

PLANTAE PAPUANAE ARCHBOLDIANAE, IX*

E. D. MERRILL AND L. M. PERRY

THIS paper covers the Myrtaceae (excluding *Octamyrtus* Diels, and a few incomplete specimens) of the Archbold Expeditions' collections not included in Mr. C. T. White's paper published in the last issue of this Journal, which was largely limited to a consideration of those genera characterized by having dry dehiscent fruits. Our work has been greatly handicapped owing to the unavailability of type-material, the consequent necessity of making our determinations from descriptions alone, and the large number of species already reported from New Guinea. The genera represented in these extensive and varied collections are *Decaspermum*, *Myrtus*, *Xanthomyrtus*, *Eugenia*, *Acmena*, *Syzygium*, and *Cleistocalyx*; of the latter genus only a single collection, *C. Baeuerlenii* (F. v. Muell.) Merr. & Perry, is represented, this from the type-region. In this work, we have again learned that mature fruit is more necessary than flowers for reasonably sure generic determination.

***Decaspermum* J. R. & G. Forster**

Diels, who has done more work on *Decaspermum* J. R. & G. Forst. than any other botanist except Blume, has indicated more than once the need of a monograph of this genus. Until such a study appears, with a fairly detailed evaluation of the essential characters, a certain amount of confusion and duplication in species is inevitable. We have at hand sufficient material to note the variation in characters, but not enough to ascertain the limits of such variation; we have found, however, that the number of locules characteristic of a single species appears more variable than is indicated in one key to the genus. On account of the limited authentic material and the lack of types for comparison, we have tried, wherever possible, to fit the collections, even if somewhat loosely on occasion, into the species already described from New Guinea.

***Decaspermum neurophyllum* Lauterb. & K. Schum. var. *leve* var. nov.**

A forma typica differt ramulis parce crispe pubescentibus, foliis fere glabris supra nitidis, venis primariis prominulis sed non prominentibus, inflorescentiae axi ramulisque parce tomentellis.

NETHERLANDS NEW GUINEA: Hollandia, *Brass 8899* (TYPE of var.), June 1938, alt. 20 m., common in seral growths of a gravelly river-bed (small tree; flowers pink; fruit soft, black).

In this collection, although the primary veins of the leaves are readily observed, they are not impressed above and not nearly so prominent on the lower surface as in the species (represented in the material at hand by

*Botanical Results of the Richard Archbold Expeditions. See Jour. Arnold Arb. **22**: 529-542. 1941.

Brass 4822, 4822A, 5330 from British New Guinea, and *Clemens* 149, *Kanehira* 4025, 4040, *Schlechter* 17496 from Northeastern New Guinea); the pubescence of the branchlets and of the inflorescence is short and somewhat crisp but sparser than in the collections representing *Decaspermum neurophyllum* Lauterb. & K. Schum. There seems to be little difference in the flowers or fruit. The ovary is 7- or 8-loculed, but 7-loculed flowers were also found in *Schlechter* 17496, which clearly represents the species.

Decaspermum Coriandri (Bl.) Diels, Bot. Jahrb. **57**: 372. 1922, vel aff.

Nelitris Coriandri Bl. Mus. Bot. Lugd.-Bat. **1**: 74. 1849.

BRITISH NEW GUINEA: Central Division, Kubuna, *Brass* 5601, December 1933, alt. 100 m., rain-forest (slender small tree; flowers pale yellow with purple stamens). SOLOMON ISLANDS: Ysabel: Tataba, *Brass* 3429, 3526, January 1933, alt. 50 m., rain-forest ridges (small tree; leaves shining, the midrib pale and the margins slightly recurved; petals and stamens pink).

We are not wholly sure that the Solomon Islands material is conspecific with the New Guinea specimens; the primary veins of the leaves are slightly more manifest than in *Warburg* 20417 (identified by Diels as *Decaspermum Coriandri* (Bl.) Diels). The species has been reported only from New Guinea.

Decaspermum nitentifolium sp. nov.

Frutex vel arbuscula 1–3 m. alta; ramis glabris cinereis, ramulis novellis villosulis; foliis novellis albido-pilosis cito glabris petiolatis, petiolo 2–3 mm. longo, lamina coriacea, ovato-elliptica, 2–5 cm. longa 1.2–3 cm. lata, basi rotundata vel obtusa apice subabrupte breviter acuminata, supra nitida minute punctulata subtus opaca minute glandulosa, venis primariis ac vena intramarginali inconspicuis; inflorescentiis terminalibus ac in axillis foliorum superiorum dispositis folium aequantibus vel paullo superantibus; bracteis foliaceis, ramulis pedicellisque \pm pubescentibus; calycis tubo 1 mm. longo \pm piloso, lobis 1 mm. longis, triangularibus obtusis parce pilosis vel glabris; petalis 3 mm. longis orbicularibus vel late ellipticis; ovario 7-loculari.

NETHERLANDS NEW GUINEA: Balim River, *Brass* 11643 (TYPE), December 1938, alt. 1600 m., common in low bushy second growths on rocky slopes (shrub or tree 1–3 m. high; petals white; filaments pink).

On account of the shining leaves (upper surface) we should have preferred to place this collection in *Decaspermum nitidum* Lauterb.; but, in our material the leaves are ovate-elliptic with a rounded base rather than oblong with an acute base; the new branchlets are loosely short-villous though quickly glabrate, and the sepals have very few hairs on the outer surface. These are perhaps all variable characters, yet, owing to the lack of agreement in so many points, we do not believe the collection is conspecific with *D. nitidum* Lauterb.

Decaspermum belense sp. nov.

Arbor 14 m. alta; ramis cinereis ramulis novellis villosulis cito tomentellis; foliis petiolatis, petiolo 3 mm. longo; lamina 3–6 cm. longa 1.3–2 cm. lata, lanceolata apice acuminata basi obtusa vel cuneata supra in sicco olivacea nitida subtus pallidiore opaca novella parce villosula maturitate glabra vel subtus consperse pilosa, venis primariis utrinque distincte

manifestis non prominulis; inflorescentiis axillaribus terminalibusque folium paullo superantibus, bracteis foliaceis, ramulis pedicellisque tomentellis; calycis tubo 1 mm. longo \pm cinereo-pubescente, lobis 1 mm. longis, triangularibus glabris vel interdum parce pubescentibus; petalis 3 mm. longis, 2 mm. latis; ovario 5-loculari.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh 11135* (TYPE), November 1938, alt. 2380 m., occasional in primary forest (tree 14 m. high, 40 cm. diameter; crown small; bark brown, scaly; flowers white; fruit green).

This species suggests both *Decaspermum nitidum* Lauterb. and *D. leptanthelium* Diels. From the former it is distinguished by the obviously pubescent new growth, and fewer-loculed ovary. It differs from the latter in its coriaceous leaves, and longer, more copiously flowered panicles.

***Decaspermum exiguum* sp. nov.**

Arbuscula gracilis; ramulis novellis tomentellis; foliis novellis sericeis deinde glabris demum supra glabris vel costa minute pilosa, in sicco fuscis, subtus glabris vel parce pilosis pallidioribus, petiolatis, petiolo breve 1–1.5 mm. longo, pubescente vel glabrato, lamina coriacea 1.4–4 cm. longa 0.8–1.3 cm. lata, lanceolata basi late cuneata vel obtusa apice anguste acuta vel subacuminata, nervis, costa excepta, obscuris; inflorescentiis terminalibus ac in axillis foliorum superiorum dispositis folia paullo superantibus, axi ramulis pedicellisque molliter breviter villosis vel subtomentellis; bracteis foliaceis; calycis tubo sericeo-villosulo 1 mm. longo, lobis 1 mm. longis anguste triangularibus acutiusculis \pm pilosulis; petalis \pm 3–4 mm. longis ciliolatis; ovario 5-loculari; fructu subdepresso-globoso.

BRITISH NEW GUINEA: Central Division, Mt. Tafa, *Brass 4836* (TYPE), August 1933, alt. 2400 m., common in ridge-top forests (tall slender trunk with compact flattened crown; petals cream-colored; filaments pink; fruit immature).

In the leaf-outline and the short petiole this species approaches *Decaspermum Raymundii* Diels from Palau, but the leaves are coriaceous and their nerves with the exception of the midrib are obscure, also the flowers are a little smaller. Among New Guinean species *D. exiguum* is probably nearest to *D. nitidum* Lauterb. The latter, however, according to the description, is a more nearly glabrous species.

***Decaspermum Forbesii* Bak. f. Jour. Bot. 61: Suppl. 14. 1923.**

BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass 4523*, July 1933, alt. 2840 m., common in forests (shapely tree 4–5 m.; leaves glossy above; petals cream-colored; immature fruit purple); same locality, *Brass 4543* (much branched thick-foliaged tree 5–6 m.; petals cream-colored; filaments purple; fruit black, slightly depressed; seeds red); Mt. Tafa, *Brass 4899*, August 1933, alt. 2400 m., plentiful in ridge-crest forests (tree 8–12 m. high; leaves glossy; petals white; filaments pink; fruit dark purple).

These three collections are too much like the description of *Decaspermum Forbesii* Bak. f. to be placed elsewhere without actual comparison with the type; yet, it is to be noted that the branchlets are clothed with a white somewhat shaggy pubescence, and the calyx-lobes are scarcely acute. In *Brass 4899* the leaves are more elliptic than ovate, 7–12 mm. long, 5–8 mm. wide, almost equally narrowed toward the base and the apex. Probably also belonging to this species is *Brass 4541* from Murray Pass, alt. 2840 m.

(virgate tree 3–5 m.; leaves pale and shining; petals cream-colored; filaments purple; fruit soft, black; seeds red). The leaves are 8–10 mm. long, 5–8 mm. wide; the ovary is 4-loculed.

***Decaspermum simile* sp. nov.**

Ut videtur arbor parva; ramulis atrofuscis, ramulis novellis pubescentibus vel tomentellis; foliis novellis praecipue costa margineque albido-pubescentibus cito glabris breviter petiolatis, petiolo vix 1 mm. longo, lamina 7–20 mm. longa 4–12 mm. lata, ovato-elliptica vel lanceolata apice acuta basi rotundata vel obtusa interdum cuneata margine leviter recurvata, in sicco supra atrofusca subtus pallidiore crebre minuteque glandulosa, costa supra impressa subtus prominula, nervis primariis inconspicue manifestis vel interdum obscuris; inflorescentiis terminalibus axillaribusque, pedicellis ramulisque tomentellis vel pubescentibus, bracteis foliaceis; calycis tubo \pm sericeo sub limbo leviter constricto, 1–1.4 mm. longo, lobis 1.5 mm. longis, subellipticis vel rotundatis; petalis 4–5 mm. longis 3 mm. latis; ovario 5–6-loculari.

NORTHEASTERN NEW GUINEA: Sarawaket, *Clemens* 5563, 5666a, 5575 (TYPE), March 1937, alt. 2400–2700 m.; Buni Tamunac Camp, *Clemens* 5303, January 1937, alt. 2100–2400 m.

Decaspermum simile is closely allied to *D. Forbesii* Bak. f., but differs in the short rather than shaggy pubescence of the younger branchlets and the inflorescence; the pubescence of the calyx-tube is not so copious and is more appressed than in the latter species, and the calyx-lobes are distinctly rounded.

***Decaspermum nivale* (Ridley) comb. nov.**

Myrtus nivalis Ridl. Trans. Linn. Soc. Bot. II, 9: 42. 1916.

Decaspermum humifusum Diels, Bot. Jahrb. 57: 371. 1922, Nov. Guin. 14: 88. 1924.

NETHERLANDS NEW GUINEA: Utaqua River to Mt. Carstenz, Camps X to XI, *Kloss* (phot. of type, and a very small fragment); Lake Habbema, *Brass* 9479, August 1938, alt. 3225 m., covering a precipitous rock face (habit prostrate; leaves smooth and shining; flowers white; fruit black, fleshy); 11 km. northeast of Wilhelmina-top, *Brass & Myer-Drees* 9734, 9810, September 1938, alt. 3400 m., alpine grassland (prostrate shrub covering sandy banks of stream; flowers white; fruit black and fleshy); 9 km. northeast of Lake Habbema, *Brass* 10921, October 1938, alt. 2800 m., very abundant on an old landslip (prostrate shrub; flowers white; plant usually sterile).

Although there is considerable variation in the size of the leaves ($2\text{--}6 \times 1.5\text{--}4$ mm.), the number of stamens (15–30 in different collections), and the number of locules in the ovary (4–7, mostly 6 or 7), we believe the material all belongs to a single species. In the fragment of the type (a single leaf and flower just past anthesis) the leaf is 6 mm. long and 3 mm. wide, and the ovary is 6-loculed. When Diels described *Decaspermum humifusum* he had only Ridley's description as a working basis, and since he stressed the number of locules in the ovary (a character not mentioned by Ridley), it is easy to understand why he was at a loss to place Ridley's species.

Either conspecific or closely resembling this species is *Clemens* 5895 from Sarawaket, Northeastern New Guinea; the leaves ($4\text{--}8$ mm. \times $2.2\text{--}5$ mm.) tend to be ovate-elliptic and somewhat acute.

Myrtus Linnaeus

In the various reports on the Flora of New Guinea as many as nine species of *Myrtus* L., in its broader sense, have been attributed to the island. Three of these belong to *Decaspermum* J. R. & G. Forst., the rest are included in *Xanthomyrtus* Diels. A brief consideration of the published species of *Myrtus* L. is sufficient to show that the generic concept is either limited or inclusive depending upon the opinion of the individual worker. The collections at hand contain four species belonging to the complex. The flowers of two of these, in general characters, agree well with those of *Myrtus communis* L., the type-species of the genus. The flowers of the other two diverge somewhat in the stamen-characters; here, the stamens are short, not inflexed in the bud, the filaments vary in length and sometimes in size, the outer being the larger, the anthers are basifixed, the broad connective is continuous with the filament and, in addition, projects beyond the anther-sacs as much as 0.4 mm., causing them to appear lateral rather than apical as in most species of *Myrtus* L. We have scanned the literature and the available related material in an effort to discover whether such a difference has been noted before and if it might be considered a constant character. Among the specimens from New Caledonia are four species with the connective produced in varying degrees beyond the anther-sacs: *M. artensis* Beauv. & Guill., *M. nekouana* Guill., *M. emarginata* Panch. (i.e., part of the material so labeled, for we have no way of telling what the original was, all the specimens have been named in Paris), and *M. cinerea* Brongn. & Gris. In Guillaumin's latest revision of the Myrtaceae with fleshy fruits, Bull. Soc. Bot. France **85**: 626–653. 1938, this character of the elongated connective appears in the key to the species of *Myrtus* of New Caledonia and in the descriptions of some new species. This prolongation of the connective suggests a similarity with the American genus *Ugni* Turcz. Professor I. W. Bailey has very kindly examined the wood-structure and the stamens of the various species under consideration and he finds that *Ugni* Turcz. is differentiated from the other genera in the wood-structure and in having a single gland at the apex of the connective (all the others have glands in varying numbers over the dorsal part of the connective). In view of the variation within the group and the lack of sufficient material and time to make a comprehensive survey of *Myrtus* L. for generic and sectional lines, at present we believe it best simply to describe these four species from New Guinea as representing the genus *Myrtus* L.

