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NEW FOREST TREES AND CLIMBERS
OF THE BRAZILIAN AMAZON

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Fifth Series (1)

by

ADOLPHO DUCKE

MORACEAE

Brosimum foetidum n. sp. — Speciei *B. amplicomma* Ducke arcte affinis, divergit glabritie partium omnium, foliis magis elasticis, concoloribus, horum costis lateralibus parum numerosis. Arbor sat elata coma parum ampla, ligno exteriore (internum non vidi) et latice ut in citata specie, hoc copiosissimo, albo, odore malo. Ramuli angulosi et striati, etiam novissimi glabri; gemmae 10-20 mm. longae robustae conicae apice acuminatae et saepe incurvae, cinnamomeae, vix microscopice pilosulae; stipulae non persistentes. Folia etiam novissima glaberrima, petiolo 12-18 mm. longo robusto plurisulcato, lamina vulgo 100-200 mm. (rarius 90 vel usque ad 250 mm.) longa et 60-120 mm. lata, ovato-oblonga vel ovata vel elliptico-ovata, margine conspicue undulata, basi aequali late cordata vel subcordata,

(1) See "TROPICAL WOODS" 31: 10 (1932), 43: 19 (1935), 50: 33 (1937) and 76: 15 (1943).

apice breviter abrupte acuminata, elastice papyracea, concolore at supra magis quam subtus nitida, costis mediana et lateralibus supra immersis subtus valide prominentibus, his e costa mediana utrinque 12-14, ante marginem arcuato-conjunctis, venulis transversis subtiliter prominulis, reticulatis subtus saepe vix conspicuis. Receptacula ad foliorum axillas solitaria vel bina, glaberrima, pedunculo 15-60 mm. longo, valido, bracteis basalibus paucis quam bracteolae peltatae parum maioribus, sub-semiglobosa supra depresso-convexa 5-15 mm. lata profunde foveolata, perianthiis destituta; stamina numerosa e foveolarum infundibuliformium basi solitaria, minima; ovarium unicum receptaculi centro profundissime immersum, stigmatibus non visis.

Manaos, circa Estrada do Aleixo in silva primaria non inundabili, 30-XI-1943, Ducke 1457. Arbor unica hucusque observata.

This tree is closely akin to the Upper Amazonian *B. amplicoma* Ducke; it is, however, not so large and has a smaller and much narrower crown. The latex is like that of *B. amplicoma*: very copious, white, disagreeably scented. The numerous, very small stamens are separately borne in the bottom of funnel-shaped cavities in the upper surface of the receptacle; the unique ovary is deeply immersed in the mid of the receptacle, a little below the centre. I was not able to find stigmata in the examined receptacles (above 20), some ones already enclosing a rather evolved young fruit. Externally, these receptacles have the appearance of being staminate only; to discover the ovary, it is necessary to cut the receptacle through the middle. (2)

B. foetidum and *B. amplicoma*, and probably a third species collected only in sterile stage, form a well defined group among the Amazonian species of *Brosimum*, by their large, conspicuously undulated leaves and by a special,

(2) An analogous case could perhaps be that of the apparently unisexual receptacles of *Brosimum columbianum* Blake. Conf. "Tropical Woods" 61: 17 (1940) and "Timbers of the New World" 380 (1943).

disagreeable scent of the latex. This latex is white, very fluid and very abundant, as it is in some other species of *Brosimum* (*B. parinarioides* and *B. potabile* for example whose latex is however inodorous). The taste of the latex is somewhat salted. As is the latex, also the wood of *B. foetidum* seems to be like that of *B. amplicoma*; I have however not verified the existence of heartwood, because I would not destroy the unique tree. The receptacles of *B. amplicoma* are not deeply foveolated as they are in *B. foetidum*, but bore the stamens in rather shallow depressions clothed with a rudiment of a perianth; the two branches of the stigma are exerted and always well visible.

B. foetidum, as well as the better known *B. amplicoma* and sometimes also other *Moraceae* with very abundant white latex, are all, at present, called by the same name, "garrote" which seems to have been originally given to certain *Ficus*. The latex of these trees is employed to adulterate "balata" (South American gutta percha). *B. amplicoma*, on the Solimões river, is more commonly called "caucho macho" (male "caucho", which means false "caucho"), because of its resemblance with the true "caucho" *Castilloa Ulei* Warb.

Helicostylis podogyne n. sp. — Arbor polygama, mediocris vel subparva, ramulis pro genere sat tenuibus, junioribus tomento tenui rufo demum canescente indutis, vetustioribus cito glabratis. Folia petiolo 10-18 mm. longo sat valido, adulto squamuloso-rugoso glabrato; lamina 100-200 x 40-90 mm. metiens, ovato-vel elliptico-vel sub lanceolato-oblonga, basi obtusa vel subcordata subaequalis vel oblique inaequilatera, apice brevius vel longius abrupte acuminata, adulta subcoriacea, supra nitida, subtus opaca pallidior vel ferruginescens, pilis brevissimis scabridis subtus frequentibus supra rarioribus, costis lateralibus e mediana utrinque 9-15 supra tenuiter subtus valide prominentibus, praesertim transversalibus valde conspicuis. Receptacula utriusque sexus iis speciei *H. tomentosa* similia, feminea autem ut in *H. pedunculata* evidentissime pedunculata. Receptacula feminea ut videtur

constanter in arbore monoica, vulgo unum femineum cum duobus masculis fasciculata; arboris masculi receptacula 2 ad 4 per fasciculum. Receptaculi feminei pedunculus sub anthesi 5-8 mm. longus, robustus, demum parum maior; stigmata viridialba. Receptacula mascula pedunculo 12-20 mm. longo gracili stricto canopuberulo, anthesi 5-7 mm. lata staminibus exsertis alba, in arboribus masculis vulgo aliquanto maiora quam in monoicis.

Sat frequens circa Manaos, in silva primaria et secundaria, non inundabili. Arboris monoicae specimina: Ducke 1202 (receptaculis femineis solis praesentibus, 12-III-1943) et ex eadem arbore Ducke 1475 (receptaculis femineis sub anthesi, masculis junioribus, 24-XII-1943). Specimina mascula: Ducke 1130 (24-XII-1942) et 1473 (20-XII-1943), a duabus arboribus provenientia.

The six species of *Helicostylis* till now observed in Brazilian Amazonia are not easy to distinguish. The new *H. podogyne* has the aspect of the more frequent and widely distributed *H. tomentosa* (Poepp. et Endl.) Rusby, but is less tomentous and has long pedunculated pistillate receptacles, like *H. pedunculata* R. Ben. This latter, as well as *H. heterotricha* Ducke (whose pistillate receptacles are unknown) are remarkable by their copious, thick, persistent tomentum, robust branchlets and ample leaves. The two remaining species, *H. asperifolia* Ducke and *H. lancifolia* Ducke, have smaller leaves with less conspicuous reticulated venulae and sessile pistillate receptacles; the first of these species has more scabrous leaves and short pedunculated staminate receptacles; the second has nearly always quite lanceolate leaves, slender branchlets and very thin peduncles of the staminate receptacles. The mature fruiting receptacles of *H. tomentosa* and *H. asperifolia* are edible, those of the latter having a very agreeable sweet taste; the fruits of *H. lancifolia*, however, are acid and not comestible.

Ducke 313, with staminate receptacles, distributed with the name *H. asperifolia*, does not belong to this species. I

am, however, not able to determine the species, by lack of pistillate receptacles.

