bœhmeria nivea* Hook. & Arn.; B. P. ii. 964. *Urtica nivea* H. S. 280.

v. *Kankhúra.*

Occasionally cultivated, but not by natives, near Calcutta.

514. *Pouzolzia* Gaud.

- \* *Pouzolzia indica* Gaud.; B. P. ii. 965.

Waste places, roadsides and fields, west of the river Hughli only, and always rare.

VAR. \* *alienata* Wedd.; B. P. ii. 965. *Urtica tuberosa* H. S. 280 (not *U. tuberosa* Roxb.).

v. *Chandar muli.*

Waste places, roadsides and fields, everywhere.

515. *Broussonetia* Vent.

*Broussonetia papyrifera* Vent. ; H. S. 284 ; B. P. ii. 967.

Occasionally planted and wherever this is the case readily springing up spontaneously : native of Eastern Asia.

516. *Morus* Linn.

*Morus indica* Linn. ; H. S. 283 ; B. P. ii. 968.

v. *Tát, tutri.*

Cultivated, but very rarely so in our area ; native of the Himalaya.

517. *Streblus* Lour.

\* *Streblus asper* Lour. ; B. P. ii. 969. *Trophis aspera* H. S. 291.

v. *Shiôra.*

Hedges and village-shrubberies, everywhere.

518. *Artocarpus* Forst.

*Artocarpus integrifolia* Linn. f. ; H. S. 289 ; B. P. ii. 971.

v. *Kathál.* The Jack Fruit.

Planted everywhere ; sometimes as if wild in village-shrubberies ; native of India.

*Artocarpus Lakoocha* Roxb. ; H. S. 290 ; B. P. ii. 971.

v. *Déphul, lakúch.*

In gardens, frequent ; occasionally as if wild in village-shrubberies ; native of India.

In one or two compounds within the city of Calcutta, but not elsewhere, examples of the Bread Fruit tree (*Artocarpus incisa*) are to be met with. Though it can be made to live in the vicinity of buildings in the town, it does not survive when planted in suburban gardens.

519. *Ficus* Linn.

*Ficus Benjamina* Linn. VAR. *comosa* Kurz ; B. P. ii. 979.

Planted in avenues ; native of S. E. Asia.

\* *Ficus bengalensis* Linn. ; B. P. ii. 979. *F. indica* H. S. 286.

v. *Bar, but.*

Planted, but also wild or at least self-sown on tombs and trees ; native of India.

\* *Ficus retusa* Linn. VAR. *nitida* King ; B. P. ii. 980. *F. Benjamina* H. S. 289.

v. *Fir, zir.*

In village-shrubberies and in Sundribuns forests.

- \* *Ficus religiosa* Linn. ; H. S. 287 ; B. P. ii. 980.  
v. *Asvattha*, *pīpal*.  
In village-shrubberies and on old buildings, everywhere.
- \* *Ficus Rumphii* Bl. ; H. S. 287 ; B. P. ii. 980.  
v. *Gaiasvattha*.  
In village-shrubberies and on river banks ; also Sundribuns.
- \* *Ficus infectoria* Roxb. ; B. P. ii. 981. *F. venosa* H. S. 287.  
v. *Pakūr*.  
Village-shrubberies, general.
- \* *Ficus heterophylla* Linn. ; B. P. ii. 981. *F. rubescens* H. S. 285.  
v. *Gaori sheora*, *ghoti seora*.  
In damp places, occasional.  
VAR. \* *repens* King ; B. P. ii. 981. *F. repens* H. S. 285.  
v. *Bhui dumar*.  
Edges of ponds and ditches, general.
- \* *Ficus hispida* Linn. f. ; B. P. ii. 981. *F. oppositifolia* H. S. 288.  
v. *Dumar*, *kák dumar*.  
Hedges and thickets, everywhere.
- Ficus pumila* Linn. ; B. P. ii. 982.  
Grown generally on walls as a substitute for Ivy.
- \* *Ficus glomerata* Roxb. ; H. S. 288 ; B. P. ii. 983.  
v. *Jagya dumar*, *yajna dumar*.  
In village-shrubberies, occasional.

### XCI.—CASUARINEÆ

#### 520. *Casuarina* Forst.

*Casuarina equisetifolia* Forst. ; B. P. ii. 985. *C. muricata* H. S. 297.

v. *Belati jhau*.

Avenues and roadsides, but also very commonly self-sown ; native of sea coasts from Polynesia to Chittagong.

### XCIV.—CERATOPHYLLÆ

#### 521. *Ceratophyllum* Linn.

\* *Ceratophyllum demersum* Linn. ; B. P. ii. 990. *C. verticillatum*.  
H. S. 293.

v. *Jhangi*.

In ponds and ditches, everywhere.

## GYMNOSPERMEÆ.

## XCV.—CONIFERÆ.

522. *Thuya* Linn.

*Thuya orientalis* Linn.; H. S. 557; B. P. ii. 992.

In gardens and on lawns about Calcutta; native of China.

523. *Cupressus* Tournef.

*Cupressus sempervirens* Linn.; H. S. 558.

v. *Saras*.

In gardens, occasionally; native of the Orient.

## XCVI.—CYCADACEÆ.

524. *Cycas* Linn.

*Cycas revoluta* Thunb.; H. S. 555; B. P. ii. 993.

In gardens and on lawns about Calcutta; native of Japan.

## MONOCOTYLEDONES.

## XCVII.—HYDROCHARIDEÆ.

525. *Hydrilla* Rich.

\* *Hydrilla verticillata* Casp.; H. S. 617; B. P. ii. 995.

v. *Fhangi kurali*.

In ponds, everywhere.

526. *Lagarosiphon* Harv.

\* *Lagarosiphon Roxburghii* Benth.; B. P. ii. 995. *Vallisneria*

*alternifolia* H. S. 618.

v. *Rasna jhangi*.

In ponds, general.

527. *Vallisneria* Linn.

\* *Vallisneria spiralis* Linn.; H. S. 617; B. P. ii. 996.

v. *Syala*.

In ponds, everywhere.

528. *Blyxa* Thouars.

\* *Blyxa Roxburghii* Rich.; B. P. ii. 996. *B. octandra* H. S. 618.

v. *Pata syala*.

In ponds, general.

529. *Hydrocharis* Linn.

- \* *Hydrocharis cellulosa* Ham.; B. P. ii. 997.  
In ponds, north-east of Calcutta, rather rare.

530. *Ottelia* Pers.

- \* *Ottelia alismoides* Pers.; H. S. 618; B. P. ii. 997.  
v. *Parmi kalla*, *pani kalla*.  
In ponds, everywhere.

## XCVIII.—ORCHIDACEÆ.

531. *Dendrobium* Sw.

- \* *Dendrobium anceps* Sw.; B. P. ii. 1009. *Aporum anceps* H. S. 623.  
Western Sundribuns.
- \* *Dendrobium Pierardi* Roxb.; H. S. 623; B. P. ii. 1009.  
Western Sundribuns.

532. *Pachystoma* Lindl.

- \* *Pachystoma senile* Reichb. f.; B. P. ii. 1014. *Geodorum ramentaceum* H. S. 628.  
In grassy places, rare.

533. *Eulophia* R. Br.

- \* *Eulophia graminea* Lindl.; B. P. ii. 1016. *E. virens* H. S. 629  
(the Bengal plant).  
v. *Badbári*.  
In dry grassy places, west of the Hughli, rare.

534. *Geodorum* Jacks.

- \* *Geodorum dilatatum* R. Br.; H. S. 628; B. P. ii. 1017.  
In grassy glades, not uncommon.
- Geodorum purpureum* R. Br.; H. S. 628.  
Recorded by Voigt from Serampore, quite a possible record, but requires confirmation; native of India.

535. *Luisia* Gaud.

- \* *Luisia brachystachys* Bl.; B. P. ii. 1019. *Cymbidium triste* H. S. 627 partly.  
Western Sundribuns, common.

536. *Vanda* R. Br.

- \* *Vanda Roxburghii* R. Br.; H. S. 629; B. P. ii. 1021.

v. *Nái, rasna, banda.*

On trees, everywhere.

537. *Saccolabium* Bl.

- \* *Saccolabium papillosum* Lindl.; H. S. 630; B. P. ii. 1022.

On trees, rare to north of the Sundribuns, not infrequent in Sundribun forests.

538. *Cleisostoma* Bl.

- Cleisostoma micranthum* K. & P.; B. P. ii. 1023. *Saccolabium micranthum* H. S. 630.

Reported from Serampore by Voigt, a quite possible record, but it needs confirmation.

539. *Sarcanthus* Lindl.

- \* *Sarcanthus insectifer* Reichb. f.; B. P. ii. 1023.

Western Sundribuns, on trees, very common.

540. *Didymoplexis* Griff.

- \* *Didymoplexis pallens* Griff.; B. P. ii. 1025.

In shady thickets, general.

541. *Pogonia* Juss.

- \* *Pogonia plicata* Lindl.; H. S. 632; B. P. ii. 1026.

In shady thickets, general.

- \* *Pogonia juliana* Wall.; H. S. 632; B. P. ii. 1026.

In shady thickets, rare.

- \* *Pogonia carinata* Lindl.; H. S. 632; B. P. ii. 1026.

In shady thickets, general.

542. *Zeuxine* Lindl.

- \* *Zeuxine sulcata* Lindl.; H. S. 633; B. P. ii. 1029.

v. *Swet huli.*

In grassy open spaces, general.

543. *Habenaria* Willd.

- \* *Habenaria digitata* Lindl.; B. P. ii. 1032.

Grassy places, very rare.

- Habenaria commelinifolia* Wall.; H. S. 632; B. P. ii. 1033.

Reported from Serampore by Voigt, the record needs confirmation.

\* *Habenaria marginata* Colebr. ; H. S. 632 ; B. P. ii. 1033.

Grassy places, very rare.

\* *Habenaria viridiflora* R. Br. ; B. P. ii. 1033. *H. tenuis* H. S. 632.

Grassy places, very rare.

#### XCIX.—SCITAMINEÆ.

##### 544. *Globba* Linn.

*Globba sessiliflora* Sims.

In gardens, drops its bulbils freely and thereby readily comes up spontaneously in garden borders and in shady grassy places ; native of Burma.

##### 545. *Kaempferia* Linn.

*Kaempferia Galanga* Linn. ; H. S. 566 ; B. P. ii. 1038.

v. *Chandu mûla*, *humula*.

In gardens, general : native of S. E. Asia.

*Kaempferia rotunda* Linn. ; H. S. 566 ; B. P. ii. 1038.

v. *Bhui champa*.

In gardens, occasional ; native of S. E. Asia.

##### 546. *Hedychium* Koen.

*Hedychium coronarium* Koen ; H. S. 568 ; B. P. ii. 1039.

v. *Gorakh natha*, *dulala champa*.

In gardens and also sometimes in village-shrubberies, but though reported by Voigt from Serampore (as wild) is probably always an escape in our area ; native of S. E. Asia.

##### 547. *Curcuma* Linn.

\* *Curcuma aromatica* Salisb. ; H. S. 563 ; B. P. ii. 1042.

v. *Fangli haldi*, *ban haldi*.

In village-shrubberies about Calcutta and elsewhere in our districts.

*Curcuma Zedoaria* Roscoe ; H. S. 564 ; B. P. ii. 1042.

v. *Kachûra*.

Cultivated pretty generally.

*Curcuma cæsia* Roxb. ; H. S. 563 ; B. P. ii. 1042.

v. *Kala haldi*.

Reported by Voigt from Serampore ; a possible record, since the species is common immediately to the west of our area, but one that needs confirmation.

\* *Cureuma ferruginea* Roxb. ; H. S. 563 ; B. P. ii. 1042.  
Village thickets near Shibpur.

\* *Cureuma rubescens* Roxb. ; H. S. 564 ; B. P. ii. 1042.  
Village-shrubberies, general.

*Cureuma longa* Linn. : H. S. 565 ; B. P. ii. 1042.  
v. *Haldi*.  
Cultivated generally.

*Cureuma Amada* Roxb. ; H. S. 564 ; B. P. ii. 1042.  
v. *Am ada*.  
Cultivated generally.

#### 548. *Zingiber* Adans.

*Zingiber Zerumbet* Sm. ; H. S. 562 ; B. P. ii. 1045.  
v. *Maha bar bach, nar kachur*.

Cultivated and as if wild in village-shrubberies, native of S. E. Asia.

*Zingiber Casumunar* Roxb. ; H. S. 562 ; B. P. ii. 1045.  
v. *Ban-ada*.

Cultivated and as if wild in village-shrubberies and on abandoned sites in the Sundribuns ; native of India.

*Zingiber officinale* Roscoe ; H. S. 561 ; B. P. ii. 1045.  
v. *Adrak, ada*.

Cultivated sparingly ; native of S. E. Asia.

#### 549. *Costus* Linn.

\* *Costus speciosus* Sm. ; H. S. 572 ; B. P. ii. 1045.  
v. *Kust, keu*.

In village-shrubberies and shady waste places.

#### 550. *Alpinia* Linn.

*Alpinia Galanga* Sw. ; H. S. 570 ; B. P. ii. 1047.  
v. *Kulanjan*.

In gardens, occasionally.

\* *Alpinia Allughas* Roscoe ; H. S. 570 ; B. P. ii. 1047.  
v. *Taro, taruko*.

Muddy river banks, general.

#### 551. *Canna* Linn.

*Canna indica* Linn. ; H. S. 576. VAR. *orientalis* B. P. ii. 1047.  
v. *Sbha jaya, sarba jaya*.

In gardens everywhere, but also very general in waste places as an escape: native of Eastern Asia.

552. *Maranta* Linn.

*Maranta arundinacea* Linn.; H. S. 575; B. P. ii. 1048.

v. *Tikhur*. Arrowroot.

Cultivated occasionally about Calcutta; native of the West Indies.

The name *Tikhur* is applied to and was probably originally restricted to various species of *Curcuma*.

553. *Musa* Linn.

*Musa sapientum* Linn.; B. P. ii. 1050. *M. paradisaica* H. S. 1050.

v. *Ram kela*, *kantali kela*, *kach kela*. Plantain.

Cultivated in numerous races, and also occurring in village-shrubberies as if wild: native of India. The vernacular name for all the forms is *kela*. The *ram kela* is the form with numerous black seeds that is occasionally found about villages; it does not, however, quite agree with the wild form of the species that occurs in the forests of Chota Nagpur and Chittagong, but is rather a form, feral by reversion, of the *kantali kela* or Cooking Plantain which is to be found in several races most of which may have been locally evolved. The numerous races, of *kach kela* or Dessert Plantain, on the other hand, would appear to be in no case of local origin, but to have been introduced from Southern India, Malaya, and possibly elsewhere.