Myrtus Randiana sp. nov.

Arbor parva dense foliata; ramis teretibus atrocinereis; ramulis brunnescentibus tenuibus 4-angulatis angustissime alatis; foliis glabris chartaceis copiose minuteque pellucido-punctatis lanceolatis, 4–6 cm. longis 0.8–1.1 cm. latis, basi acutis vel anguste cuneatis, apice obtuse elongato-acuminatis vel subrostratis abrupte apiculatis, costa utrinque prominula, venis primariis utrinsecus 6–11 subirregulariter dispositis utrinque subaequaliter manifestis, reticulis submanifestis, vena intramarginali 0.5 mm. a margine distante; petiolo \pm 2 mm. longo; floribus axillaribus solitariis vel 2–4-

fasciculatis; pedunculis 1.5–2 cm. longis, tenuissimis apice bibracteatis, bracteis linearibus caducis; floribus non visis; fructibus crebre minuteque glandulosis subglobosis \pm 5 mm. diametro calycis lobis coronatis; lobis 4 circiter 1 mm. longis obtusis; petalis . . . ; staminibus \pm 3 mm. longis, filamentis filiformibus, antheris versatilibus late ovatis vix 0.4 mm. longis, connectivo apice glanduloso; disco staminifero angusto puberulo; ovario biloculari, ovulis paucis; semine uno subgloboso circiter 4 mm. diametro, testa crustacea nitida, embryo spirali habitu cochleato, cotyledonibus brevibus.

BRITISH NEW GUINEA: Central Division, Kubuna, *Brass 5642* (TYPE), December 1933, alt. 100 m., banks of stream in forest (small densely foliated tree).

The single-seeded fruit suggests that this species is perhaps related to *Myrtus acmenoides* F. v. Muell. and *M. monosperma* F. v. Muell. (not *M. nitida* Gmel. which, by Gaertner's plate, is a true *Syzygium*) of Australia. The species is readily distinguished from any other we have seen by the thin small narrowly lanceolate leaves with elongate obtuse but apiculate apices.

Named for Dr. A. L. Rand, the ornithologist of the Expedition.

***Myrtus Versteeghii* sp. nov.**

Arbor 12 m. alta; ramis fusciscentibus; ramulis novellis 4-angulatis apicem versus caesiis; foliis coriaceis glabris subinconspicue reticulatis suborbiculari-ovatis, 1.3–2.5 cm. longis 1–2 cm. latis, basi late cuneatis, apice brevissime acuminatis apiculatis, margine paullo recurvatis, supra olivaceo-brunnescentibus subtus pallidioribus, costa utrinque prominula, nervis primariis tenuibus utrinsecus 6–8 oblique adscendentibus prope marginem arcuatim confluentibus; petiolo \pm 3 mm. longo; floribus subterminalibus atque in axillis foliorum superiorum dispositis, solitariis, pedunculis 1–1.5 cm. longis inconspicue pubescentibus, bracteis late linearibus calycis tubum subaequantibus; calyce dense adpresse albo-pubescente, tubo circiter 2 mm. longo, lobis 5 circiter 2 mm. longis rotundatis; petalis 5 subrotundatis 5 mm. longis, consperse glandulosis utrinque \pm pubescentibus; disco stamineo pubescente; filamentis filiformibus, antheris versatilibus rotundatis, connectivo haud producto angusto apice minute glanduloso; stylo subulato stamina vix superante basi pubescente; ovario biloculari; fructibus elongato-globosis vel ellipsoideis 1 cm. longis 0.8 cm. diametro calycis lobis coronatis.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass & Versteegh 10450*, *Brass 10618* (TYPE), 10930, October 1938, alt. 2800 m., mossy forest, occasional in tall forest of slopes, common in more open parts of forest (substage or subsidiary tree 4–12 m. high, 20–24 cm. diameter; flowers white; young fruit black).

The fruits of these collections are either immature or abnormal and without well developed seeds. The habit of the species strongly suggests that of *Myrtus inophloia* Bail. f. & White as shown in Queensl. Dep. Agr. Bot. Bull. **19**: 8, *t.* 3, 1917, but the bark is not loose and thready, although the very narrow wings on the new branchlets soon break away, the leaves are glabrous and a little less acuminate, and the petals are more or less pubescent on both sides rather than fringed. At the apex of the pedicels and at the point of attachment of the leaves or perhaps at the base of the axillary buds are long (0.5–1 mm.) black subulate glands or bracts.

Myrtus Brassii sp. nov.

Arbor usque 8 m. alta; ramulis dense crispule hirtellis dense foliatis; foliis coriaceis novellis pilosis mox glabratissimis maturis minute glandulosis glabris vel subtus ad basim praecipue costa consperse breviter pilosis, lanceolatis vel anguste ovatis, 8–14 mm. longis 4.5–6 mm. latis, basi obtusis vel rotundato-cuneatis, apice acutis vel acute acuminatis, costa supra impressa subtus distincta, nervis obscuris; petiolo 1–1.5 mm. longo hirtello; floribus axillaribus solitariis; pedunculis vix 2 mm. longis pubescentibus; calyce minute pubescente dense glanduloso, tubo 2 mm. longo campanulato, lobis 5 late obtuseque triangularibus circiter 1.5 mm. longis; petalis 5 \pm rotundatis circiter 3 mm. diametro, glabris consperse glandulosis; staminibus brevibus \pm 2.5 mm. longis numerosis pluriserialibus, filamentis in connectivum confluentibus vix infra antheras dilatatis dein in apicem liberum (0.4 mm.) glanduloso-mucronatum productis, connectivo extus consperse glanduloso; ovario 3-loculari; stylo subulato circiter 3 mm. longo; stigmatibus anguste capitato quam stylo vix latiore; fructibus globosis calycis lobis coronatis; seminibus crustaceo-osseis subreniformibus tessellato-rugosis.

BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass* 4514 (TYPE), July 1933, alt. 2840 m., very plentiful in the forests (spreading virgate tree up to 8 m. tall; leaves dark and shining above, paler beneath; flowers white; fruits dull black, fleshy, depressed, up to 1 cm. diameter); Mount Tafa, *Brass* 4853, August 1933, alt. 2700 m., fringe of forest just below cleared summit (small tree about 3 m. high).

This species is superficially somewhat like *Myrtus nekouana* Guill. of New Caledonia, but the latter has obtuse leaves, appressed pubescence, longer pedicels, and less modified stamens, the connective being only very little produced beyond the anther-sacs.

Myrtus Archboldiana sp. nov.

Arbor usque 5 m. alta; ramis \pm atro-cinereis; ramulis dense subadpresse albo-villosulis; foliis tenuiter coriaceis novellis sericeis mox glabratissimis maturis glabris vel costa pilosis ovato-lanceolatis, 3–4.5 cm. longis 1–2 cm. latis, basi obtusis, apicem versus subabrupte caudato-acuminatis, acumine 1–1.5 cm. longo apice acutissimo, in sicco rubro-brunnescentibus subtus minutissime glandulosis, costa supra impressa subtus prominula, nervis primariis vix manifestis; petiolo \pm 2 mm. longo albo-villosulo; floribus solitariis in axillis foliorum superiorum dispositis; pedunculis 5–8 mm. longis, adpresse breviter pilosis; calyce adpresse breviter piloso consperse glanduloso, tubo campanulato 2 mm. longo, lobis 5 circiter 1.5 mm. longis obtusis; petalis 5 subrotundatis circiter 5 mm. diametro glabris consperse glandulosis; staminibus brevibus numerosis pluriserialibus, filamentis in connectivum confluentibus vix infra antheras dilatatis dein in apicem liberum productis, connectivo extus consperse glanduloso; ovario 3-loculari, stylo \pm 4 mm. longo basi pubescente; stigmatibus subglobosis vix quam stylo latiore; fructibus subglobosis immaturis.

BRITISH NEW GUINEA: Central Division, Mount Tafa, *Brass* 4101 (TYPE) May–September 1933, alt. 2300 m., plentiful in mossy forest (virgate tree up to 5 m.; leaves yellowish green, nerves obscure and midrib impressed above; flowers white, later pink).

This species and *M. Brassii* have very similar flowers but they are amply distinct in their vegetative characters.

Xanthomyrtus Diels

The specific lines in this genus may appear to be more clearly cut when more material has been collected. The key-character, 2-loculed and 3-loculed ovary, is without value as both may occur on the same plant.

Xanthomyrtus fasciculata Diels, Bot. Jahrb. **57**: 363. 1922; Nov. Guin. **14**: 85. 1924; van Steenis Bull. Jard. Bot. Buit. III. **13**: 230. 1934.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass & Versteegh 10499*, October 1938, alt. 2700 m., frequent in forest (tree 16 m. high, 29 cm. diameter; bark brown, scaly; young fruit brown). BRITISH NEW GUINEA: Central Division, Mt. Tafa, *Brass 4039*, May 1933, alt. 2300 m., common in mossy forest (slender tree 5 m. tall, with dark flaky bark; leaves shining, black dotted beneath; fruit dark purple-red); same locality, *Brass 4892*, August 1933, alt. 2400 m., plentiful in ridge crest forest (small twiggy tree up to 7 m.; pale smooth obscurely nerved leaves; numerous small black fruit).

These specimens agree with the description of *Xanthomyrtus fasciculata* Diels except that the leaves are a little smaller ($2-3.5 \times 0.7-1.5$ cm., with acumen 0.7-1 cm. long) than in the type ($3.5-4.5 \times 1.6-2.2$ cm., with acumen 1 cm. long), and the inflorescence is longer pedunculate (4-6 mm., in contrast to 1-1.5 mm. in the original); in the material at hand the latter seems to be a variable character; further it might be noted that Stapf described the pedicels in *Myrtus flavida* as " $\frac{1}{2}$ -2 lin. longi, vel subnulli."

Xanthomyrtus rostrata sp. nov.

Arbor; ramulis glabris minute pustulatis; foliis magnis tenuiter coriaceis petiolatis, petiolo 3-4 mm. longo, lamina 2.5-5.5 cm. longa 1.3-3 cm. lata, late elliptica basi obtusa, in laminis majoribus apice abrupte in acumen angustum (0.8-1.3 cm. longo) excurrente, in minoribus apice acutiuscula, margine paululo recurva subtus copiose minute atro-glandulosa, costa supra paululo elevata subtus distincta, nervis primariis oblique adscendentibus atque vena intramarginali inconspicuis; cymulis glabris plerumque binis axillaribus pedunculatis, pedunculo ± 1 cm. longo, bracteis caducis; calycis tubo 2 mm. longo, lobis triangularibus acutiusculis 1.5 mm. longis basi circiter 1.5 cm. latis, petalis (uno tantum marcido viso) unguiculatis probabiliter 2.5-3 mm. longis; staminibus ± 25 ; ovario 2-loculari.

NORTHEASTERN NEW GUINEA: Matap, *Clemens 11131* (TYPE), February 1940, alt. 1500-1800 m. (tree with diameter 14 inches breast high; flower faded, base and segments dull wine-purple).

Although the specimen is somewhat fragmentary, we are unable to match it with either material or descriptions. It is perhaps closest to *Xanthomyrtus polyclada* Diels, but the leaves are broadly elliptic, not lanceolate, and the entire specimen (including the new shoots) is glabrous.

Xanthomyrtus Schlechteri Diels, Bot. Jahrb. **57**: 364. 1922; van Steenis, Bull. Jard. Bot. Buitenz. III. **13**: 231. 1934.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass & Versteegh 10491*, October 1938, alt. 2680 m., frequent in forest of valleys, (tree 12 m. high, 25 cm. diameter; bark brown, fairly smooth; fruits yellow-green); 18 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 12504*, February 1939, alt. 2080 m., occasional in primary forest on slope of ridge (tree ± 17 m. high, 43 cm. diameter; bark brown, scaly; fruit green); 6 km. southwest of Bernhard Camp, Idenburg River,

occasional subsidiary tree on steep slopes (\pm 15 m. high, 20 cm. diameter; flowers yellow).

The original description of this species, based on Schlechter's collection from the Finisterre Mountains, seems to fit the above cited specimens reasonably well. Previously known only from the type-material.

Xanthomyrtus longicuspis Diels, Bot. Jahrb. **57**: 364. 1922; Nov. Guin. **14**: 85. 1924; Lane-Poole, Rep. For. Res. Papua 128. 1925; Lam, Nat. Tijdschr. Nederl.-Ind. **89**: 91, 138. 1929; van Steenis, Bull. Jard. Bot. Buitenz. III. **13**: 231. 1934.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, Brass 12971, February 1939, alt. 1300 m., subsidiary tree (15 m. high; leaves very convex; flowers yellow).

Xanthomyrtus longicuspis var. **fruticosa** Diels, Bot. Jahrb. **57**: 364. 1922; Nov. Guin. **14**: 85. 1924.

NORTHEASTERN NEW GUINEA: Morobe District, Samanzing, Clemens 9290, November 1938, alt. 1650 m. (a whip-like shrub branched near the base; flowers bright yellow; terminal leaves reddish).

Previously recorded from Netherlands New Guinea.

Xanthomyrtus scolopacina (Ridley) Diels, Bot. Jahrb. **57**: 365. 1922.

Eugenia scolopacina Ridl. Trans. Linn. Soc. Bot. II. **9**: 49. 1916.

NETHERLANDS NEW GUINEA: 18 km. southwest of Bernhard Camp, Idenburg River, Brass 12631, February 1939, alt. 2150 m., mossy forest, a common subsidiary tree and one of the chief components of stunted scrubs on an exposed summit (tree 2-12 m. high; leaves convex, fruit purple-black).