OLACACEAE

Aptandropsis n. gen. Calyx anthesi parvus, brevissime vel longius 5 — vel rarius 4 — dentatus, fructifer valde accrescens drupam includens. Petala 5 vel rarius 6, valvata, a basi libera, calice duplo longiora, anthesi erecta. Discus extrastaminalis altus, crenatus, anthesi valde conspicuus, post anthesin cito cum ovario confluens. Stamina 10 in circulis duobus, filamentis filiformibus, antheris dithecis subglobosis parvis. Ovula ut in genere *Heisteria* pendula, horum integumenta in speciminibus nostris (exsiccatis) non discernenda. Stylus brevis stigmatate tridenticulato parvo. Drupa exocarpio tenui, endocarpio lignoso, semine in exsiccatis nostris non bene conservato.

Genus hoc novum inter genera *Heisteria* et *Aptandra* est intermedium; affinius primo cui accedit florum structura; disco valde conspicuo divergens. Fructus (unius solae speciei notus) eum generis *Aptandra* in mentem vocat.

Arbores mediocres vel elatae trunco cylindrico, ligno duro et denso, pallide flavido, partibus vegetativis omnibus glaberrimis, novellis paullulum lactescentibus, pedicellis ad foliorum axillas e nodulis inter bracteas minutas squamiformes, floribus parvis praeter petala omnino glabris, ut calyces fructiferi et drupae viridibus.

Species duae, quarum una incomplete nota, silvam "catanga" prope São Paulo de Olivença (in civitatis Amazonas parte occidentali) habitant.

Flowering specimens of both species of this new genus have the aspect of a true *Heisteria*; the fructifying specimens (of the only species whose fruits are known) are, however, very much like an *Aptandra*. The well developed extrastaminal disk and the free stamens of our new genus do not permit to confuse it with *Heisteria* nor *Aptandra*; the fruit of the only species where it is known can be easily recognized

by the very elongated and thickened base of the calyx (much longer and thicker than in *Aptandra*).

Aptandropsis amphoricarpa n. sp. — Folia disticha modice remota, petiolo 7-14 mm. longo mediocriter robusto supra canaliculato; lamina 55-140 mm. longa, 25-55 mm. lata, plus minusve obovato-oblonga basi acuta apice abrupte acuminata, margine subtus tenuiter revoluto, rigidius, at sat elastice herbacea, in utraque pagina viridis et nitidissima, costa centrali subtus crassa supra immersa, costis lateralibus e centrali utrinque 5-7 ante marginem arcuatis subtus magis quam supra prominentibus venulis sat obsoletis. Flores pallide virides, glabri, pedicellis in speciminibus nostris solitariis vel binis (in junioribus verosimiliter fasciculatis), sub anthesi 2-3 mm. longis, demum longioribus. Calyx anthesi minimus, brevissime et obtuse 5 — dentatus; petala 5 (in floribus duobus examinatis), 3 mm. longa, ovato-lanceolata acuminata. Pedicelli fructiferi 5-7 mm. longi, crassi; calyx fructifer maximus, amphorae adspectu, in maturis circiter 45 mm. longus, 20 mm. crassus, parte superiore herbaceo-coriacea fragili breviter ac late 3-5 — plicato-lobata drupam involvente; drupa calycis basi valde incrassatae insidens, 20 mm. longa 15 mm. crassa, ovoidea, apice in styli loco profunde foveata.

São Paulo de Olivença (Rio Solimões, in civitate Amazonas), in silva "catinga" sat frequens. Specimina florifera 16-X-1942 et fructifera 1-IV-1944 ex eadem arbore, Ducke 1664; specimina fructifera altera 19-II-1932 et 25-I-1937 Ducke Herb. Jard. Bot. Rio 24963 et cum ligno 318 in Yale, subnomine erroneo *Aptandra* sp. distributa.

The most important differential character of this new genus is the well conspicuous extrastaminal disk, not observed in any other of our *Olacaceae*. The plant shall probably be included in the tribe *Heisterieae* Engl., but, unfortunately, it was not possible to study the complete structure of the ovula, because only dry and very scarce flowering material had been preserved. Fruiting specimens



ESTAMPA I

Aptandropsis amphoricarpa n. gen. n. sp.

- (1) Twig bearing one flower and one very young fruit (1/1)
- (2) Twig with and adult fruit (1/1)
- (3) Flower (3/1)
- (4) Flower without corolla, showing the disk (5/1)
- (5) Longitudinal cut of the ovary of a fecundated flower (4/1)
- (6) Adult fruit, the anterior part of the calyx having been removed (1/1).

and wood, distributed some years past under the name of *Aptandra* sp., belong to the present species; the only true *Aptandra* whose wood and herbarium specimens were sent to Yale, was *A. liriosmoides*, from the Rio Negro, Ducke 260.

Aptandropsis discophora n. sp. Folia remote disticha, petiolo 8-17 mm. longo modice robusto, canaliculato; lamina vulgo 80-150 mm. longa et 40-60 mm. lata, lanceolato-oblonga vel lanceolato-ovata, basi rotundata vel obtusa et saepe complicata, apice longe acuminata, margine subtus tenuiter revoluto, supra magis quam subtus nitida et obscura, subcoriaceo — herbacea elastica, costa centrali supra immersa subtus prominente, costis lateralibus utrinque 5-7 subtus tenuissime prominulis, ante marginem arcuato-conjunctis, venulis reticulatis subtus sub lente bene conspicuis. Flores laete virides in fasciculis sat numerosi, pedicellis anthesi 4-7 mm. longis gracilibus, demum accrescentibus; calyx anthesi vix ad 2 mm. longus et latus, ab apice usque infra medium in lacinas 5 vel rarius 4 ovato-oblongas acuminatas divisus; petala vulgo 5 rarius 6, calyce duplo longiora, glabra, intus in medio pilosula; discus altior quam in specie praecedente, ut stamina et pistillum glaber. Fructus non cognitus; sepala jam in floribus recenter fecundatis fortiter accrescentia.

São Paulo de Olivença, in silva "catinga" cum specie praecedente; 21-XI-1940 florifera, Ducke 631 et sub numero 318.^a in Yale (specimina nonnulla sub nomine erroneo *Heisteria* sp. distributa).

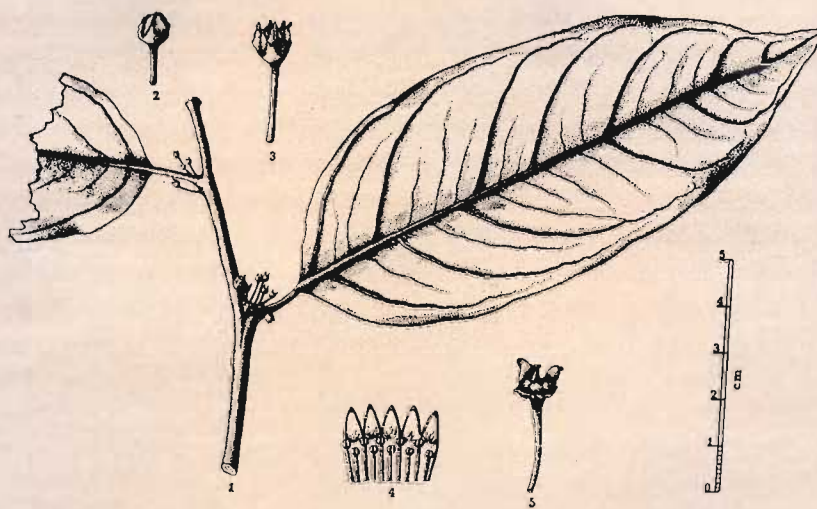
The living tree has the aspect of the precedent species, but has broader, less shining leaves and a different calyx. I do not hesitate to place the two in the same genus, because both have an identical, highly evolved, extrastaminal disk, an uncommon character for this family.

