# A PROVISIONAL KEY AND ENUMERATION OF SPECIES OF SYZYGIUM (MYRTACEAE) FROM PAPUASIA

T. G. HARTLEY AND L. M. PERRY

THE IDENTIFICATION OF SPECIMENS of *Syzygium* * has always been difficult, partly on account of the large size and the lack of an overall treatment of the genus, and partly because, with a limited amount of material, it is difficult to estimate the variability within a species. When Hartley began to determine the *Syzygium* in his New Guinea collections (C.S.I.R.O. Phytochemical Survey, 1961–1965), he found the accumulation of unnamed material in the Arnold Arboretum herbarium was as large as that of the named collections. Further, a combination of the floristic studies available seemed scarcely adequate for his needs; thus began the endeavor to develop a provisional key for the region. Perry, not unaware of the difficulties inherent within the genus, joined the effort with great reluctance. After the publication of the Myrtaceae of the Archbold Expeditions (Merrill & Perry, 1942), the late Dr. Merrill, during a visit to the herbaria at Leiden, Kew, and the British Museum, made carbon rubbings and notes on various type collections of *Syzygium* which previously he had not had time to examine; further, through the kindness of the Directors at Kew, Leiden, and Berlin, the herbarium obtained some photographs of isotypes, paratypes, and a few holotypes. We already had small photographs of Ridley's types of the C. B. Kloss collection from West Irian (Wollaston Expedition). Only an Australian type from Kew and one New Guinea isotype from Leiden have been borrowed. An overall key to the species of the Asiatic-Pacific region is very desirable, but these are so numerous that it would take a few years to do a tolerably good study. The clavate-flowered species, particularly, need to be examined together; also *S. effusum* and its relatives from the Philippines south through New Guinea to Polynesia should be studied comprehensively.

Henderson, in his work on "The genus *Eugenia* (Myrtaceae) in Malaya" (Gard. Bull. Singapore 12: 12–14. 1949), indicates the useful characters in defining a species of *Syzygium.* We have found that most of these features are variable and suggest that the main difficulty in definition comes from lack of ability to evaluate the variations and exceptions when there are relatively few specimens which appear to belong together. For example, no. 5 in Henderson's list of characters: "the shape of the twigs, whether terete, angled, or winged, and the colour of their bark . . . are remarkably constant." Merrill and Perry described as new *S. papuasicum,*

* SCHMID, RUDOLF. 1972. A resolution of the *Eugenia-Syzygium* controversy (Myrtaceae). Am. Jour. Bot. **59**(4): 423–426. [April.]

represented by a number of specimens all with compressed or terete twigs, because of the angled branchlets indicated in the description of the closely related *S. acutangulum*. Now that we have more specimens, however, we have found one with both compressed and angled branchlets indicating that when this character is used the angle should be very pronounced, perhaps tending toward a very narrow wing. Another point seemingly trivial but worth mentioning is that the shape of the flower bud may or may not change as it approaches anthesis. Also, in some of the smaller-flowered species, the calyx may be both 4- and 5-lobed. Perhaps the most difficult character to deal with adequately is the plan of leaf venation which, Henderson says, "is very constant for each species. It is best seen in dried specimens." We have often found it difficult to distinguish between open and close venation and suggest that the two types may intergrade in some species. Further, the degree to which the venation is pronounced varies considerably in some of our species with wide altitudinal ranges, as for example, *S. buettnerianum*. We also suspect that the method of drying influences faintness or boldness of some venation patterns.

In most instances we have indicated the types of the accepted names, but we have not designated any choice to replace those types destroyed during World War II. We believe this should be left to someone having the opportunity to visit various herbaria, examine authentic material, and then make the best choice. The measurements given are all of dried material. Those of Merrill & Perry (1942) for flowers were mostly from material soaked in water and boiled, hence they are a little larger. In the key and the enumeration of species, no attempt has been made to portray natural relationships. Adjacent position or numbering is only a matter of convenience. The specimens cited in the EXSICCATAE and in the ENUMERATION OF SPECIES are deposited in the herbarium of the Arnold Arboretum of Harvard University, Cambridge, unless otherwise specified. Herbarium abbreviations used are from Lanjouw and Stafleu's *Index Herbariorum*, Part I. ed. 5 (Regnum Vegetabile, 31. 1964).

## Provisional Key to Species of Syzygium

1. Flowers large, usually with conspicuous calyx lobes 4 mm. or more high and large petals; calyx tube immediately below the lobes 8 mm. or more in diameter (sometimes only 7–8 mm. in diameter and calyx lobes 2–4 mm. high — see second 23 in key). ..... (2).
   2. At least some parts of the plant pubescent or puberulent; leaves linear-lanceolate to oblong-lanceolate. ..... (3).
      3. Inflorescence lateral (flowers scattered along the length of the trunk) on short shoots 2–3.4 cm. long, not including peduncled flower; peduncle 1–1.5 cm. long; petals green; petiole 2–3 mm. long; younger branchlets, petioles, and peduncles puberulous. ..... 1. *S. cauliflorum.*
      3. Inflorescence terminal; young growth, veins of lower surface of young leaves and calyx hirtellous or velutinous.
         Petals greenish white or yellow; calyx tube in open flower 1–2 cm. long. ..... 2. *S. megalospermum.*
         Petals red; calyx tube in open flower 2–2.8 cm. long. ..... 3. *S. porphyrocarpum.*
   2. All parts of the plant glabrous (in *S. puberulum* calyx tube usually puberulous); leaves various in shape. ..... (4).
      4. Inflorescence consisting of solitary, or 1–3-clustered, flowers, but only one to an axis (except in some specimens of *S. daphne* and *S. gonatanthum*). ..... (5).
         5. Young branchlets winged, wings at apex to 5 mm. wide; leaves narrowly cordate, 20–30 cm. long, apex long acuminate (1.5–4 cm.). ..... 4. *S. cladopterum.*
         5. Young branchlets terete, compressed, or sharply tetragonous but not winged. ..... (6).
            6. Calyx tube (seen in fruit only) coarsely and longitudinally rugose. ..... 5. *S. macrocalyx.*
            6. Calyx tube not longitudinally rugose. ..... (7).
               7. Calyx tube 2 cm. or more long. ..... (8).
                  8. Petioles 5–15 mm. long; leaves 15–30 cm. long, primary veins easily seen. ..... (9).
                     9. Flowers yellow, terminal or lateral; peduncle 2–5 mm. long; pedicel 1–3 cm. long; leaves elliptic; petiole ca. 1.5 cm. long. ..... 6. *S. flavidum.*
                     9. Flowers white, pink, or red, axillary or lateral; peduncle 2–15 mm. long. ..... (10).
                        10. Flowers red, nodding when mature on curved peduncle 3–5 (–10–15, *fide* description) mm. long. ..... 7. *S. nutans.*
                        10. Flowers white or pale pink.
                        Leaves ovate-elliptic; flowers axillary and terminal; calyx tube at base 2–3 mm. broad; peduncle and pedicel 2 mm. thick, 5–10 mm. long, mostly not nodding. ..... 8. *S. insulare.*

Leaves obovate-elliptic; flowers on older branches; calyx tube at base 5 mm. broad; peduncle and pedicel 3–5 mm. thick, 7–10 mm. long. ..... 9. *S. burepense*.

