XVIII. *Revision of the Genus Cassia.* By GEORGE BENTHAM, Esq., F.R.S., P.L.S.

Read March 4th, 1869.

(Plates LX.—^XLIII.)

THE genus CASSIA has frequently been the subject of the special researches of monographists. The medical importance of its principal products, Senna-leaves and Fistula-fruits, have rendered the investigation of the species from which the best supplies are obtained necessary on the part of pharmacologists. The great beauty of many of the trees and shrubs it includes is well appreciated, not only in tropical plantations and gardens, but also in those of Southern Europe, and, indeed, as far north as Paris, where a few species, chiefly, I believe, *C. corymbosa* and its allies, are amongst the most conspicuous of the autumn-flowering shrubs; and although we rarely see any in this country, yet it is probable that when our subtropical gardens become more general, Cassias will assume their appropriate places in them. To botanists it presents an excellent instance of a large, widely distributed, much varied, but well-defined group. So natural, indeed, is the genus that, notwithstanding the great contrast in habit between the splendid arborescent *Fistulas* and some of the weedy herbaceous *Prosospermas*, or *Chamæcristas*, and although its principal characters are derived from the pod and the anthers, which both present more diversity than in any other Leguminous genus, yet there is hardly a species which has ever, by any tolerably fair botanist, been falsely or carelessly included in or rejected from the genus, except perhaps in the case of a few garden seedlings which had not yet flowered.

One result, however, of the early attention given to the genus has been the large number of imperfectly described species, or, at any rate, of so-called species, which it is exceedingly difficult to identify. This circumstance, and the very large increase which the genus has recently received, obliged me, in working up the Brazilian species for Martius's great 'Flora,' to go through the whole genus with all the care I could bestow upon it. As a result of my investigations I beg to lay before the Society a systematic enumeration of the whole genus, observations on old species, and descriptions of new ones from the extra Brazilian regions of America or from Asia, with some general observations on systematic arrangement and geographical distribution, referring for systematic details of Brazilian species to the Cæsalpinieous volume of Martius's 'Flora' about to be sent to press, of African species to the second volume of Oliver's 'Flora,' now far advanced, and of Australian species to the second volume of my 'Flora Australiensis'*

* [It is now two years since this paper was read: I have since been enabled, during a visit I made in the autumn of 1869 to Paris, Geneva, and Munich, to verify a number of synonyms which had remained doubtful; and my account of the Brazilian Cæsalpinieæ being now at length published, and the greater part of the second volume of Oliver's 'Flora' being already in type, I have been able to refer to both these works throughout the systematic enumeration, which I have endeavoured to bring down to the present time. I have thought it right to leave the preliminary observations precisely as they were read to the Society.—April 1871.]

Linnaeus, in the standard second edition of his 'Species Plantarum' (1762), enumerated 30 species, which, by the elimination of repetitions founded on imperfect materials, must be reduced to 25. From that time to the first decade of the present century many new species were added, and a still greater number of old ones redescribed under new names, chiefly from botanical gardens in various parts of the world; and notwithstanding the general enumerations of Willdenow and Persoon, the whole genus had fallen into a state of the greatest confusion when Colladon took it up at the suggestion of De Candolle. That great master, who succeeded in forming so many botanists from among his pupils, always recommended to beginners the working out a special monograph as the best exercise, whether in systematic, physiological, or applied botany. Accordingly, M. Colladon, working under De Candolle's eye, and evidently with direct assistance from him, published in 1816, as his inaugural thesis for the degree of Doctor of Medicine, his 'Histoire Médicale et Systématique des Casses,' in 4to, with 20 plates. After devoting a considerable space to the pharmaceutical products of the genus, the systematic portion contains an enumeration of all of the species then known, with diagnoses and descriptions, in as far as his materials allowed. But herbaria in those days were very scanty; and, owing either to the insufficiency of the characters given by various writers or to his having sometimes taken up species from rude drawings, out of 125 species that he enumerates as more or less known, nearly one half have proved untenable. De Candolle himself, reworking up the genus for his 'Prodromus' nine years later, owing chiefly to the additions made by Humboldt and Bonpland, raised the number to 211 species enumerated; but these, again, from the same causes must probably be reduced to about 110.

After another period of twelve years the late Dr. Vogel in 1837, on the occasion of working up Sellow's Brazilian Leguminosæ, found it necessary to revise the genus *Cassia*, which he did with that accuracy and ability which distinguished all his systematic labours, enumerating 278 species, out of which nearly 200 appear to be well established, a far larger proportion than is the case with any of his predecessors. During the thirty-two years which have now elapsed since the publication of his 'Synopsis generis Cassiæ,' the only work on the subject deserving notice is Batka's elaborate investigation of the few species forming the group of true *Sennas*. In this excellent memoir he has very effectually cleared up the confusion which had arisen from the vague and careless manner in which the species had been noticed by the earlier and even by some more recent writers. In raising, however, these four species to the rank of a distinct genus, he appears to have been rather led away by a naturally exaggerated view of the importance of the characters he has elucidated in a group so long the object of his exclusive attention than by any general comparison with allied groups.

In the meantime the examination of the rich stores accumulated in the Kew herbarium, the study of many of the older types in the Linnæan and Banksian herbaria, the notes I had formerly taken at Paris and Geneva, and the collections lent to me from Munich and other parts of the Continent have given me the opportunity of clearing up a large number of the old doubtful *Cassias*, and of making no small an addition of new species chiefly from central Brazil, carrying the total number of known species, estimated according to the views I have usually adopted, to 338, besides about a dozen published

ones about which I feel some doubt. This total number might be readily raised to at least 360, by adopting as species several which I have considered rather as marked varieties, or might perhaps equally well be reduced to 300, by uniting those which are not marked off by any definite limits.

Of the general character and affinities of the genus I need say nothing; for the territory assigned to it in the system has long since been well fixed, and no ambiguous or connecting species has hitherto come forward to disturb the frontier. The distribution of the numerous species into subordinate groups, however, has presented some difficulties. De Candolle's seven sections are mostly natural, but very unequal in value; and the characters he gives, which he could only verify in a small number of species, will not stand the test of a closer investigation. Vogel's seven sections, partly the same as, partly different from De Candolle's, are much more accurately defined, and some of them excellent; but the characters being taken sometimes from the anthers alone, sometimes from the pods or the seeds alone, some of his groups are too technical, of unequal value, or so far from natural, that, for instance, between the great sections of *Chamaefistula* with 28 species, *Chamaesenna* with 51, and *Senna* with 12 species, there are no less than 45 species well known by good flowering specimens, which he is obliged to leave as ambiguous between the three. Following up, however, the indications so well broached by Vogel, it appears to me that the genus may be divided into three large groups, so well defined in flower and fruit as to have a right to the designation of subgenera. These are:—

1. *FISTULA*, in which the three lower anthers, on long incurved filaments, open more or less from the top downwards on the inner face in longitudinal slits; four or more of the others, on shorter filaments, open by basal pores, one to three of the uppermost being usually smaller and indehiscent. The pod is long, cylindrical or slightly compressed, very hard, and usually, if not always, indehiscent; the transverse septa between the seeds are very perfect, and the seeds flattened parallel to those septa, usually inclosed in a juicy or dry and pith-like pulp. The species of this subgenus are all trees or tall shrubs; the flowers large and showy, in racemes, produced usually, but not quite always, on the old wood; and there are no petiolar glands.

2. *SENNA*, in which the perfect anthers (either seven only, the three upper ones being small and imperfect, or the whole ten) open in single or double terminal pores, or in terminal short slits, occasionally continued a short way down the sides. The pod opens along one or both sutures without elasticity, or in a few species remains indehiscent with a thin or soft pericarp. The seeds, varying much in the direction in which they lie in the pod, are always attached by filiform funicles. The habit and inflorescence are very varied.

3. *LASIORHEGMA*, in which the anthers, either ten or sometimes fewer by abortion, open in short terminal slits, occasionally continued down the sides as in a few species of *Senna*, but usually with a marked woolly line down the sutures. The pod opens elastically in two valves; and the funicle of the seed is reduced to a small adnate or triangular protuberance, never filiform. The habit and inflorescence of each of the three sections comprised in the subgenus is peculiar; but, in the case of two at least, corresponding forms are to be found in the other subgenera.

These three great subgenera thus modified will, I believe, be found to be distinguished by positive characters in the fruit or in the flower, or in both, and so combined with habit and inflorescence that there can be no hesitation as to the subgenus into which any specimen, whether in flower only or in fruit only, should be placed; nor have I met with a single species really intermediate between either, although in each subgenus there may be a subordinate group or species approaching to, without overstepping, the general boundary.

For the subdivision of these subgenera I have not in *Fistula* succeeded in tracing any natural groups intermediate between the subgenus and the species; in *Senna* I have adopted several sections and minor groups, either founded chiefly on the pod but not always recognizable in the flower, or characterized by the anthers without any distinctive pod, or by the seeds or glands, but none of them so clear and well defined as the subgenera. *Lasiorhegma*, however, has three very good natural and well-marked sections, *Apoucowita*, *Absus*, and *Chamæcrista*, characterized chiefly by inflorescence. Such details on these and other groups as it may be worth entering into, will find their place in the following observations on their geographical distribution.

On this subject of geographical distribution I am induced to enter into some detail, as *Cassia* seems to present, in this respect, a good example of analogous phenomena in the majority of large natural tropical genera common to the New and the Old World, such as *Hibiscus*, *Crotalaria*, *Bauhinia*, *Mimosa* (in the Linnean sense), *Eugenioideæ*, *Myrteæ*, *Hedyotis* (in its broad sense), *Psychotria*, *Solanum*, &c.—phenomena which may be shortly summed up as a general diffusion of uniform primary types, with more or less of divergence into secondary types in different directions in different countries, the smaller groups becoming, generally speaking, more and more local, diverging in different directions and with different combinations of characters in different countries, and the number of identical species over the whole range very few, beyond those which, as weeds of cultivation, are liable to frequent interchange by existing means of transport.

I would premise, also, that in all considerations of geographical distribution of species or other groups, it seems necessary to consider, as an established fact, the great principle that natural affinity results from community of descent. The admission of a separate arbitrary creation of species, unmeaningly modified from an imaginary type, not only reduces the science to a dry statistical enumeration, but entails the preliminary exact determination of what is a species, which no one has as yet succeeded in giving; whereas, in adopting the doctrine of descent, natural genera, sections, species, and varieties become superior and subordinate groups, similar in nature and differing only in degree. Under this aspect, when treating of the area occupied by a group, it matters little whether you call it a section, a species, or a variety, provided only you make yourself clearly intelligible as to what is the grade of subordination you have in view, and, following the terminology which you believe to be the most generally received, you keep to the same term for what you consider the same grade throughout the genus or order you are considering. Thus in speaking, for instance, of the Chilian *Cassia Candolleana*, Vog., whether we follow Closs in breaking it up into three species, or with Vogel regard it as a single representative species, or, as suggested by some others, reduce it to a variety

only of the widely spread *C. bicapsularis*, its geographical and natural relations remain the same. I have, in the following enumeration, after much hesitation, classed it as a variety; but all that is thereby meant is, that, upon weighing all the evidence afforded by the materials at my disposal, it has appeared to me that its relationship to the other forms of *C. bicapsularis* is rather of that degree which botanists whose views I adopt call varieties than of the remoter degree which they term species.

Of the original seat or birthplace of the genus *Cassia* we have no evidence whatever, and I cannot even put forward a conjecture. The fossil *Cassias* mentioned by Heer and Saporta, even if any of them may with tolerable plausibility be referred to the genus, are far too recent to afford any clue. All that the consideration of the data at our command would suggest is, that at least the three great and well-defined types, *Fistula*, *Senna*, and *Lasiorhagma* were differentiated at a time when the configuration of land and water was very different from what it now is, and had been well fixed before the areas they occupied had become broken up by the intervention of apparently insurmountable obstacles; for all three of these great groups show the same combination of general characters in America, in Asia, in Africa, and in Australia. Going even a little further, we may observe here and there a subordinate group, such as that of the *Chamæsennæ Pictæ*, bearing a close family resemblance in the New and the Old World, which seems to show a differentiation at an early period. Descending lower in the scale, if we observe any one organ similarly modified in several species in both hemispheres, the correlative changes in other organs are usually different in the two cases; and some groups, ranking almost as high as any of the subordinate sections, such as *Psilorhagma* and *Xerocalyx*, are exclusively limited to one hemisphere, showing the probability of their formation since the interposition of impassable barriers.

To illustrate these views I would pass in review the principal groups nearly in the order in which they are found in the detailed enumeration given below.

Fistula comprises nineteen species, of which eight are American, five Asiatic, five African, and one Australian, all retaining in each country those marked characters in flower and fruit which have induced several botanists to raise them to the rank of a genus; but each species confined to its own part of the world, and none of them forming natural combinations into intermediate groups, as if each species had been independently modified from the common stock without having passed through an intermediate stage of a smaller number of fixed species. It is true that the species of *Fistula* may be classed according to characters derived from foliage, bracts, or even from floral organs; but such classification, as far as hitherto attempted, is purely artificial, the modification of one organ bearing no correlation to that of any other; and if some of these modifications of isolated organs are peculiar to one of the four continents, this may only show that circumstances have acted in one case on one organ, in another on another. The large ovate leaves in few distant pairs of *C. Fistula* and others are chiefly characteristic of Asiatic and African species; and when they occur in American species (*C. Spruceana* and *C. Sagotiana*) they are accompanied by a dilatation of the petiole never observed in Asia or in Africa. Numerous narrow tomentose leaflets are common in American species; and this divergence is accompanied in *C. grandis* by a marked difference in the pod and

stamens; but in other species, such as *C. moschata* and *C. leiandra*, with the same diverging foliage, the pod retains nearly the ordinary *Fistula* shape. The Asiatic species perhaps the most distinct in foliage, *C. javanica*, has the smallest difference in the pod, consisting merely in the substance surrounding the seeds being dry and pithy instead of pulpy; and the most distinct pod among the African species, that of *C. abbreviata*, has nothing peculiar in its foliage. A remarkable thickening of the filament of the lower anthers is observable in one or two of the species of each of the four continents without any correlative character hitherto observed.

Of the subgenus *Senna*, we have above 160 species, of which about 120 are American and 40 in the Old World, besides a few, such as *C. occidentalis* and *C. Tora*, which are now ubiquitous weeds of tropical regions. They have been variously distributed, by De Candolle into four sections, by Vogel into five, of which one is again subdivided into four; but some of these are purely artificial, being founded on the fruit alone, and widely separating species which have evidently a near connexion. For the present purpose it has appeared better to arrange them into sixteen groups, believed to be more natural, although not always very well defined, and which, in the enumeration given below, I have collected into five more marked sections, adopting, with some modifications the *Chamæfistula*, *Oncolobium*, *Prososperma*, and *Chamæsenna* of Vogel.

Of these sixteen groups, ten, with about one hundred species, are American; three, with twenty-eight species, belong exclusively to the Old World; one, the *Bicapsulares*, has six American and three African species, but the species of the two countries are separated by characters which may perhaps indicate a separate origin, and should form perhaps separate groups; whilst two only, the *Floridæ* with eight species and the *Pictæ* with fourteen, are common to the New and the Old World, without any common character separating the American from the Asiatic, African, or Australian species, although each species of each country is quite distinct, and further divergence into the nearest allied groups is in a different direction in the two hemispheres.

There is but little of general interest to point out in the distribution of the American groups. Most of them and many of the species extend over a great part of tropical America, from Brazil to Mexico; many other species and some groups are more local: the *Platycarpæ* are chiefly, but not exclusively, Chilian or Bolivian; the *Molles* mostly sub-Andine, from Mexico to Ecuador, or West-Indian; the two aphyllous species belong to extratropical South America, where there is a tendency to the abortion of foliaceous expansions in a great variety of genera, analogous to that observable in the Australian scrub and in the Egypto-Arabian deserts, the shrubs becoming more generally phyllo-dineous in Australia, spinescent in Africa, juncaceous in South America. In other respects these two aphyllous species appear to be an offset of the widely spread American group of *Bifloræ*. The group of *Chamæfistulæ Brachycarpæ*, a very natural one, characterized by the calyx and other points besides the pod, is Mexican and Texan, and therefore chiefly extratropical, with the addition of one species from extratropical South Brazil, without any intermediate Andine continuity—a circumstance frequently observed in other genera and orders, where closely allied or even identical species are widely severed between California and the Argentine States, or still more so between the more temperate or

almost arctic zones at the two extremities of the great Andine range, giving evidence of an exceedingly remote common origin and wide extension, of a retention of identical characters through countless ages, and a total extinction in the intermediate space, which had become no longer so well suited to their unmodified constitution.

There are two species, *C. occidentalis* and *C. Tora*, which I have already mentioned as exceedingly abundant in waste and cultivated places all round the tropics, although I have classed the sections they belong to, *Oncolobium* and *Prososperma*, as essentially American. I do so because the fact of all the nearest allies of these species being exclusively American, the Asiatic and African stations by roadsides in gardens and other cultivated places, and other circumstances already pointed out by Alph. de Candolle (*Géographie Botanique*, 772) in regard to *C. occidentalis* show the probability of their comparatively recent introduction from America, although not necessarily through human agency, and possibly even before the discovery of America by Europeans. There remains to be considered whether each of these two species has not a truly Asiatico-African representative, the *C. Tora* having been distinguished by most botanists from *C. obtusifolia* as well as *C. Sophera* from *C. occidentalis*, systematically as well as geographically. But the straight and curved pod of *C. Tora* and *obtusifolia* respectively occur in both hemispheres (though the straight one may be more common in Asia than in America), and sometimes on the same individual at different stages of maturity, or perhaps varying according to the degree in which maturity has been hastened or retarded by climatological conditions. As to *C. Sophera*, however, whether it be a distinct species or a variety of *C. occidentalis*, it certainly is much more abundant in Africa and Asia, and especially in Australia, than in America; and though generally said to be growing with *C. occidentalis*, Roxburgh says that one form of it, his *Senna purpurea*, was raised from seeds received "from the mountainous parts of the coast." It may also be observed that it was early confounded by Forskohl and others with one of the true *Sennas*, and seeds may have been sent out to the West Indies with those of *C. angustifolia*. I have seen specimens from various parts of Central America which are probably truly indigenous; but, generally speaking, *C. occidentalis* seems more disposed to pass into *C. ligustrina* in Central America, and into *C. Sophera* in the Old World. It remains therefore, with me at least, still a very doubtful question, 1st, whether *C. Sophera* is really any more than a comparatively recent and uncertain variety of *C. occidentalis*, and, 2ndly, whether, if it be really a tolerably constant species of older date, it had or had not its origin in the Old World. In tropical and subtropical Eastern Australia it appears to have a still more definite aspect than in Asia or Africa, to diverge into forms not known elsewhere, and to have more the appearance of being indigenous, besides that the typical *C. occidentalis* has not yet been received from thence. The balance of evidence would perhaps lead one to conjecture that *C. Sophera* results from some offset of the group of American *Oncolobia* which had found its way into the Old World at a very early period, but yet not long enough isolated or not sufficiently modified in character to have lost the power of combining with *C. occidentalis* when brought into its contiguity.

If further observation should lead to the conclusion that *C. Sophera* is really a diver-

gence from the *Oncolobium* type originating in Australia or Asia*, and *C. ligustrina* a corresponding one of American origin, the two being connected by *C. occidentalis*, this would only be another instance of the diversity of divergence in distant countries, which has frequently been brought to my notice in working up the Australian flora. Of this I need only notice two examples, *Pelargonium* and *Nicotiana*. *Pelargonium* is essentially a South-African genus; but one species (only one according to F. Mueller), *P. australe*, has, probably at some far distant epoch, found its way into Australia, become there very abundant, and diverged into a great variety of forms, of which one only, and that not a common one, appears to be identical with one of the rarer varieties of the S. African *P. grossularioides*, a species which in S. Africa is also very variable, but there diverges from the form common to the two countries in a totally different direction, and with different combinations of characters from what is observed in Australia. So also in the case of the Australian representative of the S. American genus *Nicotiana*; *N. suaveolens*, Lehm., one of its numerous forms, has remained undistinguishable from the Chilian *N. acuminata*, Grah. (apparently one of the several varieties of *N. angustifolia*, Ruiz & Pav.); whilst the great mass of them has diverged in one direction in Australia, in another in S. America, so as to give a generally distinct character to each geographical type.

There is one group, the *Bicapsulares*, or *Chamæfistulas* with several pairs of leaflets and a cylindrical scarcely dehiscent or indehiscent pod, in which, as above mentioned, I have included six American and three African species; but the group is perhaps, like the whole section *Chamæfistula*, too artificial; and the American species may be more nearly allied to the strictly American *Chamæsennæ Platy carpæ*, and the African ones on the one hand to some Asiatic or African *Fistulæ*, and on the other to the Asiatic *Chamæsennæ Floridæ*.

I have said that two very natural groups, the *Floridæ* and the *Pictæ* (both *Chamæsennæ*), are, like the *Fistulæ*, really common to the two hemispheres. Like the *Fistulæ* also, the species are all perfectly distinct, but do not form geographical groups. The *Floridæ* have four American species, three Asiatic ones (of which one extends to Australia), and one confined to Australia. In America their nearest allies appear to be the strictly American *Chamæfistulæ Speciosæ*, whilst in the Old World they are more connected with the African *Chamæfistulæ* and, to a certain degree, with the Asiatic and African *Planæ*. The *Pictæ* are very remarkable in their distribution: there are ten American, two African, and two Australian species, most of them very limited in their areas; and although not distributable into groups, the two which are perhaps the nearest allied to each other are very widely dissevered, the tropical African *C. didymobotrya* and the tropical Australian *C. venusta*, a disseverance which calls to mind a similar one in such marked genera as *Adansonia* and *Erythrophleum*, each with one tropical African and one Australian species. The common parent of the *Pictæ* must have been a contemporary of the progenitor of the *Fistulæ*, although his descendants, more dainty

* More probably in Australia than in Asia, if we consider the peculiar varieties it has formed in the one whilst it remains comparatively constant in the other, and if we also take into account other evidences of a more direct early connexion between the vegetation of tropical America and Australia than between that of tropical America and Asia.—April 1871.

perhaps in their requirements, may have either never spread into Asia, or not been able to maintain themselves there.

From the *Pictæ* have evidently diverged the true *Sennas*, differing chiefly in the shortness of the pod, with a few minor characters. The divergence arose probably since the first disseverance of the general area, as it exists only in the Old World, and is rather greater in the four African or Asiatic species than in the single Australian one.

The last and most distinct group of the subgenus *Senna* is the section *Psilorhegma*, strictly limited to the Old World, and chiefly Australia, where it disports itself after the truly Australian fashion, the foliage varying from the ordinary flat membranous leaflets to rigid vertical or terete ones, or the whole leaf reduced to a phyllodium, the pods straight or variously twisted, and all with so little regard to specific distinctness that, whilst I considered that I had gone as far as I fairly could in reducing the published species to a more normal standard, F. Müller is of opinion that six or seven of those I have adopted are really variable forms of a single one. There is one in Cunningham's collection, *C. gonioides*, which I had overlooked when working up the 'Flora Australiensis;' this carries the number of species, as there proposed, to sixteen, one of which extends over a great part of tropical Asia. These, with one from the Eastern Archipelago, one from New Caledonia, and one from the Sandwich Islands, make a total of nineteen species. The section characterized chiefly by having the ten stamens all perfect, with the anthers approaching those of *Lasiorhegma*, and the pod and seeds of *Chamæsenna*, passes into the latter section through the E. Indian *C. auriculata* and *C. divaricata*. The similarity of the fruit is indeed so great that the Indian species *C. glauca* has always been placed in *Chamæsenna*, even by Vogel, who, under the impression that *Psilorhegmas* were all Australian, never examined the flowers. Miquel, however, examined a specimen of Horsfield's, and published it as a new species of *Psilorhegma*; but then he also retained the identical *C. glauca* in *Chamæsenna* by the side of *C. divaricata*, Nees, which is also a *Psilorhegma*, although with almost precisely the aspect of the American *C. biflora*, a *Chamæsenna*, and indeed approaching that species in the inequality of its anthers, which, however, being all perfect, places the plant, with its Asiatic countrymen, in *Psilorhegma*, and not with the American *Chamæsenneæ*.

The third great subgenus, *Lasiorhegma*, distinguished by its anthers as well as by the elastically dehiscent pod and exceedingly short funicle, has three very distinct sections, although the most prominent character of each is in the inflorescence.

The first and most marked, *Apoucouita*, consists of only three South-American trees, two of which have but recently been discovered by Mr. Spruce. With the general characters of *Lasiorhegma*, but rather peculiar anthers, and the habit rather of *Fistula*, they suggest nothing further as to their origin or connexions.

Absus, distinguished from *Chamæcrista* chiefly by the inflorescence and perhaps by more regular flowers, has, when taken as a whole, a singular distribution. Seventy American species, all shrubby or perennial and decandrous, are mostly very local, chiefly Brazilian, a few limited to Guiana or Columbia, and some of the few common ones extending to Central America and Mexico. None appear to cross the Southern Andes, and there is no trace of them in the Old World. The seventy-first species, on the other

hand, is an annual, with small mostly pentandrous flowers, and is abundantly diffused over tropical Africa, Asia, and Australia, but as yet unheard of in America, excepting in a single locality in Jamaica, where it was rare, probably introduced, and from whence it has not spread. These circumstances might suggest a separate divergence from the *Chamæcrista*; and indeed Schrank proposed a genus *Grimaldia*, consisting of *C. Absus* and two or three *Chamæcristæ*, with small flowers and a few leaflets. But the affinity of *C. Absus* certainly appears closer with the American *C. hispidula*. The American *Absi* generally run perhaps more directly into *Chamæcrista*, through *C. (Absus) coriacea* and *C. (Chamæcrista) Burchellii*.

The last section, *Chamæcrista*, with a large number of herbaceous or suffrutescent species, readily propagating by seed, and many of them very abundant in individuals, is an exceedingly puzzling one to botanists. The nicest shades by which the majority of forms pass into each other make it impossible to settle what is to be regarded as species with any satisfaction; and although I have reduced a considerable number of Vogel's, and adopted a few others which he had suppressed, I have not yet much confidence in the result, and in many instances his judgment may have been better than mine, although I have had an infinitely greater number of specimens before me on which to base my conclusions. I have thus enumerated fifty-two American and sixteen Old World species, only one of the latter being apparently identically represented in America, whilst the only American species extending into the Old World appears to be the N. American *C. nictitans*, which, if the small specimens in the Hookerian herbarium are correctly determined, is found also in N. China and the Himalayas.

Two of the most distinct groups, *Xerocalyx* and the *Coriaceæ*, are exclusively American; so also are the greater number of the species with few leaflets; but the great mass of forms allied to *C. Chamæcrista* in the New World and to *C. mimosoides* in the Old show divergences in different directions with different correlations of characters which render it impossible to distribute them into geographical groups. Thus, venation of the leaflets being one of the most constant characters in the section, we have the nearly central costa of *C. Chamæcrista* marking several American species, and the very excentric or almost marginal costa of *C. mimosoides* in several of the Old-World species; but in the case of two species, which at first sight, as well as on examination of the flowers, fruits, and all but the leaflets, appear identical, the American *C. patellaria* has always the venation of the Asiatic and African *C. mimosoides*, whilst the Asiatic and African *C. nigricans* has the venation of the American *C. Chamæcrista*.

Although I have seen nothing from the Old World corresponding to the widely spread American *C. Chamæcrista* or *C. glandulosa*, two of the numerous forms of the Asiatic and African *C. mimosoides* appear to be represented in America: one is the *C. hecatophylla* figured by Colladon, from one of the W. Indian islands, and afterwards correctly reduced by De Candolle himself to *C. mimosoides*, of which I have seen a single specimen amongst Appun's Guiana plants; the other is the *C. Æschynomene*, DC., more common in tropical America than *C. hecatophylla*, but still apparently not abundant, which I am unable to distinguish from the Asiatic *C. Wallichiana*, universally admitted to be a variety of *C. mimosoides*.

As a general result, we may observe that the genus *Cassia* appears to have its great centre in tropical America, especially luxuriating in diversity of forms in the rocky ridges of Central Brazil, becoming more rare in the more temperate regions of North and South America, and unknown in the cooler Andine elevations—more sparingly domiciled in Australia and Africa, although still with a considerable degree of idiosyncrasy, but represented only by very few species in Asia, and that without any very special type, except, perhaps, that of the *Planæ* (*C. auriculata*).

Proceeding to the Enumeration of the species, I would refer for the generic character to Benth. et Hook. Gen. Pl. i. 571; but for its subdivision the detailed examination of species has induced me to modify the sections as follows:—

Subgenus vel Sectio I. FISTULA. Stamina 3 inferiorum filamenta longa arcuata, antheræ rimis dehiscentes; superiorum 7 filamenta brevia, antheræ poris basalibus dehiscentes, v. summæ 1–3 imperfectæ. Legumen longum, teres v. crasso-compressum, durum, indehiscens. Semina horizontalia, transversa. Species 1–20.

Subgenus II. SENNA. Antheræ perfectæ 7 v. 10 apice poro simplici v. duplici, rarius rimis brevibus dehiscentes. Legumen teres v. compressum, sutura una v. utraque dehiscente valvulis haud elasticis, v. rarius indehiscens. Seminum funiculus filiformis. Species 21–183.

Sectio 2. CHAMÆFISTULA. Legumen teres turgidum v. leviter compressum. Semina transversa, horizontalia. Folia interglandulosa v. eglandulosa. Species 21–64.

Sectio 3. ONCOLOBIUM. Legumen inter illa *Chamæfistulæ* et *Chamæsennæ* varians. Semina transversa v. obliqua. Folia basiglandulosa. Species 65–75.

Sectio 4. PROSOSPERMA. Legumen subteres tetragonum v. articulato-compressum, sæpius angustum. Semina longitudinalia. Folia interglandulosa. Species 76–89.

Sectio 5. CHAMÆSENNA. Legumen compressum, sæpius planum. Semina transversa v. obliqua, verticaliter compressa. Folia interglandulosa v. eglandulosa. Species 90–163.

Sectio 6. PSILORHEGMA. Antheræ perfectæ 10 (in præcedentibus 7). Legumen *Chamæsennæ*. Foliorum glandulæ variæ. Species 164–183.

Subgenus III. LASIORHEGMA. Antheræ perfectæ 10 v. abortu pauciores, rimis brevibus terminalibus raro ad latera decurrentibus dehiscentes, suturis lateralibus sæpius villosobarbatis. Legumen elasticæ bivalve. Seminum funiculus brevissimus. Species 184–338.

Sectio 7. APOUCOUITA. Arborea. Racemi breves e ramis annotinis vetustioribusve oriundi. Species 184–186.

Sectio 8. ABSUS. Herbæ fruticesve. Racemi terminales interdumque etiam in axillis superioribus, sæpissime viscosi. Species 187–259.

Sectio 9. CHAMÆCRISTA. Herbæ fruticesve. Pedicelli solitarii v. pedunculo communi brevissimo subfasciculati, axillares v. supraaxillares. Species 260–338.

Subgenus vel Sectio I. FISTULA, DC.

Genus *Bactyrilobium*, Willd.; *Cathartocarpus*, Pers.

Arborea v. rarius frutices elati. Glandulæ petiolares nullæ. Racemi pluri- v. multiflori e ramulis annotinis v. vetustioribus oriundi, v. ad basin innovationum axillares v. terminales simplicesque. Sepala obtusa. Stamina 3 inferiora filamentis elongatis arcuatis

basi sæpe biplicatis medio interdum nodoso-incrassatis, antheris ovatis oblongisve introrsum rimis 2 ab apice plus minus descendentes dehiscentibus; 4–6 intermedia filamentis multo brevioribus rectis filiformibus vel nonnullis incrassatis, antheris basi breviter bilobis ibidemque poris parvis dehiscentibus; 3–1 summa minora, antheris sæpius cassis. Legumen elongatum, pendulum, teres v. crasso-compressiusculum, lignosum v. durum, sæpissime indehiscens, maturum laminis transversis inter semina septatum, locellis sæpius pulpa repletis v. substantia cellulosa sicca faretis. Semina transversa, in locellis solitaria, funiculo filiformi affixa, septulis parallele compressa. Cotyledones planæ, interdum obliquæ v. rarius subflexuosæ.

* *Bractea minimæ longe ante anthesin caducæ.*

† *Foliola paucijuga, sæpius ampla (excepta C. Kotschyana) glabriuscula, jugis distantibus.*

1. *C. FISTULA*, Linn.! *Spec. Pl.* 540. Foliola 4–8-juga (vulgo 5–6-juga), petiolo tereti. Legumen teres, læve, 1–2-pedale.—*Benth.!* in *Mart. Fl. Bras. Cæsalp.* 92.

Bactrylobium Fistula, Willd. Enum. Hort. Berol. 440.

Cathartocarpus Fistula, Pers. Syn. i. 459.

Cassia excelsa, H. B. et K.! Nov. Gen. et Sp. vi. 339.

C. Bonplandiana, DC. Prod. ii. 490.

Cathartocarpus excelsus, G. Don, Gen. Syst. ii. 453.

Cassia rhombifolia, Roxb.! Fl. Ind. ii. 334.

Cathartocarpus rhombifolius, G. Don, Gen. Syst. ii. 453.

Cassia fistuloides, Collad. Hist. Cass. 87, t. 1.

Cathartocarpus fistuloides, G. Don, Gen. Syst. ii. 454.

Hab. Tropical Asia, frequently planted, but also truly indigenous; in tropical Africa cultivated or escaped from cultivation, and possibly indigenous; in America only where planted.

This species, which, like most of its nearest allies, is described as a most beautiful tree when covered with its golden racemes, is much planted in tropical countries for ornament as well as for use. It appears, however, to have a very wide range as truly indigenous in the lower hills of East India and of the Indian archipelago. From Africa we have no evidence of its being otherwise than in a cultivated state; but it is there replaced by the *C. Mannii*, with more numerous leaflets and shorter racemes, and *C. Sieberiana*, with more developed and more or less persistent bracts. From the West Indies, Central America, Columbia, and Brazil, specimens have been frequently sent; but, turning to the accounts given by resident botanists, they all speak of it as an introduced tree. I have also no hesitation in including amongst these introduced individuals of *C. Fistula* the *C. fistuloides*, Collad., described from Mocino and Sessé's rather rude drawing, copied into Colladon's memoir. It is evident that the so-called bipinnate leaf is a young branch with two leaves. I have myself seen specimens of *C. Fistula* with side branches bearing only two or three leaves, with the terminal bud so small as to be easily overlooked by a careless artist, and thus well representing the drawing in question.

2. *C. MANNII*, Oliv.! *Fl. Trop. Afr.* ii. 272. Foliola 6–10-juga, petiolo tereti. Racemi 3–6-pollicares.

Hab. Tropical Africa.

3. *C. SPRUCEANA*, Benth.! in *Mart. Fl. Bras. Cæsalp.* 92. Foliola 3–5-juga, breviter acuminata, petiolo supra late canaliculato. Sepala interiora 5–6 lin. longa. Legumen tereti-compressiusculum, suturis prominulis, 1–2-pedale.

Hab. Tropical America : N. Brazil, *Spruce*, n. 2558.

Arbor 30-pedalis, coma patula, ramulis foliisque novellis minute sericeo-puberulis, adultis glabris. Foliola 3-5-juga sæpius 4-juga, longiuscule petiolulata, ovali-elliptica, breviter acuminata, basi angustata v. cuneata, 3-5-pollicaria, tenuiter coriacea, supra nitida venulosa, subtus opaca venis primariis elevatis venulis minus conspicuis. Petiolus communis 6-10-pollicaris, supra late canaliculatus, eglandulosus. Stipulae minutæ, caducissimæ. Racemi ad basin innovationum axillares v. infra folia nati, laxi, 6-9-pollicares. Bractea parvæ, ovato-orbiculares, obtusæ, concavæ, longe ante anthesin caducæ. Pedicelli 1-1½-pollicares. Sepala ovata, obtusissima, 5-6 lin. longa. Petala lutea venis rubris, obovali-oblonga, sub-pollicaria, in unguem contracta. Stamina 3 longiora petalis subæquilongia, filamentis basi replicatis medio parum incrassatis, antheris utrinque obtusis dorso hirtellis; staminum 5 intermediorum filamenta 2 filiformia petalis paullo breviora, 3 crassa adhuc breviora; stamina 2 superiora seu staminodia minima, filamentis basi dilatatis, antheris parvis cassis. Legumen 1-2-pedale, tereti-compressiusculum, glabrum, perfectum fere pollicem latum sæpe tamen angustius, suturis utrinque prominulis. Semina pulpa nidulantia.

Plate 60. *C. Spruceana*: fig. 1, five of the stamens, 1 long, 3 intermediate, and 1 short; figs. 2, 3, portions of the pod; fig. 4, seed; fig. 5, the same, transverse section.

4. *C. SAGOTIANA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 93. Foliola 3-4-juga, obtusa, coriacea, petiolo supra late canaliculato. Sepala interiora circa 3 lin. longa.

Hab. Tropical America: French Guiana, *Sagot*, n. 802.

Very near *C. Spruceana*, but with more obtuse and coriaceous leaflets, less veined above and usually whitish underneath; the flower smaller, the intermediate anthers with longer basal lobes, &c. The two species are distinguished from all other *Fistulas* by the broadly channelled common petioles of the leaves.

5. *C. KOTSCHYANA*, *Oliv. ! Fl. Trop. Afr.* ii. 271. Foliola 4-8-juga, obtusa, subtus innovationesque aureo- v. sericeo-tomentosa.

Hab. Tropical Africa.

6. *C. BREWSTERI*, *F. Muell. ! in Benth. Fl. Austral.* ii. 282. Foliola 2-4-juga, glabra. Filamenta staminum longiorum medio nodoso-incrassata, in præcedentibus undique filiformia v. vix medio crassiora.

Cathartocarpus Brewsteri, *F. Muell. Fragm.* i. 110.

Hab. Tropical Australia.

†† *Foliola oblonga, subtus pubescentia, jugis numerosis approximatis.*

7. *C. GRANDIS*, *Linn. f. Suppl.* 230. Antheræ pilosæ. Ovarium tomentosum. Legumen lignosum, crassum, compressiusculum, transverse venoso-rugosum, 1½-2-pedale, 1½ poll. latum.—*Fl. Bras.* 93.

Cathartocarpus grandis, *Pers. Syn.* i. 459.

Cassia brasiliensis, *Lam. Dict.* i. 649.

Cathartocarpus brasiliensis, *Jacq. Fragm.* 59, t. 85. f. 3 (legumen).

Cassia mollis, *Vahl, Symb.* iii. 57.

Bactrylobium molle, *Schrad. in Gött. Gelehr. Anz.* 1821, 713.

Hab. Tropical America: Central America, Ecuador, New Granada, Surinam, San Domingo, Jamaica, and perhaps North Brazil.

De Candolle, Vogel, and most authors have adopted for this species Lamarck's name of *C. brasiliensis*, which, however, was only published in the 'Dictionnaire Botanique,' in 1783, whilst Linnæus the younger's name, *C. grandis*, dates from 1782. Lamarck's name, moreover, is scarcely applicable; for

although widely diffused over Central America, the West Indies, and a great portion of Columbia, it is as yet doubtful whether the species is really indigenous within the Brazilian limits. Grisebach, in his 'Flora of the British West Indies,' restores the original name.

8. *C. LEIANDRA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 94, t. 30. Antheræ glabræ. Ovarium pubescens. Legumen subteres, 2–2½-pedale, inter suturas læve, ad semina insigniter torulosum.

C. moschata, *Benth.!* in *Hook. Journ. Bot.* ii. 75, non H., B. et K.

Hab. Tropical America: on the Amazon, from the Rio Negro to Para.

It appears from the notes of Spruce as well as of Siber (Count Hoffmannsegg's collector) that this is the true Mari-mari of the Lower Amazon. It cannot, however, be the *C. Marimari* of Aublet, which, from his direct reference to Plumier, we must reduce to *C. biflora*. Excepting, however, *C. Apoucouita*, none of Aublet's Cassias can be positively identified; for he only copies the diagnoses of other botanists, which do not always correspond with his plants, and his specimens in the Banksian herbarium are not in general authentically named. The one there referred to *C. Marimari* is *C. multijuga*, to which even Aublet could not well apply the diagnosis he gives.

9. *C. MOSCHATA*, *H., B. et K.!* *Nov. Gen. et Sp.* vi. 358. Antheræ glabræ. Ovarium glabrum. Legumen teres, læve.

C. moschata, *Hanb.!* in *Trans. Linn. Soc.* xxiv. 162, t. 26.

Cathartocarpus moschatus, *G. Don, Gen. Syst.* ii. 453.

Hab. Tropical America: on the Magdalena and Orinoco and in British Guiana, *Appun*, n. 1804.

** *Bracteæ conspicuæ usque ad anthesin persistentes v. rarius subdeciduæ.*

† *Species Americanæ, foliolis angustis jugis approximatis.*

10. *C. FERRUGINEA*, *Schrad.!* in *DC. Prod.* ii. 489. Foliola 10–20-juga, oblonga, supra puberula, subtus molliter pubescentia. Stipulæ angustæ. Petala vix $\frac{3}{4}$ -pollicaria. Filamenta staminum longiorum vix incrassata.—*Fl. Bras.* 94.