MYRISTICACEAE

Componeura capitellata (A. DC.) Warb. — The ripe fruit is green, glabrous, thick ellipsoid up to 60 mm. long, or more seldom shorter and subglobose; always with an unilateral longitudinal keel. The pericarp opens on one side after the fall of the fruit; it is thick, coriaceous when fresh, hard in dry specimens. The aril is exceedingly thin for the family (not perceptible in dried, not perfectly ripe, fruits), entire, white; the seed has a hard, brown testa, and not ruminated endosperm.

A. C. Smith, in "The American Species of *Myristicaceae*", *Brittonia* 2:412 (1937), states with relation to this species: "Ducke 19576 is accompanied by detached fruits which are very different from all others in the family..... There is no indication of an aril, and this fact, together with the texture of the seed, seems to indicate that the fruit belongs neither to *Componeura* nor to the family". A. C. Smith's statement is however erroneous, as it can be verified by specimens bearing mature fruits attached to branchlets with leaves (Ducke 1486). Other specimens with fruits attached to the twigs, accompanying wood sample Ducke 314, are preserved* in Yale.

Iryanthera microcarpa n. sp. — Arbuscula debilis 4 m. alta, glabra, innovationibus sparsim minute pilosulis. Ramuli tenues, juniores siccitate lutescentes. Foliorum petiolus 7-12 mm. longus, sat tenuis, canaliculatus; lamina 90-150 mm. longa et 25-50 mm. lata, lanceolato-oblonga, basi magis vel minus acutata, apice sat longe acuminata acumine retusiusculo, chartacea, utrinque rugulosa et nitidula, siccitate supra glaucescens subtus pallide lutescens, costis mediana et lateralibus supra immersis subtus prominentibus, lateralibus utrinque e mediana 10-12 longe ante marginem arcuatis et anastomosantibus, venulis immersiusculis sat obsoletis. Inflorescentiae masculae et femineae floriferae ignotae. Inflorescentiae fructiferae e foliorum superiorum axillis solita-



ESTAMPA II

Aptandropsis discophora n. gen., n. sp.

- 1: Floriferous twig (1/1)
- 2: Flower bud (4/1)
- 3: Adult flower (3/1)
- 4: Corolla, opened and distended (6/1)
- 5: Part of a flower, showing the disk (5/1).

riae vel rarius binae, 5-20 mm. longae, pedicellis 3-5 mm. longis. Fructus per inflorescentiam 1 vel 2, stipite 2-3 mm. longo excepto 9-12 mm. longi et 11-14 mm. lati, basi obtusi, apice conspicue apiculati, glabri, maturi virides, pericarpio tenuiter coriaceo, semine ut in reliquis speciebus transverso, testa sat fragili, arillo coccineo.

Tabatinga, Igarapé Mariassú in silva "varzea" periodice inundabili, 4-III-1944, Ducke 1510. Planta unica observata.

A treelet of the varzea forest, remarkable among all species of the genus by inflorescences borne on the foliate part of the branchlets, and by the small fruits (the smallest till now observed in the genus).

Viola glycyarpa n. sp. — Arbor circiter 30 m. alta, trunco cylindrico parum crasso, ramulis junioribus rufosericeis demum canescentibus, vetustis glabratis, striatis. Foliorum petiolus 18-30 mm. longus, validus, profunde canaliculatus, indumento ut ramulorum; lamina normaliter 90-170 mm. longa, 35-65 mm. lata, elliptico-oblonga vel latius sublanceolato-oblonga, basi obtusa brevissime in petiolum attenuata, apice vulgo longe acuminata, marginibus lateralibus arcuatis non parallelis, chartacea modice fragilis, utrinque granuloso-rugulosa, supra glabra parum nitidula, subtus (in junioribus et adultis recentioribus) tomento microscopico cupreo pilulis stellatis parvis sericeonitentibus consperso induta, hoc tomento in vetustis canescente, costa mediana et lateralibus (in utroque latere 10-14, rarissime ad 16) supra impressis subtus prominentibus, costis lateralibus longe ante marginem arcuato-anastomosantibus, venulis reticulatis laxis et vix conspicuis. Inflorescentia mascula ignota; feminea florifera adest unica, floribus nondum adultis longe et crasse pedicellatis, tota rufosericea. Inflorescentiae fructiferae 15-90 mm. longae subglabratae simplices vel pauciramosae; pedicelli crassi 4-8 mm. longi. Fructus maturi 1 vel 2 per inflorescentiam, in vivo virides, subglobosi diametro 30 mm. excedente; in siccis magis obovati 27-30 mm. longi, 23-25 mm. lati, uno latere subcarinati, basi obtusi apice breviter api-

culati, pericarpio firme coriaceo in siccis duro 4-5 mm. crasso, extus opaco granuloso-ruguloso. Semen subglobosum circa 18 mm. longum et latum, 15-17 mm. crassum, longitudinaliter sulcatum et saepe subtuberculatum, arillo laciniato albo sapore intense dulci.

Habitat circa Esperança (ad ostium fluminis Javary) in silva non inundabili locis humidis, 12-III-1944, Ducke 1508. Arborea plurimae visae.

This new species is easily recognizable by the pretty cupreous indumentum, the long petioles (the longest hitherto observed in the genus), the white (wax like), intensely sweet arillus which has no similar in *Viola*. All other species of this genus have red arillus with more or less aromatic and often adstringent taste; a white arillus was found in *Compsoeura Ulei* Warb. and *Compsoeura capitellata* (A. DC.) Warb. The place of the new species in the system of the species of *Viola* will be in the group 5., *Surinamensis*, of A. C. Smith's monograph.

Viola surinamensis (Rol) Warb. — According to A. C. Smith, l. c., the distribution of this species includes the Lesser Antilles from Guadeloupe to Grenada, Tobago, Trinidad, the Guianas, and coastal Brazil east to northwestern Ceará. The tree, however, occurs also in the state of Pernambuco where it is frequent in the swamps of Dois Irmãos near the city of Recife. The same species is common in varzea-forest along the Lower Amazon, as well as on the periodically flooded islands of the lower courses of the Rio Negro and the Rio Madeira (Borba, Ducke 483 with pistillate and 484 with staminate flowers) and in *Mauritia*-swamps of the savannah country of the Upper Rio Branco (São Marcos, Ducke 1369, with mature fruits). No doubt can subsist on the specific identity of these trees, chiefly of those with fruits, and therefore the geographical area of *V. surinamensis* must be extended over the whole eastern half of the Amazonian hylaea.

Virola Duckei A. C. Smith. — Large tree, not rare in some places near Manaus, on swampy banks of streamlets of the upland forest. Inflorescences bearing several mature fruits; pedicels thick, 3-5 mm. long. Adult fruit 25-30 mm. long, about 20 mm. broad, suboboval-elliptic, carinated, obtuse at apex; in younger age, covered with bright rusty tomentum; mature, glabrescent excepted the base where always the tomentum is more or less persistent; pericarp thick and hard coriaceous, not twisted after opening, rugulose; seed thick ellipsoid, with red aril.

The knowledge of the fruit of *V. Duckei* confirms the view point of A. C. Smith. He separated this species from *V. albidiflora* Ducke, whose fruit is, like that of *V. Pavonis*, entirely glabrous and has fleshy valves (hard only when dry), twisted after opening. In the country of the Upper Solimões the two species seem to grow together. Both show more affinity to A. C. Smith's group 5, *Surinamensis*, than to his group 4, *Rugulosae*.

Virola carinata (Bth.) Warb. — This species replaces *V. surinamensis* in the Central and Western parts of the hylaea, where it is common in marshy forests along streamlets, but never found on the deeply flooded shores of the large rivers. In the coastal zone of the State of Pará and in the Guianas, it is replaced by *V. Melinonii* (the staminate specimens from Belem and Bragança which have been placed with *V. venosa* by myself, with *V. carinata* by A. C. Smith, appertain to *V. Melinonii*).

