

NOTES ON THE MYRTACEAE OF SURINAME

by

G. J. H. AMSHOFF (Utrecht)

In trying to prepare the account of the *Myrtaceae* for PULLE's Flora of Suriname I soon found that a revision of the *Myrtaceae* of whole Guiana, especially of French Guiana, and preferably also of the Amazonian district, is necessary. The account would be of little value as long as our knowledge of the synonymy and the distribution of the species is so incomplete.

The *Myrtaceae* of Guiana have been treated by BERG in *Linnaea* XXVII (1855—56) p. 1—512, XXIX (1858) p. 207—256 and XXX (1861) p. 647—713. Yet many species previously described from French Guiana, especially by AUBLET and by DE CANDOLLE, were not known to BERG. Moreover, BERG often based species on insufficient material, as has been pointed out by URBAN in his revision of the West Indian *Myrtaceae* in *Engl. Bot. Jahrb.* XIX (1895) p. 563. In this publication of URBAN the synonymy of several species common to the West Indies and Guiana is cleared up (Trinidad and Tobago are included in the West Indies). Another valuable contribution is SAGOT's too little noticed account of the *Myrtaceae* of French Guiana in *Annales Sciences Naturelles* 6.20 (1885) p. 181—198. But SAGOT apparently did not know BERG's last publication in *Linnaea* XXX, in which RICHARD's collection from French Guiana is treated. Thus SAGOT sometimes cites specimens of RICHARD without knowing that they must be duplicates of the types of one of BERG's new species and his account remains very incomplete.

As owing to lack of material it is impossible to undertake such a revision during the war and there may be no opportunity to continue the work after the war, preliminary results, including the description of 6 new species, are published here.

MARLIEREA CAMB.

Marlierea montana (AUBL.) AMSH. nov. comb.; — *Eugenia montana* AUBL. *Plant. Guiane franc.* I (1775) p. 495 pl. 195; — *Calyptanthus obtusa* BENTH. in *Hook., Journ. Bot.* II (1840) p.

319; — *Marlierea obtusa* (BENTH.) BERG in *Linnaea* 27 (1855) p. 15; SAGOT in *Ann. Sc. Nat.* 6, 20 (1885) p. 186; — *Marlierea suffruticosa* BERG in *Linnaea* 27 (1855) p. 16; — *Marlierea Richardiana* BERG in *Linnaea* XXX (1861) p. 650 (e. descript.).

AUBLET's description and figure leave no doubt about the identity of *Eugenia montana* AUBL., especially as it is made clear that the calyx is closed in the bud. SAGOT l.c. is of the same opinion. I saw duplicates of the types of *M. obtusa* (BENTH.) BERG (SCHOMBURGK 486 [L] from Br. Guiana) and of *M. suffruticosa* BERG (HOSTMANN 1146 [U] from Suriname), but not of *M. Richardiana* BERG (RICHARD s.n. from French Guiana). Among the large material collected in Suriname however there are specimens agreeing with BERG's detailed description.

I have retained the name *Marlierea* CAMB., though URBAN in Fedde's Rep. 15 (1919) p. 413 reestablished the name *Plinia* L. (type species *Plinia pinnata* L., based on a plate of PLUMIER, synonym *Marlierea glomerata* BERG according to URBAN). It is possible that the treatment of WILLIAMS in *Flora of Trinidad and Tobago* I, 6 (1934) p. 333 can be followed and that *Plinia* L. (*P. pinnata* L. and allies, with flowers in sessile clusters) is not congeneric with *Marlierea* Camb. (with flowers in open panicles, *M. montana* belongs to this group). The description of the embryo of *P. pinnata* L. as given by URBAN in *Engl. Bot. Jahrb.* XIX (1895) p. 589 indeed suggests that *Plinia* L. is much nearer allied to *Eugenia* L. and especially to *Myrciaria* BERG (united by many authors with *Eugenia* L.) than to *Marlierea* CAMB.

CALYPTRANTHES Sw.

URBAN in *Engl. Bot. Jahrb.* XIX (1895) p. 592 was the first to draw attention to the probably constant presence of dibranthiate hairs in this genus. In all 4 Suriname species I found such hairs on the lower surface of the leaves, in *C. fasciculata* BERG and *C. speciosa* SAGOT intermixed with a shorter and denser pubescence of simple hairs, in the two other species (one here described as new, the other allied to *C. pulchella* D.C.) scattered and readily deciduous on otherwise glabrous leaves.

***Calyptranthes spicata* AMSH. n.sp. (fig. 1).**

Arbor parva. Ramuli subteretes, pubescentes, mox glabrati. Folia lanceolato-oblonga, basi acuta, apice longe acuminata, chartacea, discolora, supra glabra, subtus pilis dibranthiatis pedunculatis brunneis deciduis praedita, 18—30 cm longa 6—8 cm lata, costa