C.—BROMELIACEÆ.

554. *Ananassa* Adans.

*Ananassa sativa* Linn.; B. P. ii. 1052. *Ananas sativus* H. S. 614.

v. *Ananas*, from the American name. Pine apple.

Sparingly cultivated about Calcutta; introduced to Asia from the West Indies.

CI.—HEMODORACEÆ.

555. *Sansevieria* Thunb.

*Sansevieria Roxburghiana* Schult. f.; H. S. 556; B. P. ii. 1054.

v. *Murva*, *murba*. Bowstring Hemp.

Cultivated and sometimes as if wild in village-shrubberies: reported by Voigt from Serampore but certainly not wild in our area; it is indeed doubtful whether the species is really indigenous in India

at all ; if so, it is the only species of the genus that seems to be so ; the other species are African.

**Sansevieria trifasciata** Hort. ; B. P. ii. 1054.

Cultivated, but also sometimes in village-shrubberies ; probably native of *West* Africa, but appears to have reached India from America where it is sometimes grown as *S. guineensis*, the West African Bowstring Hemp which is not naturalized and is hardly known even in cultivation, in India.

## CII.—IRIDEÆ.

556. **Cipura** Aubl.

**Cipura paludosa** Aubl. ; H. S. 601 ; B. P. ii. 1055.

Naturalized in thickets near Calcutta among grass ; native of America.

557. **Belamcanda** Adans.

**Belamcanda chinensis** Leman ; B. P. ii. 1056. *Pardanthus chinensis* H. S. 605.

v. *Dasbahu, dasbachandi*.

In gardens, everywhere ; native of China.

## CIII.—AMARYLLIDACEÆ.

558. **Agave** Linn.

**Agave VeraCruz** Mill. *A. cantula* B. P. ii. 1057.

v. *Kantala, bilati ananas*.

A hedge near villages ; native of America.

Other species of *Agave* are occasionally grown as hedges.

559. **Curculigo** Gært. n.

\* **Curculigo orchioides** Gært. n. ; H. S. 580 ; B. P. ii. 1059.

v. *Tal muli, tal lura*.

Grassy places west of the river Hughli.

560. **Zephyranthes** Herb.

**Zephyranthes tubispatha** Herb. ; H. S. 582 ; B. P. ii. 1060.

In gardens, but also sometimes appearing spontaneously in grassy places ; native of Peru.

561. **Crinum** Linn.

\* **Crinum asiaticum** Linn. ; H. S. 588 ; B. P. ii. 1061.

v. *Bara kanur*.

Sundribuns, wild, plentiful ; often also in gardens in our area.

- \* *Crinum defixum* Ker; H. S. 590; B. P. ii. 1061.  
v. *Sukh darshan*.  
Banks of ponds and ditches, common.
- \* *Crinum pratense* Herb.; H. S. 580; B. P. ii. 1061.  
Wet places, rare.
- Crinum latifolium* Linn.; B. P. ii. 1061. *C. ornatum* VAR. *latifolium* H. S. 591.  
In gardens, generally; wild in Orissa.  
VAR. *zeylanica* B. P. ii. 1061. *C. ornatum* VAR. *zeylanicum*  
H. S. 591.  
In gardens; wild in Orissa.

## CIV.—DIOSCOREACEÆ.

562. *Dioscorea* Linn.

- \* *Dioscorea pentaphylla* Linn.; H. S. 653; B. P. ii. 1066.  
v. *Kanta alu*.  
Hedges and thickets, general.
- \* *Dioscorea bulbifera* Linn.; B. P. ii. 1066. *D. crispata* H. S. 652.  
v. *Rat alu*.  
Hedges and thickets, general.
- Dioscorea fasciculata* Roxb.; H. S. 652; B. P. ii. 1066.  
v. *Susni alu*.  
Cultivated only.  
VAR. *spinosa* B. P. ii. 1066. *D. aculeata* H. S. 652.  
v. *Mou alu*.  
Thickets and village-shrubberies, general.
- \* *Dioscorea anguina* Roxb.; H. S. 652; B. P. ii. 1066.  
v. *Kukur alu*.  
Hedges and thickets, rare.
- \* *Dioscorea glabra* Roxb.; H. S. 653. *D. nummularia* B. P. ii.  
1067.  
v. *Shora alu*.  
Hedges, thickets and village-shrubberies, general.
- Dioscorea alata* Linn.; H. S. 652; B. P. ii. 1067.  
v. *Khám, kham alu*.  
Generally cultivated.  
VAR. *globosa* B. P. ii. 1067. *D. globosa* H. S. 652.  
v. *Chupri alu*.  
Generally cultivated.

VAR. *rubella* B. P. ii. 1067. *D. rubella* H. S. 652.

v. *Guraniya alu*.

Generally cultivated.

VAR. *purpurea* B. P. ii. 1067. *D. purpurea* H. S. 652.

v. *Rakto guraniya alu, lal guraniya*.

Generally cultivated.

#### CV.—LILIACEÆ.

##### 563. *Asparagus* Linn.

\* *Asparagus racemosus* Willd. ; H. S. 674 ; B. P. ii. 1070.

v. *Sata muli*.

Hedges and thickets, occasional.

##### 564. *Smilax* Linn.

\* *Smilax prolifera* Roxb. ; H. S. 648 ; B. P. ii. 1071.

v. *Kumarika*.

Hedges and thickets, general.

*Smilax macrophylla* Roxb. ; B. P. ii. 1071. *S. ovalifolia* H. S. 648.

v. *Kumarika*.

Reported by Voigt from Serampore, a quite probable record but one that needs confirmation ; the species is common in West Bengal.

##### 565. *Gloriosa* Linn.

\* *Gloriosa superba* Linn. ; B. P. ii. 1073. *Methonica superba* H. S.

655.

v. *Ulat chandal*.

Hedges, generally.

##### 566. *Polianthes* Linn.

*Polianthes tuberosa* Linn. ; H. S. 656.

v. *Rajani gandha*. The Tuberose.

In native gardens, general ; native of S. America.

##### 567. *Allium* Linn.

*Allium ascalonicum* Linn. ; H. S. 668 ; B. P. ii. 1075.

v. *Gandhan*. The Shalot.

In gardens everywhere, cultivated ; native of the Orient.

*Allium Cepa* Linn. ; H. S. 668 ; B. P. ii. 1075.

v. *Piyaj*. The Onion.

Cultivated generally ; native of the Oriental and Mediterranean regions.

**Allium tuberosum** Roxb.; H. S. 669; B. P. ii. 1076.

v. *Ranga gandhina*. Indian Leek.

Recorded by Roxburgh as cultivated about Calcutta, but unknown to Voigt and not met with in our area as a crop by the writer: the species has, however, been raised from seeds received from Behar and the resulting plants compared and found to agree exactly with Roxburgh's drawing. It is just possible that it may be met with in gardens in the western part of Hughli district.

**Allium ampeloprasum** Linn.; H. S. 668; B. P. ii. 1076. *A. Porrum* H. S. 668.

v. *Paru, gandhina*. The Leek.

In gardens, generally; native of the Mediterranean and Oriental regions.

**Allium sativum** Linn.; H. S. 667; B. P. ii. 1076.

v. *Lasun, rashun*. Garlic.

Cultivated generally; native of the Mediterranean region.

#### 568. *Asphodelus* Linn.

\* ***Asphodelus tenuifolius*** Cav.; B. P. ii. 1076. *A. clavatus* H. S. 670.

In fields in the cold weather, but probably always a casual and introduced with seed sent from western provinces, where it is common.

#### 569. *Hemerocallis* Linn.

***Hemerocallis fulva*** Linn.; H. S. 670; B. P. ii. 1078.

v. *Gul nargis*.

In gardens, generally; native of China.

### CVI.—PONTEDERIACEÆ.

#### 570. *Monochoria* Presl.

\* ***Monochoria hastifolia*** Presl; B. P. ii. 1079. *Pontederia hastata* H. S. 645.

v. *Nukha*.

In ditches and rice-fields, general.

***Monochoria vaginalis*** Presl; B. P. ii. 1079. *Pontederia vaginalis* H. S. 645.

v. *Nukha*.

Reported by Voigt from Serampore, and may quite possibly occur, because the species is plentiful in the Gangetic Plain to the north and also to the east of our districts; the record, however, needs confirmation.

VAR. \* *plantaginea* Solms-Lanbach; B. P. ii. 1079. *Pontederia plantaginea* H. S. 645.

v. *Nukha*.

Ditches, ponds and rice-fields, everywhere.

#### CVII.—XYRIDEE.

##### 571. *Xyris*.

\* *Xyris pauciflora* Willd.; B. P. ii. 1080; *X. indica* H. S. 731, possibly.

v. *Dabi-duba*.

In wet places, about Serampore, Chandernagore and Jahanabad not seen from east of the Hughli in our area.

The species in our districts that alone is represented in the Calcutta Herbarium from our region is *X. pauciflora*. Voigt, however, gives *X. indica* as occurring at Serampore and notes *X. pauciflora* as a species that might be, but that up to 1845 had not yet been, introduced either to the Botanic Garden at Shibpur or to Dr. Carey's Garden at Serampore. From this it seems clear that only one species was present in our area in Voigt's time, and it is therefore possible that the specific names used by Voigt were misplaced. At the same time the occurrence of *X. indica* is not at all impossible since it occurs in Northern Bengal as well as in Orissa.

#### CVIII.—COMMELINACEÆ.

##### 572. *Commelina* Linn.

\* *Commelina nudiflora* Linn.; B. P. ii. 1082. *C. cæspitosa* H. S. 677.

Gohat, western parts of Hughli district; also reported by Voigt from Serampore.

\* *Commelina salicifolia* Roxb.; H. S. 675; B. P. ii. 1082.

v. *Pani kanchira*.

Fields and damp waste places, general.

\* *Commelina Hasskarlii* Clarke; B. P. ii. 1082.

v. *Kanchira*.

Shady places, general.

\* *Commelina bengalensis* Linn.; H. S. 676; B. P. ii. 1082.

v. *Kanchira*.

Shady places, everywhere.

\* *Commelina attenuata* Kœnig; B. P. ii. 1083.

Gohat, Western Hughli district.

- \* *Commelina obliqua* Ham. ; B. P. ii. 1083. *C. communis* H. S. 677.  
v. *Futa kanchira*.  
Shady places, general.
- \* *Commelina appendiculata* Clarke ; B. P. ii. 1083.  
Shady places, east of river Hughli, rare.
- \* *Commelina suffruticosa* Bl. ; B. P. ii. 1083.  
Waste places, rare.

573. *Aneilema* R. Br.

- \* *Aneilema spiratum* R. Br. ; B. P. ii. 1084. *A. nanum* H. S. 677.  
In fields and waste places, everywhere.
- \* *Aneilema nudiflorum* R. Br. ; H. S. 677 ; B. P. ii. 1084.  
v. *Kanduli*.  
Waste places, general.
- \* *Aneilema vaginatum* R. Br. ; H. S. 677 ; B. P. ii. 1084.  
Wet places, general.

574. *Tradescantia* Linn.

- Tradescantia discolor* L'Herit. ; H. S. 678.  
In gardens and also as an escape.

575. *Cyanotis* Den.

- Cyanotis cristata* Schult. f. ; H. S. 678 ; B. P. ii. 1085.  
Reported by Voigt from Serampore, the record requires verification. The species is common in Chota Nagpur.
- \* *Cyanotis axillaris* Rœm. ; and Schult. ; H. S. 678 ; B. P. ii. 1085.  
v. *Baghanula*.  
Fields and roadsides, general.

## CIX.—FLAGELLARIÆ.

576. *Flagellaria* Linn.

- \* *Flagellaria indica* Linn. ; H. S. 681 ; B. P. ii. 1087.  
v. *Ban chanda*.  
Sundribuns, common ; also reported by Voigt from Serampore, but probably not there truly wild.

## CX.—JUNCACEÆ.

577. *Juncus* Linn.

- \* *Juncus prismatocarpus* R. Br. ; B. P. ii. 1088.  
Goghat, Western Hughli district, in wet places.

## CXI.—PALMÆ.

578. *Corypha* Linn.

*Corypha umbraculifera* Linn.; H. S. 640; B. P. ii. 1090 in part.

v. *Tali*.

In gardens and on lawns; introduced from Ceylon, doubtfully wild there and in Travancore.

*Corypha Talliera* Roxb.; H. S. 641. *C. umbraculifera* B. P. ii. 1090. in part.

v. *Tara*.

In gardens and on lawns; supposed to be wild in Bengal.

*Corypha elata* Roxb.; H. S. 641; B. P. ii. 1090.

v. *Bajur*.

In gardens and on lawns; supposed to be wild in Bengal.

579. *Borassus* Linn.

*Borassus flabellifer* Linn.; B. P. ii; 1092. *B. flabelliformis* H. S. 640.

v. *Tal gachh, tari*. The Palmyra tree.

In village-shrubberies, as if wild, everywhere; probably not, however, a native of India, certainly not indigenous in our area.

580. *Nipa* Wurmbr.

\* *Nipa fruticans* Wurmbr.; H. S. 684; B. P. ii. 1094.

v. *Golpatta, gabua, gulga*.

Sundribuns.

581. *Cocos* Linn.

*Cocos nucifera* Linn.; H. S. 643; B. P. ii. 1095.

v. *Narikel*.

Planted generally; native of Polynesian coasts.

582. *Phoenix* Linn.

*Phoenix sylvestris* Roxb.; H. S. 642; B. P. ii. 1096.

v. *Khajur*.

Planted generally, sometimes sub-spontaneous; native of the Punjab.

\* *Phoenix paludosa* Roxb.; H. S. 643; B. P. ii. 1096.

v. *Hital*.

Sundribuns.

583. *Areca* Linn.

*Areca Catechu* Linn.; H. S. 637; B. P. ii. 1097.

v. *Gua, supári*. Betel-nut Palm.

Cultivated generally; native of S. E. Asia.

584. *Calamus* Linn.

\* *Calamus viminalis* Willd. VAR. *fasciculata* B. P. ii. 1099. *C. fasciculatus* H. S. 639.

v. *Bara bet*.

Village-shrubberies, general.

\* *Calamus tenuis* Roxb.; H. S. 639; B. P. ii. 1099. *C. Rotang* H. S. 639, not of Linn.

v. *Sanchi bet*.

Sundribuns.

## CXII.—PANDANACEÆ.

585. *Pandanus* Linn. f.