Bactrylobium ferrugineum, *Schrad.!* in *Gött. Gel. Anz.* 1821, 713.

Cathartocarpus ferrugineus, *G. Don, Gen. Syst.* ii. 453.

Cassia staminea, *Vog.!* *Syn. Cass.* 14.

C. javanica, *Vell. Fl. Flum.* 168, Ic. iv. t. 73, non Linn.

C. brasiliæna, *Sald. de Gama, Descr. Madeiras Rio Jan.* 43 cum ic., non Lam.

Hab. Tropical America: Southern and Central Brazil.

11. *C. FASTUOSA*, *Willd. ex Vog.!* in *Linnæa*, xi. 654. Foliola 10–20-juga, oblonga, supra nitida, subtus pallida vix puberula. Stipulæ latiusculæ. Petala ultra pollicaria. Filamenta staminum majorum vix incrassata.—*Fl. Bras.* 95.

Hab. Tropical America: North Brazil, Para, and the Lower Amazon.

12. *C. LEPTOPHYLLA*, *Vog.!* *Syn. Cass.* 13. Foliola 8–12-juga, ovato-lanceolata, acutiuscula, pubescentia. Filamenta staminum majorum medio nodoso-incrassata.—*Fl. Bras.* 96.

Hab. Tropical America: South Brazil, *Sello*.

†† *Species Gerontogæ foliolis amplis v. latis, rarius angustis.*

13. *C. SIEBERIANA*, *DC.!* *Prod.* ii. 489. Foliola 6–12-juga, ampla, obtusa v. breviter

acuminata, glabriuscula. Racemi elongati, laterales. Filamenta staminum majorum haud dilatata. Legumen 2-3-pedale, teres.—*Oliv. ! Fl. Trop. Afr.* ii. 272.

Cathartocarpus Sieberianus and *C. conspicuus*, G. Don !, Gen. Syst. ii. 453.

Cassia psilocarpa, Welw. Apunt. Phyto-geogn. n. 40 ?

C. javanica, Sieb. Pl. Seneg. exs.

C. conspicua, Vog. Syn. Cass. 47.

Hab. Tropical Africa.

14. *C. AREREH*, *Del. Cent. Pl. Afr.* 29. Foliola 6-12-juga, ampla, acute acuminata, glabriuscula. Racemi breves, laterales. Bracteæ lineari-subulatæ. Filamenta staminum majorum medio dilatata.—*Oliv. ! Fl. Trop. Afr.* ii. 270.

Cathartocarpus Atteleh, G. Don, Gen. Syst. ii. 453.

Hab. Tropical Africa.

15. *C. NODOSA*, *Hamilt. ! in Roxb. Fl. Ind.* ii. 336. Foliola 6-12-juga, ampla, breviter acuminata, glabriuscula. Racemi breves, laterales. Bracteæ lanceolato-subulatæ. Flores rosei. Filamenta staminum majorum medio nodoso-dilatata.

Hab. Tropical Asia.

16. *C. ABBREVIATA*, *Oliv. ! Fl. Trop. Afr.* ii. 271. Foliola 6-12-juga, ovata v. ovali-oblonga, obtusa, subtus pubescentia. Racemi laterales. Bracteæ anguste lanceolatæ. Petala eleganter venosa. Filamenta staminum majorum medio subdilatata. Legumen sericeo-velutinum.

Hab. Tropical Africa.

17. *C. JAVANICA*, *Linn. Spec. Pl.* 542. Foliola 6-12-juga, ovata v. ovali-oblonga, obtusa, subtus pubescentia. Racemi laterales, pedicellis longis. Bracteæ basi dilatata. Petala avenia. Filamenta staminum majorum medio sæpius dilatata. Legumen 1-2-pedale, cylindricum, glabrum, ad semina sæpius leviter torulosum, pulpa sicca.

Cathartocarpus javanicus, Pers. Syn. i. 459.

Cassia Bacillus, Gært. Fruct. ii. 313.

Hab. Tropical Asia.

18. *C. MEGALANTHA*, *Dcne. ! Herb. Tim. Descr.* 136. Foliola 6-12-juga, ovali-oblonga, obtusa, subtus pubescentia. Racemi laterales. Stipulæ subreniformes. Bracteæ latis-simæ, membranaceæ.

Hab. Timor.

19. *C. MARGINATA*, *Roxb. ! Fl. Ind.* ii. 338. Foliola 10-20-juga, ovata v. ovali-oblonga, (subpollicaria), pubescentia. Stipulæ parvæ v. caducæ. Racemi in ramulis hornotinis axillares. Flores inter minores, rosei, pedicellis brevibus. Bracteæ ovatæ, vix usque ad anthesin persistentes. Legumen 8-10-pollicare, pulpa spongiosa.

Cathartocarpus marginatus, G. Don, Gen. Syst. ii. 453.

Cassia Roxburghii, DC. ! Prod. ii. 489.

Cathartocarpus Roxburghii, Loud. Hort. Brit. 167.

Hab. Tropical Asia : Ceylon and the Indian peninsula.

This species has sometimes been taken for *C. javanica*, of which it has nearly the foliage though with rather more numerous leaflets ; but it is readily known by the axillary racemes and much smaller flowers on much shorter pedicels. The fruit, which I have not seen, is described as shorter and more slender.

†20. *C. RENIGERA*, *Wall. Cat. Herb. Ind.* n. 5307. Foliola 10–20-juga, anguste oblonga (2-pollicaria), pubescenti-villosa. Stipulæ amplæ, reniformes. Flores . . . ? Legumen cylindricum, 1–2-pedale, læve, glabrum.

Hab. Tropical Asia: Taong Dong mountain in Burmah.

Undique molliter pubescens. Foliola obliqua, parum inæquilatera, brevissime petiolulata, petiolo communi 8–10-pollicari. Stipulæ membranaceæ, lateraliter affixæ (semicordato-reniformes), 8–10 lin. longæ, apice breviter aristatæ.

The species is as yet very doubtful. The specimens are very indifferent, in leaf only, and resemble on the one hand *C. megalantha* in *Fistula*, on the other *C. Timorensis* in *Chamæsenna*. The fruit is detached, but labelled by Dr. Wallich in the fruit-collection of the Linnean Society as that of *C. renigera* from Taong Dong, and is quite that of *C. Fistula*.

Subgenus II. SENNA.

Genus *Senna*, Roxb.

Frutices, herbæ v. rarius arbores, habitu vario. Glandulæ petiolares dum adsint plus minus elevatae, conicæ subglobosæ oblongæ v. tenues stipitataeque. Racemi 2-multiflori ut plurimum ex axillis superioribus ramulorum hornotinorum, rarius ad nodos defoliatos ramorum vetustiorum oriundi, superiores v. fere omnes nonnunquam paniculam terminalem corymbosam v. pyramidatam efficientes, summi tamen decrescentes nec in racemum terminalem simplicem abeuntes. Sepala obtusa vel rarius exteriora præsertim acuta. Stamina perfecta nunc 7 v. rarius 6, 3 summis et interdum infimo ad staminodia reductis, nunc (in sect. *Psilorhegmate*) 10, æqualia v. sæpius inæqualia, 3 inferiora filamentis sæpius longioribus antherisque majoribus; filamenta omnia sæpius anthera breviora nunc brevissima; antheræ crassæ, oblongo-lineares, subquadratae, apice nunc truncatae poro duplici dehiscentes, nunc sæpius plus minus rostratae rostro 1–2-poroso, basi obtusæ v. breviter acuteque bilobæ; staminodia 3 summa filamentis brevibus antheris sæpius in laminam simplicem v. bilobam dilatatis, infimum dum adsit staminibus perfectis magis conforme nisi parvum anthera cassa. Legumen forma magnopere diversa, ad suturam internam v. utramque dehiscens valvulis tamen haud elasticis, v. rarius indehiscens, exocarpio tunc haud lignoso demum irregulariter resolutum. Semina transversa obliqua v. longitudinalia, funiculis filiformibus.

In several species, especially amongst the *Bacillares*, *Floridæ*, and other larger *Chamæfistulæ* and *Chamæsennæ*, the petals usually enlarge considerably after the flower first expands, but, in some instances, appear to remain short and imperfectly coloured in some of the flowers, whilst they become fully developed in others of the same raceme, or in other specimens of the same species.

Sectio 2. CHAMÆFISTULA.

Frutices, rarius arbores v. (in *Brachycarpis*) herbæ. Folia interglandulosa, rarius eglandulosa. Stamina perfecta 7, staminodia 3. Legumen teres, turgidum v. leviter compressum, ad suturam internam rarius ad utramque suturam dehiscens, v. (in *Bicapsularibus*) indehiscens. Semina transversa, septulis parallele compressa, sæpe in locellis gemina, septo verticali plus minus perfecto interposito.

This section is readily distinguished from *Oncolobium* by the want of the basal petiolar gland, from *Prososperma* by the direction of the seeds, which may be observed long before the pod is ripe. But, taken as a whole, there is no character to separate *Chamæfistula* from *Chamæsenna* but the pod; and even

that is in some cases ambiguous. Each series in one section may, however, be generally distinguished from any one in the other by habit or other characters, so as to render the cases very few where the place of a flowering specimen may not be assigned without the pod.

I have adopted from De Candolle and Vogel the names as well as the distinctive characters of *Chamæfistula* and *Chamæsenna*, notwithstanding their defective composition. Misled, perhaps, by the *Chamæbuxus*, sometimes called *faux buis*, it seems to have been imagined that *χαμαι* meant *spurious* instead of *dwarf* or *prostrate*.

Series 1. Bacillares. *Foliola sæpius ampla, semper bijuga, glandula inter inferiora v. rarius inter utrumque par. Legumen ad suturam interiorem dehiscens.*

* Genuinæ. *Antheræ perfectæ parum inæquales, 3 inferiores evidentius rostratæ. Petala infrapollicaria rarius subpollicaria.*

† *Racemi breves, rarius elongati, axillares, summis paucis paniculatis.*

21. C. TENUIFOLIA, *Vog. ! Syn. Cass. 16.* Molliter hirsuta. Foliola mediocria. Stipulæ setaceæ, caducissimæ. Racemi axillares, subterminalesque (?), laxè pauciflori. Legumen angustum, subteres, torulosum.—*Fl. Bras. 96.*

Hab. Tropical America: Brazil, prov. Rio Janeiro.

22. C. ACUTISEPALA, *Benth. ! in Mart. Fl. Bras. Cæsalp. 97.* Foliola ampla, glabriuscula. Sepala lanceolata, acutissima, venosa (in sequentibus omnibus obtusa).

Hab. Tropical America: Brazil, *Pr. Max. Newwied.*

23. C. MACROPHYLLA, *Kunth ! Mim. 126, t. 38.* Foliola ampla, membranacea, glabriuscula. Sepala obtusa, venis prominulis costata (in sequentibus lævia).—*Fl. Bras. 97.*

Chamæfistula macrophylla, G. Don, *Gen. Syst. ii. 451.*

Hab. Tropical America: New Granada, N. Brazil.

24. C. SCANDENS, *Ruiz et Pav. ! in G. Don, Gen. Syst. ii. 440.* "Caulis alte scandens." Foliola ampla, membranacea, acuminata, glabriuscula. Racemi quam in affinibus longiores laxiores.

Hab. Tropical America: Guayaquil, *Ruiz and Pavon.*

Foliola ovata v. ovali-elliptica, ultima 4-6-pollicaria, aristato-mucronata. Glandula conica inter inferiora. Stipulæ setaceæ. Pedunculi in axillis inferioribus 3-5-pollicares, laxè et elongate racemosi. Bracteæ lineari-subulatæ. Pedicelli pollicares longioresque. Sepala ovata, 3-4 lin. longa. Petala duplo saltem longiora. Antheræ omnes rectæ, brevissime lateque rostratæ, 3 inferiores cæteris paullo longiores. Legumen haud suppetit.

25. C. OBLIQUA, *Ruiz et Pav. ! in G. Don, Gen. Syst. ii. 451.* Foliola ampla, membranaceo-coriacea, acuminata, glabriuscula. Flores quam in affinibus majores, staminibus 3 inferioribus cæteris submajoribus (minus tamen quam in *Speciosis* eminentibus, et racemi omnes axillares videntur). Legumen in herb. Boissier breve, fere *C. vimineæ*, stylo insigniter apiculatum.

Chamæfistula obliqua et *Chamæfistula elegans*, G. Don, *Gen. Syst. ii. 451.*

Cassia Peruviana, *Vog. Syn. Cass. 40.*

Hab. Tropical America: Peru, *Ruiz and Pavon.*

Foliola ovata v. ovali-oblonga, acuminata, membranacea v. demum subcoriacea, ultima 3-4 poll. longa; glandula inter inferiora angusta. Stipulæ minutæ, setaceæ. Pedunculi axillares, petiolo longiores brevior-

resve, apice breviter racemosi. Pedicelli $\frac{1}{2}$ –1-pollicares. Sepala anguste ovata, 3–4 lin. longa. Petala longiuscule unguiculata, 3 inferiora $\frac{3}{4}$ pollicaria, superiora paullo minora. Antheræ 3 cæteris paullo majores longiusque stipitatae.

There are several specimens in Herb. Mus. Brit., from which I have been unable to detect any character to distinguish Don's two supposed species.

26? *C. INÆQUILATERA*, *Balb. in DC. Prod.* ii. 490 (*ex char.*). Foliola ampla, acuminata, glaberrima. Legumen longum, cylindraceo-compressiusculum, undique granuloso-scabrum (in affinibus ubi notum læve).

Chamæfistula inæquilatera, G. Don, Gen. Syst. ii. 451.

Hab. Tropical America: Columbia, Santa Marta (*Bertero*), near Tovar, *Fendler*, n. 1850; Mexico, prov. Oaxaca, *Liebmann*.

I do not feel certain as to having properly identified this species. The granular pod appears to distinguish it from other glabrous-leaved axillary-flowering *Bacillares*; but whether it is so or not in *Bertero's* original plant is not known. The specimen in De Candolle's herbarium is in flower only, and cannot in that state be distinguished from the true *C. bacillaris*.

27. *C. RUIZIANA*, *Vog. Syn. Cass.* 40. Foliola ampla, vix acuminata, glabriuscula. Flores quam in *C. obliqua* minores, antheris subæqualibus. Sepala obtusa, lævia. Legumen læve.

Chamæfistula Ruiziana, G. Don !, Gen. Syst. ii. 451.

Cassia macrophylla, Ruiz et Pav. ! in herb. Lamb. nunc herb. Mus. Brit.

Hab. Tropical America: Guayaquil, *Ruiz and Pavon*; Tarapoto, *Matthews*, no. 1921.

Specimina pleraque inflorescentia excepta glabra. Foliola interdum semipedalia, quam in affinibus minus acuminata. Racemi axillares, breves, tenuissime tomentelli. Pedicelli breves. Sepala orbiculata, colorata, 2 lin. longa.

28. *C. AFFINIS*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 98. Foliola ampla, obtusa v. vix acuminata, subtus pubescentia. Legumen subteres, utrinque acutum, elongatum (8–10-pollicare).

Cassia C. puberula affinis, Vog. ! Syn. Cass. 13.

Hab. Tropical America: Brazil, prov. Rio Janeiro and Minas Geraes.

29. *C. BERLANDIERI*, *Benth. sp. nov.* Foliola ampla, obtusa, subtus molliter pubescentia. Legumen turgidum, sæpius incurvum, 4–5-pollicare.

Hab. Tropical and subtropical America: Mexico near Mirador, *Liebmann*; near Tampico, *Berlandier*, n. 2294.

Ramuli subteretes, flexuosi, petiolique pubescentes. Foliola petiolulata oblique ovali-elliptica v. ovata, obtusa, basi inæquilatera, ultima 4–5 poll. longa, supra sparse pilosa demum nitidula, subtus molliter pubescentia; glandula conica, inter inferiora; petiolus communis more affinium seta terminatus. Stipulæ lineari-falcatae, caducissimæ. Racemi axillares, pedunculati, petiolo communi multo breviores, floribus confertis. Pedicelli pollicares longioresque. Bractæ parvæ, angustæ, caducæ. Sepala interiora fere 4 lin. longa, pubescentia, exteriora paullo minora. Petala pubescentia, semipollicaria v. paullo majora. Antheræ perfectæ 7, parum inæquales. Ovarium villosum. Legumen cylindraceo-turgidum sæpius incurvum, obtusiusculum, læve, 4–5 poll. longum, 6–7 lin. latum, suturis vix prominulis, tardius ad suturam superiorem (interiorem) dehiscens. Semina crassiuscula.

Liebmann's specimens are in flower only, *Berlandier's* only in fruit; but both appear to belong to the same species.

30. *C. DENSIFLORA*, *Mart. et Gal.!* in *Bull. Acad. Brux.* xii. 304. Foliola ampla, acutiuscula, subtus molliter pubescentia. Flores parvuli. Legumen subteres, semipedale.

Hab. Tropical America: Mexico, prov. Oaxaca, *Galeotti*, n. 3188, *Liebmann*, *Jurgensen*, n. 51.

Ramuli subteretes, flexuosi, puberuli. Foliola oblique ovata v. ovato-lanceolata, inæquilatera et sæpe subfalcata, terminalia 3-4-pollicaria, supra pilis brevibus conspersa, subtus molliter pubescentia, utrinque viridia; glandula oblonga v. conica inter inferiora. Stipulas caducissimas non vidi. Flores parvuli in racemis axillaribus petiolo sæpius longioribus conferti. Bracteæ angustæ, caducissimæ. Pedicelli 6-9 lin. longi, pubescentes. Sepala obtusa, pubescentia, 2-2½ lin. longa. Petala vix duplo longiora, pubescentia. Antheræ perfectæ 7, parum inæquales, acuminatæ. Ovarium hirsutum. Legumen læve, suturis haud prominentibus, 5-6 lin. diametro, sericeo-villosum ex *Mart. et Gal.*, in speciminibus nostris glabratum, indehiscens? v. tardius intus dehiscens?

Evidently nearly allied to *C. oxyphylla*, but with a more axillary inflorescence, much smaller flowers, and the anthers more evidently acuminate; the pod appears also to be quite different. I have not seen *Galeotti*'s typical specimens, but believe *Liebmann* to be correct in his determination of those he gathered in the same locality.

†† *Racemi in paniculam terminalem corymbosam v. oblongam basiue foliatam dispositi, inferiores pauci interdum axillares.*

31. *C. OXYPHYLLA*, *Kunth!* *Mim.* 129, t. 39. Foliola ampla, acute acuminata, subtus dense pubescentia, glandula inter inferiora. Stipulæ angustæ. Legumen ante dehiscen-
tiam tereti-compressum. Ramuli sæpius apice insigniter flexuosi, racemis nonnullis axil-
laribus.

Chamæfistula oxyphylla, G. Don, Gen. Syst. ii. 451.

Cassia Hartwegi, Benth. ! Pl. Hartw. 117.

C. fagifolia, Bertol. Fl. Guatem. 14, ex descr.

Hab. Tropical America: Mexico, *Liebmann*; Central America, Columbia, Guayaquil.

Although this species has been very well figured in flower by *Kunth*, I am induced to add here a representation of a fruiting specimen, as those of the Kew Herbarium are admirably calculated to show the different stages of the pod of this and allied species, from its long, straight, *Fistula*-like form when unripe to the fully expanded follicle.

Plate 61. *Cassia oxyphylla*: fig. 1, seed; fig. 2, the same, transverse section; fig. 3, embryo.

32. *C. BACILLARIS*, *Linn. fil.!* *Suppl.* 231. Foliola ampla, acuminata, glabra v. pube-
minuta rara conspersa, glandula inter inferiora. Stipulæ setaceæ. Flores ampli. Legu-
men ante dehiscen-
tiam teres, elongatum.—*Fl. Bras.* 98, t. 31.

Mimosa nodosa, Linn. ! Spec. Pl. 1498 (ad stirpem hortensem nondum florentem descripta).

Acacia nodosa, Willd. Spec. Pl. iv. 1016.

Cassia fruticosa, Mill. ! Dict. n. 10, Rel. Houst. t. 17; Vog. in Linnæa, xv. 67.

Cathartocarpus bacillus, Pers. Syn. i. 459.

Chamæfistula bacillaris, G. Don, Gen. Syst. ii. 451.

Cassia puberula, H. B. et K. ! Nov. Gen. et Sp. vi. 341.

Chamæfistula puberula, G. Don, Gen. Syst. ii. 451.

Cassia Fockeana, Miq. ! in Linnæa, xviii. 479.

C. carthaginensis, Willd. herb. ex Steud. Nom. Bot. ed. 2.

Hab. Tropical America: N. Brazil, Guiana, Columbia, Central America, and some of the West-Indian islands, probably indigenous; sent also from Rio Janeiro and occasionally also in East-Indian and other collections, but evidently cultivated.

Plate 62. *Cassia bacillaris*: fig. 1, two of the stamens, one long and one intermediate; fig. 2, one of the staminodia; fig. 3, ovary; fig. 4, pod; fig. 5, the same when commencing to open; fig. 6, portion of the ripe pod.

This species has been placed by Vogel with two others, *C. Humboldtiana*, DC. (*C. spectabilis*, DC.), and *C. sclerocarpa*, Vog., in a distinct subsection, *Xylolobium*, with the fruit of *Fistula*, "legumine lignoso indehiscente," and the flowers and foliage of *Chamæfistula*, a combination which I had never met with; and although flowering specimens of *C. bacillaris* are common in herbaria, I could never procure the pod, for all the fruiting specimens I should otherwise have referred to it were totally at variance with the descriptions given. Upon further investigation it appeared that no botanist since the younger Linnæus had been more fortunate; all modern descriptions and figures of the fruit had been either copied from Linnæus or taken from that of *C. Fistula*, to which Linnæus says it is precisely similar. His words are:—"Legumen omnino *C. Fistulæ* ut distingui nequeat, subcurvum, cylindricum, glaberrimum, acumine filiformi terminatum, longitudine pedale, interius isthmis interceptum, quod externe tamen non apparet," *Linn. fil. Suppl.* 231. In this description the word *subcurvum* already indicates a character not found in *C. Fistula*; and having thus ascertained that this was the sole foundation for the character generally given, I turned to Dahlberg's original specimen described by Linnæus, which is in Sir J. Smith's herbarium at the Linnæan Society. I there find the pod unripe and longitudinally cut with a knife. In that state it is not unlike the unripe pod of a small *Fistula*; but I have thus been enabled to identify it with that of other fruiting specimens in the herbaria before me, especially those from Wulfschnagel's Surinam collection in Martius's herbarium, and to trace the pod to perfect maturity, when it splits along the inner suture and opens out into a kind of follicle, as in other species of the present series.

Of the three representations of the species usually cited, that of *C. fruticosa*, Mill., in 'Reliquiæ Houstonianæ,' t. 17, appears to have been taken from a specimen of the true plant; but to get it into the small compass allowed, the artist has so altered the proportions, shortening the leaflets and pod and increasing the curvature of the latter, as to make it unrecognizable. Vogel, who had at first followed others in referring *C. fruticosa*, Mill., to *C. bacillaris*, on seeing the original specimen in the Banksian herbarium found an expanded fruit so different from that of *C. Fistula* that he restored *C. fruticosa* as a distinct species (*Linnæa*, xv. 67), which must now, however, again be united with *C. bacillaris*. Jacquin's figure (*Fragmenta*, t. 85. f. 4) is only conjecturally referred by the author to *C. bacillaris*; he received the pod with the one he figures of *C. grandis* from the W. Indies as having been brought there from the American continent, without foliage or any other indication of the species they belonged to. As the pod in question was exactly like that of *C. Fistula*, and as *C. Fistula* is not American, Jacquin naturally concluded, relying on Linnæus's description, that this was *C. bacillaris*. It must, however, have been in fact either a cultivated *C. Fistula* or some American species such as *C. moschata*, which really has a similar pod. The third figure quoted, that of *Cathartocarpus bacillus*, Bot. Reg. t. 881, is certainly not the true plant, but most probably *C. affinis*; as, however, no specimen was preserved or described, Lindley's description having been taken from that of Linnæus, it is now impossible to identify it. The figures I now give are taken from specimens carefully compared with the original one, which is fortunately sufficiently perfect in flower and fruit to preclude all further mistake.

Specimens from Nicaragua, *Ærsted*, n. 45, from Yucatan and Tabasco, *E. P. Johnson*, n. 33, and from Chachapoyas in Peru, *Matthews*, n. 1591, evidently nearly allied to *C. oxyphylla*, but with broader leaves and numerous flowers in a dense terminal panicle, may be considered perhaps as a broad-leaved pubescent variety of *C. bacillaris*. The two species, however distinct they usually are, are sometimes difficult to determine when the specimens are imperfect. Others from Schlim, Ocaña, n. 6, have the leaves nearly of *C. rugosa*, but the paniculate flowers of *C. bacillaris* and *oxyphylla*.

33. *C. LATIFOLIA*, *G. F. W. Mey. Prim. Fl. Esseq.* 166. Foliola ampla, obtusiuscula, nitida, subglabra; glandula inter inferiora. Stipulæ latæ, foliaceæ.

C. ornata, Bernh. Pl. Kappl. Surin. exs. n. 1408.

Hab. Tropical America: Surinam, *Wulfschnagel*; Cayenne, *Sagot*, n. 1156; British Guiana, *Schomburgk* and others.

Besides the general aspect and broad foliage, this species is readily distinguished from all its near allies by the large broad leafy stipules.

34. *C. QUINQUANGULATA*, *Rich. in Act. Soc. Hist. Nat. Par.* 108. Ramuli angulati. Foliola ampla, acuminata, nitida, subtus minute fulvescentia; glandula tenuis inter utrumque par.—*Fl. Bras.* 99.

C. medica, Vell. Fl. Flum. 166, Ic. iv. t. 62.

Hab. Tropical America: Guiana and Brazil, also St. Christopher, *Masson in herb. Banks*.

A specimen of *Cersted's* from the island of St. Thomas, n. 34, has the foliage, the two glands, the inflorescence and flowers of *C. quinquangulata*; but the leaflets are quite glabrous on both sides, as in *C. viminea*.

35. *C. VIMINEA*, *Linn. Amœn. Acad.* v. 397. Ramuli teretes. Foliola quam in præcedentibus sæpius minora, quam in *C. chrysocarpa* acutiora, nitida, glabra v. vix minute puberula; glandula tenuis inter inferiora. Stipulæ angustæ, sæpius caducæ. Bracteæ subulatæ. Panicula basi foliata. Legumen turgidulum, basi obtusissimum. Caulis sæpius scandens.—*Fl. Bras.* 100.

C. melanocarpa, Berter. in DC. ! Prod. ii. 491.

Chamæfistula melanocarpa, G. Don, Gen. Syst. ii. 451.

Cassia nitida, Rich. in Act. Soc. Hist. Nat. Par. 108? ex char.

C. fruticescens, Bert. in Spreng. Syst. ii. 335, ex char.

Hab. Tropical America: Jamaica, Guiana, N. Brazil.

The above-quoted *C. nitida*, Rich., has been conjecturally referred to *C. Apoucouita*; but the inflorescence described by Richard is quite at variance with that of the latter species. The very short character given agrees well both with *C. viminea* and *C. undulata*; and of these two the former is the one most likely to have occurred in the collection described.

36. *C. UNDULATA*, *Benth. ! in Hook. Journ. Bot.* ii. 76. Ramuli teretes. Foliola acuminata, nitida, glabra; glandula tenuis inter utrumque par. Stipulæ lanceolatæ. Bracteæ lanceolatæ. Legumen turgidulum, basi obtusissimum. Frutex erectus.

Hab. Tropical America: Trinidad, Guiana, Panama, *Sinclair, Fendler*, n. 86.

I have seen several Columbian and other specimens apparently allied to the three preceding species or to *C. inæquilatera*, some perhaps distinct from either, but without sufficiently perfect flowers and fruit to determine.

The plant in herb. DC. from Cayenne, determined to be *C. nitida*, Rich., and *C. Apoucouita*, Aubl., is certainly *C. undulata* as to the flowering specimen, which is a good one; the loose pod in the same sheet is very different, and looks like that of *C. bacillaris*.

37. *C. CHRYSOCARPA*, *Desv. ! Journ. Bot.* iii. (1814) 72. Caulis sæpius scandens. Foliola quam in cæteris *Bacillaribus* minora, obtusa, subtus innovationes inflorescentiaque pubesæpe aurea indutæ. Stipulæ angustæ. Panicula angusta, basi foliata. Legumen basi obtusissimum, sæpius breve.—*Fl. Bras.* 100.

Cassia chrysotricha, Collad. ! Hist. Cass. 99, t. 13.

Cassia virgata, Rich. in Act. Soc. Hist. Nat. Par. 108, ex char.

Cassia chrysogyne, Miq. ! in Linnæa, xviii. 581.

Hab. Tropical America: Guiana and North Brazil; apparently also Cuba.

Often confounded with *C. angulata*, Vog., which has much larger flowers and the lower stamens much longer than the others. The Cuban specimens have much smaller leaves than any of the others.

** *Speciosæ.* *Antherarum perfectarum 3 inferiores cæteris conspicue longiores filamentisque longioribus fullæ. Petala ultrapollicaria.*

Racemi in sequentibus in paniculam terminalem dispositi. *C. obliqua*, supra inter *Bacillares* ob inflorescentiam axillarem enumerata, quoad stamina petalæque quasi medium tenet inter *Bacillares* et *Speciosas*.

† *Foliola subtus v. utrinque molliter pubescentia.*

38. *C. ANGULATA*, Vog.! *Syn. Cass.* 16. Foliola ovata v. ovali-oblonga, paris ultimi sæpius 1-2-pollicaria. Panicula angusta basi foliata, v. parva. Bracteæ ovatæ, persistentes. Legumen elongatum, basi vix obtusum.—*Fl. Bras.* 101, t. 32.

C. chrysotricha, Mart.! *Herb. Fl. Bras.* 103. n. 128, non Collad.

Hab. Tropical America: Brazil, prov. Rio Janeiro, Minas Geraes, and Rio Negro.

39. *C. PUDIBUNDA*, Mart.! *Fl. Bras. Cæsalp.* 102. Foliola oblonga, obtusissima, paris ultimi 1-2-pollicaria. Panicula lata, brevis. Bracteæ parvæ, caducissimæ.

Hab. Tropical America: Brazil, prov. Bahia, Piahy, and Minas Geraes.

40. *C. SPECIOSA*, Schrad.! in *Gött. Gelehr. Anz.* 1821, 718. Foliola obtusa v. acutiuscula, rarius acuminata, subcoriacea, venosa, paris ultimi pleraque 3-4-pollicaria, pari infimo medio petiolo inserto. Panicula ampla.—*Fl. Bras.* 102.

Chamæfistula speciosa, G. Don, *Gen. Syst.* ii. 451.

Cassia micans, Nees! in *Flora*, 1821, 303 et 329.

C. bijuga, Vog.! *Syn. Cass.* 17.

C. nervosa, Vog.! *Syn. Cass.* 39 (varietas vix distinguenda).

Hab. Tropical America: Brazil and Columbia.

41. *C. RUGOSA*, G. Don!, *Gen. Syst.* ii. 440. Foliola obtusa, coriacea, venoso-rugosa, paris ultimi pleraque 3-4-pollicaria, pari infimo prope basin petioli inserto. Panicula ampla.—*Fl. Bras.* 103.

Hab. Tropical America: Brazil, prov. S. Paolo, Minas Geraes, and Piahy.

†† *Foliola glabra v. subtus pube minuta conspersa. Panicula ampla.*

42. *C. HOFFMANSEGGII*, Mart.! *Fl. Bras. Cæsalp.* 104. Foliola pleraque ovata, acuminata, 3-5-pollicaria. Stipulæ lineares v. setaceæ. Sepala majora semipollicaria.

Hab. Tropical America: North Brazil, on the Amazon, Rio Negro, and Rio Tocantin, and in Cayenne, *Rothery*, v. *Rohr* (*Herb. Brit. Mus.*), Havana, *De la Ossa* (*Herb. DC.*), and, apparently the same species, Tarapoto, *Matthews*, n. 1589.

43. *C. MACRANTHERA*, DC.! in *Collad. Hist. Cass.* 99, t. 8. Foliola pleraque ovato-lanceolata, valde obliqua, acuminata, 3-5-pollicaria. Stipulæ lineares v. setaceæ. Sepala majora, $\frac{1}{4}$ -pollicaria.—*Fl. Bras.* 104.

Chamæfistula prominens, G. Don, *Gen. Syst.* ii. 451, ex char. dato.

Cassia multiflora, Vog.! *Syn. Cass.* 39.

Hab. Tropical America: Brazil, prov. Rio Janeiro, Minas Geraes, and Bahia.

44. *C. SPLENDIDA*, Vog.! *Syn. Cass.* 17. Foliola oblonga, obtusa, ultima 2 rarius 3 poll. longa. Stipulæ falcatæ. Planta glaberrima.—*Fl. Bras.* 105.

C. monaden, Vell. Fl. Flum. 166, Ic. iv. t. 63 (ex Vog., forma foliolorum tamen potius *C. macranthera*).

C. striata, Vog. ! Syn. Cass. 39 (forma pilosula stipulis lineari-setaceis).

Hab. Tropical America : Brazil, prov. S. Paulo, Minas Geraes, Piahy, and Bahia.

Species Chamæfistularum Bijugarum non satis nota.

45. *C. SCLEROCARPA*, Vog. Syn. Cass. 15. Foliola oblonga, obtuse acuminata, ultra 4-pollicaria, supra nitida, subtus puberula. Stipulae lineari-falcatae, persistentes. Legumen teres, utrinque attenuatum.—*Fl. Bras.* 106.

Hab. Tropical America : Brazil, near Bahia, *Siber*.

I have not seen this species.

Series 2. Corymbosæ. *Foliola 3-plurijuga glandula inter inferiora v. inter pleraque paria. Sepala sæpius valde inæqualia. Antherarum perfectarum 2 rarius 3 cæteris multo longiores. Legumen rectum v. leviter incurvum, indehiscens v. tardius dehiscens, sæpius pluripollicare, in Americanis demum submembranaceum, in Africanis longius duriusque.*

* *Americanæ v. ex America in orbe vetere inquilinæ.*

The species of this group with obtuse leaflets seem to pass into the *Chamæsennæ Platycarpæ*. Without good fruit there is, indeed, no character to separate them; and in some species even the fruit is somewhat ambiguous.

46. *C. BICAPSULARIS*, Linn. ! *Spec. Pl.* 538. Foliola 3-5-juga, oblique obovata v. late oblonga, obtusa, glabra v. subtus pilosa, glandula inter inferiora. Racemi axillares v. in paniculam corymbosam dispositi. Legumen teres v. turgidulum, seminibus 1-2-seriatis.—*Fl. Bras.* 106.

Senna bicapsularis, Roxb. ! *Fl. Ind.* ii. 342.

Cassia limensis, Lam. Dict. i. 643.

C. Chinensis, Lam. Dict. i. 644, ex parte? (cfr. infra adnot. ad *C. Sopheram*).

C. sennoïdes, Jacq. ! Ic. Rar. t. 170.

C. pendula, Willd. Enum. Hort. Berol. 440.

Chamæfistula pendula, G. Don, Gen. Syst. ii. 452.

Cassia glandulifera, Reinw. in Blume Cat. Hort. Bog. 68, ex Miq. Fl. Ind. Bat. i. pars i. 92.

C. Reinwardtii, Hassk. Hort. Bog. in Ann. Sc. Nat. ser. 2. xiv. 58, ex Miq. *l. c.*

C. coluteoides, Collad. ! Hist. Cass. 102, t. 12.

C. Alcaparillo, H. B. et K. ! Nov. Gen. et Sp. vi. 355.

C. inflata, Spreng. ! Syst. ii. 336.

Chamæfistula inflata, G. Don, Gen. Syst. ii. 451.

Cassia Berterii, Colla, Hort. Ripul. 30, t. 24, ex DC. (foliolis evidentius mucronatis).

C. Collæ, G. Don, Gen. Syst. ii. 442.

C. dormiens, Vell. Fl. Flum. 167, Ic. iv. t. 67.

C. crassisepala, Benth. ! in Linnæa, xxii. 527.

C. chrysoloma, Notar. Ind. Sem. Hort. Gen. 1840, ex Linnæa, xv. Litt. Ber. 92 (ex char.).

Var. PUBESCENS, foliolis subtus densius piloso-pubescentibus.

C. indecora, H. B. et K. ! Nov. Gen. et Sp. vi. 355.

Chamæfistula indecora, G. Don, Gen. Syst. ii. 452.

C. advena, Willd. Herb. ex Vog. Syn. Cass. 18.

C. ovalifolia, Mart. et Gal. ! in Bull. Acad. Brux. xii. 305.

Var. TENUFOLIA, foliolis amplioribus, membranaceis obtusissimis, floribus majoribus.

Var. ?*CHILENSIS*, foliolis sæpius minoribus rigidioribus, floribus minoribus, legumine angustiore.

C. flexuosa, A. DC. ! Not. 7, Pl. Rar. Hort. Gen. 34, t. 4, non Linn.

C. Candolleana, Vog. ! Syn. Cass. 42.

C. frondosa, Hook. et Arn. ! in Hook. Bot. Misc. iii. 210, non Ait.

C. quebracho, Steud. 1833, ex ejusd. Nom. Bot. ed. 2.

C. obtusa, Closs !, in C. Gay, Fl. Chil. ii. 235.

C. emarginata, Closs !, in C. Gay, Fl. Chil. ii. 237.

Hab. Tropical and subtropical South America, very common, extending from South Brazil to the W. Indies and Central America. Frequently sent also in collections from tropical Asia, but there only in cultivation.

The var. *pubescens* occurs both in Columbia and Brazil, differing more or less from the common, more glabrous form. The West-Indian and Central-American specimens have generally the leaflets rounder and thinner than the southern ones. The var. *tenuifolia*, with larger and thinner leaflets, has a very limited Brazilian range. The var. *chilensis* appears to be common in Chile, and being there tolerably constant, I have felt much hesitation as to whether it should be regarded as a distinct species or not. The pod is sometimes scarcely above $\frac{1}{4}$ in. in diameter, with the seeds not crowded, alternate, and mostly solitary between each two transverse septa, without any longitudinal partitions; whilst in luxuriant, especially cultivated specimens of the typical *C. bicapsularis*, the pod is turgid, above $\frac{1}{2}$ in. in diameter, and, the crowded seeds being in nearly opposite pairs, the septa separating them become so displaced as to assume the appearance of a transverse septum between each pair, with a vertical one between the two seeds of the pair; and when this is regularly continued throughout the pod, it has the appearance of being vertically divided by a continuous longitudinal septum, whence the specific name. This difference, if constant, together with that in the foliage, would fully have justified the maintenance of the two species; but I have seen so many specimens where the foliage is intermediate, or where the arrangement of the seed is irregular, that, unless more positive characters be detected by further observation, I feel unable to recognize them as sufficiently distinct.

47. *C. CORYMBOSA*, Lam. Dict. i. 644. Foliola 3-juga (rarius subinde 2-juga), oblonga v. oblongo-lanceolata, obtusa v. acutiuscula, glabra; glandula inter inferiora v. omnia paria. Racemi axillares v. in paniculam corymbosam dispositi.—*Fl. Bras.* 107.

C. corymbosa, Jacq. Fragm. t. 101. f. 1; Bot. Mag. t. 633.

C. crassifolia, Ort. Dec. x. 122, ex DC.

C. falcata, Dum. Cours. ex DC. et Hort. plur. non Linn.

Chamæfistula corymbosa, G. Don, Gen. Syst. ii. 451.

Hab. Extratropical and subtropical South America: Buenos Ayres, South Brazil, and Bolivia.

C. cubensis, Hoffmans. Verz. 209, ex DC. Prod. ii. 506, is probably some garden form of *C. corymbosa* or *C. laevigata*, with an erroneous origin. It is not mentioned either by A. Richard or by Grisebach as a Cuban plant.

Var. ? *PLURIJUGA*, foliolis sæpius 4–5-jugis, racemis omnibus in paniculam corymbosam dispositis.

C. floribunda, Cav. ex Collad. ! Hist. Cass. 88, t. 11, non Cav. Descr.

C. corymbosa, Ort. Dec. 124, ex Collad.

I have seen no wild specimens corresponding with the original one from the garden of Madrid, figured by Colladon and preserved in herb. DC. Cavanilles's description (Descr. 132) applies evidently to the common *C. laevigata*, under which name was published in Germany the plant generally known at the

same time in Spanish gardens as *C. floribunda*; whilst that sent to De Candolle has smaller, less acuminate leaflets, with glands only between the lowest pair, and more paniculate flowers. It may be only a garden sport. The plants usually known in gardens as *C. floribunda* or *C. grandiflora* belong generally to *C. lævigata*.

48. *C. HILARIANA*, *Benth. in Mart. Fl. Bras. Cæsalp.* 108. Foliola sub-6-juga, oblongo-lanceolata, acuta, glabra; glandula inter inferiora. Racemi axillares v. in paniculam corymbosam dispositi.

Hab. Tropical America: S. Brazil.

I have not been able to reexamine this plant recently. I had described it from St. Hilaire's specimens many years ago; but when again at Paris, in 1869, St. Hilaire's plants never having been put in order, I was unable to find those I had examined.

