

## NOTES ON GUIANA EUPHORBIACEAE

by

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This paper deals with some specimens of Euphorbiaceae from various collectors. The plants have been collected in French and British Guiana. The specimens were sent to me for determination by the Kew Herbarium and the Herbarium of the New York Botanical Garden. Some of these specimens had to be considered as new species, others were new finds for British or French Guiana while the remainder of the list is added for sake of completeness. The author wishes to express his thanks to the directors of the Kew Herbarium and the Herbarium of the New York Botanical Garden for their assistance with the material.

The arrangement of the genera is that of Pax in Engler, u. Prantl, *Natürl. Pflanzenfam.* sec. edition Vol. 19c (1931).

*Hyeronima oblonga* (Tul.) Müll. Arg. in *Linnaea* XXXIV (1865) p. 66; Pax and K. Hoffmann in Engler, *Pflanzenreich* IV.147.XV (1922) p. 37; — *Stilaginella oblonga* Tul. in *Ann. Sc. nat.* 3. sér. XV (1851) p. 248.

British Guiana: Mazaruni River fl. June 1889, Jenman 5274 (New York).

Distribution: Mexico, British Guiana and South Brazil. The specific form in British Guiana only.

*Phyllanthus acuminatus* Vahl, *Symb. Bot.* II (1791)

p. 95; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 16.

British Guiana: Pomeroon District, Moruka River, Mora landing, fl. Aug. 1921, De La Cruz 962 (New York). "A fish poison; 16 feet high." Waini River, Northwest District, De La Cruz 3757 (New York) fl. April 1923, 12 feet high.

Distribution: West Indies and tropical South America.  
Vern. name: Conaparoo.

*Phyllanthus corcovadensis* Müll. Arg. in Mart. Fl. Bras. XI. 2. (1874) p. 30.

British Guiana: Barima River, fl. Febr. 1926, Alston 450 (Kew). "A herb 2 feet high, perianth greenish white. A weed in cultivated land." French Guiana: Poiteau without number (Kew).

Distribution: Brazil near Rio de Janeiro.

The specimens mentioned here have to be included, at least for the present in this species, though I did not see any other specimens. They do vary from the description.

It may be advisable to revise the American species of the section *Menarda* Müll. Arg., since I consider it likely, at least not impossible, that they are not truly American species but merely African ones, related to *Ph. nummulariaefolius* Poir., once imported in South America.

The specimens mentioned here differ from the description in:

- a. The disc-glands of the male flower having an emarginate apex.
- b. the smaller fruits.
- c. the longer pedicellate female flowers.

*Phyllanthus diffusus* Klotzsch in Seem., Bot. of Herald (1857) p. 105; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 21.

British Guiana: Northwest District, Waini River

fl. April 1923, De La Cruz 3662 (New York); Pomeroon District, Moruka River, Mora Landing fl. August 1921 De La Cruz 985 (New York); Vicinity of Bartica, on the Essequibo River fl. Sept. 1922, De La Cruz 1971 (New York). French Guiana: Vicinity of Cayenne fl. Febr. 1845, Rothery 69 (Kew) (this specimen has 2 stamens only); *ibid.* Rothery 68 (Kew); *ibid.* fl. April 1921, Broadway 37 (New York), on "waste ground near the sea"; *ibid.* fl. May 1921, Broadway 181 (New York), "among grass under trees"; *ibid.* fl. June 1921, Broadway 379 (New York), "in shade".

Distribution: Tropical South America and the West Indies.

*Phyllanthus lathyroides* H.B.K., Nov. Gen. et Spec. II, col. ed. (1817) p. 87; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 19.

French Guiana: Vicinity of Cayenne fl. July 1921, Broadway 752 (New York), „in a ditch". Specimen with rather small leaves.

Distribution: West Indies, Mexico and Tropical South America.

*Phyllanthus niruri* L., Spec. Pl. ed. 1 (1753) p. 981; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 20.