We have recorded our scanty material of *Xanthomyrtus longicuspis* var. *fruticosa* Diels and *X. scolopacina* (Ridl.) Diels with the hope that someone with access to some of the duplicates and authentic type-material will kindly point out the essential differences between them, if any. *Xanthomyrtus longicuspis* Diels appears to be readily distinguishable by the long caudate acumen of the leaf. This is not quite so long in var. *fruticosa* Diels, and furthermore the branchlets are very slender. In the specimen assigned to *X. scolopacina* (Ridl.) Diels, the branchlets are a little stouter than in *X. longicuspis* var. *fruticosa* Diels, but both have very short axillary inflorescences and the leaves are very much alike; in *X. scolopacina* (Ridl.) Diels, however, the leaves, although in part pointing forward, are predominantly reclinate, a character emphasized by Diels in the description of *X. Pullei* Diels. Further material to show variation, in addition to access to the types, would be most helpful in any attempt clearly to define the species and variety here involved.

Xanthomyrtus lanceolata sp. nov.

Arbor 14 m. alta; ramulis novellis albo-villosis, vetustis cinereis glabratiss; foliis novellis parce albo-villosis interdum cito glabratiss vel demum glabratiss petiolatis, petiolo 2-3 mm. longo \pm villosulo vel glabrato, lamina coriacea 2.5-5.5 cm. longa 0.7-1.7 cm. lata, basi obtusa vel rotundato-cuneata apice anguste acuminata, acumine 0.7-1.5 cm. longo, margine non recurva, utrinque glabrata vel subtus consperse villosula, costa utrinque prominula, nervis primariis atque vena intramarginali inconspicuis; floribus non visis; baccis parce pubescentibus solitariis axillaribus \pm 3.5 mm. diametro, calycis lobis (1.5 mm. longis vix 1.5 mm. latis) coronatis, breviter pedunculatis vel subsessilibus.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh 11109* (TYPE), November 1938, alt. 2250 m., occasional in primary forest (tree 14 m. high, 32 cm. diameter; bark scaly, slightly fissured; fruits greenish brown).

In the size, shape and indument of the leaves, this species suggests *Xanthomyrtus polyclada* Diels, although in the latter the leaves are described as chartaceous. In our species the leaves are coriaceous and it seems worth mentioning that this is the only species we have seen in which the glands of the leaves are obscure; the fruit, nevertheless, is surely that of *Xanthomyrtus*. The almost sessile single fruits might indicate that this species is related to *X. longicuspis* Diels. Flowering material is needed to clarify its position in the genus.

Xanthomyrtus flavida (Stapf) Diels; Merr. Sarawak Mus. Jour. **3**: 533. 1928; van Steenis Bull. Jard. Bot. Buitenz. III. **13**: 230. 1934.

Myrtus flavida Stapf in Hook. Ic. **23**: t. 2290. 1894; Trans. Linn. Soc. Bot. II. **4**: 151. 1894.

BRITISH NEW GUINEA: Central Division, Mt. Tafa, *Brass 4036*, May 1933, alt. 2300 m., common in mossy forest (erect tree 12–15 m. tall; leaves aromatic, upper side glossy, punctate and paler beneath; old leaves red; calyx purple).

This collection compares favorably with the larger-leaved specimens of *Xanthomyrtus flavida* (Stapf) Diels from Borneo. The younger branchlets, petioles, and midrib on the lower surface of the leaves are short-villous, the leaf-blade tends to be more concave and the margins more recurved than in the Bornean species, and the glands on the lower surface are a little larger and more irregularly placed in the New Guinea material. The fruits have 26–30 stamens still clinging to them and about the same number of seeds as in the Bornean collections. At present we cannot see sufficient differences to separate *Brass 4036* from the Bornean species.

Xanthomyrtus cardiophylla sp. nov.

Frutex 1.5 m. altus epiphyticus; ramulis minute pustulatis apice tantum albido-pubescentibus; foliis coriaceis magnis breviter petiolatis, petiolo 1–1.7 mm. longo atrofusco, lamina cordato-ovata, 3.7–7 cm. longa, 2–4.2 cm. lata, apice acutiuscula vel \pm abrupte breviter obtuseque acuminata, acumine 0.5–0.8 cm. longo, margine leviter recurva, glabra supra punctulata subtus minute glandulosa, costa utrinque prominula, venis primariis manifestis oblique patentibus, venis intramarginalibus duplicibus prominulis cujus exteriore superne evanescente; cymulis singulis vel binis axillaribus terminalibusque interdum in internodio dispositis pedunculatis, pedunculo 1–2 cm. longo parce adpresse piloso leviter pustulato; bracteis basi tubi calycini ellipticis vel ovatis \pm 3 mm. longis 2 mm. latis (in cyma una usque 1 cm. longis 0.7 cm. latis); calycis tubo parce pilosulo vel glabro 2–2.5 mm. longo, lobis triangularibus 1–1.5 mm. longis basi 1.5 mm. latis; petalis breviter unguiculatis 2 mm. longis 1.5 mm. latis; staminibus \pm 25, filamentis circiter 2 mm. longis; ovario 2-loculari; baccis \pm 8 mm. diametro.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13452* (TYPE), March 1939, alt. 850 m., rain-forest (stiff shrub 1.5 m. tall, epiphytic on a tall tree; flowers yellow; fruit soft, black).

This is the only species we have noted with distinctly cordate and prac-

tically sessile leaves. The venation too is rather striking; toward the base of the leaf the two intramarginal nerves are almost as prominent as the midrib, and sometimes there is a third outside of these very close to the margin and very faint, but only the inmost one continues to the apex while the other gradually approaches the margin and fades near the middle of the leaf; the primary veins are easily seen but are not so prominent as the midrib and the intramarginal ones.

Diels has described one species as epiphytic(?). Its broadly ovate leaves are 1–1.5 cm. long and 0.5–1 cm. wide. He does not mention the shape of the base of the leaf, but the flower is somewhat smaller than in our specimens and has only about half the number of stamens; although the latter is a variable character, without authentic material for comparison we could not possibly fit our plant with the description of *Xanthomyrtus bryophila* Diels.

***Xanthomyrtus cardiophylla* var. *parvifolia* var. nov.**

A forma typica differt foliis 1.8–4 cm. longis 0.9–2.4 cm. latis, cymulis 1-floris, pedunculis usque 1 cm. longis.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass* 12057 (TYPE of var.), January 1939, alt. 1800 m., mossy forest, abundant as an epiphyte on high trees (slender shrub 1–1.5 m. high; flowers yellow; fruit black, fleshy).

***Xanthomyrtus humilis* sp. nov.**

Frutex humilis 1 m. altus; ramulis leviter pustulatis novellis adpresse pubescentibus; foliis interdum reclinatis coriaceis petiolatis, petiolo 1–1.5 mm. longo primo pubescente demum glabrato, lamina 1–1.7 cm. longa, 0.5–1 cm. lata, ovata vel elliptico-ovata apice abrupte breviter ac obtuse acuminata, acumine 2–3 mm. longo, basi obtusa vel rotundata, margine recurva vel interdum revoluta novella utrinque pilosula vetusta supra glabra punctata subtus praecipue costa \pm pilosula glandulosa, costa supra impressa subtus prominenti, nervis primariis in lamina novella \pm prominulis invetusta inconspicuis; inflorescentiis axillaribus terminalibusque interdum in internodio locatis; floribus in dichasiis simplicibus (cymis ultimis 1–3-floris) dispositis, dischasiis ramis basi bracteatis, vel floribus solitariis; pedunculo usque 3 mm. longo pubescente; bracteis basi floris linearibus pubescentibus quam calycis tubo brevioribus; calycis tubo parce pubescente 2 mm. longo, lobis anguste triangularibus 1.5–2 mm. longis 1 mm. latis extus glabris vel consperse pilosulis; petalis vix 3 mm. longis breviter unguiculatis; staminibus \pm 20, filamentis circiter 4 mm. longis; ovario 2-loculari; placentis circiter 12-ovulatis; baccis \pm 5 mm. diametro.

NETHERLANDS NEW GUINEA: Balim River, *Brass* 11784 (TYPE), December 1938, alt. 1700 m., abundant on stony grassless hillsides (low spreading, sometimes scrambling shrub 1 m. high; flowers yellow; fruit black, fleshy).

Perhaps this species is related to *Xanthomyrtus Pullei* Diels. The flowers of *X. humilis* Merr. & Perry are larger, the leaves are broader, and only a part of them are reclinate, the others being spreading or ascending. In size and outline, the leaves correspond very well to the description of those of *X. bryophila* Diels, but this has a much smaller flower than our species. This is the only species of the genus we have seen with a branching inflorescence.

***Xanthomyrtus papuana* sp. nov.**

Arbor 12–20 m. alta; ramulis numerosis \pm pilosis atque dense verruculosus; foliis petiolatis, petiolo 2–3 mm. longo glabro vel piloso, lamina tenuiter coriacea 1.1–1.6(–2) cm. longa 0.7–0.9(–1.2) cm. lata elliptica basi cuneata apice obtusa margine valde recurva interdum revoluta, novella villosula cito glabrata, vetusta glabra vel subtus costa praecipue interdum basim versus laminae consperse pilosa, supra olivacea subnitida subtus brunnescente dense minuteque glandulosa, costa utrinque prominula, nervis primariis inconspicuis subtus interdum manifestis; cymulis 1–3-floris axillaribus terminalibusque pedunculatis, pedunculo 4–10 mm. longo \pm villosulo, bracteis basi calycis tubi linearibus \pm pilosis; calycis tubo 2 mm. longo villosulo, lobis extus glabris anguste triangularibus 2 mm. longis basi 1 mm. latis; petalis 3 mm. longis 1.5 mm. latis unguiculatis; staminibus 20–25, filamentis \pm 5 mm. longis; ovario 2–3-loculari; baccis late globosis circiter 5 mm. diametro, calycis lobis coronatis.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass* 10584, October 1938, alt. 2800 m., common in forest substage (tree 18–20 m. high; leaves convex and margins recurved; flowers yellow); same locality, *Brass* 10652 (TYPE, fls.), 10653 (fr.), October 1938, alt. 2900 m., mossy forest of ridges (slender substage tree to \pm 12 m. high; leaves convex, the margins much recurved; flowers yellow).

From the descriptions of the Papuan species of *Xanthomyrtus*, we believe *X. papuana* to be more like the Philippine *X. diplycosifolia* (C. B. Rob.) Merr. (including *X. aurea* (Elm.) Merr., which we are now inclined to believe cannot be maintained as a distinct species) than any of the Papuan ones. It differs in the revolute character of the leaves, the more pubescent inflorescences, and the longer narrower calyx-lobes.

Two collections from Northeastern New Guinea probably belong here, but we cannot be sure of the determination of almost sterile material: Sarawaket, *Clemens* 5588, 5755, March and April 1937, leaves and a single detached fruit.

***Xanthomyrtus papuana* var. *parviflora* var. nov.**

A forma typica differt partibus novellis parce pubescentibus, floribus paululo minoribus, calycis tubo 1.5 mm. longo, lobis 1.5 mm. longis, staminibus 15–25; foliis 0.8–1.7 cm. longis, 0.3–0.9 cm. latis.

BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass* 4521, 4573 (TYPE of var.), 4629, July 1933, alt. 2840 m., common in forests (compact dense foliated tree up to 7–8 m. with flaky brown bark, profuse bright yellow flowers, smooth shining purple fruit. Fruit of 4521: black, soft, 5 mm. diameter).

In this material from Murray Pass, on both the new growth and the inflorescence, the trichomes are shorter and more sparse than in the collections from Lake Habbema region; the flowers and also the leaves are a little smaller. It does not seem, however, from the specimens at hand, that more than one species is represented.

***Xanthomyrtus Dielsiana* sp. nov.**

Frutex vel arbor parva; ramulis numerosis verruculosus novellis albo-pubescentibus; foliis parvis confertis coriaceis petiolatis, petiolo 1–1.5 mm. longo, lamina 4–6(–9) mm. longa 2.5–4 mm. lata anguste ovata vel lanceolato-elliptica, apice obtusa basi rotundata vel obtusa, margine revoluta interdum tantum valde recurva, novella apicem versus ramulorum

pilosula mox glabrata, supra interdum punctulata subtus glandulosa, costa supra impressa subtus \pm inconspicua, nervis primariis obscuris; cymulis trifloris vel floribus solitariis in axillis foliorum superiorum dispositis interdum subterminalibus basi bibracteolatis, bracteolis lineari-oblongis pilosulis calycis tubo subaequilongis vel brevioribus; calycis tubo extus pilosulo intus consperse pilosulo 2–2.5 mm. longo, lobis anguste triangularibus 2–2.5 mm. longis basi 1–1.5 mm. latis; petalis luteis conspicue unguiculatis \pm 4 mm. longis 3 mm. latis; staminibus \pm 27, filamentis circiter 5 mm. longis, antheris parvis; ovario 2-(interdum 3-) loculari; placentis circiter 12-ovulatis; baccis \pm 5 mm. diametro.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9018, 9269 (TYPE), 9462, August 1938, alt. 3225 m., the principal tree or shrub on drier peaty ridges (2–3 m. high; branches upright; flowers yellow); 7 km. northeast of Wilhelmina-top, *Brass & Myer-Drees* 9625, 9904, September 1938, alt. 3560 m., subalpine forest (tree 5–10 m. high; bark when not covered with moss peeling in brittle brown flakes; corolla, anthers and stigma dark yellow; fruit blackish blue); 11 km. northeast of Wilhelmina-top, *Brass & Myer-Drees* 9641, September 1938, alt. 3400 m., subalpine forest (6 m. high; fruit dark blue); 2 km. east of Wilhelmina-top, *Brass & Myer-Drees* 10125, September 1938, alt. 3800 m., common on creviced faces of sandstone (dwarfed tree 1–2 m. high; leaves convex; flowers yellow; fruit black, fleshy); same locality, *Brass & Myer-Drees* 10377, September 1938, alt. 3700 m., edge of subalpine forest (shrub with leaves somewhat whitish beneath; ripe fruit dark blue); 6 km. northeast of Lake Habbema, *Brass* 10665, October 1938, alt. 3000 m., shrubberies on a peaty depression in forest (subprostrate shrub; flowers yellow).

