

## NOTES ON GUIANA MYRTACEAE III<sup>1)</sup>

by

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### Introduction

What KIAERSK wrote in 1893 in the preface of his "*Enumeratio Myrtacearum Brasiliensium*" is still largely valid. It is often most difficult to define a species belonging to this family, not only because, in the absence of ripe seeds, the genus is not easily ascertainable, but also because of the strong variability shown by the vegetative characters. Thanks to the examination of the rich Guiana material preserved in the herbaria of Genève, Kew, Leiden, New York, Paris and Utrecht, I have usually been able to delimit the species in a satisfactory way; their allocation to a definite genus, however, is often a difficult problem. During the preliminary stage of this investigation, which was interrupted by the war, it was of great advantage to me that I could study the Guiana specimens of the Leiden herbarium.

In order to avoid misinterpretations, I have tried to base my conclusions as far as possible on an examination of either the types themselves or of duplicates of the latter. Several of these types, especially those that form part of the earlier collections of Guiana plants, e.g. of the collection Aublet, and of the collections Desfontaines (herb. Florence) and De Candolle (Genève) had never before been reexamined, and BERG, the last monographer of the South American *Myrtaceae* (in *Linnaea* XXVII (1855—56), XXIX (1858) and XXX (1861) has either neglected these species or given an, often incorrect, interpretation based on the description alone. For this reason the second part of this paper will be devoted to a short survey of these earlier types. My best thanks are due to the directors of all herbaria mentioned. Moreover, I have to thank the "Van Eedenfonds", whose financial aid enabled me to pay a visit to Kew and to the British Museum.

<sup>1)</sup> I in *Rec. trav. bot. néerl.* 39 (1942) and as nr 86 of the "*Meded. Bot. Mus. and Herb. Utrecht*"; II in *Bull. Torrey Bot. Club* 75 (1948) p. 528—538.

### Part A. New and critical species.

In the following pages, the new and critical species will be treated in the same sequence as in my account of the *Myrtaceae* in Pulle, Flora of Suriname. A few remarks have to be made on the delimitation of the genera. In the *Myrtaceae*, the segregation into genera is often a matter of convenience; the distinguishing characters are at least partly artificial. In the present state of our knowledge this seems unavoidable, for by uniting genera that are apparently not sharply distinct, no more natural units are obtained.

As trustworthy generic characters may be regarded: firstly, the form of the embryo, and secondly, the arrangement of the ovules; the form of the inflorescence too is often a serviceable diagnostic. The first character has already been used by BERG (l.c.); the value of the second one has been emphasized by BURRET (in Notizblatt Vol. XV 3 (1941) and by KAUSEL (in Lilloa XIII (1947)). The form of the calyx, on the other hand, has to be considered as an artificial, though more or less convenient character. In the *Myrtinae* we have unfortunately to depend in a large measure on this latter character.

### Marlierea Camb.

#### *Marlierea macrophylla* Amsh. n. sp.

Arbor parva. Ramuli novelli desunt. Folia oblonga, basim versus attenuata ima basi cordata, apice acuminata, chartacea, glabra, circ. 20 cm longa 5—8 cm lata, costa supra planiuscula sulcata, subtus valde prominente, nervis lateralibus circ. 16, utrinque prominulis, nervo marginali circ. 3—4 mm a margine remoto. Petiolus crassus subteres  $\pm$  5 mm longus. Inflorescentiae subterminales, in axillis ramuli terminalis abbreviati dispositae, cymoso-paniculatae, glabrae, pluriflorae, usque ad 15 cm longae, floribus ultimis ternis subsessilibus. Alabastra subglobosa, apice clausa apiculata, glabra, usque ad 5 mm longa. Calyx demum irregulariter longitudinaliter dehiscens. Petala circ. 3 mm longa. Fructus subglobosus, magnus, in sicco circ. 3 cm in diametro, monospermus, cotyledonibus plicatis, radícula elongata.

Br. Guiana: 107 m. Bartica-Potaro Road (F.D. 4190 [coll. Fanshawe], fl. 12-11-1943. typus [K, NY] "30' tree 6" diameter, very hard-wooded, from Kakaralli-Clump Wallaba forest; leaves leathery; flowers in lax axillary inflorescences; buds pale green, obovoid; flowers white, none open"). Eagle Mt. (F.D. 3862 [coll. Fanshawe], fr. 25-1-1943. "90' tree, 20" diameter, buttressed to 6', fluted higher; leaves stiff, leathery; fruits in axillary spikes, globose, green; from Kakaralli-Clump Wallaba forest on lateritic soil". [K]).

A distinct species, perhaps most nearly allied to the Brazilian *M. verticillaris* Berg, which has, however, much smaller flowers and verticillate leaves with impressed venation.

**Marlierea multiglomerata** Amsh. n. sp.

Arbor vel frutex ramulis compressis bicarinatis sparse minute puberulis. Folia oblonga basi rotundata apice breviter acuminata, chartacea, in sicco nigrescentia, supra glabra, subtus sparse pubescentia pilis dibranchiatis praedita, usque ad 17 cm longa 7 cm lata, costa supra impressa subtus prominente, nervis lateralibus numerosis, utrinque prominulis sub angulo fere recto abeuntibus, nervo marginali 2—3 mm a margine remoto. Petiolus crassus brevissimus usque ad 3 mm longus. Inflorescentiae laterales vel axillares, pilis dibranchiatis strigosae; pedunculi fasciculati, 3—9-ni, simplices vel pauca ramosi; flores sessiles, terminales, glomerati. Alabastra obovoidea, apice clausa apiculata, subglabra, usque ad 3 mm longa. Petala 3—4, circ. 1½ mm longa. Ovarium 2-loculare 4-ovulatum. Fructus ignotus.

**S u r i n a m e:** Marowijne R. (Kappler 100 legit anno 1861, typus [U, L]).  
**F r. G u i a n a:** Marowijne R., (Rech s.n. [P], Mélinon s.n. [P]).

The species is well characterized by its flowers, which are glomerate at the end of the branches of the inflorescence. In general aspect it is rather similar to *M. Guildingiana* Griseb. from Trinidad and Br. Guiana, in which, however, the inflorescence is glabrous, and the flower buds are open at the apex.

**Marlierea? biptera** Amsh. n. sp.

Arbor vel frutex ramulis compressis, bialatis. Folia oblonga, basi obtusa, apice acuminata, chartacea, supra glabra, subtus sparse pubescentia pilis dibranchiatis subsessilibus deciduis praedita, glabrescentia, 15—22 cm longa 7—9 cm lata, costa supra impressa subtus prominente, nervis lateralibus numerosis, sub angulo fere recto abeuntibus, supra prominentibus vel planis, subtus leviter prominentibus, nervo marginali 2—3 mm a margine remoto. Petiolus canaliculatus 4—7 mm longus. Inflorescentiae axillares et subterminales, panicolatae, strigosae; floribus ultimis sessilibus, ternis. Alabastra desunt. Receptaculum supra ovarium valde productum, extus pubescens, margine circ. 3 mm in diametro. Calyx in flore adulto irregulariter ruptus, demum deciduus. Ovarium 2-loculare 4-ovulatum. Fructus ignotus.

**S u r i n a m e:** Gonini R. (B. W. [Gonggrijp] 3719 fl. 20-2-1918, typus [U], calyx red; wood used for arrowheads).

**V e r n. n a m e s:** Poelewa cejpoeloe (Kar.); Peiritiki (Ar., N. E.)

The species is allied to *M. multiglomerata* Amsh., but differs by its more distinctly pubescent, ternate flowers and conspicuously two-winged twigs.

### **Calyptranthes Sw.**

#### **Calyptranthes Pullei** Burr. ex Amsh. n. sp.

Frutex vel arbor parva ramulis bicarinatis, glabris. Folia ovata vel elliptica apice rotundata basi rotundata vel interdum obtusa, coriacea, subtus pilis dibranchiatis sparse pilosa, cito glabrata, utrinque praesertim subtus minute nigro-punctata, 3—5 cm longa 2—3½ cm lata, costa supra vix impressa subtus prominente nervis lateralibus numerosis tenuissimis utrinque prominulis nervo marginali 1—2 mm a margine remoto, venis inconspicuis. Petiolus crassus brevissimus 1—2 mm longus. Inflorescentiae 1—2 in ramulo axillari abbreviato dispositae, glabrae, 5—10 cm longae; floribus ultimis ternis subsessilibus. Alabastra subglobosa, apiculata ± 3 mm alta; calyx hemisphaericus; petala nulla; ovarium biloculare 4-ovulatum. Fructus immaturus globosus.

**S u r i n a m e:** Coppename R., Raleighfalls (Pulle 341 fl. fr. 25-VIII 1920, typus [U]. Small tree; flowers white; on rocks in the falls). Ibidem B.W. [Stahel] 6273; fl. 18-VIII 1923; shrub with white flowers, on rocks in the falls). Ibidem, side of the falls (Lanjouw 739 fl. 10-IX-1933; small tree; flowers white). Ibidem, on island (Lanjouw 960 fl. 25-IX-1933; flowers white; large shrub or small tree).