8. Petioles 2–5 mm. long.

Leaves 17–22 cm. long, 3.5–4.5 cm. wide, obtusely acuminate, primary veins visible but not prominent; branchlets terete. ..... 10. *S. dolichophyllum*.

Leaves 8–15 cm. long, 2.5–6 cm. wide, abruptly and narrowly acuminate, primary veins impressed above, prominent below; branchlets tetragonous. ..... 11. *S. callianthum*.

7. Calyx tube 1–1.5 cm. long. ..... (11).

11. Petioles 1.5–5 mm. long. ..... (12).

12. Leaves ovate, shallowly cordate; petiole 1.5–2 mm. long; peduncle and pedicel tetragonous. ..... 12. *S. keysseri*.

12. Leaves otherwise; petiole 2–5 mm. long. ..... (13).

13. Flowers solitary or in twos or threes on long, slender peduncles and pedicels extending much beyond the subtending leaves. ..... 13. *S. daphne*.

13. Flowers solitary on peduncles and pedicels shorter than the subtending leaves, when present. (14).

14. Calyx tube verruculose at maturity. ..... 14. *S. trachyanthum*.

14. Calyx tube not verruculose, but usually glandular. ..... (15).

15. Leaves elongate lanceolate (between five and six times as long as broad).

Flowers axillary and terminal; leaves tapering toward the base; apparently without reduced leaves or stipules. ..... 15. *S. salicinum*.

Flowers generally on short, leafy shoots, single or loosely fascicled; leaf base rounded-cuneate or shortly cuneate; reduced leaves and stipules present. ... 16. *S. pyriforme*.

15. Leaves elliptic to lanceolate (less than four times as long as broad). ..... (16).

16. Primary veins not more than five unevenly distributed pairs, these and the intramarginal vein prominent on the lower surface. ..... 17. *S. erythropetalum*.

16. Primary veins six or more pairs, mostly easily seen but not prominent on the lower surface.

Petioles 2–3 mm. long; floral axis slender (ca. 1 mm. in diameter) and flexible; outer calyx lobes 2–3 mm. high. ..... 18. *S. subalatum*.

Petioles 4–5 mm. long; floral axis stouter (1–2 mm. in diameter) and erect; outer calyx lobes (seen only in bud) 5 mm. high. ..... 19. *S. sogerense.*

11. Petioles 5–15 mm. long; primary veins 4–8 pairs, equidistant or not. ..... (17).

17. Calyx tube, just above the very short basal stipe, truncate and slightly concave or flat. ..... ..... 20. *S. tympananthum.*

17. Calyx tube infundibular.

Flowers white, creamy, or yellow; inflorescence axillary and/or lateral, flowers solitary or two or three on a very short peduncle; primary veins not equidistant. ..... 21. *S. gonatanthum.*

Flowers red; inflorescence lateral, subsessile; primary veins equidistant. ..... 22. *S. thomseni.*

4. Inflorescence consisting of few or many flowers (usually not solitary). ..... (18).

18. Leaf base cordate.

Ultimate branchlets acutely tetragonous; leaves oblong-lanceolate or ovate, 19–40 cm. long, 7.5–19 cm. wide, sessile; inflorescence axillary and lateral; calyx tube pyriform. ..... 23. *S. thalassicum.*

Ultimate branchlets terete or compressed; leaves elliptic or oblong-elliptic, 15–35 cm. long, 6.5–12 cm. wide; inflorescence terminal and/or axillary; calyx tube turbinate. ..... 24. *S. novoguineense.*

18. Leaf base not cordate (except occasionally in *S. madangense*, *S. samarangense*, and *S. goniopterum*). ..... (19).

19. Calyx tube strongly costate.

Leaves gradually narrowed at base to petiole; inflorescence (to 12 cm. long) open, terminal, lateral, or leaf-opposed; peduncle up to 3 cm. long. ..... 25. *S. goniocalyx.*

Leaves rounded to cordate at base; flowers axillary or terminal, clustered on short (about 5 mm. long) protrusions. ..... 26. *S. madangense.*

19. Calyx tube not costate. ..... (20).

20. Flowers in verticils on the axis of the inflorescence. ..... 27. *S. heterobotrys.*

20. Flowers not in verticils on the inflorescence axis. ..... (21).

21. Calyx tube infundibular and finely striate-verruculose (the latter characteristic very obvious in partly mature fruit); leaves narrowly obovate to elliptic. ..... 28. *S. lagerstroemioides.*

21. Calyx tube not striate-verruculose, or if so, then leaves broadly elliptic to suborbicular. .... (22).

22. Flowers on short protrusions crowded at ends of thickened (6 mm. in diameter) branchlets from which smaller leafy branchlets 2–3 mm. in diameter may grow; calyx lobes 1–1.5 cm. high (large flowers). ..... 29. *S. randianum.*