In the dried specimens this species has a distinct habit. In all but three numbers (10125, 10377, 10665) the leaves are so strongly revolute that only a narrow strip of the lower surface is visible, and the upper part of the branchlets appears greyish or whitish, owing to the very fine pubescence on both leaves and branchlets. This pubescence at length disappears, as it is not present on the older parts, yet it can hardly be considered to be quickly evanescent, as it occurs on some branchlets bearing fruits. In nos. 10125 and 10377, the leaves are somewhat revolute or have strongly recurved margins, superficially suggesting *Xanthomyrtus arfakensis* (Gibbs) Diels, as represented by *Kanehira* 13565 from the Angi Lakes. The flowers of the latter, however, are readily distinguished from those of our species by the shorter and more rounded calyx-lobes and also by the glabrous character. Among the species described by Diels, *X. Dielsiana* seems to share in some of the characters of both *X. linnaeifolia* and *X. calytrichoides*. The flowers of *X. linnaeifolia* Diels are smaller than those of our species. The latter differs from *X. calytrichoides* Diels in the constantly pubescent tips of the branchlets, the somewhat narrower leaves with revolute rather than recurved margins, and the occurrence of the inflorescences only occasionally at the apex of the branchlets although always to be found on the upper part. The flowers occur both singly and in cymes, sessile in the axils of the leaves or on peduncles up to 5 mm. long.

Xanthomyrtus Klossii (Ridl.) Diels, Bot. Jahrb. **57**: 366. 1922; Nov. Guin. **14**: 86. 1924; Lam, Nat. Tijdschr. Nederl.-Ind. **89**: 72. 1929; van Steenis, Bull. Jard. Bot. Buitenz. III. **13**: 230. 1934.

NETHERLANDS NEW GUINEA: 9 km. northeast of Lake Habbema, *Brass* 10521, October 1938, alt. 2850 m., mossy forest, common on crests of ridges (tree 5–7 m.

high; branches horizontal; flowers yellow); same locality, *Brass* 10523 (immature fruit); same locality, *Brass* 11001, October 1938, alt. 2900 m., very abundant in open stunted mossy forest of crests (shrub or low flat tree 1–3 m. high).

These specimens agree reasonably well with Diels' somewhat amplified description of this species. In *Brass* 10521 the leaves are a little larger (6–14 mm. \times 4–6 mm.) than either Diels or Ridley describe them, but the specimen is surely conspecific with the others cited here. Ridley indicates no variation at all in the leaf-size (5 mm. \times 3 mm.).

Xanthomyrtus Klossii (Ridl.) Diels var. ***brevipedunculata*** Diels, Nov. Guin. **14**: 86. 1924; Lam, Nat. Tijdschr. Nederl.-Ind. **89**: 72, 87, 101, 132, 134, 135. 1929.

NETHERLANDS NEW GUINEA: Lake Habbema, *Brass* 9074, August 1938, alt. 3225 m., prostrate on mossy or lichen-covered ground, also on open boggy grassland (flowers yellow; fruit black, fleshy); 6 km. northeast of Lake Habbema, *Brass* 10664, October 1938, alt. 3000 m., prostrate on an open peaty depression in forest.

The tips of the younger branchlets and sometimes the petioles are sparsely pilose. On the same specimen there are flowers with both 2- and 3-loculed ovaries.

Xanthomyrtus exigua sp. nov.

Arbor parva 1.5–5 m. alta; ramis ultimis tenuiter ramulosis, ramulis numerosis \pm villosulis; foliis prima juventute albido-villosis cito glabratibus demum glabris, coriaceis, in sicco supra atrofusces vel olivaceis subtus brunnescentibus petiolatis, petiolo circiter 1 mm. longo \pm villosulo, lamina \pm deorsum reclinata ovata vel lanceolato-elliptica, 3–7 mm. longa, 2–4 mm. lata, basi rotundata apice obtusa margine non recurva supra leviter punctulata subtus glandulosa, costa supra leviter impressa subtus manifesta, nervis primariis atque venis inconspicuis; floribus parvis axillaribus terminalibusque breviter pedunculatis, pedunculo 1–2 mm. longo villosulo; bracteis linearibus obtusis calycis tubum paululo superantibus; calyce \pm villosulo, tubo 1 mm. longo, lobis triangularibus acutiusculis vix 1 mm. longis basi totidem latis; petalis vix 2.5 mm. longis 1.5 mm. latis unguiculatis; staminibus \pm 10, filamentis 1.5–2 mm. longis; ovario 2-loculari.

NETHERLANDS NEW GUINEA: 18 km. southwest of Bernard Camp, Idenburg River, *Brass* 12452 (TYPE), February 1939, alt. 2150 m., mossy forest, common as a substage tree in open forest and one of the chief components of low scrubs on an exposed summit (1.5–5 m. high; young leaves very pale pubescent; flowers yellow).

Among the *Xanthomyrtus* species described by Diels this seems to be close to *X. linnaeifolia*. The latter has pustulate branchlets, a character which, if present in *X. exigua*, is concealed by the pubescence of both younger and older branchlets. The pubescence on the leaves is more evanescent and may entirely disappear, leaving the leaf glabrous or in the intermediate stage conspersely pilose with a barbate apex. The leaf-margin is not at all recurved. The small pubescent flowers are inconspicuous but mostly single and axillary toward the upper part of the branchlets.

***Eugenia* Linnaeus**

We have found only one species of *Eugenia sensu strictu* in the collection. As yet, we are not quite sure of the status of *Jossinia* Comm. and whether or not it is separable from *Eugenia* Linn. When working on the Bornean material, we borrowed a number of specimens from the Kew Herbarium in

the hope of settling the question in our own minds, but much more ample material is needed to make the decision. Diels has pointed out that *Jossinia* is much more like the American *Eugenia* than either *Jambosa* or *Syzygium*, but unfortunately does not specify how they differ. There are, in the collections of New Guinean material available, only two species which belong to *Jossinia* in the strict sense of the term; these we are omitting for the present.

***Eugenia Brassii* sp. nov.**

Arbuscula 1.5–4 m. alta; ramulis teretibus cinerascentibus novellis compressis brunnescentibus; foliis chartaceis vel tenuiter coriaceis in sicco supra olivaceis subtus pallidioribus minutissime atro-glandulosis, oblongis vel subovatis vel oblongo-ellipticis, 4–12.5 cm. longis, 1.5–4(–6) cm. latis, basi obtusis vel rotundato-cuneatis apicem versus angustatis apice obtusiusculis margine vix recurvatis, costa supra plana vel leviter canaliculata subtus prominula, nervis primariis compluribus utrinque exigue manifestis irregularibus in venam intramarginalem 1.5–3 mm. a margine confluentibus; petiolo circiter 5 mm. longo; inflorescentiis racemoso-cymosis usque 5-floris axillaribus saepius fasciculatis, pedunculo brevissimo \pm 3 mm. longo, rhachi usque 7 mm. longa, pedicellis \pm 3 mm. longis; alabastris circiter 5 mm. longis, apice 3 mm. diametro, parte infera clavata vel anguste subcampanulata supera subglobosa; calycis lobis 4 rotundatis exterioribus 1.5–2 mm. longis quam interioribus paullo minoribus; petalis 4 late oblongis singillatim deciduis; staminibus numerosis \pm 3 mm. longis, antheris vix 1 mm. longis oblongis; stylo circiter 4 mm. longo, stigmate peltato; fructibus oblongis \pm 1.5 cm. longis, 1 cm. diametro, apice vix umbilicatis, calycis lobis deciduis.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7474, August 1936, occasional in rain-forest undergrowth (tree 3–4 m. high; fruit black, fleshy, solitary or paired in axils); Tarara, Wassi Kussa River, *Brass* 8429 (TYPE), December 1936, undergrowth in light rain-forest (weak near-tree 1.5–2 m. high; leaf-nerves obscure; flowers white).

In the fruit the cotyledons are grown so closely together as to appear as one. At first glance the flowering material might be taken for *Syzygium* Gaertn. On closer examination, however, a single inflorescence is never more than a short raceme. The stigmas are definitely peltate; in *Syzygium* they are punctiform.

***Acmena* De Candolle**

Acmena acuminatissima (Blume) Merr. & Perry, Jour. Arnold Arb. **19**: 12. 1938.
Myrtus acuminatissima Blume Bijdr. 1088. 1826.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh* 11142, November 1938, alt. 2400 m., common in primary forest (tree 31 m. high, 52 cm. diameter; bark black, scaly; young fruit rose).

The brittleness and the general aspect of this collection is very similar to that of some Philippine collections of *Acmena acuminatissima* (Bl.) Merr. & Perry. This material seems to have no characters by which we might separate it from this species ranging from China to the Solomon Islands.

Acmena polyantha (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. **19**: 11. 1938.

Xenodendron polyanthum Lauterb. & K. Schum. in K. Schum. & Lauterb, Fl. Deutsch. Schutzgeb. Südsee 461, t. 16. 1900; Diels, Bot. Jahrb. **57**: 415. 1922.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 7977, rain-forest, common on ridges (substage tree; flowers white, produced in great abundance). NORTHEASTERN NEW GUINEA: Sattelberg, *Clemens* 1086, 1750, alt. 900 m.

The leaves in the Fly River collection are a little larger than those of plants from the higher altitudes, and some of them are less acuminate, but this is probably only a variation within the species.

Acmena laevifolia (Ridl.) Merr. & Perry, Jour. Arnold Arb. **19**: 18. 1938, vel aff.
Eugenia laevifolia Ridl. Trans. Linn. Soc. Bot. II. **9**: 48. 1916.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh* 11131, November 1938, alt. 2400 m., rare in primary forest (tree 20 m. high, 43 cm. diameter; bark fairly smooth, black; flowers white).

This collection differs from Ridley's description chiefly in having smaller leaves (about 7 cm. long and 2.5 cm. wide) with rounded-cuneate base. Possibly it is a distinct species, but the specific lines in the genus are difficult to define, hence it seems best to wait for more material to accumulate.

Acmena hemilampra (F. v. Muell. ex F. M. Bail.) Merr. & Perry, Jour. Arnold Arb. **19**: 15. 1938.

Eugenia hemilampra F. v. Muell. ex F. M. Bail. Synop. Queensl. Fl. Suppl. **1**: 23. 1886.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7766, September 1936, rain-forest (canopy-tree attaining 30 m.; soft suberose scaly brown bark; flowers white), 7941, common in light fringing rain-forests (tree 14–15 m. high; flowers white); Gaima, Lower Fly River, *Brass* 8283, common in rain-forests (profusely flowering canopy-tree; bark brown, thick, hard, deeply fissured, red when cut; flowers and fruit white).

These collections scarcely differ from the Australian material of this species except that the leaves are obtuse, hardly any of them showing the obtuse acumination found in most (but not all) Australian collections; the new branchlets are sulcate but quickly become terete.

***Syzygium* Gaertner**

Although the material here considered under *Syzygium* Gaertn. is highly diverse, we have found no basis for changing the concept of the genus as presented in our study of the Bornean species of *Syzygium*. The other genera we have accepted conventionally. *Syzygium* is the largest one represented in New Guinea, and, knowing the general practices, on the one hand to divide the material into *Jambosa* DC. and *Syzygium* Gaertn., and on the other to mass all under *Eugenia* Linn., we have again reconsidered our position. It had been suggested to us that the fruits of *Jambosa* DC. are soft and fleshy, whereas those of *Syzygium* Gaertn. are hard even when ripe. We have tried to break our collection on that basis, only to find a collection from the Solomon Islands with flowers of *Jambosa* but with the pericarp of the dried fruit so full of fibres that we had to cut it with a saw in order to examine the structure of the seed. Many fleshy fruits are crowned by very short calyx-lobes and very narrow staminal disks. Furthermore, in a half grown condition it would not be easy to distinguish fleshy from firm fruits without some supporting characters. We have not space to enumerate all the interesting variations we have seen for the first

time in this material, but in spite of these we have failed to locate any really fundamental differences which might form the basis of generic distinction for *Jambosa* and *Syzygium*. We have found only two Malaysian species in the collection.

In order to make our list of names reasonably complete for reference, we merely note that in addition to the species represented or mentioned in comments in our paper, we have no additional material of ***Syzygium hylochare*** (Diels) comb. nov. (*Jambosa hylocharis* Diels, Jour. Arnold Arb. **10**: 83. 1929); ***Syzygium najadum*** (Diels) comb. nov. (*Jambosa najadum* Diels, op. cit. 82); ***Syzygium Sargentianum*** (Diels) comb. nov. (*Jambosa Sargentiana* Diels op. cit. 83); ***Syzygium lagynocalyx*** (Diels) comb. nov. (*Jambosa lagynocalyx* Diels, Bot. Jahrb. **57**: 394. 1922); ***Syzygium trachyanthum*** (Diels) comb. nov. (*Jambosa trachyantha* Diels, op. cit. 394). We have small photographs of ***Syzygium garcinioides*** (Ridl.) comb. nov. (*Eugenia garcinioides* Ridl. Trans. Linn. Soc. Bot. II. **9**: 44. 1916); ***Syzygium monetarium*** (Ridl.) comb. nov. (*Eugenia monetaria* Ridl. op. cit. 49); ***Syzygium subalatum*** (Ridl.) comb. nov. (*Eugenia subalata* Ridl. op. cit. 44); ***Syzygium Vandewateri*** (Ridl.) comb. nov. (*Eugenia Vandewateri* Ridl. op. cit. 45); ***Syzygium Wollastonii*** (Ridl.) comb. nov. (*Eugenia Wollastonii* Ridl. op. cit. 47). The following species are not mentioned elsewhere in the article, nor are they represented in our herbarium: ***Syzygium cladopterum*** (Diels) comb. nov. (*Jambosa cladoptera* Diels, Bot. Jahrb. **57**: 391. 1922); ***Syzygium decoriflorum*** (Diels) comb. nov. (*Jambosa decoriflora* Diels op. cit. 396); ***Syzygium pachyanthum*** (Diels) comb. nov. (*Jambosa pachyantha* Diels, op. cit. 395); ***Syzygium phacelanthum*** (Diels) comb. nov. (*Jambosa phacelantha* Diels, op. cit. 390); ***Syzygium polyphlebium*** (Diels) comb. nov. (*Jambosa polyphlebia* Diels, op. cit. 391); ***Syzygium riparium*** (Diels) comb. nov. (*Jambosa riparia* Diels, op. cit. 389); ***Syzygium verniciflorum*** (Diels) comb. nov. (*Jambosa verniciflora* Diels, op. cit. 387); ***Syzygium xylopiaceum*** (Diels) comb. nov. (*Jambosa xylopiacea* Diels, op. cit. 392); ***Syzygium aeoranthum*** (Diels) comb. nov. (*Jambosa aeorantha* Diels, Nov. Guin. **14**: 90. 1924); ***Syzygium Bruynii*** (Diels) comb. nov. (*Jambosa Bruynii* Diels, op. cit. 92); ***Syzygium Thomseni*** (Diels) comb. nov. (*Jambosa Thomseni* Diels, op. cit. 91); ***Syzygium Rechingeri*** nom. nov. (*Jambosa micrantha* Rech. Rep. Sp. Nov. **11**: 183. 1912, non *S. micranthum* Bl.); ***Syzygium sabangense*** (Lauterb.) comb. nov. (*Jambosa sabangensis* Lauterb. Nov. Guin. **8**: 320. 1910); ***Syzygium dolichophyllum*** (Lauterb. & K. Schum.) comb. nov. (*Jambosa dolichophylla* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 471. 1900); ***Syzygium synaptoneurum*** (Lauterb. & K. Schum.) comb. nov. (*Jambosa synaptoneura* Lauterb. & K. Schum. in K. Schum. & Lauterb. op. cit. 475); ***Syzygium bibracteatum*** (Greves) comb. nov. (*Eugenia bibracteata* Greves, Jour. Bot. **61**: suppl. 18. 1923); ***Syzygium duplomarginatum*** (Greves) comb. nov. (*Eugenia duplomarginata* Greves, op. cit. 15); ***Syzygium merokense***