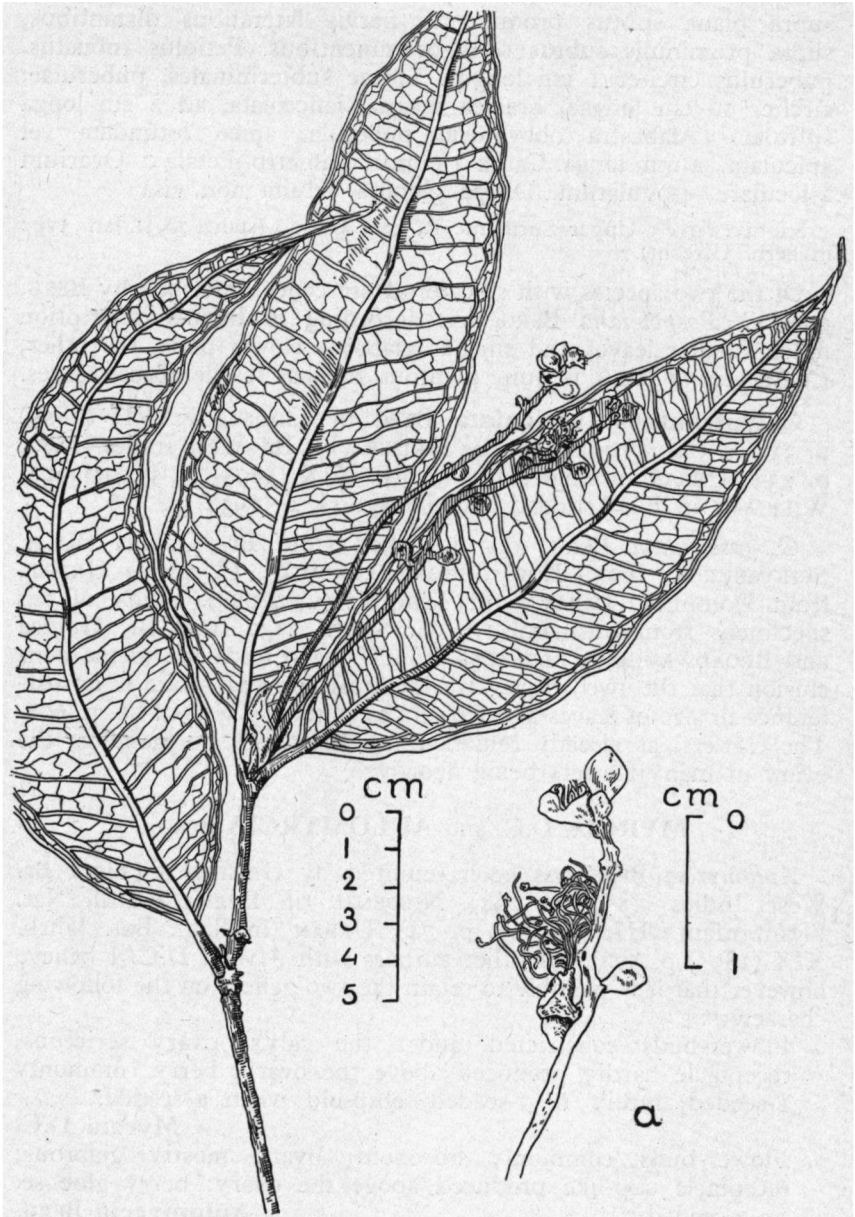


Fig. 1. *Calyptranthes spicata* AMSH. n.sp. (STAHEL 70). a. Part of the inflorescence.

supra plana subtus prominente, nervis lateralibus distantibus, supra prominulis subtus satis prominentibus. Petiolus robustus, puberulus circiter 1 cm longus. Spicae subterminales, puberulae, circiter 10 cm longae, bractea magna, lanceolata, ad 2 cm longa suffultae. Alabastra obovoidea, puberula, apice rotundata vel apiculata, 4 mm longa. Calyx 3 mm in diametro. Petala 0. Ovarium 2-loculare, 4-ovulatum. Drupa globosa, adulta non visa.

Suriname: Upper Suriname R, near Goddo (stahel 70, fl. Jan., type in herb. Utrecht).

Of the two species with spicate inflorescence described by BERG, one, *C. Poeppigiana* BERG, has according to BERG's description much smaller leaves and smaller glabrous flower-buds, the other, *C. Spruceana* BERG, is quite glabrous and has sessile obtuse leaves.

Calyptranthes fasciculata BERG in *Linnaea* XXVII (1855) p. 31; — *Calyptranthes sericea* GRISEB., *Fl. Br. West Indies* (1860) p. 233; URBAN in *Engler Bot. Jahrb.* XIX (1895) p. 592, p. 602; WILLIAMS in *Fl. Trinidad and Tobago*. I, 6 (1934) p. 336.

C. fasciculata BERG was described from Br. Guiana (RICH. SCHOMBURGK 1605, ROB. SCHOMBURGK 979), *C. sericea* GRISEB. from Dominica (IMRAY) and Trinidad (CRUEGER). Study of ten specimens from Suriname, A. C. SMITH 2132 from Br. Guiana and BROADWAY 4884 and 4056 from Tobago leads me to the conclusion that the two species are identical and that there is no difference in size of leaves and flowers as stated by URBAN l.c. p. 602. The flowers, as already remarked by BERG, are polygamous, the ovary in many flowers being abortive.

MYRCIA D.C. and AULOMYRCIA BERG

Aulomyrcia BERG has been reunited by GRISEBACH (*Flora Br. West Indies* (1860) p. 234), NIEDENZU (in *Engler Prantl, Nat. Pflanzenfam.* III, 7 (1893) p. 74), URBAN (in *Engl. Bot. Jahrb.* XIX (1895) p. 577) and other authors with *Myrcia* D.C. I believe however that it is possible to retain the two genera on the following characters:

- a. Flower-buds constricted under the calyx; ovary sericeous, receptacle hardly produced above the ovary; berry commonly 1-seeded, rarely 1—3-seeded, ellipsoid when 1-seeded.
Myrcia D.C.
- b. Flower-buds commonly obconoid; ovary mostly glabrous; receptacle cup-like produced above the ovary; berry globose, 1—3-seeded. **Aulomyrcia** BERG.

The fruit of a *Myrcia* species is illustrated in Martius Flora Brasiliensis XIV, 1 (1857) pl. 23 for *Myrcia hispida* BERG. The form of the embryo (also figured) in which the radicle runs straight from apex to base of the embryo, is perhaps also characteristic for *Myrcia* D.C. I have seen it in the embryo of *M. Berberis* D.C., *M. deflexa* D.C., *M. Coumeta* D.C., *M. calycampa* AMSH. and some specimens of *M. sylvatica* D.C., in other specimens of *M. sylvatica* D.C. and of *M. splendens* D.C. there is a slight curve in the radicle. In *Aulomyrcia* the radicle appears to be mostly longer and more curved. *Calycampe* BERG has the characters of *Myrcia* D.C. as indicated here and I am retaining it therefore in the genus *Myrcia* D.C. It may further be noted that in the allied genera *Marlierea* CAMB., *Krugia* URB. and *Calyptanthus* Sw., in which the receptacle is produced above the ovary, the berry is also globose.

As it is often impossible to determinate a species of *Myrcia* D.C. with the aid of BERG's account in Martius Flora Brasiliensis XIV, 1 (1857) p. 150, a key to the species of Guiana may be helpfull. BERG has divided *Myrcia* D.C. in groups partly based on the more or less strong development of the lateral nerves, this character is unreliable, as it is often variable in the same species.