49. *C. LÆVIGATA*, *Willd. Enum. Hort. Berol.* 441. Foliola 3-4-juga, ovato-lanceolata lanceolatave acuminata, glabra; glandula inter pleraque v. omnia paria. Racemi axillares v. summi in paniculam brevem dispositi.—*Fl. Bras.* 107; *Collad. Hist. Cass.* t. 5.

Chamæfistula lævigata, G. Don, Gen. Syst. ii. 452.

Cassia floribunda, Cav. Descr. 132, pro parte, non Collad.

Chamæfistula floribunda, G. Don, Gen. Syst. ii. 452.

C. corymbosa, Ort. Decad. 124, ex Cav. non Lam.

C. grandiflora, Desf. ! Cat. Hort. Par. 302.

C. septentrionalis, Zucc. Cent. n. 69, ex Collad. Hist. Cass. 89.

C. elegans, H. B. et K. ! Nov. Gen. et Sp. vi. 342.

C. vernicosa, Closs in C. Gay, Fl. Chil. ii. 244, ex char.

C. tropica, Vell. Fl. Flum. 166, Ic. iv. t. 64.

C. Herbertiana, Lindl. Bot. Reg. t. 1422 (ex ic. et descr.; specimina nulla exstant).

Chamæfistula Herbertiana, G. Don, Gen. Syst. ii. 452.

Senna aurata, Roxb. Fl. Ind. ii. 342, ex char.

Cassia aurata, Roxb. Hort. Beng. 32; Vog. Syn. Cass. 17.

C. quadrangularis, Zolling. in Miq. ! Fl. Ind. Bat. i. pars i. 97.

C. hybrida, Ten. ! Cat. Hort. Neap. 80.

Hab. Tropical and subtropical America, chiefly in waste and cultivated places—Brazil, Guiana, Columbia, Central America, Mexico, &c.; and also in similar situations in tropical Asia, Africa, and Australia, probably in most cases introduced.

Like other common weeds of cultivation, this is a variable species, but always readily recognized by its acute or acuminate glabrous leaflets, with glands between all, or all but the terminal pair. The stipules figured by Vellozo are rarely seen, as they are usually exceedingly deciduous; but I have met with some specimens in which the upper ones at least persist at the time of flowering. Although now very common in Asia, I believe it to be really indigenous in America only. Roxburgh says that his *Senna aurata* is a native of the "countries and islands to the east of Bengal;" but I am not aware of any specimens having been seen from those countries of any species closely allied to, yet different from, *C. lævigata*, and no specimens of the garden plant shortly characterized by Roxburgh have been preserved, his character at the same time perfectly agreeing with that of *C. lævigata*.

C. elegans and *C. Herbertiana* are both referred by Vogel to *C. floribunda*; but taking the latter name to apply to Colladon's plant, it differs, as above stated, in having the gland only between the lowest pair of leaflets as well as in general aspect. The figure and description of *C. Herbertiana* appear to me to indicate only a large-flowered form of *C. lævigata*. It is true that the plant is figured as slightly hairy, whilst *C. lævigata* is usually quite glabrous; but so also is *C. floribunda* said to be. The plant in Lindley's herbarium representing *C. Herbertiana* is *C. glauca*, a very different species, as recognized by

Lindley in his pencil correction. Some slightly hairy specimens from French gardens, representing very fairly the plate of *C. Herbertiana*, are said to be garden hybrids between *C. levigata* and *C. tomentosa*.

Some of Zollinger's specimens, n. 1670, are accompanied by loose pods, described by Miquel, and which suggested to Zollinger the name of *C. quadrangularis*; but they are so totally different from the pods of this or any other species of *Cassia* that I suspect they have been mismatched. A specimen under the name of *C. quadrangularis*, with a young attached pod, communicated by Miquel, is certainly *C. levigata*.

50. *C. TOMENTOSA*, *Linn. f. ! Suppl.* 231. Foliola 6–8-juga, oblonga, obtusa, supra puberula, subtus ramulique molliter tomentosa; glandula inter pleraque v. omnia paria. Racemi in paniculam corymbosam dispositi.

C. multiglandulosa, Jacq. Ic. Rar. i. t. 72.

C. lutescens, G. Don!, Gen. Syst. ii. 442.

C. Wightiana, Grah. ! in Wall. Cat. Herb. Ind. n. 5329.

C. albida, Ort. Dec. viii. 92, ex Collad. Hist. Cass. 104.

Hab. Tropical America: valleys of the Andes, from Tucuman and Bolivia to Central America. Introduced into tropical Asia and tropical and southern Africa.

** Africanæ, *legumine sæpius longiore duriore ei Fistularum nonnullarum similiore.*

51. *C. PETERSIANA*, *Bolle in Peters, Mossamb. Bot.* 13. Foliola 6–10-juga, ovato-lanceolata, acuta v. acuminata. Stipulæ reniformes, persistentes. Racemi in paniculam terminalem dispositi.—*Oliv. ! Fl. Trop. Afr.* ii. 272.

Hab. Tropical Africa, Madagascar.

52. *C. GORATENSIS*, *Fresen. in Flora*, 1839, 53. Foliola 6–8-juga, ovali-oblonga, obtusissima. Racemi in ramis annotinis laterales. Stipulæ subulatæ, deciduæ.—*Oliv. ! Fl. Trop. Afr.* ii. 273.

C. singueana, Delile?, Cent. Pl. Afr. 28.

Hab. Tropical Africa.

53. *C. TETTENSIS*, *Bolle in Peters, Mossamb. Bot.* 14. Foliola 7–12-juga, oblonga, obtusa, mucronulata, pubescentia. Stipulæ deciduæ. Racemi axillares, glanduloso-puberulæ.—*Oliv. ! Fl. Trop. Afr.* ii. 273.

Hab. Tropical Africa.

C. Sabak, Delile, Cent. Pl. Afr. 28, described from specimens without flowers or fruit, may very possibly be one of the three preceding species.

Series 3. Excelsæ. *Foliola multijuga, petiolo eglanduloso. Antheræ perfectæ (7) inter se subæquales, obtusissimæ. Staminodia biloba. Legumen elongatum, subcylindricum, durum, indehiscens v. tardius ad suturam interiorem dehiscens. Racemi inferiores axillares, superiores in paniculam brevem v. elongato-pyramidatam dispositi.*

The two species of this group, readily known by their stamens, have the habit, foliage, and inflorescence of the *Chamæsennæ Paniculatæ*, with a pod approaching in some measure to that of the *Fistulæ*.

54. *C. EXCELSA*, *Schrad. ! in Gött. Gelehr. Anz.* 1821, 717. Foliola 10–20-juga, elliptico-oblonga, pleraque obtusa. Legumen ad semina torulosum.—*Fl. Bras.* 109, t. 33.

C. fastigiata, Nees!, in *Flora*, 1821, 303, 329.

Chamæfistula excelsa, G. Don, Gen. Syst. ii. 452.

C. multiflora, Scheele in *Linnæa*, xvii. 337? (descr. in omnibus convenit exceptis glandulis).

Hab. Tropical America: Brazil, prov. S. Paulo, Minas Geraes, Alagoas, Ceara, and Bahia.

55. *C. SPECTABILIS*, DC. ! *Cat. Hort. Monsp.* 90. Foliola 8–15-juga, ovato-lanceolata, acuta. Legumen læve v. vix torulosum.

C. spectabilis, Collad. ! *Hist. Cass.* t. 7.

C. speciosa, H. B. et K. ! *Nov. Gen. et Sp.* vi. 338, non Schrad.

C. Humboldtiana, DC. *Prod.* ii. 489.

Cathartocarpus Humboldtianus, Loud. *Hort. Brit.* 167.

Cathartocarpus speciosus, G. Don, *Gen. Syst.* ii. 453.

Cassia Trinitatis, Reichb. in Sieb. ! *Pl. Trin. exs.* n. 57; Vog. *Syn. Cass.* 46.

Cathartocarpus Trinitatis, G. Don, *Gen. Syst.* ii. 453.

Hab. Tropical America: Columbia, W. Indies, Central America, and perhaps Guiana.

Most of the specimens from Guiana, formerly referred to *C. Trinitatis* by myself and others, belong to *C. lucens*, which, with nearly the same foliage and inflorescence, has very different stamens and fruit.

Series 4. Brachycarpæ. *Foliola uni-plurijuga, glandula inter inferiora v. pleraque paria. Sepala angusta, subæqualia. Antheræ perfectæ (7) inter se subæquales v. 2–3 inferiores longiores, vix rostratæ. Legumen breve ($\frac{1}{2}$ –2-pollicare), incurvum v. rarius rectum, turgidulum v. subteres, submembranaceum, demum sæpius bivalve. Racemi axillares sæpe pauciflori, v. pluriflori in paniculam corymbosam dispositi.*

This group forms, as it were, the passage from *Chamæfistula* to *Oncolobium*. *C. Lindheimeriana* and *C. Mexicana* have much of the aspect of *C. Dombeyana*, or some varieties of *C. bicapsularis* among the *Chamæfistula Corymbosæ*, whilst their fruit approaches that of some *Oncolobia*; they are, however, readily distinguished from the latter section by the want of the gland on the petiole below the leaflets, and from both by the narrow, nearly equal calyx-lobes.

* *Herbæ rhizomate perenni. Foliola unijuga.*

56. *C. PUMILIO*, A. Gray !, *Pl. Lindh. in Bost. Journ. Nat. Hist.* vi. 180. Foliola linearia, glabriuscula. Pedunculi 1-flori. Legumen inflato-globosum v. ovoideum, semipollicare.

Hab. Subtropical North America: West Texas and New Mexico.

57. *C. RÆMERIANA*, Scheele in *Linnaea*, xxi. 457. Foliola lanceolata, parce adpresse pilosula. Pedunculi 2–4-flori, ad apices ramorum subcorymbosi. Legumen subpollicare.

Hab. Subtropical North America: Texas.

58. *C. BAUHINIOIDES*, A. Gray !, *Pl. Lindh. in Bost. Journ. Nat. Hist.* vi. 180. Foliola obliqua, ovato-oblonga, obtusa, molliter villosa. Pedunculi axillares, subbiflori. Legumen subpollicare, hispidum.

Hab. Subtropical North America: West Texas and New Mexico.

59. *C. NANA*, Benth. ! in *Mart. Fl. Bras. Cæsalp.* 110. Foliola obliqua, ovata, obtusa, marginata, subtus pilosula. Pedunculi axillares, pauciflori. Legumen sesquipollicare, glabrum.

Hab. Subtropical South America: South Brazil.

** *Frutices v. rarius herbæ, elatæ. Folia bi-plurijuga.*

60. *C. CROTALARIOIDES*, Kunth !, *Mim.* 132, t. 40. Tomentosa v. sericeo-villosa. Foliola

3-4-juga (subinde 2-juga), ovali-oblonga. Racemi pluriflori, foliis sublongiores. Legumen subpollicare.

Chamaefistula crotalarioides, G. Don, Gen. Syst. ii. 452.

Cassia apiculata, Mart. et Gal. ! in Bull. Acad. Brux. x. ii. 304.

Hab. Mexico, *Coulter*, *Galeotti*, n. 3218, and others.

61. *C. VOGELIANA*, *Schlecht. in Linnæa*, xii. 342. Caulis pilis longis patentibus hirsutus. Foliola 3-4-juga, ovali-oblonga, sericeo-pilosa. Pedunculi pauciflori, ad apices ramorum corymbosi. Flores quam in præcedentibus majores. Legumen infrapollicare.

Hab. Mexico, *Coulter*, *Gregg*, *Galeotti*, n. 3372.

62. *C. LINDHEIMERIANA*, *Scheele in Linnæa*, xxi. 457. Herbacea, elata. Foliola 5-6-juga, oblique ovato-oblonga, obtusa v. acutiuscula, sericeo-villosa v. tomentosa; glandula inter pleraque v. omnia paria. Racemi laxè pluriflori, ad apices ramorum corymbosi. Legumen 1-2-pollicare.

Hab. Subtropical North America: Texas and Mexico.

63. *C. ARGENTEA*, *H. B. et K! Nov. Gen. et Sp.* vi. 358. Fruticosa. Foliola 3-4-juga, oblique ovato-oblonga, obtusa, sericeo-pubescentia, subtus argentea; glandula inter par infimum. Racemi laxè pluriflori, ad apices ramorum corymbosi. Legumen gracile, 2-3-pollicare.

Hab. Subtropical North America: Mexico.

The specimens of this and *C. Lindheimeriana* closely resemble each other; but *C. argentea* is described as a much-branched shrub of 3 or 4 feet, whilst Lindheimer states his plant to have erect, simple, herbaceous stems of 4 to 6 feet from a perennial rootstock. *C. argentea* has, moreover, fewer leaflets, more silvery underneath, the glands only between the lowest pair, and the pod longer and more slender.

64. *C. MEXICANA*, *Jacq. Hort. Schænbr.* ii. t. 203? Pubes ramorum et inflorescentiæ subviscidula. Foliola 4-7-juga, oblongo-elliptica v. ovalia, vix obliqua, obtusa v. mucronata, subtus sericeo-pubescentia. Racemi pluriflori, summi corymbosi. Legumen 2-pollicare, arcuatum.

C. fatidissima, Ruiz et Pav. ! in G. Don, Gen. Syst. ii. 441.

Hab. Tropical America: Mexico, *Parkinson*, *Liebmann*; "New Spain," *Pavon*; S. Domingo, *Bertero*.

Var. ? GRANDIFLORA, sepalis semipollicaribus.

Hab. Mexico, between Vera Cruz and Orizaba, *Fred. Müller*; Alpatlahua, *Liebmann*.

Sectio 3. ONCOLOBIUM.

Herbæ suffrutices fruticesve. Folia basiglandulosa. Stamina perfecta 7; staminodia 3. Legumen subteres v. compressum, sæpe arcuatum, ad suturam utramque dehiscens (v. interdum vix dehiscens?), breve v. elongatum, interdum ut in *Prosospermis* angustissimum. Semina transversa v. obliqua, nunc omnia v. in parte leguminis inferiore septis parallele compressa, nunc omnia v. in parte leguminis superiore valvis parallele compressa, v. omnia oblonga haud compressa. Cotyledones planæ v. rarius obliquæ v. flexuosæ.

I have taken Vogel's name for this section, although I have differently circumscribed it, as in both cases the common *C. occidentalis* may be considered the original species. Vogel considered it a subdivision of *Chamaefistula*, "legumine membranaceo e compresso tumido," adding "semina superiora sæpe verticalia, inferiora semper horizontalia," the latter character separating it from *Chamaesenna*, the

former from the other subsections of *Chamaefistula*. But now that the allied species are much better known, we find that this absolute reliance upon the pod and seeds would widely separate *C. occidentalis* from *C. Sophera* on the one hand, and from *C. ligustrina* and its allies on the other, which are so closely connected with it that Vogel himself, as well as many others, have doubted whether they may not be varieties; whilst of the five species collected together by Vogel as forming the subsection, only two strictly belong to it; for one of the others, *C. cana*, which he had not seen, proves to belong to *Prososperma*, another, *C. tomentosa*, has often the pod quite like that of some varieties of *C. bicapsularis*, and the third, *C. ruscifolia*, appears to me to be a cultivated form of *C. Sophera*. It has appeared to me that a much more natural and better-defined group can be obtained by taking the basal gland on the petiole below the leaflets as the essential character distinguishing it from all others of the subgenus *Senna*, the pod having an intermediate character between those of *Chamaefistula* and *Chamaesenna*, passing in several species, especially in *C. occidentalis* itself, from the one to the other. The only species somewhat ambiguous as to the gland are *C. oblongifolia*, in which a single leaflet, or even a pair, are sometimes developed at the gland, and *C. bahamensis* in *Chamaesenna*, where the lowest pair of leaflets is sometimes though rarely deficient, leaving the gland on the petiole as in *Oncolobium*. These two species are in other respects allied to each other, and connect the two sections.

* *Foliola 4-9-juga, obtusa.*

65. *C. OBLONGIFOLIA*, *Vog. ! Syn. Cass.* 23. Frutex elatus. Foliola 7-9-juga (rarius 3-6-juga), oblonga, obtusa, glabra v. subtus ad costam barbata. Racemi ad apices ramorum subpaniculati. Legumen 3-4 poll. longum, 4 lin. latum.—*Fl. Bras.* 110.

Hab. Tropical and subtropical South America: South Brazil, and prov. Rio Janeiro and Minas Geraes.

66. *C. NEGLECTA*, *Vog. ! in Linnæa*, x. 394. Frutex. Foliola 4-6-juga, oblonga v. ovalia, obtusa, subtus dense molliterque pubescentia. Racemi in axillis superioribus v. ad apices ramorum subcorymbosi. Legumen lineare.—*Fl. Bras.* 111.

Hab. Subtropical South America: South Brazil, *Sello*; Tucuman, *Tweedie*.

67. *C. SULCATA*, *DC. ! Cat. Hort. Monsp.* 90. Herba v. suffrutex foetens. Foliola 6-9-juga, ovali-oblonga, obtusa, subtus pubescentia. Racemi axillares, breves, pauciflori, summi conferti. Legumen longissimum (6-10 poll. longum vix 2 lin. latum).—*Fl. Bras.* 112.

C. sulcata, Collad. ! *Hist. Cass.* t. 6.

C. cernua, Balb. ! *Cat. Hort. Taur.* 1813, 22.

Hab. Tropical America: Brazil, prov. S. Paolo and Minas Geraes.

** *Foliola 4-6-, rarius plurijuga, sæpius acute acuminata (in C. Sophera ad *** vergentia).*

68. *C. LEPTOCARPA*, *Benth. ! in Linnæa*, xxii. 528. Herba v. suffrutex foetens. Foliola 5-7-juga, ovato-lanceolata, acute acuminata, glabra v. subtus pilosa. Racemi axillares, breves. Legumen longissimum (6-10 poll. longum, 1-1½ lin. latum).—*Fl. Bras.* 112.

Var. *HIRSUTA*, ad *C. hirsutam* vergens sed legumine longo tenui distincta.

Hab. Tropical America: Brazil, prov. Rio Janeiro and Minas Geraes, and a narrower-leaved form in Peru, Central America, and New Mexico, most, but not all, of the northern and western specimens belonging to the hirsute variety.

The long linear pod of this and the preceding species are like those of several species of *Prososperma*; but the transverse or oblique seeds, as well as the gland, are those of *Oncolobium*. Wright's New-Mexican specimens (n. 1032) are glabrous, and closely resemble those from Rio Janeiro.

69. *C. OCCIDENTALIS*, Linn. ! *Spec. Pl.* 539. Herba foetens, sæpe elata, annua (rarius perennis v. suffrutex ?). Foliola 4–6-juga, ovato-lanceolata v. lanceolata, acuta v. acuminata, glabra, subciliata. Racemi axillares, breves, summi conferti. Legumen 3–5 poll. longum, $2\frac{1}{2}$ –4 lin. latum, maturum crasso-compressum, late marginatum.—*Fl. Bras.* 112.

C. occidentalis, Bot. Reg. t. 83; Vell. Fl. Flum. Ic. iv. t. 66.

Senna occidentalis, Roxb. ! Fl. Ind. ii. 343.

Cassia falcata, Linn. ! *Spec. Pl.* 539.

C. planisiliqua, Linn. *Spec. Pl.* 540, ex parte.

C. longisiliqua, Linn. f. *Suppl.* 230; DC. ! *Prod.* ii. 497.

C. fatida, Pers. *Syn.* i. 457 (sub *C. occidentale*) ; Roxb. ! herb. olim.

C. geminiflora, Schrank, Hort. Monac. t. 26, fide DC.

C. obliquifolia, Schrank. in Denkschr. Bot. Ges. Regensb. ii. 40, ex char.

C. linearis, Mich. Fl. Bor. Amer. i. 261.

C. caroliniana, Walt. Fl. Carol. 134.

C. ciliata, Raf. Fl. Ludov. ex Torr. et Gr.

Hab. Tropical America, Asia, and Africa; very abundant in waste and cultivated places: probably of American origin, and not yet received from Australia.

The foliage and inflorescence of this species are generally nearly those of *C. laevigata*, except as to the gland, which is always below the lowest pair of leaflets, and usually very near the base of the petiole, not between the leaflets. The pod, when ripe and in a good state, is longer, narrower, more flattened and incurved than in *C. Sophera*, and, when young, very flat; it is then like those of *C. ligustrina* and *C. Marylandica*; but it thickens as it ripens, and the seeds, at least in the lower part of the pod, become more or less flattened and parallel with the transverse septa; in the upper part they are sometimes flattened in the contrary direction (parallel with the valves), as in *C. ligustrina*. But herbarium specimens are not unfrequent which, from their imperfect state, appear quite ambiguous between these species as to the fruit, and must be classed according to the still more uncertain characters of foliage and habit.

C. planisiliqua, Linn., has been referred here in the 'Botanical Register,' followed by others, on the authority of a determination in the Banksian herbarium, whilst *C. planisiliqua*, Lam. Dict. i. 645, has been supposed to be a different plant, to which De Candolle gave the name of *C. Plumieri*, and which has been referred by Grisebach to *C. glauca*. The fact is that the Linnæan and the Lamarckian supposed species are identical, Lamarck having merely copied Linnæus's diagnosis, which applies to *C. occidentalis*, and translated Plumier's description, which Linnæus had copied, both referring to Plumier's plate, ed. Burm. t. 77. What the latter represents it is impossible to determine, but certainly neither *C. occidentalis* nor *C. glauca*. The leaves are those of *C. Fistula*, the flowers quite unintelligible, the fruit more like that of the section *Fistula* than of any other, described as flat, whence the name, but figured as nearly terete, and filled with a series of unintelligible circles, described as *ossicles* or seeds, but more likely to be the transverse septa of the *Fistula* section, as they overlap each other. The whole species must therefore be passed over as an inexplicable puzzle, founded on the diagnosis of one species, with the representation of another cooked up by an inaccurate artist, and encumbered by the description of the fruit of a third species. The plant representing *C. planisiliqua* in the Linnæan herbarium is *C. siamea*, which is certainly not the one from which he took his diagnosis.

70. *C. SOPHERA*, Linn. *Spec. Pl.* 542 (non herb. Linn.). Frutex (v. suffrutex ?). Foliola 5–12-juga, ovato-lanceolata v. lanceolata, acuta v. acuminata, glabra, subciliata. Racemi axillares, breves, summi conferti. Legumen 2–4 poll. longum, maturum turgidum v. subteres, late marginatum, nunc obscure tetragonum.

Senna Sophera, Roxb. ! Fl. Ind. ii. 347.

Chamaefistula Sophera, G. Don, Gen. Syst. ii. 452.

Cassia sopheroides, Collad. Hist. Cass. 133.

C. Canca, Cav. Descr. 132, ex char.

C. ruscifolia, Jacq. Ic. Rar. i. t. 71, ex icone.

C. lanceolata, Forsk. Fl. Æg. Arab. ex parte; Bisch. ! in Bot. Zeit. 1850, 897, t. 10, non aliorum.

C. ligustrina, Forsk. ! in herb. Mus. Brit.

Senna esculenta, Roxb. ! Fl. Ind. ii. 346.

Cassia esculenta, Roxb. ! Hort. Beng. 31.

C. ægyptiaca, Willd. Enum. Hort. Berol. 442, ex char. et fide Vog.

C. robinoides, Willd. l. c.

C. Barclayana, Sweet. Fl. Austral. t. 32.

C. schinifolia, A. DC. ! Not. 7; Pl. Rar. Hort. Gen. 35.

C. atropurpurea, Span. in Linnæa, xv. 201, ex char.

Var. TORULOSA, foliis fere *C. occidentalis*, legumine tereti subtoruloso.

C. chinensis, Jacq. Coll. i. 64; Ic. Rar. t. 73 (forma hortensis, speciosa, racemis fere in paniculam terminalem confertis).

Chamaefistula chinensis, G. Don, Gen. Syst. ii. 452.

Cassia indica, Poir. Dict. Suppl. ii. 127.

C. torosa, Cav. Descr. 131, ex char.

C. torulosa, Poir. Dict. Suppl. ii. 126 (nomine Cavanillesco mutato).

Chamaefistula torosa, G. Don, Gen. Syst. ii. 452.

Var. LIGUSTRINOIDES, inflorescentia magis corymbosa.

C. coromandeliana, Jacq. Fragm. 67, t. 100, ex char. et ic.

Chamaefistula coromandeliana, G. Don, Gen. Syst. ii. 452.

Cassia frutescens, Mill. ! Dict. n. 2.

C. patula, Ait. ! Hort. Kew. ed. 1. ii. 51.

Var. PURPUREA, ramis (fide Roxb.) purpurascentibus, foliolis sæpius minoribus, ramulorum interdum obtusis.

Senna purpurea, Roxb. ! Fl. Ind. ii. 342.

Senna Sophera, var *purpurascens*, Roxb. ! l. c. 347.

Cassia purpurea, Roxb. ! Hort. Beng. 31.

Hab. Tropical Asia, Africa, and Australia; more rare in tropical America, chiefly in Central America, the West-Indian Islands, and Columbia; in all continents most frequently only as cultivated or escaped from cultivation, with some evidence of being really indigenous in Australia, and more doubtfully so in Asia and America.

I have in the former part of this paper alluded to the uncertainty which prevails as to the origin of this species and the degree of affinity which it bears to *C. occidentalis*, an uncertainty which there must always be great difficulty in clearing up. Almost the whole of the long list of supposed species enumerated as synonyms have been described from garden specimens. The best observers describe *C. Sophera* as shrubby and *C. occidentalis* as annual; but from some collector's notes or gardener's observations it would appear that the former may flower the first year so as to appear annual, and that *C. occidentalis*, when large, may become more or less woody at the base. Roxburgh describes both his *S. Sophera* and *S. purpurea* as annual. The pod of the var. *torulosa* is described and figured with much more elevated transverse ridges than any I have seen. This appears to be a garden variety, with the foliage of *C. occidentalis*; the only Chinese specimens I have seen are the true *C. occidentalis* with a flattened pod, which is a weed of waste places in S. China as in other parts of tropical Asia. The var. *ligustrinoides* has the

inflorescence nearly of *C. ligustrina*, but the pod (in the few specimens in which I have seen it ripe) of *C. Sophera*. To this form belong those American specimens which may possibly be indigenous.

Among the numerous synonyms I have quoted, *C. atroviridis*, Span., has been referred by Miquel (Fl. Ind. Bat. i. pars i. 93) doubtfully to *C. alata*; but Spanoghe's character is totally at variance with that species. *C. aegyptiaca* and *C. robinoides*, Willd., had been referred by Vogel, who had seen the specimens, at first to *C. ligustrina*; but he afterwards (Linnæa, xv. 69) transfers them to *C. Sophera*, which is much more in accordance with the characters given. *C. chinensis*, Jacq., may not really belong to any wild form of this species, but represents probably a luxuriant garden variety. *C. chinensis*, Lam. Dict. i. 644 (altered to *C. grandiflora*, in Pers. Syn. Pl. i. 457), referred to *C. Sophera* by Vogel, is made up of a description drawn from a garden plant, which appears to me to refer rather to *C. bicapsularis*, with a reference to Rumphius's figure, iv. t. 33, which appears to represent *C. glauca*. *C. chinensis*, Collad. Hist. Cass. t. 10, is more probably *C. occidentalis*. At any rate the name must be altogether suppressed as designating only garden varieties. No *Cassia* is known from China, except the common Asiatic weeds *C. Tora*, *C. occidentalis*, *C. mimosoides*, &c.

71. *C. PUBESCENS*, Jacq. *Fragm.* 46, t. 57. Herba v. suffrutex fœtens. Foliola 4–6-juga, ovato-lanceolata, acute acuminata, subtus pubescentia. Racemi corymbosi. Legumen quam in *C. occidentali* longius, angustius magisque arcuatum.—*Fl. Bras.* 113.

Hab. Tropical America: Brazil, near Rio Janeiro.

Of this I have only seen very few specimens, said to be wild, in Martius's herbarium; but they agree so well with Jacquin's figure and description that I have very little doubt of their identity. The form and number of leaflets &c. are those of *C. occidentalis* and of *C. hirsuta*, the pod and indumentum are intermediate between those two species, the inflorescence different from both.

72. *C. HIRSUTA*, Linn. *Spec. Pl.* 540. Herba fœtens, undique hirsuta. Foliola 3–5-juga, ovata v. ovato-lanceolata, acuta v. acute acuminata. Racemi axillares, breves, summi conferti. Legumen lineare, turgidum v. subteres (6–8 poll. longum, 2–3 lin. latum), hirsutum.—*Fl. Bras.* 114, t. 34.

C. venenifera, Rodsch, in G. F. W. Mey. Prim. Fl. Esseque. 167, fide Griseb.!

C. caracasana, Jacq. Hort. Schœnbr. t. 270.

C. tomentosa, Wall. Cat. Herb. Ind. n. 5304, non Linn.

C. pubigera, Lag. Gen. et Sp. Pl. Nov. 14, ex char.

Hab. Tropical America: in waste and cultivated places; common in many parts of Peru, but extends from Brazil and Bolivia to Mexico.

*** Foliola 6–9-juga, acuta v. acutiuscula, glabra v. ciliata.

73. *C. MARYLANDICA*, Linn. *Spec. Pl.* 541. Foliola oblonga v. oblongo-lanceolata. Racemi axillares, breves, subsessiles, multiflori, summi conferti. Flores flavi. Legumen lineare, planum (3–4 poll. longum, circa 3 lin. latum), glabrum v. pilosum.—*Torr. et Gr. Fl. N. Amer.* i. 395.

C. reflexa, Salisb. Prod. 326.

C. acuminata, Mœnch, Meth. 273.

Hab. Extratropical N. America: United States.

The plant representing *C. Sophera* in the Linnæan herbarium may be a garden variety of *C. marylandica*. Salisbury's and Mœnch's synonyms are merely arbitrary changes of names, because they disapproved of the Linnæan one.

74. *C. LIGUSTRINA*, Linn. *Spec. Pl.* 541. Foliola oblonga v. oblongo-lanceolata. Racemi in paniculam corymbosam dispositi. Flores flavi quam in *C. Marylandica* majores.

Legumen planum v. valvulis convexiusculis, glabrum, 3-4 poll. longum, circa 3 lin. latum.

C. ligustrina, Bot. Reg. t. 109; Bot. Mag. t. 1829.

Hab. Tropical and subtropical N. America: Cuba, *Wright*, n. 149 and 1190, Bahamas, and perhaps Jamaica.

The foliage of this species is often very nearly that of *C. Sophera*, but usually has the still more numerous leaflets of *C. marylandica*, of which it has very nearly the pod, but is readily known by the larger, more showy yellow flowers in a compact terminal corymbose panicle. It has been frequently misunderstood, owing to an erroneous description of the fruit taken from the plate in the 'Hortus Elthamensis' representing the foliage and flowers of *C. ligustrina*, with a loose fruit copied from Plumier, but belonging to some other species (apparently *C. angustifolia*, Vahl).

75. *C. STENOPHYLLA*, *Benth.* Foliola angustissime linearia. Racemi corymbosi.

C. decipiens, Griseb. ! Enum. Pl. Cub. 79, non Desv.

Hab. Tropical America: Cuba, *Wright*, n. 1601.

Frutex videtur glaberrimus, ramulis tenuibus. Foliola 6-10-juga, linearia, acuminata, 2-3 poll. longa, vix 1 lin. lata, jugis secus petiolum tenuem 4-6-pollicarem distantibus; glandula supra basin petioli nunc brevis crassaque, nunc sæpius tenuis elongata. Racemi in axillis superioribus pedunculati, pauciflori, foliis multo breviores. Flores fere *C. occidentalis*. Legumen 4-5 poll. longum, 3 lin. latum, rectum, junius compressum, demum turgidulum.

SECTIO 4. PROSOSPERMA.

Herbæ, suffrutices fruticesve. Folia interglandulosa. Stamina perfecta 6-7; staminodia 3. Legumen lineare, sæpius tetragonum, rectum v. arcuatum, ad suturam utramque dehiscens (rarius vix dehiscens?). Semina longitudinalia, oblique quadrata, cotyledonibus latissimis, undulato-plicatis.

Series 1. Toræ. *Herbæ suffruticesve. Pedunculi breves, 1-2-flori. Foliola 2-3-juga.*

76. *C. PENTAGONIA*, *Mill.* ! *Dict.* ed. 8. n. 18. Herba glabriuscula. Foliola pleraque 3-juga. Legumen utrinque acutum, alis 4 longitudinalibus herbaceis 1-2 lin. latis instructum.—*Fl. Bras.* 114, t. 34.

Hab. Tropical America: Brazil, prov. Minas Geraes, Central America.

Miller's plate, t. 82, contains a figure of a detached fruit of this plant. The flowering specimen figured may be the same also, if we suppose it to be a little exaggerated as to foliage, and the inflorescence to be supplied by the artist's imagination.

77. *C. TORA*, *Linn.* ! *Spec. Pl.* 538. Herba glabra v. adpresse pubescens. Foliola pleraque 3-juga. Legumen elongatum, angustum, tereti-tetragonum, arcuatum v. rectiusculum.—*Fl. Bras.* 115.

Senna Tora, Roxb. ! *Fl. Ind.* ii. 340.

Cassia obtusifolia, Linn. *Spec. Pl.* 539.

C. Tagera, Lam. *Dict.* i. 643, Collad. alique non Linn.

C. humilis, Collad. ! *Hist. Cass.* 96.

C. gallinaria, Collad. *l. c.*

C. fetida, Salisb. *Prod.* 325.

C. Tala, Desv. ! *Journ. Bot.* iii. (1814) t. 73.

C. Sunsub, Forsk. *Fl. Æq. Arab.* 86.

C. toroides, Roxb. ! *Hort. Beng.* 31.

Senna toroides, Roxb. ! Fl. Ind. ii. 341.

Chamaefistula contorta, G. Don !, Gen. Syst. ii. 452.

Cassia contorta, Vog. Syn. Cass. 20.

C. candenatensis, Dennst. in Steud. Nom. Bot. ed. 2, ex ic. cit.

Hab. Tropical and subtropical America, Asia, Africa, and Australia, generally common in cultivated and waste places, extending as far north as South Carolina, *Bartram* in herb. Mus. Brit.

The American *C. obtusifolia* has been generally distinguished from the Asiatic *C. Tora* by the curved, not straight, pods; but both are common in Asia, and the pod is sometimes curved or straight on the same plant, depending apparently sometimes on the degree of maturity or upon circumstances of weather or soil during growth, although there may really be also a variety where it is more usually straight than curved. The precise shape of the gland and its presence at the lowest pair only or at both pairs of leaflets, by which attempts have been made to distinguish some of the proposed species, are always exceedingly variable.

78. *C. PILIFERA*, Vog. ! Syn. Cass. 23. Herbacea v. basi frutescens, caule longe patentim piloso. Foliola 2-juga. Legumen elongatum, angustum, tereti-tetragonum, rectum v. arcuatum.—*Fl. Bras.* 115.

C. maritima, Willd. in Vog. Syn. Cass. 23.

Hab. Tropical and subtropical America: Brazil from Montevideo to Bahia and Matto-grosso, Bolivia, Central America.

79. *C. MUCRONIFERA*, Mart. ! Fl. Bras. *Cæsalp.* 116. Basi frutescens molliter tomentoso-pubescent. Foliola 3-juga. Stipulæ persistentes. Flores ampli. Legumen *C. Toræ*.

Hab. Tropical America: Brazil, prov. Bahia and Minas Geraes.

This has much the aspect of the pubescent form of *C. leiophylla*, but with a very different pod.

Series 2. Confertæ. *Frutices suffruticesve undique sericeo- v. stellato-tomentosi.* Flores parvi in racemum brevem sessilem v. pedunculatum conferti.

80. *C. SERICEA*, Swartz, Fl. Ind. Occid. 724. Rufo- v. fulvo-sericea. Foliola 3-5-juga. Legumen lineari-tetragonum, suturis continuis, inter suturas transverse inter semina impressum.—*Fl. Bras.* 146, t. 35.

C. ornithopoides, Lam. Dict. i. 466.

C. sensitiva, Jacq. Collect. ii. 362; Ic. Rar. t. 459.

C. ciliata, Hoffm. Verz. ex char. in DC. Prod. ii. 493.

C. uniflora, Mill. ! Dict. n. 5, non Spreng.

C. monantha, DC. Prod. ii. 506.

Hab. Tropical America: Brazil, W. Indies, Central America, Mexico.

Miller's typical specimen of *C. uniflora* is not really single-flowered, but in most of the axils only one pod has been formed; in one axil there are two pods, and there are the remains of the other flowers.

81. *C. VILLOSA*, Mill. ! Dict. n. 4. Undique pilis stellatis tomentoso-villosa. Foliola 3-5-juga, acuminata. Legumen inter semina constrictum, articulatum, articulis monospermis ovalibus plano-compressis medio ad semen elevatis.—*Hook. Ic. Pl.* t. 1060.

C. astroites, Cham. et Schlecht. in Linnæa, v. 597.

Chamaefistula astroites, G. Don, Gen. Syst. ii. 451.

Cassia geniculata, Ruiz et Pav. ! in G. Don, Gen. Syst. ii. 440.

Hab. Tropical America : Mexico, prov. Oaxaca, *Liebmann, Andrieux*, n. 418, and others.
The pod in this species, very unlike that of any other *Cassia*, might readily be taken at first sight for that of a *Desmodium*.

Series 3. *Laxifloræ*. *Frutices foliolis subtus v. utrinque sericeis tomentosis v. rarius subglabris. Flores ampli, racemis laxis.*

* *Stipulæ setaceæ, persistentes v. caducæ.*

82. *C. HYPOLEUCA*, *Mart. ! Fl. Bras. Cæsalp.* 117. Foliola 4–6-juga, supra glabra nitida, subtus cano-tomentosa. Legumen 4-pollicare, fere 2 lin. latum.

Hab. Tropical America : Brazil, prov. Minas Geraes.

83. *C. DYSOPHYLLA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 117. Foliola 3–5-juga, utrinque molliter sericea v. velutina. Legumen 4–6-pollicare, vix 2 lin. latum.

Hab. Tropical America : Brazil, prov. Goyaz ; British Guiana, *Schomburgk*.

** *Stipulæ foliaceæ, oblique reniformes, persistentes.*

84. *C. VELUTINA*, *Vog. ! Syn. Cass.* 24. Foliola 3–4-juga, late oblonga, supra sericeo-puberula, subtus rufo-tomentosa. Legumen semipedale, vix 2 lin. latum.—*Fl. Bras.* 118.

Hab. Tropical America : Brazil, prov. Piauhy and Mattogrosso.

85. *C. CANA*, *Nees ! et Mart. in Nov. Act. Nat. Cur.* xii. 34. Foliola 4–6-juga, oblonga, supra nitida subglabra, subtus canescenti-tomentosa. Legumen 3–5-pollicare, vix 2 lin. latum.—*Fl. Bras.* 118.

Hab. Tropical America : Brazil, prov. Bahia and Minas Geraes.

86. ? *C. LONGEGLANDULOSA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 119. Ramuli fusco-pilossissimi. Foliola 6–10-juga, oblonga, pilosula, glandulis elongatis. Legumen ignotum.

Hab. Tropical America : Brazil, on the Amazon.

A remarkable and very distinct species, of somewhat doubtful affinity, the fruit being as yet unknown.

87. *C. APPENDICULATA*, *Vog. ! Syn. Cass.* 24. Foliola 3–4-juga, obovata, obtusissima v. emarginata, supra glabra nitidula, subtus pubescentia. Legumen semipedale, angustum.—*Fl. Bras.* 119, t. 36.

C. australis, Vell. Fl. Flum. 166, Ic. iv. t. 65, non Sims.

Hab. Tropical America : Brazil, prov. Rio Janeiro.

Series 4. *Coriaceæ*. *Frutices glaberrimi, foliolis rigide coriaceis. Flores ampli, racemis paniculatis. Species legumine ignoto quoad affinitatem subincertæ.*

I have unfortunately seen no fruit of either of the two following very remarkable species. The very coriaceous glabrous foliage is that of some species of *Absus* ; but the flowers are very different, and are nearest in structure to those of *C. dysophylla* and *C. velutina*, which induces me to refer them to *Prososperma*.

88. *C. GORIFOLIA*, *Benth. in Mart. Fl. Bras. Cæsalp.* 120. Foliola bijuga, late ovata, 2–3-pollicaria. Stipulæ latissimæ, rigide foliaceæ, 1–2-pollicares.

Hab. Tropical America : Central Brazil, *Pohl*.

89. *C. GARDNERI*, *Benth. in Mart. Fl. Bras. Cæsalp.* 120. Foliola bijuga, suborbiculata, pollicaria. Stipulæ nullæ v. minutæ caducissimæque.

Hab. Tropical America : Brazil, prov. Bahia.

Sectio 5. CHAMÆSENNA.

Frutices, rarius arbores, v. in *Brachycarpis Pictisque* paucis herbæ. Folia interglandulosa v. eglandulosa, rarius nulla (ad squamas minutas reducta). Stamina perfecta 7 (rarius 6 infimo minore imperfecto), staminodia 3. Legumen compressum, ad suturam utramque dehiscens; valvulæ nunc planæ marginibus incrassatis v. nerviformibus, nunc convexæ vix marginatæ, interdum medio ad semina elevata suberistatæ v. longitudinaliter alatæ. Semina transversa v. obliqua, valvulis parallele compressa, rarius oblongo-subteretia v. leviter septis parallele compressa.