(Greves) comb. nov. (*Eugenia merokensis* Greves, op. cit. 16); **Syzygium niviferum** (Greves) comb. nov. (*Eugenia nivifera* Greves, op. cit. 19); **Syzygium pergamaceum** (Greves) comb. nov. (*Eugenia pergamacea* Greves, op. cit. 16); **Syzygium porphyrocarpum** (Greves) comb. nov. (*Eugenia porphyrocarpa* Greves, op. cit. 17); **Syzygium salpinganthum** (Greves) comb. nov. (*Eugenia salpingantha* Greves, op. cit. 19); **Syzygium sogerense** (Greves) comb. nov. (*Eugenia sogerensis* Greves, op. cit. 18); **Syzygium trichotomum** (Greves) comb. nov. (*Eugenia trichotoma* Greves, op. cit. 19); **Syzygium Warburgii** nom. nov. (*Eugenia glomerata* Warb. Bot. Jahrb. **13**: 390. 1891, non Lam. 1791); **Syzygium Bartonii** (F. M. Bail.) comb. nov. (*Eugenia Bartonii* F. M. Bail. Proc. Roy. Soc. Queensl. **18**: 2. 1903); **Syzygium LeHuntei** (F. M. Bail.) comb. nov. (*Eugenia LeHuntei* F. M. Bail. Queensl. Agric. Jour. **9**: 411. 1901). The last species may possibly be an *Acmena* but very few *Acmena* species have the leaves copiously glandular. We cannot be sure whether the two species, *Eugenia koikokoensis* Greves and *E. racemoides* Greves, belong to *Eugenia* or to *Syzygium*, nor are we willing to pass upon *Eugenia coalita* Greves without first examining the type. We suspect, however, that it is a *Syzygium*. *Syzygium ellipticum* Lauterb. & K. Schum. Fl. Deutsch. Schutzg. Südsee 476. 1900, type from New Guinea, which Diels, Bot. Jahrb. **57**: 367. 1922, indicates is a *Psidium*, is, from the description, nothing but the common pantropic guava, *Psidium guajava* Linn., and should be placed with the synonymy of the latter.

We have so many species represented that it has seemed to us they might be more easily located if they were broken up into a few groups by some superficial characters; hence, a very brief key is interspersed between groups of species which have some one character in common; we have not tried to group them together in any natural system; much more material would have to be examined before that could be done with any degree of confidence.

A. Bracts of the inflorescence subcoriaceous, apparently persistent.

Syzygium anomalum Lauterb. Nov. Guin. **8**: 853. 1912; Diels, Bot. Jahrb. **57**: 405. 1922.

NETHERLANDS NEW GUINEA: Hollandia, *Brass 9001*, July 1938, alt. 100 m., occasional in rain-forest substage (flowers small white; fruit red, about 8–10 mm. diameter); *Neth. Ind. For. Service bb.25052*, July 1938, alt. 50 m.

These collections are from the type-locality, but it seems worth while to record the color and size of the fruit as found in the field notes.

Syzygium bracteosum sp. nov.

Arbor usque 29 m. alta; ramis atro-cinereis; ramulis teretibus vel subcompressis brunnescentibus; foliis valde coriaceis in sicco brunneis vel olivaceo-viridibus supra consperse punctatis subtus manifeste reticulatis, ellipticis vel obovato-ellipticis, 4–10 cm. longis, 2.5–5.5 cm. latis, basi acutis vel cuneatis, apice obtuse acuminato recurvato, margine \pm recurvatis, costa supra impressa subtus elevata, nervis primariis utrinsecus \pm 10 supra indistinctis vel leviter aciculatis subtus prominulis subirregulariter dispositis 7–9 arcubus intramarginalibus a margine 3–4 mm. remotis conjunctis; petiolo 6–9 mm. longo supra canaliculato; inflorescentiis ter-

minalibus subcorymbosis \pm 4 cm. longis 6 cm. latis compacte multifloris, a basi ramosis bracteolatis, bracteolis persistentibus concavis subrotundatis circiter 2 mm. longis, alabastris immaturis obconicis 5 mm. longis 4 mm. diametro, calycis lobis exterioribus 1.5 mm. longis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass & Versteegh 11117*, November 1938, alt. 2300 m., rare tree of primary forest (24 cm. high, 31 cm. diameter; bark 5 mm. thick, white, scaly; flower buds red); 15 km. north-east of Lake Habbema, *Brass & Versteegh 11986* (TYPE), January 1939, alt. 1800 m., rare in primary forest (tree 29 m. high, 107 cm. diameter; bark 11 mm. thick, black-brown, scaly; flower-buds rose).

These collections, though not exactly in the same stage of development, appear to represent a single species perhaps allied to *Syzygium dictyoneurum* Diels or *S. Caroli* Diels, both of which are described as having chartaceous leaves. The collections here cited have strongly coriaceous leaves fairly smooth above but with obvious primary nerves and reticulations on the lower surface.

***Syzygium pallens* sp. nov.**

Arbor gracilis 4 m. alta; ramis teretibus; ramulis compressis fulvescentibus; foliis chartaceis in sicco supra olivaceo-viridibus subtus pallidioribus conperse minute atro-glandulosis oblongo-lanceolatis, 4.5–12.5 cm. longis, 1.4–3.5 cm. latis, utrinque angustatis basi acutis paullo decurrentibus, apice acuminatis, acumine \pm 1 cm. longo, costa supra impressa subtus prominula, nervis primariis numerosis oblique patentibus interdum fere subobscuris; petiolo \pm 1 cm. longo tenui supra canaliculato; paniculis terminalibus 1.5–2 cm. longis paucifloris (usque 12), rhachi atque ramis saepe rimulosis, ramis apice bibracteatis, bracteis concavis ovatis obtusis 1–1.5 mm. longis subpersistentibus; floribus parvis sessilibus plerumque apice ramorum solitariis; calycis tubo campanulato 2–3 mm. longo latoque, lobis 4 circiter 1 mm. longis; staminibus 3–4 mm. longis, filamentis basi annulato-connatis; fructibus non visis.

BRITISH NEW GUINEA: Central Division, Ononge Road, Dieni, *Brass 3936* (TYPE), May 1933, alt. 500 m., rain-forest (very slender tree 4 m. tall; dark smooth flat leaves, paler beneath; calyx red, petals and stamens white).

The species approaches the description of *Syzygium gyrostemoneum* Diels. Without authentic material for comparison we cannot say whether the two are identical or not. It is to be noted, however, that the collection before us is smaller in both foliage and flowers, the leaves are not cuspidate, and the venation is less obvious than that described by Diels.

***Syzygium papuasicum* sp. nov.**

Arbor usque 30 m. alta; ramis teretibus cortice rimosis; ramulis teretibus novellis sulcatis brunnescentibus; foliis chartaceis vel tenuiter coriaceis minute pellucido-punctatis in sicco supra nitidis atro-olivaceis subtus leviter pallidioribus minute atro-glandulosis, oblongo-ellipticis, 18–20 cm. longis, 6.5–8.5 cm. latis, utrinque sensim angustatis basi cuneatis vel subobtusis apice abrupte acuminatis, acumine \pm 1 cm. longo obtusiusculo, costa supra canaliculata subtus prominente, nervis primariis utrinsecus \pm 15 oblique adscendentibus in venam intramarginalem 2–3 mm. a margine arcuatim confluentibus supra leviter insculptis subtus prominulis, reticulo laxo inconspicuo; petiolo \pm 1.5 cm. longo; inflorescentiis e nodis defoliatis

ortis 10–20 cm. longis latisque, ramis valde divaricatis, rhachi ramis ramulisque subteretibus vel leviter compressis, bracteis parvis subpersistentibus; floribus basi bibracteatis sessilibus triadibus apice ramulorum, alabastris pyriformibus basi angustatis 4 mm. longis, 3 mm. diametro; calycis tubo 3 mm. longo latoque margine minute 4-lobato, sub lobis paullo constricto; staminibus circiter 5 mm. longis; fructibus non visis.

NETHERLANDS NEW GUINEA: Otakwa, *Neth. Ind. For. Service* bb.22092, January 1937. SOLOMON ISLANDS: Bougainville: Kieta, *Kajewski* 1544 (TYPE), March 1930, sea-level, common in rain-forest (large tree up to 30 m. high; calyx pink, stamens white, very showy).

This species is very much like the description of *Syzygium acutangulum* (K. Schum.) Niedenzu, except that the latter has very sharply 4-angled branchlets in both the vegetative and the reproductive parts of the plant.

Syzygium torricellianum Diels, Bot. Jahrb. **57**: 405. 1922.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh* 11934, January 1939, alt. 1740 m., occasional in primary forest (tree 32 m. high, 38 cm. diameter; bark reddish brown; flowers rose).

This collection fits the original description of *Syzygium torricellianum* Diels. Known previously only from the type-collection.

A. Bracts of the inflorescence various, mostly deciduous.

*B. Inflorescence mostly reduced to solitary flowers (also cymose in *S. saliciforme*).*

Syzygium callianthum sp. nov.

Arbor parva usque 6 m. alta; ramis cinereo-fuscescentibus; ramulis tetragonis brunnescentibus; foliis tenuiter coriaceis vix pellucido-punctatis subtus consperse minuteque glandulosis inconspicue reticulatis supra olivaceis vel brunnescentibus subtus pallidioribus fulvo-brunnescentibus oblongis vel anguste ellipticis, 8–15 cm. longis, 2.5–6 cm. latis, basi cuneatis vel obtusis apice subabrupte acuminatis, acumine 1–1.5 cm. longo 2 mm. lato obtuso, margine leviter recurvatis, costa supra canaliculata subtus elevata, venis primariis utrinsecus 13–20 supra insculptis subtus perspicuis subtransversis in venam intramarginalem perspicuam 2 mm. a margine distantem confluentibus; petiolo 2–5 mm. longo atrofusco; pedunculo vix 4 mm. longo, pedicello 7–11 mm. longo; floribus magnis terminalibus solitariis creberrime minuteque glandulosis; calycis tubo toto obtuso obconico-turbinato, 2.5–3 mm. longo: basi 5–8 mm. lato, dein 0.7–1 cm. longo, gradatim ampliato 1–1.5 cm. lato, supra valde aucto \pm 4 cm. lato, lobis 4 rotundatis exterioribus \pm 1 cm. longis, interioribus \pm 1.5 cm. longis; petalis 2.5 cm. longis 3 cm. latis, breviter unguiculatis; staminibus \pm 3 cm. longis, antheris 2 mm. longis; disco stamineo 4–5 mm. lato; fructibus ignotis.

BRITISH NEW GUINEA: Central Division, Mt. Tafa, *Brass* 4146 (TYPE), May 1933, common small substage tree in foot-hill forest (sparsely foliated and slender, up to 6 m. tall; leaves yellowish beneath; very showy flowers about 8 cm. diameter when fully open; sepals outside green tipped with red, inside red; petals red; filaments pink, anthers whitish).

This is a well marked species with tetragonous branchlets, leaf-venation strongly impressed above and prominent beneath, and very showy flowers. The flowers are about the size of those of ***Syzygium eximiflorum*** (Diels)

comb. nov. (*Jambosa eximiflora* Diels, Nov. Guin. **14**: 92. 1924), but they are not stipitate at the base, the leaves are not emarginate at the base, and the acumen is only about half as long as in the related species. Amongst the Malaysian material, this species shows some resemblance to *Eugenia johorensis* Ridl., but there are differences in both the branchlet- and the leaf-characters.

Syzygium Keysseri (Schlechter) comb. nov.

Jambosa Keysseri Schlechter in Diels, Bot. Jahrb. **62**: 485. 1929.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass* 11392, November 1938, alt. 2200 m., occasional in secondary forest (tree 3–5 m. high; flowers red with green stamens).

The type was collected on Mt. Sarawaket at 3000 m. altitude. The material here cited differs from the original description only in the size of the leaves (3–6 cm. long, 1.5–3 cm. broad), the diameter of the calyx-tube, and the size of the petals. This is probably owing to the two plants being in different stages of development. We should like to add that some of the leaves are obtuse at the apex and all are shallowly cordate at the base. The flower, including the filaments and the connective of the anther sacs, is copiously glandular.

Syzygium macrocalyx sp. nov.

Arbor vel frutex; ramulis teretibus vel leviter compressis; foliis coriaceis obscure reticulatis in sicco supra atro-brunnescentibus minute punctulatis subtus pallidioribus, ellipticis interdum paullo obliquis, 8.5–16 cm. longis, 3.5–7 cm. latis, basi cuneatis apice verisimiliter acuminatis (apice summo fracto) margine leviter revolutis, costa supra canaliculata subtus elevata, nervis primariis utrinsecus 11–17 oblique patentibus in venam intramarginalem \pm 3 mm. a margine distantem confluentibus supra manifestis subtus prominulis; petiolo \pm 5 mm. longo; pedunculo 5 mm. longo cras-soque; flore singulo terminali post anthesim obconico-campanulato, calycis tubo 3.5 cm. longo (incl. partem supra ovarium vix 1 cm. productam) basi 1 cm. apice 2.5–2.7 cm. lato, crasse longitudinaliter rugoso, lobis 5–9 mm. longis \pm 1 cm. latis, disco stamineo 3 mm. lato.