- 1a. Flowers small (4—7 mm in diameter) 2
- b. Flowers large (about 1 cm in diameter) 6
- 2a. Young twigs loosely pubescent. Leaves obtuse at the base, petiole 2—4 mm long. 3
- b. Young twigs sericeous or velutinous. Petiole 5—8 mm long, if shorter, leaves acute or acuminate at the base. 4
- 3a. Leaves ovate-lanceolate, long-acuminate, small (2—5 cm long) Lateral nerves numerous, equal, approximate

M. sylvatica (MEY.) D.C.

- b. Leaves ovate to ovate-oblong, 5—8 cm long, reticulate. Primary lateral nerves distant, with secondary nerves between them

M. splendens D.C.

- 4a. Panicles densely velutinous 5
- b. Panicles nearly glabrous. Lateral nerves prominulous to flat above. Leaves acute at the base *M. Berberis* D.C.
- 5a. Leaves large, ovate or elliptical to oblong, acute or obtuse at the base. Lateral nerves often impressed above.

M. deflexa (POIR.) D.C.

- b. Leaves lanceolate-oblong, acuminate at the base. Lateral nerves prominulous above. *M. Schomburgkiana* BERG.

- 6a. Principal lateral nerves about 8 at each side.

M. Coumeta (AUBL.) D.C.

- b. Principal lateral nerves about 20 at each side 7

7a. Inflorescence few-flowered, subracemose

***M. calycampa* AMSH.**

b. Inflorescence a large, many-flowered panicle

***M. deflexa* (POIR.) D.C. var. *Dussii* KR. et URB.**

***Myrcia splendens* (Sw.) D.C.**

Previously only known from the West Indies, but apparently not rare in Suriname. It may therefore be expected that it has been overlooked in other regions or described under another name.

***Myrcia Berberis* D.C., Prodr. III (1828) p. 254; BERG in Mart. Fl. Bras. XIV (1857) p. 170; — *Myrcia costata* D.C., Prodr. III (1828) p. 252; BERG l.c. p. 169; — *Myrcia micrantha* BERG l.c. p. 169; — *Myrcia latifolia* BERG l.c. p. 170.**

I saw duplicates of the type specimens of these species in the herbaria of Leiden and Utrecht. *Myrcia costata* D.C. has priority of position above *M. Berberis* D.C., but this common and widely distributed species has probably still older names.

***Myrcia deflexa* (POIR.) D.C., Prodr. III (1828) p. 244; URBAN in Engl. Bot. Jahrb. XIX (1895) p. 587; — *Myrcia crassinervia* D.C., Prodr. III (1828) p. 245; SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 186.**

From the description and from the specimens cited by SAGOT and by URBAN it appears that *M. crassinervia* D.C. is a synonym of *M. deflexa* (POIR.) D.C.

var. *Dussii* KR. et URB. l.c.

In the Utrecht herbarium there are specimens from the Amazonian district (KRUKOFF 1477 and 1330) and from E. Peru (ULE 9659) quite agreeing with the description of this large-flowered variety, described from Martinique. Probably it has been described by BERG as a distinct species.

***Myrcia Coumeta* (AUBL.) D.C., Prodr. III (1828) p. 245; — *Aulomyrcia Coumeta* (AUBL.) BERG in Linnaea XXVII (1855) p. 60.**

The form of the receptacle and of the berry (a flowering and fruiting specimen, B.W. 3703, has been collected in Suriname) is as in *Myrcia* D.C.

Myrcia Calycampa AMSH. nomen novum; — *Calycampe latifolia* BERG in *Linnaea* XXVII (1855) p. 130 (non *M. latifolia* BERG 1855); — *Calycampe angustifolia* BERG l.c. p. 131 (non *Myrcia angustifolia* (BERG) NIEDENZU 1893).

As said above, this species has all the characters of *Myrcia* D.C. and there seems therefore to be no reason to retain the genus *Calycampe* BERG. The form of the leaves is rather variable, hence the two species distinguished by BERG, but intermediate specimens have been collected by ULE and in Suriname.

British Guiana (Rio Quitaro, SCHOMBURGK 548 [L], cited by BERG under *C. angustifolia* BERG; without locality, ROB. SCHOMBURGK 1272 [L], cited by BERG under *C. latifolia* BERG); Brazil: Rio Branco (ULE 8436 and 7714 [L]), Suriname: Corantijne R. near Wonotobo (B.W. 2542 fr. Oct.).

Myrcia bracteata (RICH.) D.C. (*M. lanceolata* CAMB.) is probably an *Aulomyrcia*. It occurs also in Suriname, but I did not see sufficient material. *Eugenia Mini* AUBL. and *Eugenia fallax* RICH. are probably species of *Myrcia* D.C., but the type specimens have never been examined.

By retaining the genus *Aulomyrcia*, the following new combination becomes necessary:

Aulomyrcia tomentosa (AUBL.) AMSH. nov. comb.; — *Eugenia tomentosa* AUBL., *Plant. Guiane franc.* I (1775) p. 504 t. 20; — *Myrcia tomentosa* (AUBL.) D.C., *Prodr.* III (1828) p. 245; SAGOT in *Ann. Sc. Nat.* 6, 20 (1885) p. 184; WILLIAMS, *Fl. Trinidad and Tobago* I, 6 (1936) p. 342; — *Aulomyrcia rosulans* BERG in *Mart. Fl. Bras.* XIV (1857) p. 93.

Eugenia tomentosa AUBL. was reestablished by SAGOT l.c. and by WILLIAMS l.c. for the flora of Trinidad. It is probable, though not actually said so, that for the latter publication AUBLET's type-specimen was examined. As AUBLET's species was not known to BERG, he described it as *A. rosulans* BERG. There are several nearly allied species described from Brazil, some of them may prove to be merely varieties.

French Guiana (Mana, SAGOT 1157); British Guiana (SCHOMBURGK 732 [L] duplicate of the type specimen of *A. rosulans* BERG; Paramacutoi savannah, ALSTON 501); Brazil (BLANCHET 3369, named *A. rosulans* BERG by BERG l.c. p. 93, Bahia, ULE 6977 [L]).

Aulomyrcia obtusa (SCHAUER) BERG var. **surinamensis** (MIQ.) AMSH. nov. comb.; — *Myrcia surinamensis* Miq. in *Linnaea* XXII (1849) p. 170, Stirp. Sur. Sel. (1850) p. 36 fig. 9B; — *Aulomyrcia surinamensis* (MIQ.) BERG in *Linnaea* XXVII (1855) p. 64.

A. obtusa BERG is a very variable species, there are hardly two specimens alike. In Suriname alone five varieties have been distinguished by BERG, based on the form of the leaves and of the inflorescence. *M. surinamensis* MIQ. is not a very distinct variety.