*Pandanus foetidus* Roxb.; H. S. 683; B. P. ii. 1101.

v. *Keiya kanta, kotki kanta*.

In hedges, planted, generally; native of India.

\* *Pandanus fascicularis* Lamk.; B. P. ii. 1101. *P. odoratissimus* H. S. 682.

v. *Keiya, keori*.

Sundribuns, common; elsewhere planted.

## CXIII.—TYPHACEÆ.

586. *Typha* Linn.

\* *Typha elephantina* Roxb.; H. S. 693; B. P. ii. 1102.

v. *Hogla*.

Margins of ponds and streams, very rare.

\* *Typha angustata* Chamb. & Bory; B. P. ii. 1102. *T. angustifolia* H. S. 693.

v. *Ram hogla*.

Margins of ponds and streams, common.

## CXIV.—AROIDEÆ.

587. *Pistia* Linn.

\* *Pistia Stratiotes* Linn.; H. S. 684; B. P. ii. 1105.

v. *Takapana*.

In ponds, everywhere.

588. *Cryptocoryne* Fisch.

- \* *Cryptocoryne ciliata* Fisch. ; H. S. 685 ; B. P. ii. 1105.  
v. *Kerali*.  
In muddy creeks and ditches, general.
- \* *Cryptocoryne spiralis* Fisch. ; H. S. 685 ; B. P. ii. 1106.  
Edges of ponds, general.

589. *Typhonium* Schott.

- \* *Typhonium trilobatum* Schott ; B. P. ii. 1107. *T. orixense* H. S. 686.  
v. *Ghat kachu, ghekul*.  
In thickets among grass ; doubtfully native.
- \* *Typhonium Schottii* Prain. ; B. P. ii. 1108.  
In grassy glades, with the preceding of which it is possibly a variety.
- Typhonium inopinatum* Prain ; B. P. ii. 1108.  
In garden ground and among grass in open glades, introduced but common ; native of Indo-China.
- Typhonium Roxburghii* Schott ; B. P. ii. 1108. *T. trilobatum* H. S. 686.  
In grassy glades, introduced and very rare ; native of Malaya.
- \* *Typhonium cuspidatum* Bl. ; B. P. ii. 1108. *T. flagelliforme* H. S. 685. *Arum cuspidatum* H. S. 690.  
In grassy glades, general.  
Voigt also records, but doubtfully, as to the identification, *T. divaricatum* from Serampore. The record is not improbable but needs confirmation and the species intended may be one of the foregoing.

590. *Amorphophallus* Bl.

- \* *Amorphophallus campanulatus* Bl. ; H. S. 686 ; B. P. ii. 1109.  
v. *Ól*.  
Cultivated everywhere and also wild in all village thickets.
- \* *Amorphophallus bulbifer* Bl. ; B. P. ii. 1110. *Pythonium bulbiferus* H. S. 686.  
v. *Amla-bela*.  
In village-shrubberies, general.

591. *Plesmonium* Schott.

- \* *Plesmonium margaritifera* Schott ; B. P. ii. 1110. *Arum margaritifera* H. S. 690.  
Village shrubberies, general.

592. *Alocasia* Schott.

*Alocasia cucullata* Schott; B. P. ii. 1111. *Colocasia cucullata* H. S. 687.

v. *Bishman*.

Reported from Serampore by Voigt, but almost certainly only a cultivated plant in our area; native of Indo-China.

*Alocasia indica* Schott; B. P. ii. 1111. *Colocasia indica* H. S. 687.

v. *Mán kachu, mán giri*.

Cultivated about villages, everywhere; native of India.

*Alocasia macrorrhiza* Schott; B. P. ii. 1111. *Colocasia odora* H. S. 687.

Cultivated about villages, general; native of Indo-China.

\* *Alocasia fornicata* Schott; B. P. ii. 1111. *Colocasia fornicata* H. S. 687.

v. *Salo kachu*.

Village-shrubberies and thickets, general.

593. *Colocasia* Linn.

\* *Colocasia nymphaeifolia* Kunth; H. S. 687; B. P. ii. 1112.

v. *Sar kachu*.

Grassy glades and village shrubberies, general.

\* *Colocasia antiquorum* Schott; H. S. 686; B. P. ii. 1112.

v. *Kachu*.

Everywhere cultivated and also everywhere wild in grassy glades and village-shrubberies.

594. *Scindapsus* Schott.

\* *Scindapsus officinalis* Schott; H. S. 688; B. P. ii. 1114.

v. *Gaj pipal*.

Epiphytic in orchards and village-shrubberies; sometimes cultivated.

595. *Lasia* Lour.

\* *Lasia heterophylla* Schott; H. S. 689; B. P. ii. 1116. *L. Loureirii* H. S. 689.

v. *Kanta kachu, kanta mán*.

Swampy places, general.

## CXV.—LEMNACEÆ.

596. *Lemna* Linn.

\* *Lemna paucicostata* Hegelm.; B. P. ii. 1117.

In stagnant water, floating, general.

- \* *Lemna trisulca* Linn. ; B. P. ii. 1117. *L. cruciata* H. S. 692.  
In stagnant water, forming tangled masses below the surface,  
rare.
- \* *Lemna polyrhiza* Linn. ; B. P. ii. 1117. *L. orbiculata* H. S. 692.  
In stagnant water, floating ; everywhere.
- \* *Lemna oligorhiza* Kurz. ; B. P. ii. 1117.  
In stagnant water, floating ; rare.

597. *Wolffia* Hook.

- \* *Wolffia arrhiza* Wimm. ; B. P. ii. 1117. *Grantia globosa* H. S. 692.  
In stagnant water, floating, general.
- \* *Wolffia microscopica* Kurz ; B. P. ii. 1117. *Grantia microscopica*  
H. S. 692.  
In stagnant water, floating.

## CXVI.—ALISMACEÆ.

598. *Alisma* Linn.

- \* *Alisma reniforme* Don ; B. P. ii. 1119. *A. intermedium* H. S. 680.  
In pools and marshes, general.  
*A. intermedium* is doubtfully referred by Sir J. D. Hooker in the  
*Flora of British India* to *A. Plantago* ; the chief arguments against  
the suggestion are (1) that Griffith was very unlikely to have made  
any mistake as to the identity of *A. Plantago* ; and (2) that *A.*  
*Plantago* has not so far been met with in the Gangetic delta.
- \* *Alisma oligococcum* F. Muell. ; B. P. ii. 1119.  
In pools and marshes, very rare.

599. *Limnophyton* Miq.

- \* *Limnophyton obtusifolium* Miq., B. P. ii. 1119. *Sagittaria obtusifolia*  
H. S. 680.  
v. *Bara kat*.  
In pools and marshes, general.

600. *Sagittaria* Linn.

- \* *Sagittaria sagittifolia* Linn. ; H. S. 680 ; B. P. ii. 1120.  
v. *Muya-muya, chota kat*.  
Sides of ponds and ditches, general.
- \* *Sagittaria guayanensis* H. B. & K. ; B. P. ii. 1120. *S. cordifolia*  
H. S. 680.  
In pools and marshes, everywhere.

601. *Butomopsis* Kunth.

- \* *Butomopsis lanceolata* Kunth; B. P. ii. 1120. *Butomus lanceolatus* H. S. 679.

Wet places and rice-fields, west of river Hughli, rare.

## CXVII.—NAIADACEÆ.

602. *Aponogeton* Thunb.

- \* *Aponogeton monostachyum* Linn. f.; B. P. ii. 1122. *Spathium chinense* H. S. 694.

v. *Ghachu*.

In standing water, general.

- \* *Aponogeton echinatum* Roxb.; B. P. ii. 1122.

In standing water, west of river Hughli, rare.

- \* *Aponogeton crispum* Thunb.; B. P. ii. 1122. *Spathium undulatum* H. S. 694.

In standing water, general.

603. *Potamogeton* Linn.

- \* *Potamogeton indicus* Roxb.; H. S. 694; B. P. ii. 1123.

In ponds and ditches, everywhere.

- \* *Potamogeton crispus* Linn.; B. P. ii. 1123. *P. tuberosus* H. S. 694.

In ponds and ditches, everywhere.

- \* *Potamogeton pectinatus* Linn.; B. P. ii. 1123.

Salt-lakes near Calcutta.

604. *Ruppia* Linn.

- \* *Ruppia rostellata* Koch; B. P. ii. 1124.

Salt-lakes near Calcutta; Sundribuns.

605. *Najas* Linn.

- \* *Najas indica* Cham.; H. S. 694; B. P. ii. 1125.

In deep standing water, everywhere.

- Najas minor* All.; B. P. ii. 1125. *N. dichotoma* H. S. 694. *N. heteromorpha* H. S. 694.

In deep standing water, everywhere.

- \* *Najas foveolata* A. Br.; B. P. ii. 1125.

In deep standing water, general.

- \* *Najas graminea* Del.; B. P. ii. 1125. *N. seminuda* H. S. 694.

In deep standing water, everywhere.

Two other species, *Najas lacerata* Rendle and *Najas rigida* Griff. should be kept in view and looked for. The former is apparently plentiful in deep pools of standing water in the neighbouring district of Jessore. The latter was collected by Griffith at Serampore; it is a doubtful species, with fleshy rigid leaves, of which the original examples are not now to be found; if it be really a *Najas* it differs from all the known species in having alternate leaves.

### CXVIII.—ERIOCAULEÆ.

#### 606. Eriocaulon.

- \* *Eriocaulon Capillus-Naiadis* Hook. f.; B. P. ii. 1127. *E. setaceum*.  
H. S. 730 in part.  
Serampore, (*Griffith, Voigt*), in deep standing water.
- \* *Eriocaulon truncatum* Ham.; B. P. ii. 1127. *E. sexangulare* H. S.  
730.  
Wet fields, west of the Hughli river.
- \* *Eriocaulon Sieboldianum* Sieb. & Zucc.; B. P. ii. 1127. *E. melaleucum* H. S. 731.  
Wet fields and marshy places, general.
- \* *Eriocaulon luzulifolium* Mart.; B. P. ii. 1127.  
Wet fields and marshy places, west of the Hughli river.
- \* *Eriocaulon quinqueangulare* Linn.; H. S. 730; B. P. ii. 1127.  
v. *Guri*.  
Wet fields and marshy places, everywhere.
- \* *Eriocaulon trilobum* Ham.; B. P. ii. 1127. *E. argenteum* H. S. 730.  
Wet fields and marshy places, west of the river Hughli.  
Voigt states (H. S. 731) that in addition to the five which he enumerates, seven other species were collected in the neighbourhood of Serampore by the native gardeners attached to the garden of which he had charge. The species of this genus therefore deserve to be carefully collected and examined. One of Voigt's seven doubtless was *E. luzulifolium*; what the others may have been it is impossible to conjecture.

### CXIX.—CYPERACEÆ.

#### 607. Scleria Berg.

- \* *Scleria biflora* Roxb.; B. P. ii. 1133. *S. tessellata* H. S. 728.  
Waste places, general.
- \* *Scleria lithosperma* Sw.; H. S. 728; B. P. ii. 1132.  
Waste places, west of the river Hughli.

608. *Kyllinga* Rottb.

- \* *Kyllinga monocephala* Rottb. ; H. S. 724 ; B. P. (*sphalmate microcephala*) ii. 1135.  
v. *Swet gothubi*.  
Waste places and fields, everywhere.
- \* *Kyllinga brevifolia* Rottb. ; B. P. ii. 1135. *Cyperus dubius* H. S. 723 partly.  
Waste places, everywhere.
- \* *Kyllinga triceps* Rottb. ; H. S. 724 ; B. P. ii. 1135.  
Waste places, general.

609. *Pycneus* Beauv.

- \* *Pycneus sanguinolentus* Nees. ; B. P. ii. 1137. *Cyperus sanguinolentus* H. S. 721.  
Wet places, general.
- \* *Pycneus nitens* Nees ; B. P. ii. 1137. *Cyperus pulvinatus* H. S. 721.  
Wet places, everywhere.
- \* *Pycneus polystachyus* Beauv. ; B. P. ii. 1137.  
Wet places south of Calcutta ; Sundribuns.

610. *Juncellus* Clarke.

- \* *Juncellus inundatus* Clarke ; B. P. ii. 1138. *Cyperus inundatus* H. S. 721.  
v. *Pati*.  
Wet places chiefly east of river Hughli ; Sundribuns.
- \* *Juncellus pygmaeus* Clarke ; B. P. ii. 1138. *Cyperus pygmaeus* H. S. 721 partly.  
v. *Falmúti*.  
Damp places, everywhere.

611. *Cyperus* Linn.

- \* *Cyperus Cephalotes* Vahl ; B. P. ii. 1141. *Anosporum monocephalum* H. S. 725.  
v. *Gothubi, nirtroba*.  
Floating on tanks, rare in our area.
- \* *Cyperus cuspidatus* H. B. K. ; B. P. ii. 1141. *C. angustifolius* H. S. 722.  
In damp waste places, general.

*Cyperus castaneus* Willd. ; H. S. 722.

Reported by Voigt from Serampore ; this record needs confirmation and is not very probable ; the species is widespread in India, but is always rare and there are no specimens from Bengal in the Calcutta Herbarium. It is possible that the plant intended by Voigt is not true *C. castaneus* but the form of *C. cuspidatus* with chestnut-coloured fruits.

\* *Cyperus flavidus* Retz ; B. P. ii. 1142.

A weed of rice-fields, general.

\* *Cyperus difformis* Linn. ; H. S. 723 ; B. P. ii. 1142.

v. *Behua*.

A weed of rice-fields, general.

\* *Cyperus Haspan* Linn. ; B. P. ii. 1142.

A weed of rice-fields in the western parts of the Hughli district.

\* *Cyperus niveus* Retz ; H. S. 722 ; B. P. ii. 1142.

A weed of fields, west of the Hughli river.

\* *Cyperus compressus* Linn. ; H. S. 721 ; B. P. ii. 1143.

v. *Chuncha*.

A field weed, chiefly west of the river Hughli.

\* *Cyperus aristatus* Rottb. ; H. S. 722 ; B. P. ii. 1143.

A weed of fields and paths, general.

\* *Cyperus Iria* Linn. ; H. S. 723 ; B. P. ii. 1143.

v. *Bara chuncha*.

A weed of rice-fields, general.

\* *Cyperus pilosus* Vahl ; B. P. ii. 1143.

A common weed.

\* *Cyperus procerus* Rottb. ; B. P. ii. 1143.

A sedge on banks of nalas and rivers, general.