22. Flowers not on thickened branchlets. ..... (23).
23. Calyx lobes 4–5 mm. high or more. ..... (24).
24. Axis and branchlets of the inflorescence stout (3–4 mm. thick) or flowers subsessile. ..... (25).
25. Inflorescence terminal.
Leaves elliptic, 14.5–16.5 cm. long, 6–8.5 cm. wide; calyx tube ± cylindric, to 1.3 cm. long, at base ca. 5 mm. broad, abruptly enlarging to ca. 1 cm. broad just below the calyx lobes. ..... 30. *S. normanbiense.*
Leaves broadly elliptic to suborbicular, 10–15 cm. long, 7–9 cm. wide; calyx tube turbinate, striate (in one collection striate-verruculose), somewhat abruptly contracted into a short, stout stipe. ..... 31. *S. suborbiculare.*
25. Inflorescence lateral and/or axillary. ..... (26).
26. Lower part of calyx subcylindric, rugose, longer than the broadened upper part.
Leaves dull when dried; flowers subsessile, glomerate, purplish. ..... ..... 32. *S. leonhardii.*
Leaves shining on the upper surface when dried (as if varnished); inflorescence with a short axis to 2.5 cm. long; flowers pink. ..... ..... 33. *S. vernicosum.*
26. Lower part of calyx tube not cylindric but more obviously tapered. .. (27).
27. Flowers white, calyx tube obtusely obconic.
Leaves lanceolate to oblanceolate, 8–20 cm. long, 4.5–7 cm. wide, primary veins obvious; petioles less than 5 mm. long. ..... ..... 34. *S. synaptoneurum.*
Leaves elliptic or broadly oblong, 11–21 cm. long, 4.5–9 cm. wide, primary veins inconspicuous; petioles not less than 1 cm. long. ..... ..... 35. *S. evenulosum.*
27. Flowers red to lilac colored; calyx tube turbinate.
Leaves usually oblanceolate, at least three times as long as broad, 16–50 cm. long, 6–18 cm. wide; petioles to 1 cm. long; flowers clustered on very short stalks (to 5 mm. long) or subsessile in axils of leaves or

on older branches. ..... 36. *S. versteegii.*

Leaves elliptic, less than three times as long as broad, 18–44 cm. long, 13–24 cm. wide; petioles 2–4.5 cm. long; inflorescence open. ..... ..... 37. *S. pachycladum.*

24. Axis and branchlets of the inflorescence not stout (1–2 mm. broad, not including wings of *S. pteropodum*). ..... (28).

28. Inflorescence axis very obviously 4-winged. ..... 38. *S. pteropodum.*

28. Inflorescence axis not winged. ..... (29).

29. Leaves without a definite intramarginal vein, the primary veins anastomosing in various ways; inflorescence lateral.

Flowers white. ..... 39. *S. laqueatum.*

Flowers red. ..... 40. *S. malaccense s. l.*

29. Leaves with primary veins looping to form a definite intramarginal vein; inflorescence variously located. ..... (30).

30. Secondary veins and reticulation obvious; leaves 7–12 cm. long, 3.5–5 cm. wide, chartaceous, abundantly pellucid punctate; dried pericarp of fruit 4–5 mm. thick in lower part, apparently always hard. ..... ..... 41. *S. multiglandulosum.*

30. Secondary veins and reticulation relatively inconspicuous. ..... (31).

31. Petiole 2–3.5 cm. long, ca. 6 mm. thick; leaves 24–57 cm. long, 12–27 cm. wide, rounded at base; calyx tube stipitate-obconic, ca. 3 cm. long. ..... 42. *S. spectabile.*

31. Petiole to 2 cm. long, not more than 3 mm. thick; calyx tube to 3 cm. long. ..... (32).

32. Leaves 10–32 cm. long, 5–14 cm. wide, base rounded or slightly cordate; petiole at most 1.2 cm. long; inflorescence terminal and axillary; calyx tube 1.4–1.5 cm. long; flowers white. .... ..... 43. *S. samarangense.*

32. Leaves narrowed to the petiole, mostly short-cuneate at base; inflorescence mostly lateral. ..... (33).

33. Leaves chartaceous, drying green, copiously pellucid punctate; petiole 0.8–1.8 cm. long.
    Leaves broadly elliptic to ovate, 18–29 cm. long, 9–17 cm. broad, nearly twice as long as wide, obtuse or slightly acutish; lower part of calyx tube (including stipe and ovary) 1.5–2 cm. long, at base ca. 2 mm. in diameter and 5 mm. just below the upper somewhat abruptly broadened and produced subcampanulate part, the latter ca. 7 mm. long and ca. 1.5 cm. in diameter. ..... 44. *S. amplum.*
    Leaves narrowly elliptic, 11–15 cm. long, 3.5–5.5 cm. wide, approximately three times as long as broad, acuminate; calyx tube with slender stipe ca. 5 mm. long, enlarging to turbinate, in all ca. 2.5 cm. long. ... 45. *S. validinerve.*
33. Leaves subcoriaceous to coriaceous, drying brownish green or reddish brown, scattered or sparsely pellucid punctate; petiole 0.5–1.5 cm. long.
    Inflorescence apparently short and few-flowered; flowers white; calyx tube broadly obconic-turbinate, scarcely stipitate, 1.5–1.7 cm. long. ..... 46. *S. womersleyi.*
    Inflorescence shortly racemose or paniculate-fascicled; flowers showy pink or red. ..... 40. *S. malaccense s. l.*

23. Calyx lobes 2–4 mm. high. ..... (34).
    34. Inflorescence terminal, axillary or sometimes lateral. ..... (35).
        35. Branchlets quadrangular, often narrowly 4-winged; leaves oblong-elliptic, 15–25 cm. long, 7–9 cm. wide, at base shallowly cordate or rounded. ..... 47. *S. goniopterum.*
        35. Branchlets terete or compressed, rarely 4-angled; leaf base cuneate or obtuse, sometimes appearing rounded. ..... (36).
            36. Leaf venation close (primary and secondary veins almost equally visible, especially on the upper surface); flowers red. ..... 48. *S. platypodum.*

36. Leaf venation open (secondary veins not so distinct as primary); flowers white. . . . . (37).
37. Flowers obtusely pyriform, sessile, not stipitate. . . 49. *S. waikaiunense*.
37. Flowers stipitate. . . . . (38).
38. Leaves elliptic, approximately twice as long as broad. . . . . 50. *S. variabile*.
38. Leaves lance-oblong, more than three times as long as broad.
Calyx tube usually minutely puberulous, 15–18 mm. long; leaves acuminate. . . . . 51. *S. puberulum*.
Calyx tube glabrous, 8–10 mm. long; leaves acute. . . . . 52. *S. coalitum*.