**B r. G u i a n a:** Caburi Falls, Rupununi R. (Jenman 7624 fl. Oct. 1899 [U, K]).

The Suriname specimens had already been examined by BURRET. As BURRET pointed out in a note attached to one of the sheets, the species is allied to the Amazonian *C. tridymantha* Diels; the leaves of the latter are similar, but the twigs and inflorescences are pilose, and the inflorescences consist of 3 flowers only. *C. nigricans* Mart. ex DC., too might be a near ally; according to the description, its inflorescences are sericeous and its leaves cuneate at the base. In its vegetative characters *C. Pullei* Burr. ex Amsh. shows a strong resemblance to *Marlierea montana* (Aubl.) Amsh.; it is, however, easily distinguishable from the latter by the structure of its calyx.

### **Aulomyrcia Berg**

**Aulomyrcia tomentosa** (Aubl.) Amsh. in Rec. Trav. Bot. neér. XXXIX (1942) p. 153, also in Med. Bot. Mus. & Herb.

Utrecht 86 (1942) p. 153; — *Eugenia tomentosa* Aubl., Pl. Guiane fr. I (1775) p. 504 t. 200; — *Myrcia tomentosa* (Aubl.) DC., Prodr. III (1828) p. 245; Williams, Fl. Trinidad and Tobago I. 6 (1934) p. 342; — *Aulomyrcia rosulans* Berg in Mart. Fl. Bras. XIV. 1 (1857) p. 93; — *Aulomyrcia curatellifolia* Berg l.c. p. 95.

Fr. Guiana: Sinemari R. (Aublet s.n., typus [BM]); Mana (Sagot 1157 fl. April [P; G-DEL; K; U]); without locality (Rothery 119 [K]).

Br. Guiana: Schomburgk 945 (G-DEL; P), named *A. curatellifolia* Berg l.c.; Schomburgk 732, (G-DEL; L) named *A. rosulans* Berg by Berg l.c.; Paramacutoi savanna (Alston 501 fl. May [K; NY; U], 502 fl. May [K]). Itabu R., New R. tributary (Beddington 42 fl. Dec. [K]). Without locality (Pollard 84 [K]).

Venezuela: Calvario (Ernst 1169 [BM]); without locality (Funcke & Schlim 497 [BM]; Lansberge s.n. [L]).

Also in Trinidad and Brazil.

Aublet's type in the British Museum is a well preserved flowering specimen, agreeing with Aublet's figure. Judging from the description and the distribution, I expect that *A. caracasana* Berg and *A. Ottonis* Berg from Venezuela too will have to be reduced to *A. tomentosa* (Aubl.) Amsh.; unfortunately the type specimens were not available to me.

#### ***Aulomyrcia speciosa* Amsh. n. sp.**

Abor parva. Folia oblongo-obovata vel oblanceolata basi acuta apice breviter abrupte acuminata, chartacea, minute dense pellucidopunctata, 16—20 cm longa  $4\frac{1}{2}$ — $8\frac{1}{2}$  cm lata, adulta nervis exceptis fere glabrata, costa supra plana subtus prominente, nervis lateralibus circ. 15—18 supra planiusculis subtus prominentibus in nervum marginalem 3—5 mm a margine remotum arcuato-conjunctis venis dense reticulatis utrinque leviter prominulis. Petiolus canaliculatus robustus pubescens — 7 mm longus. Inflorescentiae in axillis foliorum superiorum, folio multo breviores, adpresse albido-pubescentes, nunc paniculatae, ramulis inferioribus 3- vel pluri-floris, nunc racemiformes, ramulis omnibus unifloris. Bractae bracteolaeque ovatae concavae, dorso praesertim margine et in medio pubescentes,  $\pm$  3 mm longae, deciduae. Receptaculum breve extus dense albido-pubescentis supra ovarium parum productum margine inter stamina pubescens; sepala subaequalia, triangulari-ovata,  $\pm$  4 mm longa 5 mm lata, utroque latere praesertim basi pubescentia; petala orbicularia,  $\pm$  7 mm longa, extus pubescentia; antherae oblongae; filamenta appanata; ovarium disco glabro terminatum 2-loculare; ovula pro loculo 2, ascendentia. Fructus ignotus.

Br. Guiana: 115 m Bartica-Potaro Rd (F.D. 3836 [coll. Fanshawe], fl. 24-1-1943, typus [K]. "20' tree, 3" diameter, with very hard fine-grained wood; leaves supple; from rocky places on lateritic soil; flowers in terminal inflorescences, showy, white, sweet-scented; calyx spreading, velvety, white; corolla lobes revolute; stamens white"). Mahdia R., Potaro R., 107 mls. Bartica-Potaro road (F. D. 3722 [coll. Fanshawe], fl. [buds] d.d. 8-1-1943; "a low tree of mixed forest on lateritic ironstone soil, to 15' tall and 3" diameter; leaves subcoriaceous; flowers in terminal inflorescences; buds greenish, sessile, clustered, softly hairy, subtended by yellowish bracts; calyx opens flat". [K]).

One of the very few large-flowered species of *Aulomyrcia*, falling into BERG's series "grandifoliae". In this group it seems to come nearest to *A. holosericea* Berg, this latter species differing, according to the description, by its many-flowered brown-velutinous inflorescences. Among the Guiana species its nearest ally seems to be *A. tomentosa* (Aubl.) Amsh., a species with much smaller flowers and leaves.

***Aulomyrcia pyrifolia*** (Desv. ex Ham.) Berg in *Linnaea* XXVII (1856) p. 44; — *Eugenia pyrifolia* Desv. ex Ham., *Prodr. fl. Ind. Occ.* (1825) p. 44; De Candolle, *Prodr.* III (1828) p. 285; — *Myrcia divergens* DC., *Prodr.* III (1828) p. 245; Sagot in *Ann. Sc. Nat.* 6.20 (1885) p. 183; — *Aulomyrcia ovata* Berg in *Linnaea* XXVII (1856) p. 467.

Fr. Guiana: Kourou R. (Richard s.n. [P]); Karouany (Sagot 1215 [P, G-DEL, K, U]); Marowijne R. (Rech s.n. [P]); without locality (Poiteau s.n. [G-DEL]; Perrottet anno 1820 [G-DEL]).

Suriname: Paradi district (Wullschlaegel 1653 fl. Nov., type of *A. ovata* Berg [BR, U]); Gran Rio near Maupe dam (Stahel 188 fl. Nov.) and other specimens.

Br. Guiana: Corantijne R., Epira (Jenman 238 fl. Nov. [P]); Mataro swamp (Im Thurn s.n. fl. Oct. [K]).

Amazonas: Rio Negro, Rob. Schomburgk 964 [K, G-DEL, L]).

Thanks to the courtesy of the director of the Geneva herbarium, I was able to study a fragment of the type of *M. divergens* DC. This specimen has been described from Fr. Guiana, but the collector is not known. Of the type specimen of *A. pyrifolia* (Desv. ex Ham.) Berg a photo only was available but the latter distinctly shows the more or less mottled aspect the leaves assume in drying, the conspicuously flattened midrib on the upper side, and the white (sericeous) receptacle. The flowers are mostly 5-merous. In some specimens from Suriname, f.i. Stahel 188, the receptacle is glabrous, and though I am retaining these specimens in *A. pyrifolia* (Desv. ex Ham.) Berg, they connect this species with *Myrciaria quitarensis* (Benth.) Berg.

The latter is doubtless an *Aulomyrcia*, nearly allied to and probably not specifically distinct from *A. pyrifolia* (Desv. ex Ham.) Berg, although differing in the glabrous, 4-merous flowers. The two following specimens from Br. Guiana belong to this form: Rob. Schomburgk 547 [K,G-DEL,L]; A. C. Smith 2666 (U,K,G-DEL).

*Myrcia bracteolaris* (Poir.) DC., cited by SAGOT l.c. p. 183 as a possible synonym, belongs to *Myrcia fallax* (Rich.) DC., a fragment of the type has been examined by me.

***Aulomyrcia inaequiloba*** (DC.) Amsh. nov. comb.; — *Eugenia inaequiloba* DC., Prodr. III (1828) p. 282; — *Eugenia polyantha* Miquel in Linnaea XVIII (1844) p. 741; — *Myrciaria polyantha* (Miq.) Berg in Linnaea XXVII (1856) p. 322; Pulle Enum. (1906) p. 339; — *Aulomyrcia lancifolia* Berg in Linnaea XXX (1861) p. 658; — *Aulomyrcia pirarensis* Berg in Linnaea XXVII (1855) p. 41; — *Aulomyrcia edulis* Berg in Linnaea XXX (1861) p. 657 (e. descript.); — *Myrcia edulis* (Berg) Kr. et Urb. in Engl. Bot. Jahrb. XIX (1895) p. 582.

Fr. Guiana: Acarouany (Sagot 891 [P, K, U]); La Mana (Leschenault 1823-24 [P]); without locality (Martin s.n. [L]; specimen from the herb. De Candolle et L'Heritier [G-DEL], duplicate of type).

Suriname: Saramacca R. (Pulle 181 and 146); without locality (Kappler 1385, type of *E. polyantha* Miq. and of *A. lancifolia* Berg).

Br. Guiana: Pirara (Rob. Schomburgk 306, type of *A. pirarensis* Berg [G-DEL, NY]; Upper Mazaruni R. (Leng s.n. [NY]; Jenman 2431 [BM, K]); Bartica (Jenman 4737 [K]); Massaroonie (Appun 265 [K]).

The specific name refers to the very unequal, partly petaloid sepals, which distinguish this species from the nearly allied *A. Hostmanniana* Berg.