Virola Melinonii (Ben.) A. C. Smith. — A large tree of the upland forest of the coastal zone of the State of Pará: Belem, Ducke 1268 and Ducke Herb. Amaz. Mus. Pará 15849, and Bragança, Ducke Herb. Jard. Bot. Rio 19569, male trees. Belem, Instituto Agronômico do Norte, female tree, flowering and fructifying specimens. Known hitherto from British, Dutch and French Guiana. Like *surinamensis*, *carinata* and *Pavoni*, the present species is difficultly re-

cognizable in floriferous herbarium specimens, but easy to distinguish by the fruit, covered with short but dense grayish pubescence which persists on the valves after maturity.

Viola obovata n. sp. — Speciei *V. calophylloidea* Mgf. partibus vegetativis et fructibus magnitudine et forma similis, indumento valde diversa; planta mascula autem ignota. Arbor parva, debilis; folia quam in citata specie basi magis acuta, in tertio superiore magis dilata (semper?), subtus parum pallidiora quam supra, venulis reticulatis sub-obsolete, pilis quam in illa specie longioribus sed minus persistentibus. Ramuli et inflorescentiae fructiferae tomento longiore, detergibili, fusco, caeterum ut in specie citata. Fructus magnitudine et forma eo speciei citatae similis, at tomento fusco densissimo vestitus; hoc tomentum more *Violae sebiferae* et affinium e pilis fere usque ad 1 mm. longis lateraliter pluriramosis compositum, post maturitatem magis persistens quam in illa.

Habitat propr Esperança (ad ostium fluminis Javary) in silva non inundabili, 24-III-1944, Ducke 1509. Arbor unica observata.

In all characters, excepted the indumentum, this species is affin with *V. calophylloidea* (a treelet not rare near Manaus and along the Solimões up to Tocantins and São Paulo de Olivença), which belongs to A. C. Smith's group III. *Calophyllae*. The hairs of the tomentum of *V. obovata*, well preserved on the fruits, are however, much longer, stalked, and have conspicuous lateral spurs, like those of *V. sebifera* Aubl. Our new species, evidently, connects the groups *Calophyllae* and *Sebiferae*, showing the vegetative characters of the first but the long hairs of the tomentum of the second group.

LINACEAE

Sacoglottis ceratocarpa n. sp. — Speciei in aestuarii amazonici silvis ripariis inundatis frequenti *S. amazonica* Mart. characteribus florum similis, differt foliorum magnitudine forma et consistentia et praesertim fructuum forma et structura. Arbor parva vel mediocris, partibus vegetativis ut in citata specie, foliis autem maioribus et crassioribus petiolo 8-15 mm. longo basi crasso, lamina 100-160 x 55-70 mm. metiente, basi rotundata, rigidior. Inflorescentiae et flores ut speciei citatae. Drupa a *S. amazonicae* drupa valde diversa, 33-55 mm. longa et 12-18 mm. crassa, anguste elongato-oblonga vel subfusiformis, basi attenuata vel anguste obtusata, apice abrupte vel subsensim in acumen pungentem subbreve rectum protracta vel cornu saepius uncinato-incurvo usque ad 10 mm. longo armata, glabra et nitida maturitate viridiflavescens, inodora; mesocarpium maturum albidum subfarinaceo-carnosum insipidum, ab endocarpio faciliter solutum, cito putredine destructum; endocarpium osseum extus faciebus quam in citate specie magis numerosis at minoribus et parum conspicuis, lacunis resiniferis quam in illa specie subaequaliter numerosis sed multo minoribus.

Habitat in civitate Amazonas circa Manaus non rara in silva leviter paludosa non vel vix inundabili secus rivulos: specimina typica florifera et fructifera ex eadem arbore, Ducke 12 et 1174; florifera cum ligno Ducke 16 in Yale; florifera Ducke Jard. Bot, Rio de Janeiro 23431. Julio et Augusto floret, Januario et Februario fructificat. Specimina omnia sub nomine *S. amazonica* distributa.

This species has been confused with *S. amazonica* since the time of Martius who cited his *S. amazonica* not only for the Amazon estuary but also for the Upper Amazon where this species does probably not exist (he certainly did not know the fruits of both species). The true *S. amazonica* grows rather frequent on the shores of streams subjected to the influence of the Atlantic tide; I observed it near Belem,

on the islands of Breves, and near Gurupá on the head of the Amazon estuary. Its fruits has a thin, more coriaceous than fleshy, mesocarp and is apt to float; old endocarps can be found every time on the banks of the rivers around the city of Pará. *S. ceratocarpa*, on the contrary, grows in the Central part of Amazonia, in marshy upland forest along streamlets, and its fruits do not seem apt for water transport but they are probably dispersed by forest animals. Their white, more farinaceous than fleshy mesocarp is somewhat like that of *S. heterocarpa* Ducke growing in "catinga", in the upper Rio Negro basin.

VOCHYSIACEAE

Vochysia polyantha n. sp. — Ad sectionem III (*Micranthae*). Arbor magna ramulis valde tetragonis et profunde sulcatis, cinnamomeis, glabris, non decorticantibus, pilis solum in novissimis praesentibus. Stipulae e basi lata subulatae usque ad 3 mm. longae, basi pilosulae. Folia 4-verticillata, petiolo 5-8 mm. longo, crasso, lamina 180 x 65 ad 300 x 100 mm. metiente, oblongo-obovata, basin versus longe cuneata basi ipsa angustissime rotundata et in medio brevissime in petiolum decurrente, apice rotundata et in medio brevissime et obtuse acuminata acumine in centro levissime retuso, rigide coriacea, glabra (solum novissima fugaciter pilosa), siccitate praesertim supra lutescente, in utraque pagina parum nitidula, costis omnibus supra immersis subtus valide prominentibus, mediana crassa, lateralibus utrinque 25-28 strictis apice in nervum marginalem regulariter arcuatum valde prominentem conjunctis, venulis supra obsoletis subtus tenuissimis dense reticulatis. Inflorescentiae terminales et in axillis superioribus, saepius numerosae (ad 12 per ramulum), multiflorae et densae, usque ad 400 mm. longae vix ultra 25 mm. latae, solum in partibus junioribus tenuiter griseopuberulae, cicinnis vulgo 3 vel 5-floris, pedicellis in speciminibus nostris (non plene adultis) usque ad 8 mm. longis. Alabastra (sub-adulta?) usque ad 8 mm. longa,

tenuia, lutea; calicis laciniae anticae et laterales vix 1 mm. longae, late ovatae, lacinia postica parum recurva usque ad 8 mm. longa; calcar dependens 4-5 mm. longus parum reflexus subcylindricus apice leviter incrassatus; petala parva, glabra; stamen subglabrum; ovarium glabrum.

Habitat prope Esperança (ad ostium fluminis Javary) in silva paludosa secus rivulos, 31-X-1942 inflorescentiis nondum plene evolutis, Ducke 1280. Arborea vidi tres.

The present new species is easily recognizable by its very long and thin, multiflorous inflorescences as I never have observed in other species of this genus. Other characters are the sharply tetragonous, not decorticate, branchlets, the rather conspicuous although small stipules, the large, hard coriaceous leaves with very prominent lateral ribs on the under surface, and the small size of the flowers.

