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**Notas sôbre a
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SUMÁRIO

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BELÉM — PARÁ — BRASIL

ERRATA

<i>Pág.</i>	<i>linha</i>	<i>onde se lê</i>	<i>leia-se</i>
8	8	Silva inundabili	Silva non inundabili
11	8 (de baixo)	frutifero	florifero
17	16/17	nordeste	noroeste
25	3	Tocantins	Tonantins
43	14	Humber	Huber
44	15 (de balxo)	Hoehne, is	Hoehne is
45	6	Sandwith which	Sandwith) which
48	14	rigifolia	rigidifolia
72	24	2-4 m.	1-4 m.
74	21	Ri. Ituquí	Rio Ituquí
85	14/15	enrairando-se	enraizando-se
89	19	Sandwith,	Sandwith
Est. 12		Bauhinia longiseta Fróes n.s.p.	Bauhinia longiseta Fróes n.sp.

CRITICAL NOTES ON SOME AMAZONIAN PLANTS

by A. DUCKE

MORACEAE

HELICOSTYLIS PODOGYNE Ducke, Bol. Técn. I.A.N. 4:3 (1945), male and female, = *H. Duckei* Hawks, Phytologia 3:31 (1948), female. — The pedunculate female receptacles are characteristic for this species, among those growing around Manaus; a second species with similar receptacles but easily distinguished by much larger leaves and dense and soft pubescence, *H. pedunculata* Ben., grows near Belém, Pará.

LEGUMINOSAE

INGA RUBIGINOSA (Rich.) DC. — A recent examination of Humber's specimen of *I. Thibaudiana* var. *latifolia*, from Peru, revealed that this plant is really a mere variety of *Thibaudiana*, and not *I. rubiginosa*. The latter species is easily recognizable by the hair of the corolla which is twisted and not straight appressed as in *Thibaudiana*. The area of *rubiginosa* is up till now limited to the Guianas and the Brazilian State of Pará where it has been observed from the vicinity of the Atlantic coast (Bragança) up to the lower Tapajós (Belterra, G. A. Black 47-1074). The *habitat* is upland forest on fertile clay-loam soil.

CASSIA HISPIDULA Vahl. — In a recent visit to the herbarium of the Jardim Botânico of Rio, I found, among a rather

large number of specimens of the typical form of the species, two specimens with obtuse flower buds and subglabrous leaves. I consequently am inclined to consider *faginoides* Vog. as a mere variety of that species, following Bentham, and not as a "good" species as Amshoff thinks. Both specimens come from the hill "campos" of Monte Alegre (Pará) where the typical *hispidula* is common. The color of the flowers, ordinarily yellow, is in some plants orange to red (Herb. Amaz. Mus. Pará 16081, and Herb. Jard. Bot. Rio 17804).

DALBERGIA RIEDELI (Radlk.) Sandwith in Kew Bulletin 1931 differs from the common and variable *D. monetaria* by its thick, corky, pubescent pod and its leaflets ferruginous-pubescent beneath. *D. enneandra* Hoehne, floriferous, = *D. pachycarpa* Ducke, fructiferous, belongs in the opinion of Amshoff to the same species which in this case would be widely distributed through the hylaea, from British Guiana and the Brazilian Territory of Rio Branco in the North through the Middle Amazon (Lower Rio Negro, Lower Trombetas, and Óbidos) southward to the Lower Xingú and the Lower and Middle Tapajós. Amshoff l.c. (1939) says: "Judging from figure and description and because Hoehne apparently considers the species (*Riedeli*) as distinct from *D. enneandra* Hoehne, it is very improbable that *D. Riedeli* (Benth.) Hoehne, is identical with *D. Riedeli* (Radlk.) Sandwith." But Hoehne, in his recent "Flora Brasílica", *Dalbergia* etc. (1941), cites the same plant (Ule 7802, S. Marcos, Rio Branco, June. 1909) for both his *Riedeli* and *enneandra*; it is therefore probable that there is no real difference between Hoehne's *Riedeli* and that of Sandwith. The drawing of *D. Riedeli* by Hoehne is a mixed composition of Cesar Diogo Museu Nacional 4923 (Mato Grosso) and the above cited Ule 7802 under the number 12898 in the Pará Goeldi Museum, the same plant as U. S. National Herbarium 1.615, 296. That drawing was first published in Arq. Bot. E. S. Paulo nov. ser. I, 1, t. 24 (1938), with the name *D. Riedeli* (Benth.) Hoehne, and later in Fl. Brasílica, *Dalbergia*, t. 15 (1941) under the name *D. Riedeli* (Radlk.) Sandwith. In referring to *D. enneandra* (l. c. p. 17), Ule 7802 = U.S.N.H. 1.615, 296 is regis-

tered as *D. enneandra* var. *parvifoliata* Hoehne (with smaller leaflets), but no diagnosis is given for this variety.