British Guiana: Vicinity of Georgetown fl. May 1889, Jenman 4797 (Kew). French Guiana: Vicinity of Cayenne fl. Febr. 1845, Rothery A (73) (Kew).

Distribution: A weed widely spread in the tropics.

*Phyllanthus pentandrus* Schum. et Thonn., Beskr. Guin. Pl. (1827) p. 419; Hutchinson in Thiselton-Dyer, Fl. of Trop. Africa vol. VI. sect. I. (1913) p. 710.

French Guiana: Vicinity of Cayenne, Rothery B 72 (Kew, New York), "Stem erect, compound with a reddish tinge, from the axil of each leaf or branch issues a branch

or leaf, flowers axillar generally two or even three together, spreading in all directions so that the flowers and capsules can be seen by a person looking down upon the plant, which is not the case in P.A." (Rothery 73 = *Ph. niruri* L.).

This plant belongs to the section *Menarda* Müll. Arg. and is probably identical with *Ph. pentandrus* Schum. et Thonn. a common tropical African species.

Some points of difference are found in:

- a. leafshape, in Rothery 72 acute at the base.
- b. seed, not with 5—6 longitudinal lines of dots, but rather dotted all over.

I do not feel quite certain about the determination. At any rate the plant is closely related to *Ph. pentandrus* Schum. et Thonn.

*Phyllanthus Urinaria* L., Spec. Pl. ed. 1. (1753) p. 982; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 18.

French Guiana: Vicinity of Cayenne fl. Febr. 1845, Rothery C 71 (Kew).

Distribution: A weed widely spread in the tropics.

*Drypetes variabilis* Uitt. in Rec. des trav. bot. néerl. XXII (1925) p. 348, t. 6; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 25.

British Guiana: Maraika, Pomeroon River, alt. c. 50', fr. March 1932, Forest Department Field No. D 286, Record No. 2277 (Kew). "Tree 16" diam. and 98' high, 60' to first branch, growing in miscellaneous forest on a hill slope. Fruit green, turning pale yellow when ripe". Female plant with fruits only. Southern side of Kanaku Mountains, right bank Rupununi River near Sand Ck., alt. c. 1200', fl. Oct. 1931, Forest Department Field No. D. 258, Record No. 2249 (Kew). "Tree about 16" diam. and 90' high growing on steep mountain side in miscellaneous forest. Flowers green." Male flowers.

Distribution: Surinam.

Vern. name: Shibadan (Arow.).

The specimen has been compared with the types in the Utrecht Herbarium. The female plant compares in all respects, the male-one shows some small differences. The leaves are slightly smaller, not necessarily a very important feature. The British Guiana specimen always was found to have 8 anthers whereas the type specimen bears 4—7. Another interesting fact was noted in the British Guiana specimen, viz. a flower that possessed a rudimentary ovary, bearing a short style with a small umbrella-shaped stigma.

*Croton cuneatus* Klotzsch em. Lanj., The Euph. of Surinam (1931) p. 11; — *Cr. cuneatus* Klotzsch in Hook. Journ. of Bot. II (1843) p. 49.

British Guiana: Roraima fl. Dec. 1884, E.F. im Thurn (Kew), forestbelt.

This specimen differs in some respects from the other specimens of this species, the differences seeming to be due to the peculiar character of the collected branch. The flowers are larger, especially the female ones. The inflorescence is denser but shorter, the number of the anthers is often greater, and nearly always some of them are abnormal in shape and size. Another point of difference can be observed in the indument. The flowers of this specimen are less scaly than normal ones, while the scales of calyx and ovary always bear in the centre 1—3 long patent hairs, which occur in the normal specimens on the scales of the branches only.

French Guiana: Cayenne. Martin without number (Kew).

Distribution: Amazona River District and Guiana.

*Croton galeopsifolius* Lanj. nov. spec.

Sect. *Decarinium* Müll. Arg. ex affinitate *Cr. subincani* Müll. Arg.