ICACINACEAE

Dendrobangia tenuis n. sp. — A hujus generis speciebus duabus reliquis differt statura parva, ramis petiolis et inflorescentiarum pedunculis rhachidibusque multo tenuioribus, et praesertim foliorum characteribus pluribus. Arbuscula paucimetrica trunco humili et debili, ramis tenuibus praeter innovationes tomentellas glabris. Petiolus 8-13 mm. longus, gracilis, supra canaliculatus, subtus sparsim lepidotus; lamina 40-80 x 20-35 mm. metiens, magis minusve oblongo-ovata, basi longius vel brevius cuneata acuta vel rarius subobtusa, apice abrupte et longe caudato-acuminata, tenuiter submembranacea, in utraque pagina nitida subtus parum pallidior, supra glabra, subtus in costa centrali sparsim pallido-lepidota, hac costa supra immersa subtus fortiter prominente, costis lateralibus utrinque e centrali 6 vel 7 ante marginem arcuato-anastomosantibus, subtus prominulis, venis supra obsolete subtus laxae et tenuiter reticulatis prominulis. Inflorescentiae ut in speciebus reliquis, at pedunculis et rhachidibus multo gracilioribus, lepidiis parum dense conspersae. Calix viridis, corolla viridialbida; florum

structura exacte ut in speciebus reliquis, lepidiis autem paucioribus. Fructus ignotus.

São Paulo de Olivença, terris altis in silva humiliore "catinga" appellata, 16-X-1942, Ducke 1303.

This species differs from the two others of the same genus chiefly by characters of the vegetative parts, the flowers of all three being similar. The present one is a small tree growing near São Paulo de Olivença in the "catinga", a forest of low trees or of larger but scattered trees, on high places with sandy soil. The "catinga" association is remarkable for the large number of species, chiefly of the undergrowth; it attains its most typical development in the upper Rio Negro basin.

STERCULIACEAE

Sterculia apeibophylla n. sp. — Arbor magna ramulis modice robustis, parte adulta glabra, novella longe albido-et ferrugineo-hirsuta, apice foliosis. Stipulae parvae vel mediocres, lanceolatae vel subulatae, hirsutae. Foliorum petiolus usque ad 50 mm. longus, depressus, striatus, subferrugineo-tomentellus et pilis longis pallidis hirtus, parum validus apice leviter incrassatus; lamina in floriferis vulgo 80-170 x 40-85 mm. metiens, oblonga, basi rotundata vel obtusa, apice obtusa vel brevissime acuminata, margine obsolete undulata et minute crenulata, membranacea demum subcoriacea, utrinque opaca, supra subtiliter et regulariter bullatula, sparsim pilosa demum glabrata, subtus dense elevato-reticulata et in venis sat abundantim fasciculato-albido-pilosa. Inflorescentiae ex foliorum axillis numerosae folio breviores, subracemiformes ramulis brevibus et paucis, pedunculis rhachidibus et pedicellis canotomentellis et sat longe piloso-hirtulis, bracteis non visis. Flores in speciminibus nostris omnes masculi, pulchre coccinei, foetidi, 7-10 mm. longi, anthesi patentes et fere usque ad basin divisi, laciniis lanceolatis acutis extus longe pilosis et minime tomentellis, intus a basi usque ad appendiculam in secundo tertio sitam

subglabris, tertio apicali hirsutis. Gynandrophorum calice circiter tertio brevius, valde reflexum, subglabrum, basi fortiter incrassatum, antheris biseriatis. Flores feminei ignoti; fructus vidi putredine semidestructos, valvis ut speciei *St. speciosa* magnis.

Esperança, ad ostium fluminis Javary (in civitate Amazonas), silva non inundabili, 3-X-1942, Ducke 1466; prope São Paulo de Olivença visa. Speciei *St. pilosa* Ducke (Belém, Santarém, Óbidos, Manáos) arcte affinis, divergit imprimis foliis utrinque opacis supra subtiliter bullatis et fructibus magnis.

Inflorescences and flowers of *St. apeibophylla* are like those of *St. pilosa*, but the finely and very regularly blistered leaves of our new species are more resembling the leaves of *Apeiba tibourbou* Aubl., family *Tiliaceae* (the leaves of *St. pilosa* are coarsely and irregularly bullato-rugose, and shining on the upper surface). The flowers of our new species are of pure and intense red and very disagreeably scented; those of *St. pilosa* are dilute reddish and have a feeble sweetish odor. More collections are necessary to decide whether *St. apeibophylla* shall be maintained as a good species or better considered a geographical variety of *St. pilosa*.

BOMBACACEAE

Matisia bracteolosa n. sp. — Arbor parva ramulis sat tenuibus, novellis dense rufotomentosis, vetustis glabratibus rugosis. Stipulae subulatae, canotomentellae, sat parvae et sat caducae. Foliorum petiolus 3-13 mm. longus, validus, rufotomentosus; lamina 150-300 x 55-130 mm. metiens, oblongo-obovata, a tertio superiore usque ad basin aequaliter cuneato-attenuata, margine in tertio apicali undulata, apice breviter abrupte acuminata, elasticè papyracea, subconcolor, subtus magis quam supra nitidula, in utraque pagina pilis fasciculatis rigidulis in nervis frequentioribus asperula, quinquenervia cum paucis nervis lateralibus margine arcuato-conjunctis, nervis omnibus supra vix prominulis subtus valide

prominentibus, venis reticulatis maioribus et minoribus solum subustus distinctis, prominulis. Pedunculi solitarii ad folii axillam, ut bracteolae et calix extus rufotomentosi, 12-18 mm. longi, validi; bracteolae 3 ad pedunculi apicem sub flore, patentes, 10-15 mm. longae, e basi 5-8 mm. lata lanceolatae longe acuminatae, post anthesin persistentes. Calix 15-20 mm. longus, tubulosus, intus albosericeus, basi subtruncatus, in quinto apicali in lobos 5 elongato-triangulares divisus, costis longitudinalibus 5 percursus, supra magis prominentibus, in lobis apicalibus sub-alaeformibus. Petala in vivis ut videtur alba, tenuia, 25-30 mm. longa supra usque ad 8 mm. lata, spatulata basi longissime in unguiculum attenuata, extus tenuissime albidotomentella, post anthesin supra calicem reflexa. Tubus stamineus arcuatus petalis vix longior, glaber, cruribus circiter 8 mm. longis. Ovarium tenuiter tomentellum; stylus albidopilosulus. Fructus incognitus.

Habitat prope Esperança (ad ostium fluminis Javary) silva rarius inundabili secus Igarapé Santo Antonio, 26-X-1942, Ducke 1287, floribus siccis at bene conservatis. Arbor visa unica.

Species notabilis et inconfundibilis, foliorum pilositate, bracteolis magnis et persistentibus, et calicis tubo subalato-plicato a reliquis divergens.

This new species cannot be confused with any other, for its rough leaves, the large and persistent bractlets, and the nearly winged calyx tube. The flowers, when collected, were dry, but several of them were well conserved.