34. Inflorescence lateral. . . . . (39).
39. Leaves firmly coriaceous, drying brownish; primary veins and intramarginal vein impressed above, prominent below. . . . . 53. *S. virescens*.
39. Leaves chartaceous or thinly coriaceous.
Leaves profusely pellucid puncticulate, acuminate and abaxially recurved at apex, secondary venation easily seen; stipe of flowers 1–2 mm. long. . . . . 54. *S. phaeostictum*.
Leaves somewhat sparsely pellucid puncticulate, apex acuminate but not recurved, secondary venation inconspicuous; stipe of flowers 4–5 mm. long (very noticeable in the fruit). . . . . 55. *S. hylochare*.

1. Flowers smaller, calyx tube immediately below calyx lobes less than 8 mm. in diameter (also see species above under second 23 in key. . . . . (40).
40. Outer calyx lobes 2 mm. or more high (except sometimes smaller in *S. uniflorum* and *S. saliciforme*). . . . . (41).
41. Leaves at base cordate or rounded or obtuse, subsessile or with petiole not over 5 mm. long. . . . . (42).
42. Leaves lanceolate to oblong-lanceolate.
Inflorescence 1–3-flowered; peduncle and pedicels long and slender. . . . . 13. *S. daphne*.
Inflorescence paniculate, showy, profusely flowered. . . . . 56. *S. delicatulum*.
42. Leaves elliptic or ovate-oblong. . . . . (43).
43. Flower buds clavate-turbinate; leaf base usually rounded or obtuse, sometimes cuneate with longer petiole. . . . . 50. *S. variabile*.

43. Flower buds not clavate-turbinate. ..... (44).
    44. Branchlets narrowly winged; inflorescence terminal or lateral; flowers subpyriform with a stipe. ..... 47. *S. goniopterum*.
    44. Branchlets terete or compressed.
        Calyx tube hemispherical above, the lower and slender part longitudinally grooved and gradually tapering to a narrow base, lobes erect or inflexed after anthesis. ..... 57. *S. aqueum*.
        Calyx tube turbinate, smooth, shortly stipitate, lobes usually spreading and/or reflexed after anthesis. ..... 58. *S. roemeri*.
41. Leaves at base mostly cuneate, not cordate or rounded. ..... (45).
    45. Leaves at least three times as long as wide (linear-lanceolate to lanceolate or lance-elliptic). ..... (46).
        46. Primary veins 5–7 mm. apart; leaf apex subfalcate-acuminate; flowers in cymes or single; outer calyx lobes 1.5 mm. high. ..... 59. *S. saliciforme*.
        46. Primary veins 3–5 mm. apart.
            Flowers solitary, verruculose, sometimes outer calyx lobes only 1.5 mm. high. ..... 60. *S. uniflorum*.
            Inflorescence cymose; new branchlets and inflorescence axis acutely quadrangular. .. 61. *S. xylopiaceum*.
    45. Leaves mostly less than three times as long as wide (about three times in some specimens of the *S. hylophilum* complex). ..... (47).
        47. Leaves obtuse or subrounded or retuse at apex. ..... (48).
            48. Inflorescence lateral, flowers few and scattered on axis; leaves apparently without intramarginal vein. ..... 62. *S. garcinioides*.
            48. Inflorescence terminal, paniculate. ..... (49).
                49. Leaves subobovate-elliptic, chartaceous to coriaceous, intramarginal vein very close (0.5–0.7 mm.) to margin; petiole 6–8 mm. long; flower buds subclavate-infundibular. ..... 63. *S. cinctum*.
                49. Leaves elliptic, narrowed toward base, rigidly coriaceous when dry.
                    Leaves 7.5–12 cm. long, 4–8 cm. wide, secondary venation inconspicuous, intramarginal vein 3–4 mm. within margin; petiole ca. 1.5 cm. long; vegetative branchlets and branches of inflorescence conspicuously 4-angled; flower buds turbinate. ..... 64. *S. richardsonianum*.
                    Leaves 4.5–7 cm. long, 3.5–5 cm. wide, secondary veins and reticulations easily seen, intramarginal vein 2–3 mm. within the margin; petiole 5–10 mm. long; vegetative branchlets and branches of inflorescence terete or inconspicuously 4-angled; flower buds obconic. ..... 65. *S. sylvicola*.
        47. Leaves chiefly acuminate (in *S. hylophilum* complex also obtuse). ..... (50).

50. Leaves large, 20–37 cm. long, 6–14 cm. wide, primary veins impressed above, prominent below; inflorescence lateral and/or axillary, fascicled, ca. 4 cm. long; flower buds shining when dry. ..... 66. *S. rubro-punctatum.*

50. Leaves smaller, to 20 cm. long, primary veins, although easily seen, usually not so prominent below. ..... (51).

51. Inflorescence open or loose with many flowers. ..... (52).

52. Inflorescence terminal on new growth; leaves not closely reticulate, primary veins obvious above and below. ..... 67. *S. pergamaceum.*

52. Inflorescence chiefly lateral.

Flowers purple; calyx tube narrowly pyriform to turbinate; disc prolonged 1 mm. above and inside area of staminal insertion; leaves closely but inconspicuously reticulate, intramarginal vein 2–4 mm. within margin. ..... 68. *S. pluviatile.*

Flowers white; calyx tube obconic to turbinate with upper part subcampanulate; disc not prolonged; leaves not closely reticulate, intramarginal veins two, the inner 5–8 mm. within margin. ..... 69. *S. tierneyanum.*

51. Inflorescence with fewer flowers (to ca. 10, except sometimes in *S. fibrosum* and *S. malaccense* — to ca. 30). ..... (53).

53. Inflorescence lateral.

Leaves elliptic, 11–24 cm. long, 6–9 cm. wide, petiole 1–2 cm. long. .. 40. *S. malaccense s. l.*

Leaves oblong to narrowly elliptic, 5.5–9 cm. long, 2.5–4.5 cm. wide, petioles ca. 1 cm. long; calyx tube obconic-subcampanulate (in young fruit — past flowering), 8–10 mm. long including 1.5–3 mm. long stipe. ..... 70. *S. roseum.*

53. Inflorescence terminal and axillary, sometimes lateral. ..... (54).

54. Outer calyx lobes ca. 3–5 mm. high, half as wide or less. ..... 71. *S. fibrosum.*

54. Outer calyx lobes ca. 2–3 mm. high, but wider than high.

Inflorescence 2–3 cm. long; fruit white; calyx tube including stipe ca. 1 cm. long. ..... 72. *S. brevicymum.*