A plant coming from Rio Jamundá (limit of the States Pará and Amazonas), Ducke Herb. Jard. Bot. Rio 17155 (duplicata in Kew), resembles a flowering sample of *Riedeli*, from British Guiana (determined by Sandwith which I have seen in Rio; the pod of Ducke 17155 is however like that of *tomentosa*. It might be a form of *tomentosa*, with somewhat larger leaves; in "Leguminosas da Amazonia Brasileira", p. 121 (1939) I erroneously cited it as *Riedeli*.

EUPHORBIAEAE

ADENOPHAEDRA MINOR Ducke, Inst. Biol. Veg. 2:56 (1935) is according to a letter of Dr. L. Croizat received by the I. A. N., "not *Adenophaedra* at all; may be a n. sp. of *Tetrorchidium*". Recently collected specimens (Tabatinga, J. Murça Pires and G. A. Black 944, and Ducke 1861) show that Croizat was right; therefore, a new combination must be made: *TETROCHIDIUM MINUS* Ducke nov. comb.

Genus *HEVEA* Aubl. — The taxonomy of this important genus seems to have reached the point where, except for very few species, it no longer can be improved by study of herbarium samples alone, but only through living trees, spontaneous as well as in culture. The excessively detailed descriptions of herbarium samples (not of species!) which some authors continue to publish even of the commonest and best known species, are never read except by their authors!

H. MICROPHYLLA Ule (= *H. minor* Huber, not Hemsley). — We now have to accept the name *microphylla* for the species already universally known as *minor*; that is lamentable, because it would have been better, for true scientific purpose, if that change could be avoided. A mistake had been made by HUBER when he attributed the plant of the swamps of the Lower Rio Negro to the incompletely known *minor* Hemsley of the Cassiquiare, and Huber's opinion had been followed by

his successors (including myself), until recent studies on the type collections demonstrated the contrary (viz: Schultes, Studies in the genus *Hevea* I, Bot. Mus. Leaflets Harvard Un. 13, 1947). The opinion of Schultes is confirmed by N.Y. Sandwith in a letter of Sept. 20, 1948: "To-day I have compared the fruit of the type of *H. minor* Hemsl. with that of your 23750 (insula Xibarú) and I agree entirely with the difference noted by Schultes as quoted in your letter. The two fruits are extremely distinct owing to the very thin outer walls of your 23750, and that of *H. minor* is smaller".

H. MINOR Hemsl. (not Huber) may be identical with *H. PAUCIFLORA* var. *CORIACEA* Ducke. A sample of the latter (Fróes 22514), coming from the Cassiquiare (type locality of *minor* Hemsl.) and now in the herbarium of the I.A.N. is, according to its collector, a small tree of the "catanga". *H. confusa* Hemsl., rejected by its own author a few years after he had created it, was recently exhumed by Baldwin to substitute, with the rights of a "good" species, the above cited name *H. pauciflora* var. *coriacea*. I cannot see any contribution to a better knowledge of these plants by reestablishing a species which was abandoned by its author, whose work on *Hevea* is of basic value for the taxonomy of this genus.

Baldwin, in his most recent paper, refers to a *Hevea* of close affinity to *pauciflora*, growing in hill forests of the Upper Rio Negro. It is certainly the plant collected in that country and cited in my "Revision of the genus *Hevea*" under *pauciflora* (Serra Cabarí, Ducke Herb. Jard. Bot. Rio 23753); it differs from the other forms of this species by the large size of the trees, the broad leaflets and the much larger capsules. It might be acceptable as a proper species, but many more observations on living trees are necessary to decide it. Baldwin calls it *H. Kunthiana* Huber, right or wrong, but that name is a *nomen nudum*. In any case, this plant seems to be sufficiently characteristic to have a name, as species, variety or form.

The most frequently collected *Hevea* of the *pauciflora* — complex is *H. pauciflora* var. *coriacea* Ducke of which *Hevea minor* Hemsley (not Huber) is very probably a synonym. It appears stable when growing in equal ecological conditions in the “catinga” forests of both Rio Negro and Solimões. A form, frequent in secondary swamp forest along brooks near the city of Iquitos is, on the contrary, highly unstable in all botanical characters. I considered it as a “good” species under the name *H. humilior*, for at that time I had few specimens available; in a recent (1945) trip I examined a large number of trees and could not find sharp limits between this form and the common *H. p.* var. *coriacea* of the “catinga”. I therefore reduced my *humilior* to a synonym.