The species is so common in Suriname that it is to be expected from the neighbouring countries, probably described under another name. *A. dichroma* BERG and *A. roraimensis* BERG from British Guiana, *A. andromosaemoides* BERG from French Guiana and *M. arimensis* BRITTON from Trinidad have to be compared. From the Amazonian district I saw Froes 2007. *A. triflora* BERG from British Guiana is an allied but distinct species, differing by its larger flowers and has to be compared with *A. jacquiniana* BERG (*Myrcia paniculata* KR. et URB.).

Aulomyrcia saxatilis AMSH. nov. spec.

Frutex elegans, 4—6 m alta, ramulis subteretibus, brunneo-puberulis. Folia obovata vel obovato-oblonga, basi truncata, apice rotundata vel obtusa, margine revoluta, coriacea, glabra, usque ad 4 cm longa et 2.5 cm lata, costa supra impressa, subtus prominente, nervis lateralibus tenuis ascendentibus venisque supra leviter impressis, subtus prominulis. Petiolus 1—2 mm longus. Paniculae brunneo-puberulae, axillares et subterminales, 3—6 cm. longae. Receptaculum glabrum, cupulatum, \pm 1 mm longum. Sepala 5, rotundata, extus glabra, intus puberula, valde inaequalia, maximum vix 1.5 mm longum, minimum vix 0.5 mm longum. Petala orbiculata, \pm 2 mm longa. Ovarium 2-loculare, 4-ovulatum. Drupa ignota.

Suriname: Lucie R., on rocks (B.W. 7048 fl. May, type in herb. Utrecht).

This new species is according to the collector, Prof. Dr. STAHEL, characteristic of the dry moeri-moeri, in which it often forms nearly pure associations. In aspect it is very like *A. obtusa* (SCHAUER) BERG. The latter species is quite distinct by its 3-celled ovary and equal, very short sepals.

Aulomyrcia leptoclada (D.C.) BERG in *Linnaea* XXVII (1855) p. 40.

Previously only known from the West Indies, now also collected in Suriname (Brownsberg, B.W. 4004, B.W. 3239).

***Aulomyrcia grandiflora* BERG** in Flora Bras. XIV, 1 (1857) p. 133.

Previously only known from Southern Brazil. The specimen from Suriname (B.W. 3787) differs from the type specimen (SELLOW s.n., duplicate in U), by having the ovary 2-celled instead of 3-celled and ± 12 instead of ± 15 lateral nerves, in all other respects however it agrees with this very characteristic species.

***Aulomyrcia Schaueriana* (MIQ.) AMSH. nov. comb.**; — *Eugenia Schaueriana* MIQ. in Linnaea XXII (1849) p. 174, Stirp. Sur. Sel. (1850) p. 41; — *Myrciaria Schaueriana* (MIQ.) BERG in Linnaea XXVII (1856) p. 323; — *Myrcia graciliflora* SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 185.

***Aulomyrcia tobagensis* (KR. et URB.) AMSH. nov. comb.**; — *Calyptranthes tobagensis* (KR. et URB.) in Engl. Bot. Jahrb. XIX (1895) p. 593; — *Myrcia tobagensis* (KR. et URB.) URB. in Fedde, Rep. XIV (1916) p. 336; WILLIAMS in Flora Trinidad and Tobago I, 6 (1934) p. 339.

These two species are nearly allied, they differ in the form of the inflorescence and in the venation of the leaves, but quite agree in flower-characters. The flowers have the cup-like produced receptacle, free sepals and globose berry of *Aulomyrcia*, but are constantly tetramerous, with the opposite sepals equal. A generic distinction from species of *Eugeniopsis* BERG, which have according to the description also tetramerous flowers, but the sepals in the bud free at apex only, may be difficult. *Eugeniopsis* BERG is considered by NIEDENZU as a section of *Marlierea* CAMB. I do not know whether the genus in the conception of BERG is homogeneous. *Eugeniopsis Richardiana* BERG at any rate is a synonym of *Krugia ferruginea* (POIR.) KR. et URB.

It is probable that all species of *Myrciaria* BERG series *paniculatae* (under which *A. Schaueriana* was placed by BERG) belong to *Aulomyrcia* BERG. SAGOT l.c. described the fruit of *A. Schaueriana*. *Myrcia graciliflora* SAGOT is a new name, necessary because of *Myrcia Schaueriana* BERG. SAGOT also meant to describe the fruit of *Myrciaria quitarensis* (BENTH.) BERG and based on this the combination *Myrcia quitarensis* (BENTH.) SAGOT. SAGOT's specimen (nr. 891) is however a broad-leaved form of *A. lancifolia* BERG. *Eugenia inaequiloba* D.C., mentioned by SAGOT as a synonym, may be the oldest name of this latter species.

CALYCORECTES BERG and CATINGA AUBL.

Of the 6 species described by BERG under *Calycorectes* BERG, two, *C. latifolius* BERG and *C. grandifolius* BERG occur in Suriname. These two species agree in having the calyx undivided in the bud, a 2-celled, many-ovulate ovary and an embryo, in which, as in *Eugenia* L., the cotyledons are connate. Yet it appears that they are not congeneric, for they differ in the following characters:

- 1a. Receptacle hardly produced above the ovary; calyx segments remaining connate above, at last deciduous as a whole; petals 6, unequal, coriaceous, tomentose outside; anthers linear; berry ellipsoid, 1-seeded *C. grandifolius* BERG.
- b. Receptacle cup-like produced above the ovary; calyx rupturing into 4 persistent lobes; petals 4, membranous, glabrous; anthers ovate; berry large, few-seeded, with false septa between the seeds. *C. latifolius* BERG.

C. grandifolius (fig. 2) is the first published species of *Calycorectes* and may be considered as the type species. *Calycorectes* BERG becomes thus probably a monotypic genus, for though the other 4 species described by BERG under *Calycorectes* are not known to me, it appears that they have all 4 petals, ovate anthers and a receptacle cup-like produced above the ovary. I saw the following specimens of *C. grandifolius* BERG:

French Guiana (SAGOT 943; LEPRIEUR 215 [L], named *Eugenia ramiflora* DESV. by SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 193); Suriname (KAPPLER 1365, cotypus, duplicate in U; SPLITGERBER 925 [L]; PULLE 11; BOON 1039 fr.).

I do not know whether *Eugenia ramiflora* DESV., described in Hamilton, Prodr. Fl. Ind. Occ. (1825) p. 43, really belongs to this species; if so, it is the oldest name.