Matisia lecythicarpa n. sp. — Arbor parva ramulis sat tenuibus, novellis tenuissime canotomentellis, adultis glabris rugosis cinerascentibus. Stipulae subulatae tomentellae. parvae, caducae. Folia iis speciei *M. lasiocalyx* Schum. similia, lamina autem constanter minore, 80-220 x 35-80 (rarisime usque ad 275 x 85) mm. metiente; petiolus quam speciei citatae vulgo tenuior, 10-20 mm. longus. Flores ad axillas foliorum superiorum saepissime bini rarius solitarii; pedun-

culus 30-40 (saepius 35) mm. longus, sat debilis, in siccis longitudinaliter rugosus, bracteola una vel altera ad partem superiorem, subulata, minima, caducissima. Calix sub anthesi 18-20 mm. longus et 8-10 mm. latus, tubuloso-campnulatus, basi versus petioli apicem subacutus, apice lobis 5 brevibus rotundatis magis minusve reflexis, extus dense et minute tomentellus (in vivis viridis, in siccis flavescens), intus dense et pulchre sericeus, hoc indumento pallide aureo solum in lorum parte reflexa subargenteo, margine extremo albociliato; petala alba, spatulata, 28-30 mm. longa, supra 5-8 mm. lata, basi in unguem longum attenuata, apice obtusa, minime tomentella et ad marginem albociliatula; tubus stamineus 45-50 mm. longus, curvatus, cano-stellatotomentosus apice extremo subglabro, cruribus liberis usque ad 9 mm. longis margine glanduloso-villosulis; pistillum his cruribus aequilongum dense canotomentosum stigmatibus glabro. Fructus visi ut videtur semiadulti; petiolus sat validus; calix uno latere sub fructu persistens, fissus et irregulariter deflexus; capsula e stipite brevi et crasso, in vivis viridis, sicca ochracea, parte basali subsemiglobosa 5-sulcata, facie apicali late depressa pentagona hic inter carpella emarginata carpellis ipsis prominenti-dilatatis, in medio apicis styli loco tuberculo parvo depressione circumdato fulta, tota dense tomentella et rugosa, in speciminibus nostris nondum plene adulta, maxima 30 mm. alta et 40 mm. lata. Fructus nonnulli carpello uno vel altero non evoluto, forma irregulari.

Habitat prope Esperança ad ostium fluminis Javary, in silva rarius inundabili secus Igarapé do Umarizal; arbores plures visae. Florebat 5-X-1942, Ducke 1286; fructificabat 7-II-1942, Ducke 1285.

Fructus primo adspectu Lecythidacearum generis *Eschweilera* pyxidium in mentem vocat. Specimina florifera cum *M. lasiocalyx* Schum. confundi possunt, cujus folia sunt similia sed aliquanto maiora, pedunculi floriferi breviores et robustiores, calices saturate brunneo-ferruginei basi magis

obtusi apice lobis maioribus non reflexis uniformiter flavido-sericeis; fructus valde diversi.

This species shows close affinity to *M. lasiocalyx* Schum., frequent in the same region and widely distributed over the Southwestern part of the Amazon Basin. The differential characters, observed in floriferous herbarium samples, are rather insignificant, but the living plants (from which I have seen several individuals of both species) were always easy to separate. The fruit of *M. lasiocalyx* is, however, entirely different, resembling that of the widely spread *M. ochrocalyx* Schum. whose gland-like fruits sit in an enlarged cupuliform calyx. A pentagonal fruit was hitherto observed only in *M. bicolor*, but this species has not close affinity with the now described one.

The 8 species actually observed in Brazilian Amazonia are the following:

1: *M. cordata* H. B. K. — Esperança, mouth of Rio Javary, State of Amazonas. A large tree growing in moist places of upland virgin forest (Ducke 1524, with ripe fruits). Frequently cultivated in Amazonian Peru ("sapote") for the edible pulp of the fruit, which, in the cultivated trees, is usually larger than that of the wild trees.

2: *M. paraensis* Huber. — Amazon estuary (Belem, Breves etc.) and Rio Javary (Esperança). A small tree with large fruits which resemble the edible fruits of "cupuassú", *Theobroma grandiflorum*. For these fruits, the tree is called, in Pará, "cupuassú-rana" (false cupuassú). Its fruit contains a fibrous mass and is not edible, but the stem and the branches yield good textile fibers.

The present species is one of those which were observed in the Upper Amazon basin and also in the estuary of the mighty river, but which have not been found, hitherto, in the intermediary country. Other example: *Macrolobium brevense* Ducke.

3: *M. bicolor* Ducke. — A tree of the Middle Xingú basin (Altamira, State of Pará). Flower with fulvous calyx and atrovioletaceous petals; fruit pentagonal seen from above.

4: *M. lecythcarpa* n. sp.

5: *M. lasiocalyx* Schum. — Small tree growing in moist places of the upland rain forest, as well as in not too deeply inundable lowland forest, in the Southwestern part of the State of Amazonas. The specimens collected by Huber on the middle Purús and by myself at the mouth of the Javary correspond in all characters to one specimen of Ule's collection. distributed under the above name. The gland-like fruit of this species resembles that of *M. ochrocalyx*, is covered with light brown silky tomentum, and its calyx is smaller and thinner.

6: *M. ochrocalyx* Schum. — Moist places of upland forest, and less inundable places in the lowland ("varzea") forest, through the States of Pará and Amazonas where it is the most frequent species of the present genus. Easily distinguishable by the rough calyx and by the gland-like fruit.

7: *M. bracteolosa* n. sp.

8: *M. oblongifolia* Poepp. et Endl. — Upper Amazon. Not seen.

Septotheca Tessmannii Ulbrich. — A monotypical genus of close affinity with the genera *Bernouillia* (Central America) and chiefly *Huberodendron* (Amazonia), created on flowering material from the Middle Ucayali, Peru. Fruiting specimens were now collected: Tabatinga (Brazilian Amazon), Paraná de Aramassa, "varzea" forest, on fertile, not too deeply inundable soil, March 4, 1944, Ducke 1657. The adult fruit is a hard, ligneous, loculicide capsule 80-100 mm. long and 20-24 mm. wide, of sub-cylindrical form, slightly depressed along the dorsos of its five carpels, attenuate at the base in a short stipes, narrowed in the uppermost part and with apex truncate and apiculate by the rudiment of the style, densely covered with minute grayish lepidia and more sparsely verruculous; mature, it splits from the apex to the base, in five elongate, triquetrous pieces

(correspondent to the carpels) which remain for a long time pendulous, attached to the penduncle; each of those five pieces consists of one thick and hard woody dorsal part proceeding from the exocarp, and of two thinner, more sub-papyraceous than woody side walls appertaining to the endocarp of the fruit; each piece includes a longitudinal septum of subpapyraceous consistence, separating two series of very numerous densely imbricate, adscendent seeds; the seeds consist of a very small (about 8 mm. long), triangular, strongly compressed nucleus, and of a thin membranous, very fragile, terminal wing 20-25 mm. long, oblong, obtuse; albumen not seen. Calyx persisting with the fruit, funnel-shaped, about 25 mm. long and 20 mm. wide.

The identification of this tree was made possible by flowering specimens from the same country, received through the kindness of the collector, Dr. R. E. Schultes, 6150, Oct. 28, 1944. "Brazil: Amazonas, Island of Aramassa. Inundable forest. Tree 65 feet tall, with buttress roots. Bark smooth, dark grey-brown. Flowers odorless; petals light green; calyx dull grayish green with mucilage glands. Leaves dry, coriaceous. Sapote-rana".

The fibers of the twigs, petioles and peduncles are of a remarkable strength.

GUTTIFERAE

Renggeria longipes n. sp. — A generis specie typica (*R. comans*) divergit praesertim petiolis et inflorescentiis multo longioribus. Frutex robustissimus, in arbore alta epiphyticus et scandens, multiramusus, glaber. Ramuli solum in parte terminali foliosi, internodiis brevissimis. Foliorum petiolus validus, saepius 10-15 mm. longus, rarius brevior vel usque ad 20 mm. elongatus; lamina saepius circiter 90 x 35 mm. metiens, rarius vix 70 vel usque ad 120 mm. longa et 20 vel usque ad 45 mm. lata, spatulata, basi in petiolum longe cuneata, apice obtusa vel anguste rotundata, subtus marginata, utrinque nitida et concolor, nervis acute adscenden-

tibus tenuissimis vel subobsoletis. Inflorescentia mascula sola nota vulgo 40-60 rarius ad 70 mm. longa, ramis maioribus (inferioribus) vulgo 30-40 rarius usque ad 50 mm. longis; bracteae et bracteolae magnitudine et forma ut in specie citata. Calyx ut in citatae speciei figura in Martii Flora Brasiliensi XII I tab. 96 fig. 3, sepalis externis (minoribus) 5, nec 4 ut in descriptione l.c. p. 441. Petala flava, in exsiccatis vix ad 4 mm. longa. Filamenta et antherae ut in specie citatae icone.