Frutex(?). Rami petiolique teretes, lepidibus stellatis

multiradiatis dense vestiti mox glabrescentes. Stipulae subulatae, glanduligerae, circ. 5 mm longae, dense stellato-lepidotae. Petiolus 10—15 mm longus, limbus basi patellari-biglandulosus, 8—12.5 cm longus 3—5.7 cm latus membranaceus, ovatus vel anguste ovatus, acuminatus, acutus, basi rotundatus, margine irregulariter crenatus, supra glaber, subtus sparse et praesertim secus nervos stellato-lepidotus; costae secundariae circ. 14 utrinque prominulae. Inflorescentiae basi floribus fem. paucis, dense stellato-lepidotae, 8—13 cm longae; bracteae parvae, 0.5 mm longae, ovatae, acutae. Flores masc. circ. 3 mm longe pedicellati, bracteolis duabus biglandulosus, calyce 5-lobato, oblongo-triangulari, apice obtuso, extus dense pubescenti, intus glabro, petalibus 5 oblanceolatis, obtusis, extus dense intus sparse longe pilosis, disci glandulis 5, sepalis oppositis, subsemicircularibus vel triangularibus et rotundatis, staminibus circ. 10, filamentis glabris. Flores fem. circ. 3 mm longe pedicellati, calyce 5-lobato, extus pilis stellatis dense vestito, lobis binis obovatis abrupte breviterque acuminatis, binis multo angustatis, singulo triangulari-ovato, acuminato, acuto, petalibus 5 ad punctos reductis, ovario pilis stellatis multiradiatis dense vestito, stylis 3, usque prope ad basin 2-partitis, pilis stellatis tectis, apice incurvatis.

British Guiana: Potaro River fl. Febr. 1879, E.F. im Thurn s.n. (Kew).

This new species is closely related to *Cr. Guildingii* Griseb., from which it differs in the size and the shape of the leaves and in the indument of the plant.

*Croton essequeboensis* Klotzsch in Hook. London Journ. of Bot. II (1843) p. 52.

British Guiana: Essequebo River, Jenman 1081 (Kew), 4 feet high; Potaro River, Kaieteur Savannah, Jenman 1225 (Kew), 3—4 feet high (compared with the type, Schomburgk 33).

Distribution: British Guiana (Müller Arg. mentions this species as a variety with *Cr. populifolius* Lam. from the West Indies and Central America cf. D. C. Prodr. XV. pars 2 (1866) p. 654).

*Croton hirtus* L'Hérit., Stirp. Nov. (1874) p. 17; Lanjouw in Pulle Fl. of Surinam II (1932) p. 37.

French Guiana: Poiteau s.n. (Kew).

Distribution: West Indies, Central America, Venezuela, Peru, Guiana and Brazil.

*Croton potaroensis* Lanj. nov. spec.

Sect. *Eucroton* Müll. Arg., subsect. *Lasiogyne* Müll. Arg. ex affinitate *Cr. argyrophylloidis* Müll. Arg.