Calycorectes latifolius BERG must therefore be removed to another genus. Now this species was described by SAGOT as *Catinga oblongifolia* SAGOT. The full synonymy runs as follows:

Catinga oblongifolia SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 197; — *Calycorectes latifolius* (AUBL.) BERG in Linnaea XXX (1861) p. 701 p.p. (quoad descript. tantum, non quoad nomen, non *Eugenia latifolia* AUBL.); — *Calycorectes Bergii* SANDW. in Kew Bulletin 1932, p. 212.

SAGOT l.c. mentions *C. grandifolius* BERG as a synonym, but his description is based on SAGOT 272 (duplicate in U) only. His

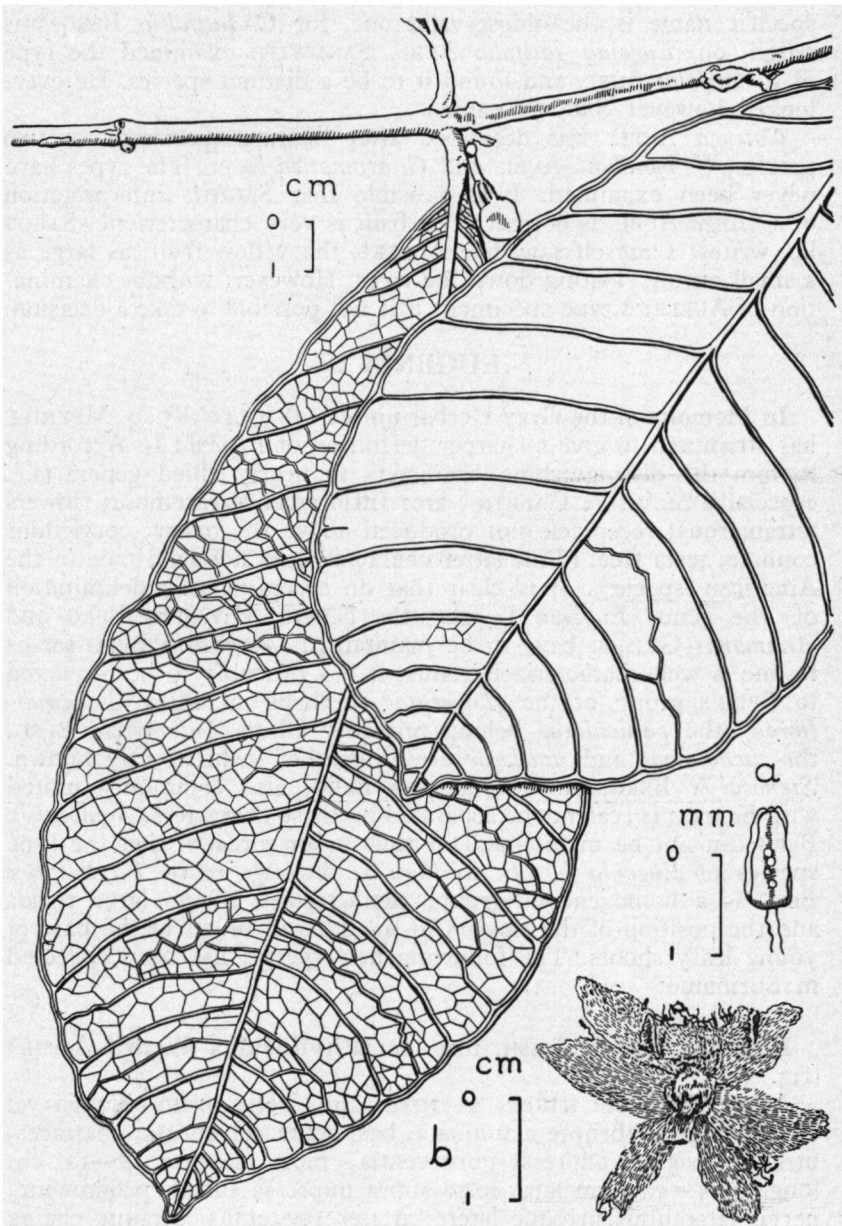


Fig. 2. *Calycorectes grandifolius* BERG (KAPPLER 1365). a. Anther. b. Flower, lower side.

specific name is the oldest valid one, for *C. latifolius* BERG was based on *Eugenia latifolia* AUBL. SANDWITH examined the type of *E. latifolia* AUBL. and found it to be a distinct species. He overlooked however SAGOT's name.

Catinga AUBL. was described after fruiting specimens of two species, *C. moschata* AUBL. and *C. aromatica* AUBL. The types have never been examined. It is possible that SAGOT's interpretation of *Catinga* AUBL. is correct. The fruit is very characteristic, SAGOT l.c. writes: I myself saw, like AUBLET, the yellow fruit, as large as a small citron, floating down the river. However, without examination of AUBLET's type specimens it is not possible to take a decision.

EUGENIA L.

In Memoirs of the Gray Herbarium IV (1839) p. 185 sq. MERRILL has attempted to give a sharper definition of *Eugenia* L. According to him the distinguishing characters to nearly allied genera (i.c. especially *Siszygium* GAERTN.) are: Inflorescence racemose; flowers tetramerous; receptacle not produced above the ovary; cotyledons connate; testa free. (This latter character does not hold true in the American species). It is clear that on accepting this delimitation of the genus *Eugenia* L. also the genera *Myrciaria* BERG and *Ananomis* GRISEB. have to be maintained. *Myrciaria* BERG seems to me a well-characterized genus; it has probably to be restricted to BERG's group of the *glomeratae* (perhaps including the *cauliflorae*), the *paniculatae* belong probably all to *Aulomyrcia* BERG, the *dichotomae* and *uniflorae* are altogether insufficiently known. *Stenocalyx* BERG and *Phyllocalyx* BERG, also commonly united with *Eugenia* L., can not be separated on these characters. *Stenocalyx* BERG can not be maintained for this reason already, that the type species of *Eugenia* L., *E. uniflora* L. belongs to it. *Phyllocalyx* BERG is a homogeneous group, characterized by its large sepals and the position of the flowers in the axils of bracts at the base of young leafy shoots. The following new species has been collected in Suriname:

***Eugenia Wentii* AMSH. n.sp. (or *Phyllocalyx Wentii* AMSH.) (fig. 3).**

Arbor parva vel frutex, 5—10 m alta. Folia ovato-oblonga vel oblonga, apice abrupte acuminata, basi acuta vel obtusa, chartacea, utraque pagina adpresse-pubescentia, mox glabrata, 8—12 cm longa 3, 5—5, 5 cm lata, costa supra impressa subtus prominente, nervis lateralibus utroque latere circiter 10, tenuis, utraque pagina