\* *Cyperus distans* Linn. f. ; H. S. 723 ; B. P. ii. 1143.

v. *Pani malanga*.

A sedge on banks of ditches and rivers, chiefly east by the river Hughli.

\* *Cyperus nutans* Vahl ; B. P. ii. 1144.

A sedge of wet places, general.

\* *Cyperus malaccen* Lamk ; B. P. ii. 1144. *Papyrus dehiscens* H. S. 724.

v. *Chumati pati*.

A tall sedge of river banks, everywhere.

- \* *Cyperus scariosus* R. Br.; B. P. ii. 1144. *C. pertenuis* H. S. 722.  
v. *Nagar motha*.  
A slender sedge of the Sundribuns, also reported by Voigt from Serampore.
- \* *Cyperus articulatus* Linn.; B. P. 1144. *C. articulatus* VAR. *niloticus* H. S. 722.  
A sedge of river banks, general.
- \* *Cyperus tegetiformis* Roxb.; B. P. ii. 1144. *Papyrus tegetiformis* H. S. 724.  
v. *Kuchkuchiya, gota methi, halaiza*.  
A sedge of marshes and river banks, general. This species is sometimes termed *gota methi*, but that name is said by Voigt to be applicable only to the following.
- \* *Cyperus corymbosus* Rottb.; B. P. ii. 1144. *C. seminudus* H. S. 722.  
v. *Gola methi*.  
A sedge of marshes and river banks, general.
- Cyperus tegetum* Roxb.; B. P. ii. 1144. *Papyrus Pangorei* H. S. 723.  
v. *Madar ketai*.  
Reported from Serampore by Voigt, but this record needs confirmation, the species is common both west and north of our area.
- \* *Cyperus rotundus* Linn.; B. P. ii. 1145. *C. hexastachyus* VAR. *communis* H. S. 722.  
v. *Motha*.  
A weed of fields and grassy places, everywhere.
- \* *Cyperus tuberosus* Rottb.; B. P. ii. 1145. *C. hexastachyus* VAR. *pendulus* H. S. 722.  
A weed of fields and grassy places, general.
- \* *Cyperus radiatus* Vahl; B. P. ii. 1145. *C. verticillatus* H. S. 723.  
v. *Burethi*.  
River banks and marshes, everywhere.
- \* *Cyperus exaltatus* Retz; H. S. 722; B. P. ii. 1145.  
River banks and marshes, general.
- Cyperus digitatus* Roxb.; B. P. ii. 1145. *C. racemosus* H. S. 723.  
*C. venustus* H. S. 723.  
Reported, in two states, from Serampore by Voigt, but the records require confirmation; the species is common in Eastern Bengal.
- Cyperus platyphyllus* R. & S. *C. Roxburghii* H. S. 723.  
v. *Gol-melanga*.

Reported, with a vernacular name, from Serampore by Voigt, but the record is quite doubtful; the species is apparently confined to the Deccan and Ceylon.

#### 612. *Mariscus* Vahl.

- \* *Mariscus Dregeanus* Kunth; B. P. ii. 1146 *Cyperus dubius* H. S. 723 partly.  
About Calcutta (*Wallich*) and Serampore (*Voigt*), but very rare in our area, and not impossibly a casual.
- \* *Mariscus squarrosus* Clarke; B. P. ii. 1146.  
In wet places, general.
- \* *Mariscus panicus* Vahl; B. P. ii. 1147.  
In wet places, occasional.
- \* *Mariscus Sieberianus* Nees; B. P. ii. 1247. *M. cyperinus* H. S. 724<sup>o</sup>  
v. *Bara gothubi*.  
In wet places, everywhere.
- \* *Mariscus albescens* Gaud.; B. P. ii. 1147.  
v. *Halaiya*.  
Western Sundribuns, on muddy river banks.
- \* *Mariscus microcephalus* Presl; B. P. ii. 1147. *M. dilatus* H. S. 724.  
In wet places, general.
- \* *Mariscus ferax* Clarke; B. P. ii. 1147.  
In wet places, east of Calcutta, rare.

#### 613. *Courtoisia* Nees.

- \* *Courtoisia cyperoides* Nees; H. S. 724; B. P. ii. 1147.  
Fields in Gohat, Western Hughli district.

#### 614. *Eleocharis* R. Br.

- \* *Eleocharis plantaginea* R. Br.; B. P. ii. 1148. *Limnochloa plantaginea* H. S. 727. *L. tumida* H. S. 727.  
v. *Chenchka*.  
In shallow ponds, general.
- \* *Eleocharis fistulosa* Schult.; B. P. ii. 1148. *Limnochloa acutangula* H. S. 728.  
In shallow ponds, general.
- \* *Eleocharis spiralis* R. Br.; B. P. ii. 1149.  
In standing water, Western Sundribuns.

- \* *Eleocharis capitata* R. Br. ; B. P. ii. 1149. *Eleogenus capitatus* H. S. 727.  
In shallow ponds, general.
- \* *Eleocharis palustris* R. Br. ; B. P. ii. 1149.  
In shallow ponds, occasional.

615. *Fimbristylis* Vahl.

- \* *Fimbristylis monostachya* Hassk. ; B. P. ii. 1152. *Abildgaardia Rottbolliana* H. S. 725.  
v. *Marmari*.  
In damp ground, general.
- \* *Fimbristylis acuminata* Vahl ; B. P. ii. 1153.  
In damp ground, occasional.
- \* *Fimbristylis polytrichoides* Vahl ; B. P. ii. 1153.  
v. *Talnaru*.  
Wet fields mostly south of Calcutta and in the Northern Sundribun clearings.  
VAR.\* *halophila* Kurz ; B. P. ii. 1153.  
Wet open spaces in the Sundribuns, common.
- \* *Fimbristylis schœnoides* Vahl ; H. S. 725 ; B. P. ii. 1153.  
v. *Kesari malanga*.  
Wet places, general.
- \* *Fimbristylis subbispicata* Nees & Meyer ; B. P. ii. 1153.  
Sundribun sea-face, in sand.
- \* *Fimbristylis squarrosa* Vahl ; B. P. ii. 1153.  
In damp places, occasional.
- \* *Fimbristylis dichotoma* Vahl ; B. P. ii. 1153. *F. pallescens* H. S. 725.  
In wet fields, everywhere.
- \* *Fimbristylis diphylla* Vahl ; B. P. ii. 1153. *F. Royeniana* H. S. 725.  
v. *Bara nirbishi*.  
In fields and waste places, everywhere.
- \* *Fimbristylis aestivalis* Vahl ; H. S. 725 ; B. P. ii. 1155.  
In damp fields, everywhere.
- \* *Fimbristylis ferruginea* Vahl ; H. S. 725 ; B. P. ii. 1154.  
In fields and waste places, everywhere.
- \* *Fimbristylis argentea* Vahl ; B. P. ii. 1154.  
In fields, Gohat, Western Hughli district.

- \* *Fimbristylis tenera* Roem. & Schult. ; B. P. ii. 1154. *Trichelostylis tenella* H. S. 725.  
In damp places, general.
- \* *Fimbristylis globulosa* Kunth ; B. P. ii. 1154.  
In damp places, occasional.
- \* *Fimbristylis quinqueangularis* Kunth ; B. P. ii. 1154. *Trichelostylis quinqueangularis* H. S. 726.  
In wet fields, general.
- \* *Fimbristylis miliacea* Vahl ; B. P. ii. 1155. *Trichelostylis miliacea* H. S. 726. *T. tetragona* H. S. 726.  
v. *Bara javani*.  
In fields and waste places, everywhere.
- \* *Fimbristylis complanata* Link. ; B. P. ii. 1155. *Trichelostylis complanata* H. S. 726.  
v. *Karatiya javani*.  
In damp places, everywhere.

616. *Echinolytrum* Desv.

- \* *Echinolytrum dipsaceum* Desv. ; B. P. ii. 1155.  
In damp soil, general.

617. *Bulbostylis* Kunth.

- \* *Bulbostylis barbata* Kunth. ; B. P. ii. 1156.  
In damp soil, general.

618. *Lipocarpa* R. Br.

- \* *Lipocarpa argentea* R. Br. ; B. P. ii. 1157.  
In damp grassy places, occasional.

619. *Fuirena* Rottb.

- \* *Fuirena glomerata* Lamk ; B. P. ii. 1158.  
v. *Band kola*.  
In grassy places, occasional.

620. *Scirpus* Linn.

- \* *Scirpus Micheliaanus* Linn. ; B. P. ii. 1160. *Cyperus pygmaeus* H. S. 721 partly.  
v. *Chhota gothubi*.  
In wet places, general.

In Voigt's *Hortus suburbanus* there is evidently a confusion under *Cyperus pygmaeus* of this species and *Juncellus pygmaeus*, while under *Cyperus dubius* which, by his citation as identical of the plants so named by Rottboell and Roxburgh respectively, includes *Kyllinga brevifolia* and *Mariscus Dregeanus* he gives, as the vernacular equivalent, the name usually associated with the present plant.

\* *Scirpus squarrosus* Linn.; B. P. ii. 1160. *Isolepis squarrosa* H. S. 726.

v. *Guri*, *chancha marmari*.

In wet places, general.

\* *Scirpus grossus* Linn. f.; B. P. ii. 1160. *Hymenochaete grossa* H. S. 727.

v. *Bara keshuria*.

In wet places, west of the river Hughli.

VAR.\* *Kysoor* Clarke; B. P. ii. 1160. *Scirpus Kysoor* H. S. 727.

v. *Késur*.

In wet places, general.

\* *Scirpus supinus* Linn.; B. P. ii. 1160. *Isolepis supina* H. S. 726.

In wet places, general.

*Scirpus Isolepis* Bœck.; B. P. ii. 1160. *Isolepis setacea* H. S. 726, not of R. Br.

Reported by Voigt from Serampore, the record is not improbable as the species has been collected in Lower Bengal by Griffith and is occasionally met with in Behar and Chota Nagpur.

\* *Scirpus erectus* Poir.; B. P. ii. 1160. *S. junciformis* H. S. 727.

In wet places, general.

\* *Scirpus articulatus* Linn.; B. P. ii. 1160. *Isolepis prolongata* H. S. 727. *I. articulata* H. S. 727. *I. incurvata* H. S. 727.

v. *Pappati chickha*.

In wet places, everywhere.

\* *Scirpus mucronatus* Linn.; B. P. ii. 1161.

In wet places, general.

\* *Scirpus maritimus* Linn. VAR. *affinis* Roth; B. P. ii. 1161.

Wet places, east of the river Hughli.

\* *Scirpus triqueter* Linn. VAR. *segregata* Clarke; B. P. ii. 1161.

North-Western Sundribuns in swampy places.

\* *Scirpus littoralis* Schrad.; B. P. ii. 1161.

Western Sundribuns.

## CXX.—GRAMINEÆ.

621. *Pennisetum* Pers.

*Pennisetum typhoideum* Rich.; B. P. ii. 1169. *Penicillaria spicata*  
H. S. 703.

v. *Bajra*.

Cultivated. The Kambu millet.

\* *Pennisetum setosum* Rich.; B. P. ii. 1169. *P. holcoides* H. S.  
703.

v. *Shutî ghas*.

Collected at Serampore by Griffith, but not cited by Voigt as occurring there; possibly only a casual in our area as it has not been obtained again; it is common to the west of our districts.

*Pennisetum borbonicum* Kunth.; B. P. ii. 1169.

Collected about Serampore by Carey and about Shibpur by Kurz on the edges of fields, but probably an introduced grass only; native of Réunion.

622. *Setaria* Beauv.

*Setaria italica* Beauv.; B. P. ii. 1170. *Panicum italicum* H. S.  
702. *P. macrochaetum* H. S. 702.

v. *Kangni, kangu*.

Cultivated. The Italian millet.

\* *Setaria glauca* Beauv.; B. P. ii. 1170. *Panicum helvolum* H. S.  
702.

v. *Pingi natchi*.

In newly made pastures and dry fields, general.

\* *Setaria intermedia* R. & S.; B. P. ii. 1170.

v. *Dora-byara*.

In grassy glades, general, but never common.

\* *Setaria verticillata* Beauv.; B. P. ii. 1170. *Panicum verticilla-*  
*tum* H. S. 702. *P. tomentosum* H. S. 702.

v. *Dora-byara*.

In grassy glades, general.

This and the preceding species are apparently not distinguished from each other by the inhabitants of our area.

623. *Chamæraphis* R. Br.

\* *Chamæraphis spinescens* R. Br. VAR. *Brunoniana* Hook. f.; B. P.  
ii. 1171.

Floating on ponds, general.

- \* *Chamæraphis gracilis* Hook. f.; B. P. ii. 1171.  
Floating on ponds, 24-Pergunnahs, south-east of Calcutta.

624. *Isachne* R. Br.

- Isachne miliacea* Roth; B. P. ii. 1172. *Panicum patens* H. S. 700.

Reported from Serampore by Voigt but the record is doubtful; the grass occurs in North Bengal.

625. *Oplismenus* Beauv.

- \* *Oplismenus compositus* Beauv.; B. P. ii. 1173. *O. lanceolatus* H. S. 702.

Grassy glades, general.

- \* *Oplismenus Burmanni* Beauv.; H. S. 702; B. P. ii. 1173.

Grassy glades, general.

626. *Axonopus* Beauv.

- \* *Axonopus cimicinus* Beauv.; B. P. ii. 1174. *Coridochloa cimicina* H. S. 699.

Dry grassy places, in the western parts of the Hughli district.

627. *Panicum* Linn.

- \* *Panicum flavidum* Retz; H. S. 700; B. P. ii. 1176.

Waste places, roadsides, meadows, everywhere.

- \* *Panicum punctatum* Burm.; B. P. ii. 1177. *P. fluitans* H. S. 700.  
v. *Peti nar*.

Edges of ditches and wet places, everywhere.

- \* *Panicum Crus Galli* Linn.; B. P. ii. 1177. *P. Crus Corvi* H. S. 702.  
*P. hispidulum* H. S. 702.

v. *Bara shama*.

In waste damp places, occasional.

- VAR.\* *stagninum* Trin.; B. P. ii. 1177. *P. stagninum* H. S. 702.

v. *Dal*.

In marshy places, general.

- VAR. *frumentaceum* Trin.; B. P. ii. 1177. *Oplismenus frumentaceus* H. S. 703.

v. *Damra shama*.

Cultivated.

- \* *Panicum colonum* Linn.; B. P. ii. 1177. *Oplismenus colonus* H. S. 703.

v. *Shama*.

In rich pasture land, general.