Like *Chamæfistula*, *Chamæsenna* as a whole is an artificial section, which, as a matter of convenience, I have adopted from De Candolle and Vogel with some slight modifications. The following groups as between themselves appear to be more natural, although not always definitely characterized; but the *Platycarpæ*, for instance, pass into the *Chamæfistulæ Corymbosæ*, and are often undistinguishable from them except by the pod, and the *Floridæ Paniculatæ* are represented in *Chamæfistula* by the *Excelsæ*. There are, however, no *Chamæennas* corresponding to the *Bacillares*; for, in the few cases where the leaflets are reduced to two pairs with a gland between the lowest as in *C. multiflora* or *C. glaucescens*, their shape and general habit are totally different from those of the *Bacillares*; and in *Chamæsenna* neither the *Leptocarpæ*, *Pictæ*, or *Brachycarpæ*, nor the *Floridæ* (except the *Paniculatæ*) are at all likely to be mistaken for *Chamæfistulas*.

A. Folia interglandulosa (glandula inter par infimum, rarius inter paria plurima v. omnia foliolorum), rarius nulla.

Series 1. *Pachycarpæ*. *Antheræ erostres obtusæ v. poro (simplici v. duplici) parum prominulo v. in cupulam sessilem expanso. Legumen nunc breve latumque, nunc longius et angustius, valvulis tunc sæpius convexiusculis marginibus latis v. parum prominulis, in perpaucis ei Rostratarum simile. Foliola pauci- v. rarius multijuga, obtusa v. acutiuscula, sæpe crassiuscula. Stipulæ (excepta C. stipulari) lineares setacæ v. caducissimæ.*

The species of this group are none of them Brazilian or Guianese; and some of them are extratropical. They extend along the western side of the Andine range, without ascending high into the mountains, from temperate Chili to Peru, reappearing in Central America and Mexico; and one species, *C. bahamensis*, which connects the group with the *Leptocarpæ*, is found in two distinct varieties, or perhaps species, in Florida and in the Bahamas. The group generally shows a pod less flattened than that of other *Chamæennas*, and often nearly that of *Oncolobium*; in some species, however, it is very flat but broad and short, with thin edges; very rarely, as in *C. bahamensis*, it seems to vary in the same species from the narrow flat pod with raised margins of *C. biflora* to the shape more common in *Pachycarpæ*, with convex valves not bordered. Although, therefore, I have named the group after the pod, I have taken the most definite distinctive character from the anthers; there are a few species, indeed, in which the pod is unknown, and which are therefore only conjecturally placed in the group.

* *Foliola acuta, submembranacea. Species Chilenses.*

90. *C. STIPULACEA*, Ait. ! *Hort. Kew.* ed. 1. ii. 52. Foliola 4–8-juga, ovato- v. oblongo-lanceolata, acuta, glabra v. pubescentia. Stipulæ foliaceæ. Legumen breve, latum, tenue.

C. fœtida, Ruiz et Pav. !, G. Don, Gen. Syst. ii. 443.

C. opaca, Grah. ex char. in Vog. Syn. Cass. 42.

Hab. Extratropical South America: Chile, near Valparaiso.

The broad stipules are those of the *Auriculatæ*; but the pod and the habit are quite different. I have been unable to find Graham's description of *C. opaca* in the 'Edinburgh New Philosophical Journal.'

Vogel has omitted to refer to the year; and I have looked through Graham's accounts of new and rare plants from the Edinburgh garden without success.

91. *C. CRUIKSHANKSII*, *Hook. et Arn.!* in *Hook. Bot. Misc.* iii. 210. Folia *C. stipulaceæ*, sed stipulæ parvæ, angustæ, caducæ. Legumen ignotum.

Hab. Extratropical South America: Chile, near Valparaiso.

A specimen from Bolivia, *Bridges*, in herb. Lindley, appears to be the same as *C. Cruikshanksii*, but with rather smaller flowers; they, however, are scarcely yet expanded.

** *Foliola pauca v. plurima, crassiuscula, obtusa v. acutiuscula. Legumen latiusculum, sæpius biconvexum. Species Chilenses v. Peruvianæ.*

92. *C. HOOKERIANA*, *Gill.!* in *Hook. Bot. Misc.* iii. 210. Foliola 8–12-juga, oblongo-lanceolata, crassiuscula, glabra. Bracteæ lineari-lanceolatæ, glabræ. Flores parvuli. Legumen rectum.

Hab. Extratropical South America: Argentine prov. S. Luis.

93. *C. CUMINGII*, *Hook. et Arn.!* in *Hook. Bot. Misc.* iii. 211. Foliola 4–6-juga, anguste oblonga v. linearia, glabra. Racemi folio longiores. Bracteæ lineari-setaceæ.

C. acuta, Meyen, Reise, 1376 ex descr. Vog. in Pl. Meyen. 40.

Hab. Extratropical South America: Chile, near Coquimbo.

94. *C. ARNOTTIANA*, *Gill.!* in *Hook. Bot. Misc.* iii. 211. Foliola 4–6-juga, cuneato-obovata, glabra. Racemi folio longiores. Bracteæ oblongæ, obtusæ, caducæ. Legumen biconvexum.

C. andina, Philippi!, in Linnæa, xxviii. 685.

Hab. Extratropical South America: Chile and Buenos Ayres.

95. *C. GLAUDESCENS*, *Benth.*, sp. nov. Foliola 2-juga, oblonga v. oblongo-lanceolata. Racemi subcorymbosi. Legumen biconvexum.

Hab. Extratropical South America: Chile, near Copiapo, *Pearce*.

Frutex 1–3-pedalis, dense ramosus, glaber v. minute pubescens, ramis foliisque viridi-glauculentibus. Foliola 2-juga, oblonga v. oblongo-lanceolata, mucronato-acuta v. obtusiuscula, crassiuscula, 6–9 lin. longa; glandula tenuis inter inferiora. Stipulæ desunt. Racemi in axillis supremis subcorymbosi, pluriflori. Sepala angusta, colorata, 3 lin. longa. Petala aurea, oblonga, 4–5 lin. longa. Filamenta parum inæqualia; antheræ 3 cæteris longiores, omnes erostres, superiores vix brevissime appendiculatæ; staminodiorum laminæ oblongæ, obtusæ. Legumen glabrum, vix curvulum, acuminatum, 2–2½ poll. longum, 4–5 lin. latum, marginibus nerviformibus, valvulis membranaceis convexis. Semina transversa v. leviter obliqua, crassa, leviter valvulis parallele compressa.

This species closely connects the *Chamæsennæ Platycarpæ* with the *Chamæfistulæ Brachycarpæ*.

96. *C. AREQUIPENSIS*, *Meyen in Vog. Syn. Cass.* 43, et *Pl. Meyen.* 41. Foliola 10–12-juga (6–14-juga ex Vog.) oblonga, pilis appressis canescentia. Racemi folio longiores. Bracteæ angustæ, caducissimæ. Legumen biconvexum.

Hab. Tropical America: Peru near Arequipa, *Meyen, Pearce*.

97. *C. LATOPETIOLATA*, *Domb.!* in *Vog. Syn. Cass.* 29. Foliola 8–12-juga, oblonga v. oblongo-lanceolata, glabra. Stipulæ falcatæ, lineares v. lanceolatæ, nunc latiusculæ acuminatæ, caducæ v. persistentes. Racemi corymbosi. Flores majusculi. Legumen longiuscule stipitatum, apice rotundatum, biconvexum, 3–5-pollicare.

Hab. Tropical America: Andes of Peru, *Dombey*; Bolivia, *Mandon*, n. 1506; and Ecuador, *Jameson*, n. 214.

Var. Foliolis pollicaribus longioribusve, glandulis brevissimis.

Hab. Peru, *Pavon*.

98. *C. VERSICOLOR*, *Meyen in Vog. Syn. Cass.* 29, et *Pl. Meyen.* 39. Foliola 8–15-juga, anguste oblonga v. oblongo-lanceolata, glabra. Stipulae falcatae, lineares, caducae. Racemi corymbosi. Flores quam in *C. latopetiolata* minores. Legumen brevissime stipitatum, acutiusculum, marginatum, subplanum v. demum biconvexum.

Hab. Tropical America: Andes of Bolivia, *Meyen*, *D'Orbigny*, *Mandon*, n. 751, *Bridges*, n. 10.

99. *C. BIROSTRIS*, *Domb. in Vog. Syn. Cass.* 43. Foliola 8–14-juga, ex ovali oblonga, subtus pubescentia; glandula inter inferiora. Stipulae caducae. Bractea acuta, subpersistentes. Flores parvuli. Legumen latius quam in sequentibus, tenuius quam in praecedentibus.

Hab. Tropical America: Peru and Bolivia, *Pavon*, *Matthews*, n. 477, *Lechler*, n. 1932; Chinchin (not Chile), *Dombey*.

*** Foliola pauca v. plurima, quam in ** tenuiora saepiusque latiora et obtusiora. Legumen (ubi notum) quam in ** angustius, crassius tamen quam in Rostratis. Species 4 priores Peruvianae v. Chilenses; 4 posteriores Americae centralis v. borealis subtropicae incolae.

(Legumen in *C. birostri* latiusculum. Foliola in *C. bahamensis* var. *floridana* saepe crassiuscula.)

100. *C. CONJUGATA*, *Ruiz et Pav.!* MS. Foliola 1–2-juga, obovata, obtusa, glabra. Legumen latiusculum, planum.

Hab. Tropical America: Peru, *Ruiz and Pavon* in herb. Lambert, now Brit. Mus.; Cobija, *Gaudichaud*.

Frutex ramosissimus, glaber v. parce pubescens. Foliola 1–2-juga, brevissime petiolulata, oblique obovata v. oblonga, obtusissima, basi inaequilatera, $\frac{1}{2}$ – $\frac{3}{4}$ v. rarius 1 poll. longa, concoloria, praeter costam subavenia, utrinque glabra v. subtus pilis brevibus conspersa; glandula tenuis v. stipitata, breviter conica inter inferiora. Petiolus $\frac{1}{2}$ –1-pollicaris. Stipulae minutae, caducae. Racemi in axillis superioribus laxe pauciflori, pedicellis 2–4 distantibus 3–8 lin. longis. Sepala valde inaequalia, interiora orbiculata, 2–3 lin. longa, exteriora brevia, angusta. Petala venis intensius coloratis picta, majora vix semipollicaria. Antherae apice cupuliferae erostres, 2 majores longius stipitatae. Legumen planum, membranaceum, 2–3 poll. longum, 4–5 lin. latum, rectum v. interdum valde curvatum.

101. *C. MANDONI*, *Benth.*, sp. n. Glaberrima. Foliola 2–4-juga, oblonga v. ovali-oblonga, obtusa, subtus pallida; glandula tenuis inter omnia paria. Racemi paniculati. Flores quam in *C. versicolori* paullo majores. Legumen breviter stipitatum, planum, membranaceum, glabrum, 3 poll. longum, 6 lin. latum.

Hab. Tropical America: Bolivia near Sorata, prov. Larecaja, *Mandon*, n. 751 bis.

This has the glabrous foliage and the flowers of *C. versicolor* with the leaflets of *C. aurantia* ($\frac{3}{4}$ – $1\frac{1}{2}$ in. long), but with glands between all the pairs instead of between the lowest pair only, as in those two species and most of their allies.

102. *C. COQUIMBENSIS*, *Vog. Syn. Cass.* 27. Foliola 4–6-juga, obovato-oblonga, glabra v. subtus puberula. Racemi laxiflori. Bractea lineari-subulata.

C. frondosa, β , Hook. et Arn. ! in Hook. Bot. Misc. 210.

C. flaccida, Closs ! in C. Gay, Fl. Chil. ii. 238.

Hab. Extratropical S. America : Chile, Coquimbo, *Cuming*, *C. Gay*, *Gaudichaud*, and others ; also apparently Quillota, *Bertero*, n. 896.

103. *C. AURANTIA*, *Ruiz et Pav.* ! *G. Don*, *Gen. Syst.* ii. 441. Foliola 5–7-juga, oblonga, obtusa, pubescentia. Racemi laxiflori, folio longiores. Bracteæ parvæ, caducæ.

C. Dombeyana, Vog. ! *Syn. Cass.* 28.

Hab. Tropical America : Peru or Bolivia.

Frutex habitu fere *C. bicapsularis*, undique pube brevi molli, in pagina superiore foliolorum tamen tenuiore canescens. Foliola 5–7-juga, breviter petiolulata, oblique oblonga, obtusa, basi valde inæquilatera, nunc 1–1½ poll. longa, nunc vix pollicaria ; glandula tenuis inter infima. Stipulæ parvæ, setaceæ caducissimæ. Pedunculi omnes axillares, supra medium laxe racemosi. Bracteæ parvæ, lineari-setaceæ, caducæ. Pedicelli ½–1-pollicares. Sepala valde inæqualia, interiora orbiculata 3 lin. longa, exteriora breviter oblonga. Petala semipollicaria, venosa. Antheræ apice cupuliferæ, duæ circa 3 lin. longæ filamentis longiusculis, quatuor breviores filamentis brevissimis.

Dombey's specimen in herb. Lindl. has rather smaller leaflets than Pavon's, but appears to be the same plant. As suggested by Vogel, it has some general resemblance to *C. mexicana* ; but the calyx is very different, the peduncles and racemes are also longer in proportion to the leaves. The pod is unknown.

104. *C. BAHAMENSIS*, *Mill.* ! *Dict.* n. 9. Foliola 3–5-juga, latiuscula, oblonga, obtusa v. mucronato-aristulata, glabra v. pilosula ; glandula nunc inter par infimum, nunc in petioli parte nuda. Racemi pauciflori, corymboso-paniculati. Legumen angustum.

C. angustisiliqua, Shuttlew. ! in Rug. Pl. Florid. exs. n. 197, non Lam.

Hab. Subtropical N. America : Bahama Islands and Florida.

Frutex glaberrimus v. pilis paucis adpressis conspersus. Foliola petiolulata, basi obliqua, ½–1-pollicaria, rigidule membranacea ; glandula obtusa nonnunquam (pari infimo foliolorum abortiente ?) infra foliola sita. Inflorescentia fere *C. ligustrinæ*, sed flores multo minores. Petala pallida, picta. Antheræ 2 longe stipitatae, arcuatae, 2½–3 lin. longæ, suberostres, uniporosæ, 4 subsessiles, rectæ. Legumen fere *C. bifloræ*, 3–4 poll. longum, 1½–2 lin. latum.

The variable position of the gland, either between the leaflets of the lower pair or on the leafless lower portion of the petiole, is the same as in *C. oblongifolia*, only that in the latter case it is only very rarely between the leaflets, and the pod and arrangement of the seeds are those of *Oncolobium* ; whilst in *C. bahamensis* the gland is only rarely below the leaves and the pod is quite that of *Chamæsenia*.

Var. ? *LATIFOLIA*, foliolis 2–4-jugis, ¾–1½-pollicaribus late oblongis ovalibusve obtusissimis vix mucronatis, racemis plurifloris, floribus majoribus, legumine 4–5 poll. longo 3–4 lin. lato sæpe incurvo.

Hab. Bahamas, *Swainson*, also in *herb. Mus. Brit.*

This may possibly prove a distinct species ; if so, it would assume the name of *C. pallens*, given to it by Dryander in herb. Banks.

105. *C. BOTTERIANA*, *Benth.*, sp. nov. Foliola 3-juga, obovali-oblonga, obtusa, glabriuscula ; glandula inter infima. Racemi elongati, axillares, multiflori. Bracteæ lineares. Antheræ 3 majores erostres. Legumen lineare, latiusculum.

Hab. Tropical or subtropical N. America : Mexico, on Mount Orizaba, *Botteri*, n. 784 ; between San Blas and Tepic, *Coulter* ; near San José del Oro, *Karwinski*.

Frutex videtur habitu *C. bicapsulari* subaffinis, ramulis pubescentibus. Foliola membranacea, ¾–1½-pollicaria. Stipulæ caducæ. Racemi foliis æquilongi v. longiores. Bracteæ parvæ, subpersistentes.

Sepala circa 3 lin. longa. Petala semipollicaria, tenuiter venosa. Legumen 3-4 poll. longum, 3-4 lin. latum, planum, crassiusculum.

Botteri's specimens have in some herbaria, under the same number, 784, one also of *C. leiophylla*, Vog.

106. *C. SKINNERI*, *Benth.*, sp. n. Foliola 5-6-juga, anguste obovata v. cuneato-oblonga, subtus pubescentia. Pedunculi axillares, pauciflori. Petala maxima, subavenia, stipitata.

Hab. Guatemala, *Skinner*.

Frutex ramulis petiolis inflorescentiaque pilis brevibus pubescentibus. Foliola obtusissima, ultima pollice longiora, infra medium valde angustata, basi inæquilatera, brevissime petiolulata, inferiora decrescentia magis ovalia, omnia supra glabra, margine subtusque ad venas piloso-pubescentia; glandula tenuis inter paria 1-2 inferiora. Petioli communes vix 2-pollicares. Stipulæ lineari-setaceæ, elongatæ, subpersistentes. Pedunculi foliis breviores, apice confertim 2-5-flori. Bracteæ lineares. Pedicelli pollicares. Sepala interiora suborbiculata, 3-4 lin. longa, exteriora minora. Petala parum inæqualia, maxima fere $1\frac{1}{2}$ -pollicaria, patentissima. Antheræ 3 majores fere 5 lin. longæ, vix acuminatæ, pilis paucis conspersæ. Legumen (si rite huc relatum in herb. Lindl.) planum, vix dehiscens, 4 lin. latum.

A well-marked species, with the foliage nearly of some varieties of *C. bicapsularis*, but with the large flowers almost of the *Bacillares Speciosæ*. The pods accompanying the specimens are not attached to them, but, from the peduncles &c., appear really to belong to them. They are broken so as not to tell their real length, but are quite those of the *Chamæsenne* of some of the following groups.

Series 2. Aphyllæ. *Folia nulla v. ad squamulas minutas reducta. Pedunculi ad nodos solitarii v. gemini, sæpissime biflori. Antheræ vix rostratæ. Legumen lineare, planum, marginatum.*

107. *C. APHYLLA*, *Cav. Ic.* vi. 41, t. 561. Glaberrima, aphylla. Rami tenues, apice sæpe spinescens.

Hab. Extratropical S. America: Mendoza and Buenos Ayres.

108. *C. CRASSIRAMEA*, *Benth.!* in *Hook. Ic. Pl.* t. 1063. Glaberrima, aphylla. Rami valde incrassati.

Hab. S. America: Andes of Salta, and dry hills, San Vicente, *Pearce*; Bolivia, prov. Tarija, *Weddell*.

Series 3. Rostratæ. *Antheræ staminum 2-3 inferiorum rostro cylindrico porifero terminatæ. Legumen sæpius angustum, valvulis planis marginibus incrassato-nerviformibus. Foliola pauci- v. multijuga, membranacea, obtusa v. rarius acutiuscula. Stipulæ lineares setaceæ v. caducissimæ.*

* *Pedunculis solitariis geminisve bifloris v. rarius hinc inde subumbellatim 3-4-floris.*

109. *C. LEIOPHYLLA*, *Vog.!* *Syn. Cass.* 25. Glabra (in forma typica). Foliola 2-3-juga, obtusissima. Sepala interiora semipollicaria. Legumen 3-4-pollicare, $2\frac{1}{2}$ - $3\frac{1}{2}$ -lin. latum, arcuatum, marginatum.—*Fl. Bras.* 120.

Hab. Tropical America: Brazil.

Var.? PUBESCENS. Undique molliter pubescens; cætera omnia formæ glabræ Brasiliensis.

C. pumila, Mart. et Gal. in Bull. Acad. Brux. x. pars ii. 307, non DC.

Hab. Tropical America: Peru, near Tarapoto, *Spruce*, n. 4299; Central America, Nicaragua, *Ersted*; "New Spain," *Pavon*; near Jalapa, *Galeotti*, n. 3312.

The aspect, especially of the pubescent variety, is very nearly that of *C. mucronifera*, in *Prososperma*;

and the pod, more curved, with more oblique seeds than is usual in the *Rostratae*, and perhaps rather thicker, approaches that of *Oncolobium*; but the flowers are very nearly those of *C. multiflora* and *C. biflora*.

110. *C. MULTIFLORA*, Mart. et Gal. ! in Bull. Acad. Brux. x. pars ii. 307. Glabra. Foliola 2- rarius 3-juga. Sepala interiora $\frac{1}{4}$ -pollicaria. Legumen angustum, continuum.

Hab. Tropical America: Mexico, prov. Oaxaca, Liebmann, Andrieux, n. 416; Galeotti, n. 3145.

This is very nearly allied to *C. biflora*; but the leaflets appear to be constantly in two or rarely three pairs only, and the larger prominent flowers give the specimens a different aspect.

111. *C. BIFLORA*, Linn. ! Spec. Pl. 540. Pubescens v. glabrata. Foliola 4-10-juga (ramulorum rarius 2-3-juga), latiuscula, glabra v. subtus pubescentia. Legumen angustum, continuum.—Fl. Bras. 121.

C. biflora, Bot. Mag. t. 810; Bot. Reg. t. 1310.

C. galegifolia, Linn. ! Syst. Nat. ed. 10, 1017.

C. tenuissima, Linn. Spec. Pl. 541, ex char. et ex Vog.

C. angustisiliqua, Lam. Dict. i. 649, excl. ic. Plumieri.

C. Marimari, Aubl. Pl. Gui. 382, ex ic. Plumieri citata, t. 78. f. 1.

C. crista, Jacq. ! Ic. Rar. i. 8, t. 74.

C. frondosa, Ait. ! Hort. Kew. ed. 1. ii. 53.

C. semperflorens, DC. ! Cat. Hort. Monsp. 90.

C. pallida, Vahl, Ecl. iii. 12, ex descr.

C. geminiflora, Moç. et Sess. in Collad. Hist. Cass. 103, t. 3, ex ic. et descr.

C. acapulcensis, H. B. et K. ! Nov. Gen. et Sp. vi. 353.

C. nemorosa, H. B. et K. ! l. c.

C. venustula, H. B. et K. ! l. c. 352.

C. Berteriana, Balb. in DC. ! Prod. ii. 496.

C. oxyadena, DC. ! Prod. ii. 495, excl. syn. Desv. et Mill.

C. fulgens, Macfad !, Fl. Jam. i. 342.

C. xiphioidea, Bertol. Fl. Guatemal. 15 ? ex descr.

Var. *ROSTRATA*, glandula compressa latiuscula (in forma typica sæpius tenuis, acuta et erectiuscula, variat tamen latior et obtusa).

C. rostrata, Mart. ! Voigt in Syll. Pl. Nov. Soc. Ratisb. ii. 55; Verhandl. Preuss. Gartenb. Gesellsch. iii. t. 7.

C. aversiflora, Hook. ! Bot. Mag. t. 2138 (floribus solito majoribus).

Hab. Tropical America: Peru, Columbia, Central America, Mexico, and West Indies; the variety *rostrata* almost confined to Brazil, and the only one there.

A specimen of *C. biflora* in the Linnean herbarium is marked "*galegifolia*," in Linnæus's own handwriting. This name is, it is true, crossed out by Sir J. E. Smith; but the plant appears to be really the one Linnæus had in view.

C. angustisiliqua, Lam. Dict. i. 649, to which Vogel refers *C. Berteriana*, DC. Prod. ii. 496, from St. Domingo, would appear to be founded chiefly on one of the forms of *C. biflora* with many leaflets and short glands, several West-Indian specimens agreeing well with the descriptions given; but the figure of Plumier's referred to, t. 78. f. 2, is quite different, and appears to me to be a rude representation of *C. siamea*, probably from some West-Indian botanic garden, whence several of Plumier's figures were evidently taken. Plumier, however, describes the pod as terete, although the lower pods of his figure

seem to represent the flat pods with thickened margins of *Chamaesenna*. Perhaps Plumier may have transposed his memoranda, and should have described the pod of t. 77 as terete and that of t. 78. f. 2 as flat. In that case his descriptions would agree better with his drawings, and we should refer the former to *C. Fistula*, the latter to *C. siamea*, both of them in cultivation only in the West Indies.

I should have hesitated to refer the Brazilian *C. rostrata* to *C. biflora*, the broad obtuse gland being very constant in the former, and the narrow erect gland very general in the latter, but that I have met with several Central-American and West-Indian specimens in which the gland becomes dilated and obtuse, although, perhaps, not quite so much so as in the Brazilian ones. The species varies very much in the size and number of the flowers.

The Asiatic *C. divaricata*, Nees, from the Indian archipelago, closely resembles in many respects the same var. *rostrata* of *C. biflora*, connecting it in some measure with *C. glauca*, next to which it is placed below in the section *Psilorhegma*; for the anthers, although very unequal, are all perfect.

112. *C. POLYPHYLLA*, *Jacq. Coll.* iv. 104, *Ic. Rar.* t. 460. Pubescens. Foliola 5–15-juga (sæpius 10–12-juga), parva, 2–3 lin. longa, margine ciliata, cæterum glabra v. subtus pilosula, foliis sæpius ad nodos fasciculatis. Cætera *C. bifloræ*. “Legumen semipedale.”

C. marginata, Willd. Enum. Hort. Berol. 444, ex Vog.

Hab. Tropical America: Portorico, *Pavon*, and also perhaps some other West-Indian islands.

Pavon’s specimen from herb. Lambert, now in herb. Mus. Brit., answers precisely to *Jacquin*’s figure. Two others in herb. Hook., one from Jamaica, *Distin*, the other from St. Domingo, *Mackenzie*, have not the leaves clustered, and the leaflets are rather larger, but much smaller and more numerous (8 to 12 pairs) than in *C. biflora*, to which *Grisebach* would refer them. These specimens seem to me to connect the two species, but to be nearer to *C. polyphylla* than to *C. biflora*. The pod is rather broad.

113. *C. VICLÆFOLIA*, *Benth.*, sp. n. Molliter pubescens. Foliola 5–7-juga, angusta, supra puberula, subtus molliter tomentosa. Legumen elongatum, inter semina articulatum secedens.

Hab. Tropical America: Columbia, *Fendler*, n. 2230, 2231.

Frutex ramulis petiolisque molliter rufo- v. canescenti-pubescentibus. Foliola oblonga, obtusiuscula, mucronata, basi obliqua, ultima pollicaria v. paullo longiora, inferiora decrescentia. Stipulæ subulatæ. Pedunculi ad nodos vetustos plerique biflori. Flores ampli *C. multifloræ*. Sepala valde inæqualia, interiora orbiculata, 3–4 lin. longa. Petala majora pollicaria. Antheræ longiores tenuiter longeque rostratæ, 4 intermediæ paullo minores, rostro brevissimo inflexo. Legumen semipedale v. longius, 3–3½ lin. latum, planum.

The foliage is nearly that of *C. incarnata*, but more pubescent; the inflorescence that of *C. biflora*. The character derived from the articulation of the pod requires perhaps further confirmation. It appears to be constant in the few specimens I have seen of this species; but I have sometimes, though rarely, seen symptoms of it in other species allied to *C. biflora*.

114. *C. FOLIOLOSA*, *Benth.*, sp. n. Foliola 20–30-juga, lineari-oblonga, conferta, glabra; glandula inter inferiora.

Hab. Guatemala, *Skinner in herb. Lindley*.

Tota glaberrima v. pilis paucis parvis præsertim in inflorescentia conspersa. Foliola obtusa, basi parum inæquilatera, sessilia, 4–6 lin. longa, crassiuscula, uninervia; glandula longiuscula acuta inter par infimum. Petiolus communis subbipollicaris. Stipulæ rigidule setacæ, subpersistentes. Pedunculi axillares biflori versus apices ramorum conferti et flores omnino *C. bifloræ*. Antheræ 3 inferiores majores, rostro tereti apice subdilato. Legumen junius planum, pilis adpressis conspersum, perfectum, haud suppetit.

This differs from all the biflorous *Rostratae* in its numerous small leaflets, which give it, at first sight, the aspect of some of the smaller-leaved states of *C. multijuga*; but they are still smaller and more compact, and the inflorescence and flowers are those of *C. biflora*.

** *Flores in pedunculo plurimi racemosi v. conferti.*

† *Foliola 6-12-juga, inflorescentia pube eglandulosa.*

115. *C. INCARNATA*, Pav. ! in *herb. Lamb. nunc Mus. Brit.* Foliola 7-10-juga, anguste oblonga, obtusa, subtus puberula; glandula inter inferiora. Stipulae falcatae, lineares v. lanceolatae, aristatae, subpersistentes. Pedunculi apice confertim pluriflori. Legumen rectum.

C. versicolor, Benth. ! Pl. Hartw. 128, non Meyen.

Hab. Tropical America: Peru and Bolivia.

Frutex 6-8-pedalis, pluribus notis *C. biflorae* affinis, petiolis angustis et inflorescentia diversus. Ramuli petioli inflorescentiaque tenuiter puberula subcanescentia. Foliola breviter petiolulata, obtusa v. obtusiuscula, 6-9 lin. longa, basi parum inaequilatera, utrinque concoloria, venis tenuibus. Pedunculi axillares, pollicares, 5-7-flori; bractea minutae, caducae; pedicelli subpollicares. Sepala tenuia, interiora orbiculata, 3-4 lin. diametro, exteriora dimidio minora. Petala majora $\frac{3}{4}$ -pollicaria. Antherae majores tenuiter longeque rostratae. Legumen rectum, planum, marginatum, 3-4 poll. longum, $2\frac{1}{2}$ lin. latum.

116. *C. ROBINIAEFOLIA*, Benth., sp. n. Foliola 6-10-juga, elliptico-oblonga, acuta, mollior pubescentia; glandulae inter omnia v. pleraque paria.

C. biflora, Griseb. ! Cat. Pl. Cub. 79, non Linn.

Hab. Tropical America: Columbia, Ocaña, *Schlim*, n. 2; Cuba, *Wright*, n. 2370.

Frutex ramulis petiolisque brevissime tomentoso-pubescentibus. Foliola longiuscula, petiolulata, oblongo-elliptica, acuta v. acutiuscula, mucronata, basi inaequilatera v. subaequalia, 1-2-pollicaria, inferiora decrescentia, supra venosa pube minuta conspersa, subtus pallida densius pubescentia. Petiolus communis 3-5-pollicaris. Glandulae tenues, stipitatae. Stipulae setaceae, incurvae, longiusculae, caducae. Pedunculi axillares, racemosi 4-10-flori, inferiores folio multo breviores, floribus paucis subconfertis, superiores floribus numerosioribus folia saepe superant. Pedicelli subpollicares. Bractea minutae, caducissimae. Sepala interiora orbiculata, 3 lin. longa, exteriora minora, angusta. Petala majora pollicaria. Antherae 3 majores longe angustaque rostratae. Staminodiorum laminae late oblongae. Legumen planum, marginatum, 3-5 poll. longum, 3- $3\frac{1}{2}$ lin. latum.

The Cuban specimens were referred by Grisebach to *C. biflora*, to which they certainly bear considerable affinity; but they appear to me to be sufficiently distinct in foliage and inflorescence to justify the establishing them as a distinct species. The Columbian specimens closely resemble the Cuban ones.

117. *C. RIEDELI*, Benth. ! in *Mart. Fl. Bras. Caesalp.* 122. Foliola 10-12-juga, oblonga, subglabra; glandulae inter omnia paria.

Hab. Tropical America: Brazil, prov. Minas Geraes.

118. *C. SPINESCENS*, Hoffm. ex Vog. *Syn. Cass.* 27, et in *Linnæa*, xi. 675. Folia spinis 2 stipularibus recurvis stipata; foliola 5-6-juga, ovata v. ovato-oblonga, acuta v. acuminata, glabra, subtus pallida, 1-3 poll. longa; glandulae inter omnia paria. Inflorescentia puberula.

Hab. Tropical America: Brazil near Para, *Hoffmannsegg in herb. Willd.*

I have not seen this species, which is evidently a very distinct one, remarkable for its spinescent stipules, the only other prickly species being the *C. aculeata*, in which, however, the aculei are numerous and scattered. In the latter species, also, the habit and characters are those of the *Picta*, whilst *C. spi-*

nescens, from Vogel's very full and satisfactory description, is evidently one of the *Rostratae*. Finding no specimens in any of the Brazilian collections I had before me in working up the genus for the 'Flora Brasiliensis,' I unfortunately overlooked it.

†† *Foliola* 8–20-juga, *inflorescentia glanduloso-pubescens*.

119. *C. TRACHYPUS*, *Mart. ! Fl. Bras. Cæsalp.* 122. *Foliola* 8–12-juga, obtusa, glabra, subtus pallida; glandulæ inter omnia v. pleraque paria. *Inflorescentia glanduloso-pubescens, viscidula*.

Hab. Tropical America: Brazil, prov. S. Paolo, Minas Geraes, Ceara, and Piauhy.

120. *C. ACURUENSIS*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 122. *Foliola* 10–20 juga, oblonga, obtusa, subtus v. utrinque pubescentia; glandulæ inter plurima v. fere omnia paria. *Inflorescentia glanduloso-pubescens, viscidula*.

Hab. Tropical America: Brazil, prov. Bahia.

††† *Foliola* 18–60-juga, *inflorescentiæ pubes eglandulosa*.

121. *C. MULTIJUGA*, *Rich. in Act. Soc. Hist. Nat. Par.* 108. Ramuli tomentoso-pubescentes glabrative. *Foliola* 18–40-juga, lineari-oblonga, semipollice longiora, glabra v. subtus pubescentia; glandula inter par infimum. Racemi ample paniculati.—*Fl. Bras.* 132, t. 37.

C. calliantha, G. F. W. Mey. *Prim. Fl. Esseq.* 169.

C. Richardiana, Kunth!, *Mim.* 139, t. 42.

C. Selloi, G. Don!, *Gen. Syst.* ii. 442.

C. fulgens, Wall.!, *Cat. Herb. Ind.* n. 5310.

C. magnifica, Mart.!, *herb., Fl. Bras.* 106. n. 141.

C. semifalcata, Vell. *Fl. Flum.* 167; *Ic.* 4, t. 68.

C. ampliflora, Steud.!, in *Flora*, 1843, 760.

Var. *LINDLEYANA*, ramulis petiolis inflorescentiaque molliter fulvo-tomentosis.

C. Lindleyana, Gardn.!, in *Hook. Lond. Journ.* ii. 341.

Hab. Tropical America: from South Brazil, Tucuman, and Eastern Peru to Guiana, Columbia, and Central America; also Mexico and West Indies, but perhaps there cultivated only.

122. *C. VERRUCOSA*, *Vog. ! Syn. Cass.* 38. Tenuiter tomentella v. glabra. *Foliola* 30–60-juga, linearia, pleraque semipollice breviora. Cætera *C. multijugæ*.—*Fl. Bras.* 133.

C. centijuga, Wawra in *Flora*, 1864, 248.

Hab. Tropical America: Brazil, prov. Rio Janeiro and Bahia.

This may be a variety only of the common *C. multijuga* with more numerous leaflets, the *C. centijuga* of Wawra (if I am correct in referring to it Pecholt's specimens in herb. Mart.) having sometimes more than 60 pairs.

123. *C. MUTISIANA*, *Kunth!, Mim.* 142, t. 43. Ramuli pilis longis patentibus hirsutissimi. *Foliola* 40–50-juga, linearia, subtus pubescentia; glandulæ inter omnia paria.

Hab. Tropical America: Columbia.

Series 4. *Auriculatæ*. *Antheræ suberostres*. *Legumen planum, latiusculum, marginatum*. *Foliola pauci- v. plurijuga*. *Stipulæ foliaceæ, semicordatæ v. oblique reniformes*.

The three species I have here collected have a very different aspect from that of the other interglandular

Chamæsennas. The American one has the habit of the shrubby *Prosopermas*, the Asiatic and African ones approach more to the *Psilorhegmas*; and all have the pod of some species of the latter section. The stipules distinguish them from all other *Chamæsennas* except *C. stipularis*, which might, indeed, be included in the present group, but that its general habit and affinities seem to be rather with the other Chilian species with which I have associated it.

* *Brasiliana*, *foliolis majusculis*, 3-4-jugis.

124. *C. RENIFORMIS*, *G. Don*, *Gen. Syst.* ii. 440. Pubescens. Foliola 3-4-juga. Stipulæ foliaceæ, subreniformes, persistentes. Racemi subcorymboso-paniculati. Legumen latiusculum.—*Fl. Bras.* 124.

Hab. Tropical America: Brazil, prov. Minas Geraes.

** *Gerontogea*, *foliolis* 8-14-jugis.

125. *C. AURICULATA*, *Linn. Spec. Pl.* 542. Foliola 8-12-juga, ovalia, obtusa, glabra v. subtus pubescentia. Stipulæ foliaceæ, rotundato-semicordatæ.

Senna auriculata, *Roxb. ! Fl. Ind.* ii. 349.

Hab. Tropical Asia: East-Indian peninsula.

There is no specimen of this species in the Linnæan herbarium.

126. *C. DELAGOENSIS*, *Harv. ! Fl. Cap.* ii. 272. Foliola 8-14-juga, oblongo-lanceolata, acuta v. acuminata, glabra v. subtus puberula. Stipulæ foliaceæ, falcatæ, semicordatæ.

Hab. Subtropical South Africa: Delagoa Bay, *Forbes*.

B. Eglanulosæ.

Series 5. Floridæ. *Folia eglandulosa*. *Racemi axillares v. in paniculam terminalem corymbosam v. amplam dispositi*. *Legumen sæpius elongatum, planum, marginibus incrassatis*.

* *Parvifoliæ*, *foliolis parvis pauci- v. multijugis*.

† *Legumen elongatum, marginibus nerviformibus*.

127. *C. WISLIZENI*, *A. Gray !, Pl. Wright.* i. 60 (*Smiths. Contr.* iii.). Foliola 4-7-juga, obovata v. late oblonga, sub-3-linearia. Racemi axillares, pedunculati, pauciflori. Flores majusculi. Legumen planum, 3-4 poll. longum, 3-4 lin. latum, marginibus nerviformi-incrassatis.

Hab. Subtropical North America: New Mexico and West Texas.

†† *Legumen brevius, latiusculum, suturis membranaceo-alatis*.

128. *C. GALEOTTIANA*, *Martens ! in Bull. Acad. Brux.* x. 2, 305. Foliola 4-7-juga, obovata, quam in *C. polyantha* minora et magis coriacea. Legumen idem.

Hab. Tropical America: Mexico, *Galeotti*, n. 3227, *Liebmann*.

129. *C. POLYANTHA*, *Moç. et Sess. in Collad. ! Hist. Cass.* 112, t. 2. Pubescens. Foliola 8-14-juga, oblonga, raro semipollicem longa. Flores parvuli, racemis corymboso-paniculatis.

C. Browniana, *Kunth !, Mim.* 135, t. 41.

Hab. Tropical America: Mexico, prov. Oaxaca.

** Molles. *Foliola paucijuga, canescentia, subtus v. utrinque molliter pubescentia v. villosa. Legumen elongatum, planum, crassiusculum, valvulis coriaceis, marginibus crassis nec nerviformibus.*

130. *C. LÆTA, H. B. et K.! Nov. Gen. et Sp. vi. 340. Foliola 3-4-juga, ampla, acuminata, (3-5-pollicaria,) supra parce subtus molliter tomentosa.*

Cathartocarpus letus, G. Don, Gen. Syst. ii. 454.

Hab. Tropical America: near Guayaquil.

We have no specimen of this species; but from a cursory glance at the one in the Humboldtian herbarium at Paris it appeared to me to be allied to, but distinct from, the two following, and remarkable for the size of the leaflets.

131. *C. EMARGINATA, Linn.! Spec. Pl. 538. Foliola 3-5-juga, rarius hinc inde bijuga, lata, obtusissima, supra pubescentia, subtus molliter tomentosa. Racemi breves, axillares v. ad nodos defoliatos fasciculati. Bracteæ parvæ, caducæ.*

C. arborescens, Mill.! Dict. n. 15.

C. elliptica, H. B. et K.! Nov. Gen. et Sp. vi. 356.

C. canescens, H. B. et K.! Nov. Gen. et Sp. vi. 357.

C. grisea, A. Rich. Fl. Cub. i. 493, ex char.

C. chrysophylla, A. Rich. Fl. Cub. i. 500, ex char.

Hab. Tropical America: Columbia, Central America, West Indies.

This species varies much in the breadth of the leaves. The anthers are sometimes quite glabrous, sometimes sprinkled with rather rigid short hairs.

132. *C. ATOMARIA, Linn. Mant. 68. Foliola 3-4- rarius 5-juga, ovata v. ovali-elliptica, acutiuscula v. acuminata, (1-3 poll.,) molliter pubescentia. Inflorescentia flores et legumina C. emarginatæ.*

C. nutans, Collad. Hist. Cass. 113, t. 4.

C. mollissima, Humb. et Bonpl. in Willd. Enum. Hort. Berol. 440, ex descr.

C. graveolens, Colla, Hort. Ripul. App. ii. 343? ex descr. (specimina descripta nondum floruerunt).

Hab. Tropical America: Mexico, Central America, Guayaquil, *Pavon.*

Very closely allied to *C. emarginata*, differing in the less obtuse, often acute or acuminate leaflets. Linnæus's specimen is a young seedling in leaf only, but it appears to be the same plant as the one grown in the Montpellier and other Continental botanic gardens as *C. atomaria*.