Seibert l. c. considers *humilior* as well as *paludosa* Ule (the latter known only from the type collection), both from Iquitos, as hybrids of *H. p.* var. *coriacea* and *H. guianensis*. That is possible, because Heveas growing in secondary forests are very prone to hybridize, but, in such a matter, certainty can never be reached by comparison of herbarium specimens only. Otherwise, because no representatives of the typical *coriacea* of the “catinga” have been found near Iquitos, it would not be easy to explain the origin of these hybrids. Without genetic studies, spontaneous hybridation cannot be admitted except for intermediate forms frequently found where the ranges of different species come together. Along the Igarapé Guarita (a small brook near Manáos), for example, *H. guianensis* var. *marginata* accompanies the uppermost part of the streamlet, with permanently running water; typical *Benthamiana* accompanies the middle course where the water runs only during the dry season but is standing in the rainy season; *Spruceana* abounds in the lower part of the streamlet where a deep lagoon is formed in the rainy season and the shores remain swampy during the dry months. Intermediate forms between these species are frequent where these species come together, and can certainly be interpreted as hybrids.

H. RIGIDIFOLIA (Spr. ex Bth.) M. Arg. — This nearly forgotten species is now represented in the I.A.N. by young

living plants and complete herbarium samples. Since Spruce's time, no botanical collector had seen it, nor I myself in my travels in the "catinga" country of the Upper Rio Negro and its tributary Curicuriari. The first herbarium samples collected by R. L. Fróes in the catingas of the Uaupés and the Issana reached the I.A.N. in 1945 and were identified as *rigidifolia*, by comparison with a specimen of the type collection of Spruce, from the Pará Museum. With that herbarium material, I was able to determine an unidentified living plant brought from the Upper Rio Negro basin by Dr. J. T. Baldwin, together with other young Heveas of various species. There is no doubt that a mistake has been made by Dr. R. E. Schultes (Studies in the genus *Hevea* II), when he attributed to Baldwin the rediscovery of *H. rigidifolia*, whose merit is due unquestionably to FRÓES; without the herbarium specimens of Fróes collection, the plant sent by Baldwin would not have been identifiable before reaching the fertile age.

HEVEA VIRIDIS Huber. — In R. J. Seibert's "Study of *Hevea* in the Republic of Peru", Annals Missouri Bot. Gard. 34 (1947), this species is treated under the name *H. nitida* M. Arg. which in the opinion of Schultes should belong to *H. brasiliensis* var. *subconcolor*. "Having seen only one leaflet from the type of *H. nitida*, Ducke questioned its affinity with *H. viridis*. Schultes (1945) felt that it should belong with *H. brasiliensis* var. *subconcolor*. Through the excellent photograph, made by the Chicago Natural History Museum, of the entire type specimen of Martius' collection deposited in the Herbarium at Munich, it has been possible to identify *H. nitida* as *H. viridis* with some degree of certainty. The presence of interflush short-shoots, as well as the glossy under-surface of the leaflets, leaves little doubt that *H. viridis* should henceforth be referred to *nitida*", SEIBERT l. c., p. 298.

In my opinion, however, it is preferable to conserve the unquestionably certain name *viridis* Huber, because certainty has no degree nor can permit any doubt; the presence of degrees or doubt can make a thing probable but not certain.

There will be a considerable degree of probability, and, consequently, little doubt that *nitida* and *viridis* are the same species, but it seems undesirable to replace the unquestionable and already generally accepted name *viridis* for another of questionable probability whose exhumation could not at all improve the scientific knowledge of the plants.

CUNURIA SPRUCEANA Baill. — *Cunuria bracteosa* Ducke = *C. Spruceana* var. *bracteosa* Schultes is nothing more than the common *C. Spruceana* with younger inflorescences. The first samples I collected, bearing young inflorescences with still persistent bracts, did not correspond too well to the type specimen of *Spruceana* with older inflorescences already destituted of bracts; I distributed those samples under the herbarium name *bracteosa* and also made a diagnosis of the supposedly new species. In the following years, I observed however, around Manaus (where this species is common in many places) as well as on the Upper Rio Negro and Solimões, a large number of trees with inflorescences of all ages with or without persistent bracts, on the same tree; I therefore decided to eliminate *bracteosa* from the descriptions of new species destined to be published in "Arch. Jard. Bot. Rio de Janeiro", vol. 6. In consequence of my prolonged absence from Rio, the request I sent in that sense was however not executed, and the description of *bracteosa* was not excluded from my paper. Baldwin and Schultes: A Conspectus of the genus *Cunuria*, Bot. Mus. Leaflets Harvard Un. 12:315 (1947), reestablished *bracteosa* as a variety; the lack of prolonged studies on trees in all stages of evolution of the inflorescences and prevalent studies on only herbarium samples may be the cause of it.