The form of the leaves is very variable. In the type of *Eugenia inaequiloba* DC., as well as in that of *A. pirarensis* Berg, they are more or less oblong and shortly but rather gradually acuminate. In Sagot 891 and in Leschenault s.n. from Fr. Guiana they are obovate and shortly but abruptly acuminate, as, according to BERG's description, in the type of *A. edulis* Berg. The type of *A. lancifolia* Berg, published as a nomen novum for *Eugenia polyantha* Miq. (non *A. polyantha* Berg) is intermediate in this respect. I have not yet been able to study the type of *A. edulis* Berg; the West Indian specimens which URBAN referred to this species, represent a rather distinct-looking form, not known to me from Guiana.

var. ***paniculata*** (Berg) Amsh. nov. comb.; — *Aulomyrcia paniculata* Berg in Linnaea XXVII (1855) p. 49.

B r. G u i a n a: Essequibo R. (Richard Schomburgk 296 [P]); Essequibo R., near mouth of Onoro R. (A. C. Smith 2642 [G-DEL, K, U]); basin of Kuyuwini R., Essequibo R. tributary, about 150 miles from mouth, A. C. Smith 2569 [G-DEL, K, U].

S u r i n a m e: In woods near Abontjeman (coll. ind. 268).

The specimens preserved in the herbaria of the British Museum, Kew and Paris under the number Rob. Schomburgk 306 (type nr. of *A. pirarensis* Berg) and one of the two specimens under this number in the Geneva herbarium belong to this variety, though Rob. Schomburgk 306 is the number cited by BERG as the type of *A. pirarensis* Berg (synonym of *A. inaequiloba* (DC.) Amsh., see above). The var. *paniculata* differs from the typical form by the thinner, long-acuminate leaves and more slender petioles.

var. **nitida** (Benth.) Amsh.; — *Eugenia nitida* Benth. in Hook., Journ. Bot. II (1840) p. 322; — *Myrciaria nitida* (Benth.) Berg in Linnaea XXVII (1855) p. 324.

B r. G u i a n a: On the banks of the Essequibo R. and Rupununi R. (Rob. Schomburgk 130 [K, G-DEL], type; Rob. Schomburgk 319 [K, G-DEL, P]) Canje R. (Hohenkerk 637 [K, NY]); Rupununi R. (A. C. Smith 2479 [K, U]) Demerara R., (Jenman 3936 [K]).

The leaves agree with those of the var. *paniculata* (Berg) Amsh., but the inflorescence is more or less white-villous, with brown hairs intermixed. The flowers are not strictly 4-merous, as described by BERG, a minute fifth sepal being mostly developed.

**Aulomyrcia Ehrenbergiana** (Berg) Amsh. nov. comb. — *Myrciaria Ehrenbergiana* Berg in Linnaea XXVII (1856) p. 321.

B r. G u i a n a: Roraima (Rob. Schomburgk 700 [K, G-DEL, P], type).  
A m a z o n a s: Rio Branco, Surumu (Ule 8241 fr. and 8242 fl. [K, L]).

A very distinct species with 4-merous flowers in many-flowered panicles. As in other species of *Aulomyrcia* the fruit is globose, the cotyledons contort-plicate and the radicle elongated.

**Aulomyrcia rotundata** Amsh. n. sp.

Frutex ramulis compressis sparse pilosis glabrescentibus. Folia obovata vel late elliptica apice rotundata vel emarginata basi obtusa, rotundata vel acuta, adulta coriacea, glabra, utrinque punctata, 3½ cm longa 3 cm lata; costa supra leviter elevata subtus prominente, haud excurrente sed apice bifurcata evanescente, nervis lateralibus venis que in foliis novellis utrinque prominulis, in foliis adultis obs-



letis. Petiolus vix 2 mm longus. Paniculae graciles sparse pilosae folio longiores, floribus ultimis ternis subsessilibus. Flores tetrameri. Receptaculum glabrum supra ovarium productum. Sepala leviter imbricata, ciliata, extus glabra, circ. 1 mm longa. Petala 2 mm longa. Ovarium glabrum 2-loculare 4-ovulatum ovulis ascendentibus. Fructus ignotus.

Br. Guiana: Kaieteur savanna, thickets on rocky ground by Indian trail, alt. 1200 feet (Sandwith 1348; fl. Sept.; inflorescence branches pinkish; petals white; typus [U, K]).

Habitually much resembling *Marlierea montana* (Aubl.) Amsh., but with quite different flower-characters. It also resembles *Aulomyrcia platyclada* (DC.) Amsh. var. *kaieteurensis* Amsh., which was collected in the same locality. The latter differs by the impressed midrib of its leaves, its 5-merous flowers, and more rigid inflorescences provided with a conspicuously flattened rachis. *Myrciaria* (??) *lituatinervia* Berg is also a rather similar species, in which, however, the twigs are bicarinate, the midrib of the leaves impressed, the inflorescences more rigid and the flower buds 4-lobed at the apex only. BERG, in *Linnaea* XXVII (1856) p. 322, cites as the type nr. of this species: Rich. Schomburgk nr. 874, collected near brooks, Roraima, Br. Guiana. In the Kew herbarium there is a duplicate Rob. Schomburgk 558/Rich. Schomburgk 877, named *Myrcia subcordata* DC. by BENTHAM in Hook. Journ. Bot. II (1840) p. 322.

***Aulomyrcia tetramera* Amsh. n. sp.**

Frutex vel arbor parva ramulis novellis subteretibus glabris. Folia ovata, elliptica vel oblonga, apice longe acuminata basi obtusa vel acuta, tenuiter coriacea, glabra, obsolete impresso-punctata, 7—11 cm longa 3—5 cm lata, costa supra impressa subtus prominente nervis lateralibus numerosis tenuissimis obsolete, demum utrinque subimpressis, nervo marginali circ. 1 mm a margine remoto venis obsolete. Petiolus subteres transverse rugosus 2—4 mm longus. Paniculae axillares et subterminales, glabrae vel subglabrae, laxiflorae, 6—12 mm longae, ramis lateralibus pluribus, gracilibus, divaricatis, 1—9-floris, bracteis acutis, 1—2 mm longis, sparse puberulis. Alabastra obconoidea,  $\pm 2\frac{1}{2}$  mm alta. Receptaculum supra ovarium productum, glabrum, glandulosum; sepala 4, rotundata, ciliata, extus glabra, intus minute puberula, inaequalia, exteriora triangulari-ovata, 1 mm longa, interiora semiorbicularia,  $1\frac{1}{2}$  mm longa; ovarium biloculare 4-ovulatum, ovulis ascendentibus. Fructus subglobosus, monospermus, circ. 1 cm in diametro, cotyledonibus plicatis, radícula elongata.

**S u r i n a m e:** Placer L'Awa, collected on a trip to L'Awa and Tapanahoni, (B. W. [Gonggrijp] 4158 fl. 31-10-1918, typus [U]; small tree; flowers white; in forest). Ibidem (B. W. [Gonggrijp] 4162 fl. fr. 31-10-1918; shrub, in forest; fruit yellow-white).

**V e r n . n a m e s:** Banda or Bassa Banda (Auk.).

I had at first confused this species with *A. tobagensis* (Kr. et Urb.) Amsh. (in Meded. Bot. Mus. & Herb. Utrecht 86 (1942) p. 155), but in the latter, though in many respects very similar, the inflorescence is puberulous and the structure of the calyx different, the sepals being very short.

I take the opportunity to describe here a new species from Curaçao:

***Aulomyrcia curassavica* Amsh. n. sp.**

Frutex ramosissima. Ramuli novelli ut gemmae breviter patentipubescentes, mox glabrati, dense foliati; ramuli vetustiores decoratantes. Folia lanceolata vel oblongo-elliptica, basi obtusa vel acuta, apice attenuata, obtusa, coriacea vel chartacea, glabra, pellicudopunctata, subtus nigropunctata (in sicco), 3—4 cm longa, 1—1½ cm lata, costa supra prominula, subtus prominente; nervi laterales utroque latere ± 5, utrinque prominuli; petiolus gracilis, ± 2 mm longus. Inflorescentiae axillares, glabrae, ± 2 cm longae, (1-)—3-florae; rachis et pedicelli filiformes; bracteolae subulatae, deciduae. Alabastra obovoidea, 2½ mm longa, glandulosa; receptaculum supra ovarium productum, glabrum; sepala subaequalia, semiorbicularia, ciliata, persistentia, ± 1 mm longa; petala ± 2 mm longa; ovarium biloculare; ovula pro loculo 2, ascendencia. Fructus globosus, in sicco ± 5 mm in diametro, monospermus; cotyledones contortoplicati; radícula elongata.

**C u r a ç a o:** Hill Knip near Christoffelberg (Arnoldo 1073 fl. June, typus). Between Blein and Valentyn (Boldingh 4855, 3522). Without locality (Boldingh 4858, 4944, 5521).

var. ***acutata*** Amsh. nov. var.

Foliis acute acuminatis, mucronulatis diversa.

**C u r a ç a o:** Hill Knip near Christoffelberg (Arnoldo 1083 fl. July).

The species apparently falls into the series "*pauciflorae*" of Berg. These Brazilian species are partly imperfectly known, but according to the description *A. curassavica* Amsh. seems to be well characterized by the form of its leaves, by its indumentum and

especially by its subequal, semiorbiculate persistent sepals. The habitus of the new species is demonstrated by Barb. Rodr., *Myrtacées du Paraguay* (1903) p. 2 fig. 2, illustrating *Myrcia Hassleriana* Barb. Rodr., a species with larger flowers.