- \* **Panicum prostratum** Lamk; B. P. ii. 1177. *P. repens* H. S. 700.  
v. *Chhota jalganti*.  
In cultivated land and gardens, general.  
In the Flora of British India Roxburgh's *P. repens* is cited as equivalent to *P. villosum* and possibly Roxburgh included *P. villosum* and *P. prostratum* in one species. But that the *P. repens* which Roxburgh knew in the neighbourhood of Calcutta, which is also Voigt's *P. repens* and is the grass known locally as *chhota jalganti* is *P. prostratum*, and *P. prostratum* only, admits of no dispute.
- Panicum muticum** Forsk.; B. P. ii. 1177.  
v. *Nar dal*.  
Sometimes cultivated as a fodder grass about Calcutta, but now quite general and well established in a wild state in ponds and ditches; native of Africa. Evidently introduced since 1845.
- \* **Panicum javanicum** Poir.; B. P. ii. 1177. *P. Helopus* H. S. 701.  
v. *Jalganti*.  
Edges of cultivated fields, general.
- \* **Panicum setigerum** Retz.; H. S. 702; B. P. ii. 1178.  
v. *Bara jalganti*.  
In glades and opener thickets and hedges, general.
- \* **Panicum distachyum** Linn.; B. P. ii. 1178.  
Grassy glades and borders of cultivated ground, general.
- \* **Panicum Kurzii** Hook. f.; B. P. ii. 1178.  
Grassy glades, general.
- \* **Panicum Myurus** H. B. K.; B. P. ii. 1178. *P. serrulatum* H. S. 701.  
v. *Damsiria*.  
In ponds and marshes, chiefly west of the Hughli.
- \* **Panicum interruptum** Willd; H. S. 700; B. P. ii. 1178.  
v. *Nardula*.  
In ponds and marshes, chiefly south and east of Calcutta, but reported also from Serampore by Voigt.
- \* **Panicum myosuroides** R. Br.; B. P. ii. 1179. *P. curvatum* H. S. 700.  
Margins of ponds and ditches, fairly general.
- \* **Panicum indicum** Linn.; B. P. ii, 1178.  
In open grassy places, west of the river Hughli only.
- Panicum miliaceum** Linn.; H. S. 700; B. P. ii. 1179.  
v. *Cheena*.  
Very sparingly cultivated in the Hughli district.

**Panicum miliare** Lamk. ; H. S. 700 ; B. P. ii. 1179.

v. *Gendula*.

Very sparingly cultivated in the western parts of the Hughli district.

\* **Panicum psilopodium** Trim. ; B. P. ii. 1179.

Open grassy places in the Goghat sub-division of the Hughli district.

\* **Panicum trypheron** Schult. ; B. P. ii. 1179. *P. Roxburghii* H. S. 01.

v. *Jupi kanka*.

In dry fields, west of the river Hughli only.

\* **Panicum humile** Nees ; B. P. ii. 1179.

v. *Jupi kanka*.

In dry fields, west of the river Hughli only. Appears not to be distinguished by the inhabitants from *P. trypheron*, of which it looks on casual observation much like a small form.

**Panicum maximum** Jacq. ; B. P. ii. 1179. *P. jumentosum* H. S. 700.

Guinea Grass. Cultivated occasionally about Calcutta.

\* **Panicum repens** Linn. ; B. P. ii. 1179. *P. uliginosum* H. S. 700.

v. *Baranda*.

Borders of rice-fields, river banks and other wet places, everywhere.

\* **Panicum proliferum** Lamk. ; B. P. ii. 1179. *P. paludosum* H. S. 700.

v. *Borati, kalas nar, dalakri ghas*.

Floating on ponds and ditches, everywhere.

**Panicum flavescens** Sw. ; B. P. ii. 1180. *P. costatum* H. S. 701.

v. *Bans pati ghas*.

In open glades about Calcutta, very plentiful. Though now one of the commonest of grasses about Calcutta this species is not a native of India; it was originally introduced from Mauritius. The name given it by the inhabitants of our districts is that used elsewhere to indicate the allied but much larger species *P. plicatum*, which does not occur in our area.

\* **Panicum trigonum** Retz. ; H. S. 700 ; B. P. ii. 1180.

About Serampore (*Voigt*) and also not uncommon about Shibpur. Though fairly frequent this grass is probably only an introduced one in our area for it has not been met with elsewhere in Bengal and has no vernacular name with us. It is common in the Deccan and occurs in Ceylon and Java.

628. *Digitaria* Lamk.

- \* *Digitaria sanguinalis* Scop. VAR. *ciliaris*; B. P. ii. 1181. *Panicum commutatum* H. S. 701.  
v. *Makar-juli*.  
In hedges and meadows, general.  
VAR.\* *extensa*; B. P. ii. 1181. *Panicum ægyptiacum* H. S. 701.  
*P. filiforme* H. S. 701.  
In hedges and meadows, general.  
VAR.\* *pruriens*; B. P. ii. 1181. *Panicum orthum* H. S. 701.  
In hedges and meadows, general.  
VAR.\* *debilis*; B. P. ii. 1181.  
Open grassy places, west of the river Hughli.  
VAR.\* *Rottleri* B. P. ii. 1181.  
Open grassy places, general.
- \* *Digitaria tenuiflora* Beauv.; B. P. ii. 1181. *Helopus longiflorus* H. S. 699. *H. filiculmis* H. S. 699.  
v. *Kanka-juriya*.  
In open grassy places, everywhere.
- \* *Digitaria puberula* Link. *D. Royleana* B. P. ii. 1182.  
In drier grassy places, general.
- \* *Digitaria pedicellaris* Prain; B. P. ii. 1182. *Urochloa panicoides* H. S. 701.  
v. *Chitri chiriya*.  
Dry fields, Gohat.

629. *Paspalum* Linn.

- \* *Paspalum scrobiculatum* Linn.; B. P. ii. 1182. *P. stoloniferum* (n. 2) H. S. 699. *Helopus longifolius* H. S. 699.  
v. *Myna, kodu*.  
In damp places, everywhere.
- Paspalum conjugatum* Berg.; B. P. ii. 1182.  
In shady grassy places, general. Though now a common grass about Calcutta and Shibpur, this has all the appearance of being an introduced species: it was apparently unknown to Roxburgh and to Voigt: it probably came to India from tropical America.
- \* *Paspalum distichum* Linn.; B. P. ii. 1183.  
Sundribuns; banks of Hughli as far north as Calcutta.

630. *Eriochloa* H. B. K.

- \* *Eriochloa polystachya* H. B. K.; B. P. ii. 1183. *Helopus annulatus* H. S. 699.  
v. *Chiriya ghas*.  
In damp places, general.

631. *Oryza* Linn.

*Oryza sativa* Linn. ; H. S. 711 ; B. P. ii. 1184.

v. *Dhan*. Rice.

Cultivated everywhere in several forms, some without awns, others with awns of varying length: native of various parts of India.

VAR. \* *fatua* ; B. P. ii. 1184.

v. *Dhan*. Wild Rice.

Occasionally met with in the Sundribuns, but it is possible that the Sundribuns wild stock is only feral after escape and not truly wild. It is apparently always long-awned.

\* *Oryza coarctata* Roxb. ; B. P. ii. 1184.

v. *Dhani, harakata*.

Western Sundribuns, common.

632. *Leersia* Sw.

\* *Leersia hexandra* Sw. ; B. P. ii. 1185. *Hygrorrhiza ciliata* H. S. 710.

Floating on ponds and jhils, everywhere.

633. *Hygrorrhiza* Nees.

\* *Hygrorrhiza aristata* Nees ; B. P. ii. 1185. *Potamochoia Retzii* H. S. 711.

v. *Jangli dal*.

Floating on ponds and jhils, general.

634. *Tragus* Haller.

\* *Tragus racemosus* Scop. ; B. P. ii. 1186.

Goghat, Western Hughli, in dry fields.

635. *Perotis* Ait.

\* *Perotis latifolia* Ait. ; H. S. 710 ; B. P. ii. 1185.

Dry fields, west of river Hughli, occasional.

636. *Zoysia* Willd.

\* *Zoysia pungens* Willd. ; H. S. 709 ; B. P. ii. 1186.

Western Sundribuns, common, also reported by Voigt from Serampore. The latter record is not altogether impossible, but it is doubtful if the conditions in the neighbourhood favour the existence of the grass there now. It is particularly abundant in half-cultivated ground about Canning Town.

637. *Dimeria* R. Br.

*Dimeria ornithopoda* Trin.; B. P. ii. 1187. *Chrysopogon filiformis* H. S. 704. *Andropogon Roxburghianus* H. S. 707.  
Fields near Calcutta (*Roxburgh*) and Serampore (*Voigt*); the records require confirmation; the species is common to the west of our area.

638. *Imperata* Cyrill.

\* *Imperata arundinacea* Cyrill.; B. P. ii. 1188. *I. cylindrica* H. S. 704.  
v. *Ulu*.  
Old stiff pasture land, everywhere.

639. *Saccharum* Linn.

\* *Saccharum spontaneum* Linn.; H. S. 705; B. P. ii. 1188. *S. semi-decumbens* H. S. 705. *S. canaliculatum* H. S. 705.  
v. *Khasi, khuri, khakra*.  
River banks, hedges, etc., general.

*Saccharum arundinaceum* Retz.; B. P. ii. 1189. *S. procerum* H. S. 705.  
v. *Teng*.

Reported from Serampore by *Voigt*; the species is occasionally planted in our area but its record in a wild state needs confirmation; it is plentiful in North Bengal and East Bengal.

*Saccharum Sara* Roxb.; H. S. 705. *S. arundinaceum* VAR. *ciliaris* B. P. ii. 1189.  
v. *Sara, Shar*.

Occasionally cultivated in Hughli district, but not, I believe, wild in our area, though reported from Serampore by *Voigt*; it is common in the Upper Gangetic plain.

*Saccharum officinarum* Linn.; H. S. 705, B. P. ii. 1189. *S. sinense* H. S. 705.  
v. *Akh, kushiar, gauna*. The pale forms are known as *Poori* and *kulloa*; the red as *kajuli*.

Cultivated generally; probably native of tropical Asia.

*Saccharum fuscum* Roxb.; H. S. 705; B. P. ii. 1189.  
v. *Khuri, pati khuri*.

Reported from Serampore by *Voigt*; the record needs confirmation however: the species is common in Eastern Bengal.

*Voigt* gives the name *Kash* as limited to the erect rigid form of *S. spontaneum* and that of *khuri* to the semi-decumbent form of that species; he further indicates that the name for *S. fuscum* is *pati*

*khuri*. But apparently now-a-days the name *khasi* is applied to both the forms of *S. spontaneum*, and so far as I can ascertain the name *khuri*, without any qualifying epithet, is restricted to *S. fuscum*.

#### 640. *Pollinia* Trin.

\* *Pollinia argentea* Trin. ; B. P. ii. 1190. *Andropogon trispicatus* H. S. 707.

In new pasture land, occasional.

*Pollinia conjugata*. *Andropogon conjugatus* H. S. 707.

Serampore, according to Voigt.

This record is doubtful but deserves to be looked into. The grass in question, described by Roxburgh as *Andropogon conjugatus*, is stated by its author to be a native of Bengal, though no precise locality in Bengal is cited. He has left a coloured drawing of the species, but there is not now in Herb. Calcutta,—and the same is apparently true as regards Herb. Kew,—any specimen that agrees exactly with this figure which is clearly that of an species of *Pollinia*. Hackel suggests that the grass must be very closely allied to *P. fimbriata*, but it is clearly not that species as Hooker has shown, nor from the known distribution of *P. fimbriata* is it likely to be a form of it. There are examples of *P. articulata*, in Herb. Calcutta, that closely resemble in externals Roxburgh's figure of *Andropogon conjugatus*, but the awnless condition of the second glume of the sessile spikelets, as shown in Roxburgh's analysis, precludes the possibility of his species being referred to *P. articulata*, apart from the fact that *P. articulata*, though very common elsewhere in Bengal, does not seem to have ever been met with in our area. It is not impossible that *Andropogon conjugatus* may be a corresponding reduced state of *Pollinia argentea*, but so far no examples of that species, which was, moreover, well known to Roxburgh, have been communicated to Herb. Calcutta, bearing the necessary superficial resemblance to his drawing of *Andropogon conjugatus*.

#### 641. *Manisuris* Sw.

\* *Manisuris granularis* Linn. f. ; B. P. ii. 1191. *Peltophorus granularis* H. S. 709.

Rather rare in dry meadows west of the river Hughli; not recorded from our area by Voigt and perhaps only a casual with us.

#### 642. *Rottboëllia* Linn. f.

\* *Rottboëllia compressa* Linn. f. ; B. P. ii. 1192. *R. glabra* H. S. 709.

v. *Baksa*.

In pastures, general.

VAR. \* *fasciculata* Hack. *Hemarthria compressa* H. S. 708.

v. *Pani sharu*.

Edges of pools and ditches, general.

\* *Rottboëllia protensa* Hack.; B. P. ii. 1192.

v. *Baksa*.

In pastures, general.

\* *Rottboëllia exaltata* Linn. f.; H. S. 709; B. P. ii. 1192.

v. *Bara swati*.

Waste places and near pools, general.

#### 643. *Mnesithea* Kunth.

\* *Mnesithea levis* Kunth; B. P. ii. 1193. *Thyridostachyum perforatum* H. S. 708.

v. *Karki*.

Rich pastures, everywhere.

#### 644. *Apluda* Linn.

\* *Apluda varia* Hack. SUB-SP. *mutica* Hack.; B. P. ii. 1194. *A. geniculata* H. S. 708.

In hedges and on river banks, general.

SUB-SP. \* *aristata* Hack.; B. P. ii. 1194. *A. aristata* H. S. 708.

v. *Chun karki*.

In hedges and waste places, west of the river Hughli.

#### 645. *Ischaemum* Linn.

\* *Ischaemum aristatum* Linn. SUB-SP. *imberbe* Hack.; B. P. ii. 1196.

*I. aristatum* H. S. 708.

v. *Melencha*.

Waste places and hedges about Calcutta, general, but perhaps only introduced in our area.

\* *Ischaemum rugosum* Salisb.; H. S. 703; B. P. ii. 1196.

v. *Moraro*.

Roadsides, waste places, hedges, everywhere.

*Ischaemum semisagittatum* Roxb.; B. P. ii. 1196. *Spodiopogon semisagittatus* H. S. 706.

Near Calcutta (*Roxburgh*) and Serampore (*Voigt*); doubtless both records are correct but there are no specimens of the grass from our area in Herb. Calcutta. The species is widespread in the Deccan, but is probably only a casual in Lower Bengal.