Inflorescence to 8 cm. long; fruit red; calyx tube including stipe 1–1.25 cm. long; leaves mostly chartaceous, variable in size, 7–15 cm. long, 2.5–9 cm. wide, with two intramarginal veins, the inner 4–12 mm. within margin; petiole 2–7 mm. long. ..... 73. *S. hylophilum.*

40. Outer calyx lobes not more than 2 mm. high, mostly less. ..... (55).
55. Lateral shoots and inflorescence at base mostly appearing to have pairs of reduced or bract-like or stipule-like leaves; inflorescence slender, often pendent. (As characterized in the segregate genus *Gelpkea* Bl.).
Axis of inflorescence very slender, thread-like, 0.2–0.3 mm. in diameter. ..... 74. *S. aeoranthum.*
Axis of inflorescence slender, 0.8 mm. in diameter. ..... 75. *S. longipes.*
55. Lateral shoots and inflorescences at base mostly without reduced or bract-like leaves. ..... (56).
56. Bracts of inflorescence apparently persistent (except in some specimens of *S. iteophyllum*, *S. pyrocarpum* and *S. dictyophlebium*). ..... (57).
57. Inflorescence short, not more than 2 cm. long.
Inflorescence cymose; calyx tube 3.4–4 mm. long (in original description, truncate), calyx lobes (in bud) 0.5 mm. long; leaves obovate-lanceolate to elliptic, shortly acuminate or subrounded at apex, acute at base; petiole 1–1.5 cm. long. ..... 76. *S. anomalum.*
Inflorescence paniculate; calyx tube 2–2.5 mm. long, calyx lobes scarcely 0.5 mm. long; leaves oblong-lanceolate, narrowed toward both ends, acumen ca. 1 cm. long, base acute; petiole ca. 1 cm. long. ..... 77. *S. pallens.*
57. Inflorescence longer, paniculate, 3–10(–20) cm. long. ..... (58).
58. Leaves with open venation. ..... (59).
59. Leaves chartaceous to subcoriaceous, conspicuously reticulate on upper and lower surfaces. ..... 78. *S. dictyophlebium.*
59. Leaves, if conspicuously reticulate, only so on the lower surface.
Leaves oblong-elliptic, large, 15–25 cm. long, 6–12 cm. wide; inflorescence lateral, large, branches squarrose. ..... 79. *S. acutangulum.*
Leaves smaller, 4–10 cm. long, 2.5–5 cm. wide, primary veins on lower surface (ca. 8 mm. between two adjacent veins) a little more distinct than secondary ones; inflorescence terminal, ca. 4 cm. long. ..... 80. *S. bracteosum.*
58. Leaves with close venation (secondary veins practically as prominent as primary). ..... (60).
60. Inflorescence terminal and axillary. ..... (61).
61. Leaves oblong or broadly oblanceolate-oblong, small, 5–6 cm. long, 2–2.5 cm. wide; primary veins on either side, especially below, barely distinct; flowers sessile, clustered at apices of branchlets of inflorescence. ..... 81. *S. torricellianum.*

61. Leaves larger, 10–16 cm. long, 3.5–9 cm. wide, primary veins usually distinctly manifest; flowers generally single at apices of branchlets of inflorescence.
Bracts of inflorescence short (ca. 0.5 mm. long) and pale, like the calyx lobes; dried flowers crinkly, shining. ..... 82. *S. viburnoides.*
Bracts of inflorescence longer (ca. 1 mm. long); calyx lobes ca. 1 mm. long; dried flowers glandular. ..... 83. *S. fastigiatum.*

60. Inflorescence lateral; also axis and branches of inflorescence with scaly, flaky bark.
Leaves narrowly oblong, apex long-acuminate, 12–18 cm. long, 3.5–4.5 cm. wide, primary veins inconspicuous; calyx tube barely 2 mm. long, shining, wrinkled. ..... 84. *S. iteophyllum.*
Leaves larger, obtusish to acuminate, 27–33 cm. long, 11–14 cm. wide, usually primary and secondary veins (sometimes reticulation also) distinctly manifest; calyx tube ca. 1 cm. long. ..... 85. *S. pyrocarpum.*

56. Bracts of inflorescence caducous or deciduous, i.e. inflorescence at full anthesis usually with only occasional bracts still attached or entirely wanting. ..... (62).

62. Bark of rachis and branchlets of inflorescence brown, scaly and flaky (often minute scales or flakes and not always obvious on newest inflorescence, but here finely sulcate and wrinkled). See also above, *S. iteophyllum* and *S. pyrocarpum*. ..... (63).

63. Inflorescence terminal and from uppermost axils forming subcorymbs; bark on branchlets of inflorescence, if not already exfoliating, appearing shriveled and finely sulcate. ..... 86. *S. buettnerianum.*

63. Inflorescence lateral, borne below the leaves on branches or trunk. ..... (64).

64. Branchlets tetragonous. ..... (65).

65. Leaves small, 5–7 cm. long, 2.5–3 cm. wide, with close venation; very young flowers shining. ..... 87. *S. squamatum.*

65. Leaves larger, 25–40 cm. long, 9–14 cm. wide; dried flowers dull.
Leaves 25–40 cm. long, 9–11 cm. wide, with open venation (secondaries inconspicuous); floral axis finely sulcate, decorticating here and there with minute flakes; young flower buds ca. 7 mm. long. ..... 88. *S. busuense.*
Leaves 27–33 cm. long, 11–14 cm. wide, with close venation (secondary veins and sometimes reticulation almost as obvious as primaries); flower buds ca. 1 cm. long. ..... 85. *S. pyrocarpum.*