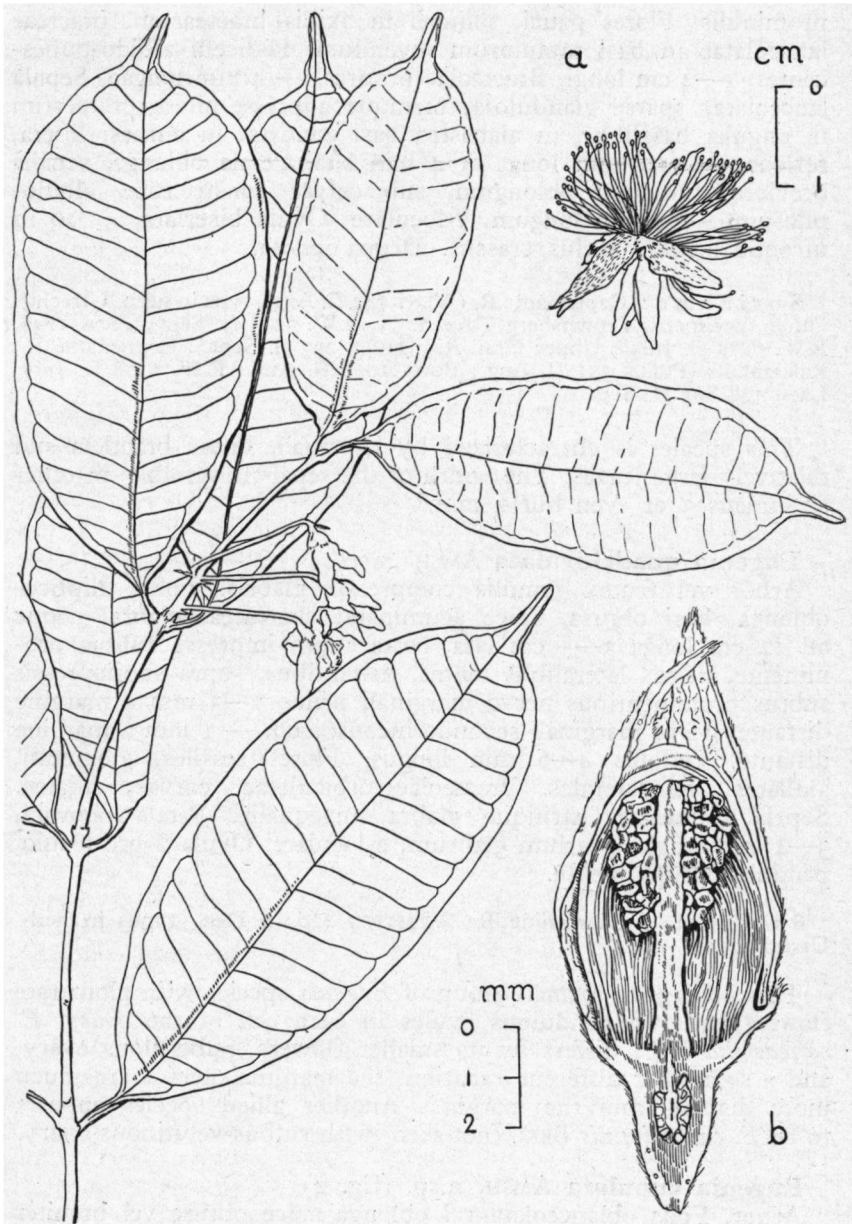


Fig. 3. *Eugenia Wentii* AMSH. n.sp. (WENT 142). a. Flower. b. Longitudinal section of flower bud.

prominulis. Flores pauci, solitarii in axillis bractearum, bractee lanceolatae in basi ramulorum juvenilum. Pedicelli albido-pubescentes, 1—2 cm longi. Bracteolae lineares, — 4 mm longae. Sepala lanceolata, sparse glandulosa, utrinque adpresse-pilosa praesertim in angulis basalibus, in alabastro basi connata, in anthesi libera, reflexa, — 10 mm longa et 4 mm lata. Petala oblonga, sepalis breviora. Ovarium oblongum, sub calyce constrictum, albido-pilosum, — 3 mm longum, 2-loculare. Ovula biseriata, \pm 10 in utroque loculo. Stylus crassus. Drupa ignota.

Suriname: Coppename R. (WENT 142 fl. Aug., type in herb. Utrecht). Other specimens: Brownsberg, (tree n. 75, B.W. 3215 fl. Sept., tree n. 1246, B.W. 6875 fl. July); Upper Gran Rio (HULK 237 fl. Sept.); Coppename R., Raleighfalls (PULLE 351 fl. Aug.; BOON 1018 fl. Aug.; B.W. 6178 fl. July; LANJOUW 801 fl. Sept.).

This species is characterized by its small, linear bractlets and relatively large leaves. The width of the sepals is variable, in other specimens 3 or even but 2 mm.

***Eugenia quadriovulata* AMSH. n.sp.**

Arbor vel frutex ramulis compressis glabris. Folia elliptico-oblonga, basi obtusa, apice acuminata, chartacea, glabra, usque ad 12 cm longa 3—5 cm lata, costa supra impressa subtus prominente, nervis lateralibus tenuis, distantibus, supra subimpressis subtus prominentibus nervo marginali primo 2—3 mm a margine distante, nervo marginali secundo inconspicuo, — 1 mm a margine distante. Petiolus 4—6 mm longus. Flores sessiles, glomerati, axillares vel laterales. Bracteolae orbiculatae, parvae, ciliatae. Sepala rotundata, utrinque glabra, inaequalia. Petala obovata, 3—4 mm longa. Ovarium glabrum, 2-loculare. Ovula 2 pro loculo, pendula. Drupa ignota.

Suriname: Marowijne R. (VERSTEEG 426 fl. Dec., typus in herb. Utrecht).

This belongs to a small group of *Eugenia* species with glomerate flowers and two pendulous ovules in each cell of the ovary. *E. coffeaeifolia* D.C. differs by its smaller flowers, puberulous ovary, and a somewhat different venation (the marginal nerves are much more distant from the margin.). Another allied species appears to be *E. cachoeirensis* BERG (not seen) with rufous-velutinous ovary.