### PLINIA L.

A description of this genus has been given by URBAN in Fedde, Rep. XV (1919) p. 413; the type species is *Plinia pinnata* L. The essential characters of the genus may, in my opinion be summarized as follows: inflorescence glomerate, with relatively large, involucre bracts and bractlets; calyx nearly or quite closed in the bud; free margin of the receptacle at last longitudinally splitting to near the base; ovules in each cell of the ovary two, ascending; cotyledons free, but not plicate; radicle short. In the nearly allied genus *Myrciaria* Berg the sepals are imbricate, the bracts and bractlets small, and the cotyledons, as in the genus *Eugenia* L., connate.

I expect that several species with glomerate flowers described by BERG under *Marlierea* Camb. or *Myrciaria* Berg will have to be transferred to *Plinia* L. The following three species, represented in the Utrecht herbarium, are at any rate congeneric with *Plinia pinnata* L.:

*Plinia glomerata* (Berg) Amsh. nov. comb.; — *Myrciaria glomerata* Berg in Mart., Fl. Bras. XIV 1 (1857) p. 365.

*Plinia plicato-costata* (Berg) Amsh. nov. comb.; — *Myrciaria plicato-costata* Berg in Mart. Fl. Bras. XIV 1 (1857) p. 366; — *Eugenia edulis* Vell., Fl. Flum. V (1827) t. 34?

#### **Plinia costata** Amsh. nov. sp.

Arbor ramulis novellis compressis pubescentibus. Folia lanceolato-oblonga apice longe acute acuminata basi rotundata vel obtusa, coriacea, margine revoluta, supra glabra, subtus praesertim in nervis pubescentia, 6—20 cm longa 3—8 cm lata, costa supra impressa subtus prominente, nervis lateralibus satis distantibus, supra conspicue impressis subtus prominentibus, nervo marginali circ. 2 mm a margine remoto. Petiolus vix canaliculatus, pubescens, 4—10 mm longus. Bractee bracteolaeque pubescentes, involucrentes,  $\pm$  2 mm longae. Receptaculum  $\pm$  3 mm altum, extus cinereo-pubescentis. Petala 4, circ. 2 mm longa, pubescentia, fimbriata. Ovarium apice pubescens, 2—3-loculare, loculis 2-ovulatis ovulis ascendentibus. Fructus ignotus.

S u r i n a m e: Coppename R. near Raleighfalls, side of the falls, granite (Lanjouw 724 fl. Sept. 1933, typus [U]; flowers brown-white; tree); Watra-

miri (tree nr. 1627, B. W. nr. 4290 fl. 25-3-1919; flowers dirty-white; buds light-green); Marowijne R. between Kabelstation and Gansee (B. W. [Stahel] 496 fl. 14-IV-1915; flowers white; tree).

Allied to *P. plicato-costata* (Berg) Amsh., described after a fruiting specimen collected by Sellow s.n. [U, K], near Rio de Janeiro. This latter species differs by its smaller, more linear-oblong leaves with more approximate lateral nerves.

## EUGENIA L.

**Eugenia biflora** (L.) DC. var. **Mini** (Aubl.) Amsh.; — *Eugenia Mini* Aubl., Pl. Guiane fr. I (1775) p. 499 t. 197; Sagot in Ann. Sc. Nat. VI 20 (1885) p. 196; — *Myrcia splendens* (Sw.) D.C. var. *Mini* (Aubl.) DC., Prodr. III (1825) p. 244.

Aublet's type could be examined in the British Museum; it proved to be a form of the widely spread, variable *E. biflora* (L.) DC. SAGOT l.c. discusses *E. Mini* Aubl., known to him from the description and figure only; he already points out that it is habitually very similar to *Myrcia sylvatica* (Mey.) DC. Pulle 360 from Suriname is a good match for Aublet's specimen.

A second Suriname form, in which the white indumentum is more developed, has provisionally been referred to *E. biflora* (L.) DC. var. *Hoffmanseggii* (Berg) Amsh.; there are however small, possibly significant differences with the type of the latter. This second form is possibly not sharply distinct from *E. biflora* L. var. *Mini* (Aubl.) Amsh.

**Eugenia quitarensis** Amsh. nomen novum — *Eugenia coriacea* Berg in Linnaea XXX (1861) p. 694; — *Eugenia polystachya* Auct. non Rich., Bentham in Hook. Journ. Bot. II (1840) p. 322; Berg in Linnaea XXVII (1856) p. 290; — *Eugenia xylopiifolia* Auct. non DC., Bentham in Hook. Journ. Bot. II (1856) p. 322.

B r . G u i a n a : Rio Quitaro (Rob. Schomburgk 546 [K], named *E. xylopiifolia* DC. by Bentham l.c.); Tumatumari, Potaro R. (Jenman 5192, 5194 [K]); Essequibo R. (Sandwith 202 [K, NY, U]); F. D. 2053 [K]; Mazaruni station (F. D. 2724 [K, U]); without locality (Rob. Schomburgk 691 [G-DEL, K], named *E. polystachya* Rich. by Bentham l.c. and by Berg l.c., type collection of *E. coriacea* Berg).

S u r i n a m e : Corantijne R. (Rombouts 51).

When in 1861 BERG was able to examine the type of *E. polystachya* Rich., he found that this species was quite distinct from the British Guiana species formerly identified with it by BENTHAM and by himself. BERG gave therefore the nomen novum *E. coriacea* Berg to

the species from Br. Guiana, a later homonym of the illegitimate *Eugenia coriacea* Dietrich (in Vollst. Lexikon Gaertn. Nachtr. III [1815—1820] p. 263) a superfluous new name for *E. buxifolia* Lam Encycl. III (1879) p. 204, the latter species being apparently an obscure one.

*Eugenia xylopiifolia* DC. is a member of the *biflora* group, though at the moment not enough material of this form is available to decide about its exact position.

***Eugenia polystachya*** Rich. in Act. Soc. hist. nat. Paris 1792 p. 110; Berg in Linnaea XXX (1861) p. 695, non aliis.

The type of *E. polystachya* Rich. was collected by Leblond in Fr. Guiana and is now in the Paris herbarium. At least, it is this Paris specimen which was described in detail by BERG in 1860. The specimen of Leblond, named *E. polystachya* Richard in the Geneva herbarium, proved to belong to *E. muricata* DC.; the specimen of the herbarium Richard, named *E. muricata* DC. var. *guianensis* Berg by Berg in Linnaea XXX (1860) p. 695 is a duplicate either of this Geneva specimen or of Martin s.n. [K]. *E. polystachya* Rich. and *E. muricata* DC. are nearly allied; in both species, the inflorescence is racemose, but in *E. polystachya* Rich. the bractlets are glabrous outside, broadly rounded and  $\pm 2$  mm in diameter; in *E. muricata* DC. they are triangular-ovate, pubescent outside and scarcely 1 mm long. The fruit of *E. polystachya* is not known — the species has apparently not been recollected — that of *E. muricata* DC. is warty, as indicated by the specific name, and therefore very characteristic. *E. muricata* DC. has also been collected in Fr. Guiana by Martin (a flowering and fruiting specimen in K); moreover, I could compare a duplicate type (Brazil, Martius), preserved in the Leiden herbarium.

Although it is not certain whether RICHARD saw any difference between the specimens belonging to these two species, this is now no longer of importance, for BERG has made a definitive choice by describing the Paris specimen as *E. polystachya* Rich.

***Eugenia racemifera*** Sagot in Ann. Sc. Nat. 6.20 (1885) p. 195.

Fr. Guiana: Marowijne R. (Mélinon s.n. fl., type [P]); Mana, Mélinon s.n. fr. [P].

Suriname: Watramiri (tree nr. 1613, B. W. 1998 ster., 4028 fl. Oct.).

In a former publication the Suriname specimens had been referred by me to *E. trinitatis* DC. (in Med. Bot. Mus. & Herb. Rijksuniv. Utrecht 86 [1942] p. 164) but after examination of Sagot's species

I have reconsidered my opinion. In *E. trinitatis* DC., though nearly allied, the racemes are quite glabrous, and more elongate, the flowers more numerous, and the bracts smaller.

***Eugenia brownsbergii* Amsh. n. sp.**

Arbor ramulis novellis compressis, brunneo-pubescentibus. Folia elliptica vel oblonga, apice abrupte longe acuminata, basi rotundata, obtusa vel acuta, chartacea, 5—16 cm longa 2—6 cm lata, novella utrinque sericea cito praesertim supra glabrescentia, adulta supra glabra, subtus puberula; costa supra leviter impressa subtus prominente; nervis lateralibus 6—10, supra prominulis subtus prominentibus, ascendentibus, arcuato-anastomosantibus in nervum marginalem 3—6 mm a margine remotum; nervo marginali secundo inconspicuo 1—2 mm a margine remoto. Petiolus  $\frac{1}{2}$ —1 cm longus, canaliculatus. Racemi singuli vel bini, axillares, 3—9-flori, interdum 1-flori, flore terminali praediti, pilis simplicibus dense brunneo-pubescentes, 2—5 cm longi; bractee concavae, 1—2 mm longae; pedicelli 2—10 mm longi; bracteolae ovatae, liberae,  $\pm$  1 mm longae; sepala suborbicularia, utrinque sericea, leviter inaequalia, 1  $\frac{1}{2}$ —2 mm longa. Petala oblonga,  $\pm$  7 mm longa 3 mm lata. Ovarium brunneo-pubescentis, —1  $\frac{1}{2}$  mm altum, biloculare loculis  $\pm$  10-ovulatis; placenta peltata. Fructus ignotus.