64. Branchlets compressed or terete. ..... (66).

66. Leaves oblong-elliptic, acuminate, acumen 0.5–1 cm. long.
    Leaves 8–15 cm. long, 2.5–6.5 cm. wide, narrowed toward both ends; calyx tube pyriform to turbinate, 5–6 mm. long, (dried) longitudinally wrinkled and subsulcate. . . 89. *S. thornei.*
    Leaves 21–23 cm. long, 8.5–10 cm. wide, short cuneate at base; calyx tube obtusely subpyramidal, (dried) smooth. . . . . 90. *S. sambogense.*
66. Leaves oblong-elliptic to elliptic with apex rounded or retuse or obtuse or obtusely and very shortly acuminate.
    Calyx tube varying from subcampanulate-obconic to turbinate, ca. 7 mm. long; leaves 5–21 cm. long, 3.5–11 cm. wide; petiole 0.5–1.5 cm. long. . . . . 91. *S. furfuraceum.*
    Calyx tube campanulate, ca. 1 cm. long; bracts still plentiful on inflorescence; leaves 27–33 cm. long, 11.5–14 cm. wide; petiole to 2 cm. long. . . . . 85. *S. pyrocarpum.*
62. Bark of rachis and branchlets of inflorescence not scaly or flaky. . . . . (67).
67. Branchlets narrowly but obviously winged, each decussate pair of wings joining at base and apparently outlining the node (this characteristic not so easily seen in *S. benjaminum*). . . . . (68).
68. Leaves 4–12 cm. long, 2.5–4.5 cm. wide, coriaceous, oblong to elliptic, acuminate at apex; petioles 2–5 mm. long; inflorescence paniculate, 8–10 cm. long. . . . . 92. *S. taeniatum.*
68. Leaves smaller, 0.5–3.5 cm. long, 0.3–2.8 cm. wide; petioles 1–4 mm. long; inflorescence not more than 4 cm. long. . . . . (69).
69. Inflorescence mostly axillary.
    Flowers solitary on short (to 2.5 mm. long) peduncles; leaves mostly small, 0.5–1.5 cm. long, 0.3–1.2 cm. wide. . . . . 93. *S. alatum.*
    Flowers sessile in threes or occasionally solitary, on peduncles 0.5–2.5 cm. long; leaves larger, 1.5–3.2 cm. long, 0.8–1.5 cm. wide. . . . . 94. *S. benjaminum.*
69. Inflorescence terminal.
    Flowers sessile at apex of branches with a very few short-pedunculate in the uppermost axils; leaves chartaceous, 1–2 cm. long, 1–1.5 cm. wide. . . . . 95. *S. adelphicum.*
    Inflorescence a short, compact panicle 1.5–2 cm. long; leaves rigidly coriaceous, 1.5–3.5 cm. long, 1.5–2.8 cm. wide. . . . . 96. *S. robbinsii.*
67. Branchlets tetragonous or compressed or terete, or if winged, the wings not outlining the nodes. . . (70).
70. Calyx tube elongate-clavate, at least three times as long as apex is broad. . . . . (71).

71. Flower buds almost linear-clavate, about 20 mm. long, at base 3 mm. broad and at apex 5 mm. broad, obviously striate; leaves 9–18 cm. long, 4.5–8 cm. wide, elliptic or oblong-elliptic, obtusely acuminate, stiffly coriaceous when dry, primary veins impressed above, prominent below. ..... 97. *S. schumannianum.*

71. Flower buds clavate, at apex mostly not more than 5 mm. broad, at base (stipitate or not) ca. 1 mm. broad gradually enlarging upward to cyathiform or infundibular upper part; leaves coriaceous or chartaceous, primary veins not impressed above nor prominent below. ... (72).

72. Leaves small, 1.5–3 cm. long, 0.8–1.6 cm. wide, elliptic or oblong-elliptic, obtusish or acutish, stiff when dry; inflorescence terminal and axillary; flower buds very slender, 7–9 mm. long, apex 2.5–3 mm. broad; large tree. ..... 98. *S. carrii.*

72. Leaves generally 3–20 cm. long, 1–6 cm. wide, if smaller, then acuminate; shrubs or small trees. ..... (73).

73. Calyx tube vermicular-rugulose; dried leaves stiffly coriaceous, 3–4.8 cm. long, 1–2.7 cm. wide. ..... 99. *S. bicolor.*

73. Calyx tube glandular and sometimes striate but not vermicular-rugulose. .... (74).

74. Leaves 4–9 cm. long, 2.5–4 cm. wide, elliptic with acuminate apex tending to recurve, coriaceous, venation almost invisible; inflorescence terminal; calyx tube very slender, slightly angled, 5–8 mm. long, apex 2–2.5 mm. broad. ..... ..... 100. *S. attenuatum.*

74. Leaves elliptic to oblong with long or short acumen not especially recurved, thinly coriaceous. ..... (75).

75. Inflorescence chiefly axillary and lateral; flowers variable in size; leaves 6–15 cm. long, 2.5–5.5 cm. wide, elliptic or oblong, acuminate, acute or obtusish; branchlets terete. ..... 101. *S. claviflorum.*

75. Inflorescence terminal and axillary; calyx tube glandular, sometimes striate. Branchlets sharply tetragonous, leaves 3.5–7 cm. long, 1.3–2.8 cm. wide, elliptic with cuneate base, acuminate (acumen 0.5–1.5 cm. long), thinly coriaceous to chartaceous; calyx tube 13–16 mm. long (including broader upper 3 mm.), at apex 3.5–4 mm. broad. ..... 102. *S. leptopodium.*

Branchlets terete; leaves 22–27 cm. long, 5–9 cm. wide, oblong with cor-

date or emarginate base; calyx tube 16 mm. long, apex 2–2.5 mm. broad. ..... 103. *S. subamplexicaule.*

70. Calyx tube not elongate-clavate, if clavate less than three times as long as apex is broad. .. (76).
    76. Leaves with open venation, i.e. secondary veins mostly not parallel with primary, or, if originating at midrib, joining others before reaching intramarginal vein formed by confluent primaries. ..... (77).
        77. Leaf base cordate or emarginate. ..... (78).
            78. Leaves about twice as long as broad, 12–20 cm. long, 5.5–10 cm. wide, emarginate at base; panicle from defoliated branchlets, also terminal; calyx tube 4–5 mm. long. ..... 104. *S. nemorale.*
            78. Leaves more than twice as long as broad, cordate at base.
                Leaves very large, 52–87 cm. long, 15–34 cm. wide; inflorescence on the lower stem (not seen); infructescence with rachis 9 cm. long. ..... 105. *S. megistophyllum.*
                Leaves large, 37 cm. long, 13 cm. wide; inflorescence terminal (not seen); infructescence 11 cm. long ..... 106. *S. camptodromum.*
        77. Leaf base subrounded or rounded or rounded-cuneate or cuneate. ..... (79).
            79. Inflorescence terminal and axillary (also lateral in *S. trivene*). ..... (80).
                80. Leaves at least five times as long as broad.
                Leaves linear-lanceolate, 4–9 cm. long, 0.8–1.3 cm. wide; inflorescence axillary, 3–9-flowered. ..... 107. *S. naiadum.*
                Leaves lanceolate, 6–14 cm. long, 1–2 cm. wide; inflorescence axillary, 1–3-flowered (mostly single-flowered). ..... 59. *S. saliciforme.*
                80. Leaves less than five times as long as broad. ..... (81).
                81. Axis of inflorescence very short, flowers crowded at apex of stem or fewer in leaf axils, either suggesting a head. ..... 108. *S. capituliferum.*
                81. Axis of inflorescence 5 cm. or more long. ..... (82).
                82. Primary veins extending to the indurated cartilaginous margin of the leaves. ..... 109. *S. cartilagineum.*
                82. Primary veins confluent to form an intramarginal vein within the margin. ..... (83).