NORTHEASTERN NEW GUINEA: Morobe District, Sattelberg, *Clemens* 3078 (TYPE), April 1936, alt. \pm 1000 m.

We are unable to suggest the alliance of this species. The flower approaches that of **Syzygium Grevesianum** nom. nov. (*Eugenia pterocalyx* Greves, Jour. Bot. **61**: Suppl. 17. 1923) but the calyx-tube is not winged, though coarsely rugose, and the leaves are shorter and broader. The specific name *pterocalyx* has already been used in *Syzygium*.

Syzygium saliciforme sp. nov.

Arbor 3–4 m. alta; ramulis tenuibus sulcatis; foliis \pm confertis impel-lucidis chartaceis utrinque opacis supra olivaceis subtus leviter pallidioribus, lanceolatis, 6–14 cm. longis, 1–2 cm. latis, basi cuneatis vel acutis apice longe acuminatis, costa supra canaliculata subtus prominula, nervis primariis utrinsecus \pm 16 subpatentibus in venam intramarginalem \pm 2 mm. a margine confluentibus, reticulo obscuro; petiolo 2–5 mm. longo; cymis axillaribus 3–1-floris, 2.5–4 cm. longis, pedunculo 0.5–2 cm. longo; calycis tubo infero stipitato supero pyriformi 8 mm. longo includente

stipitem 3 mm. longum, lobis 4 circiter 1.5 mm. longis triangularibus obtusiusculis; petalis singillatim deciduis; staminibus \pm 1 cm. longis; fructibus stipitato-subglobosis.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 7243 (TYPE), July 1936, alt. 100 m., restricted to inundation banks of river (tree 3–4 m. high, with layered drooping branches; flowers pink; fruit soft, white, up to 2.8 cm. diameter).

On account of the two collections, *Brass* 7243 and 7244, which we have at hand, we are inclined to believe that this, rather than *Syzygium salicinum* (Ridl.) Merr. & Perry, is the species represented by *Jambosa salicina* Diels. This closely fits Diels's description and he does not mention the calyx-lobes; these are small enough to be overlooked in this species, but surely not in the other. However, the name is already pre-empted by Ridley's earlier use. Since we have not access to the original material, we have described the species as new. The matter cannot be settled definitely without a comparison with authentic material. The species also seems to be somewhere in the neighborhood of *Syzygium Daphne* (Ridl.) comb. nov. (*Eugenia Daphne* Ridl. Trans. Linn. Soc. Bot. II. 9: 45. 1916), but the leaves are not rounded at the base, the apex is distinctly long acuminate, and the pedicels are erect.

Syzygium salicinum (Ridl.) comb. nov.

Eugenia salicina Ridl. Trans. Linn. Soc. Bot. II. 9: 45. 1916.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 7244, July 1936, alt. 100 m., restricted to river inundation banks (tough low tree 2–3 m. high, with horizontal wide spreading branches; leaves very dark green; large solitary white flowers).

As nearly as we can judge from the photograph and the description of this species, *Brass* 7244 belongs here. Diels, Bot. Jahrb. 57: 390. 1922, described a *Jambosa salicina* which he later accepted as Ridley's species, Nov. Guin. 14: 91. 1924, the latter having been overlooked at the time of his earlier publication. We do not know whether he had seen the original of Ridley's species or not, but his description seems to us to suit better the material which we have described as *Syzygium saliciforme*. Since we are not sure of this without an opportunity to examine the original material, we are not placing *Jambosa salicina* Diels in our synonymy.

Syzygium soliflorum (Diels) comb. nov.

Jambosa soliflora Diels, Bot. Jahrb. 57: 393. 1922.

NORTHEASTERN NEW GUINEA: Yunzaing, *Clemens* 2954, 6436, March 1936, June 1937, alt. \pm 1350 m.

These collections fit Diels's description of this species very closely. In addition to the above we tentatively place here (noting differences) a collection from BRITISH NEW GUINEA: Mount Tafa, *Brass* 4910, August 1933, alt. 2400 m., valley forests (slender small tree with brown somewhat flaky bark and hard brown wood; dark smooth leaves pale beneath; solitary reddish flowers). The leaves are a little smaller, 2.5–6 cm. long, 1–2.5 cm. broad, the acumen is a little shorter and broader than in the collections from Northeastern New Guinea, in the dried specimens the lower surface

of the leaves is pale brownish rather than brownish green, and the primary veins are a little less conspicuous. There is scarcely any difference in the flowers except that *Brass* 4910 is copiously reddish gland-dotted whereas the Clemens collections are profusely supplied with yellowish or brownish glands. This may be owing to a different mode of drying. Both have sharply 4-angled branchlets on the new growth and greyish bark on the older branchlets.

The leaves are too small to place the specimens in *Syzygium tricolor* (Diels) comb. nov. (*Jambosa tricolor* Diels Bot. Jahrb. **57**: 393. 1922). On the other hand it is to be noted that the flower in these collections represents a reduced cyme as indicated in the description of *Syzygium tricolor*, since it is supported on a jointed peduncle and pedicel; however, the peduncle in this particular collection is very short.

Syzygium tympananthum (Diels) comb. nov.

Jambosa tympanantha Diels, Bot. Jahrb. **57**: 393. 1922.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh* 12573, February 1939, alt. 1300 m., rare in primary forest on slope of ridge (tree 23 m. high, 41 cm. diameter; bark red-brown; ripe fruit red); 4 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh* 13159, March 1939, alt. 800 m., common in secondary rain-forest on plain (tree 26 m. high, 42 cm. diameter; bark grey; fruit red). NORTHEASTERN NEW GUINEA: Yunzaing, *Clemens* 3976, 4077, August, September 1936, alt. 1350-1500 m.; Sattelberg, *Clemens* 1071, December 1935, alt. 1000-1200 m.

This species has a very distinctive fruit.

Syzygium uniflorum sp. nov.

Arbor parva 4-5 m. alta; ramis cinereis; ramulis brunnescentibus compressis; foliis tenuiter coriaceis novellis creberrime pellucido-punctatis supra olivaceis minute punctatis subtus pallidioribus creberrime minuteque glandulosis oblongis vel anguste lanceolatis, 4-8 cm. longis, 1-2.3 cm. latis, basi elongato-cuneatis apice caudato-rostratis, cauda \pm 1.5 cm. longa obtusa, costa supra canaliculata subtus prominula, nervis numerosis tenuibus oblique patentibus supra subobscuris subtus manifestis vix prominulis; petiolo circiter 2 mm. longo; floribus axillaribus solitariis, pedunculo 3-6 mm. longo, pedicello \pm 5 mm. longo; calycis tubo 7-10 mm. longo stipitato-turbinato crebre glanduloso hinc inde verruculoso, lobis 4 circiter 2 mm. longis 4 mm. latis exterioribus paullo minoribus; petalis singillatim caducis \pm 4 mm. longis subrotundatis glandulosis; staminibus 5 mm. vel ultra longis, filamentis glandulosis, antheris oblongis 1 mm. longis; stylo \pm 1.5 cm. longo; fructibus immaturis stipitato-subglobosis subverruculosis.

BRITISH NEW GUINEA: Central Division, Kubuna, *Brass* 5608 (TYPE), December 1933, alt. 100 m., river bed gravel banks (small tree 4-5 m. tall; flowers white; immature fruits rugose).

In the small leaves and the solitary flowers *Syzygium uniflorum* suggests *Syzygium Pilgerianum* (Lauterb. & K. Schum.) comb. nov. (*Jambosa Pilgeriana* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzg. Südsee 473. 1900), but it differs from the latter in the compressed rather than quadrangular branchlets, the inconspicuous venation of the leaves, and the somewhat verruculose flowers and fruits.

Syzygium vaccinioides sp. nov.

Arbor parva vel frutex; ramis \pm cinereis cortice desquamato; ramulis crebris brunnescentibus conspicue crispuleque 4-alatis saepe crebre glandulosis; foliis chartaceis pellucido-punctatis supra olivaceis subtus pallidioribus glanduloso-pustulatis ellipticis vel obovatis, 5–8 mm. longis, 3–5 mm. latis (semper quam latis longioribus), basi cuneatis apice obtusis, costa supra inconspicua subtus vix prominula, nervis primariis vix manifestis; petiolo 1 mm. longo; floribus solitariis axillaribus nitidis basi bibracteatis, bracteis circiter 3 mm. longis oblongis basi angustatis foliiformibus, pedunculo \pm 2.5 mm. longo alato; calycis tubo circiter 2.5 mm. longo obconico-campanulato supra dilatatum subquadrangulati, lobis 4 circiter 1 mm. longis rotundatis; petalis vix 1 mm. longis singillatim caducis; staminibus 9–11, filamentis \pm 0.5 mm. longis, antheris 0.4 mm. longis subrotundatis; fructibus usque 6 mm. diametro.

BRITISH NEW GUINEA: Central Division, Wharton Range, Murray Pass, *Brass 4515* (TYPE), July 1933, alt. 2840 m., forest borders (densely foliated small tree or bush of erect branching habit; aromatic; leaves concave, shining, paler and punctate beneath; solitary greenish white flowers; fleshy red fruit up to 6 mm. diameter).

This plant is very closely related to *Syzygium alatum* (Lauterb.) Diels. It differs in the elliptic or obovate leaves (always longer than broad), the crisped wings of the branchlets, and the slightly larger flower with obtuse calyx-lobes. The two fruits available for examination do not have seeds, but, as far as we can see at present, there is no reason not to accept the species as *Syzygium*.

Syzygium Versteegii (Lauterb.) comb. nov.

Jambosa Versteegii Lauterb. Nov. Guin. **8**: 321. 1910, l. c. 850. 1912; Diels, Bot. Jahrb. **57**: 391. 1922, Jour. Arnold Arb. **10**: 83. 1929; White, l. c. 252.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 12562*, February 1939, alt. 1200 m., occasional in primary forest (tree \pm 20 m. high, 40 cm. diameter; bark gray, scaly; fruit red). BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass 7694*, rain-forest substage tree growing close to water (10 m. high; leaves pale beneath; flowers large, glaring pink; fruit roughly oblong, \pm 9 \times 6 cm., found rotting on the ground); Lower Fly River, east bank opposite Sturt Island, *Brass 8019*, October 1936, rain-forest substage tree, occasional on flood-plains and low ridges (6–8 m. high, flowers pink).

In *Brass & Versteegh 12562* the primary veins are a little closer together than in the other numbers and possibly the petioles are slightly longer, but it seems to belong to this species.

B. Inflorescence various, flowers few or many, usually not solitary.

C. Flowers large, calyx-tube 8 mm. or more in diameter immediately below the calyx-lobes.

D. Inflorescence usually below the leaves at defoliated nodes or on the trunk.

Syzygium gonatanthum (Diels) comb. nov.

Jambosa gonatantha Diels, Bot. Jahrb. **57**: 384. 1922.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass & Versteegh 14106*, May 1939, alt. 75 m., in primary rain-forest on lower mountain slopes (tree 21 m. high, 43 cm. diameter; bark dark brown, scaly; flowers red).

As far as we can judge from Diels's very sketchy description, this collec-

tion may belong here. The leaves are a little smaller ($6.5-17 \times 2-6$ cm.) than in the type, the primary nerves are arcuate, barely, if at all, forming an intramarginal vein, and the petioles 1.5 cm. long. The secondary venation is obscure. The fully mature flowers are red rather than white; calyx-tube 1.2-1.5 cm. long, turbinate-obconic, about 1 cm. wide at the apex, at the base 2-2.5 mm.; inner calyx-lobes 5 mm. long, 7 mm. broad, petals ± 1 cm. long; stamens about 2 cm. long.

***Syzygium heterobotrys* sp. nov.**

Arbor 12 m. alta; ramulis teretibus brunnescentibus; foliis chartaceis impellucidis, in sicco supra atro-brunnescentibus subtus pallidioribus inconspicue reticulatis, ellipticis vel oblongo-ellipticis vel leviter obovato-ellipticis, 14-27 cm. longis, 4-10 cm. latis, interdum leviter obliquis utrinque fere aequaliter angustatis basi cuneatis apice breviter acuminatis, acumine ± 1 cm. longo basi ± 7 mm. lato obtusiusculo, costa supra canaliculata subtus elevata, nervis primariis utrinsecus 9-13 oblique adscendentibus 7-10 mm. a margine elongato-subarcuatis confluentibus supra manifestis subtus prominulis, vena submarginali secundaria ± 4 mm. a margine disposita; petiolo 1.5-2 cm. longo bicolore parte inferiore atrofusco crassiusculo subtereti, superiore pallidiore canaliculato; inflorescentiis caulifloris vel etiam in ramulis foliatis terminaliter dispositis, usque 13 cm. longis; pedunculo 2-8 cm. longo; floribus sessilibus in apice ramorum brevium (± 1.5 cm. longorum) vel plerumque in nodis 2-3 dispositis 5-7-verticillatis vel subverticillatis, nodis inter se 0.5-2.5 cm. remotis; calycis tubo basi 4-7 mm. stipitato sursum ± 1.2 cm. turbinato minute puberulo striato-ruguloso, lobis 4 circiter 3 mm. longis rotundatis; petalis 4 singillatim caducis; staminibus 1.5-2 cm. longis; fructibus ignotis.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8238 (TYPE), November 1936, rain-forest substage (profusely flowering cauliflorous tree 12 m. high; flowers also terminal on leafy branchlets; petals green; stamens yellow).

A very distinct species for which we cannot suggest any apparently close relative. The sparsely (if at all) branched inflorescences with the flowers in verticillate or subverticillate whorls at two or three nodes (terminal and below), the long-stipitate turbinate puberulent flowers, and the rather distinct primary veins, which are elongate-arcuate and confluent, forming an irregular intramarginal vein well within the margin of the leaf, are characters which make this species easily recognized.