**Ischæmum conjugatum** Roxb.; B. P. ii. 1196. *Spodiopogon conjugatus* H. S. 706.

Near Calcutta (*Roxburgh*) and Serampore (*Voigt*); again both records are doubtless correct but are worth while verifying as there is no Lower Bengal specimen in Herb. Calcutta. Like the preceding species this is a Deccan grass and is almost certainly only a casual in the Gangetic delta; in Ceylon whence it has also been recorded, Trimen thinks it is only naturalised.

\* **Ischæmum ciliare** Ret z; B. P. ii. 1196. *Spodiopogon geniculatus* H. S. 706.

Western Hughli district in dry waste places, rare.

#### 646. *Arthraxon* Beauv.

**Arthraxon microphyllum** Hochst.; B. P. ii. 1199.

Not uncommon in new pastures and in open grassy glades about Shibpur and Calcutta, but probably not indigenous in our area though plentiful in most parts of India, and possibly a recent introduction since it is not described by Roxburgh and is not recorded by Voigt.

#### 647. *Andropogon* Linn.

**Andropogon Schœnanthus** Linn.; B. P. ii. 1203. *A. Martini* H. S. 707.

v. *Agya ghas*, *Rusa ghas*.

Cultivated in native gardens; native of India.

**Andropogon nardus** Linn.; B. P. ii. 1203. *A. Schœnanthus* H. S. 706.

v. *Gandha bena*.

Cultivated in native gardens; native of India.

\* **Andropogon brevifolius** Sw.; B. P. ii. 1203.

Western Hughli district, rare.

\* **Andropogon pertusus** Willd.; H. S. 707; B. P. ii. 1204.

Western Hughli district, common.

\* **Andropogon intermedius** R. Br. VAR. *punctatus* Hook. f.; B. P. ii. 1204. *A. punctatus* H. S. 707.

v. *Gandha gurana*.

Banks of rivers and ponds, chiefly east of the river Hughli.

**Andropogon Sorghum** Brot.; B. P. ii. 1204. VAR. *vulgaris* Hack.

*Sorghum vulgare* H. S. 704.

v. *Juar*.

Cultivated; native of S. E. Asia.

VAR. *bicolor* Hack. *Sorghum bicolor* H. S. 704.

v. *Kala deodhan*.

Cultivated; native of India.

VAR. *Roxburghii* Hack. *Sorghum saccharatum* H. S. 704.

v. *Sada deodhan*.

Cultivated; native of India.

\* *Andropogon halepensis* Brot.; B. P. ii. 1204. *A. miliformis* H. S. 708.

v. *Kala mucha*.

Hedges, river banks and waste places, occasional; perhaps only a casual in our area.

\* *Andropogon squarrosus* Linn. f.; B. P. ii. 1204. *A. muricatus* H. S. 706.

v. *Bena, khas khas*.

In low moist ground, general; sometimes planted deliberately in our area, e.g. in cleanings in the North-Western Sundribuns.

\* *Andropogon aciculatus* Retz; B. P. ii. 1205. *Chrysopogon acicularis* H. S. 704.

v. *Chora kanta*.

In barren ground, everywhere.

*Andropogon contortus* Linn.; B. P. ii. 1205. *Heteropogon contortus* H. S. 706.

In newly laid down pastures about Calcutta, very rare. This species, though so common in most of the dry parts of India, is not recorded from our area by Voigt; the writer has only met with it on three or four occasions, always among the grasses that appear on plots of land that have been dug over and then left bare. It rarely persists for more than a couple of seasons and is undoubtedly only a casual in our area.

\* *Andropogon caricosus* Linn.; B. P. ii. 1205. *Lipeocercis serrata* H. S. 705. *Heteropogon tenellus* H. S. 706. *Andropogon binatus* H. S. 708.

v. *Detara, detta*.

In the drier parts of the Hughli district and also in sandy places in the North-Western Sundribuns about Canning Town, but always rare.

\* *Andropogon annulatus* Forsk.; B. P. ii. 1205.

*A. scandens* H. S. 707.

v. *Loari*.

In grassy glades and meadows, general but not common.

VAR. \* *Bladhii* Hook. f.; B. P. ii. 1206. *A. Bladhii* H. S. 707.  
v. *Loari*.

In grassy glades and meadows, everywhere.

648. *Pseudanthistiria* Hook. f.

*Pseudanthistiria heteroclita* Hook. f.; B. P. ii. 1206. *Anthistiria heteroclita* H. S. 708.

Pastures about Calcutta, according to Roxburgh, also at Serampore, according to Voigt; the record is doubtless accurate, but it is worth confirming, because there are no examples of the grass from our area in Herb., Calcutta. The species is a native of the Concan and Canara and it is very probably only a casual in Lower Bengal.

649. *Anthistiria* Linn.

*Anthistiria ciliata* Linn. f.; B. P. ii. 1207. *A. scandens* H. S. 708.

Serampore, according to Voigt, quite possibly, but the record needs confirmation; the species is common immediately to the west of our area.

*Anthistiria gigantea* Cav. VAR. *arundinacea* Hack.; B. P. ii. 1207.  
*Andropogon arundinaceus* H. S. 706.

Serampore, according to Voigt; a record that needs confirmation; the species is common in North Bengal and in East Bengal, but if it formerly existed in our area it would now seem to have disappeared.

650. *Iseilema* Hack.

\* *Iseilema laxum* Hack.; B. P. ii. 1208.

Gohat, Western Hughli district in dry pastures.

651. *Zea* Linn.

*Zea Mays* Linn.; H. S. 709; B. P. ii. 1209.

v. *Makai*, *bhut*.

Cultivated; native of America.

652. *Polytoca* R. Br.

\* *Polytoca barbata* Stapf; B. P. ii. 1209. *Coix barbata* H. S. 710.

v. *Kanta gurgar*, *gurgar*.

Rice-fields and sides of ditches, general.

653. *Coix* Linn.

- \* *Coix Lachryma-Jobi* Linn.; B. P. ii. 1210. *Coix Lacrima* H. S. 709.

v. *Kanch gurgar, gurgar.*

Rice-fields and sides of ditches, general.

- Coix gigantea* Koenig; H. S. 710; B. P. ii. 1210.

v. *Dangagurgar.*

Reported from Serampore by Voigt; the record needs confirmation: the species is common in Chota Nagpur.

- \* *Coix aquatica* Roxb.; H. S. 710; B. P. ii. 1210.

v. *Jáb-gurgar.*

Floating in wet marshes and ponds, general.

654. *Aristida* Linn.

- \* *Aristida Adscensionis* Linn.; B. P. ii. 1211.

Goghat, in dry pastures.

655. *Polypogon* Desf.

- \* *Polypogon monspeliensis* H. S. 710; B. P. ii. 1212.

Goghat, sandy river beds; not recorded from our area previously.

656. *Sporobolus* R. Br.

- \* *Sporobolus diander* Beauv.; H. S. 711; B. P. ii. 1213.

v. *Bena joni.*

In moist pasture land, general.

- \* *Sporobolus tremulus* Kunth; B. P. ii. 1213. *S. tenacissimus* H. S. 711.

v. *Pani durba.*

In moist pasture land, everywhere.

657. *Arundinella* Raddi.

- \* *Arundinella Wallichii* Nees; B. P. ii. 1216. *Oplismenus strictus* H. S. 703.

v. *Ganga bena.*

Goghat, Western Hughli district, in dry grassy places.

658. *Arundo* Linn.

- Arundo Donax* Linn.; B. P. ii. 1218. *Donax arundinaceus* VAR. *versicolor* H. S. 713. *Amphidonax bengalensis* H. S. 714. *A. bifaria* H. S. 714.

v. *Gaba nal, Unal.* Gardeners' garters.

In ditches in the vicinity of Calcutta chiefly.

The form of this grass with variagated leaves, rather a favourite plant in gardens about Calcutta, is an introduction from Europe and is a form of the European variety of this species. Voigt gives two Indian forms as occurring in our area; the first is the *Gaba nal* (*Arundo bengalensis*) which is the Bengal form of the European *Arundo Donax*; the second which Voigt terms *Unal* is the form of *Arundo Donax* characteristic of the Circar Mountains (Eastern Ghats), Roxburgh's *A. bifaria*. It is doubtful if the latter be really indigenous in our area. The difference between the two grasses is chiefly in habit, the inflorescence in *A. bengalensis* being more lax, in *A. bifaria* more compact; the distinction between the two is much like the distinction between the Teng (*Saccharum arundinaceum*) and the Shur (*Saccharum Sara*), but is less pronounced.

#### 659. Phragmites Trin.

- \* **Phragmites Karka** Trin.; B. P. ii. 1209. *Amphidonax Karka* H. S. 714.  
v. *Nal, durma*.  
Ditches and river banks, general.

#### 660. Eragrostis Beauv.

- \* **Eragrostis coarctata** Stapf; B. P. ii. 1221.  
Goghat, Western Hughli district, in poor dry soil.
- Eragrostis aspera** Nees. *Poa paniculata* H. S. 716.  
Reported from Serampore by Voigt, but the record is most improbable, as the species is confined, so far as is known, to Southern and Western India. Probably some other species is intended but there is no clue as to which.
- \* **Eragrostis tenella** R. & S. VAR. *plumosa* Stapf; B. P. ii. 1221.  
*Poa plumosa* H. S. 715.  
Grassy places and roadsides everywhere.  
VAR. \* *viscosa* Stapf; B. P. ii. 1222. *Poa viscosa* H. S. 715.  
Dry grassy places, general.  
VAR. \* *breviculmis* Stapf; B. P. ii. 1222.  
Dry grassy places, occasional.
- Eragrostis interrupta** Beauv. VAR. *Koenigii* Stapf; B. P. ii. 1222.  
*Poa nutans* H. S. 715.  
In moist fields, everywhere.  
VAR. \* *diarrhena* Stapf; B. P. ii. 1222; *Poa diarrhena* H. S. 715.  
In moist fields, general.

- VAR. *tenuissima* Staof ; B. P. ii. 1222. *Poa tenella* H. S. 716.  
In pasture land, general.
- \* *Eragrostis amabilis* W. & A. ; B. P. ii. 1222. *Poa uniolooides* H. S. 716.  
v. *Koni*.  
Dry grassy places, general.
- \* *Eragrostis gangetica* Steud. ; B. P. ii. 1222. *Poa gangetica* H. S. 716.  
River banks and moist pastures, general.
- \* *Eragrostis stenophylla* Hochst. ; B. P. ii. 1222. *Poa elegantula* H. S. 715.  
Moisture pastures, general.
- \* *Eragrostis major* Host ; B. P. ii. 1223. *Poa Roxburghiana* H. S. 716.  
Dry banks, old walls and waste ground ; west of the river Hughli.
- \* *Eragrostis minor* Host ; B. P. ii. 1223.  
Waste places, occasional.
- \* *Eragrostis tremula* Hochst. ; B. P. ii. 1223. *Poa multiflora* H. S. 716.  
Gohat, in Western Hughli district ; also at Serampore according to Voigt.
- \* *Eragrostis pilosa* Beauv. ; B. P. ii. 1223. *Poa punctata* H. S. 716.  
v. *Tanajiniya*.  
In grassy places, chiefly west of the river Hughli.
- \* *Eragrostis cynosuroides* Beauv. ; B. P. ii. 1223. *Poa cynosuroides* H. S. 716.  
v. *Kusha*.  
In dry grassy places, general.

#### 661. *Myriostachya* Hook. f.

- \* *Myriostachya Wightiana* Hook. f. ; B. P. ii. 1224.  
v. *Nalai*.  
Western Sundribuns, on margins of creeks.

#### 662. *Diplachne* Beauv.

*Diplachne fusca* Beauv. ; B. P. ii. 1225.

In swampy fields to the south-east of Calcutta and in the cleanings of the North-Western Sundribuns, occasional ; almost certainly only a casual in our area, though a common grass in *usar* lands in the Upper Gangetic Plain.

663. *Leptochloa* Beauv.

- \* *Leptochloa filiformis* R. & S.; B. P. ii. 1225. *Cynodon filiformis*  
H. S. 712.

v. *Chhota pini nati*.

Moist grassy places, general.

- \* *Leptochloa chinensis* Nees; B. P. ii. 1225. *Poa chinensis* H.S.  
716.

v. *Bara pini nati*.

Moist grassy places, general.

664. *Microchloa* R. Br.

- \* *Microchloa setacea* R. Br.; H. S. 712; B. P. ii. 1226.  
Dry banks and old walls, rare.

665. *Cynodon* Pers.

- \* *Cynodon dactylon* Pers.; H. S. 712; B. P. ii. 1227.  
v. *Dúbh, Durba*.

Roadsides and dry grass lands, general.

666. *Chloris* Sw.

- \* *Chloris virgata* Sw.; B. P. ii. 1228.  
Gohat, Western Hughli district, in dry grassy places.

- \* *Chloris barbata* Sw.; H. S. 711; B. P. ii. 1228.  
In waste grassy places, everywhere.

667. *Eleusine* Gært. n.

- \* *Eleusine indica* Gært. n.; H. S. 713; B. P. ii. 1229.  
v. *Mal ankura*.

In fields and waste places, everywhere.

- Eleusine Coracana* Gært. n.; H. S. 712; B. P. ii. 1229.  
v. *Marua*.

Cultivated; a native of India.

- \* *Eleusine ægyptiaca* Desf.; B. P. ii. 1230. *Dactyloctenium ægyptiacum*  
H. S. 712.

v. *Makra, makar juli*.

Waste places, roadsides, fields, everywhere.

668. *Triticum* Linn.

- Triticum vulgare* Linn.; H. S. 715; B. P. ii. 1231.

v. *Gehum*. Wheat.

Very occasionally sown in our area.

669. *Hordeum* Linn.

***Hordeum vulgare*** Linn.; B. P. ii. 1231. *H. hexastichon* H. S. 714.  
v. *Fao, jab, javo*. Barley.  
Very occasionally sown in our area.

670. *Bambusa* Linn.

***Bambusa nana*** Roxb.; H. S. 719; B. P. ii. 1232.  
v. *Chhota bans*.  
Cultivated as a hedge plant; native of China.

***Bambusa Tulda*** Roxb.; B. P. ii. 1232. *Dendrocalamus Tulda* H. S. 718.  
v. *Tulda bans, matela bans, piah bans*.  
Cultivated; native of Eastern India.

***Bambusa Balcooa*** Roxb.; B. P. ii. 1233. *Dendrocalamus Balcooa* H. S. 718.  
v. *Balku bans, dhuli bans, palu bans*.  
Cultivated; native of Eastern India.