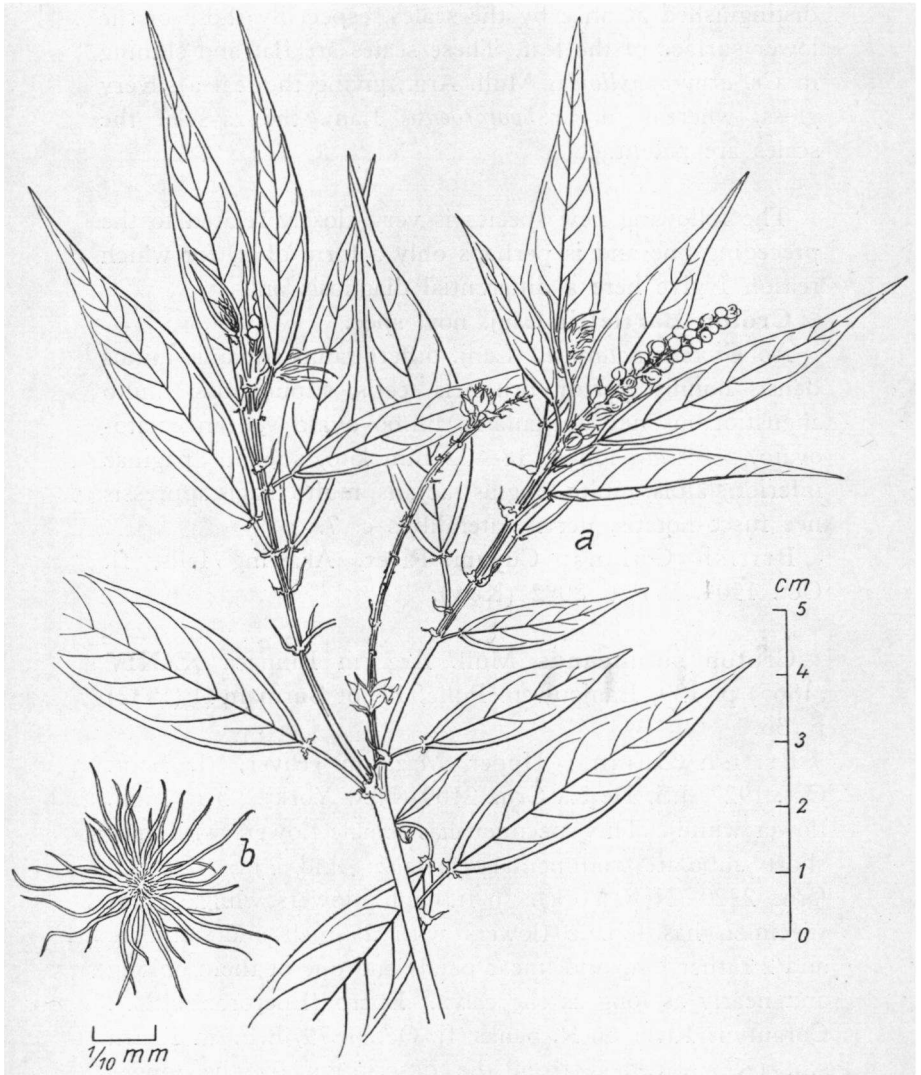
Frutex circ. 1.80 m altus. Rami squamis pilos stellatos simulantibus, radiis longis tenuibus, partim divaricatis, brunneo-tomentosi. Stipulae 3-lobatae, squamis parvis ultra medium stellato-fissis vestitae, lobo mediano e basi lata ovata 3—4 mm longa acuminato, acumine longo filiforme parti basali fere aequilongum vel paullo longiore, lobis laterali-bus irregularibus. Petiolus 5—15 mm longus, squamis supra descriptis dense tectus. Limbus foliorum 4—9 cm longus, 8—20 mm latus, lanceolatus vel lineari-lanceolatus, longe acuminatus, basi acutus vel obtusus, basi laciniis binis divaricatis acutis, 1—1.5 mm longis, auriculatus, supra olivaceo-viridis, papillosus, nervis squamis iisdem, quae in ramis petiolisque, dense obsitis, papillis passim squamis stellatis albis tectis, infra flavescens brunneo-punctatus, squamis plerumque macula centrale fusca notatis interdum omnino fuscis, profundissime laciniatis, radiis longioribus quam in squamis paginae superioris, vestitus; nervi laterales 8—10, interdum plures, subtus prominentes. Racemi terminales multiflori, floribus femineis paucis basi sitis. Pedunculus vestimento ramorum. Bracteae circ. 2 mm longae, subulatae, pilis stellatis dense tectae, tertia parte a basi biauriculatae. Flores masc. circ. 1—2 mm pedicellati,

sepalis 5, ovato-triangularibus, acutis, extus dense stellato-lepidotis, intus praesertim apice pilosis, petalis 5, oblongis, extus stellato-tomentosis, intus margineque patentipilosis. Stamina 16, filamentis connectivisque dense patentistellatis; disci glandulae 5 crassiusculae, carnosae. Flores fem. 1—2 mm pedicellati, sepalis 5, crassiusculis, triangularibus, acutis, 4 mm longis, basi circ. 3 mm latis, extus dense stellato-tomentosis, intus patentistellatis, basin versus glabrescentibus, petalis minutis deciduis, subulatis, pilosis. Ovarium dense stellato-tomentosum, stylis ter dichotome divisis, stellatis, ramis ultimis quoad partem papillosam glabrescentibus. Capsula stellato-lepidota, 5—7 mm longa; semina atro-fusca, nitida, circ. 4 mm longa.