The genus *Nealchornea* Huber placed by the above cited authors in the affinity of *Cunuria*, is closely allied to *Conceveiba* and related genera and has nothing to do with *Cunuria*.

The geographical area of *Cunuria Spruceana* reaches, eastwards, to Manaus and the Lower Rio Madeira; the species, as well as the whole genus *Cunuria*, has not yet been observed

in the State of Pará. The name of Serra Cunurí, a name for one of the hills near the mouth of the Rio Trombetas, has nothing to do with these plants; its origin must be sought in the Tupí-guaraní language, while the indigenous names from the Upper Rio Negro country come generally from the Baniwa tongue. The name “cunurí”, for *C. Spruceana*, is, at least at the present time, restricted to the Upper Rio Negro; near Manaus and on the Solimões (for example around São Paulo de Olivença where the species is very common), no indigenous name is known for the trees.

C O N V O L V U L A C E A E

Genus *DICRANOSTYLES* Bth. — In my opinion, the genus *Kuhlmanniella* Barroso (1945) is nothing more than one of the various *Dicranostyles* with undivided style [vide Ducke, Tropical Woods 90 (1947)], and, consequently, its only species *K. Falconiana* Barroso was named *Dicranostyles Falconiana* (Barroso) Ducke. In a recent paper [Rodriguesia 10:21 (1947)], the same author makes three new combinations, transferring *D. holostyla* Ducke, *D. laxa* Ducke and *D. Mildbraediana* Pilg. to his recent genus (*D. integra* Ducke and *D. longifolia* Ducke were forgotten!). My opinion on the value of a divided or undivided style, in this group of plants, is corroborated by that of at least two well known taxonomists, here transcribed:

Dicranostyles sericea Gleason, Amer. Journ. Bot. 19:751 (1932): “Six species of this small genus of *Convolvulaceae* have hitherto been described, of which four have the plainly divided style of the type. The other two somewhat aberrant species, with style entire or nearly so, are *D. holostyla* and *D. Mildbraediana* Pilger.” — *D. Mildbraediana* Pilger, Notizbl. Berlin-Dahlem 9: 1150 (1927). “Trotzdem die Narbe ungeteilt kopfig ist, besteht kein Zweifel dass die Art zu *Dicranostyles* gehört, da alle Merkmale sonst auf die Gattung hinweisen” (in English: In spite of the undivided, capitate stigma, no doubt can subsist that the species belongs

to *Dicranostyles*, because all other characters indicate this genus).

If we accept the division of the style as a criterion for splitting *Dicranostyles* in two genera, we certainly should not unite the species having entirely divided styles and those whose styles are divided only in the upper third. And both these groups diverge from *D. scandens* Bth., the type species of the genus *Dicranostyles* whose style is divided either from the base (Spruce 2306, from S. Gabriel, Upper Rio Negro) or only in the upper part (Schomburgk from "Camanaw, Guiana anglica", *recte* Camanaus, Upper Rio Negro, Brazil, cf. Arch. Jard. Bot. Rio de Janeiro 4: 168 (1925). We would then have four species groups, two of which are still available for making new genus names: 1. Style shortly or deeply divided: *D. scandens*. 2. Style divided from the base: *D. ampla*. 3. Style shallowly divided at the apex: *D. densa* and *D. villosa*. 4. Style undivided: *D. Falconiana*, *D. Mildbraediana*, *D. holostyla*, *D. integra*, *D. longifolia*, *D. laxa*.....!

DICRANOSTYLES KUHLMANNII Hoehne (1932) does not belong to this genus, nor to *Merremia* as Barroso thinks ("A especie *Dicranostyles Kuhlmannii* Hoehne (1922) caiu em sinonímia de *Merremia Kuhlmannii* Ducke", Barroso o. c. p. 23, observ.). It is a genuine *Maripa* and was classified in this genus, with the name *Maripa Kuhlmannii* (Hoehne) Ducke (1932), not *Merremia Kuhlmannii*.

S O L A N A C E A E

MARCKEA FORMICARUM Damm. — I saw a specimen without corolla, from São Gabriel (Upper Rio Negro), Spruce 2317, labeled *Marckea ciliata* Spruce mscr.