Var. GLABRATA, racemis longioribus multifloris, foliolis amplis obtusioribus.

Hab. "New Spain," *Pavon in herb. Boiss.*

133. *C. PERALTEANA, H. B. et K.! Nov. Gen. et Sp. vi. 356. Foliola 4-juga, oblonga, obtusa, supra puberula, subtus canescenti- v. aureo-pubescentia. Racemi folia æquant.*

Hab. Tropical America: Mexico, near Campechy.

134. *C. ANDRIEUXII, Benth. in herb. DC. Foliola 3-4-juga, ovata v. obovato-oblonga, obtusa, mollia, supra velutina, subtus dense cano-tomentosa v. lanata. Racemi elongati, floribundi, bracteis persistentibus. Legumen longum, pubescens.*

Hab. Tropical America: Mexico, *Andrieux, n. 414, Bates.*

Ramuli petioli inflorescentiaque dense mollissimeque pubescentes v. lanati. Foliola breviter petiolulata, crassa, mollissima, $\frac{1}{2}$ -1-pollicaria, petiolo communi (in ramulis floridis) 2-2 $\frac{1}{2}$ -pollicari. Racemi pedunculati, conferti, nunc breves folia parum excedentes, nunc 4-5-pollicares dense floribundi. Flores majusculi. Bracteæ oblongæ, acuminatæ, concavæ, diu persistentes, rufo-lanatæ. Pedicelli $\frac{1}{2}$ -1-pollicares. Sepala mem-

branacea, lanata, inæqualia, 3-5 lin. longa. Petala 6-9 lin. longa. Antheræ 7 parum inæquales, obtusæ. Legumen villosum, rectum, planum, marginatum, subsemipedale, 4 lin. latum, valvulis membranaceis.

135. *C. LIEBMANNI*, *Benth.*, sp. n. Foliola 6-10-juga, ovalia v. oblonga, obtusa, supra subvelutina, subtus canescenti-tomentosa v. villosa. Racemi laxi, foliis breviores. Bracteæ lanceolatae, subpersistentes. Legumen pubescens.

Hab. Tropical America: Mexico, prov. Oaxaca, *Liebmann*.

Ramuli petioli et inflorescentia molliter rufo-pubescentes. Folia 6-8 poll. longa; foliola $\frac{3}{4}$ -1 $\frac{1}{4}$ poll. longa, mollia, basi obliqua. Racemi pedunculati, pedicellis $\frac{1}{2}$ - $\frac{3}{4}$ poll. longis. Sepala crassiuscula, mollia, rufo-pubescentia, 2 $\frac{1}{2}$ -3 lin. longa. Petala subduplo longiora.

*** Paniculatæ. *Foliola nunc ampla plurijuga, nunc oblonga multijuga. Racemi in paniculam amplam pyramidatam dispositi.*

† *Americanae.*

136. *C. SAPINDIFOLIA*, *Vog.!* *Syn. Cass.* 34. Foliola 4-6- (rarius 2-3-)juga, ovata v. ovali-oblonga, 3-5-pollicaria, glabra.—*Fl. Bras.* 124.

Hab. Tropical America: Brazil, prov. Bahia.

137. *C. SYLVESTRIS*, *Vell. Fl. Flum.* 169; *IC.* iv. 78. Foliola 7-8-juga, ovato-oblonga v. lanceolata, basi subcordata, 2-4-pollicaria, subtus ferrugineo- v. sordide tomentosa. Legumen variat 4-8 poll. longum, 5-12 lin. latum.—*Fl. Bras.* 126, t. 38.

Hab. Tropical America: Brazil, prov. Minas Geraes, Goyaz, and Mattogrosso, Bolivia, Santa Anna, Chiquitos, *D'Orbigny*.

C. punctata, Scheele, in Linnæa, xvii. 336 (non Vog.), may possibly be a form of *C. sylvestris*, too imperfectly described for identification.

138. *C. RACEMOSA*, *Mill.!* *Dict. ed.* 8, n. 19. Foliola 8-10-juga, oblongo- v. ovato-lanceolata, sæpius acuta, 2-4-pollicaria, glabra v. subtus minute puberula.—*Fl. Bras.* 126.

C. lucens, Vog. *!* *Syn. Cass.* 46.

C. trinitatis, Benth. *!* in Hook. Journ. Bot. ii. 77, non Reichb.

C. floribunda, Griseb. Pl. Lechl. n. 2507, non Cav.

Hab. Tropical America: North Brazil, British Guiana, Columbia, Peru, and perhaps introduced into Asiatic Gardens, a specimen from Siam, *Schomburgk*, n. 251, in excellent flower and fruit, being undistinguishable from those American ones which have rather broad leaflets.

139. *C. DOMINGENSIS*, *Spreng.!* *Neue Entd.* iii. 55. Foliola 4-8-juga, ovato-lanceolata v. lanceolata, cuspidata, glabra, 1 $\frac{1}{2}$ -2-pollicaria, cætera *C. racemosæ* nisi calyx glabrior et flores paullo minores. Legumen 2-3 poll. longum, 4-5 lin. latum.

Hab. Tropical America: Hayti, *Bertero*, *Swartz*; Cuba, *Wright*, n. 150.

This is very closely allied to *C. racemosa*, differing chiefly in the somewhat fewer leaflets and more glabrous calyx. The fragmentary fruiting specimen in the Banksian herbarium which, on a hasty glance, Vogel referred to *C. domingensis*, evidently belongs to some Dalbergieous or Sophoreous shrub.

†† *Gerontogææ.*

140. *C. SIAMEA*, *Lam. Dict.* i. 648. Foliola 6-10-juga, rarius plura, ovali-oblonga, obtusa, subcoriacea, glabra, sub-2-pollicaria.

C. florida, Vahl, *Symb.* iii. 57.

C. Sumatrana, Roxb. *!* Hort. Beng. 31.

C. gigantea, Berter. *!* in DC. Prod. ii. 492.

Senna sumatrana, Roxb.! Fl. Ind. ii. 347.

Chamæfistula gigantea, G. Don, Gen. Syst. ii. 452.

Cassia arborea, Macfad.!, Fl. Jam. i. 343.

Hab. Tropical Asia: Eastern archipelago and East India, but in many places introduced. Introduced also into Tropical America.

This has long been grown in gardens both in East India and in Jamaica and other American settlements. It appears to be truly indigenous in Ceylon, the Indian and Malayan peninsulas, the Eastern archipelago, and Siam, whence we have had specimens from Sir R. Schomburgk under the nos. 122 and 212.

141. *C. MONTANA*, Heyne! in Roth. Nov. Sp. Pl. 214. Foliola 10–16-juga, anguste oblonga, obtusa, glabra, nunc vix pollicaria, nunc 1–2-pollicaria. Stipulæ caducissimæ, parvæ, rarius basi subdilatatæ.

C. setigera, DC.! Prod. ii. 499.

Senna glauca, Roxb.! Fl. Ind. ii. 351.

Hab. Tropical Asia: E. Indian peninsula.

A specimen in fruit from Nossibé, off the coast of Madagascar, Boivin, in herb. Hook., is very much like this species, but with a much broader pod.

142. *C. LAXIFLORA*, Benth.! Fl. Austral. ii. 283. Foliola 10–20-juga, anguste oblonga, obtusa, molliter tomentoso-pubescentia, vix pollicaria. Bractææ inconspicuæ.

Hab. Tropical Australia.

143. *C. TIMORENSIS*, DC.! Prod. ii. 499. Foliola 10–20-juga, anguste oblonga, obtusa, subtus pubescentia, vix pollicaria. Stipulæ reniformes, caducæ v. rarius subpersistentes, interdum in panícula terminali ad basis racemorum bractæas simulantes.

C. palmata, Wall.! Cat. Herb. Ind. n. 5306.

Hab. Tropical Australia, Ceylon, Burmah, Eastern Archipelago.

Series 6. Pictæ. *Folia eglandulosa v. rarius glandulæ minutæ parum conspicuæ inter foliola. Racemi in summis axillis v. pseudo-terminales, ante anthesin bracteis latis membranaceis imbricatis sæpius strobilacei, per anthesin elongandi. Petala venis intense coloratis picta. Legumen sæpe latum, planum v. valvulis medio ad semina elevatis cristatis v. longitudinaliter alatis.*

* *Subglabra, legumine alato.*

144. *C. ALATA*, Linn. Spec. Pl. 541. Foliola 8–14-juga, ampla, obovata v. oblonga, obtusissima. Stipulæ obliquæ, acuminatæ, persistentes at parvæ. Bractææ amplæ.—*Fl. Bras.* 126; *Oliv.*! *Fl. Trop. Afr.* ii. 275.

C. bracteata, Linn. f. Suppl. 232.

C. herpetica, Jacq.! Obs. ii. 24, t. 45. f. 2 (ic. partis folii tantum).

Senna alata, Roxb.! Fl. Ind. ii. 349.

Hab. Tropical Asia, Africa, and America.

** *Pubescentes, rarius subglabræ, legumine exalato.*

145. *C. RETICULATA*, Willd. Enum. Hort. Berol. 443. Foliola 9–12-juga, oblonga, obtusa v. mucronata. Stipulæ lanceolato-falcatae, subpersistentes. Bractææ amplæ. Legumen transverse inter semina leviter elevatum.—*Fl. Bras.* 127.

C. strobilacea, H. B. et K.! Nov. Gen. et Sp. vi. 347.

C. Tarantan, H. B. et K.! l. c. 348.

C. dumetorum, Bert.! in DC. Prod. ii. 499.

Hab. Tropical America: N. Brazil, Guiana, Columbia, and Central America.

146. *C. PISTACIÆFOLIA*, *H. B. et K.!* *Nov. Gen. et Sp.* vi. 349. Fruticosa v. arborea. Foliola 6–12-juga (rarius 4–5-juga), oblonga, obtusa, $1\frac{1}{2}$ –3-pollicaria, coriacea, glabra v. subtus pubescentia. Stipulæ caducissimæ. Racemi ad apices ramorum conferti, subpaniculati, pubescentes. Bracteæ 2–3 lin. longæ, caducæ v. obsoletæ. Legumen 2–3-pollicare, planissimum.

Var. GLABRA.

C. fraxinifolia, *H. B. et K.!* *Nov. Gen. et Sp.* vi. 349.

C. cuspidata, Willd. Enum. Hort. Berol. 443, ex Vog.

Hab. Tropical America: Columbia, *Humboldt and Bonpland*; Antioquia, *Triana*.

The leaflets appear to vary considerably on different branches, from few and large to numerous and small, quite glabrous or pubescent underneath, especially when young.

147. *C. NOTABILIS*, *F. Muell.!* *Fragm.* iii. 28. Villosæ. Foliola 9–15-juga, ovato-lanceolata v. oblonga, acuta v. infima obtusa cum mucrone. Stipulæ angustæ, caducæ. Racemi longe pedunculati. Bracteæ lanceolatae, caducæ.—*Benth. Fl. Austral.* ii. 284.

Hab. Tropical Australia.

148. *C. VENUSTA*, *F. Muell.!* *Fragm.* i. 165. Sequenti *C. didymobotryæ* simillima, nec distinguenda nisi foliis majoribus, foliolis 1–2-pollicaribus, floribus per contra dimidio minoribus.—*Benth. Fl. Austral.* ii. 284.

Hab. Tropical Australia.

149. *C. DIDYMOBOTRYA*, *Fresen. in Flora*, 1839, 53. Foliola 7–15-juga, oblonga, $\frac{3}{4}$ – $1\frac{1}{2}$ pollicaria. Stipulæ cordato-ovatae, aristatae, subpersistentes. Bracteæ ovatae, caducissimæ. Legumen planum.—*Oliv.!* *Fl. Trop. Afr.* ii. 276.

Hab. Tropical Africa.

150. *C. MARTIANA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 127. Foliola 15–20-juga, oblongo-lanceolata, acuta v. obtusiuscula. Stipulæ foliaceæ, semicordatae, persistentes. Bracteæ amplæ. Leguminis valvulae ad semina singula convexæ.

Hab. Tropical America: Brazil, prov. Bahia.

*** *Glaberrimæ, legumine exalato.*

151. *C. ACULEATA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 128, t. 39. Aculei sparsi. Foliola 10–14-juga, oblonga, spinoso-mucronata. Stipulæ cordato-ovatae, 1–2-pollicares. Bracteæ ovatae. Legumen planum.

Hab. Tropical America: Brazil, prov. Piahy and Goyaz.

152. *C. PARADICTYON*, *Vog.!* *Syn. Cass.* 45. Herbacea v. suffruticosa. Foliola 4–8-juga, ampla, obovata v. late oblonga, obtusissima. Stipulæ cordato-ovatae, infrapollicares. Bracteæ ovatae v. ovato-oblongæ.—*Fl. Bras.* 128.

Hab. Tropical America: South Brazil.

153. *C. MAGNIFOLIA*, *F. Muell.!* *Fragm.* i. 166. Foliola 4–8-juga, late ovata, obtusissima, coriacea. Stipulæ ovatae, marginibus basi recurvis. Legumen planum.—*Benth. Fl. Austral.* ii. 283.

Hab. Tropical Australia.

154. *C. PODOCARPA*, *Guill. et Perr.!* *Fl. Seneg.* 259. Foliola 3–5-juga, ampla, ovalia obtusa, membranacea. Stipulae parvae, semiovae, reflexae, caducae. Bractee ovatae. Leguminis valvulae ad semina singula transverse elevatae.—*Oliv.!* *Fl. Trop. Afr.* ii. 276.

C. Afzeliana, Vog. in *Linnaea*, xv. 70.

Hab. Tropical Africa.

155. *C. NICARAGUENSIS*, *Benth.*, sp. n. Foliola 10–15-juga, oblonga, mucronato-acuta. Stipulae reniformi-falcatae, acuminatae. Bractee amplae. Leguminis valvulae medio ad singula semina elevatae.

Hab. Tropical America, Mexico, and Central America, *Seemann, Ersted.*

Foliola quam in *C. picta* multo angustiora, subsessilia. Stipulae maximae, saepe pollicares, semicordato-reniformes, acutissime acuminatae. Bractee $\frac{3}{4}$ –1-pollicares. Legumen 3–4 poll. longum, 6–8 lin. latum.

156. *C. PEARCII*, *Benth.*, sp. n. Foliola 6–8-juga, ovata v. ovali-oblonga, obtusa, aristato-mucronata. Stipulae caducissimae. Bractee ovatae. Antherae majores basi longe aristato-sagittatae.

Hab. Tropical America: Bolivia, La Bama, at an elevation of 9000–10000 feet, *Pearce.*

Frutex 6–10-pedalis, undique glaberrimus. Foliola sessilia, basi semicordata, $1\frac{1}{2}$ –3-pollicaria, rigida, venosa, late virentia. Petiolus communis teres, eglandulosus. Racemi in axillis supremis subterminalesque, elongati. Bractee ovatae, acuminatae, membranaceae, coloratae, 3–4 lin. longae, caducissimae. Pedicelli semipollicares v. paullo longiores. Sepala petaloidea, interiora $\frac{3}{4}$ -pollicaria. Petala venosa, calyce paullo longiora. Antherae 2 majores 7–8 lin. longae, incurvae, auriculis longis acutissimis basi sagittatae, infima brevis sterilis auriculis divaricatis, 4 intermediae 3 lin. longae, auriculis brevibus; staminodia 3 laminis deltoideis. Ovarium glabrum. Legumen haud suppetit.

157. *C. PICTA*, *G. Don!*, *Gen. Syst.* ii. 444. Foliola 4–6-juga, ovali-elliptica, obtusa v. emarginata, membranacea. Stipulae caducissimae. Bractee ovatae. Leguminis valvulae medio ad semina in lineam continuam longitudinalem elevatae.

C. applanata, N. J. Anders. Galap. Veget. 254.

Hab. Tropical America: Ecuador and Galapagos Islands.

Series 7. Brachycarpae. *Folia eglandulosa. Racemi axillares, per anthesin elongandi. Bractee membranaceae in racemo nascente alabastra occludentes ut in Pictis, per anthesin caducae. Legumen breve, latum, arcuatum, obliquum v. rectum, planissimum v. valvulis medio ad semina elevatis subcristatis. Species omnes gerontogae. (Genus Senna, Batka.)*

The synonymy and distinctive characters of the species of this section have been most carefully and accurately worked up by Wenzel Batka, of Prague, from whose 'Monographie des Cassien Gruppe Senna,' 1866, I have chiefly taken the following abstract, omitting several of the purely pharmaceutical synonyms, for the details of which I must refer to his work. I cannot, however, agree with him in raising the group to the rank of a genus: all the characters he gives pass so gradually into the usual *Cassia* characters through several species of the *Pictae* group (little or not at all known to Batka) that Vogel and others of his predecessors, in admitting a section *Senna*, have included in it more or less of those connecting species; and Vogel finally expressed his opinion that *Senna* must be given up as a section distinct from *Chamaesenna*.

158. *C. PLEUROCARPA*, *F. Muell.!* *Fragm.* i. 223. Glabra. Foliola sub-5-juga, oblongo-lineararia. Legumen rectum, valvulis medio ad semina singula cristatis.—*Benth. Fl. Austral.* ii. 284.

Hab. Tropical and extratropical Western Australia.

Although the pod in this species is straighter than in any of the African and Asiatic ones, yet it clearly forms one of the group. In Lindley's herbarium there is a specimen from Swan River, *Mangles*, with narrower leaflets and longer leaves and racemes than in any others, which appears to belong to this species; but the pod is not sufficiently advanced to determine it accurately.

159. *C. ADENENSIS*, *Benth.* Foliola 3–8-juga, ovata, glabra. Legumen stylo laterali, subfalcatum, planum, ecristatum.

Senna Hookeriana, Batka!, Monogr. Senn. 37, 52, t. 5.

Hab. Tropical Asia: Aden.

160. *C. OBOVATA*, *Collad.!* *Hist. Cass.* 92, t. 15. Foliola 3–7-juga, obovata, glabra. Legumen falcatum, valvulis medio ad semina singula cristatis.—*Oliv.!* *Fl. Trop. Afr.* ii. 277.

C. senna, Linn. Spec. Pl. 539, ex parte.

C. ligustrina, Mill. ! Diet. n. 12, et auct. nonnull. antiq. non Linn.

C. porturegulensis, Bancr. Nat. Hist. Gui. ex Batka.

C. Burmanni, Wall. in Madr. Journ. ex Batka.

Senna obtusa, Roxb. ! Fl. Ind. ii. 344.

Cassia obtusa, Roxb. ! Hort. Beng. 31; Wight, Ic. t. 757.

C. arachoides, Burch. ! Trav. i. 341.

Senna obovata, Batka!, Monogr. Senn. 32, 46, t. 3, cum syn. plur. pharmacolog.

Hab. Tropical and Southern Africa and Western Asia to the Indian peninsula; the Asiatic specimens mostly with smaller flowers than the African ones.

161. *C. HOLOSERICEA*, *Fresen. in Flora*, 1839, 54. Foliola 5–8-juga, obovata ovata v. oblonga, pubescentia. Legumen planum, ecristatum, falcatum.

C. pubescens, R. Br. ! in Salt's Exped. App. 64 (nomen tantum); *Oliv.!* *Fl. Trop. Afr.* ii. 278, non Jacq.

C. Saltiana, Steud. Nom. Bot. ed. 2.

C. cana, Wender. in Linnæa, xii. 22, non Nees.

C. Schimper, Steud. Nom. Bot. ed. 2; Bisch. in Bot. Zeit. 1850, 884.

Senna ovalifolia, Batka!, Monogr. Senn. 35, 50, t. 4.

Hab. Tropical Africa.

A specimen of this species is in the Copenhagen herbarium with Forskål's label "*Cassia Aschrek*, from Moor;" but the short character he gives, *Fl. Æg. Arab.* 86, must be taken, partly at least, from some very different species.

162. *C. ACUTIFOLIA*, *Delile, Fl. Æg.* ii. 259, t. 27. Foliola 4–5-juga, acuta, puberula v. glabra. Legumen stylo laterali, subfalcatum, planum, 9–12 lin. latum.—*Oliv.!* *Fl. Trop. Afr.* ii. 278.

C. senna β, Linn. Sp. Pl. 539.

C. lanceolata, Collad. ! *Hist. Cass.* 93, t. 15. C., et auct. plur. non Forsk.

C. lenitiva, Bisch. in Bot. Zeit. 1850, 885, ex Batka.

C. orientalis, Pers. Syn. Pl. i. 457, pro parte ex Batka.

Senna acutifolia, Batka!, Monogr. Senn. 27, 41, t. 1.

Hab. Tropical Africa.

163. *C. ANGUSTIFOLIA*, *Vahl, Symb.* i. 29. Foliola 5–8-juga, acuta, glabra. Legumen stylo sublaterali, rectiusculum, planum, 7–8 lin. latum.—*Oliv. Fl. Trop. Afr.* ii. 279.

C. lanceolata, Royle !, Illustr. t. 37, et auct. plur. non Forsk.

C. ligustrinoides, Schrank in Denksch. Akad. Münch. vi. 179, ex Batka.

C. decipiens, Desv. ! Journ. Bot. iii. (1814) 73.

C. Ehrenbergii, Bisch. in Bot. Zeit. 1844, 51, ex Batka.

C. medicinalis, Bisch. in Bot. Zeit. 1850, 887, ex Batka.

Senna angustifolia, Batka!, Monogr. Senna, 30, 44, t. 2.

Senna officinalis, Roxb.! Fl. Ind. ii. 346.

Hab. Tropical Africa.

Sectio 6. PSILORHEGMA.

Stamina 10, omnia perfecta, filamentis brevibus; antheræ æquales v. inferiores paullo longiores, apice truncatæ v. in rostrum brevissimum contractæ, loculis primum poris oblongis seu rimis brevissimis terminalibus dehiscentibus, demum secus suturas laterales sæpe plus minus hiantibus. Legumen et semina *Chamæsennæ*. Folia interglandulosa v. eglandulosa. Racemi axillares v. ad apices ramorum subcorymboso-conferti, pedicellis ad apicem pedunculi subumbellatim confertis. Species omnes gerontogææ, imprimis Australasiæ.

Series 1. Interglandulosæ. *Glandulæ ovatæ oblongæ v. tennes, inter foliolorum par infimum v. paria plurima v. omnia.*

* *Pedunculi 2-3-flori.*

164. *C. LEPTOCLADA*, Benth.! *Fl. Austral.* ii. 290. Glabra, glauca. Foliola 2-juga, obovata v. oblonga, obtusissima. Pedunculi brevissimi, pedicellis filiformibus. Legumen rectum, orbiculare v. oblongum.

Hab. Tropical Australia, north coast.

165. *C. GONIOIDES*, A. Cunn.!; Benth. in Hook. *Ic. Pl.* xi. 48, t. 1061. Glabra v. pubescens. Foliola 2-3-juga, lanceolata v. ovato-lanceolata, acutissima. Pedunculi petiolo æquilongi. Legumen valde arcuatum.

Hab. Tropical Australia: N.W. coast, A. Cunningham (accidentally overlooked in Fl. Austral.).

166. *C. DIVARICATA*, Nees! in Syll. Pl. Nov. Ratisb. i. 94. Foliola 8-12-juga, oblonga, obtusa, subtus pallida v. glauca. Flores ampli. Antheræ inæquales, majores subrostratæ. Legumen elongatum, angustum.

C. adenantha, Zoll. et Mor.! Verz. 2.

C. bifida, Zoll. in Nat. en Geneesk. Arch. iv. 68, ex Miq.! Fl. Ind. Bat. i. pars i. 98.

Hab. Tropical Asia: Eastern archipelago.

This species closely resembles in foliage and inflorescence the Brazilian *C. biflora* var. *rostrata*. The gland is the same, but sometimes placed a little below the lowest pair of leaflets. The flowers are rather longer; and the stamens, though similar in shape and inequality, appear to be always all ten perfect, and the lateral ridges often split open. The pod is much longer.

** *Pedunculi subumbellatim v. racemoso-pluri- v. multiflora.*

167. *C. DEPLANCHEI*, Benth., sp. n. Foliola 2-3-juga, obovata v. ovalia, supra nitida, subtus pallida. Flores parvuli, subumbellati. Legumen latiusculum, rectum v. leviter incurvum.

Hab. New Caledonia, Deplanche, n. 342.

Very near *C. Gaudichaudi*; but the leaflets are fewer, broader, more coriaceous, the racemes more umbel-like, the flowers fewer, and the common peduncle very short. The flowers and fruit are otherwise the same in both.

168. *C. GAUDICHAUDI*, *Hook. et Arn. ! Bot. Beech. Voy.* 81. Foliola 3–5-juga, elliptico-oblonga v. ovalia, obtusa, concoloria, glabra v. pubescentia. Flores parvuli, racemosi. Legumen latiusculum, rectum v. leviter incurvum.

Hab. Sandwich Islands.

This varies much in the breadth of the pod as well as in the foliage, glabrous or pubescent.

169. *C. GLAUCA*, *Lam. Dict.* i. 647. Foliola 4–10-juga, ovalia v. elliptico- v. obovato-oblonga, obtusa, supra glabra, subtus glauca, sæpius puberula. Flores majusculi. Bracteæ acuminatæ. Legumen rectum, elongatum, latiusculum, costis transversis extus inter semina siccitate prominulis.

C. surattensis, Burm. Fl. Ind. 97.

C. arborescens, Vahl, Symb. iii. 56 (glandula inter par infimum).

Senna arborescens, Roxb. ! Fl. Ind. ii. 345.

Cassia fastigiata, Vahl, Symb. iii. 57, ex descr. (glandulis inter omnia paria).

C. speciosa, Roxb. ! Hort. Beng. 31.

Senna speciosa, Roxb. ! Fl. Ind. ii. 347.

Cassia suffruticosa, Kæn. ! in Roth. Nov. Sp. Pl. 213; Benth. Fl. Austral. ii. 285.

C. enneaphylla, Kæn. ex W. et Arn. Prod. Fl. Penins. Ind. Or. 289.

C. discolor, Desv. ! Journ. Bot. iii. (1814) 73.

C. sulphurea, DC. ! in Collad. Hist. Cass. 84.

C. Sieberi, Presl, ex ejusd. Bot. Bem. 64.

C. Horsfieldii, Miq. ! Fl. Ind. Bat. i. pars i. 99.

C. acclinis, F. Muell. ! Fragm. Phyt. Austral. iv. 13.

Hab. Tropical Asia and Australia, and long since cultivated in gardens in the West Indies, as well as in tropical Asia.

Although *C. glauca* and *C. suffruticosa* are usually considered distinct species, the former with leaves often twice as large as in the latter and much more glaucous underneath, I have been quite unable to distribute our numerous Indian specimens even into two distinct varieties. The Australian specimens belong chiefly to the *suffruticosa* type; they are much more variable than the Indian ones, but not in the direction of the large *glauca* type.

The garden specimen representing *C. glauca* in herb. DC. Prod. is a form of *C. lævigata*; and, on the other hand, there are in herb. Hook. specimens of the true *C. glauca*, marked as from the woods of Tucuman and Cordova, *Tweedie*; but probably there is here some mistake.

170. *C. RETUSA*, *Soland. !; Vog. in Linnæa*, xv. 72. Undique molliter pubescens. Foliola 4–6-juga, obovata v. cuneata, sæpius emarginata. Flores mediocres. Bracteæ acuminatæ. Legumen rectum.—*Benth. Fl. Austral.* ii. 285.

Hab. Tropical Australia, N.E. coast.

171. *C. AUSTRALIS*, *Sims, Bot. Mag.* t. 2676. Glabra v. laxè pubescens. Foliola 6–12- (sæpius 8–10-)juga, oblongo-lanceolata v. rarius linearia, obtusa v. acuta. Bracteæ parvæ, latæ, obtusæ. Legumen rectum v. arcuatum.—*Benth. Fl. Austral.* ii. 285; *Bot. Reg.* t. 1322.

C. umbellata, Reichb. Icon. Exot. t. 206.

C. Schultesii, Colla, Hort. Ripul. App. ii. 344, et iii. t. 10.

C. Barrenfieldii (serius in *C. Fieldii* mutata), Colla, Hort. Ripul. App. iv. 23, t. 11.

C. coronilloides, A. Cunn. ! Benth. in. Mitch. Trop. Austral. 384.

C. Fraseri, A. Cunn. ex Vog.

Var. REVOLUTA, foliolis angustis acutis, margine revolutis.

C. revoluta, F. Muell. ! in Trans. Vict. Inst. 1852, 120.

C. aciphylla, Benth. ! in A. Gray, Bot. Amer. Expl. Exped. i. 465.

Hab. Extratropical and subtropical E. Australia.

172. *C. CHATELAINIANA*, *Gaud. in Freyc. Voy.* 485, t. 111. Glabra. Foliola 3-5-juga, linearia, obtusa. Bracteæ ovatæ, obtusæ. Legumen rectum, latiusculum.—*Benth. Fl. Austral.* ii. 286.

Hab. Extratropical W. Australia.

Series 2. Subverrucosæ. *Glandulæ v. nullæ v. obscuræ depressæ adnatæque.*

173. *C. GLUTINOSA*, *DC. ! Prod.* ii. 495. Glutinosa, glabra. Foliola 4-5-juga, anguste oblonga v. oblongo-linearia. Legumen rectum.—*Benth. Fl. Austral.* ii. 286.

Hab. Tropical Australia, N. coast.

Vogel distinguished a narrow-leaved state of this plant under the name of *C. quadriflora*.

174. *C. PRUINOSA*, *F. Muell. ! Fragn.* iii. 48. Glauca, cæterum glabra. Foliola 3-5-juga, oblongo-elliptica. Stipulæ foliaceæ, semicordatæ. Legumen rectum.—*Benth. Fl. Austral.* ii. 286.

Hab. Tropical and subtropical Australia: N.W. coast and Central Australia.

175. *C. CIRCINATA*, *Benth. ! in Mitch. Trop. Austral.* 384. Glabra v. canescens. Folia phyllodinea, lineari-teretia, fere filiformia, foliolis nullis. Pedunculi 1-2-flori. Legumen valde arcuatum v. annulare.—*Benth. Fl. Austral.* ii. 286.

Hab. Tropical and subtropical E. and Central Australia.

176. *C. PHYLLODINEA*, *R. Br. App. Sturt's Exped.* 15. Incana v. subsericea. Folia phyllodinea, linearia, verticaliter compressa, foliolis nullis. Pedunculi pluriflori. Legumen rectum v. leviter incurvum.—*Benth. Fl. Austral.* ii. 287.

Hab. Extratropical Subcentral and Southern Australia.

177. *C. EREMOPHILA* (*lapsu calami C. nemophila*), *A. Cunn. ! in Vog. Syn. Cass.* 47. Glabra v. vix canescens. Foliola 1-2-juga, lineari-subteretia. Legumen rectum. Pedunculi, ut et in 4 sequentibus, apice pluriflori.—*Benth. Fl. Austral.* ii. 287.

C. canaliculata, R. Br. in App. Sturt's Exped. 14.

C. heteroloba, Lindl. ! in Mitch. Three Exped. ii. 122.

Var. PLATYPODA, petiolo verticaliter compresso.

C. platypoda, R. Br. in App. Sturt's Exped. 15.

Var. ZYGOPHYLLA, foliolis magis compressis.

C. zygomphylla, Benth. ! in Mitch. Trop. Austr. 288.

Hab. Extratropical and subtropical E. and Central Australia.

178. *C. ARTEMISIOIDES*, *Gaudich. in DC. Prod.* ii. 495. Incana v. subsericea. Foliola 3-6-juga, lineari-teretia, canaliculata. Legumen rectum, haud latum.—*Benth. Fl. Austral.* ii. 288.

C. teretifolia, Lindl. ! in Mitch. Three Exped. i. 289.

C. teretiuscula, F. Muell. ! in Linnæa, xxv. 389.

Hab. Extratropical and subtropical Subcentral Australia.

179. *C. STURTII*, *R. Br. in App. Sturt's Exped.* 14. Glabra, glauca v. canescens. Foliola 3-6-juga, lineari-lanceolata cuneata, elliptica v. fere obovata. Legumen rectum v. leviter curvulum, latiusculum.—*Benth. Fl. Austral.* ii. 288.

Hab. Extratropical and subtropical Subcentral Australia.

180. *C. DESOLATA*, *F. Muell. ! in Linnæa*, xxv. 389. Junior canescens, demum glabrescens. Foliola 1-3-juga, ovata, obovata v. late oblonga. Legumen *C. Sturtii*?—*Benth. Fl. Austral.* ii. 289.

Hab. Tropical and extratropical Australia: N.W. coast, Central and Southern Australia.

181. *C. OLIGOPHYLLA*, *F. Muell. ! Fragm.* iii. 49. Glabra v. minute pubescens. Foliola 1-2-juga, late obovata. Legumen rectum, latum, obtusissimum.—*Benth. Fl. Austral.* ii. 289.

Hab. Tropical Australia, N.W. coast.

182. *C. OLIGOCLADA*, *F. Muell. ! Fragm.* iii. 49. Molliter pubescens. Foliola 2-4-juga, elliptico-oblonga. Pedunculi 4-6-flori. Legumen breve arcuatum, pubescens.—*Benth. Fl. Austral.* ii. 289.

Hab. Tropical Australia, N. and N.W. coast and in the northern interior.

183. *C. LEPTOCLADA*, *Benth. ! Fl. Austral.* ii. 290. Glabra, glauca, ramis tenuibus. Foliola 2-juga, obovata v. oblonga. Glandulæ ovoideæ. Stipulæ minutæ. Pedunculi 2-flori.

Hab. Tropical Australia, N. coast.

Subgenus III. LASIORHEGMA.

Frutices, herbæ v. rarius arbores. Glandulæ petiolares dum adsint depressæ adnatæ, v. scutelliformes sessiles v. stipitatae. Inflorescentia in sectionibus diversis diversa. Stamina 10, omnia perfecta v. rarius nonnulla deficientia v. ad staminodia difformia reducta; filamenta brevissima; antheræ lineari-oblongæ, subcompressæ, loculis vertice rimis brevibus oblongis apertis, rarius demum secus suturas laterales altius dehiscentibus. Legumen compressum, basi apiceque sæpius obliquum, elasticè bivalvatim dehiscens. Semina transversa v. obliqua, valvulis parallele compressa, funiculis brevissimis adnatis triangularibusve, rarius brevissime linearibus. Cotyledones planæ.

Sectio 7. APOUCOUITA.

Arbores fruticesve. Glandulæ depressæ, scutellatæ v. verruciformes nunc inter v. infra paria foliolorum inferiora v. omnia, nunc obscuræ v. deficientes. Racemi breves e ramis annotinis v. vetustioribus ad nodos defoliatos oriundi. Stamina 10, perfecta; antheræ secus suturas laterales plus minus dehiscentes. Leguminis valvulæ coriaceæ, duræ. Species omnes Americanæ.

184. *C. APOUCOUITA*, *Aubl. ! Pl. Gui.* 379, t. 146. Foliola 2-6-juga, ovata v. ovali-elliptica, acuminata v. rarius obtusiuscula, vix coriacea, venis subdistantibus anastomosantibus; glandulæ interjugales v. nullæ.—*Fl. Bras.* 129, t. 40.

C. acuminata, Willd. Spec. Pl. ii. 517.

C. nitida, Rich. in Act. Soc. Hist. Nat. Par. 108, ex DC. sed char. potius *C. vimineam* indicat.

C. ramiflora, Vog. ! Syn. Cass. 48.

C. adenopoda, Miq. ! in Linnæa, xix. 436.

C. ensiformis, Vell. Fl. Flum. 170 ; Ic. iv. t. 79.

Hab. Tropical America : Brazil from Rio Janeiro to the northern frontier ; French Guiana, Aublet.

185. *C. HYMENEÆFOLIA*, Benth. ! in Mart. Fl. Bras. Cæsalp. 130. Foliola 1-3-juga, falcato-ovata, acuminata, coriacea, subtus pallida, venis crebris subparallelis ; glandula infrajugali.

Hab. Tropical America : N. Brazil, on the Rio Uaupés.

186. *C. ADIANTIFOLIA*, Benth. ! in Mart. Fl. Bras. Cæsalp. 130. Foliola 20-30-juga, longa, obtusa, valde inæquilatera, coriacea, subtus tomentosa ; glandula infrajugali.

Hab. Tropical America : Rio Uaupés, Spruce, n. 2437.

Arbor pulchra, 20-pedalis, ramulis petiolis inflorescentiaque pube minuta ferruginea tomentellis. Folia ad apices ramorum conferta ; foliola obtusa, valde inæquilatera, $\frac{1}{2}$ - $\frac{3}{4}$ poll. longa, petiolo communi 4-6-pollicari. Stipulas non vidi. Racemi ad nodos vetustos defoliatos laterales, sæpe fasciculati, breves, laxè pauciflori, pedunculo communi $\frac{1}{2}$ -1 poll., pedicellis 1-1 $\frac{1}{2}$ poll. longis. Sepala ovata, obtusiuscula, 1 $\frac{1}{2}$ lin. longa. Petala aurea, brevissime unguiculata, majora obovata 6-7 lin. longa, summum latius vix ultra 4 lin. longum. Stamina 10, æquilonga, filamentis brevissimis, antheris crassis 2 $\frac{1}{2}$ lin. longis obtusis ab apice fere usque ad basin rimis lateralibus dehiscentibus. Legumen ab ovario paullo acutum ei *C. Apoucouitæ* simile ; perfectum haud suppetit.

Tab. 63. fig. 1, flower (the upper petal represented rather too long) ; fig. 2, two of the stamens ; fig. 3, ovary (longitudinal section).

Sectio 8. ABSUS.

Frutices suffruticesve Americanæ decandræ v. herbæ annuæ gerontogæ pentandræ. Glandulæ petiolares nullæ, v. rarius infra juga foliolorum depressæ v. adnatæ. Racemi simplices v. ramosi, terminales v. simulque in axillis superioribus, inflorescentia uti interdum fere tota planta plus minus glutinosa v. viscosa. Bracteolæ 2 oppositæ v. alternæ parvæ versus apicem pedicelli sæpissime adsunt, caducæ v. rarius persistentes. Sepala obtusa v. acuta. Petala sæpius parum inæqualia, inferiora majora, summum intimum concaviusculum longiusque unguiculatum. Antheræ ad lineam suturalem lateralem villis minutis albis barbellatæ. Leguminis valvulæ coriaceæ, duræ v. tenues.

Series 1. Absoideæ. *Foliola bijuga, membranacea, sæpius juniora saltem subtus v. utrinque pubescentia (excepta C. barbata), pollice breviora v. vix longiora, petiolo (excepta C. Abso) eglanduloso.*

* *Herba annua gerontogea, floribus parvis pentandris.*

187. *C. ABSUS*, Linn. ! Spec. Pl. 537. Foliola obovata. Racemi terminales v. oppositifolia.—Oliv. ! Fl. Trop. Afr. ii. 279 ; Jacq. f. Ecl. t. 53.

Senna Absus, Roxb. ! Fl. Ind. ii. 340.

C. Thonningii, DC. ! Prod. ii. 500.

C. coccinea, Wall. ! Cat. Herb. Ind. n. 5315.

Grimaldia opifera, Schrank in Denkschr. Akad. Münch. 1808, 109, t. 3.

Cassia exigua, Roxb. Hort. Beng. 31.

Senna exigua, Roxb. Fl. Ind. ii. 339.

Hab. Waste and cultivated places, tropical Africa, Asia, and Australia.

** *Herbæ perennes suffrutices fruticesve Americani, floribus decandris.*

† *Foliola in petiolo communi breviter petiolulata.*

188. *C. HISPIDULA*, *Vahl, Ecl.* iii. 10. Caules procumbentes v. divaricato-ramosi, viscoso-pubescentes et setoso-hispiduli v. rarius glabrati. Foliola obovata v. suborbiculata. Racemi terminales v. oppositifolii, laxiflori.—*Fl. Bras.* 131, t. 35.

C. hispida, Collad. ! Hist. Cass. 118.

C. lotoides, H. B. et K. ! Nov. Gen. et Sp. vi. 361.

C. leiantha, Benth. ! in Hook. Journ. Bot. ii. 78 (varietas caule inflorescentiaque glabratis).

C. fagonioides, Vog. ! Syn. Cass. 50 (varietas pubescens, foliolis floribusque minoribus).

C. procumbens, Mill. ! Dict. ed. 8. n. 20.

C. tetraphylla, Collad. Hist. Cass. 130.

Hab. Tropical America: common in North Brazil, Guiana, Columbia, and Central America.

189. *C. PAUCIFLORA*, *H. B. et K. ! Nov. Gen. et Sp.* vi. 360. Viscoso-pubescent, procumbens adscendens v. suberecta. Foliola oblonga, obtusa v. acuta, sæpius parva. Racemi terminales, breves, pauciflori.—*Fl. Bras.* 131.

C. camporum, Benth. ! in Hook. Journ. Bot. ii. 79.

C. punctulata, Hook. et Arn. ! Bot. Beech. 420 (varietas major, foliolis longioribus acutis, floribus majoribus).

Hab. Tropical America: common in Central America and Mexico, more rare in Brazil.

190. *C. VISCOSA*, *H. B. et K. ! Nov. Gen. et Sp.* vi. 360. Frutex erectus, viscoso-pubescent. Foliola obovata obcordata v. late cuneata. Racemi breves, pluriflori, axillares terminalesque.—*Fl. Bras.* 132.