S u r i n a m e: Brownsberg (tree nr. 110, B. W. 1861 ster., 6353 fl. Nov., typus [U], 6762 fl. Feb.; B. W. 6603 fl. June).

**var. *glauca* Amsh. nov. var.**

A typo differt foliis majoribus usque ad 20 cm longis subtus glaucis floribus paululum majoribus.

F r. G u i a n a: without locality (Herb. Barbier [P], typus; Gabriel anno 1802 [G-DEL]).

Though the flowers are racemose, the placenta is peltate in contradistinction to several species of BERGS series "*racemosae*", in which the ovules are either biseriata or arranged in a semicircle. *E. brownsbergii* Amsh. seems to be well characterized by its indumentum and venation; among the Guiana species of *Eugenia* L., it is most nearly allied to *E. luciae* Amsh.

***Eugenia luciae* Amsh. n. sp.**

Frutex 5—8 m altus ramulis novellis compressis, fere glabris. Folia ovata vel elliptica, apice acuminata basi rotundata, obtusa vel

acuta, margine revoluta, coriacea, novella utrinque sparse breviter adpresse-pubescentia cito glabrata 5—9 cm longa  $2\frac{1}{2}$ —5 cm lata costa supra impressa subtus prominente; nervis lateralibus  $\pm$  8, supra prominulis subtus leviter prominentibus conspicue arcuato-anastomosantibus in nervos marginales duos, unum 6—7 mm alterum 2—3 mm a margine remotum, nervo marginali tertio inconspicuo; venis reticulatis, utrinque prominulis; petiolo canaliculato, 7—10 mm longo. Racemi 4—8-flori, axillares, saepe in axillis foliorum parvorum in ramulis lateralibus brevibus dispositi, pilis simplicibus puberuli, glabrescentes, usque ad 4 cm longi. Bracteae 1—3 mm longae; pedicelli puberuli, 4—8 mm longi; bracteolae ovato-oblongae, ovarium subaequantes. Sepala suborbicularia, extus sparse pubescentia, glabrescentia, intus sericea, 1— $1\frac{1}{2}$  mm longa; petala 3—4 mm longa; ovarium rufo-pubescentia, biloculare; loculis 4—12-ovulatis. Fructus ignotus.

**Suriname:** Lucie R. (B. W. 7109 fl. May, typus [U]; B. W. 7024 fl. May).

The species is according to the collector, Prof. G. STAHEL, typical for the dry moeri-moeri. It is evidently nearly allied to *E. brownenbergii* Amsh.; as in this species, the flowers are more or less racemose, and the placenta is peltate.

**Eugenia chrysophyllum** Poir. in Lam., Encycl. Suppl. III (1813) p. 129; De Candolle, Prodr. III (1828) p. 272; Berg in Linnaea XXVII (1856) p. 217; — *Eugenia chrysophylloides* DC., Prodr. III (1828) p. 276; — *Eugenia brachypoda* Auct. non DC., Sagot in Ann. Sc. Nat. 6.20 (1885) p. 190; Amshoff in Rec. Trav. bot. néerl. XXXIX (1942) p. 162, also in Med. Bot. Mus. & Herb. 86 (1942) p. 162.

**Fr. Guiana:** without locality (Martin s.n. fl., typus [FI]; Perrottet nr. 90 [G-DEL]; Le Prieur s.n. fl. [P, L], named *E. brachypoda* DC. by Sagot l.c.; anonymus (?Patris, ex herb. De Candolle et L'Heritier) s.n. fl. and s.n. fr. [G-DEL]).

**Suriname:** Maratakka R. (B. W. 3492 fr. Nov., named *E. brachypoda* DC. by Amsh. l.c.).

In his original description POIRET writes: Cette plante a été recueillie a l'Isle-de France par COMMERSON (v.s. in herb. Desfontaines). But, as already stated by DE CANDOLLE l.c., the type was in reality collected in Fr. Guiana; and as the label of the type proves by MARTIN. The distinguishing characters, given by DE CANDOLLE for *E. chrysophylloides* are insignificant; I was able to examine a fragment of the

type. The interpretation of *E. chrysophylloides* DC. given by BERG in *Linnaea* XXII (1857) p. 217 and previously by MIQUEL in *Linnaea* XXII (1849) p. 173 and *Stirpes Sur. Sel.* (1856) p. 40 t. 10 is incorrect; this interpretation was based on the description, without examination of the type. The specimens of Focke and Hostmann 787 cited by MIQUEL and by BERG as *E. chrysophylloides* DC. belong to *E. Wulschlaegeliana* Amsh. (see beneath). *E. chrysophyllum* Poir. is well characterized by the beautiful indumentum of the young leaves; the specific name refers to this feature.

***Eugenia Wulschlaegeliana*** Amsh., *Enum. Herb. Spec. Sur. Wood Coll.* (1948) p. 20; — *Eugenia latifolia* Auct. non Aubl., Berg in *Linnaea* XXVII (1856) p. 224; Sagot in *Ann. Sc. Nat.* 6.20 (1885) p. 192; Pulle, *Enum.* (1906) p. 338. — *Eugenia chrysophylloides* Auct. non DC., Miquel in *Linnaea* XXII (1849) p. 173, *Stirp. Sur. Sel.* (1850) p. 40 t. 10; Berg in *Linnaea* XXVII (1856) p. 217; Pulle, *Enum.* (1906) p. 338.

Though this is one of the most frequent and best characterized species of Suriname, variable only in the length of the pedicels, it was as yet not properly named. It has been confused both with *E. latifolia* Aubl. and with *E. chrysophylloides* DC. (synonym of *E. chrysophyllum* Poir., see p. 15), but this confusion is due to the fact that the types of these two species had not been examined; neither of them can be considered as nearly allied.

***Eugenia latifolia*** Aubl., *Pl. Guiane fr.* I (1775) p. 502 t. 199.

BERG has twice attempted to interpret this species from AUBLET's description and figure; in *Linnaea* XXVII (1856) p. 224 he identified it with another, quite distinct species of *Eugenia*, *E. Wulschlaegeliana* Amsh. (see above) and in *Linnaea* XXX (1861) p. 701, under the name *Calycorrectes latifolius* Berg, with *Catinga moschata* Aubl. The type of Aublet has been preserved in the British Museum and could be examined; the following specimens agree with it:

Fr. Guiana: without locality (Gabriel anno 1802 [G-DEL]).

Suriname: Upper Litanie R. (Rombouts 805 and 835 fl. and fr. Aug.).

***Eugenia Poiteaui*** Berg in *Linnaea* XXVII (1856) p. 181, described after a fruiting specimen of POITEAU is very similar and may be an aberrant form, but the sepals are distinctly smaller. Duplicates of the type are present in the herbaria of Geneva-Delessert and of Kew, in the latter herbarium mixed with the nearly allied *E. anastomosans* DC.



***Eugenia cucullata* Amsh. n. sp.**

Arbor ramulis novellis compressis, glabris. Folia magna, elliptica vel oblongo-lanceolata, basi acuta, apice breviter obtuse acuminata, chartacea, glabra, duplicato-limbiniervia, 18—20 cm longa  $6\frac{1}{2}$ —8 cm lata, costa supra basim versus impressa, subtus prominente, nervis lateralibus sub 15, utrinque praesertim subtus prominulis, in nervum marginalem circ. 5 mm a margine remotum arcuato-conjunctis; petiolo canaliculato, 1 cm longo. Flores axillares, fasciculati, 2—5-ni, glabri; rachi abbreviata, vix 4 mm longa. Pedicelli glabri, 3 cm longi. Bracteolae ovatae, usque ad 2 mm longae. Receptaculum obconoidium, circ. 3 mm altum. Sepala coriacea, late rotundata, inaequalia, interiora circ. 9 mm longa, exteriora circ. 5 mm longa, in fructu incumbentia, uno exteriorum cetera obtegente, valde concavo. Petala oblonga,  $\times$  15 mm longa. Antherae ellipsoideae. Ovarium biloculare, ovulis in quoque loculo circ. 20, in placenta peltata affixis. Fructus ovoideus, in sicco — 2 cm longus  $1\frac{1}{2}$  cm in diametro, monospermus, sepalis incumbentibus coronatus.

B r. G u i a n a: Takutu to Puruni R., Mazaruni R. (F. D. [coll. Fanshawe] 4828, fl. fr. 13-11-1944, typus [K, NY]. "Tree to 20' and 30' diam., abundant locally in mixed forest in one area on top of a high ridge; leaves thickly leathery; flowers axillary, solitary or two together, long-stalked; calyx pale green, stiff; petals and stamens white; young fruit dark green, rugose, ovoid"); Demerara R. (Jenman 4894 [K]; Jenman 6717 [K]); Good Hope (Persaud 40 fr. June 1924 [NY]; the fruiting pedicels on this specimen are only 1 cm long).