83. Leaves elliptic with rounded or very short-acuminate apex, stiffly coriaceous when dry. ..... (84).
    84. Leaves 4.5–7 cm. long, 3.5–5 cm. broad, reticulation easily seen. ..... 65. *S. sylvicola.*
    84. Leaves 7–15 cm. long, 3.5–11 cm. wide, reticulation not readily seen.
        Leaves mostly with short, recurved, obtuse acumen; fruit with calyx rim only a circular scar, umbilicate apex very shallow, saucer-like; mature flower buds 7–8 mm. long. ..... 110. *S. subglobosum.*
        Leaves obtuse or retuse at apex; fruit with calyx rim ca. 1 mm. high, umbilicate apex ca. 3 mm. deep; flower buds ca. 10 mm. long. ..... 111. *S. rubiginosum.*
83. Leaves coriaceous or thinly coriaceous or chartaceous when dry. ..... (85).
    85. Calyx tube 2–3 mm. long; leaves lanceolate, narrowed into subfalcate acumen, principal veins and reticulation slightly paler in color and readily seen on the lower surface. ..... 112. *S. triphlebium.*
    85. Calyx tube 4–9 mm. long; leaves various, but veins and reticulation (whether obvious or not) drying the same color as the leaves. ..... (86).
        86. Axes and branchlets of inflorescence thickish, a little more than 1 mm. in diameter, perhaps inflorescence terminal on year-old growth.
            Calyx tube 8 mm. long, apex 5 mm. broad; leaves chartaceous, lanceolate or lance-elliptic, 15–25 cm. long, 5–12 cm. wide, base cuneate or obtuse. ..... 113. *S. waterhousei.*

Calyx tube 4–5 mm. long, apex 3 mm. broad; leaves coriaceous, lance-ovate to elliptic, 6–10 cm. long, 2–5 cm. wide, base cuneate. . . . . 114. *S. nitidum.*

86. Axes and branchlets of inflorescence a little more slender, 0.6–0.8 mm. in diameter.

Leaves at base subrounded, slightly decurrent, apex gradually and obtusely acuminate; flower buds 5–7 mm. long. . . . . 115. *S. lorentzianum.*

Leaves at base cuneate, apex usually abruptly acuminate; flower buds 4–5 mm. long. . . . . 116. *S. trivene.*

79. Inflorescence lateral (terminal in some specimens of *S. dictyophlebium*). . . . . (87).

87. Calyx shining, wrinkled.

Leaves oblanceolate or suboblong, primary veins moderately prominent; only flower buds seen; calyx tube 4–4.5 mm. long including short (0.5 mm.) stipe, outer calyx lobes ca. 1.5 mm. high. . . . . 117. *S. verniciflorum.*

Leaves elliptic to elliptic-lanceolate, acuminate, primary veins 5–10 mm. apart but sometimes almost as inconspicuous as the secondaries (hence, difficult to determine whether leaf has open or close venation); calyx tube ca. 3 mm. long, lobes less easily seen than in *S. verniciflorum.* . . . . 118. *S. flavescens.*

87. Calyx dull, not noticeably shining. . . . . (88).

88. Inflorescence with relatively few flowers.

Leaves coriaceous, primary veins more easily seen above than below, intramarginal vein not very well marked; inflorescence short, 2–3 cm. long. . . . . 70. *S. roseum.*

Leaves chartaceous, primary veins more easily seen on the lower surface, inner intramarginal vein 4–11 mm. within margin; inflorescence 4–8 cm. long. . . . . 73. *S. hylophilum.*

88. Inflorescence profusely many-flowered. . . . . (89).

89. Leaves at least four times as long as wide; calyx tube globose-urceolate, very shortly (if at all) stipitate. . . . . 119. *S. brassii.*

89. Leaves nearer twice or three times as long as wide; calyx tube ob-

conic to turbinate, infundibular or subcampanulate at apex of stipe. . . . . (90).

90. Leaves with rounded base and apex; inflorescence borne on trunk and main branches. . . . . 120. *S. kietanum.*

90. Leaves with cuneate base and acuminate to rounded apex. . . (91).

91. Leaves with inconspicuous reticulation. . . . . 69. *S. tierneyanum.*

91. Leaves with easily seen reticulation.

Calyx tube 4.5–5 mm. long, slenderly obconic, outer calyx lobes 1.5 mm. long; petals falling separately. . . . . 78. *S. dictyophlebium.*

Calyx tube (3–)6–7 mm. long, obtusely obconic, almost truncate or outer calyx lobes not more than 0.5 mm. high; petals calyptrate. . . . . 121. *S. branderhorstii.*

76. Leaves with close venation, i.e. either primaries and secondaries are scarcely distinguishable, or primaries fine but more easily seen than secondaries which seem to run parallel with them at least two-thirds of the distance to the intramarginal vein. . . . . (92).

92. Flowers solitary; leaves slender, 4–8 cm. long, 1–2.3 cm. wide. . . . . 60. *S. uniflorum.*

92. Inflorescence cymose or paniculate. . . . . (93).

93. Inflorescence chiefly lateral, occasionally terminal and axillary. . . . . (94).

94. Leaves elliptic, acuminate, 7–14 cm. long, 3–5.5 cm. wide; inflorescence widely branching.

Calyx tube ca. 5 mm. long, when dried subangled and tending to be striate toward base, outer lobes 1–1.5 mm. long. . . . . 122. *S. leptophlebioides.*

Calyx tube 4–5 mm. long, apex undulate or 4-dentate with rounded teeth. . . . . 123. *S. decipiens.*

94. Leaves elliptic, shortly and obtusely acuminate or obtusish. . . . . (95).

95. Leaves (when dry) shining, greenish or brownish green; stipe of calyx tube approximately as long as infundibular-subcampanulate upper part of the tube. . . . . 124. *S. rosaceum.*