***Bambusa vulgaris*** Schrad.; B. P. ii. 1233. *Dendrocalamus Tulda* VAR.  $\gamma$ . H. S. 718.  
v. *Bashini bans*.  
Cultivated; native of Malaya.

***Bambusa arundinacea*** Willd.; H. S. 719; B. P. ii. 1233. *B. spinosa* H. S. 719.  
v. *Bans, Behar bans*.  
Cultivated; native of the Circars and Orissa.

## CRYPTOGAMIA.

## PTERIDOPHYTA.

## CXXI.—POLYPODIACEÆ.

671. *Davallia* Sm.

***Davallia multiflora*** Roxb.; B. P. ii. 1241. *D. parallela* H. S. 735  
Serampore, according to Voigt, but an improbable record; the species is to be found in Chota Nagpur but is not at all likely to occur in our area.

672. *Adiantum* Linn.

***Adiantum lunulatum*** Burm.; H. S. 735; B. P. ii. 1243.  
v. *Kali jhamp, kali jhant*.  
Old walls, throughout our area, everywhere.

\* **Adiantum caudatum** Linn. ; H. S. 735 ; B. P. ii. 1243.

On old walls about Calcutta, Chandernagore, Shibpur and elsewhere, rare.

This species is not cited by Voigt as occurring in our area and is recorded by Roxburgh as having been introduced to the Calcutta garden by H. T. Colebrooke. There is a manuscript note in Herb., Calcutta, by Kurz, to the effect that though it had been collected near Shibpur by Mr. John Scott, Kurz had never met with it himself. Besides Scott's Shibpur record, however, the writer is able to add one or two from Calcutta and one from Chandernagore. There is, however, little doubt that the species should be considered in our area only an introduced or at most a casual species.

#### 673. *Pteris* Linn.

\* **Pteris longifolia** Linn. ; B. P. ii. 1245. *P. amplectens* H. S. 735.  
Waste places, general.

**Pteris cretica** Linn. ; B. P. ii. 1245.

Cultivated and sometimes in abandoned gardens as if wild.

#### 674. *Ceratopteris* Brogn.

\* **Ceratopteris thalictroides** Brogn. ; H. S. 736 ; B. P. ii. 1246.  
*v. Jangli jhao.*  
In wet places and marshes, general.

#### 675. *Nephrodium* Rich.

\* **Nephrodium unitum** Sieb. ; B. P. ii. 1252. *Aspidium unitum*  
H. S. 734.

*v. Panka krul.*

In swampy ground, general.

\* **Nephrodium aridum** Bak. ; B. P. ii. 1253. *Polypodium semisagittatum* H. S. 734.

Western Sundribuns.

\* **Nephrodium molle** Desv. ; B. P. ii. 1253.

Waste places, occasional.

#### 676. *Nephrolepis* Schott.

**Nephrolepis cordifolia** Presl. ; B. P. ii. 1255. *Aspidium flagelliferum* H. S. 734.

Waste places, west of the river Hughli, occasional; possibly in our area only an escape.

677. *Polypodium* Linn.

- \* *Polypodium proliferum* Roxb. ; H. S. 734 ; B. P. ii. 1257.  
v. *Dapu*.  
Grassy moist places and sides of ditches, general.
- \* *Polypodium adnascens* Sw. ; B. P. ii. 1257. *P. pertusum* H. S.]  
734.  
On trees in the Western Sundribun forests.
- \* *Polypodium irioides* Lamk ; B. P. ii. 1258. *P. glabrum* H. S. 734.  
v. *Chittea bora*.  
On trees in village-shrubberies, general.
- \* *Polypodium quercifolium* Linn. ; H. S. 734 ; B. P. ii. 1258.  
v. *Gurúr*.  
On trees in village-shrubberies, general.

678. *Vittaria* Sw.

- \* *Vittaria elongata* Sw. ; B. P. ii. 1259. *Pteris angustifolia* H. S.  
735.  
On trees in the Sundribuns.

679. *Drymoglossum* Presl.

*Drymoglossum piloselloides* Presl ; B. P. ii. 1259. *Notholaena piloselloides* H. S. 734.

Serampore, according to Voigt ; the record is not impossible as the species is not uncommon on trees in the forests of the *Eastern* Sundribuns. It has not, however, been collected in the *Western* Sundribuns nor, since Voigt's day, has it been recorded from elsewhere in our area.

680. *Hemionitis* Linn.

- \* *Hemionitis arifolia* Bedd. ; B. P. ii. 1259. *H. cordifolia* H. S.  
734.  
v. *Chakuliya*.  
In shady groves, not uncommon.

681. *Acrostichum* Linn.

- \* *Acrostichum palustre* Bedd. ; B. P. ii. 1260. *Lomaria scandens* H.  
S. 735.  
North-Western Sundribuns, and marshy places south-east of Calcutta, climbing on trees.
- \* *Acrostichum aureum* Linn. ; B. P. ii. 1261. *A. emarginatum* H.  
S. 734.

In tidal marshes south-west of Calcutta and throughout the Western Sundribuns.

### CXXII.—SCHIZEACEÆ.

#### 682. *Lygodium* Sw.

*Lygodium flexuosum* Sw.; H. S. 737; B. P. ii. 1262.  
v. *Bhut-raj*.

Recorded from Serampore by Voigt; the record is quite probable as the species is common to the west of our area.

\* *Lygodium japonicum* Sw.; B. P. ii. 1262. *Ophioglossum filiforme*  
H. S. 737.  
Hedges and thickets, general.

### CXXIII.—OPHIOGLOSSACEÆ.

#### 683. *Ophioglossum* Linn.

\* *Ophioglossum reticulatum* Linn.; H. S. 737; B. P. ii. 1264.  
v. *Ektir*.  
In grassy glades, general but never common.

#### 684. *Helminthostachys* Kaulf.

\* *Helminthostachys zeylanica* Hook.; B. P. ii. 1264. *H. laciniata*  
H. S. 737.  
v. *Ekbir*.  
In shady places, general.

### RHIZOCARPEÆ.

### CXXIV.—SALVINIACEÆ.

#### 685. *Salvinia* Schub.

\* *Salvinia cucullata* Roxb.; H. S. 740; B. P. ii. 1265.  
v. *Indur kana pana*, *Indurni pana*.  
Floating on ponds, general.  
*S. natans* Hoffm. (*Ulki pana* or *Fuga pana*) should also be looked  
for, though it has not yet been definitely recorded from our area.

#### 686. *Azolla* Lamk.

\* *Azolla pinnata* R. Br.; B. P. ii. 1266. *Salvinia imbricata* H. S.  
740.  
v. *Pana*.  
Rice swamps and ponds, everywhere.

## CXXV.—MARSILEACEÆ.

687. *Marsilea* Linn.

- \* *Marsilea quadrifoliata* Linn.; H. S. 739; B. P. ii. 1266.

v. *Susni shak*.

Edges of ponds and ditches, everywhere.

- \* *Marsilea minuta* Linn.; B. P. ii. 1266.

Edges of ponds and ditches, general.

## CXXVI.—ISOËTACEÆ.

688. *Isoetes* Linn.

- \* *Isoetes coromandeliana* Linn. *I. capsularis* H. S. 738.

Serampore, *Griffith, Voigt*.

The specimens collected at Serampore by Griffith have been found by Mr. Baker to belong to *I. coromandeliana*.

## CXXVII.—LYCOPODIACEÆ.

689. *Lycopodium* Linn.

- \* *Lycopodium Phlegmaria* Linn.; H. S. 738; B. P. ii. 1269.

v. *Sitahar*.

On trees in the Sundribuns, also reported by Voigt from Serampore, but the latter record requires confirmation.

## CXXVIII.—SELAGINELLACEÆ.

690. *Selaginella* Spring.

- \* *Selaginella proniflora* Bak.; B. P. ii. 1270. *Lycopodium imbricatum* H. S. 738.

v. *Hatajhera*.

On damp paths, general.

*Selaginella tenera* Spring.

Cultivated and at times also sub-spontaneous in damp shady places near P. suburban gardens, about Chandernagore and Shibpur.

## BRYOPHYTA.

## CXXIX.—FISSIDENTACEÆ.

691. *Fissidens* Hedw.

- \* *Fissidens bengalensis* Hampe. *F. bryoides* H. S. 741.

Heavy soil, general.

**CXXX.—CALYMPERACEÆ.****692. Calymperes Sw.**

- \* *Calymperes tenerum* C. Muell.

On tree trunks, general.

**CXXXI.—POTTIACEÆ.****693. Barbula Hedw.**

- \* *Barbula orientalis* Willd. *B. indica* H. S. 741.

On damp soil, general.

- \* *Barbula gangetica* C. Muell.

On damp soil, occasional.

**694. Splachnobryum C. Muell.**

- \* *Splachnobryum indicum* C. Muell.

On old walls, especially on the lime courses between the bricks, everywhere.

**CXXXII.—FUNARIACEÆ.****695. Physcomitrium Fuern.**

- \* *Physcomitrium cyathocarpum* Mitten.

Damp soil, general.

**CXXXIII.—MARCHANTIACEÆ.****696. Cyathodium Kunze.**

- \* *Cyathodium albonitens* Schiffn.

On damp soil in gardens, general.

**697. Athalamia Falc.**

- \* *Athalamia pinguis* Falc.

On damp soil.

**ALGÆ.****CXXXIV.—ZYGNEACEÆ.****698. Spirogyra Link.**

- \* *Spirogyra elongata* Kg.

In rice-fields, general.

- \* *Spirogyra nitida* Lk.

Howrah district.

- \* *Spirogyra Heeriana* Nægeli.  
Calcutta.

## CXXXV.—MESOCARPACEÆ.

699. *Mougeotia* Wittr.

- \* *Mougeotia affinis* Kg.  
Matla, in brackish water.

## CXXXVI.—PROTOCOCCACEÆ.

700. *Stomatochytrium* Cunningh.

- \* *Stomatochytrium Limnanthemum* Cunningh.  
Endophytic in leaves of *Limnanthemum indicum*.

701. *Protococcus* Ag.

- \* *Protococcus cohærens* Kg.  
Damp walls.

## CXXXVII.—ULVACEÆ.

702. *Enteromorpha* Harv.

- \* *Enteromorpha intestinalis* Lk.  
Salt-lakes near Calcutta.

## CXXXVIII.—ULOTHRICACEÆ.

703. *Ulothrix* Kg.

- \* *Ulothrix pectinalis* Kg.  
Ponds and marshes, Howrah district.

704. *Conferva* Lagerh.

- \* *Conferva bombycina* Wille.

River Hughli near Kidderpore; Botanic Garden, Shibpur, in ponds (VAR.  $\beta$ . *crassior* Mart).

- \* *Conferva antillarum* Kg.  
Salt-lakes, Calcutta.

## CXXXIX.—CHÆTOPHORACEÆ.

705. *Chætophora* Schrank.

- \* *Chætophora chlorotica* Kg.  
Salt-lakes, near Calcutta.

**CXL.—MYCOIDEACEÆ.****706. Mycoidea Cunningh.****\* Mycoidea parasitica** Cunningh.Parasitic on leaves of *Citrus*, *Michelia*, *Orchidaceæ*, etc.**CXLI.—EDOGONIACEÆ.****707. Edogonium Link.****\* Edogonium scutatum** Kg.

Ponds, Howrah district.

**CXLII.—CLADOPHORACEÆ.****708. Rhizoclonium Kg.****\* Rhizoclonium antillarum** Kg.

Matla, in brackish water.

**709. Cladophora Kg.****\* Cladophora bengalensis** Mart.

Barrackpore.

**\* Cladophora Rottleri** Kg.

Howrah.

**\* Cladophora simpliciuscula** Kg.

Kidderpore, on walls submerged at high tide.

**CXLIII.—CHARACEÆ.****710. Nitella Ag.****\* Nitella oligospira** A. Br.

Ponds, general.

**\* Nitella hyalina** Ag.

Ponds, everywhere.

**\* Nitella Roxburghii** A. Br.

Ponds, general.

**711. Chara Linn.****\* Chara flaccida** A. Br.

Ponds, everywhere.

**\* Chara zeylanica** Willd.

Marshes at Matla.

**\* Chara fetida** A. Br.

Ponds, general.

- \* *Chara verticillata* Roxb.  
Ponds, general.

**CXLIV.—ENCÆLIACEÆ.**

712. *Encœlium*, Kg.

- \* *Encœlium vesicatum* Kg.  
Banks of canal near Salt-lakes, Calcutta.

**CXLV.—COMPSOPOGONACEÆ.**

713. *Compsopogon* Montagne.

- \* *Compsopogon Hookeri* Montagne.  
Canal banks near Calcutta salt-lakes ; marshes at Matla.

**CXLVI.—RHODOPHYLLIDACEÆ.**

714. *Catanella* Grev.

- \* *Catanella Opuntia* Grev.  
Salt-lakes near Calcutta ; banks of river Hughli.

**CXLVII.—DELESSERIACEÆ.**

715. *Caloglossa* J Ag.

- \* *Caloglossa Leprieurii* J. Ag.  
Salt-lakes near Calcutta ; Kidderpore on walls covered at high tide.

716. *Delesseria* Lamouroux.

- \* *Delesseria bengalensis* Martens (sub *Hypoglossum*).  
Matla, in tidal pools.
- \* *Delesseria pygmæa* Martens (sub *Hypoglossum*).  
Salt-lakes, Calcutta ; Baliaghat Canal.

**CXLVIII.—RHODOMELACEÆ.**

717. *Polysiphonia* Grev.

- \* *Polysiphonia rufo-lanosa* Harv.  
Submerged branches in river Hughli.
- \* *Polysiphonia angustissima* Kg.  
Salt-lakes, Calcutta.
- \* *Polysiphonia polychroma* Mart.  
Salt-lakes, Calcutta.

718. *Bostrychia* Montagne.

- \* *Bostrychia rivularis* Harv.  
Salt-lakes, near Calcutta.

## CXLIX.—CERAMIACEÆ.

719. *Hormoceras* Kg.

- \* *Hormoceras flaccidum* Ag.  
Salt-lakes, near Calcutta.

## CL.—CHROOCOCCACEÆ.

720. *Gleocapsa* Kg.

- \* *Gleocapsa Kurziana* Mart.  
Botanic Garden, Shibpur.
- \* *Gleocapsa rupestris* Kg.  
On submerged branches, river Hughli.

721. *Microcystis* Kg.

- \* *Microcystis æruginosa* Kg.  
Tanks at Shibpur.

## CLI.—OSCILLATORIACEÆ.

722. *Oscillatoria* Vauch.