Tocantins (Rio Solimões, in civitate Amazonas), in silva non inundabili, 27-I-1944, Ducke 1632.

The present species is the second "good" species hitherto known in this genus difficultly accessible to collectors (*R. litoralis* will probably belong to another genus). The other, *R. comans* (Mart.) Meissn., has, according to the description, subsessile leaves, much shorter (20 mm. long) inflorescences, and somewhat larger (6 mm. long) petals of white (not yellow) color.

MELASTOMATACEAE

Myrmidone lanceolata Cogn. — This interesting, myrmecophilous plant is one of the most typical elements of the "catinga"-flora of the Upper Rio Negro, and also occurs in analogous formations in the Solimões country (São Paulo de Olivença, Ducke 1627). It is a shrub with thin and not over 2 m. high stems, frequent in the undergrowth of those woods. The pretty deep red petals reach up to 20 mm. of length; the ripe fruits are black. Our specimens agree with the plate in Cogniaux's monograph in "Flora Brasiliensis", but adult flowers are not represented in that drawing.

COMBRETACEAE

Buchenavia sericocarpa n. sp. — Arbor parva vel submediae magnitudinis, ramulis mediocriter validis apice vix incrassatis, innovationibus rufotomentosis. Folia ad ramulorum partem recentem modice numerosa (vulgo 12 ad 18 per

ramulum), magnitudine in eodem ramulo valde inaequalia; petiolus 15-30 mm. longus, sat tenuis, rufo-puberulus; lamina saepius 50-120 x 25-60 mm. metiens, oblongo-obovata, basi cuneata et in petiolum decurrens, apice longe et abrupte caudato-acuminata acumine acuto et saepe oblique complicato, margine revoluta, tenuiter coriacea, eglandulosa, epunctata, microscopice papillosa, adulta solum in nervis pilosula, parum nitidula, costis lateralibus e costa mediana subtus crassa utrinque 7 ad 9 saepius 8, supra immersiusculis subtus prominentibus, ante marginem arcuato-anastomosantibus, venis reticulatis in utraque pagina prominulis. Spicae solum visae statu fructifero drupis novissimis et adultis, cum foliis novellis, parum numerosae; pedunculus 20-25 mm. longus, rhachis 5-8 mm. longa, ambo rufotomentosi; drupa novella ut adulta tomento sericeo-nitente tenui at denso indutae, in novellis subargenteo, in adultis canescente, adulta 20-25 mm. longa 7-8 mm. crassa, oblonga, utrinque obtusa.

In silva secundaria non inundabili circa Manáos, 26-XI et 30-XII-1943, Ducke 1481.

The present new species is easily recognizable by its medium-sized and caudato-acuminate leaves, by the very short floriferous part of the spikes, and by the pretty, silk clothed drupae. Size and shape of these drupae, as well as the form and the consistence of the leaves, are like of *B. macrophylla* Eichl. growing in the same region; the latter species, however, has much larger leaves, very conspicuous glanduliferous petioles, and longer fertile part of the spikes.

Buchenavia Huberi n. sp. — Arbor magna partibus vegetativis adultis glabris, innovationibus canopilosulis, ramulis mediocriter robustis, junioribus rufis. Folia ad ramulorum apices congesta modice numerosa; petiolus 15-25 mm. longus, mediocriter validus, junior pilosulus; lamina 60-120 mm x 30-60 mm. metiens, obovata vel oblongo-obovata, basi longe sensim attenuata et in petiolum decurrens, hic utrinque juxta petioli apicem glandula parva nec semper bene conspicua fulta, apice obtusa vel brevissime obtuse acuminata, elastice

coriacea, epunctata, concolor, supra magis quam subtus nitida, costis subtus magis quam supra prominentibus, mediana crassa, lateralibus in utroque latere 7 ad 9 ante marginem arcuatis et anastomosantibus, venulis reticulatis in utraque pagina tenuiter prominulis, crebris. Spicae cum foliis novellis fasciculatae binae ad quaternae, usque ad 100 mm. longae, laxiflorae, deflexae, pedunculo et rhachide tenuibus, rufescenti — canotomentosis; ovarium dense canescenti-sericeum; calyx glaberrimus, in vivo viridis, siccitate fuscus. Drupae adultae 25-30 mm. longae et circiter 20 mm. crassae, obovatae vel oblongo-obovatae, basi in collum breve constrictae, apice breviter acuminatae vel apiculatae, novellae canotomentellae, maturae glabrae flavescentes sapore malo, endocarpio osseo circiter 25-30 x 12-15 mm. metiente, basi subacuto apice plus minusve breviter acuminato, faciebus longitudinaliter elevato-striatis.

Arbor in Musaei Paraensis hortum anno 1904 a doctore J. Huber e regione medii fluminis Perús (in civitate Amazonas) introducta, fructibus maturis 19-VI-1943, Ducke 1281. Arbor spontanea prope Manaos circa Cachoeira do Mindú in silva non inundabili, floribus subadultis 12-VIII-1943, fructibus novellis 5-X, Ducke 1308, fructibus adultis 3-XII, Ducke 1450.

This new species shows some affinity with *B. oxycarpa* but diverges by broader obovoid and coriaceous leaves, and by much larger obovoid, shortly acuminate drupae. It is a large tree (over 35 m. high) which grows in upland forests. The common *B. oxycarpa*, on the contrary, is a small tree (seldom reaching middle size) which grows in swamp forests, chiefly on low shores of lakes.

The genus *Buchenavia* is a very important element of the Amazon flora, represented by several species and numerous individuals, chiefly in the middle parts of that region. The big trees of the upland rain forest flower very seldom, and flowering specimens are difficult to collect because of the large size of the trees and the smallness and

green color of the flowers. Some species are till now undescribed.

RUBIACEAE

Platycarpum orenocense H. B. K. — I finally was able to get flowering specimens of the tree cited in "Arquivos do Serviço Florestal" I: 38 (1939) and in Record and Hess's "Timbers of the New World" p. 468 (1943), many years ago discovered in fruiting stage. The flowers agree with the plate accompanying the diagnosis of the species, and no doubt can longer be on the determination. The two, widely separated areas where the species was hitherto observed, are the savannahs near the cataracts of Atures and Maypures, of the Orinoco, and the swampy woods around the so-called "Campo Grande" near Borba (lower Rio Madeira), a small open spot in the great forest, of white sand and black humus, covered with shrubby vegetation. Specimens of the Brazilian plant were distributed to several institutions: with ripe capsules, Ducke Herb. Jard. Bot. Rio de Janeiro 35427; with fruits and wood, Ducke 237 (to Yale); with young capsules, Ducke 584; with flowers, Ducke 1005. — A second species of this genus, *P. negrense* Ducke, grows in the "catinga" woods of the Upper Rio Negro.