***Syzygium laqueatum* sp. nov.**

Arbor 20 m. alta; ramis cortice cinereis; ramulis compressis vel obtuse subangulatis brunnescentibus; foliis impellucidis in sicco olivaceis utrinque manifeste reticulatis, ellipticis, 10-18 cm. longis, 5-10 cm. latis, basi subrotundatis apice (totis laesis) obtusiusculis (?), margine anguste recurvatis, costa supra plana vel basim versus leviter canaliculata subtus prominente, nervis primariis 6-9 patenti-adscendentibus marginem versus crebre anastomosantibus supra leviter elevatis subtus prominulis; petiolo 1.5 cm. longo; inflorescentiis e nodis defoliatis ortis, 4-9 cm. longis a basi ramosis, ramulis subangulatis; floribus pedicellatis vel sessilibus apice ramulorum articulatorum; calycis tubo elongato-obconico vel -turbinato, basi stipitato 1.3-1.5 cm. longo, lobis 4 late rotundatis exterioribus 3 mm. interioribus 5

mm. longis; petalis rotundatis 1 cm. longis; staminibus 1.5 cm. longis; fructibus immaturis.

NETHERLANDS NEW GUINEA: 18 km. northeast of Lake Habbema, *Brass & Versteegh 11157* (TYPE), November 1938, alt. 2350 m., rare in primary forest (tree 20 m. high, 43 cm. diameter; bark brown, scaly; flowers white; young fruit soft green).

This species shows some resemblance to *Syzygium pachycladum* (Lauterb. & K. Schum.) comb. nov. (*Jambosa pachyclada* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 474. 1900), but it has smaller leaves with conspicuous venation; there is no definite intramarginal vein, but the primaries are variously connected by anastomoses in a region just within the margin. The bracts of the inflorescence have already fallen.

The following two fruiting collections appear to be closely allied; we are not sure that they are conspecific: NETHERLANDS NEW GUINEA: 2 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13508*, March 1939, alt. 700 m., occasional on slopes of primary forest (tree 37 m. high, 86 cm. diameter; bark brown, scaly; fruit below the leaves, pyriform, 5 cm. long, 3 cm. diameter); 6 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13106*, March 1939, alt. 1170 m., occasional in primary forest (tree 31 m. high, 48 cm. diameter; bark grey, scaly; fruit on old growth, obliquely pyriform, dark red, 4 cm. long, 3.5 cm. diameter). In this complex also belongs *Brass & Versteegh 11956*, a sterile collection.

Syzygium Leonhardi (Diels) comb. nov.

Jambosa Leonhardi Diels, Bot. Jahrb. **57**: 384. 1922.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass 7323*, July 1936, alt. 100 m., peculiar to flood-plain forest (tree attaining 10 m.; foliage damaged by leaf-cutting insects; leaf-nerves impressed above, prominent below; fruit scattered along the stem, solitary, almost sessile, turgid, red, to ± 7 cm. diameter).

This collection has too many characters in common with the brief original description of the species to place it elsewhere without an actual examination of the type. It is to be noted, however, that the secondary venation of the leaves is manifest though not at all conspicuous.

Syzygium thalassicum sp. nov.

Arbor parva vel frutex altus; ramulis acute tetragonis anguste alatis rubro-brunnescentibus; foliis sessilibus coriaceis in sicco supra brunnescentibus subtus fulvo-brunnescentibus minute glandulosis inconspicue reticulatis oblongo-lanceolatis, 19–21.5 cm. longis, 7.5–8.5 cm. latis, basi cordatis apice obtuse acutis margine leviter recurvatis, costa supra impressa subtus elevata, nervis primariis utrinsecus ± 13 late patentibus in venam intramarginalem crenatam ± 5 mm. a margine distantem confluentibus, vena submarginali secundaria cum primaria subparallela 1–2 mm. a margine disposita; inflorescentiis completis non visis; floribus post anthesim pyriformibus minute glandulosis; calycis tubo circiter 2 cm. longo (incl. supra ovarium 4–5 mm. producto), apice 1 cm. lato; lobis 4 rotundatis, exterioribus ± 2 mm. longis, interioribus 5 mm. longis, 7 mm. latis; staminibus fractis; fructibus 3.5–4 cm. longis, ± 1.7 cm. diametro, minute glandulosis subleviter longitudinaliter rugosis pyriformibus vel

ellipticis basi stipitatis, stipite 6–7 mm. longo, apice calycis lobis conniventibus coronatis.

SOLOMON ISLANDS: Ulawa, *Brass* 2971 (TYPE), October 1932, common on ocean foreshores (small tree or tall shrub with a few stiffly spreading branches; peduncle and pedicels red; calyx-tube cream-colored, lobes pale pink; petals and stamens white; fruit red, rugose).

This species suggests *Syzygium goniopterum* (Diels) comb. nov. (*Jambosa gonioptera* Diels Bot. Jahrb. **57**: 391. 1922), and *Eugenia stelechanthoides* Kaneh. It appears to be distinct from both by the obtusely acute leaves and the larger pyriform flowers; the fruits too are not like those of the second species.

Syzygium pyriforme sp. nov.

Arbor 6–10 m. alta; ramulis tenuibus 4-angulatis brunnescentibus; foliis impellucidis chartaceis vel tenuiter coriaceis, lineari-lanceolatis, 5.5–12 cm. longis, 1–2.7 cm. latis, basi rotundato-cuneatis vel cuneatis apice tenuiter acuminatis vel subcaudatis, acumine 1–2 cm. longo basi 3 mm. lato interdum leviter curvato, costa supra canaliculata subtus prominente, nervis primariis utrinsecus 10–12 supra insculptis subtus prominulis in venam intramarginalem 2–3 mm. a margine confluentibus, reticulo obscuro; petiolo 3–5 mm. longo atrofusco; floribus e trunco ortis fasciculatis; pedunculo brevissimo 1–2 mm. longo; pedicello 4–7 mm. longo tetragono; alabastris 1.5 cm. longis, turbinatis stipitatis, calycis tubo 14 mm. longo incl. stipite 2–4 mm. longo, obscure puberulo, lobis 4 brevibus \pm 2.5 mm. longis, 4 mm. latis in anthesi \pm fractis; petalis subrotundatis \pm 7 mm. longis; staminibus \pm 2 cm. longis, antheris anguste oblongis 2 mm. longis; fructibus ignotis.

BRITISH NEW GUINEA: Palmer River, 2 miles below Black River Junction, *Brass* 6966 (TYPE), June 1936, alt. 100 m., common in flooded riverine forest (small richly branched tree 6–10 m. high, with numerous small fascicles of showy flowers lateral on lower stem below the branches; calyx rose pink; petals green; stamens yellow).

In description this plant approaches *Syzygium Dielsianum* nom. nov. (*Jambosa pycnantha* Diels Bot. Jahrb. **57**: 394. 1922). In the latter, a plant of higher altitude, the leaves are broader, and the flowers are a little smaller, differing in both shape and color from those here described. The specific name *pycnanthum* is pre-empted in *Syzygium*.

Syzygium samarangense (Blume) Merr. & Perry, Jour. Arnold Arb. **19**: 115, 216. 1938, Mem. Am. Acad. Sci. **18**(3): 167 (Mem. Gray Herb. **4**: 167). 1939.

Myrtus samarangensis Blume Bijdr. 1084. 1826.

Eugenia javanica Lam. Encycl. **3**: 200. 1789; Engler, Bot. Jahrb. **7**: 468. 1886; Lane-Poole, Rep. For. Res. Papua 125. 1925, non *Syzygium javanicum* Miq.

Jambosa javanica K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 470. 1900; Rechinger, Denkschr. Mat.-Nat. Kl. Akad. Wiss. Wien **89**: 585 (Bot. Zool. Ergeb. Wiss. Forsch. Samoa-I. Neug.-Arch. Salomonsins. **5**: 143). 1913; Diels, Bot. Jahrb. **57**: 387. 1922.

SOLOMON ISLANDS: San Cristobal: Huru River, *Brass* 3006, October 1932, rare on river bank (large spreading tree with blotched brown bark peeling in large thin flakes; hard brown wood; leaves thin, shining; petioles red; flowers white); Y s a b e l: Meringe, *Brass* 3182, November 1932, alt. 20 m., limestone hills (tree 25 m. tall; hard brown wood; brown wrinkled bark exfoliating in thin flakes; fruit red, about 3.5 cm. diameter).

Possibly also belonging to this species in its wider sense, or closely re-

lated, is a collection from BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8102, October 1936, rain-forest, lesser canopy tree of flood plains (stem spurred at base; bark thick, pale brown; flowers waxy cream-colored, very numerous on old wood). The leaves of this collection are something like those of *Syzygium ovalifolium* (Blume) comb. nov. (*Jambosa ovalifolia* Bl. Mus. Bot. Lugd.-Bat. 1: 98. 1849), but the inflorescence does not correspond to the description of that species.

Syzygium vernicosum sp. nov.

Arbor magna; ramulis brunnescentibus in sicco cortice longitudinaliter rugulosis \pm sulcatis; foliis in sicco olivaceis vel flavo-viridescentibus supra vernicosis subtus opacis impellucidis valde coriaceis laxè inconspicueque reticulatis, ellipticis vel oblongis, 15–20 cm. longis, 5–8.5 cm. latis, basi rotundatis vel rotundato-cuneatis apice abrupte obtuse acuminatis margine anguste revolutis, costa supra canaliculata subtus prominente, longitudinaliter rugulosa, nervis primariis utrinsecus 8–12 utrinque perspicuis oblique adscendentibus inter se \pm 1.5 cm. remotis marginem versus arcuatim confluentibus interdum venam intramarginalem formantibus vel 2–3 infimis liberis sursum evanescentibus, secundariis fere aequaliter prominulis; petiolo \pm 2 cm. longo, 3–4 mm. crasso atrofusco ruguloso in dimidio superiore supra inconspicue canaliculato; inflorescentiis e nodis defoliatis ortis, rhachi usque 2.5 cm. longa \pm 5 mm. diametro, \pm 4-angulata; floribus subracemosis vel interdum subumbellatis, magnis; alabastris tantum visis, \pm 2.8 cm. longis; calycis tubo parte inferiore striato-ruguloso subcylindrico \pm 1 cm. longo 4–5 mm. crasso, superiore campanulato 0.8 cm. longo vix infra lobis leviter constricto, circiter 1.2 cm. diametro, lobis rotundatis exterioribus 0.5 cm. longis, 1 cm. latis, interioribus 1 cm. longis.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 8113 (TYPE), October 1936, rain-forest, occasional on the ridges (large spur-buttressed canopy tree; bark pale brown, thick, shedding in soft scales; leaves stiff, yellow beneath; flowers pink, very numerous on the smaller branches; peduncles 4-angled).

Among the species described from Papua, the collection is perhaps related to *Syzygium Leonhardi* (Diels) Merr. & Perry. However, in our species, the upper surface of the leaves shines almost as if varnished, the primary veins are almost equally prominent on both surfaces, the inflorescence has a definite axis on which the flower-buds are sessile, there being a very short or thin base articulated between them and the axis.

Syzygium virescens sp. nov.

Arbor parva 5–6 m. alta; ramulis compressis atrofuscis; foliis coriaceis supra brunnescentibus subtus pallidioribus inconspicue laxè reticulatis minute atro-glandulosis, lanceolatis, 20–30 cm. longis, 6–8 cm. latis, basi cuneatis apice? (fractis), margine vix recurvatis, costa supra canaliculata subtus elevata, nervis primariis utrinsecus 7–10 regularibus cum vena intramarginali 5 mm. a margine distante supra insculptis subtus elevatis; petiolo circiter 1 cm. longo basi crassiusculo; inflorescentiis e trunco infero ortis, \pm 4 cm. longis, a basi pauciramosis vel subfasciculatis; floribus sessilibus, calycis tubo \pm 1 cm. longo basi 3 mm. stipitato supra 7 mm. obconico in sicco leviter striato-ruguloso, lobis 4 rotundatis, exterioribus 1.5 mm. longis, interioribus 3 mm. longis; petalis rotundatis \pm 7 mm. longis singillatim deciduis; staminibus 2 cm. longis; fructibus ignotis.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass 13950* (TYPE), April 1939, alt. 50 m., frequent in rather swampy forest on river-plains (undergrowth tree 5–6 m. high; flowers greenish white, clustered on lower stem).

This species seems to be most like *Syzygium gonatanthum* (Diels) Merr. & Perry, but the leaves are very distinctly coriaceous, narrower than in Diels's species, and the nerves are conspicuously impressed on the upper surface.

D. Inflorescence terminal and axillary (also lateral in S. heterobotrys).

Syzygium brevicymum (Diels) comb. nov.

Jambosa brevicyma Diels, Bot. Jahrb. **57**: 389. 1922.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13223*, March 1939, alt. 850 m., rain-forest, plentiful on river banks (low flat-branching flood-resistant tree 3–5 m. high; flowers white).

This collection appears to be relatively close to the description of this species. Leaves somewhat coriaceous, 11–16 cm. long, 3–4.5 cm. broad, with petiole 5 mm. long; inflorescence 3–4 cm. long; calyx-tube \pm 1 cm. long, 7 mm. broad at the apex. Without access to the type, we think the collection is better placed here than elsewhere at present.

Syzygium evenulosum sp. nov.

Arbor \pm 19 m. alta, 41 cm. diametro; ramulis teretibus vel vix obtuse angulatis brunnescentibus; foliis coriaceis in sicco supra olivaceis vel atrobrunnescentibus obscure reticulatis subtus fulvo-brunnescentibus haud reticulatis consperse pellucido-punctatis vel impellucidis, ellipticis vel late oblongis, 11–21 cm. longis, 4.5–9 cm. latis, basi breviter cuneatis apice leviter recurvato breviter abrupte acuminatis margine leviter recurvatis, costa supra canaliculata subtus prominente, nervis primariis utrinsecus 12–15 utrinque manifestis inconspicuis patenti-adscendentibus 7–10 mm. a margine arcuatim conjunctis, supra interdum vena submarginali secundaria vix manifesta; petiolo 1–1.5 cm. longo atrofusco; inflorescentiis axillaribus terminalibusque interdum e nodis defoliatis ortis, 3–4 cm. longis parce ramosis, alabastris sessilibus glandulosis; calycis tubo obconico vel obpyramidato basi 3 mm. apice sub lobis 10–12 mm. diametro, lobis late rotundatis, interioribus \pm 6 mm. exterioribus \pm 4 mm. longis; petalis subrotundatis 8–10 mm. longis, breviter unguiculatis, margine crispule undulatis; staminibus \pm 1.5 cm. longis, antheris oblongis 1 mm. longis; fructibus non visis.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass & Versteegh 14108* (TYPE), May 1939, alt. 80 m., primary rain-forest of lower mountain slopes (tree 19 m. high, 41 cm. diameter; bark brown, scaly; flowers white).