Well characterized by its uncommonly large flowers and the curious aspect of the fruiting calyx. *Eugenia agathopoda* Diels, from the Amazonian region, is apparently nearly allied; I was able to compare the Leiden and Kew duplicates of the type, Ule 5825. In this latter species the marginal nerve of the leaves is more approximate to the margin and less wavy (the difference is especially distinct in the upper half of the leaf); the pedicels are more slender and the flowers smaller. The fruit is not known.

***Eugenia cryptadena* Amsh. n. sp.**

Arbor ramulis novellis compressis puberulisque cito glabratis. Folia ovata vel ovato-oblonga, apice obtusa abrupte acuminata, basi acuta, chartacea, glabra, 5—8 cm longa 2—4 cm lata in sicco pellucido-punctata, glandulis subtus obsoletis vel inconspicuis, costa supra basim versus sulcata subtus prominente, nervis lateralibus circiter 8—10, delicatis, supra fere obsoletis subtus prominulis nervo marginali 1—2 mm a margine remoto venis obsoletis; petiolo gracili 5 mm longo. Bractee minutae saepe dense imbricatae; pedicelli fasciculati,

1—6-ni, sparse puberuli, 4—10 mm longi; bracteolae minutae, puberulae. Sepala rotundata, glabra, ciliata, inaequalia, interiora ovata, usque ad  $2\frac{1}{2}$  mm longa. Petala membranacea, 4—5 mm longa. Stamina in disco quadrangulari inserta. Ovarium subglobosum, glabrum, biloculare, loculis 8—10-ovulatis. Fructus globosus, in sicco 1 cm in diametro, sepalis persistentibus coronatus, 1-spermus. Embryo indivisa.

**Suriname:** Coppename R. near Raleighfalls, Voltzberg (Lanjouw 839 fl. fr. Sept., typus).

**Fr. Guiana:** Marowijne R. (Wachenheim 17 and 98 [P]); without locality (Le Prieur s.n. [K]).

The species is apparently nearly allied to *E. puniceifolia* (H.B.K.) DC.; the leaves closely resemble those of the var. *dipoda* (DC.) Berg, but in this latter species the flowers are 1—2 together and axillary. *E. egensis* DC. shows habitually much resemblance but differs a.o. by its shortly racemose, smaller flowers and conspicuously punctate leaves.

var. *gracilis* Amsh. nov. var.

Folia lanceolato-oblonga, longe acuminata. Inflorescentia pauciflora pedicellis gracilibus, glabris. Cetera ut in typo.

**Suriname:** Brownsberg (tree nr. 1060, B. W. 1792 ster., 4537 fr. (unripe fr.) Jan.; tree nr. 1227, B. W. 6530 fl. Jan.).

**Vern. names:** Kataka dan (Ar.); Joekoelcean (Kar.), Alamiro (Kar.).

This form is provisionally placed as a variety under *E. cryptadena* Amsh.

## PSIDIUM L.

**Psidium salutare** (H.B.K.) Berg in *Linnaea* XXVII (1855) p. 356; — *Myrtus salutaris* H.B.K., *Nov. Gen. Sp.* VI (1823) p. 105 (132); — *Psidium ciliatum* Benth in Hook. *Journ. Bot.* II (1840) p. 318; — *Calycolpus parviflorus* Sagot in *Ann. Sc. Nat.* 6.20 (1885) p. 181.

**Venezuela:** Edo. Bolivar (Llewellyn Williams 12550 fl. March 1940 [K]); without locality (Otto s.n. (959?) comm. ex Herb. Berolinense, det. Berg [K]).

**Br. Guiana:** Takutu R. (Rob. Schomburgk 365 [K, G-DEL, P], type of *Ps. ciliatum* Benth.); Paramitico savannah (Bartlett 8754 [K]).

**Suriname:** Upper Sipaliwini R. (Rombouts 292 [U]).

**Fr. Guiana:** Without locality (Leprieur s.n. [P, G-DEL], type of *Calycolpus parviflorus* Sagot).

Examination of the type of *Ps. ciliatum* Benth. in the Kew herbarium proved that this species is identical with *Ps. salutare* (H.B.K.)

Berg, and not with the small-flowered species identified with it by BERG on the ground of other Schomburgk collections. BERG did not see the type of *Ps. ciliatum* Benth. and BENTHAM had not cited the number in his original description.

***Psidium minutiflorum*** Amsh. nomen novum; — *Psidium ciliatum* Auct. non Benth., Berg in *Linnaea* XXVII (1855) p. 353.

B r. G u i a n a: Roraima (Rob. Schomburgk 388 [K, P]; without locality (Rob. Schomburgk 952, 943 [K]; Pollard 93 [K]).

***Psidium acutangulum*** Mart. ex DC., *Prodr.* III (1828) p. 233; Berg in *Mart. Fl. Bras.* XIV (1857) p. 409, p. 604.

Territory of Acre: Near mouth of Rio Macauhan (Krukoff 5696 [U]).

M a r a n h a ã: (Froes 1927 [K, U], distributed as *Ps. Sprucei* Berg).

Pará: Upper Cupary R., plateau between the Xingu and Tapajos R. (Krukoff 1089 [K, U], distributed as *Ps. Sprucei* Berg).

A m a z o n a s: Rio Jurua (Ule 5657 [K]).

B r. G u i a n a: Essequibo R. (Gleason 896 [NY]); Corantijne R. (Jenman 131 [K]); without locality (Rob. Schomburgk 35S [K], named *Ps. aromaticum* Aubl. by Bentham in *Hook. Journ. Bot.* 2 (1840) p. 318).

S u r i n a m e: several collections between the Corantijne and the Nickerie R., cited in Pulle, *Flora of Surinam*.

Unfortunately it was not possible to compare the above cited specimens with the type (Amazonas, Solimões R., Martius s.n.). The specimen in the Geneva herbarium is, as Mr. R. WEIBEL kindly informed me, sterile; that in the München herbarium, judging from a photo, not much better. The identification is therefore based on the description of BERG and on the distribution.

## **Part B. Critical notes on species described from Guiana in the years between 1775 and 1885.**

In the following part I propose to discuss shortly the types of *Myrtaceae* from British and French Guiana described before BERG's revision of the South American *Myrtaceae* in 1856—1861. Reference is often made to my two previous papers in *Recueil Trav. bot. néerl.* 39 (1942) and in *Bull. Torrey Bot. Club* 75 (1948) and to the foregoing pages of the present paper; also to the account of the *Myrtaceae* in Pulle, *Flora of Suriname*, by citing the numbers of the genera and of the species. The name adopted by me is printed in bold face type.

1. *The species described by Aublet, Pl. Guiane fr. I (1775).*

Thanks to the courtesy of Dr. J. RAMSBOTTOM, keeper of botany of the British Museum, I have been enabled to examine the *Myrtaceae* types of Aublet. This in spite of the fact that the botany department of the British Museum had suffered bomb-damage during the war and was at the time of my visit in 1947 not yet fully restored.

- p. 483 pl. 190 *Psidium grandiflorum* Aubl. = CAMPOMANESIA GRANDIFLORA (Aubl.) Sagot (XV 2). The type is a well preserved flowering specimen. See Rec. Trav. bot. néerl. XXXIX (1942) p. 165.
- p. 485 pl. 191 *Psidium aromaticum* Aubl. = CAMPOMANESIA AROMATICA (Aubl.) Griseb. (XV 1). The type is a fruiting specimen with adult leaves, showing the characteristic impressed venation.
- p. 495 pl. 195 *Eugenia montana* Aubl. = MARLIEREA MONTANA (Aubl.) Amsh. (II 2). The type is a well-preserved flowering specimen. See Rec. Trav. bot. néerl. XXXIX (1942) p. 147.
- p. 497 pl. 196 *Eugenia Coumeta* Aubl. = MYRCIA COUMETA (Aubl.) DC. (V 8). The type is a well-preserved flowering specimen. See Rec. trav. bot. néerl. XXXIX (1942) p. 152. Additional specimens of this rare and beautiful species, only known from French Guiana and Suriname are:
- French Guiana: Marowijne R. (Sagot 1103 [P. K]); Crique Jacques (Wachenheim 105 [P]); without locality (Leblond 212 [G.DEL]; Le Prieur s.n. [G-DEL]; Martin s.n. [K]; herb. Moricand s.n. [G-DEL]).
- p. 499 pl. 197 *Eugenia Mini* Aubl. = EUGENIA BIFLORA L. var. MINI (Aubl.) Amsh. (XI 10). See p. 12.
- p. 501 pl. 198 *Eugenia sinemariensis* Aubl. This species was identified by GRISEBACH, Fl. Br. W. Ind. (1860) p. 238 with *E. marowijnensis* Miq. (XI 7); by BERG in Linnaea XXX (1861) p. 684 with (a form of) *E. coffeifolia* DC. (XI 5). Judging from Aublet's figure the latter interpretation is probably correct; Urban in Engl. Bot. Jahrb. XIX (1895) p. 660 also arrived at this conclusion. The type has apparently not been preserved; see the remarks on *E. Arivoa* Aubl.
- p. 502 pl. 199 EUGENIA LATIFOLIA Aubl. (XI 24). See p. 16.
- p. 503 pl. 200 *Eugenia tomentosa* Aubl. = AULOMYRCIA TOMENTOSA (Aubl.) Amsh. (IV 2). See p. 4.