Chimarrhis glabriflora n. sp. — Arbor 20 ad 30 m. alta, trunco cylindrico, partibus vegetativis omnibus glaberrimis. Ramuli irregulariter compressi et angulosi, pallide cinnamomei vel grisei. Stipulae lanceolatae, longe acuminatae, caducissimae. Folia decussato-opposita; petiolus normaliter 20 ad 50 mm. longus; lamina saepius 120-200 mm. longa et 70-110 mm. lata, elliptico-obovata, basi in petiolum attenuata, apice acuta vel brevissime acuminata, herbaceo-subcoriaceae fragilia, subconcolor, supra magis quam subtus nitida, penninervia costis lateralibus utrinque usque ad 15, venulis obsoletis. Cymae floriferae ut in *Ch. turbinata* DC., pedunculis vulgo longioribus interdum folia subaequantibus,

bracteis maioribus quam in specie citata. Flores odorati. Ovarium cum calce vix 1 mm. longum, glabrum; hic apice breviter vel obsolete dentatus. Corolla alba, 4 ad 5 mm. longa, glabra, tertio apicali in lacinias 4 divisa. Stamina 4, filamentis basi albopilosis. Discus et stylus glabri. Capsula solum novissima visa, eae speciei *Ch. barbata* similis.

Esperança (ad ostium fluminis Javary, in civitatis Amazonas limine occidentali), non rara in silva non inundabili, 15-III-1944, Ducke 1618.

This well defined new species is easily distinguished from the two remaining species of Brazilian Amazonia (*Ch. turbinata* DC. and *Ch. barbata* Ducke), by various botanical characters, chiefly by the very small calyx and the entirely glabrous corolla. It is a rather frequent tree of the upland forests on the western limit of Brazil, and will certainly be observed in the neighboring parts of Peru and Colombia. The fragrant flowers appear at the climax of the rainy season. The tree yields good fire wood.

The present and the two above cited species form a group which I formerly considered as an independent genus, under the name *Pseudochimarrhis*. Its place was among the *Cinchoneae*, akin to *Calycophyllum*, while *Chimarrhis*, according to Schumann and others, should be included in the *Condamineae*. According to Pulle's Flora of Suriname, however, *Pseudochimarrhis* cannot be maintained, because a recent examination of the type of the genus *Chimarrhis* showed that it is a true *Cinchonea* and not a *Condaminea*, no essential divergences existing between the two groups of plants.

Striolaria n. gen. — Ad tribum *Mussaendeae*. Arbor ligno duro et denso; ramulorum cortex, folia et flores ruptis fibras albas ad aspectu lanuginoso liberant. Stipulae caducae. Folia decussato-opposita, petiolata, lamina mediocri vel pro familia submagna. Inflorescentiae axillares cymosae triflorae. Ovarium biloculare placentis e dissepimento bilobis, multiovulatum ovulis peltatis. Calyx super ovarium

alte protractus, lobis 5 imbricatis. Corolla magna, carnosa, obliqua, tubo basi cylindrico angusto, supra variabiliter dilatato, apice in lobos 5 praefloratione valvatos anthesi incurvo-erectos divisa, fauce pilosa. Stamina 5 inaequalia, inclusa, fauci corollae inserta, antheris versatilibus. Bacca globosa, verruculosa, calicis rudimento coronata, seminibus numerosis parvis angulosis, testa glabra, embryo non satis evoluto.

Generibus *Sommeria*, *Hippotis* et *Pentagonia* fibris lanuginosis, foliorum venulis longitudinalibus strioliformibus subparallelis, et florum fructuumque characteribus variis affinis; divergit calycis lobis imbricatis, corolla evidentissime zygomorpha, etc. A genere *Tammisia* Karst. mihi e descriptione sola noto recedit corollae fauce pilosa, staminibus brevibus, inclusis, fauci insertis, et ovario biloculari.

Species unica hucusque cognita Amazoniae partis occidentalis silvas pluviales inhabitat.

Str. amazonica n. sp. — Arbor 6 ad 12 m. alta, trunco cylindrico, partibus vegetativis omnibus glabris. Ramuli juniores compressi, in siccis striati. Stipulae saepe usque ad 25 mm. longae, basi 4 ad 8 mm. latae, lanceolatae et subulato-acuminatae, striatae. Foliorum petiolus vulgo 15 ad 30 mm. longus parum validus, parum profunde canaliculatus; lamina vulgo 120-270 mm. longa et 55-130 mm. lata, oblongo-vel elliptico-obovata vel elliptica, basi in petiolum breviter attenuata, apice breviter acuminata, margine subtus prominente, herbaceo-coriacea, concolor, subtus magis quam supra nitida, costa mediana subtus crassa, costis lateralibus e mediana utrinque 5 vel 6 praesertim subtus prominentibus, arcuatis, parum ante marginem evanescentibus, venulis transversis obsolete, longitudinalibus strioliformibus densis subparallelis in pagina inferiore oculo nudo bene conspicuis. Pedunculi circiter 10 mm., pedicelli 2 ad 3 mm. longi, glabri; bractee et bracteolae non adsunt. Ovarium viride, turbinatum, in siccis circiter 6 mm. longum superne 5 mm. latum, glabrum; stylus stamina longiora aequans, glaber, stigmatibus



ESTAMPA III

Striolaria amazonica n. ge. n. sp.

(1) — Floriferous twig (1/1); (2) — Fructiferous twig (1/1);
 (3) — Part of a leaf (2/1); (4) — Flower bud (1/1); (5) — Adult
 corolla (1/1); (6) — Flower without corolla (1/1); (7) — Trans-
 versal cut of ovary (3/1).

matureo bilobo. Discus elevatus latiuscule crenatus. Calyx viridis, super ovarium 10-15 mm. (in siccis) prolongatus et subito plus minus infundibuliformi-dilatatus, ab apice usque fere ad dimidium in lobos 5 imbricatos modice inaequales ovales apice rotundatos partitus, glaber excepta loborum marginibus parte minime ciliatula. Corolla in vivo carnosa, alba limbo carneo, ad 55 mm. (in exsiccatis 40-45 mm.) longa, in tertio basali anguste tubulosa, supra variabili modo dilatata (anthesi plena usque ad 20 mm.), in quarto apicali in lobos 5 ovatos divisa, extus solum in alabastri junioris vertice pilosula, intus ad faucem dense pilosa, caeterum glabra. Filamenta basi dense albidopilosa, corollae tubo breviora. Bacca unica visa ut videtur semiadulta, diametro circiter 18 mm.

Habitat circa Esperança (ad ostium fluminis Javary, in Brasiliae civitatis Amazonas limine occidentali), non rara in silvae primariae non inundabilis locis humidis vel leviter paludosis, 12-X-1942, Ducke 1621, lignum Ducke 401 cum specimenibus floriferis in Yale.

This plant belongs to the *Rubiaceae Mussaendeae* where its place shall be near *Sommeria*, *Hippotis*, *Pentagonia* (and perhaps *Tammisia*) which have the same white fibers of many parts, and the same striolated venulae of the leaves. Our plant, however, is, on the contrary of those genera, a true forest tree with hard and heavy wood, and various differential characters exclude it from any genus hitherto described. It is curious, that this rather frequent tree of the western frontier of Brazil has not yet been observed in the relatively well explored neighboring countries, Perú and Colombia.

ERRATA

Pagina	LINHA	ONDE SE LÊ	LEIA-SE
2	19	disagreeably	disagreeably
3	1	"	"
	7	heartwood	heartwood
	13	know	known
4	33	agreeable	agreeable
5	última	know	known
Est. I	2	and	an
10	17	surinamensis	surinamenses
11	17	"	"
11	última	Pavoni	Pavonis
12	8	dilata	dilatata
12	23	Tocantins	Tonantins
13	18	citata	citata
17	18	disagreeably	disagreeably
18	2	subtus	subtus
20	10 - 11	<i>M. ochrocalyx</i>	<i>M. ochrocalyx</i>
22	25 - 26	<i>R. comans</i>	<i>R. comans</i>
23	10	Tocantins	Tonantins
25	18	Perús	Purús
26	27	Follia	Folia
	31	coriaceae	coriacea
		fragilie	fragilis
27	2	calce	calyce