British Guiana: Bank of the Potaro River, Tumatumari, fl. July, Gleason 329 (Kew, type!, New York), a shrub 6 feet high; Potaro River, fl. and fr. Sept. 1898, Jenman 7392 (Kew, type of the fruit); Potaro River, below the Kaieteur, fl. and fr. Sept. Oct. 1881, Jenman 943 (Kew), "6—12 feet high"; Potaro River, fl. Febr. 1879, E.F. im Thurn s.n. (Kew); Potaro River, Tumatumari, fl. and fr. Sept. 1923, Linder 13 (New York), "in moist, sandy woods"; Mazaruni River, Turesi Falls, alt. 140', fl. and fr. Aug. 1925, Alston 306 (Kew), "common on dolomite rocks in falls." "A shrub; stem brown-tomentose; flowers monoecious; calyx 5; stamens 14—16; style short, 6-branched, each branch produced into two thread-like filaments; fruit 3-lobed, surmounted by style"; Essequibo River, fl. Sept. Oct. 1881, Jenman 1131 (Kew), this specimen differs from the type in the following characteristics: the leaves are rounded at the base, the small lobes at the base of the limb are lacking, and there are about 20 side-nerves.

This new species seems to be restricted to a small region in the vicinity of the Potaro River. It is closely related to the species *Cr. micans* Sw., *Cr. argyrophyloides* Müll. Arg. and *Cr. tricolor* Müll. Arg. From these it resembles most





*Croton potaroensis* Lanj. a. habit, b. scale.

*Cr. argyrophyloides* Müll. Arg. from which it can be distinguished at once by the scales, especially those of the lower surface of the leaf. These scales are flat and shining in *Cr. argyrophyloides* Müll. Arg., giving the leaf a silvery gloss, whereas in *Cr. potaroensis* Lanj. the rays of the scales are patent.

The following new species is very closely related to the preceding one and is perhaps only a form of it, for which reason I give here a differential diagnosis only.

***Croton Bartlettii* Lanj. nov. spec.**

Ab *Crotone potaroense* Lanj. differt ramis squamis minus densis nonnisi partim brunneis tectis, stipulis basi multo angustioribus nec auriculatis, limbo ovato vel lanceolato-ovato, 5—9 cm longo, 18—32 mm lato, squamis paginae inferioris albis, multo longius radiatis, multo magis appressis nec fusco-notatis, nervis lateralibus c. 7.

British Guiana: Cuyuni River, Akawing falls, fl. Oct. 1904, Barlett 8082 (Kew).

***Croton subincanus* Müll. Arg. in Linnaea XXXIV (1865) p. 139; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 36.**

British Guiana: Upper Mazaruni River, fl. Sept. Oct. 1922, J.S. De La Cruz 2109 (New York), "3 ft. high, flower white". This specimen has female flowers with very short subulate rudimentary petals.; *ibid.* J.S. De La Cruz 2220 (New York), "6 ft. high, flowers white". This specimen has female flowers with 2 small and subulate and 2 rather long and linear petals and one of them oblong and nearly as long as the calyx.; Epero (Epereroo? J.L.), Corantyne River on R. banks, fl. Oct. 1879, E.F. im Thurn s.n. (Kew), differs from the description by the longer inflorescences and the larger leaves (inflorescences up to 21 cm long, leaves up to 9 cm long and 4 cm broad);

Corantyne River, Mularoo, fl. Oct. 1879, Jenman 348 (Kew), differs by the larger leaves (up to 17 cm long and 9 cm broad).