- p. 506 t. 201 *Eugenia guianensis* Aubl. The type, a specimen with young inflorescences (flower buds only), apparently represents a species nearly allied to *Aulomyrcia obtusa* (Schauer) Berg (IV 8). The inflorescence, however consists of 3 flowers only.
- p. 508 t. 202 *Eugenia undulata* Aubl. The type is a sterile specimen, much resembling *E. coffeifolia* DC. (XI 5); the fruit, however, is described and figured by AUBLET as oblong, whereas it is depressed-globose in *E. coffeifolia* DC.
- p. 510 t. — *Eugenia Arivoo* Aubl. On the sheet, bearing this name, two sterile specimens are mounted. The identification of both specimens is quite doubtful. One of these specimens, probably the type, is the same as the specimen mounted under the name *E. sinemariensis* Aubl.; the other specimen belongs undoubtedly to another species.
- p. 511 t. 203 fig. 1—3. CATINGA MOSCHATA Aubl. (IX 2) and CATINGA AROMATICA Aubl. (IX 1) are represented by sterile specimens only; I am however sure of the identity of the first named species.

2. *The species described by Richard in Acta Soc. Hist. nat. Paris 1792.*

Thanks to the courtesy of the director of the Paris herbarium, all four types of Richard have been sent on loan.

- p. 110 *Eugenia multiflora* Rich. = AULOMYRCIA MULTIFLORA (Rich.) Berg (III 12).  
*Eugenia fallax* Rich. = MYRCIA FALLAX (Rich.) DC. (V 4). See Bull. Torrey Bot. Club 75 (1948) p. 533.  
*Eugenia bracteata* Rich. = MYRCIA BRACTEATA (Rich.) D.C (V 1).  
 EUGENIA POLYSTACHYA Rich. See p. 13.

3. *The species described by Vahl. Ecl. Amer. II (1798).*

The types of the two Myrtaceae have both been collected by VON ROHR in French Guiana. They are apparently deposited in the Copenhagen herbarium, but have not been reexamined.

- p. 35 EUGENIA PATRISII Vahl (XI 4). The current interpretation of this species is apparently correct.
- p. 36 *Eugenia trinervia* Vahl; — *Myrtus VahlII* Spreng., Syst. 2

(1825) p. 484; — *Eugenia Vahlia* (Spreng.) DC., Prodr. III (1828) p. 279; SAGOT in Ann. Sc. Nat. 6.20 (1885) p. 194. Judging from the description, this can hardly be a Myrtaceae.

4. *The species described by Poiret in Lamarck's Encycl. IV (1796).*

p. 411 *Myrtus bracteolaris* Poir.; — *Myrcia bracteolaris* (Poir.) DC., Prodr. III (1828) p. 245; — *Myrtus Stoupyi* Spreng., Syst. 2 (1825) p. 484. The director of the Paris herbarium has been so kind as to send a fragment of the type on loan. It proved to be a specimen with young inflorescences of the widely spread MYRCIA FALLAX (Rich.) DC. (V 4).

5. *The species described by Poiret: in Lamarck's Encyclopédie, Supplement III (1813).*

POIRET states that he saw in the herbarium Desfontaines the types of the three species discussed below. The herbarium Desfontaines is now incorporated in the Florence herbarium. Thanks to the courtesy of the director of the Florence herbarium and to the personal interceding of the curator, Dr. R. PICHI-SERMOLLI, it was made possible for me to examine these types.

p. 124 EUGENIA PATENS Poir. The type has been collected by MARTIN; I remember to have seen a duplicate in the British Museum. The species is evidently nearly allied to *E. muricata* Mart. ex DC., but because of its somewhat smaller flowers, smaller leaves which do not turn black in drying, and longer bracts I am inclined to consider it as a distinct species, apparently not recollected in Guiana.

p. 129 EUGENIA CITRIFOLIA Poir. Nearly allied to *E. tapacumensis* Berg (XI 27) but with larger flowers (sepals — 2 mm long; petals — 8 mm long) and distinctly acuminate leaves. The type has also been collected by MARTIN; there are duplicates in the herbaria of L, P, and U. The species is also represented in the herbarium Richard (P) and in the collection Poiteau (G-DEL) and only known from Fr. Guiana.

EUGENIA CHRYSOPHYLLUM Poir. (XI 21). See p. 15.

6. *Desvoux' species from French Guiana, described in Hamilton, Prodromus Florae Ind. Occ. (1825).*

p. 43 *Myrtus umbellata* Desv. A photograph of the type shows clearly, that this is a species of *Mouriria*.

- p. 43 *EUGENIA RAMIFLORA* Desv. (XI 17). See Bulletin Torrey Bot. Club 75 (1948) p. 535.
- p. 44 *Eugenia pyrifolia* Desv. = *AULOMYRCIA PYRIFOLIA* (Desv.) Berg (IV 3). See p. 6.
7. *The species, described by De Candolle, Prodrumus III (1828) from French Guiana.*
- p. 235 *Psidium fluviatile* Rich. ex DC. = *PSIDIUM GUIANENSE* Pers. (XIII 6). The type has not been examined.
- p. 244 *Myrcia platyclada* DC. = *AULOMYRCIA PLATYCLADA* (DC.) Amsh. (IV 9). See Bull. Torrey Bot. Club 75 (1948) p. 531.
- p. 245 *Myrcia divergens* DC. = *AULOMYRCIA PYRIFOLIA* (Desv.) Berg (IV 3). See p. 6.
- p. 245 *Myrcia crassinervia* DC. = *MYRCIA DEFLEXA* (Poir.) DC. (III 5). See Bull. Torrey Bot. Club 75 (1948) p. 533.
- p. 266 *EUGENIA PRODUCTA* DC.; SAGOT in Ann. Sc. Nat. 6.20 (1885) p. 189. Cayenne, Patris. To the original description can be added: Pedicels glabrous,  $\pm 1$  cm long. Leaves: Midrib impressed above, prominent beneath; lateral nerves in  $\pm 12$  pairs, nearly obsolete above, prominulous beneath; marginal nerve  $\pm 2$  mm within the margin. The species has apparently not been recollected; it is a very distinct one because of its glabrous, caudate leaves. Though the type itself could not be examined, I saw a duplicate from the herbarium Delessert (G-DEL) and a fragment (a single leaf) in the Leiden herbarium.
- p. 268 *Eugenia dipoda* DC. = *EUGENIA PUNICIFOLIA* (H.B.K.) DC. var. *DIPODA* (DC.) Berg (X 26).
- p. 268 *Eugenia psidioides* DC.; SAGOT in Ann. Sc. Nat. 6.20 (1885) p. 189. The species, apparently not recollected, is a very distinct one because of its thickly coriaceous leaves. The petiole is thick,  $\pm 4$  mm long, the midrib of the leaves flattish-impressed above and sharply prominent beneath, the lateral nerves,  $\pm 10$  in number, are subimpressed above and prominulous beneath, the marginal nerve is about 3 mm distant from the margin. The leaves resemble those of *E. kaieteurensis* Amsh., but are quite glabrous; the pedicels too are glabrous. Another Guiana species with thickly coriaceous leaves, *E. Arawakorum* Sandw., has much longer petioles and tomentose pedicels.
- p. 269 *EUGENIA ANASTOMOSANS* DC. (XI 25). See Bull. Torrey bot. Club 75 (1948) p. 536.

- p. 271 *EUGENIA ADENOCALYX* DC. p. 271; SAGOT in Ann. Sc. Nat. 6.20 (1885) p. 189. I saw a photograph and a fragment of the type. The species is not known to me.
- p. 272 *EUGENIA COFFEIFOLIA* DC. p. 272 (X 5). The type has been examined by URBAN (see Engl. Bot. Jahrb. XIX (1895) p. 659).
- p. 274 *Eugenia brachypoda* DC. p. 274 = *EUGENIA RAMIFLORA* Desv. (X 17). See Bull. Torrey Bot. Club 75 (1948) p. 535.
- p. 276 *Eugenia chrysophylloides* DC. = *EUGENIA CHRYSOPHYLLUM* Poir. (X 21). See p. 15.
- p. 277 *Eugenia brachybotrya* DC. l.c. = *Mouriria* sp., Melastomataceae.
- p. 279 *Eugenia xylopiifolia* DC. = *EUGENIA BIFLORA* (L.) DC. var. (X 10). See p. 12.
- p. 282 *Eugenia inaequiloba* DC. = *AULOMYRCIA INAEQUILOBA* (DC.) Amsh. (IV 13). See p. 7.

8. *The species enumerated by Bentham in Hook. Journ. Bot. II(1840).*

Nearly all specimens of Robert Schomburgk enumerated by BENTHAM have afterwards been cited by BERG in *Linnaea* XXVIII (1855—56). BERG's paper is therefore cited in the present paper for those species not represented in the flora of Suriname. All types of BENTHAM are deposited in the Kew herbarium. I wish to express here my thanks to the keeper, Dr. W. B. TURRILL, and especially to Mr. N. Y. SANDWICH for the assistance given during my stay in Kew.