C. cuneifolia, Vog. ! Syn. Cass. 51, et in Linnæa, xi. 695.

C. viscoso-pilosa, Steud. ! in Flora, 1843, 760.

Hab. Tropical America: Central and North Brazil, Guiana, and Columbia.

191. *C. JACOBINEA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 132. Frutex erectus, sordide viscoso-pubescent. Foliola oblonga v. ovali-oblonga, glanduloso-mucronata, supra nitida, subtus pubescentia, $\frac{1}{2}$ – $\frac{3}{4}$ -pollicaria. Racemi terminales, breves, laxe pauciflori. Sepala mucronato-acuta.

Hab. Tropical America: Brazil, prov. Bahia.

192. *C. ACOSMIFOLIA*, *Mart. ! Fl. Bras. Cæsalp.* 133. Frutex erectus, ramulis gracilibus subglabris. Foliola oblonga v. ovali-oblonga, supra nitidula, subtus pubescentia, subpollicaria. Racemi terminales, breves, laxe pauciflori.

Hab. Tropical America: Brazil, prov. Minas Geraes and Bahia.

193. *C. BARBATA*, *Nees et Mart. ! in Nov. Act. Nat. Cur.* xii. 32. Frutex erectus, ramulis pubescentibus hirtellisve. Foliola ovali-oblonga v. elliptica, supra glabra v. utrinque hir-

tella, 1–3-pollicaria. Racemi terminales, elongati, laxiflori, v. in axillis superioribus breviores.—*Fl. Bras.* 133.

Hab. Tropical America: Brazil, prov. Rio Janeiro, Minas Geraes, and Bahia.

†† *Foliola in petiolo communi sessilia.*

194. *C. DESERTORUM*, *Mart. ! Fl. Bras. Cæsalp.* 133. Frutex erectus, viscido-pubescent, partibus novellis cano-tomentosis pubescentibusque. Foliola obovata v. ovali-oblonga, demum glabrata. Racemi breves. Petala calyce subdimidio longiora.

Hab. Tropical America: Brazil, prov. Goyaz, Minas Geraes, Piauh, and Bahia.

Evidently a very variable species, but only known from unsatisfactory specimens.

195. *C. BREVICALYX*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 134. Frutex erectus, ramulis viscido-pubescentibus. Foliola obovato-suborbicularia, glabra v. subtus pilosula. Racemi breves. Petala calyce subtriplo longiora.

Hab. Tropical America: Brazil, prov. Piauh.

Remarkable for the broad obtuse sepals, much shorter in proportion to the petals than in any other *Absus*.

Series 2. Unijugæ. *Foliola unijuga, rigidule membranacea v. coriacea, petiolo eglanduloso.*

* *Ramuli viscoso-pubescentes, villosi v. glutinoso-setosi.*

† *Foliola in caule sessilia, petiolo communi ad tuberculum viz prominulum reducto.*

196. *C. MONTICOLA*, *Mart. ! Fl. Bras. Cæsalp.* 134. Foliola obovato-suborbiculata, basi semicordata. Racemi terminales, breves.

Hab. Tropical America: Brazil, prov. Minas Geraes.

197. *C. ANDROMEDEA*, *Mart. ! Fl. Bras. Cæsalp.* 135. Foliola cuneato-oblonga, nitidula. Racemi terminales, breves, subcorymbosi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

198. *C. GEMINATA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 135. Foliola (*C. viscosæ*) cuneato-obovata, viscido-pubescentia. Racemi in axillis superioribus laxiflori, paniculam elongatam foliosam efficientes.

Hab. Tropical America: Brazil, prov. Goyaz.

†† *Foliola ad apicem petioli communis, 3–6 lin. longi.*

199. *C. SCABRA*, *Pohl ! in Mart. Fl. Bras. Cæsalp.* 135. Foliola oblongo-elliptica, 4–5-pollicaria, supra scabra, subtus pubescentia. Racemi breves, in corymbum terminalem multiflorum conferti.

Hab. Tropical America: Brazil, prov. Goyaz.

200. *C. OBTECTA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 136. Foliola suborbiculata, 1½–2½-pollicaria, supra pubescentia, subtus tomentosa. Stipulæ foliaceæ, late subreniformes. Racemi breves, corymboso-conferti.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

201. *C. ECHINOCARPA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 136. Foliola suborbiculata, pollicaria, nigro-ciliata, glabra. Ramuli setosissimi. Stipulæ parvæ. Racemi terminales.

Hab. Tropical America: interior of Brazil.

** *Ramuli et folia glaberrima; foliola coriacea.*

† *Petiolus communis 1-6 lin. longus.*

202. *C. CÆSPITOSA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 136. Foliola lineari-cuneata, vix semipollicaria. Racemi terminales, breves, pauciflori.

Hab. Tropical America: Brazil, prov. Minas Geraes.

203. *C. LAVRADIOIDES*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 137. Foliola obovato-cuneata, $1\frac{1}{2}$ -2-pollicaria. Racemi terminales, laxi.

Hab. Tropical America: Central Brazil.

204. *C. LINEARIFOLIA*, *G. Don, Gen. Syst.* ii. 446. Foliola linearia, acuminata, 2-3-pollicaria. Racemi terminales v. in axillis superioribus.—*Fl. Bras.* 137.

Hab. Tropical America: Brazil.

†† *Petiolus communis elongatus.*

205. *C. DENTATA*, *Vog. ! Syn. Cass.* 49. Foliola falcato-lanceolata, 2-3-pollicaria, dentata, petiolo longo gracili. Racemi pauciflori.—*Fl. Bras.* 137.

Hab. Tropical America: Brazil, prov. Minas Geraes.

206. *C. INCURVATA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 137. Foliola late falcato-ovata, sub-3-pollicaria, integerrima, petiolo rigido. Racemi breves, in paniculam basi foliatam dispositi.

Hab. Tropical America: Brazil, prov. Goyaz.

207. *C. COTINIFOLIA*, *G. Don, Gen. Syst.* ii. 445. Foliola orbiculata, sub-2-pollicaria. Racemi simplices v. basi ramosi, multiflori.—*Fl. Bras.* 138, t. 41.

Hab. Tropical America: Brazil, prov. Minas Geraes.

Series 3. Baseophylleæ. *Foliola 1-8-juga, coriacea, glabra, petiolo communi glandula una pluribusve depressis adnatisque instructo. Racemi sæpius breves.*

* *Foliola in petiolo sessilia, 1-2-juga.*

208. *C. BLANCHETI*, *Benth. ! in Hook. Journ. Bot.* ii. 78. Foliola unijuga, orbiculato-reniformia, petiolo subnullo in caule sessilia. Frutex diffusus, rigidus. Racemi breves, in corymbum terminalem conferti.—*Fl. Bras.* 138.

Hab. Tropical America: Brazil, prov. Bahia and Minas Geraes.

209. *C. VAUTHIERI*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 138. Foliola 2-juga, ovato-suborbicularia, petiolo subnullo in caule subsessilia. Rami stricti, erecti, foliosi. Racemi breves, confertiflori.

Hab. Tropical America: Brazil, prov. Minas Geraes.

210. *C. BRACHYSTACHYA*, *Benth. ! in Hook. Journ. Bot.* ii. 78. Foliola vel bijuga, jugi infimi cauli approximatis, vel unijuga ad apicem petioli jugo infimo deficiente, suborbiculata v. subreniformia, $\frac{3}{4}$ - $1\frac{1}{2}$ -pollicaria. Frutex. Racemi axillares, breves.—*Fl. Bras.* 139.

Hab. Tropical America: Brazil, prov. Bahia and Minas Geraes.

211. *C. CORIACEA*, *Bong. ! Benth. in Hook. Journ. Bot.* ii. 78. Foliola 1-2-juga, a caule

distantia, oblongo-obovata, subpollicaria. Suffrutex procumbens. Racemi axillares v. subterminales, pauciflori.—*Fl. Bras.* 139.

Hab. Tropical America: Brazil, prov. Minas Geraes.

This, perhaps, amongst the *Absi*, is the one that comes the nearest to the *Chamæcristas*, having nearly the foliage of *C. Burchellii*; and in the inflorescence the common peduncle is very short, with very long pedicels, but yet rather that of *Absus* than of *Chamæcrista*.

212. *C. CYTISOIDES*, *DC.!* in *Collad. Hist. Cass.* 116, t. 14. Foliola 3–4-juga, obovato-orbiculata, infra pollicaria, jugi infimi cauli approximata. Frutex. Racemi terminales, breves.—*Fl. Bras.* 139.

C. venosa, Desv. Journ. Bot. iii. 72 (*C. glabra*, Collad. Hist. Cass. 131), ex Desv. in Ann. Sc. Nat. ser. 1. ix. 427.

Hab. Tropical America: Brazil.

** *Foliola petiolulata*, 3–8-juga.

213. *C. POLYSTACHYA*, *Benth.!* in *Hook. Journ. Bot.* ii. 77. Foliola 3–4-juga, ovata, $1\frac{1}{2}$ – $2\frac{1}{2}$ -pollicaria, omnia a caule distantia. Frutex. Racemi terminales et in axillis superioribus floribundi.

Hab. Tropical America: British Guiana.

214. *C. CRENULATA*, *Benth.!* in *Hook. Journ. Bot.* ii. 80. Foliola 6–8-juga, ovata v. obovata, 1 – $1\frac{1}{2}$ -pollicaria, omnia a caule distantia. Frutex. Racemi breves, in axillis summis v. ad apices ramorum conferti.—*Fl. Bras.* 140.

Hab. Tropical America: Brazil, prov. Goyaz.

Series 4. *Paniculatæ*. *Foliola 2-juga rarius 3-juga, coriacea, sæpe ampla, petiolo eglanduloso. Racemi in paniculam amplam laxam aphyllam dispositi.*

215. *C. ORBICULATA*, *Benth.!* in *Hook. Journ. Bot.* ii. 79. Ramuli glutinoso-scabri. Foliola suborbiculata, coriacea, 2–3-pollicaria, glabra. Sepala exteriora acutiuscula, puberula.—*Fl. Bras.* 140.

Hab. Tropical America: Brazil, prov. Pernambuco, Minas Geraes, and Goyaz.

216. *C. CLAUSSENI*, *Benth.!* in *Hook. Journ. Bot.* ii. 79. Ramuli glabri. Foliola late ovata, coriacea, $1\frac{1}{2}$ –2-pollicaria, glabra. Sepala membranacea, obtusa, subglabra.—*Fl. Bras.* 140.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

217. *C. SETOSA*, *Vog.!* *Syn. Cass.* 51. Ramuli viscoso-pubescentes, in forma typica setosissimi. Foliola ovato- v. elliptico-oblonga, coriacea, supra nitida, subtus rugoso-venosa et canescenti-tomentosa, 2–4-pollicaria.—*Fl. Bras.* 141, t. 41.

Var. *DETONSA*, setis nullis, cætera omnia formæ typicæ.

Var. *ANGUSTA*, foliolis angustioribus, foliorum inferiorum interdum 3-jugis; cætera varietatis *detonsæ*.

Hab. Tropical America: Brazil, prov. S. Paulo, Minas Geraes, and Goyaz; the two varieties both from Goyaz.

218. *C. MULTISETA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 141. Ramuli longe setosi,

cæterum glabriusculi. Foliola ovato-lanceolata, acuta, supra nitida, subtus canescenti-tomentella. Legumen setosum, inter setas glabratum.

Hab. Tropical America: Brazil, prov. Minas Geraes.

(Racemi ample paniculati in *Nigriscentibus* nonnullis plurijugis.)

Series 5. Rigidulæ. *Caules et folia glabra, setis nullis, rarius in C. densifoliæ varietate hirtella. Foliola 2-8-juga, rarissime 10-12-juga, coriacea, excepta C. gracillima semipollicaria longioraque, petiolo eglanduloso. Racemi simplices v. abbreviati.*

* *Foliola obovata cuneata ovata v. orbiculata, obtusa.*

219. *C. CONFERTA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 142. Foliola bijuga, rarius 3-juga, cuneato-oblonga, tenuiter coriacea, $\frac{1}{2}$ - $1\frac{1}{2}$ -pollicaria. Racemi breves, per anthesin subcorymbosi.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

220. *C. OCHNACEA*, *Vog.!* *Syn. Cass.* 51. Foliola 2-juga, rarissime 3-juga, obovali-elliptica, rigide coriacea, $1-1\frac{1}{2}$ -pollicaria. Racemi elongati, per anthesin oblongi.—*Fl. Bras.* 142.

Hab. Tropical America: Brazil, prov. Minas Geraes.

221. *C. RIGIDIFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 142. Foliola 2-4-juga, ovalia, rigida, $1\frac{1}{2}$ -pollicaria. Racemi breves, ad axillas conferti v. subramosi, glabri.

Hab. Tropical America: Brazil, prov. Minas Geraes.

222. *C. GRACILLIMA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 143. Foliola 2-4-juga, obovata, 3-4 lin. longa. Ramuli tenues, divaricati. Racemi breves, laxè pauciflori, glabri.

Hab. Tropical America: Brazil, prov. Goyaz.

223. *C. DECUMBENS*, *Benth.!* in *Hook. Journ. Bot.* ii. 79. Foliola 2-5-juga, late obovata, $\frac{1}{2}$ - $\frac{3}{4}$ -pollicaria, præter costam subavenia. Racemi elongati, viscoso-pubescentes v. villosi.—*Fl. Bras.* 143.

Hab. Tropical America: Brazil, prov. Goyaz.

224. *C. LUNDII*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 143. Foliola 5-7-juga, subcordato-orbicularia, $\frac{3}{4}$ -1-pollicaria, rigida, marginata, venosa. Racemi elongati, viscido-pubescentes.

Hab. Tropical America: Brazil, prov. Minas Geraes.

225. *C. NUMMULARIÆFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 144. Foliola 6-12-juga, orbiculata, $\frac{1}{2}$ - $\frac{3}{4}$ -pollicaria, immarginata, præter costam subavenia. Racemi elongati, viscido-puberuli.

Hab. Tropical America: Brazil, prov. Minas Geraes.

226. *C. DENSIFOLIA*, *Benth.!* in *Hook. Journ. Bot.* ii. 80. Foliola 5-8-juga, ovata v. orbiculata, venosissima, margine tenui. Racemi elongati, viscido-puberuli.—*Fl. Bras.* 144.

Var. undique viscoso-hirtella.

Hab. Tropical America: Brazil, prov. Goyaz; the viscid hirsute variety from Parana-hyba, *Burchell.*

** *Foliola elliptica v. anguste oblonga, resinosa.*

227. *C. LENTISCIFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 144. Foliola 3-4-juga, sessilia, lineari-oblonga, obtusa, $\frac{3}{4}$ -1 $\frac{1}{4}$ -pollicaria. Racemi breves, subcorymbosi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

228. *C. HEDYSAROIDES*, *Vog.!* *Syn. Cass.* 52. Foliola 3-6-juga, petiolulata, elliptico-oblonga, utrinque obtusa, $\frac{3}{4}$ -1 $\frac{1}{4}$ -pollicaria. Racemi multiflori, vix elongati.—*Fl. Bras.* 145.

Hab. Tropical America: Brazil, prov. Minas Geraes.

229. *C. PUNCTATA*, *Vog.!* *Syn. Cass.* 51. Foliola 2-4-juga, petiolulata, elliptico-oblonga v. oblanceolata, utrinque acuta, sub-1 $\frac{1}{2}$ -pollicaria. Racemi terminales, simplices v. ramosi.—*Fl. Bras.* 145.

Hab. Tropical America: Brazil, prov. S. Paolo.

230. *C. STRICTIFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 145. Folia conferta; foliola 2-3-juga, anguste linearia, obtusa, coriacea, plana, undique æquilata, $\frac{1}{2}$ -1-pollicaria, resinosa. Racemi terminales, breves, confertiflori.

Hab. Brazil: Rio Santa Anna.

231. *C. ERICIFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 145. Ramuli pubescentes. Foliola 2-juga, lineari-teretia, 3-4 lin. longa, acuta, ericoidea. Racemi terminales, breves, confertiflori. Legumen setoso-hispidum.

Hab. Tropical America: Brazil, prov. Minas Geraes.

Series 6. *Lucidæ. Setosæ, cæterum glaberrimæ, nitidulæ. Foliola 2-6-juga, petiolo eglanduloso. Racemi simplices.*

232. *C. LOMATOPODA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 146. Foliola 2-juga, ovali-oblonga, obtusa, 1 $\frac{1}{2}$ -2-pollicaria, coriacea, venosa, petiolo elevato-marginato.

Hab. Tropical America: Brazil, prov. Goyaz and Minas Geraes.

233. *C. LAMPROSPERMA*, *Mart.!* *Fl. Bras. Cæsalp.* 146. Foliola 4-6-juga, ovali-oblonga, obtusa v. acutiuscula, membranacea, petiolo tereti.

Hab. Tropical America: Brazil, prov. Minas Geraes.

Series 7. *Microphyllæ. Glabræ pubescentes v. setosæ. Foliola 6-multijuga, parva, raro semipollicem excedentia, petiolo eglanduloso.*

* *Foliola coriacea, 6-12-juga.*

234. *C. CILIOLATA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 146. Ramuli viscoso-pubescentes sæpeque breviter setosi. Foliola 6-12-juga, suborbiculata, ciliolata, præter costam subavenia, glabra, 3-4 lin. longa. Racemi breves. Calyces obtusissimi.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

235. *C. OLIGOSPERMA*, *Mart.!* *Fl. Bras. Cæsalp.* 147. Ramuli viscoso-pubescentes. Foliola 6-12-juga, oblonga v. ovata, obtusissima, coriacea, viscoso-pubescentia v. glabra, 2-3 lin., rarius 5-6 lin. longa. Racemi breves. Calyces obtusissimi.

Hab. Tropical America: Brazil, prov. Goyaz.

Some specimens of Burchell's from Cavalcante in Goyaz, n. 7556, appear to belong to this species,

although the leaves have twelve to thirty pairs of leaflets. They may possibly, however, be imperfectly flowering specimens of some form of *C. filicifolia*.

236. *C. INCANA*, *Vog. ! Syn. Cass.* 52. Ramuli hispidi et viscoso-tomentelli. Foliola 8–12-juga, ovata v. oblonga, obtusa v. acutiuscula, supra nitida, convexa, subtus incana, 3–6 lin. longa. Racemi elongati.—*Fl. Bras.* 147.

Hab. Tropical America: Brazil, probably prov. S. Paolo.

237. *C. SECUNDA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 148. Ramuli longe setosi. Foliola 8–10-juga, ovata, semicordata, acuta, coriacea, marginata, glabra, 3–5-lineararia. Racemi breves.

Hab. Tropical America: Brazil, prov. Minas Geraes.

** *Foliola coriacea*, 12–40-juga.

238. *C. FILICIFOLIA*, *Mart. ! Fl. Bras. Cæsalp.* 148. Ramuli viscoso-pubescentes. Foliola 20–30-juga, ovata, acutiuscula, viscido-puberula, decrescentia, majora semipollicaria. Racemi laxè subpaniculati.

Hab. Tropical America: Brazil, prov. Bahia and Minas Geraes.

Some specimens of Burchell's from Minas Geraes, n. 5872, belong probably to this species, although with fewer leaflets.

239. *C. NEESIANA*, *Mart. ! Fl. Bras. Cæsalp.* 148. Ramuli viscoso-pubescentes v. demum glabrati. Foliola 12–20-juga, oblonga, obtusa, pubescentia v. glabrata, majora semipollicaria. Racemi breviusculi.

Hab. Tropical America: Brazil, prov. Minas Geraes and Bahia.

240. *C. POHLIANA*, *Benth. ! in Hook. Journ. Bot.* ii. 80. Ramuli viscoso-pubescentes. Foliola 30–40-juga, oblonga, obtusa, decrescentia, pubescentia v. glabrata. Racemi elongandi.—*Fl. Bras.* 148, t. 42.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

241. *C. DECRESCENS*, *Benth. ! in Hook. Journ. Bot.* ii. 80. Glaberrima. Foliola 15–30-juga, ovato-lanceolata v. oblonga, acuta, decrescentia, majora 4–5-lineararia. Racemi laxiflori.—*Fl. Bras.* 149.

Hab. Tropical America: Brazil, prov. Minas Geraes or Goyaz.

*** *Foliola membranacea*, 12–20-juga.

242. *C. DALBERGLEFOLIA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 149. Ramuli viscoso-tomentosi hispidique. Foliola 15–20-juga, oblonga, obtusa, glabra, semipollicaria v. paullo longiora. Racemi floribundi, viscoso-tomentosi hispidique.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

243. *C. DEBILIS*, *Vog. ! Syn. Cass.* 53. Glabra, laxè ramosa. Foliola 12–20-juga, oblonga, obtusa. Racemi laxè pauciflori, graciles, glaberrimi.—*Fl. Bras.* 149.

Hab. Tropical America: Brazil, prov. S. Paolo.

Series 8. Nigricantes. *Viscoso-pubescentes v. villosæ. Foliola 2-12-juga, semipollice longiora, petiolo eglanduloso.*

* *Foliola acuta v. acuminata, $\frac{3}{4}$ -3-pollicaria.*

244. *C. ORINOCENSIS*, *Spruce!*, *Pl. Exs.* n. 3249. Ramuli viscoso-puberuli setosique. Foliola 2-juga, ovata v. ovato-lanceolata, 2-3-pollicaria, rigida, ciliata, supra nitida, subtus incana. Racemi breves, pauciflori.—*Fl. Bras.* 150.

Hab. Tropical America: Columbia, on the Orinoco.

245. *C. LONGICUSPIS*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 150. Ramuli viscido-puberuli et setoso-hispidi. Foliola bijuga, ovato-oblonga, longe acuminata, 2-3-pollicaria, membranacea, subtus pallida, pilis conspersa. Racemi breves, pauciflori. Bracteæ parvæ.

Hab. Tropical America: Brazil, prov. Minas Geraes or Goyaz.

246. *C. PHYLLOSTACHYA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 150. Ramuli sordide viscido-pubescentes. Foliola 2-3-juga, ovato-lanceolata, $1\frac{1}{2}$ -2-pollicaria, subtus pallida, pubescentia. Racemi pluriflori. Bracteæ foliaceæ, late lanceolatae, persistentes.

Hab. Tropical America: Brazil, prov. Minas Geraes.

247. *C. ITAMBANA*, *Mart.!* *Fl. Bras. Cæsalp.* 151. Ramuli mollissime velutino-villosi. Foliola 3-4-juga, ovali-oblonga, $1\frac{1}{2}$ -2-pollicaria, subtus pallida, molliter villosa. Racemi elongati, subpaniculati. Bracteæ minutæ.

Hab. Tropical America: Brazil, prov. Minas Geraes.

248. *C. MACHÆRIIFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 151. Ramuli viscido-tomentosi v. scabri. Foliola 4-5-juga, ovato-lanceolata, $1-1\frac{1}{2}$ -pollicaria, pubescentia. Racemi breves, pauciflori. Bracteæ minutæ.

Hab. Tropical America: Brazil, prov. Minas Geraes.

249. *C. URSINA*, *Mart.!* *Fl. Bras. Cæsalp.* 151. Ramuli dense viscoso-tomentosi setisque brevibus hispidi. Foliola 5-6-juga, ovato-oblonga, 1-2-pollicaria, inferiora obtusa, subtus dense villosa-tomentosa, subcanescentia. Racemi paniculati, setosi, viscosissimi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

** *Foliola obtusa, crassiuscula, $\frac{1}{2}$ -2-pollicaria.*

250. *C. EXSUDANS*, *Benth.!* in *Hook. Journ. Bot.* ii. 80. Ramuli viscoso-tomentosi, scabri. Foliola 2-5-juga, ovata v. late oblonga, $1-1\frac{1}{2}$ -pollicaria, supra scaberrima, subtus canescenti-tomentosa. Racemi ramosi.—*Fl. Bras.* 152.

Hab. Tropical America: Brazil, prov. Minas Geraes.

251. *C. AURIVILLA*, *Mart.!* *Fl. Bras. Cæsalp.* 152. Ramuli tomentosi setisque basi plumosis hispidissimi. Foliola 6-8-juga, ovata v. late oblonga, subpollicaria, subtus canescentia. Racemi simplices, aureo-setosi v. villosi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

252. *C. SOPHOROIDES*, *Mart.!* *Fl. Bras. Cæsalp.* 152. Ramuli tomentoso-pubescentes, subviscosi. Foliola 6-8-juga, ovata v. late oblonga, subpollicaria, utrinque sordide pubescentia, subtus pallidiora. Stipulæ latæ, foliaceæ. Racemi simplices.

Hab. Tropical America: Brazil, prov. Bahia and Minas Geraes.

253. *C. FUSCESCENS*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 153. Ramuli tomentosi, viscoso-hirsuti, subsetosi. Foliola 4–5-juga, anguste oblonga, 1–1½-pollicaria, supra subscabra, subtus canescentia. Racemi breves, ramosi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

254. *C. TEPHROSILÆFOLIA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 153. Ramuli viscido-pubescentes villosive. Foliola 6–10-juga, oblonga, ½–1-pollicaria, subtus subcanescentia. Racemi breves, subramosi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

255. *C. PANICULATA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 153. Ramuli subfloccoso-tomentosi. Foliola 8–12-juga, anguste oblonga, ½–1-pollicaria, subtus cano-tomentosa. Racemi setosi, ample paniculati.

Hab. Tropical America: Brazil, prov. Minas Geraes.

256. *C. ISIDOREA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 154. Ramuli viscoso-tomentosi sæpeque setulosi. Foliola 8–15-juga, oblonga nunc angusta, ½–1-pollicaria, pubescentia, concoloria. Racemi elongati, simplices v. laxiores, subpaniculati.

Hab. Tropical America: Brazil, prov. Goyaz.

*** *Foliola membranacea, obtusa v. acutiuscula, subtus pallida v. concoloria, ½–1-pollicaria, 4–10-juga.*
(*Species foliolis bijugis inter Absoideas quærentur.*)

257. *C. BRACTEOLATA*, *Vog.!* *Syn. Cass.* 52. Foliola 5–8-juga, lanceolato-oblonga, tenuiter viscido-puberula, subtus pallida. Racemi laxi. Bracteæ latæ, membranaceæ.—*Fl. Bras.* 154.

Hab. Tropical America: Brazil, prov. Minas Geraes.

258. *C. TRACHYCARPA*, *Vog.!* *Syn. Cass.* 52. Foliola 4–10-juga, ovato-oblonga, supra pilosula, subtus pallida. Racemi breves, multiflori. Bracteæ parvæ, setaceæ.—*Fl. Bras.* 154.

Hab. Tropical America: Brazil, prov. Minas Geraes.

259. *C. CATHARTICA*, *Mart.!* *Reis. Bras.* i. 548. Foliola 4–12-juga, oblonga, utrinque viscido-puberula. Racemi foliati, pauciflori, pedicellis nempe plerisque ad axillam folii pinnati solitariis unifloris.—*Fl. Bras.* 155, t. 42.

C. aprica, Vell. *Fl. Flum.* 169; *Ic.* iv. t. 76.

C. hirsuta, Vell. *Fl. Flum.* 170; *Ic.* iv. t. 80.

C. pachycalyx, *Vog.!* *Syn. Cass.* 52.

Hab. Tropical America: Brazil, prov. Minas Geraes, S. Paolo, and Rio Janeiro.

SECTIO 9. CHAMÆCRISTA.

Herbæ fruticesve glabri, pubescentes v. pilosi, nec viscosi. Pedicelli solitarii v. in pedunculo communi vix evoluto 2–4-ni, axillares supraaxillares v. in mediis internodiis oriundi. Antheræ sæpe inæquales, alternis minoribus v. deficientibus.

This section differs from *Absus* chiefly in inflorescence.

Subsect. 1. Xerocalyx. *Sepala rigidula, subscariosa, tenuiter striato-multinervia.*

* *Foliola 1-juga.*

260. *C. DIPHYLLA*, Linn.! *Spec. Pl.* 537. Glabra, prostrata. Foliola obovata, rigidule membranacea, glandula parva, stipitata v. urceolata.—*Fl. Bras.* 156.

C. diphylla, Cav. *Ic.* t. 600.

Hab. Tropical America: from Brazil to Central America and Mexico.

Linnaeus having given the erroneous habitat "in India" for this plant, its identity has been doubted; but his specimen clearly belongs to this species.

261. *C. CULTRIFOLIA*, H. B. et K.! *Nov. Gen. et Sp.* vi. 363. Glabra v. apice patentim pilosa. Foliola dimidiato-oblonga v. oblongo-lineararia, sæpe falcata, subcoriacea; glandula scutellata v. urceolata.—*Fl. Bras.* 156.

Hab. Tropical America: Columbia, Guiana, Central Brazil.

** *Foliola 2-juga (species omnes vix inter se distinctæ).*

262. *C. LATISTIPULA*, Benth.! in *Mart. Fl. Bras. Cæsalp.* 156. Glabra v. superne pubescens. Foliola latiuscula, oblonga v. obovata, rectiuscula. Stipulæ amplæ, obtusæ. Flores magni.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

263. *C. DESVAUXII*, Collad. *Hist. Cass.* 131. Glabra v. ramulis bifariam pubescentibus. Foliola obovato-oblonga, rectiuscula. Stipulæ acutæ. Flores magni. Pedicelli longiusculi v. rarius abbreviati. Legumen appresse pilosum, 5-6-plo longius quam latum.—*Fl. Bras.* 157.

C. tetraphylla, Desv. *Journ. Bot.* iii. (1814) 72, non Collad.

C. pulchra, H. B. et K.! *Nov. Gen. et Sp.* vi. 362.

Var. *MOLLISSIMA*, mollissime pubescens, pedicellis longiusculis.

Var. ? *BREVIPIES*, pubescens v. glabrescens, pedicellis ut in *C. brevipedis* brevissimis, legumine *C. Desvauxii*.

Hab. Tropical America: Brazil, Guiana, and Columbia; the var. *mollissima* in S. Brazil, the var. *brevipes* in Brazil and Guiana.

264. *C. BREVIPIES*, DC.! in *Collad. Hist. Cass.* 119, t. 9. Pubescens. Folia floresque *C. Desvauxii*. Pedicelli brevissimi. Legumen vix duplo longius quam latum, pilis longis aureis hirsutissimum.

Hab. Tropical America: Panama, *Seemann*; Costarica, *Ersted*.

265. *C. UNIFLORA*, Spreng. *Neu. Entd.* i. 291. Glabra v. rarius tenuiter pubescens. Foliola obovato-oblonga, recta v. leviter incurva, in forma typica subsemipollicaria, rigidule membranacea. Stipulæ acutæ, longiusculæ. Flores mediocres v. parvi. Legumen glabrum v. appresse pilosum.—*Fl. Bras.* 157, t. 43.

C. lanceolata, Pers. *Syn.* i. 456 (ex char.), non Forsk.

C. Persoonii, Collad. *Hist. Cass.* 119.

Var. *PARVIFOLIA*, foliolis 2-6 lin. longis, sæpius quam in forma typica obtusioribus.

C. ramosa, Vog.! *Syn. Cass.* 55.

C. savanensis, Miq.! in *Linnaea*, xviii. 584.

Hab. Tropical America: Brazil and Guiana; both varieties very abundant and running closely into each other, the larger-leaved form at least extending into Columbia, and some forms closely connecting it with *C. Desvauxii*.

266. *C. LANGSDORFFII*, *Kunth in Vog.!* *Syn. Cass.* 55. Glabra v. pubescens. Foliola lineari-oblonga. Stipulæ acutæ, persistentes. Flores mediocres v. majusculi. Legumen glabrum v. appresse pilosum.—*Fl. Bras.* 158.

C. borbonioides, *Vog.!* *Syn. Cass.* 55 (forma foliolis paullo majoribus rigidioribus).

Hab. Tropical America: Brazil from S. Paolo to the Rio Negro and on the Orinoco.

Several forms of this species are noted in the 'Flora Brasiliensis;' and to these many others might be added as more or less distinct varieties.

267. *C. GRACILIS*, *Kunth!*, *Mim.* 120, t. 36. Glabra, gracilis, ramulis subfiliformibus. Foliola oblonga, sæpe parva. Stipulæ parvæ, acutæ, sæpe deciduæ.—*Fl. Bras.* 159.

Hab. Tropical America: Columbia and Central Brazil.

Some specimens of Burchell's from San Paolo, n. 4280, appear to connect this with *C. Langsdorffii*.

268. *C. TECTA*, *Vog.!* *Syn. Cass.* 56. Undique molliter pubescens. Foliola oblonga, semipollice longiora. Stipulæ cordatæ, acutæ, foliolis subæquilongæ, ramulos obtegentes.—*Fl. Bras.* 159.

Hab. Tropical America: Brazil, prov. Minas Geraes and S. Paolo.

269. *C. MALACOPHYLLA*, *Vog.!* *Syn. Cass.* 55. Undique molliter pubescens. Foliola oblonga, semipollice breviora. Stipulæ cordatæ, acutæ, foliolis subæquilongæ, ramulos obtegentes.—*Fl. Bras.* 159.

Hab. Tropical America: Central Brazil.

270. *C. CURVIFOLIA*, *Vog.!* *Syn. Cass.* 55. Glabra v. pubescens. Foliola falcato-oblonga v. falcato-obovata, sæpius parva. Stipulæ cordatæ, acutæ, appressæ. Legumen glabrum v. appresse puberulum.—*Fl. Bras.* 160.

Hab. Tropical America: Brazil, prov. Goyaz, Minas Geraes, Bahia, Ceara, Para, and Rio Negro.

The foliage varies from perfectly glabrous and shining to densely and softly pubescent.

*** *Foliola plurijuga.*

271. *C. CALYCOIDES*, *DC.!* *Prod.* ii. 503. Prostrata, patentim pilosa. Foliola 6–12-juga, dimidiato-linearia; glandula stipitata. Flores parvuli, pedicellis abbreviatis.—*Fl. Bras.* 160, t. 43.

Hab. Tropical America: Brazil, prov. Goyaz, Piahy, and Para, also Mexico, *Berlandier*, n. 2036.

Subsect. 2. *Leiocalyx. Sepala membranacea, haud striata.*

Series 1. *Subaphyllæ. Stipula cordatæ, cauli bifariam appressæ, foliolis nisi ad basin caulis nullis.*

272. *C. BASIFOLIA*, *Vog.!* *Syn. Cass.* 56. Folia ad basin caulis interdum perpauca bifoliolata, cætera omnia ad setulam minutam inter stipulas reducta. Stipulæ 4–8 lin. longæ. Flores mediocres v. parvuli, pedicellis stipulis subæquilongis.—*Fl. Bras.* 161, t. 44.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

Series 2. Prostratæ. *Herbæ prostratæ, annuæ v. basi perennes sæpe patentim pilosæ. Foliola uni- plurijuga, membranacea. Glandulæ tenuiter stipitata v. nullæ. Flores parvi v. mediocres, pedicellis filiformibus.*

273. *C. ROTUNDIFOLIA*, *Pers. Syn.* i. 456. Foliola 1-juga, obovata, petiolo eglanduloso. Stipulæ cordatæ, cauli arcte appressæ.—*Fl. Bras.* 161.

C. bifoliolata, DC. ! in Collad. Hist. Cass. 120, t. 9.

C. pentandra, Raddi, Quar. Piant. Nuov. 20 (in Mem. Acad. Moden. xviii.).

C. monophylla, Vell. Fl. Flum. 166; Ic. iv. t. 61.

Var. *BAUHINIÆFOLIA*. Stipulæ semipollicares longioresque, foliola usque ad $1\frac{1}{2}$ poll. longa, flores quam in forma typica majores, sepalis 3 lin. longis.

C. bauhiniaefolia, Kunth !, Mim. 123, t. 37.

C. fabaginaefolia, H. B. et K. ! Nov. Gen. et Sp. vi. 363.

C. filipes, Benth. ! in Hook. Journ. Bot. ii. 81.

Var. *GRANDIFLORA*. Stipulæ vix 3 lin. longi. Flores magni, sepalis 6 lin. longis.

Hab. Tropical America : Brazil, Guiana, Columbia, Central America, and Mexico ; the var. *bauhiniaefolia* in Guiana and Columbia, the var. *grandiflora* in Brazil.

274. *C. TAGERA*, *Linn. ! Spec. Pl.* 538, *excl. syn.* Foliola 3- rarius 2-juga, parva, obovata; glandula stipitata. Stipulæ cordato-lanceolatæ, cauli appressæ, demum subhyalinæ. Legumen breve, 1-4-spermum.—*Fl. Bras.* 162.

C. ciliaris, Collad. ! Hist. Cass. 98.

C. Kunthiana, Cham. et Schlecht. ! in Linnæa, v. 598.

Hab. Tropical America : Brazil, Guiana, Columbia, Central America, Mexico.

The specimen in the Linnæan herbarium (answering to the character given) is certainly this species, although the habitat "in India" and the synonyms are erroneous.

275. *C. PILOSA*, *Linn. Spec. Pl.* 540. Annuæ. Foliola 3-5-juga, latiuscule oblonga, membranacea, $\frac{1}{2}$ -1-pollicaria, petiolo eglanduloso. Stipulæ lanceolatæ, basi obliquæ.

C. emarginata, Mill. ! Dict. n. 13, non Linn.

C. Milleri, Collad. Hist. Cass. 132.

Hab. Tropical America : Jamaica, Columbia, sea coast, *Fendler*.

There is no specimen of this in Linnæus's herbarium.

276. *C. SERPENS*, *Linn. ! Spec. Pl.* 541, *non Vog.* Foliola 5-7-juga, lineari-oblonga, membranacea, semipollice breviora; glandula tenuiter stipitata v. rarius nulla. Stipulæ lanceolato-subulatæ. Leguminis acumen rectiusculum.—*Fl. Bras.* 162.

C. prostrata, Humb. et Bonpl. ! in Willd. Enum. 441.

C. flexuosa, Mill. ! Dict. n. 16, non Linn.

Hab. Tropical America : Brazil, Guiana, Columbia, West Indies, Central America, Mexico.

277. *C. TRICHOPODA*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 163. Herbacea, prostrata, patentim pilosa. Foliola 8-25-juga, dimidiato-lineararia, rigidule membranacea; glandula tenuiter stipitata. Pedicelli calyce multo longiores. Stigma parvum.

Hab. Tropical America : Brazil, prov. S. Paulo, Minas Geraes, and Goyaz; Caraccas, *Birschell*.

278. *C. PUMILA*, *Lam. Dict.* i. 651. Herbacea, prostrata, pubescens. Foliola 8-15-

juga, dimidiato-lineararia; glandula tenuiter stipitata. Pedicelli calyce vix longiores brevioresve. Stigma stylo abbreviato peltatum.—*Benth. Fl. Austr.* ii. 290.

C. prostrata, Roxb. ! Hort. Beng. 32.

Senna prostrata, Roxb. ! Fl. Ind. ii. 352.

Hab. Tropical Asia and Australia.

279. *C. SUPPLEX*, *Mart.* ! *Fl. Bras. Cæsalp.* 163. Annua, prostrata, patentim pilosa. Foliola 4–6-juga, parva, anguste oblonga; glandula parva, tenuiter stipitata. Stipulæ oblique cordatæ. Legumen brevi acumine inflexo uncinatum.

Hab. Tropical America: Brazil, prov. Bahia, Pernambuco, Piahy, and Goyaz.

(*C. zambesica* has also the long-stipitate gland of this group.)

Series 3. Paucijugæ. *Perennes v. fruticosæ, erectæ v. diffusæ. Foliola 3–7-juga, membranacea v. subcoriacea, costa excentrica pennivenia; glandulæ parvæ, breviter stipitatæ.*

280. *C. CORDISTIPULA*, *Mart.* ! *Herb. Fl. Bras.* 139. Suffrutex procumbens, piloso-pubescens. Foliola 5–7-juga, parva, lineari-oblonga, paucivenia. Stipulæ cordatæ, aristatæ. Flores mediocres v. majusculi. Leguminis acumen rectiusculum.—*Fl. Bras.* 164.

C. psammophila, Benth. in herb. Acad. Petrop. olim.

Hab. Tropical America: Brazil, prov. Mattogrosso, *Riedel, Manso.*

281. *C. SCHLIMII*, *Benth.*, sp. n. Diffusa, pubescens v. hirsuta. Foliola 2–4-juga, obovato-cuneata, semipollice breviora, venis a costa divergentibus furcatis dichotomisve cum 2–3 uno latere a basi oriundis; glandula urceolata, sessilis v. substipitata. Stipulæ e basi latiuscule cordata subulato-acuminatæ. Flores mediocres, pedicellis brevibus.

Hab. Tropical America: Columbia, near Ocaña, *Schlim*, n. 281.

This has much the aspect of *C. cordistipula*; but the leaflets are shorter and broader, and the venation is peculiar.

282. *C. TENELLA*, *H. B. et K.* ! *Nov. Gen. et Sp. Pl.* vi. 365. Caules e rhizomate lignoso, breves, tenelli foliaque glabra. Foliola 3–4-juga, obovato-cuneata, semipollice breviora, venis a costa divergentibus, paucis subreticulatis v. hinc inde furcatis; glandula breviter stipitata. Stipulæ parvæ. Flores mediocres, pedicellis longiusculis.