All the specimens therefore differ in some respects from the type. Furthermore they show a remarkable, though small variation in the hairs of the upper side of the leaves. Considering the variability of the points of difference I do not deem it advisable to base a new species on this material. Probably the description of *Cr. subincanus* Müll. Arg. has to be extended.

Distribution: British Guiana.

*Conceveiba guyanensis* Aubl., Hist. des pl. Gui. fr. II and IV (1775) p. 924, t. 353; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 42.

British Guiana: In "mainap" banks of Karakara Creek, fr. Febr. 1910, C.W. Anderson 33 (Kew), "Nameless small tree up to 6" diameter. Leaves and green fruit. Flower said to be white".

Distribution: Guiana.

*Acalypha boehmerioides* Miq., Fl. Ind. Batav. Suppl. I (1860) p. 459; Pax in Engler, Pflanzenreich IV. 147. XVI (1924) p. 96.

British Guiana: Environs of Georgetown, fl. April 1887, Jenman 3667 (Kew); without locality, fl. June 1889, Jenman 5366 (Kew), according to a note on the label by N.E. Brown this specimen is the same as Hitchcock 16700 (New York).

Distribution: Tropics of the old world and apparently introduced in British Guiana.

*Acalypha Poirerii* Spreng., Syst. III (1826) p. 879; Pax in Engler, Pflanzenreich IV. 147. XVI (1924) p. 28.

French Guiana: Vicinity of Cayenne, fl. May 1921,

Broadway 97 (New York) "in wall near the sea"; *ibid.* fl. April 1921, Broadway 39 (New York), "near the sea"; *ibid.* fl. May, Broadway 109 (New York), "In a wall. Flower parts green and rose color".

Distribution: Tropical America from Mexico to Argentine, not known from Surinam and British Guiana.

*Plukenetia abutaefolia* (Ducke) Pax et K. Hoffm. in Engler and Prantl *Natürl. Pflanzenfam.* second edition 19c (1931) p. 141; — *Elaeophora abutaefolia* Ducke in Arch. Jard. Bot. Rio de Janeiro IV (1925) p. 112.

British Guiana: Introduced in these gardens (which? probably the Botanic Gardens in Georgetown. J.L.) by seeds brought from Fort Island, Mouth of Essequibo River, fl. Febr. 1909, J. E. Beckett and P. Kortught 8640 (Kew).

Distribution: Brazil (Para).

Though this species shows some differences with the other *Plukenetia* species, I agree with Pax and Hoffmann these are not important enough to base a new genus.

*Plukenetia verrucosa* Smith in Nov. Act. Upsal. VI (1799) p. 4; Lanjouw in Pulle, *Fl. of Surinam* II (1932) p. 53.

British Guiana: Waini River, Camp Macaw Falls, fl. July 1906, J. E. Beckett 8455 (New York).

Distribution: Guiana.

*Tragia volubilis* L., *Sp. pl. ed. 1* (1753) p. 980; Lanjouw in Pulle, *Fl. of Surinam* II (1932) p. 54.

French Guiana: Cayenne, Rothery 75 (New York).

Distribution: West Indies, Tropical America from Mexico to Uruguay, West Africa (probably introduced).

*Dalechampia affinis* Müll. Arg. in *Linnaea* XXXIV

(1865) p. 223; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 60.

French Guiana: Vicinity of Cayenne, Matabon Hill, Grant's Road, fl. July 1921, Broadway 641 (New York), "Growing thickly on the ground and over shrubs and small trees. Leaves simple." This specimen differs from the description by the larger leaves (up to 16 cm long and 14 cm broad) and the larger involucral bracts (up to 4 cm long and 4 cm broad).

Distribution: Brazil, Surinam and British Guiana.

*Dalechampia parvibracteata* Lanj. nov. spec.

A *D. micrantha* Poepp. et Endl. cui affinis est differt foliis cordatis, stipellis parvis vel inconspicuis.