- p. 317 *Psidium polycarpon* Lamb. The specimen (Arid savannahs near Pirarara and the Rupununi, Rob. Schomburgk 636) has afterwards been described as *Ps. BENTHAMIANUM* Berg l.c. p. 362.
- p. 318 *Psidium pyriferum* L. var. *glabrum* Benth. The specimen, Rob. Schomburgk 48S, can best be characterized as a more glabrate form of *Ps. Guajava* L. The same form has been collected by Jenman 1300 (K) along the Essequibo R.
- p. 318 *Psidium aromaticum* Aubl. The specimen so named by BENTHAM (Rob. Schomburgk 35S) belongs to *PSIDIUM ACUTANGULUM* Mart. ex DC. (XIII 5). See p. 19.
- p. 318 *Psidium turbiniflorum* Mart. The specimen so named by BENTHAM (Savannahs of the Rupununi, Rob. Schomburgk 634) belongs to a species of *Psidium*, nearly allied to *Ps. salutare* (H.B.K.) Berg, but probably distinct.
- p. 318 *Psidium ciliatum* Benth. = *PSIDIUM SALUTARE* (H.B.K.) Berg (XIII 1). See p. 19.
- p. 318 *PSIDIUM PARVIFLORUM* Benth. (XIII 8).



- p. 318 *PSIDIUM AQUATICUM* Benth. (XIII 7).
- p. 319 *Campomanesia glabra* Benth. = *CALYCOLPUS GLABRA* (Benth.) Berg (XIV 1).
- p. 319 *Calyptranthes obtusa* Benth. = *MARLIEREA MONTANA* (Aubl.) Amsh. (II 2). See Rec. Trav. bot. néerl. XXXIX (1942) p. 147 and Bull. Torrey Bot. Club 75 (1948) p. 53, also the present paper p. 20.
- p. 319 *Eugenia divaricata* Benth. = *MYRCIARIA DIVARICATA* (Benth.) Berg l.c. p. 334. The species has been described from the Rio Negro.
- p. 319 *Eugenia Salzmanni* Benth. = *MYRCIARIA FLORIBUNDA* (West ex Willd.) Berg (X 1).
- p. 320 *Eugenia vismifolia* Benth. = *MYRCIARIA VISMIIFOLIA* (Benth.) Berg (X 2).
- p. 320 *Eugenia subalterna* Benth. Savannahs of the Rupununi, Rob. Schomburgk 634. This species, which was not known to BERG, appears to be a mere variety of *E. puniceifolia* (H.B.K.) DC. differing only in its pubescent leaves; cf. *E. PUNICIFOLIA* (H.B.K.) DC., var. *SUBALTERNA* (Benth.) Amsh. nov. comb. This variety has also been collected by A. C. Smith, nr. 3352, in savannahs between Takutu R. and Kanuku Mts.
- p. 320 *Eugenia (Axillares)* n. sp.?, Pirarara, Rob. Schomburgk 733. The specimen has afterwards been described by BERG l.c. p. 164 as *E. Benthami* Berg, but appears to be a mere form of *E. PUNICIFOLIA* (H.B.K.) DC.
- p. 321 *EUGENIA LEPTANTHA* Benth., BERG l.c. p. 169. Rio Negro, Rob. Schomburgk 921.
- p. 321 *EUGENIA INCANESCENS* Benth. BERG l.c. p. 208. Only known from Br. Guiana; additional specimens in the Kew herbarium are: Quimatta, Rupununi R. (Jenman 6191); Esse-quiibo R. (Jenman 5193); riverbank (Pollard 50).
- p. 321 *EUGENIA SCHOMBURGKII* Benth. n. sp. (X 32). On the Curasawaak, near the Rupununi, Rob. Schomburgk 703. See Bull. Torrey Bot. Club 75 (1948) p. 537.
- p. 322 *EUGENIA EGENSIS* DC. (X 30).
- p. 322 *Eugenia xylopiifolia* DC. The specimen (Rio Quitaro, Rob. Schomburgk 546, so named by BENTHAM, belongs to *E. QUITARENSIS* Amsh. (X 12). See p. 12.
- p. 322 *Eugenia polystachya* Rich. The specimen (Rob. Schomburgk 691) so named by BENTHAM, belongs to *E. QUITARENSIS* Amsh. (X 12). See p. 12.
- p. 322 *Eugenia ? nitida* Benth. = *AULOMYRCIA INAEQUILOBA* (DC.) Amsh. var. *NITIDA* (Benth.) Amsh. See p. 8.

- p. 322 *Eugenia* ? *pyrifolia* Desv. = AULOMYRCIA PYRIFOLIA (Desv.) Berg (IV 3). See p. 6.
- p. 322 *Eugenia* ? *quitarensis* Benth.; — *Myrciaria quitarensis* (Benth.) Berg l.c. p. 323, a species of *Aulomyrcia* nearly allied to *A. pyrifolia* (Desv.) Berg. See p. 12.
- p. 322 *Eugenia subobliqua* Benth. = AULOMYRCIA SUBOBLIQUA (Benth.) Berg (IV 5).
- p. 323 *Myrcia splendens* DC. The specimen (Robert Schomburgk 454) so named by BENTHAM belongs to MYRCIA SYLVATICA (Mey.) DC. (V 2).
- p. 323 *Myrcia multifolia* DC. The specimen (Robert Schomburgk 872 from the Rio Negro) so named by BENTHAM belongs to MYRCIA FALLAX (Rich.) DC. (V 4). See Bull. Torrey Bot. Club 75 (1948) p. 533.
- p. 323 *Myrcia* sp. n., foliis fere *E. sinemariensis*. The specimen, Rob. Schomburgk s.n. from the Parime chain is either a species of *Aulomyrcia* or of *Marlierea*, but not known to me.
- p. 324 *Myrcia prunifolia* DC. The specimen (Pirarara, Rob. Schomburgk 732) so named by BENTHAM belongs to AULOMYRCIA TOMENTOSA (Aubl.) Amsh. (IV 2). See p. 4.
- p. 324 *Myrcia subcordata* DC. The specimen (Roraima, Rob. Schomburgk 558) so named by BENTHAM belongs to *Myrciaria lituatinervia* Berg, l.c. p. 322. See p. 9.
- p. 324 *Myrcia hebetata* DC. The specimen (Rio Quitaro, Rob. Schomburgk 548) so named by BENTHAM belongs to MYRCIA CALYCAMPA Amsh. (IV 9). See Rec. trav. bot. néerl. XXXIX (1939) p. 153.
- p. 324 *Myrcia ferruginea* DC. = KRUGIA FERRUGINEA (Poir.) Urb. (III 1).

9. *The species described by Sagot in Ann. Sc. Nat. VI 20 (1885).*

In this case it is not necessary to enumerate also all older species cited by SAGOT, and I have omitted those species of which the interpretation given by SAGOT proved to be correct. Thanks to the courtesy of the director of the Paris herbarium, all types of Sagot have been sent on loan.

- p. 181 *Calycolpus Goetheanus* Berg. The specimen so named by SAGOT (Sagot 215) belongs to CALYCOLPUS REVOLUTUS (Schauer) Berg (XIV 1). See Rec. Trav. bot. néerl. XXXIX (1942) p. 165.
- p. 181 *Calycolpus parviflorus* Sagot = PSIDIUM SALUTARE (H.B.K.) Berg (XIII 1); see p. 17.

- p. 182 *CAMPOMANESIA GRANDIFLORA* (Aubl.) Sagot (XV 2). See Rec. trav. bot. néerl. XXXIX (1942) p. 164 and p. 20 of the present paper.
- p. 184 *Myrcia quitarensis* (Benth.) Sagot. The specimen (Sagot 891) so named by SAGOT belongs to the nearly allied *AULOMYRCIA INAEQUILOBA* (DC.) Amsh. (IV 13). See p. 7.
- p. 185 *Myrcia graciliflora* Sagot = *AULOMYRCIA SCHAUERIANA* (Miq.) Amsh. (IV 16). See Rec. Trav. bot. néerl. XXXIX (1942) p. 155.
- p. 185 *Myrcia minutiflora* Sagot = *AULOMYRCIA MINUTIFLORA* (Sag.) Amsh. (IV 18) in Bull. Torrey Bot. Club 75 (1948) p. 532.
- p. 187 *CALYPTRANTHES SPECIOSA* Sagot (I 3).
- p. 188 *Eugenia Prieurii* Sagot = *EUGENIA COMPTA* Berg (X 23). See Rec. Trav. bot. néerl. XXXIX (1942) p. 163 and Bull. Torrey Bot. Club 75 (1948) p. 536.
- p. 189 *Eugenia fulvipes* Sagot = *EUGENIA RAMIFLORA* Desv. (X 17). See Bull. Torrey Bot. Club 75 (1948) p. 535.
- p. 189 *EUGENIA ARMENIACA* Sagot (X 19).
- p. 192 *Eugenia latifolia* Aubl. The specimen (Sagot 262) so named by SAGOT belongs to *E. WULLSCHLAEGELIANA* Amsh. (X 20). See p. 16.
- p. 193 *Eugenia ramiflora* Desv. The specimens so named by SAGOT belong to *CALYCORECTES GRANDIFOLIUS* Berg (VIII 1). See Rec. Trav. bot. neerl. XXXIX (1942) p. 156 and Bull. Torrey Bot. Club 75 (1948) p. 534.
- p. 194 *Eugenia Melinonis* Sagot = *EUGENIA COFFEIFOLIA* DC. (X 5).
- p. 195 *EUGENIA RACEMIFERA* Sagot (X 13). See p. 13.
- p. 197 *Catinga oblongifolia* Sagot p. 196 = *CATINGA MOSCHATA* Aubl. (IX 2). See Rec. Trav. bot. néerl. XXXIX (1942) p. 156 and Bull. Torrey Bot. Club 75 (1948) p. 534, and p. 16 of the present paper.