***Eugenia cupulata* AMSH. n.sp. (fig. 4).**

Arbor. Folia oblanceolata vel oblonga apice obtusa vel breviter

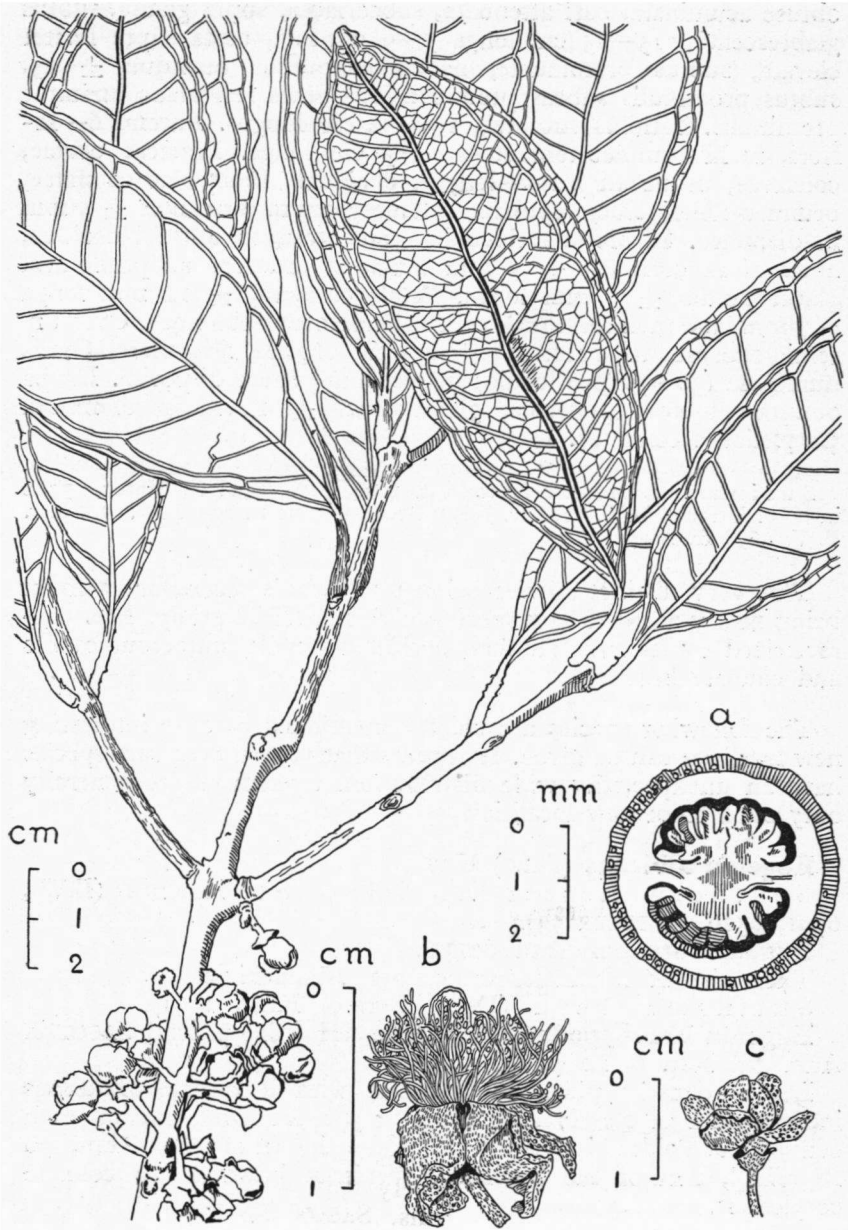


Fig. 4. *Eugenia cupulata* AMSH. n.sp. (B.W. 6428). a. Crosssection of ovary. b. Adult flower. c. Flower bud.

obtuse acuminata, basi attenuata, subcoriacea, supra glabra, subtus glabrescentia, 15—25 cm longa 5—9 cm lata, costa supra leviter elevata, subtus prominente, nervis lateralibus utrinque ± 15 , subtus prominulis subtus prominentibus venis reticulatis utrinque prominulis. Petiolus subteres, 1, 5—2 cm longus. Racemi 6—12-flori, rachi brunneo-tomentosa, — 3 cm longa. Bracteae ovatae, concavae, usque ad 2 mm longae, deciduae. Bracteolae connatae, brunneo-tomentosae, cupulam vix emarginatam formantes ± 5 mm in diametro. Sepala suborbiculata, tomentosa, in anthesi decidua, 2 exteriora coriacea, ± 5 mm longa, 2 interiora subpetaloidea, glabrescentia, ± 7 mm longa. Petala coriacea, ± 12 mm longa et 7 mm lata, in anthesi reflexa. Antherae ovato-oblongae. Ovarium semiglobosum, tomentosum, ± 4 mm longum, 2-loculare, Ovula numerosa (30—50 pro loculo) in placenta peltata disposita. Drupa oblique globosa, puberula, glabrescens, ± 1 cm in diametro. Cotyledones connatae.

Suriname: Brownsberg (tree n. 1224, B.W. 6428 fl. March, typus in herb. Utrecht, B.W. 6604 fr. July); Sectie O (tree n. 609, B.W. 1200 ster. B.W. 4698 fr. May).

This very distinct species belongs to BERG's *racemosae*, without being nearly allied to any species of this artificial group. It is characterized by its large flowers, deciduous sepals, numerous ovules and connate bractlets.

The following species are chiefly mentioned because interesting new localities can be given. It appears that several even rare species have an unexpectedly wide distribution. Specimens are generally only cited from new localities.

Eugenia albicans (BERG) URB.

Southern Lesser Antilles, Suriname (B.W., 6701, 6529, KAPPLER 93).

Eugenia atropunctata STEUD.

The hairs of the inflorescence are dibranchiate.

Suriname, Peru (Dept. Loreto, KLUG 2571).

Eugenia brachypoda D.C., Prodr. III (1828)p. 274; SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 190.

Leaves densely pubescent beneath with a fulvous-nitidulous indumentum of closely appressed, very short hairs, one on each cell of the epidermis. SAGOT describes the embryo as "Embryo *Myrciae*", that of the Suriname specimen however has connate cotyledons.

French Guiana (LE PRIEUR [L]); Suriname (B.W. 3492 fr.).

Eugenia excelsa BERG.

Brazil (Rio de Janeiro, Pará (KRUKOFF 1125); Suriname (VERSTEEG 430).