Hab. Tropical America: near San Borja on the Orinoco, *Humboldt and Bonpland.*

Allied to *C. Schlimii*, but quite glabrous, the veins of the leaflets less prominent and the stipules very small.

C. foliosa, G. Don, Gen. Syst. ii. 446, from Peru; *Pavon*, which I have not seen, may be the same as *C. tenella*, but is insufficiently described for identification.

283. *C. GRANTII*, *Oliv.* ! *Fl. Trop. Afr.* ii. 279. Glaberrima. Caules e rhizomate perenni, breves, diffusi v. ascendentes. Foliola 4–6-juga, latiuscule oblonga, obtusissima, membranacea. Flores mediocres, pedicellis subpollicaribus.

Hab. Tropical Africa.

284. *C. WRIGHTII*, *A. Gray* !, *Pl. Wright.* ii. 50 (*Smiths. Contr.* v.). Glaberrima. Caules e rhizomate perenni, breves, erectiusculi. Foliola 4–6-juga, anguste oblonga, obtusa, membranacea. Flores mediocres, pedicellis subpollicaribus.

Hab. Subtropical North America: New Mexico.

285. *C. TENUISEPALA*, *Benth.* ! in *Mart. Fl. Bras. Cæsalp.* 164. Fruticosa. Foliola

3-4-juga, cuneato-oblonga, obtusa, glabra, rigidule membranacea. Flores majusculi, sepalis pallidis latis tenuibus.

Hab. Tropical America: Brazil, prov. Para, Piahy, and Minas Geraes; Paraguay.

286. *C. PASCUORUM*, *Mart.*! *Fl. Bras. Cæsalp.* 165. Herbacea, erecta. Foliola 4-8-juga, membranacea, utrinque molliter pubescentia. Flores magni.

Hab. Tropical America: Brazil, prov. Bahia.

287. *C. GRAMMICA*, *Spreng.*! *Neue Entd.* iii. 55. Suffrutescens? Foliola 4-7-juga, parva, oblonga subcuneatave, subcoriacea, utrinque molliter pubescentia. Flores majusculi.

C. lineata, var. *brachyloba*, Griseb.! *Pl. Wright. Cub. in Mem. Amer. Acad.* viii. 179.

Hab. Tropical America: Cuba, also Central America, *Ersted.*

Foliola 3-6 lin. longa, fere *C. lineata* costa parum excentrica, venis tamen multo tenuioribus ad utrumque latus costæ sat crebris, inferioribus lateris exterioris approximatis.

Series 4. Coriaceæ. *Frutices suffrutescæ, rarius herbæ perennes. Foliola coriacea, rigida v. crassiuscula, basi bi-plurinervia, costa subcentrali v. excentrica, utrinque pennivenia. Glandula depressa, scutellata v. urceolata, sessilis v. vix stipitata.*

* *Foliola 1-4- rarius hinc inde 5-6-juga. Stipula parvæ, angustæ.*

288. *C. CHORIOPHYLLA*, *Vog.*! *Syn. Cass.* 56. Glaberrima. Foliola 1-juga, falcato-oblonga v. obovata, 1-2-pollicaria; glandula depressa. Flores majusculi.—*Fl. Bras.* 165.

C. gonoclada, Benth. in herb. Acad. Petrop. olim.

Hab. Tropical America: Brazil, prov. Minas Geraes.

289. *C. BURCHELLII*, *Benth.*! in *Mart. Fl. Bras. Cæsalp.* 165. Glaberrima. Foliola 2-3-juga v. floralia 1-2-juga, late oblonga, obtusa, 1-2-pollicaria; glandula depressa. Flores majusculi.

Hab. Tropical America: Brazil, prov. Goyaz.

290. *C. MULTINERVIA*, *Mart.*! *Fl. Bras. Cæsalp.* 166. Glaberrima. Foliola 2-3-juga v. floralia 1-juga, oblonga, mucronata, $\frac{3}{4}$ -1-pollicaria; glandula urceolata. Flores majusculi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

291. *C. LINEATA*, *Swartz, Fl. Ind. Occid.* 726. Diffusa?, puberula. Foliola 2-4-juga, obovato-cuneata, venis a costa divergentibus simplicibus, semipollice breviora; glandula urceolata v. nulla. Flores mediocres.

C. obcordata, Swartz ex Wikstr.! in *K. Vetensk. Akad. Handl. Stockh.* 1825, 429.

C. cuneata, Griseb.! *Cat. Pl. Cub.* 80, non DC.

Hab. Tropical America: Cuba, Jamaica, and other West-Indian islands.

C. obcordata is referred by Grisebach to *C. biflora*, but whether or not on any other authority than Wikström's expression "*C. bifloræ affinis*" does not appear. The description given is totally at variance with that species, and suggested an affinity to *C. lineata*, differing in the rather more numerous leaflets and the stipitate gland; and subsequently I met with an original specimen from Wikström in herb. DC., which appeared to me to be only a slight variety of that species, which requires, however, further comparison with allied species, through a better series of specimens than we possess.

C. tenella and *C. Schlimii* come near to some of the smaller forms of *C. lineata*; but the veins of the leaflets are more or less branched, and their habit is that of *C. cordistipula*. *C. polyadena*, DC., to which Grisebach referred Wright's Cuban specimens, n. 2376, is also nearly allied, differing in the larger, more numerous leaflets, more erect habit, &c.

292. *C. PACHYPHYLLA*, *Mart. ! Fl. Bras. Cæsalp.* 166. Fruticulus ramosissimus. Foliola 3–4-juga, lineari-oblonga v. anguste cuneata, semipollicem raro excedentia, glabra v. puberula; glandula urceolata. Flores mediocres v. majusculi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

293. *C. TRAGACANTHOIDES*, *Mart. ! Fl. Bras. Cæsalp.* 166, t. 45. Fruticulus ramosissimus, foliis confertis. Foliola 2–4-juga, lineari-oblonga v. subcuneata, semipollice breviora, utrinque cano-sericea. Flores majusculi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

** *Foliola* 4–10-juga, rarius 3-juga. *Stipulæ* latæ, foliaceæ, striato-multinerves. *Folia* sæpe disticha.

294. *C. ANCEPS*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 166. Frutex glaber, ramulis ancipitibus. Foliola 3-juga, ovali-oblonga, $\frac{1}{2}$ – $\frac{3}{4}$ -pollicaria. *Stipulæ* oblique cordato-ovatae. Flores majusculi.

Hab. Tropical America: Brazil, prov. Minas Geraes.

295. *C. ROTUNDATA*, *Vog. ! Syn. Cass.* 58. Frutex. Foliola 4–10-juga, late oblonga v. ovalia, obtusissima, in forma typica semipollicem haud excedentia. *Stipulæ* ovatae v. orbiculatae, obtusissimæ. Flores majusculi.—*Fl. Bras.* 167.

Var. *GRANDISTIPULA*. Omnibus partibus major; *stipulæ* rotundatae, 9–12 lin. diametro.

C. grandistipula, *Vog. ! Syn. Cass.* 58.

Var. *ANGUSTIFOLIA*. Foliola angustius oblonga, *stipulæ* ovatae.

Hab. Tropical America: Brazil, prov. Minas Geraes, the three varieties.

296. *C. SWAINSONI*, *Benth. ! in Mart. Fl. Bras. Cæsalp.* 167. Frutex pubescens, forte glutinosus. Foliola 4–6-juga, oblonga, aristato-mucronata, $\frac{3}{4}$ –1-pollicaria. *Stipulæ* latæ, semicordatae, aristato-acuminatae. Flores majusculi.

Hab. Tropical America: Brazil.

297. *C. CINERASCENS*, *Vog. ! Syn. Cass.* 60. Fruticulus ramulis puberulis. Foliola 6–10-juga, oblonga, subsemipollicaria, glabra. *Stipulæ* latæ, oblique cordatae, acutæ v. mucronatae. Flores majusculi. Legumen junius pubescens, demum glabratum.—*Fl. Bras.* 167.

Hab. Tropical America: Brazil, prov. Minas Geraes.

298. *C. DISTICHOCLADA*, *Mart. ! Fl. Bras. Cæsalp.* 168. Frutex ramulis dense pubescenti-hirtis. Foliola 3–5-juga, oblonga, mucronato-acuta, 2–3 lin. longa, punctata, ciliolata. *Stipulæ* oblique cordatae, acutæ. Flores majusculi. Legumen tenuiter pubescens.

Hab. Tropical America: Brazil, prov. Minas Geraes.

*** *Foliola* 10–50-juga. *Stipulæ* late v. anguste lanceolatae.

299. *C. POTENTILLA*, *Mart. ! Fl. Bras. Cæsalp.* 168. Frutex ramulis molliter pubescentibus. Foliola 10–20-juga, oblonga, mucronato-acuta, parva, decrescentia, puberula v. demum glabrata, tenuiter nervosa. *Stipulæ* lato-lanceolatae, persistentes. Flores majusculi. Legumen pubescens.

Hab. Tropical America: Brazil, prov. Minas Geraes.

It is possible that this and *C. distichoclada* may prove to be varieties of *C. cinerascens*, differing chiefly in the number of leaflets, pubescence, and other minor characters.

300. *C. GONOCCLADA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 169. Suffrutex erectus, subglaber. Foliola 10–20-juga, falcato-oblonga, majora $\frac{3}{4}$ -pollicaria, decrescentia. Stipulæ semicordatæ, lato-lanceolatæ, acutæ. Flores majusculi.

Hab. Tropical America: Brazil.

301. *C. FLEXUOSA*, *Linn. Spec. Pl.* 543. Suffruticosa v. perennis caule erecto rigido flexuoso, glabro v. pubescenti. Foliola 20–50-juga, dimidiato-linearia, parva, decrescentia, subglabra. Stipulæ semicordatæ, late lanceolatæ, acutæ. Flores majusculi.—*Fl. Bras.* 169; *Breyn. Cent.* t. 23 (opt.).

C. arenaria, H. B. et K. ! *Nov. Gen. et Sp. Pl.* vi. 370.

Hab. Tropical America: Brazil, Guiana, Columbia, and southward to the Uruguay.

302. *C. RORAIMÆ*, *Benth.*, sp. n. Fruticosa. Foliola 15–25-juga, lineari-falcata, acutissima, subsemipollicaria, decrescentia, nitida, subglabra. Stipulæ semilanceolatæ, caducæ. Flores magni.

Hab. British Guiana: Roraima, *Appun*, n. 1231; and probably in the same mountains, *Rob. Schomburgk*, 2nd coll. n. 582; *Rich. Schomburgk*, n. 840.

Frutex rigide ramosus, ramulis petiolisque pubescentibus. Foliola 15–25-juga, lineari-falcata, acutissima, rigida, basi obliqua, sub-5-nervia, glabra v. margine ciliata, supra nitida, subtus pallida, inferiora cujusve folii 4–6 lin. longa, superiora sæpius valde decrescentia. Petiolus communis 2–3-pollicaris. Glandula sessilis, scutellata v. urceolata. Stipulæ semilanceolatæ, striatæ, caducæ. Pedicelli semipollicares. Sepala acuminata, semipollicaria v. longiora, extus minute puberula. Petala pollicaria. Antheræ parum inæquales. Ovarium dense hirsutum. Legumen perfectum 2-pollicare v. longius, 3–3½ lin. latum, hirtellum.

303. *C. OLESIPHYLLA*, *Vog.!* *Syn. Cass.* 68. Frutex ramulis sordide pubescentibus. Foliola 15–30-juga, linearia, parva, decrescentia, rigida, puberula v. glabrata. Stipulæ semilanceolatæ, rigidæ, persistentes. Flores majusculi.—*Fl. Bras.* 169.

C. rupicola, *Benth.* in herb. Acad. Petrop. olim.

Hab. Tropical America: Brazil, prov. Minas Geraes.

**** Foliola 4–20-juga. Stipulæ parvæ v. angustæ.

304. *C. ARISTATA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 170. Frutex ramulis pubescentibus. Foliola 4–7-juga, late ovata, aristato-mucronata, subsemipollicaria, glabra v. puberula. Stipulæ lanceolato-subulatæ. Flores majusculi.

Hab. Tropical America: Brazil.

305. *C. VENULOSA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 170. Frutex ramulis pubescenti-hirtis. Foliola 6–8-juga, falcato-oblonga, acuta, subsemipollicaria, pubescentia. Stipulæ sublanceolato-lineares. Legumen longe pilosum.

Hab. Tropical America: Brazil, prov. Minas Geraes.

306. *C. DREPANOPHYLLA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 170. Suffrutex? caule molliter pubescente. Foliola 15–20-juga, falcato-oblonga, acuta, $\frac{1}{2}$ – $\frac{3}{4}$ -pollicaria, sæpe decrescentia, puberula. Flores majusculi.

Hab. Tropical America: Brazil, prov. Ceara and Bahia.

307. *C. PARVISTIPULA*, *Benth.!* in *Mart. Fl. Bras. Cæsalp.* 170. Suffrutex? glaberrimus. Foliola 8–12-juga, lineari-oblonga, obtusa, 4–8 lin. longa. Stipulæ parvæ. Flores mediocres.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz.

Series 5. Subcoriaceæ. *Perennes v. fruticosæ, erectæ. Foliola 3–10-juga, obtusa, costa subcentrali pennivenia, sæpius subcoriacea. Glandula sessilis v. rarius stipitata. Stipulæ angustæ v. parvæ.*

308. *C. GREGGII*, *A. Gray*!, *Pl. Wright*. i. 61 (*Smiths. Contrib.* iii.). Frutex subglaber. Foliola 3–5-juga, parva, oblonga, obtusa, coriacea, 3–5 lin. longa, costa subcentrali, venis reticulatis; glandula parva, breviter stipitata. Flores majusculi.

Hab. Subtropical North America: South Texas.

This species would be almost as well placed amongst the *Coriaceæ* near *C. lineata*, connecting the two series.

309. *C. MUCRONATA*, *Spreng. Syst.* ii. 341. Frutex ramulis pubescentibus. Foliola 3–4-juga, latiuscule oblonga, obtusa, glabra v. puberula, $\frac{1}{2}$ –1-pollicaria, costa subcentrali tenuiter pennivenia; glandula urceolata. Flores majusculi.—*Fl. Bras.* 171.

Hab. Tropical America: Brazil, prov. Minas Geraes and Maranhão.

310. *C. POLYADENA*, *DC.*! *Pl. Rar. Jard. Gen.* 2^e *Rapp.* 12. Frutex ramulis puberulis. Folia 5–10-juga, oblonga, obtusa, subglabra, semipollicaria v. longiora, costa subcentrali pennivenia; glandula depressa v. rarius substipitata, interjugales etiam sæpe adsunt. Legumina patentia.

Hab. Tropical America: Jamaica, Guadeloupe, Bahamas.

Nearly allied to *C. virgata*, but with much larger, fewer, and more coriaceous leaflets, which, however, are much more numerous than in *C. lineata*, which this species otherwise resembles. There are three West-Indian forms in our herbaria—one with pubescent leaves and rather large sessile glands, another with glabrous leaves and small almost sessile and few glands, a third with similar glabrous leaves but the glands remarkably stipitate and rather numerous.

311. ? *C. REPENS*, *Vog. Syn. Cass.* 60. Suffrutex humilis, molliter pubescens v. glabratus. Foliola 4–10-juga, oblonga, obtusa, sæpius mucronata, subsemipollicaria, costa subcentrali pennivenia; glandula sessilis v. subsessilis. Legumina patentia.—*Fl. Bras.* 171.

Hab. Tropical America: Brazil, prov. Minas Geraes.

A specimen from the Andes of Popayan in herb. Hook. appears to be a variety of this species, which may possibly not be distinct from the following *C. cuneata*; but the specimens are as yet insufficient to determine the point.

312. *C. CUNEATA*, *DC.*! in *Collad. Hist. Cass.* 121. Habitus et stipulæ *C. repentis*. Foliola 4–6-juga, oblongo-cuneata, semipollicaria, supra glabra, subtus pubescentia, costa subcentrali lineato-pennivenia, basi tamen a latere exteriore sæpius 1–2-nervia; glandula subsessilis. Pedicelli 1–3-ni, semipollicares, pubescentes. Sepala acuminatissima.

Hab. Tropical America? A single specimen of uncertain origin in herb. DC.

313. *C. BRACHYPODA*, *Benth.*! in *Mart. Fl. Bras. Cæsalp.* 172. Herbacea v. suffruticosa, erecta, molliter pubescens v. hirsuta. Foliola 6–10-juga, oblonga, obtusa, $\frac{1}{2}$ –1-pollicaria, costa subcentrali crebre pennivenia; glandula sessilis, depressa. Flores mediocres. Pedicelli brevissimi et legumina erecta, stricta, more *C. patellariæ* et *C. nigricantis*.

Hab. Tropical America: Brazil, prov. Minas Geraes and Goyaz; Bolivia, prov. Chiquitos, *Weddell*; Lamas, Peru, *Spruce*.

This may possibly be reducible to *C. vestita*, *Vog. Syn. Cass.* 60, *Linnaea* xi. 711, a species I have not seen, and accidentally omitted in *Fl. Bras.* It agrees with *C. brachypoda* in every respect except that the gland is said to be urceolate and shortly stipitate.

Series 6. *Chamæcristæ veræ*. *Herbæ v. suffrutices*. *Foliola* 8–20-*juga* (in *C. mimosoides* sæpe ultra 30-*juga*), *membranacea*, *costa subcentrali v. excentrica utrinque pennivenia v. rarius venulis latere angustiore subvenidis*. *Glandula sessilis vel stipitata*. *Stipulæ parvæ v. angustæ*.

* *Foliola obtusa v. acutiuscula, costa subcentrali v. parum excentrica*.

314. *C. CHAMÆCRISTA*, *Linn. ! Spec. Pl.* 542. *Herbacea*. *Glandula sessilis, depressa*. Flores majusculi.

C. triflora, Jacq. Hort. Schænbr. t. 480, fide specim. in herb. DC.

C. venosa, Castigl. ex DC. in Collad. Hist. Cass. 130.

C. castiglionea, Collad. *l. c.* lapsu calami pro *C. trifolia*, Jacq.

C. Hornemanni, DC. Prod. ii. 507 (*C. venosa*, Hornem. Hort. Hafn. Suppl. 46), ex char. nimis brevi.

C. pulchella, Salisb. Prod. 326.

C. fasciculata, Mich. Fl. Bor.-Amer. i. 262.

Var. *BRASILIENSIS*, *Vog. ! Mart. Fl. Bras. Cæsalp.* 172, t. 45. *Caule robustiore, 1–3-pedali*.

C. hypnotica, Vell. Fl. Flum. 169; Ic. iv. t. 75, ex icone.

C. gemina, Vell. *l. c.*; Ic. t. 74 est forte forma floribus minoribus.

Hab. Subtropical and extratropical N. America, where it varies exceedingly in stature, indumentum, &c., as well as in the proportion of large and small anthers. The Brazilian variety appears common in South and Central Brazil and Eastern Bolivia.

The original typical form appears to be annual; but some varieties are described by collectors as shrubby, at least at the base, and it is possible that characters might be found generally to separate as species the Brazilian from the North-American forms; but then it would be necessary to split up the North-American ones into several species. The specimens, for instance, from Texas, *Lindheimer*, 2nd coll. n. 232, have a very distinct habit. On the other hand, the whole of the group of the *Chamæcristæ veræ* seem to pass so gradually one into the other, that the delimitation of species here given must be admitted to be very unsatisfactory.

C. felipensis, H. B. et K. ! Nov. Gen. et Sp. vi. 368, with quite sessile glands, appears to be referable rather to *C. Chamæcrista* than to *C. glandulosa*.

315. *C. FLAVICOMA*, *H. B. et K. ! Nov. Gen. et Sp.* vi. 366. *Fruticosa, molliter aureo-pubescent*. *Glandula urceolata v. stipitata*. Flores majusculi. Legumen villosum.—*Fl. Bras.* 173.

C. stipitata, G. Don !, Gen. Syst. ii. 44.

Hab. Tropical America: Columbia and Peru.

316. *C. VIRGATA*, *Swartz !, Fl. Ind. Occid.* ii. 728. *Fruticosa, glabra v. adpresse pubescens*. *Glandula stipitata*. Legumen glabrum.

C. Chamæcrista, Mill. ! herb., at non Dict. n. 17.

C. glandulosa, Hook. Bot. Mag. t. 3435; Benth. Pl. Hartw. 263, and others.

C. Swartzii, Wikstr. in Stockh. Vetensk. Akad. Handl. 1825, 430, ex Griseb.

Hab. Tropical America: West-Indian Islands.

317. *C. GLANDULOSA*, *Linn. ! Spec. Pl.* 542. *Herbacea v. suffruticosa, pubescens v. glabrescens nec patentim pilosa*. *Glandula stipitata*. Flores majusculi, longiuscule pedicellati. Legumen glabrum v. pube brevi conspersum.—*Fl. Bras.* 173.

C. propinqua, H. B. et K. ! Nov. Gen. et Sp. vi. 369.

C. erecta, Willd. herb. ex Steud. Nom. Bot. ed. 2.

C. Otterbeinii, G. F. W. Mey. Prim. Fl. Esseq. 169, ex descr.

C. parvifolia, Wender. in Syll. Flor. Ratisb. i. 65, ex descr.

C. Pavoniana, G. Don !, Gen. Syst. ii. 447.

C. disadena, Steud. ! in Flora, 1843, 760.

C. ramosissima, H. B. et K. ! Nov. Gen. et Sp. vi. 367, videtur hujus potius quam *C. flavicomæ* var.

Hab. Tropical America : Brazil, Guiana, Columbia, Peru.

318. *C. STENOCARPA*, Vog. ! *Syn. Cass.* 68. Herbacea v. suffruticosa, patentim pilosa. Glandula stipitata. Flores mediocres, breviter pedicellati. Legumen glabrum v. pube brevi conspersum.—*Fl. Bras.* 173.

Hab. Tropical America : Brazil, Guiana, Columbia.

319. *C. RIPARIA*, H. B. et K. ! *Nov. Gen. et Sp.* vi. 369. Herbacea v. suffruticosa, glabra v. tenuiter pubescens. Glandula stipitata. Flores mediocres, breviter pedicellati. Legumen pilis longiusculis conspersum.—*Fl. Bras.* 174.

C. Parkeriana, DC. ! *Prod.* ii. 504.

Hab. Tropical America : Brazil, Guiana, Peru, Central America, West-Indian Islands.

The three preceding species ought probably to be united into one ; but if *C. stenocarpa* be retained as distinct, *C. riparia* cannot well be referred to *C. glandulosa*.

320. *C. NIGRICANS*, Vahl, *Symb.* i. 30. Herbacea, molliter hirsuta. Glandula sessilis, depressa. Flores parvi, brevissime pedicellati. Legumina erecta, stricta, pilosa.—*Oliv. ! Fl. Trop. Afr.* ii. 280.

C. micrantha, Guill. ! et Perr. Fl. Seneg. 262.

C. Arnottiana, Wight !, herb. propr. n. 2410.

Hab. Tropical Africa and Asia.

C. pilidens, Steud. Nom. Bot. ed. 2, is founded on the Abyssinian specimens, Schimper, n. 66, at first referred to the N. American *C. nictitans*, of which it has the aspect and small flowers, with only 4 or 5 stamens ; but the gland is broad and sessile, and it may very possibly prove to be a reduced variety of *C. nigricans*, differing in being less hairy, with rather longer more slender pedicels, and only 4 or 5 stamens. The specimens are few, much smaller and more slender than *C. nigricans* usually is. We have also two very similar specimens from Simla in herb. Hook., and one very near to them from N. China.

321. *C. BREVIFOLIA*, Lam. *Dict.* i. 651, *fide herb. DC. !* Pumila, diffusa, pilis paucis brevibus conspersa. Folia parva, foliolis confertis. Glandula parva, depressa. Flores mediocres, longiuscule pedicellati. Sepala obtusa.

Hab. Madagascar.

Fruticulosa videtur. Folia vix semipollicaria, foliolis 8–12-jugis approximatis 1–2 lin. longis oblongis obtusis coriaceis, costa subcentrali nunc duplicata, venis utrinque perpaucis prominulis. Stipulæ e basi lanceolata v. cordata setaceo-acuminatæ. Pedicelli solitarii. Sepala glabra.

Var. *MINUTULA*, Boj. !, longius pilosa, foliis tenuioribus, venis vix conspicuis.

Hab. Madagascar, in the lofty mountains of the province of Emirna, Bojer in herb. DC.

** *Foliola angustiora, sæpius acutiuscula v. mucronato-acuta, costa magis excentrica, margini superiori plus minus approximata, venis tamen sæpius nonnullis obliquis interjectis.*

322. *C. NICTITANS*, Linn. ! *Spec. Pl.* 543. Annua, erecta v. diffusa, ramosa, glabra v. pilosa. Glandula urceolata, sessilis v. breviter stipitata. Flores parvi, breviter pedicellati. Stamina 4–6, sæpius 5, filamentis longiusculis (in sequentibus stamina sæpius 7–10 filamentis, abbreviatis).

C. procumbens, Linn. *Spec. Pl.* 543, quoad plantam boreali-Americanam non Linn. herb.

C. diffusa, DC. ! in *Mém. Soc. Hist. Nat. Genève*, ii. 130.

Grimaldia assurgens et *G. decumbens*, Schrank, in *Denkschr. Münch. Akad.* 1808, 110, 111, t. 4, 5.

Cassia smaragdina, Macfad. *Fl. Jam.* i. 347, ex Griseb.

C. aspera, Muhlenb. in *Ell. Bot. S. Car. and Georg.* i. 474, ex Torr. et Gr.

Hab. Subtropical N. America : Southern United States, Mexico, and perhaps also tropical America, W. Indies, Guiana, and Columbia.

Although Linnæus gives “in Indiis” as well as Virginia for the habitat of his *C. procumbens*, both his references belong to the N. American species, which is certainly not distinct from *C. nictitans*.

323. *C. ZAMBESICA*, Oliv. ! *Fl. Trop. Afr.* ii. 280. Herbacea (erecta ?), patentim pilosa. Glandula tenuiter stipitata. Flores parvi, breviter pedicellati. Stamina 7–10. Legumen hirsutum.

Hab. Tropical Africa.

This has the gland of the *Prostratæ*; but the habit appears to be more that of the *Chamæcristæ veræ*.

324. *C. PROCUMBENS*, Linn. ! *herb. et Spec. Pl.* 543, *ex parte*. Suffruticosa, procumbens, pubescens. Glandula parva, sessilis v. breviter stipitata. Flores parvuli v. mediocres, breviter v. longiuscule pedicellati. Stamina 7–10. Legumen sparse pilosulum.

C. pygmæa, DC. ! *Prod.* ii. 502.

C. Chamæcrista, Mill. ! *Dict.* n. 17.

C. chamæcristoides, Collad. *Hist. Cass.* 134.

Hab. Tropical America : Vera Cruz, Houston; Costarica, *Ærsted*; St. Domingo (DC., Vogel).

Caules e basi plus minus lignosa prostrataque, apice adscendentes, semipedales ad pedales, uti folia pilis subappressis substrigosis pubescentes interdum cinerascens. Foliola 8–20-juga, jugis confertis, dimidiato-oblonga, sublinearia, costa valde excentrica, venis uno latere 1–2 basilaribus paucisque a costa divergentibus, inter costam et marginem superiorem perpaucis obscurisve, in forma normali $1\frac{1}{2}$ –3 lin. longa (folio toto sæpe vix semipollicaria), rigidula, oblique acutiuscula. Stipulæ anguste v. latiuscule lanceolatae.

Berlandier's n. 2427, from Texas, seems to be a rather larger variety, with larger stipules and flowers, and longer pedicels; Wright's n. 2380, from Cuba, has smaller leaflets, bordered by long cilia; but all belong probably to one species. The larger specimens sometimes resemble *C. cinerea*, but the venation of the leaflets is quite different.

325. *C. PATELLARIA*, DC. ! in *Collad. Hist. Cass.* 125, t. 16. Herbacea (v. suffruticosa ?), erecta, molliter hirsuta. Glandula sessilis, depressa. Flores parvi, aggregati, brevissime pedicellati. Stamina 7–10. Legumina erecta, stricta, hirsuta.—*Fl. Bras.* 174.

Hab. Tropical America : Brazil, Guiana, and Columbia.

In its habit, indumentum, small flowers, and erect pods clustered in the axils, this species closely resembles the African *C. nigricans*: but the venation of the leaflets will be found quite different; it is

almost that of *C. mimosoides* in *C. patellaria*, whilst in *C. nigricans* the midrib is nearly central as in *C. Chamæcrista*.

Var. ? LONGIFOLIA, foliis 4–5-pollicaribus, foliolis $\frac{1}{2}$ – $\frac{3}{4}$ -pollicaribus iis *C. subtrifloræ* subsimilibus. Glandula depressa *C. patellariæ*.

Hab. Tropical America: Brazil, Bolivia, Peru, Columbia, Guiana, W. Indies, Mexico; the long-leaved variety in N. Brazil, *Spruce*.

326. *C. PRÆTEXTA*, *Vog. Syn. Cass.* 67. Herbacea, subglabra. Glandula sessilis, turbinato-cupulata. Flores parvi, brevissime pedicellati. Antheræ 7–10. Legumen glabrum, crassum, incurvum, suturis late marginatis fere alatis.—*Fl. Bras.* 173.

Hab. Tropical America: North Brazil, *Spruce*; Cayenne, *Aublet*; Guiana, *Schomburgk*, 1st coll. n. 683; Trinidad, *Crueger*.

This species, very remarkable for its fruit, appears to be scarce, although rather widely diffused; for the few collectors who have gathered it have generally sent few or even single specimens, perhaps because, when in flower, it is readily confounded with other *Chamæcrista*.

327. *C. MIMOSOIDES*, *Linn. Spec. Pl.* 543. Herbacea v. suffruticosa, pubescens v. glabra, erecta v. basi decumbens. Foliola numerosa, lineari-falcata v. lineari-oblonga. Glandula sessilis, depressa v. parum elevata. Flores parvi, mediocres v. rarius majusculi, breviter nunc brevissime pedicellati. Antheræ 7–10 (v. rarius in floribus parvis 5–6). Legumina glabra v. pubescentia, sæpius patentia.—*Fl. Bras.* 175; *Oliv. Fl. Trop. Afr.* ii. 280; *Benth. Fl. Austral.* ii. 291.

a. Forma typica. Foliola parva, numerosa, angustissima, petiolo sæpe inter juga marginato. Flores parvi, nunc minimi.

C. angustissima, Lam. Dict. i. 650.

Senna dimidiata, *S. sensitiva*, et *S. tenella*, Roxb.! *Fl. Ind.* ii. 352, 353, 354.

Cassia dimidiata, *C. sensitiva*, et *C. tenella*, Roxb.! *Hort. Beng.* 32.

C. amæna, Ham.! in Wall. Cat. Herb. Ind. n. 5321.

C. Roxburghiana, Grah.! in Wall. Cat. Herb. Ind. n. 5323 (floribus inter *a* et *β* mediis).

Chamæcrista stricta, E. Mey.! *Comm. Pl. Afr. Austr.* 159.

Cassia filipendula, Boj. in Nov. Act. Nat. Cur. xxii. 399, t. 42, ex ic. et descr. (radicibus hinc inde nodoso-tuberosis).

β. MYRIOPHYLLA. Foliola parva, numerosa, angustissima, petiolo marginato v. immarginato. Flores mediocres, sæpius paullo longius pedicellati.

C. microphylla, Willd. *Spec. Pl.* ii. 529, fide Vogelii.

C. hecatophylla, DC. in Collad. Hist. Cass. 124, t. 18.

C. myriophylla, Wall.! Cat. Herb. Ind. n. 5326.

Chamæcrista plumosa, E. Mey.! *Comm. Pl. Afr. Austr.* 159.

Cassia plumosa, Vog. *Syn. Cass.* 64.

C. Telfairiana, Wall.! Cat. Herb. Ind. n. 5324; *Bot. Mag.* t. 5874 (floribus adhuc majoribus).

C. guineensis, G. Don, *Gen. Syst.* ii. 499 (foliolis mendo 4-jugis pro 40-jugis), ex Vog. in Linnæa, xi. 714.

γ. ÆSCHYNOMENE. Foliola linearia, latiora tamen et minus rigida quam in forma typica. Planta glabra v. laxè pubescens. Flores mediocres v. parvuli, breviter pedicellati.

C. æschynomene, DC.! in Collad. Hist. Cass. 127, t. 17.

C. Wallichiana, DC. ! in Wall. Cat. Herb. Ind. n. 5320.

C. Leschenaultiana, DC. ! in Mém. Soc. Hist. Nat. Genève, ii. 132.

♂. AURICOMA. Caulis superne pube densa sæpius aurea hirsutus. Cætera formæ præcedentis.

C. auricoma, Grah. ! in Wall. Cat. Herb. Ind. n. 5322.

Hab. Tropical Asia, Africa, and Australia, very abundantly, more rare in America.

The typical form, with small narrow compact leaflets and very small flowers, is exceedingly abundant and variable all over the tropical regions of the Old World, where it passes into the larger-flowered var. β , of which a rather exaggerated form occurs rarely in tropical America, with as many as fifty pairs of leaflets, and is that figured by Colladon as *C. hecatophylla*, and of which I have seen specimens from British Guiana, *Appun*, n. 796. The var. *æschynomene*, with rather broader and less crowded leaflets, of which we have several specimens from the West Indies, Guiana, and North Brazil, distinguished from *C. glandulosa* and its allies by the glands and venation of the leaves, seems to vary but little in that country; but a precisely corresponding East-Indian form, included in *C. Wallichiana*, passes there very gradually into the small-flowered typical *C. mimosoides* on the one hand, and on the other into the larger-flowered and more hairy varieties *C. Telfairiana* and *C. auricoma*.

Some specimens of *C. Kleinii*, with the midrib less marginal, much resemble some varieties of *C. mimosoides*, but are readily known by the small stipitate gland.

328. *C. COMOSA*, *Vog. Syn. Cass.* 65. Herbacea?, glabriuscula, erecta v. basi decumbens. Foliola oblique v. subfalcato-oblonga, 2-3 lin. lata. Glandula magna, depressa. Cætera *C. mimosoidis*.

Chamæcrista comosa, E. Mey. Comm. Pl. Afr. 160.

Hab. Extratropical South Africa: eastern districts towards Port Natal.

I have only seen two or three detached specimens which appear referable to this species, of which I have not met with the type. The leaflets are very much broader than in any form known of *C. mimosoides*, of which they have the venation.

329. *C. SUBTRIFLORA*, *Mart. ! Fl. Bras. Cæsalp.* 176. Suffruticosa, undique laxè mollior et pubescens. Foliola valde obliqua, lineari-oblonga. Glandula urceolata. Flores majusculi, breviter pedicellati. Legumina patentia, laxè hirsuta.

Hab. Tropical America: Brazil, prov. Minas Geraes, Ceara, Piahy, and Rio Negro.

Very near some of the larger forms of *C. mimosoides*, but also with something of the habit of *C. patellaria*, but with much larger flowers.

330. *C. KIRKII*, *Oliv. ! Fl. Trop. Afr.* ii. 281. Molliter villosa, grandifolia, grandiflora. Cætera fere *C. mimosoidis* var. *auricomæ*.

Hab. Tropical Africa.

I have some doubts whether this should be regarded as more than an extreme form of *C. mimosoides*. Welwitsch's fine specimens, with broad black sepals, appear as distinct as any *Chamæcrista*; but there are also two specimens from the more eastern districts of tropical Africa which are about intermediate between Welwitsch's and some Mauritius specimens of the large-flowered *C. mimosoides* named by Wallich *C. Telfairiana*.

Series 7. Dimidiatæ. *Suffrutices v. herbæ procumbentes v. rarius frutices erecti. Foliola 8-20- rarius 20-30-juga, angusta, sæpius acuta rigidulaque, costa margini superiori arcte approximata v. cum eo confluenta, venis exterioribus valde obliquis.*

331. *C. CAPENSIS*, *Thunb. Fl. Cap.* 318. Suffrutex humilis, pubescens v. glabriusculus. Foliola linearia, obtusiuscula. Glandula minima. Stipulæ angustæ, striatæ. Flores majusculi, longiuscule pedicellati. Stamina 10.

Chamæcrista capensis, E. Mey. ! in *Linnæa*, vii. 172.

Hab. South Africa, Madagascar, and Mauritius.

C. Burmanni, DC. *Prod.* ii. 502, very imperfectly described, is probably a form of this species.

332. *C. FALCINELLA*, *Oliv. ! Fl. Trop. Afr.* ii. 281. Suffrutex ? patentim pilosus. Foliola linearia, falcata, mucronato-acuta. Glandula parva. Stipulæ latæ, semicordatæ, falcatæ, striatæ. Flores mediocres, longe pedicellati. Stamina 10.

Hab. Tropical Africa.

333. *C. CONCINNA*, *Benth. ! Fl. Austral.* ii. 291. Perennis v. suffruticosa, diffusa, pubescens. Foliola linearia, falcata, mucronato-acuta. Glandula parva, stipitata. Stipulæ minimæ, patentæ. Flores mediocres, longe pedicellati. Stamina 5.

Hab. Tropical and Eastern subtropical Australia.

334. *C. KLEINII*, *W. et Arn. ! Prod. Fl. Penins. Ind. Or.* 293. Perennis v. suffruticosa, diffusa, pubescens. Foliola oblongo-linearia, subfalcata, mucronata. Glandula stipitata. Stipulæ semilanceolatæ, erectæ. Flores breviter v. rarius longiuscule pedicellati. Stamina 10.

C. dimidiata, Klein, in Wall. ! *Cat.* n. 5328.

Hab. Tropical Asia.

This species seems to vary with the midrib either close to the margin or at some distance from it, but very rarely with any lateral veins on the upper narrow side.

335. *C. STRIGILLOSA*, *Benth.* Suffruticosa, prostrata, pilis rigidulis subappressis pubens. Foliola 8-12-juga, lineari-falcata, acuta v. oblongo-linearia, venis pluribus a costa marginali divergentibus prominentibus. Glandula parva, subsessilis. Stipulæ angustæ, striatæ. Flores mediocres v. majusculi, longe pedicellati. Legumen vix 2 lin. latum.

C. serpens, Griseb. ! *Cat. Pl. Cub.* 80, non Linn.

Hab. Tropical America: Cuba, *Linden*, n. 1708, *Wright*, n. 147; St. Domingo, *herb. Mus. Petrop.*

Possibly a variety of *C. cinerea*, but a strongly marked one.

336. *C. CINEREA*, *Cham. et Schlecht. ! in Linnæa*, v. 599. Suffruticosa, prostrata, pubes strigosa cinerascens. Foliola 12-20-juga, lineari-falcata, acuta, costa marginali venisque paucis plerisque basilaribus elongatis. Glandula parva, subsessilis. Stipulæ angustæ, striatæ. Flores magni, breviter pedicellati. Legumen $2\frac{1}{2}$ -3 lin. latum.

Hab. Tropical America: Mexican sea-coast, *Schiede and Deppe*, *Galeotti*, n. 3408, *Liebmänn, Berlandier*, n. 2479.

337. *C. TRISTICULA*, *H. B. et K. Nov. Gen. et Sp.* vi. 367. Suffrutex v. frutex erectus, ramulis villosopubescentibus. Foliola 15-25-juga, oblique v. subfalcato-linearia, acuta, costa marginali. Flores majusculi, longiuscule pedicellati.

C. flavicoma, Benth. Pl. Hartw. 171, non H. B. et K.

C. rusa, Mart. et Gal. ! in Bull. Acad. Brux. x. 2. 306.

Hab. Tropical America : Columbia, Central America, and Mexico.

338. *C. PEDICELLARIS*, DC. ! *Prod.* ii. 504. Frutex ?, ramulis strigoso-pubescentibus. Foliola 15–20-juga, subfalcato-linearia, incurvo-mucronata, costa marginali, 3–4 lin. longa, superiora decrescentia. Glandula longiuscule stipitata. Flores mediocres, longiuscule pedicellati.

Hab. Tropical America : St. Domingo, *herb.* DC.

This may prove to be a variety of *C. tristicula* ; but it appears distinct.

The following supposed species have been named only, or so imperfectly described as to make it impossible now to identify them, although there is very little doubt that they are all included under other names in the foregoing enumeration :—

C. aurita, Collad. Hist. Cass. 131 ; *C. macradena*, Collad. *l. c.* 132 ; and *C. tuberculata*, Collad. *l. c.* 133, all from Brazil, probably common Rio Janeiro species, all named by Colladon on the sole authority of the very meagre diagnoses given in Vandelli, Fl. Lus. et Bras. specim. 26 (also in Rœm. Script. 104).

C. dispar, Willd. Enum. Hort. Berol. 441 ; *C. hirta*, Willd. *l. c.* Suppl. 23 ; *C. elegans*, Voigt, in Syll. Fl. Ratisb. ii. 55 ; *C. eglandulosa*, Dum. Cours, ex DC. *Prod.* ii. 506 ; *C. homophylla*, Hoffmans. Verz. ex DC. *Prod.* ii. 506 ; *C. glaucescens* and *C. papulosa*, Hoffmans. *l. c.* ex Steud. Nom. Bot. ; *C. acisperma*, Colla, Hort. Rip. App. ii. 343, are all garden plants very imperfectly described, mostly without having seen flowers or fruit, and now not to be recognized.