- \* *Oscillatoria amphibia* Ag.  
On masonry steps of ghats both below and above the water line.
- \* *Oscillatoria antliaria* Mart.  
Muddy river banks.
- \* *Oscillatoria Cortiana* Menengh.  
In tanks.
- \* *Oscillatoria Froelichii* Kg.  
Floating in ponds.
- \* *Oscillatoria Grateloupii* Bory.  
Wet rice-fields.
- \* *Oscillatoria interrupta* Mart.  
Mud of dried up ponds.
- \* *Oscillatoria Juliana* Menengh.  
Sealdah, in drains.

- \* *Oscillatoria Kurziana* Mart.  
Botanic Garden, Shibpur, in water in flowerpots.
- \* *Oscillatoria limnosa* Ag.  
In tanks.
- \* *Oscillatoria tenerrima* Kg.  
Salt-lakes, Calcutta.
- \* *Oscillatoria tenuis* Lyngb.  
In ponds.
- \* *Oscillatoria versicolor* Mart.  
Salt-lakes.

723. *Spirulina* Turp.

- \* *Spirulina oscillarioides* Turp.  
Salt-lakes, Calcutta.

724. *Phormidium* Kg.

- \* *Phormidium oryzetorum* Mart.  
Rice-fields; the commonest Alga in Lower Bengal.
- \* *Phormidium Lyngbyaceum* Kg.  
Salt-lakes, Calcutta.

725. *Lyngbya* C. A. Ag.

- \* *Lyngbya crispa* Kg.  
Salt-lakes, Calcutta.
- \* *Lyngbya circinnata* Kg.  
Swamps and ponds, general.
- \* *Lyngbya cinerascens* Kg.  
Salt-lakes, Calcutta.
- \* *Lyngbya solitaria* Kg.  
Ponds, general.

726. *Leibleinia* Endl.

- \* *Leibleinia Juliana* Kg.  
Salt-lakes, Calcutta.

727. *Hypheothrix* Kg.

- \* *Hypheothrix tenax* Mart.  
Salt-lakes, Calcutta.

728. *Hydrocoleum* Kg.

- \* *Hydrocoleum Kurzii* Mart.  
Muddy banks of canals, also salt-lakes.
- \* *Hydrocoleum Lenormandi* Mart.  
Salt-lakes, Calcutta.

729. *Microcoleus* Desmaz.

- \* *Microcoleus salinus* (Kg.).  
Kidderpore near Calcutta.
- \* *Microcoleus Lyngbyei* Kg.  
Calcutta, salt-lakes.

730. *Leptothrix* Kg.

- \* *Leptothrix subtilissima* Kg.  
Damp walls, general.
- \* *Leptothrix mamillosa* Menengh.  
Salt-lakes, Calcutta.

731. *Dictyonema* Ag.

- \* *Dictyonema fuscescens* Mart.  
Stagnant pools, about Calcutta.

## CLII.—NOSTOCACEÆ.

732. *Nostoc* Vauch.

- \* *Nostoc gregarium* Thuret.  
Submerged in ponds.

733. *Anabæna* Bory.

- \* *Anabæna mollis* Kg.  
Muddy edges of ponds, also in water.

734. *Cylindrospermum* Kg.

- \* *Cylindrospermum spirale* Kg.  
Floating in ponds.

735. *Hormosiphon* Kg.

- \* *Hormosiphon coriaceus* Kg.  
Banks of the river Hughli at Botanic Garden, Shibpur.

## CLIII.—SCYTONEMATACEÆ.

736. *Scytonema* J. A. Ag.

- \* *Scytonema ærugineo-cinereum* Kg.  
Walls about Calcutta, common.
- \* *Scytonema aureum* Meneng.  
Mud-banks of Hughli river.
- \* *Scytonema granulatum* Mart.  
Salt-lakes, Calcutta.
- \* *Scytonema palmarum* Mart.  
Within sheaths of palms, Botanic Garden.
- \* *Scytonema tomentosum* Kg.  
Botanic Garden, Shibpur.
- \* *Scytonema Veillardii* Mart.  
On walls, general.

## CLIV.—STIGONEMATACEÆ.

737. *Fischeria* Kg.

- \* *Fischeria tenuis* Mart.  
Damp walls with northern exposure.

## CLV.—RIVULARIACEÆ.

738. *Mastichonema* Schwabe.

- \* *Mastichonema granulatum* Mart.  
Stems of grasses in ponds and ditches.
- \* *Mastichonema cæspitosum* Kg.  
Stems of *Sesbania* in ponds and ditches.

739. *Rivularia* C. A. Ag.

- \* *Rivularia lens* Meneng.  
In tanks, on *Vallisneria* leaves.

## CLVI.—BACILLARIACEÆ.

740. *Navicula* Bory.

- \* *Navicula velox* Kg.  
Matla in marshes.
- \* *Navicula cryptocephala* Kg.  
Botanic Garden, Calcutta.

741. *Nitzschia* Hassal.

- \* *Nitzschia dissipata* Grun.  
Matla, in marshes.

742. *Gloeotila* Kg.

- \* *Gloeotila concatenata* Kg.  
Tanks and pools about Shibpur.

## LICHENES.

743. *Pyrgidium* Nyl.

- \* *Pyrgidium bengalense* Nyl.  
Botanic Gardens, on an old *Ravenala madascariensis*, only once met with.

744. *Ramalina* Fries.

- \* *Ramalina angulosa* Laus.  
Botanic Garden, Shibpur.
- \* *Ramalina calicaris* Ach.  
On trees, general.

745. *Parmelia* Fries.

- \* *Parmelia perlata* Ach.  
Trees, general; especially on mangoes.

746. *Physcia* DC.

- \* *Physcia picta* Sw.  
Trees, everywhere.

747. *Pyxine* Fries.

- \* *Pyxine Cocaes* Nyl.  
On trees, general, especially on palms.
- \* *Pyxine Meissneri* Tuck.  
On trees, general.

748. *Lecanora* Ach.

- \* *Lecanora aurantiaca* Lightf.  
General.
- \* *Lecanora Encephalarti* Nyl.  
Botanic Garden, Shibpur, on *Encephalartes* only.

- \* **Lecanora colubrina** Ach.  
Botanic Garden, Shibpur.
- \* **Lecanora subfusca** VAR. **distans** Ach.  
General.
- \* **Lecanora sarcopis** VAR. **subeffusa** Nyl.  
Botanic Garden, Shibpur.
- \* **Lecanora granifera** Ach.  
Botanic Garden, Shibpur.

749. **Gyrostomum** Fries.

- \* **Gyrostomum scyphuliferum** Ach.  
Botanic Garden, Shibpur.

750. **Lecidea** Fries.

- \* **Lecidea carneo-lutea** Turn.  
Botanic Garden, Shibpur.
- \* **Lecidea medialis** Tuck.  
Botanic Garden, Shibpur, on *Cycas Rumphii*.
- \* **Lecidea propinquella** Nyl.  
Botanic Garden, Shibpur.
- \* **Lecidea spadicea** Tuck.  
Botanic Garden, Shibpur.
- \* **Lecidea patellarioides** Nyl.  
Botanic Garden, Shibpur.
- \* **Lecidea triphragma** Nyl.  
General.
- \* **Lecidea premnea** VAR. **malargyra** Nyl.  
General.

751. **Opegrapha** Humb.

- \* **Opegrapha Martii** Nyl.  
Botanic Garden, Shibpur.
- \* **Opegrapha varia** VAR. **pulicaris** Hoffm.  
Botanic Garden, Shibpur.
- \* **Opegrapha vulgata** Ach.  
General.
- \* **Opegrapha inæqualis** Fée.  
Botanic Garden, Shibpur.

752. *Platygrapha* Nyl.

- \* *Platygrapha pallidella* Nyl.  
General, especially on palm trees.
- \* *Platygrapha glaucomoides* Nyl.  
General, on trees.
- \* *Platygrapha stigmatica* Krempelh.  
Botanic Garden, Shibpur.

753. *Stigmatidium* Meyer.

- \* *Stigmatidium microcephalum* Nyl.  
Botanic Garden, Shibpur, on dicotyledonous trees.
- \* *Stigmatidium melastigma* Nyl.  
Botanic Garden, Shibpur.

754. *Arthronia* Eschw.

- \* *Arthronia cinnabarina* Nyl.  
On trees with coarse bare branches, general.
  - \* *Arthronia antillarum* Fée.  
On dicotyledonous trees, general.
  - \* *Arthronia impolitella* Nyl.  
Botanic Garden, Shibpur.
  - \* *Arthronia abnormis* Ach.  
On dicotyledonous trees, general.
  - \* *Arthronia circumalbicans* Nyl.  
On *Pandanus* stems, occasional.
- Arthronia astroidea* VAR. *Swartziana* Ach.  
Botanic Garden, Shibpur.

755. *Chiodecton* Ach.

- \* *Chiodecton heterotropum* Nyl.  
Botanic Garden, Shibpur.

756. *Graphis* Ach.

- \* *Graphis scripta* Ach.  
Frequent on bark of decayed *Pandanus*.  
Two varieties VAR. *pulverulenta* Nyl. and VAR. *subvirginea* Nyl  
occur along with the typical form.
- \* *Graphis obtecta* Nyl.  
General, on branches of various shrubs.

757. *Glyphis* Ach.

- \* *Glyphis cicatricosa* Ach.  
Botanic Garden, Shibpur.
- VAR. \* *favulosa* Ach.  
Botanic Garden, Shibpur.

758. *Verrucaria* Pers.

- \* *Verrucaria nitida* Schrad.  
Botanic Garden, Shibpur.
- \* *Verrucaria libricola* Fée.  
General, on trees, especially on *Bombax*.
- \* *Verrucaria tropica* Ach.  
On dicotyledonous trees, general.
- \* *Verrucaria diluta* Fée.  
Botanic Garden, Shibpur.
- \* *Verrucaria albo-atra* Krempelh.  
On dicotyledonous trees, general.
- \* *Verrucaria majuscula* Nyl.  
Botanic Garden, Shibpur.

759. *Thelopsis* Nyl.

- \* *Thelopsis inordinata* Nyl.  
Botanic Garden, Shibpur.

760. *Melanotheca* Nyl.

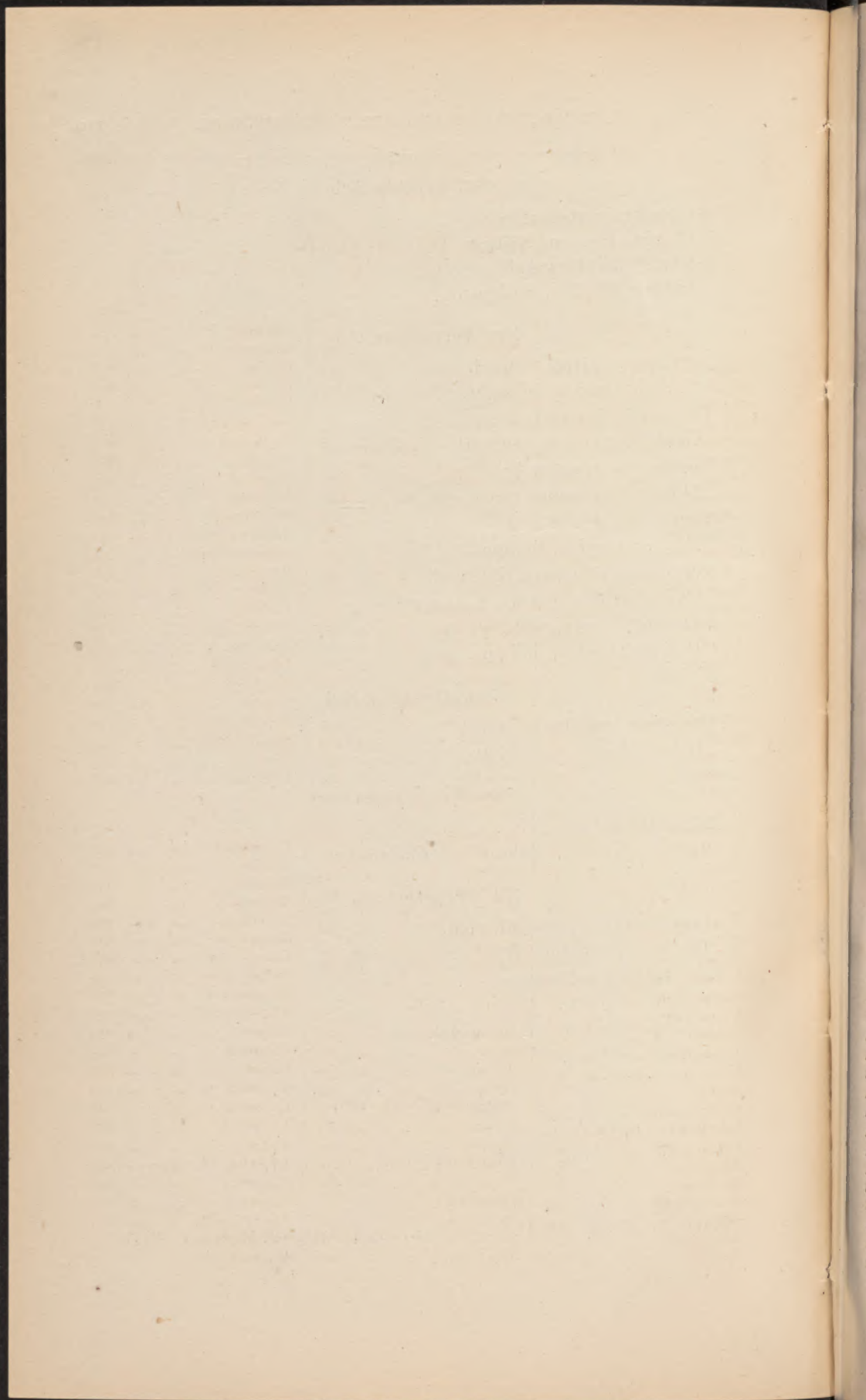
- \* *Melanotheca indica* Nyl.  
Botanic Garden, Shibpur, on *Pandanus*.

761. *Trypethelium* Ach.

- \* *Trypethelium Sprengelii* Ach.  
On dicotyledonous trees, general.
- \* *Trypethelium pallescens* Fée.  
Botanic Garden, Shibpur.
- \* *Trypethelium leucotrypum* Nyl.  
Botanic Garden, Shibpur.

762. *Lepraria* Ach.

- \* *Lepraria flava* Ach.  
On trees, general, especially on palms, such as *Areca*, *Arenga*, etc



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B.