Frutex scandens; ramuli tenues substriolati, brevissime puberuli, mox subglabrescentes. Folia petiolis 6—2.5 cm longis, dense puberulis, limbis 7—15.5 cm longis, 4.8—12 cm latis, late ovatis vel suborbiculatis, breviter et obtuse cuspidato-acuminatis, basi cordatis, sinu obtuso 6—20 mm longo, denticulatis, membranaceis, utraque pagina, praesertim ad nervos, breviter pubescentibus, basi 7-nerviis, nervis binis interioribus folio fere aequilongis, binis intermediis tertiam vel quartam partem folii longitudinis attingentibus, binis exterioribus semicircularibus sinus altitudinem haud aequantibus, stipellis parvis vel nullis(?), lineari-lanceolatis. Stipulae parvae deciduae, lineari-lanceolatae. Pedunculi graciles, axillares, 2—3-fasciculati ad 10 cm longi, aphylli, bracteati, ramosi(?), brevissime puberuli; bractee triangulati-lanceolatae, 3—5 mm longae, pubescentes, extus pilis brevibus sparsis vestitae. Bractee involucrales parvae, ovato-lanceolatae, 3—4 mm longae, acuminatae, quam stipulae, extus pilis brevibus sparsis, imprimis ad nervos medianos, vestitae, breviores. Bractee fem. inaequales, glabrae, mediana, bractee involucrali superposita, late triangulare, binis lateralibus lanceolatis.

Flores fem., pedicellis c. 2 mm longis, puberulis, in statu fructigero ad 1.5 cm pervenientibus, sepalis 6, lanceolatis, acuminatis integris, extus pilis brevissimis vestitis, c. 5 mm longis. Ovarium dense pubescens, columna stylare ad 9 mm longa, clavata, praeter partem extremam claviformem pilis brevibus, adpressis vestita. Capsula brevissime puberula. Semina c. 5 mm diametentia, laevia. Pleiochasia masc. in inflorescentiis, quae mihi suppetunt, iam delapsa sunt.

British Guiana: Upper Demerara River, fr. Sept. 1887, Jenman 4088 (Kew).

Though the specimen is rather incomplete, it is certain that it belongs to the section *Rhopalostylis* (Klotzsch) Pax et K. Hoffm. by the following characteristics: climbing habit, undivided palmately nerved leaves and the entire female calyx. The plant is related with the only species of this section *D. micrantha* Poepp, et Endl. and differs from it by the above mentioned characteristics.

*Jatropha gossypifolia* L., Spec. pl. ed. 1 (1753) p. 1006; Lanjouw in Pulle, Fl. of Surinam II (1932) p. 66.

British Guiana: Mazaruni River fl. Sept. 1880, Jenman 749 (Kew).

Distribution: Tropical America. Run wild in the tropics of the old world.

*Sapium Jenmanii* Hemsley in Hook. Icon. pl. (1900) t. 2649; Pax in Engler, Pflanzenreich IV. 147. V (1912) p. 217.

British Guiana: Waini River, Buckdam Field, fl. Febr. 1911, J. E. Beckett and P. Kortuyt s.n. (New York).

Distribution: British Guiana.

*Euphorbia brasiliensis* Lam., Ecycl. II (1786) p. 423; Lanjouw in Pulle Fl. of Surinam II (1932) p. 94.

French Guiana: Vicinity of Cayenne, fl. May 1921,

Broadway 198 (New York), "Dry sunny ground among tall grasses"; *ibid.*, fl. Juni 1921, Broadway 556 (New York), "Savannah among grasses".

Distribution: West Indies and Tropical America.

*Euphorbia thymifolia* L., *Spec. pl. ed. 1* (1753) p. 454; Lanjouw in Pulle, *Fl. of Surinam II* (1932) p. 98.

British Guiana: Pomeroon District, Moruka River, Waramuri mission, fl. Oct. 1922, J.S. De La Cruz 2520 (Kew).