C. ornata, Klotzsch in Schomb. Reis. Gui. iii. (Vers. Faun. u. Fl. Brit. Gui.) 1104 ; *C. Arowana*, Schomb. *l. c.* 1206 ; *C. Schomburgkii*, *C. leucoxyton*, and *C. annulata*, Klotzsch, *l. c.* 1207, are names only, without quotation of numbers or any other means of identification, and, without doubt, included among the species above enumerated, as I had received from Sir Robert Schomburgk what he considered a complete set of his own and his brother's Guiana collections.

C. australis, Reinw. ; *C. biglandulosa*, Bertol., referred by Sprengel to *C. patellaria* ; *C. bonariensis*, Hortul., referred by Colladon to *C. corymbosa* ; *C. purgans*, Steud., named from Bertero's Chilian specimens, n. 148, are names only entered in Steudel's 'Nomenclator Botanicus.'

The following supposed species do not belong to the genus :—

C. biflora, Mill. ! Dict. n. 14, non Linn., altered to *C. Houstoniana*, Collad. Hist. Cass. 132, was founded on a small imperfect specimen of an *Æschynomene*.

C. paramariboensis, Miq. in Ann. Nat. Hist. ser. 1, xi. 15, from Surinam, described from fruiting specimens without having seen the flowers (Miq. in Linnæa, xviii. 584), is evidently *Æschynomene sensitiva*, L.

C. disperma, Vell. Fl. Flum. 167, Ic. iv. t. 69, = *Peltophorum Vogelianum*, Benth.

C. fluminensis, Vell. *l. c.* 168, t. 72, = *Dimorphandra exaltata*, Schott.

C. parahyba, Vell. *l. c.* t. 71 = *Schizolobium excelsum*, Vog.

C. paratyensis, Vell. *l. c.* t. 70, is no *Cassia* ; but the genus is uncertain.

The following determinations of a few numbered collections more or less generally distributed may be found useful:—

ASIATIC COLLECTIONS.

Cuming's Philippine-Island Plants.

666	<i>C. occidentalis</i> , <i>Linn.</i>	1028	<i>C. nodosa</i> , <i>Ham.</i>	1450	<i>C. occidentalis</i> , <i>Linn.</i>
747	<i>C. Tora</i> , <i>Linn.</i>	1369	<i>C. mimosoides</i> , <i>Linn.</i>	1805	<i>C. fistula</i> , <i>Linn.</i>
968	<i>C. timorensis</i> , <i>DC.</i>				

Wallich's Distribution of Indian Plants.

5301	<i>C. alata</i> , <i>Linn.</i>	5312	<i>C. glauca</i> , <i>Lam.</i>	5322	<i>C. mimosoides</i> , <i>Linn.</i>
5302	<i>C. Fistula</i> , <i>Linn.</i>	5313	<i>C. bicapsularis</i> , <i>Linn.</i>	5323	<i>C. mimosoides</i> , <i>Linn.</i>
5303	<i>C. auriculata</i> , <i>Linn.</i>	5314	<i>C. Absus</i> , <i>Linn.</i>	5324	<i>C. mimosoides</i> , <i>Linn.</i>
5304	<i>C. hirsuta</i> , <i>Linn.</i>	5315	<i>C. Absus</i> , <i>Linn.</i>	5325	<i>C. mimosoides</i> , <i>Linn.</i>
5305	<i>C. siamea</i> , <i>Lam.</i>	5316	<i>C. Tora</i> , <i>Linn.</i>	5326	<i>C. mimosoides</i> , <i>Linn.</i>
5306	<i>C. timorensis</i> , <i>DC.</i>	5317	<i>C. Sophora</i> , <i>Linn.</i> , et <i>C. occi-</i>	5327	<i>C. pumila</i> , <i>Lam.</i>
5307	<i>C. renigera</i> , <i>Wall.</i>		<i>dentalis</i> , <i>Linn.</i>	5328	<i>C. Kleinii</i> , <i>W. et Arn.</i>
5308	<i>C. marginata</i> , <i>Rowb.</i>	5318	<i>C. angustifolia</i> , <i>Vahl.</i>	5329	<i>C. tomentosa</i> , <i>Linn.</i>
5309	<i>C. javanica</i> , <i>Linn.</i>	5319	<i>C. obovata</i> , <i>Collad.</i>	5330	<i>C. montana</i> , <i>Heyne.</i>
5310	<i>C. multijuga</i> , <i>Rich.</i>	5320	<i>C. mimosoides</i> , <i>Linn.</i>	5331	<i>C. nodosa</i> , <i>Hamilt.</i>
5311	<i>C. glauca</i> , <i>Lam.</i>	5321	<i>C. mimosoides</i> , <i>Linn.</i>		

SOUTH-AMERICAN COLLECTIONS.

Appun: British Guiana.

363	<i>C. multijuga</i> , <i>Rich.</i>	1231	<i>C. Roraimæ</i> , <i>Benth.</i>	1804	<i>C. grandis</i> , <i>Linn.</i>
796	<i>C. mimosoides</i> , <i>Linn.</i> , var.	1535	<i>C. glandulosa</i> , <i>Linn.</i>	1904	<i>C. latifolia</i> , <i>Mey.</i>

Blanchet: Brazil.

43	<i>C. quinquangulata</i> , <i>Rich.</i>	1836	<i>C. brachystachya</i> , <i>Benth.</i>	2895	<i>C. cana</i> , <i>Nees.</i>
181	<i>C. rotundifolia</i> , <i>Pers.</i>	1879	<i>C. hispidula</i> , <i>Vahl.</i>	3012	<i>C. Tora</i> , <i>Linn.</i>
251	<i>C. flexuosa</i> , <i>Linn.</i>	1986	<i>C. Tora</i> , <i>Linn.</i>	3093	<i>C. viscosa</i> , <i>H. B. et K.</i>
253	<i>C. patellaria</i> , <i>DC.</i>	2167	<i>C. uniflora</i> , <i>Spr.</i> , var.	3128	<i>C. curvifolia</i> , <i>Vog.</i>
371	<i>C. drepanophylla</i> , <i>Benth.</i>	2168	<i>C. uniflora</i> , <i>Spr.</i>	3486	<i>C. splendida</i> , <i>Vog.</i>
653	<i>C. uniflora</i> , <i>Spr.</i> , var.	2536	<i>C. Langsdorffii</i> , <i>Kunth</i> , var.	3553	<i>C. excelsa</i> , <i>Schrad.</i>
1038	<i>C. uniflora</i> , <i>Spr.</i> , var.	2549	<i>C. Blancheti</i> , <i>Benth.</i>	3666	<i>C. barbata</i> , <i>Nees et Mart.</i>
1207	<i>C. stenocarpa</i> , <i>Vog.</i>	2553	<i>C. excelsa</i> , <i>Schrad.</i>	3667	<i>C. speciosa</i> , <i>Schrad.</i>
1397	<i>C. uniflora</i> , <i>Spr.</i> , var.	2747	<i>C. supplex</i> , <i>Mart.</i>	3668	<i>C. macranthera</i> , <i>Collad.</i>
1504	<i>C. Apoucouita</i> , <i>Aubl.</i>	2845	<i>C. cana</i> , <i>Nees.</i>	3676	<i>C. jacobinea</i> , <i>Benth.</i>
1559	<i>C. biflora</i> , <i>Linn.</i> , var.	2851	<i>C. acuruensis</i> , <i>Benth.</i>	3710	<i>C. Apoucouita</i> , <i>Aubl.</i>
1597	<i>C. verrucosa</i> , <i>Vog.</i>	2890	<i>C. Gardneri</i> , <i>Benth.</i>	3955	<i>C. multijuga</i> , <i>Rich.</i>

Burchell: Brazil.

899	<i>C. Tora</i> , <i>Linn.</i>	1610	<i>C. rotundifolia</i> , <i>Pers.</i>	3964	<i>C. speciosa</i> , <i>Schrad.</i>
1013	<i>C. Tora</i> , <i>Linn.</i>	2790	<i>C. multijuga</i> , <i>Rich.</i>	4154	<i>C. sulcata</i> , <i>DC.</i>
1092	<i>C. uniflora</i> , <i>Spr.</i> , var.	2827	<i>C. viminea</i> , <i>Linn.</i>	4249	<i>C. flexuosa</i> , <i>Linn.</i>
1177	<i>C. patellaria</i> , <i>DC.</i>	2914	<i>C. affinis</i> , <i>Benth.</i>	4276	<i>C. rotundifolia</i> , <i>Pers.</i>
1198	<i>C. Tora</i> , <i>Linn.</i>	2920	<i>C. bicapsularis</i> , <i>Linn.</i>	4280	<i>C. Langsdorffii</i> , <i>Kunth</i> , var.?
1205	<i>C. rotundifolia</i> , <i>Pers.</i>	2976, 2	<i>C. alata</i> , <i>Linn.</i>	4288	<i>C. flexuosa</i> , <i>Linn.</i>
1306	<i>C. patellaria</i> , <i>DC.</i>	3125	<i>C. uniflora</i> , <i>Spr.</i>	4349	<i>C. patellaria</i> , <i>DC.</i>
1326	<i>C. rotundifolia</i> , <i>Pers.</i>	3813	<i>C. multijuga</i> , <i>Rich.</i>	4362	<i>C. multijuga</i> , <i>Rich.</i>
1373	<i>C. oblongifolia</i> , <i>Vog.</i>	3884	<i>C. lævigata</i> , <i>Linn.</i>	4487, 2	<i>C. trichopoda</i> , <i>Benth.</i>

Burchell: Brazil (*continued*).

- 4490 *C. sulcata*, *DC.*
 4532, 2 *C. multijuga*, *Rich.*
 4627 *C. splendida*, *Vog.*
 4714 *C. bicuscularis*, *Linn.*
 4729 *C. occidentalis*, *Linn.*
 4857 *C. bicuscularis*, *Linn.*
 4869 *C. rugosa*, *Don.*
 4947 *C. hirsuta*, *Linn.*
 4980 *C. rugosa*, *Don.*
 5036 *C. cathartica*, *Mart.*
 5100 *C. cathartica*, *Mart.*
 5173 *C. sylvestris*, *Vell.*
 5289, 2 *C. cathartica*, *Mart.*
 5306 *C. pilifera*, *Vog.*
 5369 *C. setosa*, *Vog.*
 5394 *C. Langsdorfii*, *Kunth*, var.
 5429 *C. debilis*, *Vog.*
 5466 *C. rotundifolia*, *Pers.*
 5472 *C. Langsdorfii*, *Kunth*, var.
 5574 *C. Langsdorfii*, *Kunth*, var.
 5595 *C. Desvauxii*, *Collad.*
 5635 *C. cathartica*, *Mart.*
 5707 *C. basifolia*, *Vog.*
 5755 *C. cotinifolia*, *Don.*
 5756 *C. cinerascens*, *Vog.*
 5828 *C. lomatopoda*, *Benth.*
 5848 *C. viscosa*, *H. B. et K.*
 5872 *C. filicifolia*, *Mart.*, var. ?
 5875, 2 *C. cathartica*, *Mart.*
 5889 *C. Neesiana*, *Mart.*, var.
 5891 *C. lomatopoda*, *Benth.*
 5967 *C. Claussenii*, *Benth.*
 5970, 2 *C. viscosa*, *H. B. et K.*
 6019, 2 *C. Claussenii*, *Benth.*
 6035 *C. cathartica*, *Mart.*
 6045 *C. dysophylla*, *Benth.*
 6074 *C. conferta*, *Benth.*
 6090 *C. Pohliana*, *Benth.*
 6160 *C. elata*, *Linn.*
 6176 *C. densifolia*, *Benth.*
 6237 *C. multijuga*, *Rich.*, var.
 6512 *C. sylvestris*, *Vell.*
 6618 *C. trichopoda*, *Benth.*
 6679 *C. bicuscularis*, *Linn.*
 6686 *C. brachypoda*, *Benth.*
 6696, 2 *C. trichopoda*, *Benth.*
 6755, 3 *C. bicuscularis*, *Linn.*
 6774 *C. trichopoda*, *Benth.*
 6840 *C. rotundifolia*, *Pers.*
 6867 *C. Chamæcrista*, *Linn.*, var. ?
 6868 *C. bicuscularis*, *Linn.*
 6909 *C. setosa*, *Vog.*, var.
 6929 *C. pentagonia*, *Mill.*
 6930, 2 *C. bicuscularis*, *Linn.*
 6931 *C. Tora*, *Linn.*
 6939 *C. mimosoides*, *Linn.*, var.
 6943 *C. setosa*, *Vog.*, var.
 6949 *C. Claussenii*, *Benth.*
 6995 *C. hispidula*, *Vahl*, var.
 7024 *C. Isidorea*, *Benth.*
 7062, 2 *C. pentagonia*, *Mill.*
 7076, 2 *C. Claussenii*, *Benth.*
 7084 *C. multijuga*, *Rich.*, var.
 7122 *C. setosa*, *Vog.*, var.
 7195 *C. multijuga*, *Rich.*
 7200, 2 *C. flexuosa*, *Linn.*
 7286 *C. Hoffmanseggii*, *Mart.*
 7400 *C. biflora*, *Linn.*, var. *rostrata*.
 7432 *C. bacillaris*, *Linn.*
 7469 *C. nummulariæfolia*, *Benth.*
 7470 *C. conferta*, *Benth.*
 7529 *C. orbiculata*, *Benth.*
 7556 *C. oligosperma*, *Mart.*
 7582 *C. Burchellii*, *Benth.*
 7588 *C. setosa*, *Vog.*, var.
 7690 *C. curvifolia*, *Vog.*, var.
 7692 *C. gracillima*, *Benth.*
 7868 *C. Neesiana*, *Mart.*, var.
 7913 *C. curvifolia*, *Vog.*, var.
 7933 *C. hypoleuca*, *Mart.*
 8052 *C. uniflora*, *Spr.*
 8055 *C. basifolia*, *Vog.*
 8070 *C. hispidula*, *Vahl.*
 8235 *C. parvistipula*, *Benth.*
 8256 *C. curvifolia*, *Vog.*, var.
 8303 *C. Tagera*, *Linn.*
 8414 *C. rotundifolia*, *Pers.*
 8483, 2 *C. supplex*, *Mart.*
 8489 *C. cultrifolia*, *H. B. et K.*
 8490 *C. uniflora*, *Spr.*
 8523 *C. trichopoda*, *Benth.*
 8527, 2 *C. uniflora*, *Spr.*
 8548 *C. Tagera*, *Linn.*
 8548, 2 *C. supplex*, *Mart.*
 8549 *C. trichopoda*, *Benth.*
 8551 *C. flexuosa*, *Linn.*
 8552 *C. trichopoda*, *Benth.*
 8554, 2 *C. supplex*, *Mart.*
 8554, 3 *C. uniflora*, *Spr.*
 8554, 4 *C. rotundifolia*, *Pers.*
 8598, 2 *C. cultrifolia*, *H. B. et K.*
 8624 *C. sylvestris*, *Vell.*
 8626, 2 *C. trichopoda*, *Benth.*
 8635, 2 *C. cultrifolia*, *H. B. et K.*
 8645 *C. diphylla*, *Lam.*
 8648 *C. Tora*, *Linn.*
 8654, 2 *C. supplex*, *Mart.*
 8660, 2 *C. trichopoda*, *Benth.*
 8664 *C. trichopoda*, *Benth.*
 8679, 2 *C. rotundifolia*, *Pers.*
 8679, 3 *C. Tagera*, *Linn.*
 8679, 11 *C. trichopoda*, *Benth.*
 8679, 14 *C. supplex*, *Mart.*
 8679, 16 *C. trichopoda*, *Benth.*
 8679, 17 *C. cultrifolia*, *H. B. et K.*
 8679, 18 *C. flexuosa*, *Linn.*
 8679, 19 *C. uniflora*, *Spr.*
 8686, 2 *C. diphylla*, *Lam.*
 8722, 2 *C. trichopoda*, *Benth.*
 8740 *C. sylvestris*, *Vell.*
 8744, 2 *C. cultrifolia*, *H. B. et K.*
 8744, 4 *C. flexuosa*, *Linn.*
 8747, 2 *C. trichopoda*, *Benth.*
 8749, 4 *C. Tora*, *Linn.*
 8768 *C. dysophylla*, *Benth.*
 8774 *C. brachypoda*, *Benth.*
 8925 *C. mimosoides*, *Linn.*, var.
 8943 *C. Desvauxii*, *Collad.*
 8973 *C. hispidula*, *Vahl*, var.
 8986 *C. Desvauxii*, *Collad.*
 9001 *C. calycioides*, *DC.*
 9002 *C. supplex*, *Mart.*
 9038 *C. Desvauxii*, *Collad.*
 9046 *C. Hoffmanseggii*, *Mart.*
 9079 *C. Tora*, *Linn.*
 9218 *C. multijuga*, *Rich.*
 9290 *C. Hoffmanseggii*, *Mart.*
 9342, 2 *C. Hoffmanseggii*, *Mart.*
 9422 *C. flexuosa*, *Linn.*
 9484, 2 *C. reticulata*, *Willd.*
 9506, 2 *C. flexuosa*, *Linn.*
 9554 *C. reticulata*, *Willd.*
 9572 *C. chrysocarpa*, *Desv.*
 9605 *C. mimosoides*, *Linn.*, var.
 9616 *C. Hoffmanseggii*, *Mart.*, var.
 9649 *C. fastuosa*, *Willd.*
 9661 *C. diphylla*, *Lam.*
 9729 *C. chrysocarpa*, *Desv.*
 9928 *C. Hoffmanseggii*, *Mart.*
 9932 *C. chrysocarpa*, *Desv.*
 9996, 2 *C. quinquangularis*, *Rich.*
 10011, 3 *C. mimosoides*, *Linn.*, var.
 10019, 3 *C. diphylla*, *Lam.*
 10022 *C. flexuosa*, *Linn.*
 10063 *C. Tora*, *Linn.*

Fendler : Venezuela.

319	<i>C. nictitans</i> , <i>Linn.</i> ?	330	<i>C. bicapsularis</i> , <i>Linn.</i>	2229	<i>C. pilosa</i> , <i>Linn.</i>
320	<i>C. virgata</i> , <i>H. B. et K.</i>	331	<i>C. spectabilis</i> , <i>DC.</i>	2230	<i>C. viciæfolia</i> , <i>Benth.</i>
321	<i>C. glandulosa</i> , <i>Linn.</i>	1850	<i>C. inæquilatera</i> , <i>Balb.</i> ?	2231	<i>C. viciæfolia</i> , <i>Benth.</i>
321 β	<i>C. Chamæcrista</i> , <i>Linn.</i> , var.	1851	<i>C. patellaria</i> , <i>DC.</i>	2233	<i>C. moschata</i> , <i>H. B. et K.</i>
322	<i>C. biflora</i> , <i>Linn.</i>	1852	<i>C. biflora</i> , <i>Linn.</i>	2234	<i>C. emarginata</i> , <i>Linn.</i>
324	<i>C. occidentalis</i> , <i>Linn.</i> , var.	1853	<i>C. patellaria</i> , <i>DC.</i>	2236	<i>C. hirsuta</i> , <i>Linn.</i>
325	<i>C. pilifera</i> , <i>Vog.</i>	1854	<i>C. serpens</i> , <i>Linn.</i>	2239	<i>C. bacillaris</i> , <i>Linn.</i>
326	<i>C. oxyphylla</i> , <i>H. B. et K.</i> (cum
leg. <i>C. spectabilis</i>).	1855	<i>C. rotundifolia</i> , <i>Pers.</i>	2240	<i>C. bicapsularis</i> , <i>Linn.</i> , var.
327	<i>C. oxyphylla</i> , <i>H. B. et K.</i>	1856	<i>C. Tora</i> , <i>Linn.</i>	2241	<i>C. Fistula</i> , <i>Linn.</i>
328	<i>C. bicapsularis</i> , <i>Linn.</i> , var.	1857	<i>C. viminea</i> , <i>Linn.</i>	2596	<i>C. macrophylla</i> , <i>H. B. et K.</i>
		1858	<i>C. reticulata</i> , <i>Willd.</i>		

Fendler : Panama.

82	<i>C. bacillaris</i> , <i>Linn.</i>	87	<i>C. bacillaris</i> , <i>Linn.</i>	92	<i>C. Tora</i> , <i>Linn.</i>
85	<i>C. occidentalis</i> , <i>Linn.</i>	88	<i>C. oxyphylla</i> , <i>H. B. et K.</i>	95	<i>C. reticulata</i> , <i>Willd.</i>
86	<i>C. undulata</i> , <i>Benth.</i>	90	<i>C. bacillaris</i> , <i>Linn.</i>		

Gardner : Brazil.

26	<i>C. rotundifolia</i> , <i>Pers.</i>	2121	<i>C. hispidula</i> , <i>Vahl.</i>	3686	<i>C. brachypoda</i> , <i>Benth.</i>
149	<i>C. Chamæcrista</i> , <i>Linn.</i> , var.	2122	<i>C. brevicalyx</i> , <i>Benth.</i>	3687	<i>C. diphylla</i> , <i>Lam.</i>
366	<i>C. multijuga</i> , <i>Rich.</i>	2123	<i>C. Gardneri</i> , <i>Benth.</i>	3688	<i>C. dalbergiæfolia</i> , <i>Benth.</i>
367	<i>C. multijuga</i> , <i>Rich.</i> , var.	2124	<i>C. velutina</i> , <i>Vog.</i>	3689	<i>C. parvistipula</i> , <i>Benth.</i>
368	<i>C. macranthera</i> , <i>Collad.</i>	2125	<i>C. tenuisepala</i> , <i>Benth.</i>	3690	<i>C. speciosa</i> , <i>Schrad.</i>
749	<i>C. Chamæcrista</i> , <i>Linn.</i> , var.	2126	<i>C. hispidula</i> , <i>Vahl.</i>	3691	<i>C. pilifera</i> , <i>Vog.</i>
888	<i>C. uniflora</i> , <i>Spr.</i> , var.	2127	<i>C. subtriflora</i> , <i>Mart.</i>	3692	<i>C. sylvestris</i> , <i>Vell.</i>
967	<i>C. rotundifolia</i> , <i>Pers.</i>	2128	<i>C. serpens</i> , <i>Linn.</i>	3693	<i>C. bicapsularis</i> , <i>Linn.</i>
988	<i>C. uniflora</i> , <i>Spr.</i> , var.	2129	<i>C. supplex</i> , <i>Mart.</i>	3694	<i>C. dysophylla</i> , <i>Benth.</i>
989	<i>C. flexuosa</i> , <i>Linn.</i>	2130	<i>C. calycioides</i> , <i>DC.</i>	4120	<i>C. curvifolia</i> , <i>Vog.</i> , var.
990	<i>C. Hoffmannseggii</i> , <i>Mart.</i> , var.	2131	<i>C. flexuosa</i> , <i>Linn.</i> , var.	4121	<i>C. densifolia</i> , <i>Benth.</i>
1282	<i>C. brachystachya</i> , <i>Benth.</i>	2412	<i>C. uniflora</i> , <i>Spr.</i>	4122	<i>C. orbiculata</i> , <i>Benth.</i>
1283	<i>C. excelsa</i> , <i>Schrad.</i>	2546	<i>C. desertorum</i> , <i>Mart.</i>	4527	<i>C. Clauseni</i> , <i>Benth.</i>
1568	<i>C. chrysocarpa</i> , <i>Desv.</i>	2547	<i>C. desertorum</i> , <i>Mart.</i>	4528	<i>C. rotundata</i> , <i>Vog.</i>
1569	<i>C. supplex</i> , <i>Mart.</i>	2548	<i>C. rugosa</i> , <i>Don.</i>	4529	<i>C. potentilla</i> , <i>Mart.</i>
1570	<i>C. sericea</i> , <i>Sw.</i>	2549	<i>C. bicapsularis</i> , <i>Linn.</i> , var.	4530	<i>C. cathartica</i> , <i>Mart.</i>
1571	<i>C. splendida</i> , <i>Vog.</i>	2550	<i>C. curvifolia</i> , <i>Vog.</i>	4531	<i>C. multijuga</i> , <i>Rich.</i>
1572	<i>C. drepanophylla</i> , <i>Benth.</i>	2551	<i>C. aculeata</i> , <i>Benth.</i>	4532	<i>C. biflora</i> , <i>Linn.</i> , var.
1573	<i>C. subtriflora</i> , <i>Mart.</i>	2828	<i>C. Langsdorffii</i> , <i>Kunth</i> , var.	4533	<i>C. cathartica</i> , <i>Mart.</i>
1574	<i>C. curvifolia</i> , <i>Vog.</i>	2829	<i>C. orbiculata</i> , <i>Benth.</i>	4534	<i>C. obtecta</i> , <i>Benth.</i>
1575	<i>C. trachypus</i> , <i>Mart.</i>	3124	<i>C. conferta</i> , <i>Benth.</i>	4535	<i>C. viscosa</i> , <i>H. B. et K.</i>
1912	<i>C. excelsa</i> , <i>Schrad.</i>	3126	<i>C. ciliolata</i> , <i>Benth.</i>	5439	<i>C. ferruginea</i> , <i>Schrad.</i>
1935	<i>C. excelsa</i> , <i>Schrad.</i>	3127	<i>C. setosa</i> , <i>Vog.</i> , var.	5442	<i>C. Apoucouita</i> , <i>Aubl.</i>
1936	<i>C. ferruginea</i> , <i>Schrad.</i>	3683	<i>C. basifolia</i> , <i>Vog.</i>	5701	<i>C. oblongifolia</i> , <i>Vog.</i> , var.
2027	<i>C. viscosa</i> , <i>H. B. et K.</i>	3684	<i>C. brachypoda</i> , <i>Benth.</i>	6004	<i>C. diphylla</i> , <i>Lam.</i>
2119	<i>C. trachypus</i> , <i>Mart.</i>	3685	<i>C. flexuosa</i> , <i>Linn.</i>	6005	<i>C. rotundifolia</i> , <i>Pers.</i>
2120	<i>C. pudibunda</i> , <i>Mart.</i>				

Hostmann : Surinam.

150	<i>C. quinquangulata</i> , <i>Rich.</i>	728	<i>C. chrysocarpa</i> , <i>Desv.</i>	1062	<i>C. flexuosa</i> , <i>Linn.</i>
327	<i>C. chrysocarpa</i> , <i>Desv.</i>	808	<i>C. uniflora</i> , <i>Spr.</i> , var.	1083	<i>C. hispidula</i> , <i>Vahl.</i>
400	<i>C. occidentalis</i> , <i>Lam.</i>	829	<i>C. multijuga</i> , <i>Rich.</i>	1174	<i>C. hispidula</i> , <i>Vahl.</i>
436	<i>C. Tora</i> , <i>Linn.</i>	834	<i>C. grandis</i> , <i>Linn.</i>	1179	<i>C. glandulosa</i> , <i>Linn.</i>
451	<i>C. patellaria</i> , <i>DC.</i>	950	<i>C. patellaria</i> , <i>DC.</i>	1185	<i>C. viscosa</i> , <i>H. B. et K.</i>
670	<i>C. bacillaris</i> , <i>Linn.</i>				

Mandon : Bolivia.

- 750 *C. tomentosa*, *Linn.*
 751 *C. versicolor*, *Meyen.*
 751 bis. *C. Mandoni*, *Benth.*

- 752 *C. glandulosa*, *Linn.*
 753 *C. lævigata*, *Linn.*

- 754 *C. hirsuta*, *Linn.*
 1506 *C. latopetiolata*, *Domb.*

Martius : herb. Floræ Brasiliensis.

- 128 *C. angulata*, *Vog.*
 129 *C. bicapsularis*, *Linn.*
 141 *C. multijuga*, *Rich.*
 220 *C. velutina*, *Vog.*
 223 *C. cordistipula*, *Mart.*
 405 *C. uniflora*, *Spr.*, var.
 431 *C. multijuga*, *Rich.*
 585 *C. bicapsularis*, *Linn.*
 586 *C. flexuosa*, *Linn.*

- 715 *C. bicapsularis*, *Linn.*, var., et
C. Tora, *Linn.*
 716 *C. reniformis*, *Don.*
 718 *C. bicapsularis*, *Linn.*
 720 *C. stenocarpa*, *Vog.*
 721 *C. Apoucouita*, *Aubl.*
 722 *C. cathartica*, *Mart.*
 812 *C. setosa*, *Vog.*
 1072 *C. trachypus*, *Mart.*

- 1073 *C. sylvestris*, *Vell.*
 1074 *C. rugosa*, *Don.*
 1075 *C. speciosa*, *Schrad.*
 1076 *C. uniflora*, *Spr.*
 1077 *C. patellaria*, *DC.*
 1078 *C. patellaria*, *DC.*, et
C. brachypoda, *Benth.*
 1504 *C. Apoucouita*, *Aubl.*

Mathews : Peru.

- 739 *C. arequipensis*, *Meyen.*
 876 *C. arequipensis*, *Meyen.*
 917 *C. glandulosa*, *Linn.*
 918 *C. glandulosa*, *Linn.*

- 1576 *C. patellaria*, *DC.*
 1589 *C. Hoffmanseggii*, *Mart.*
 1590 *C. occidentalis*, *Linn.*, var.
 1591 *C. bacillari*, *Linn.*, aff.

- 1921 *C. Ruiziana*, *Vog.*
 1925 *C. flavicoma*, *H. B. et K.*
 3276 *C. bicapsularis*, *Linn.*, var.

Regnell : Brazil.

COLL. I.

- 59 *C. Chamæcrista*, *Linn.*, var.
 66 *C. multijuga*, *Rich.*, var.
 67 *C. multijuga*, *Rich.*, var.
 68 *C. bicapsularis*, *Linn.*
 69 *C. sulcata*, *DC.*
 70 *C. splendida*, *Vog.*
 71 *C. speciosa*, *Schrad.*
 71 bis. *C. speciosa*, *Schrad.*
 72 *C. mucronifera*, *Mart.*
 74 *C. cathartica*, *Mart.*
 75 *C. trachysperma*, *Vog.*

COLL. II.

- 74 *C. Langsdorffii*, *Kunth.*
 75 *C. rugosa*, *Don.*
 76 *C. bicapsularis*, *Linn.*
 77 *C. ferruginea*, *Schrad.*

COLL. III.

- 475 *C. oblongifolia*, *Vog.*
 476 *C. alata*, *Linn.*
 477 *C. mucronifera*, *Mart.*
 481 *C. debilis*, *Vog.*
 482 *C. setosa*, *Vog.*
 483 *C. sylvestris*, *Vell.*
 484 *C. rotundifolia*, *Pers.*
 485 *C. basifolia*, *Vog.*
 486 *C. latistipula*, *Vog.*
 486* *C. Desvauxii*, *Collad.*
 487 *C. trichopoda*, *Benth.*
 488 *C. flexuosa*, *Linn.*

Sagot : Cayenne.

- 178 *C. Tora*, *Linn.*
 179 *C. hispidula*, *Vahl.*
 180 *C. diphylla*, *Linn.*

- 181 *C. chrysocarpa*, *Desv.*
 182 *C. quinquangulata*, *Rich.*
 802 *C. Sagotiana*, *Benth.*

- 1006 *C. alata*, *Linn.*
 1156 *C. latifolia*, *Mey.*

Schlim : Columbia (or Funcke and Schlim).

- 2 *C. robiniaefolia*, *Benth.*
 6 *C. oxyphyllæ*, *H. B. et K.*, aff.
 106 *C. patellaria*, *DC.*
 174 *C. patellaria*, *DC.*

- 186 *C. Mutisiana*, *Humb. et Bonpl.*
 281 *C. Schlimii*, *Benth.*
 291 *C. bacillaris*, *Linn.*
 369 *C. oxyphylla*, *H. B. et K.*

- 374 *C. bicapsularis*, *Linn.*, var.
 491 *C. flavicoma*, *H. B. et K.*
 941 *C. emarginata*, *Linn.*

Rob. Schomburgk : Guiana, 1st collection.

- 21 *C. diphylla*, *Linn.*
 59 *C. flexuosa*, *Linn.*
 64 *C. hispidula*, *Vahl.*, var.
 84 *C. latifolia*, *Mey.*
 86 *C. undulata*, *Benth.*
 94 *C. bacillaris*, *Linn.*
 176 *C. stenocarpa*, *Vog.*
 186 *C. viscosa*, *H. B. et K.*

- 190 *C. uniflora*, *Spr.*, var., et *C.*
Desvauxii, *Collad.*, var.
 401 *C. cultrifolia*, *H. B. et K.*
 522 *C. multijuga*, *Rich.*
 614 *C. bacillaris*, *Linn.*
 621 *C. polystachya*, *Benth.*
 683 *C. prætexta*, *Vog.*
 720 *C. glandulosa*, *Linn.*

- 787 *C. rotundifolia*, *Pers.*, var.
baubiniæfolia.
 840 *C. serpens*, *Linn.*
 843 *C. Tora*, *Linn.*
 894 *C. leiandra*, *Benth.*, cum fol.
Macrolobii plurijugi.
 895 *C. racemosa*, *Mill.*

Robert and Richard Schomburgk : Guiana, 2nd collection.

Rob. S. Rich. S.		Rob. S. Rich. S.		Rob. S. Rich. S.	
49	<i>C. multijuga</i> , Rich.	471 = 776	<i>C. dysophylla</i> , Benth.	528 = 839	<i>C. uniflora</i> , Spr.
398 = 607	<i>C. glandulosa</i> , Linn.	473 = 775	<i>C. serpens</i> , Linn.	531 = 836	<i>C. serpens</i> , Linn.
441 = 689	<i>C. patellaria</i> , DC.	489 = 754	<i>C. Tora</i> , Linn.	553 = 890	<i>C. uniflora</i> , Spr.
446	<i>C. parvistipula</i> , Benth.	498 = 771	<i>C. rotundifolia</i> , Pers., var. <i>bauhiniaefolia</i> .	582 = 840	<i>C. Roraimæ</i> , Benth.
447	<i>C. Desvauxii</i> , Collad., var.	514 = 811	<i>C. polystachya</i> , Benth.	683 = 1053	<i>C. multijuga</i> , Rich.
454 = 725	<i>C. hispidula</i> , Vahl.			881 = 1523	<i>C. bacillari</i> , Linn., aff.

Spruce : Brazil, Peru, and Ecuador.

234	<i>C. fastuosa</i> , Willd.	1110	<i>C. Hoffmanseggii</i> , Mart.	3249	<i>C. orinocensis</i> , Benth.
238	<i>C. chrysocarpa</i> , Desv.	1272	<i>C. viminea</i> , Linn.	3300	<i>C. moschata</i> , H. B. et K.
241	<i>C. diphylla</i> , Linn.	1292	<i>C. riparia</i> , H. B. et K.	3589	<i>C. serpens</i> , Linn.
255	<i>C. quinquangulata</i> , Rich.	1557*	<i>C. leiandra</i> , Benth.	3646	<i>C. Langsdorfii</i> , Kunth, var.
262	<i>C. flexuosa</i> , Linn.	1558	<i>C. Hoffmanseggii</i> , Mart.	3701	<i>C. Desvauxii</i> , Collad.
292	<i>C. curvifolia</i> , Vog.	1775	<i>C. angulata</i> , Vog.	3807	<i>C. gracilis</i> , H. B. et K.
439	<i>C. leiandra</i> , Benth.	1781	<i>C. bicapsularis</i> , Linn., var.	3925	<i>C. lævigata</i> , Linn., var.
721	<i>C. Desvauxii</i> , Collad.	2125	<i>C. multijuga</i> , Rich.	4147	<i>C. multijuga</i> , Rich.
747	<i>C. viscosa</i> , H. B. et K.	2145	<i>C. Apoucouita</i> , Aubl.	4170	<i>C. hirsuta</i> , Linn.
788	<i>C. flexuosa</i> , Linn.	2539	<i>C. bacillaris</i> , Linn.	4299	<i>C. leiophylla</i> , Vog., var.
851	<i>C. calycioides</i> , DC.	2558	<i>C. Spruceana</i> , Benth.	5222	<i>C. tomentosa</i> , Linn.
908	<i>C. racemosa</i> , Mill.	2787	<i>C. hymenæefolia</i> , Benth.	6346	<i>C. bicapsularis</i> , Linn.
916	<i>C. chrysocarpa</i> , Desv.	3003	<i>C. Tagera</i> , Linn.		

Vauthier : Brazil.

96	<i>C. ericifolia</i> , Benth.	144	<i>C. mucronata</i> , Spr.	150	<i>C. oblongifolia</i> , Vog.
135	<i>C. reniformis</i> , Don.	145	<i>C. hedysaroides</i> , Vog.	153	<i>C. rotundata</i> , Vog.
136	<i>C. rugosa</i> , Don.	146	<i>C. Tora</i> , Linn.	154	<i>C. Potentilla</i> , Mart.
139	<i>C. exsudans</i> , Benth.	147	<i>C. cotinifolia</i> , Don.	155	<i>C. anceps</i> , Benth.
140	<i>C. cathartica</i> , Mart.	148	<i>C. Vauthieri</i> , Benth.	159	<i>C. conferta</i> , Benth.
143	<i>C. multijuga</i> , Rich.				

Weir : South Brazil.

104	<i>C. lævigata</i> , Linn.	206	<i>C. Langsdorfii</i> , Kunth.	371	<i>C. cathartica</i> , Mart.
161	<i>C. sylvestris</i> , Vell.	221	<i>C. multijuga</i> , Rich.	402	<i>C. incana</i> , Vog.
205	<i>C. Desvauxii</i> , Collad.				

MEXICAN AND WEST-INDIAN COLLECTIONS.

Andrieux : Mexico.

414	<i>C. Andrieuxii</i> , Benth.	418	<i>C. villosa</i> , Mill.	420	<i>C. polyantha</i> , Moç. et Sess.
416	<i>C. multiflora</i> , Mart. et Gal.	419	<i>C. polyantha</i> , Moç. et Sess.	421	<i>C. Galeottiana</i> , Martens.
417	<i>C. occidentalis</i> , Linn.				

Berlandier : Mexico and West Texas.

258	<i>C. crotalarioides</i> , H. B. et K.	1498	<i>C. Lindheimeriana</i> , Scheele.	2293	<i>C. emarginata</i> , Linn.
626	<i>C. calycioides</i> , DC.	2036	<i>C. calycioides</i> , DC.	2294	<i>C. Berlandieri</i> , Benth.
786	<i>C. bauhinoides</i> , A. Gr.	2206	<i>C. bauhinoides</i> , A. Gr.	2327	<i>C. sericea</i> , Sw.
840	<i>C. bauhinoides</i> , A. Gr.	2260	<i>C. bauhinoides</i> , A. Gr.	2427	<i>C. procumbens</i> , Linn., var.
897	<i>C. sericea</i> , Sw.	2270	<i>C. Greggii</i> , A. Gr.	2479	<i>C. procumbens</i> , Linn., var.
997	<i>C. procumbens</i> , Linn., var.				

Botteri : Orizaba.

445	<i>C. tristicula</i> , H. B. et K.	668	<i>C. patellaria</i> , DC.	783	<i>C. hirsuta</i> , Linn.
574	<i>C. Tagera</i> , Linn.	691	<i>C. Tagera</i> , Linn.	784	<i>C. Botteriana</i> , Benth., cum <i>C. leiophylla</i> , Vog.
667	<i>C. tristicula</i> , H. B. et K.	713	<i>C. lævigata</i> , Linn.		

Jurgensen : Mexico.

18	<i>C. emarginata</i> , Linn.	505	<i>C. patellaria</i> , DC.	724	<i>C. oxyphylla</i> , H. B. et K.
51	<i>C. densiflora</i> , Mart. et Gal.	522	<i>C. hirsuta</i> , Linn.	759	<i>C. tristicula</i> , H. B. et K.
162	<i>C. atomaria</i> , Linn.	705	<i>C. polyantha</i> , Moç. et Sess.		

Wright: Cuba.

146	<i>C. grammica</i> , Spr.	1601	<i>C. stenophylla</i> , Benth.	2374	<i>C. rotundifolia</i> , Pers.
147	<i>C. strigillosa</i> , Benth.	1602	<i>C. chrysocarpa</i> , Desv.	2375	<i>C. serpens</i> , Linn.
148	<i>C. sericca</i> , Sw. (Griseb.).	2368	<i>C. emarginata</i> , Linn.	2376	<i>C. lineata</i> , Sw.
149	<i>C. ligustrina</i> , Linn.	2369	<i>C. glauca</i> , Lam.	2377	<i>C. lineata</i> , Sw.
150	<i>C. domingensis</i> , Spr.	2370	<i>C. robiniaefolia</i> , Benth.	2378	<i>C. flexuosa</i> , Linn.
1190	<i>C. ligustrina</i> , Linn.	2371	<i>C. alata</i> , Linn. (Griseb.).	2379	<i>C. procumbens</i> , Linn.
1599	<i>C. nictitans</i> , Linn. (Griseb.).	2372	<i>C. hispidula</i> , Vahl.	2380	<i>C. procumbens</i> , Linn.
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W.H. Fitch del. et lith.

Cassia Sprucei, Benth

J.N. Fitch imp.

W. R. Fitch, del. et lith.

Cassia oxyphylla, Kunth.

J. N. Fitch, imp.

W.H. Fitch del. & lith.

Cassia bacillaris, Linn.

J.N. Fitch imp.

W.H. Fitch, del et lith.

Cassia adiantifolia, Benth

J.N. Fitch imp