Eugenia latifolia AUBL., Plant. Guiane franç. I (1775) p. 502 t. 199; BERG in Linnaea XXVII (1856) p. 224; SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 192; non BERG in Linnaea XXX (1861) p. 701; — *Eugenia chrysophylloides* D.C. sensu BERG in Linnaea XXVII (1856) p. 217 an D.C.?

The application of AUBLET's name is somewhat doubtful. BERG applied it in 1856 to an *Eugenia* species, in 1861 to a *Calycorectes* species. The type specimen has been examined by SANDWITH, he says that it is not identical with the *Calycorectes* species (see also p. 158) but gives no further information about it. Probably BERG's first interpretation is correct. The length of the pedicels is very variable (2—12 mm).

Coastal districts of Suriname, French Guiana, N. Maranhão (Froes 1885, 1967).

Eugenia monticola (Sw.) D.C.

West Indies, Br. Guiana (A. C. SMITH 3562); Suriname (TRESLING 459, LANJOUW 926, PULLE 244).

The Suriname specimens closely agree with each other in having a shortly racemose inflorescence and rather small leaves, the Br. Guiana specimen has glomerate flowers and large leaves, agreeing with the var. *latifolia* KR. et URB.

Eugenia Prieurii BERG in Linnaea XXX (1861) p. 681; — *Eugenia Prieurei* SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 188.

The two species are apparently based on duplicates of the same specimen, LE PRIEUR s.n. from French Guiana.

French Guiana (Le Prieur [L]; Melinon 74 [L]); Suriname (LANJOUW 1160; B.W. 5425; DUMORTIER s.n.).

Eugenia punicaefolia (H.B.K.) D.C., Prodr. III (1828) p. 267; URBAN in Engl. Bot. Jahrb. XLX (1895) p. 617; — *Eugenia vaga* BERG var. *punicaefolia* (H.B.K.) BERG in Mart. Flora Bras. XIV. 1 (1857) p. 238. var. *dipoda* (D.C.) BERG l.c. p. 238; — *Eugenia surinamensis* MIQ. ex BERG in Linnaea XXVII (1857) p. 182.

E. punicaefolia (H.B.K.) D.C. is a very variable species in respect to form and size of the leaves and length of the pedicels. It is difficult to find constant characters by which to distinguish it from several nearly allied species described from Brazil. *E. surinamensis* BERG however is certainly no distinct species, it is but a large-leaved form of the var. *dipoda* (D.C.) BERG.

Eugenia tapacumensis BERG.

Martinique, St. Vincent, British Guiana, Suriname (ROMBOUTS 80), Peru (KLUG 4271).

Eugenia trinitensis D.C.

Trinidad?, Martinique, Suriname (B.W. 4028).

PSIDIUM L.

Psidium quinquedentatum AMSH. n.sp.

Frutex ramulis subteretibus flavido-velutinis. Folia subsessilia subopposita, obovata vel obovato-oblonga, apice obtusa vel breviter acuminata, basi cuneata vel attenuata basi ipsa saepe obtusa, membranacea, utrinque flavido-pubescentia, supra glabrescentia, 3—6 cm longa et 1.5—3 cm lata, costa utrinque leviter elevata, nervis lateralibus tenuis, 6—8, arcuato-anastomosantibus. Pedunculi 1-flori, tomentosi, 7—15 mm longi, in axillis foliorum inferiorum ramulorum 4—7-nodorum. Bracteolae lineari-oblongae, — 4 mm longae, deciduae. Alabastra sub calyce valde constricta. Calyx extus sparse puberulus, glabrescens, intus sericeus, in alabastro breviter quinquedentatus dentibus late triangularibus ciliatis, demum usque ad basim fere 5-fissus. Petala orbiculata, denticulata, ciliata, 5—6 mm longa. Antherae ovatae. Ovarium albido-velutinum, 10-sulcatum, 2 mm longum, 3-loculare. Ovula in utroque loco in circulo simplice disposita.

Suriname: Upper Sipaliwini R. near Brazilian frontier (ROMBOUTS 329 fl. Sept., type in herb. Utrecht).

Resembles much *P. cinereum* MART. from S. Brazil, figured in Mart. Flora Brasiliensis XIV. 1 (1857) t. 41a. The latter species differs by having the ovules in a double circle, 1—7-flowered peduncles and smaller flowers. *P. quinquedentatum* is a savannah-shrub, while the four other indigenous *Psidium* species (with exception of the cultivated *P. Guajava* L. and the cultivated as well as indigenous *P. guineense* Sw.) are shrubs growing in or along the rivers. These species are: *P. acutangulum* MART., *P. aquaticum* BENTH. *P. guianense* PERS. (*P. fluviatile* RICH.), and a species near *P. salutare* H.B.K.

CAMPOMANESIA R. et P.

Campomanesia grandiflora (AUBL.) SAGOT in Ann. Sc. Nat. 6, 20 (1885) p. 182; — *Psidium grandiflorum* AUBL., Pl. Guiane franç. I (1775) p. 483 t. 190; — *Campomanesia Poiteaui* BERG in Linnaea XXVII (1856) p. 432, XXX (1861) p. 712.

AUBLET's type specimen has never been examined, but judging from AUBLET's description and figure, I believe that SAGOT's interpretation is correct.

French Guiana (SAGOT 294; MELINON 249 [L]); Suriname (STAHEL 37 and 135); British Guiana (A. C. SMITH 3503).

Campomanesia aromatica (AUBL.) GRISEB. has to be compared with *C. coetanea* BERG.

CALYCOLPUS BERG

Calycolpus revolutus (SCHAUER) BERG in Linnaea XXVII (1856) p. 383; RILEY in Kew Bulletin 1926 p. 153; — *Myrtus revolutus* SCHAUER in Linnaea XXI (1848) p. 272; — *Calycolpus Kegelianus* BERG in Linnaea XXVII (1856) p. 381; RILEY l.c. p. 149; — *Calycolpus megalodon* RILEY l.c. p. 149.

RILEY, in his monograph of the genus *Calycolpus* in Kew Bulletin 1926, p. 145—154, distinguished *C. Kegelianus* BERG (based on WULLSCHLAEGEL s.n., I saw a duplicate from BR) and *C. megalodon* RILEY (based on SAGOT 215, duplicate in U) from *C. revolutus* (SCHAUER) BERG on account of form and size of the sepals. RILEY himself (l.c. p. 153) draws attention to the variability of this character in *C. glaber*, of which he saw more material. Numerous specimens of *C. revolutus* have been collected in Suriname, they show that the sepals vary even in the same specimen, apparently owing to the more or less luxuriant growth of the branch.