This species appears to be a close ally of *Syzygium nutans* (K. Schum.) Merr. & Perry. It may be distinguished from the latter by the coriaceous leaves with inconspicuous venation, the sparsely branched inflorescence, and the smaller white flowers.

Syzygium Forbesii (Greves) comb. nov.

Eugenia Forbesii Greves, Jour. Bot. **61**: Suppl. 16. 1923.

The following specimens are very close to the description of this species: BRITISH NEW GUINEA: Bisiatabu, *Brass 600*; Borabere, *Brass 737*.

Syzygium goniocalyx (Lauterb.) comb. nov.

Jambosa goniocalyx Lauterb. Nov. Guin. **8**: 851. 1912; Diels, Bot. Jahrb. **57**: 390. 1922; White, Jour. Arnold Arb. **10**: 251. 1922.

BRITISH NEW GUINEA: Sturt Island, Lower Fly River, *Brass* 8137, October 1936, flood plain rain-forest (river bank tree 10 m. high; bark reddish, flaky; leaves citronella-scented; flowers greenish white); Wame River, Purari Delta, *Brass* 1079, February 1926, rain-forests (tree \pm 9 m. high, with bright brown flaky bark; inflorescence lateral or leaf-opposed; fruit solitary or two together on a peduncle 2.5 cm. long).

In addition, we have *Brass* 657 named by Diels. Although flowering material forms the main part of the collection of *Brass* 8137, there is in it an immature globose-turbinate 9 mm. stipitate fruit about 2 cm. in diameter, which is valid proof that *Brass* 1079, an earlier unnamed fruiting specimen with fruit about 3 cm. diameter also belongs here. The fruit is 8-costate, with the costae thickish and obtuse rather than acute as in the flower; it has a single large seed about 2 cm. in diameter.

Syzygium jambosoides (Lauterb.) comb. nov.

Careya jambosoides Lauterb. Nov. Guin. **8**: 313. 1910; Knuth, Pflanzenr. **105**(IV. 219): 73. 1939.

Eugenia jambosoides O. Schwarz, Rep. Spec. Nov. **24**: 90. 1927.

BRITISH NEW GUINEA: Gaima, Lower Fly River (east bank), *Brass* 8301, November 1936, rare in open savannah-forest (compact xerophytic tree 8 m. high; bark thick, rough, fibrous scaly; leaves greyish beneath, nerves more prominent above; petioles red; flowers white, showy; fruit red).

This collection seems to agree very well with Lauterbach's description and Schwarz's discussion of this species except in the last phrase, "seminibus permultis ellipsoideis in pulpa carnosâ nidulantibus." Whether Lauterbach had a fruit from some other collection we do not know, and Schwarz does not discuss this character at all. In the summary before his discussion of the New Guinean type, however, he points out that the species is distinguished by the leaf-form and venation, the compact small but richly flowered cymes with medium-sized flowers, and the 2-seeded fruits. The fruit may also be 1-seeded, but this is a variation well within the limits of the genus.

Syzygium lagerstroemioides sp. nov.

Arbor magna; ramulis vetustioribus subcinereis novellis brunnescentibus compressis sulcatis; foliis chartaceis minute subobscure pellucido-punctatis inconspicue reticulatis supra olivaceis subtus pallidioribus consperse minute atro-glandulosis, anguste obovatis vel ellipticis, 13–17 cm. longis, 5–6 cm. latis, basi cuneatis apice (saepissime fractis) acuminatis(?), costa supra canaliculata subtus elevata, nervis primariis utrinsecus 18–20 oblique patentibus supra leviter insculptis subtus prominulis in venam intramarginalem 2–3 mm. a margine confluentibus; petiolo 2–4 mm. longo; inflorescentiis terminalibus vel axillaribus, ramosis, circiter 15 cm. longis; floribus non visis; fructibus in sicco \pm 3.5 cm. longis (incl. 1 cm. stipitatis), parte superiore globosa calycis lobis coronata, \pm 2 cm. diametro, crebre verruculosa valde multicostata (\pm 20), calycis lobis 4 minute glandulosis haud verruculosus vel costatis, majoribus in sicco 6 mm. longis, 1 cm. latis.

BRITISH NEW GUINEA: Eastern Division, Kurandi, *Brass* 1393 (TYPE), May 1926, river banks (large tree with bright pale brown papery bark; inflorescence axillary and terminal; fruit green, rugose, prominently ribbed).

The leaves and the branchlets of this species as well as the branching of the inflorescence strongly suggest *Syzygium goniocalyx* (Lauterb.) Merr. & Perry, but in the latter the flower is more or less strongly 8-ribbed or angled and not at all tuberculate. The fruit of *Brass 1393* has many more ribs and is covered with small excrescences which must surely in some degree appear on the flower.

Syzygium nutans (K. Schum.) comb. nov.

Eugenia nutans K. Schum. in K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 90. 1889.
Jambosa nutans (K. Schum.) Niedenzu in Engl. & Prantl, Nat. Pflanzenfam. **3**(7): 84. 1893; K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 470. 1900; Diels. Bot. Jahrb. **57**: 395. 1922, Nov. Guin. **14**: 92. 1924; C. T. White, Jour. Arnold Arb. **10**: 251. 1929.

SOLOMON ISLANDS: Bougainville: Karngu, Buin, *Kajewski 2248*, October 1930, sea-level, common in rain-forest (medium sized tree up to 18 m. high; flowers with large green calyx, white petals and masses of cream-colored stamens); Guadalcanal: Berande, *Kajewski 2400*, January 1931, common in rain-forest (small tree 7 m. high; flowers with green calyx, cream petals and white stamens; fruit shiny pink when ripe, 11 cm. long, 9 cm. diameter, \pm lime-shaped); San Cristobal: Waimamura, *Brass 2649*, August 1932, coast, not common, on bank of a small stream in the rain-forest (loosely branched shrub 2 m. tall; leaves dull green, pale below; fruit solitary, terminal, reddish pink, up to 10 cm. long, 6 cm. diameter, very buoyant).

We have compared these specimens with Schumann's original description, Diels' elaborated one, and flowers of *Brass 1414*, identified by Diels. The only differences we find are in the color of the flowers and the size of the fruits. With no material available for comparison we cannot say whether these differences are specific or not, but we are inclined not to think so at present.

Syzygium pteropodum (Lauterb. & K. Schum.) comb. nov.

Jambosa pteropoda Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 473. 1900; Lauterb. Nov. Guin. **8**: 850. 1912; Diels, Bot. Jahrb. **57**: 392. 1922.

NETHERLANDS NEW GUINEA: Albatros Bivak, v. *Leeuwen 9660*, July 1926, alt. 50 m.
 NORTHEASTERN NEW GUINEA: Yunzaing, *Clemens 3620, 3759*, July 1936, alt. \pm 1500 m.

Syzygium puberulum sp. nov.

Arbor parva; ramis cinerascentibus; ramulis compressis brunnescentibus; foliis chartaceis consperse pellucido-punctatis vel semi-impellucidis, lineari-oblongis vel oblongis, 11–16 cm. longis, 2–3.5 cm. latis, basi obtuse cuneatis apice acuminatis, margine in sicco leviter undulatis, costa supra canaliculata subtus elevata, nervis primariis utrinsecus 18–22 oblique adscendentibus in venam intramarginalem vix 2 mm. a margine confluentibus utrinque manifestis non prominulis; foliis minutis apice ramulorum lanceolatis 5–7 mm. longis; petiolo 3 mm. longo atrofusco; inflorescentia terminali in ramulo axillari brevi circiter 12 cm. longa racemosa, apice congeste 5-flora, 2 floribus lateralibus ad nodum tumidum in pedicello 1 mm. longo; floribus in anthesi non visis; fructibus immaturis, calycis tubo turbinato-obconico vel obconico, \pm 18 mm. longo incl. stipite 2–3 mm., apice 12–14 mm. diametro, extus brevissime velutino, lobis 4, \pm fractis, disco stamineo circiter 1.5 mm. lato.

BRITISH NEW GUINEA: Port Moresby, *Brass 838* (TYPE), December 1925, gully rain-forests (small tree about 4.5 m. tall; branches horizontal; smooth greenish bark exfoliating in thick flakes; fruit dull green, immature).

This collection differs from the description of **Syzygium megalospermum** (Lauterb. & K. Schum.) comb. nov. (*Jambosa megalosperma* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 472. 1900) in the much longer inflorescence and in the indument on the young fruit. The minute leaves at the apex of the branchlets suggest perhaps some relationship to that group of species which have very small bract-like leaves in pairs at the apex of the branches and between the pairs of leaves of regular size. If this be true, then the species here described is probably allied to **Syzygium argyrocalyx** (Warb.) comb. nov. (*Eugenia argyrocalyx* Warb. Bot. Jahrb. 13: 390. 1891).

Syzygium Randianum sp. nov.

Arbor 30 m. alta; ramulis ultimis compressis cinereo-brunneis 2–3 mm. diametro; foliis tenuiter coriaceis in sicco olivaceo-viridibus copiose pellucido-punctatis supra nitidis subtus opacis utrinque crebre manifeste reticulatis, ellipticis vel obovato-ellipticis, 12–17 cm. longis, 4.5–8 cm. latis, basi rotundato-cuneatis, apice acuminatis ac paullo recurvatis, costa supra canaliculata subtus prominula, nervis primariis utrinsecus 12–16 oblique adscendentibus prope marginem \pm arcuatim confluentibus interdum venam intramarginalem formantibus infimis 2–3 longe adscendentibus; petiolo \pm 1 cm. longo supra canaliculato brunnescente; inflorescentiis apice ramulorum foliiferorum quam caeteris crassiorum (\pm 7 mm. diametro) sessilibus paucifloris; floribus magnis basi bibracteatis, bracteis ovatis 4 mm. longis obtusis rigidis; calycis tubo cylindrico vel subquadrangulati 1.7–2 cm. longo 8–9 mm. diametro, lobis 4 valde concavis interdum paullo compressis rotundatis crebre glandulosis exterioribus 1 cm. longis interioribus 1.5 cm. longis; petalis crebre glandulosis circiter 2 cm. longis rotundatis margine tenuibus undulatis; staminibus \pm 3 cm. longis, antheris 1.5 mm. longis; fructibus ignotis.

BRITISH NEW GUINEA: Fly River, 528 mile Camp, *Brass 6673* (TYPE). May 1936, alt. 80 m., flood banks of a small creek (canopy tree 30 m. tall; stem flange-buttressed; bark pale reddish brown, 2 cm. thick, peeling in very small thin flakes; leaves smooth and shining; large cream-white flowers \pm 7 cm. long crowded at ends of short thickened branchlets).

In the collection being worked over there are two species which appear to have the inflorescence terminal on short thickened branchlets: *Syzygium dictyophlebium* and *S. Randianum*. In the first is a branching inflorescence; the second consists of a compact cluster of 9–10 large sessile flowers each subtended by two rather rigid spreading bracts. In two of the flowers abnormalities occur; in one, one of the pair of bracts has grown up with the calyx-tube, while in the other, both bracts are at the base of the calyx-lobes; the normal position, as in other species, is at the base of the calyx-tube.

This species, by its short inflorescence and the elongate cylindric or subquadrangular ovary, suggests **Syzygium caryophylloides** (Lauterb.) comb. nov. (*Jambosa caryophylloides* Lauterb. Bot. Jahrb. 45: 363. 1911) from the Bismarck Archipelago, but the latter has very much smaller flowers. Dedicated to Dr. A. L. Rand, the ornithologist of the Expedition.

***Syzygium spectabile* sp. nov.**

Arbor 4 m. alta; ramulis subcompressis atrocinereis; foliis (uno tantum viso) chartaceis glabrius utrinque laxissime reticulatis elongato-ovatis, 57 cm. longis, 27 cm. latis, basi rotundatis apice ? (apice summo fracto), costa subtus conspicua, nervis primariis utrinsecus 18 tenuibus supra manifestis subtus prominulis oblique patentibus in venam intramarginalem arcuatim prominulam \pm 1 cm. a margine distantem confluentibus, vena intramarginali secundaria cum primaria subparallela inconspicua 2–4 mm. a margine disposita; petiolo 3.5 cm. longo circiter 8 mm. crasso supra plano subtus rotundato rugoso; floribus in panícula cymosa pauciflora (in specimine typico 4-floris), axi 2.5 cm. longo, ramis circiter 1 cm. longis; floribus sessilibus apice ramorum solitariis; calycis tubo \pm 3 cm. longo infero breviter stipitiformi 6–7 mm. longo, medio subconico circiter 1.2 cm. longo latoque, supero ad \pm 3 cm. lato ampliato, lobis 4 rotundatis minoribus 7 mm. longis majoribus 1.3 cm. longis 2 cm. latis; petalis ovatis 3.5 cm. longis basi unguiculatis, unguicula 6–7 mm. lata; staminibus numerosis \pm 4 cm. longis, filamentis exterioribus in dimidio inferiore coalitis, interioribus discretis vel 2–3 coalitis, antheris exterioribus anguste oblongis 2.5 mm. longis, interioribus minoribus; fructibus non visis.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass 12995* (TYPE), February 1939, alt. 1200 m., rain-forest undergrowth (one example: tree 4 m. high; calyx red; petals reddish pink; stamens greenish white).

The collection consists of the tip of a branch with one leaf, the upper part of another, and a terminal inflorescence with a cyme at the apex and one lower branch, the opposite one being either broken off or undeveloped. Possibly this species is allied to *Syzygium nutans* (K. Schum.) Merr. & Perry, but it differs in the shape of the leaves and in having the outer filaments grown together in the lower half of their length. This coalition of the filaments is of various lengths, but the mass of stamens may be removed in a ring with the filaments unevenly loose in the upper part; the inner stamens are separated or sometimes united in twos or threes. The value or stability of this character we have been unable to determine.

(*To be concluded*)



Merrill, Elmer D. and Perry, Lily M. 1942. "Plantae Papuanae Archboldianae, IX." *Journal of the Arnold Arboretum* 23(2), 233–265.

<https://doi.org/10.5962/p.324603>.

View This Item Online: <https://www.biodiversitylibrary.org/item/33599>

DOI: <https://doi.org/10.5962/p.324603>

Permalink: <https://www.biodiversitylibrary.org/partpdf/324603>

Holding Institution

Missouri Botanical Garden, Peter H. Raven Library

Sponsored by

Missouri Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Arnold Arboretum of Harvard University

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.