95. Leaves (when dry) not shining, brownish; inflorescence not seen.
Leaves shortly and obtusely acuminate, 3.5–6.5 cm. long, 1.3–3 cm. wide; branchlets 4-angled; fruit globose-urceolate with very short stipe. .... ..... 125. *S. badium.*
Leaves obtusish or with very short obtuse acumen, 12–18 cm. long, 3.5–9 cm. wide; branchlets slightly compressed; fruit pyriform or subobovoid, on numerous panicles (in type collection, axes 13–20 cm. long) in scattered clusters along the trunk. ..... 126. *S. acetosum.*

93. Inflorescence usually terminal and/or axillary. ..... (96).
96. Leaves abruptly and obtusely acuminate or obtusish or rounded or acutish. (97).
97. Leaves broadly linear-oblong, 4.5–13 cm. long, 1.3–3.5 cm. wide, veins very fine; branchlets 4-angled. ..... 127. *S. leptoneurum.*
97. Leaves not linear-oblong. ..... (98).
98. Leaves oblanceolate or elliptic, 10–14 cm. long, 4–7.5 cm. wide.
Leaves thickly coriaceous; fruits tending to be globose. ..... ..... 128. *S. micrandrum.*
Leaves chartaceous; fruits oblong (about twice as long as broad). .... ..... 129. *S. myriadenum.*
98. Leaves usually obovate, 4–10 cm. long, 1.5–5.5 cm. wide. ..... (99).
99. Reticulation practically as visible as primary and secondary veins; branchlets 4-angled. ..... 130. *S. homichlophilum.*
99. Reticulation less easily seen than the primary and secondary veins. ..... (100).
100. Leaves obovate, narrowed to petiole, apex rounded or sometimes with short, narrow, obtuse acumen, venation mostly inconspicuous or obscure; flowers small; calyx 2.5–4.5 mm. long, apex truncate or repand or definitely lobed, lobes ca. 0.5 mm. long, stipe 0.5–1.5 mm. long; fruit white. ..... ..... 131. *S. effusum s. l.*
100. Leaves, if obovate and venation inconspicuous, then flowers larger, calyx tube more than 5 mm. long.

Dried specimens dark brown or red-brown; inflorescence mostly protruding beyond the leaves; calyx tube 7–9 mm. long; venation on lower leaf surface very inconspicuous. ..... 132. *S. subcorymbosum.*

Dried specimens brownish green or olive-green; inflorescence sometimes terminal but mostly lateral; calyx tube 9–12 mm. long; venation on lower leaf surface easily seen. ..... 124. *S. rosaceum.*

96. Leaves long-acuminate, mostly with slender, tapering acumen. ..... (101).
101. Leaves lanceolate, 6–8 cm. long, 1–1.7 cm. wide. .... 61. *S. xylopiaceum.*
101. Leaves broader than the above. ..... (102).
102. Inflorescence short (2–2.5 cm. long); leaves ovate with acumen ca. one-third the length of the leaf. ..... 133. *S. luehmannii.*
102. Inflorescence longer (4–8 cm. long); leaves with acumen ca. one-fourth the length of the leaf. ..... (103).
103. Calyx tube obconic-subcampanulate, 5 mm. long, apex 6 mm. in diameter, base ca. 1 mm. stipitate. ..... 134. *S. walkeri.*
103. Calyx tube clavate-pyriform or infundibular, 2.5–6 mm. long, apex up to 3 mm. in diameter, stipe of various lengths. (104).
104. Calyx tube stipitate-cyathiform, ca. 6 mm. long, apex a little over 2 mm. in diameter; leaves coriaceous, drying brown or dark brown, acumen almost linear. ..... ..... 135. *S. rostratum.*
104. Calyx tube 2.5–3.5 mm. long, apex a little over 2 mm. in diameter; leaves thinly coriaceous to chartaceous. .. ..... (105).
105. Leaves oblong-elliptic, 4.5–7 cm. long (including acumen 1 cm. long), 1.5–3.5 cm. wide, narrowed toward both ends; calyx tube infundibular 2.5–3 mm. long, stipitate. ..... 136. *S. plumeum.*

105. Leaves ovate-elliptic, 7–12 cm. long (including acumen 1–2 cm. long), 2.5–5 cm. wide; calyx tube 2.5–3 mm. long.
Calyx tube infundibular, stipitate; fruit depressed-globose. ..... 137. *S. finisterrae.*
Calyx tube clavate-pyriform; fruit cylindrical. .. ..... 138. *S. onesimum.*

1. **Syzygium cauliflorum** Hartley & Perry, sp. nov.

Arbor gracilis 8–10 m. alta; ramulis compressis puberulis, brunnescentibus, pilis brevissimis; foliis 12.5–16 cm. longis, 3–4.5 cm. latis (interdum paribus minoribus 1.5 cm. longis, 0.5 cm. latis inter majora), lanceolatis vel lineari-lanceolatis disperse pellucido-punctatis, apice ca. 1.5 cm. acuminatis, basi rotundatis vel leviter emarginatis, venis primariis ca. 17–20, inter se 5–10 mm. distantibus in venam intramarginalem a margine 2–4 mm. conjunctis; petiolo 2–3 mm. longo, puberulo; floribus (alabastris tantum visis) 1–2 in ramis puberulis brevibus (2–3.5 cm. longis) suffultis, et secus longitudinem trunci dispersis, apice ramorum bifoliato, foliis 5–6.5 cm. longis, 1 cm. latis, pedunculis 1–1.5 cm. longis, puberulis; calycis tubo basi ca. 3 mm. stipitato deinde turbinato vel fere late obconico, usque ad lobos (stipite 3 mm. incluso) ca. 2 cm. longo, lobis 5–7 mm. altis. HOLOTYPUS: *Brass 23608* (A).

**Papua.** MILNE BAY DISTRICT: Maneau Range, N slopes of Mt. Dayman, in oak forest substage, alt. 900 m., *Brass 23608*.

Among the species described from New Guinea this is perhaps nearest to *Syzygium polyphlebium* (Diels) Merr. & Perry. We have no material to represent the latter, and the original descriptions are based on different stages of development. *Syzygium polyphlebium* is described as a shrub 1.5 m. tall with leaves twice as large and with twice as many primary lateral veins. No information is given about the axes of the inflorescences (whether there are any or not) but the fact that the calyx lobes are obsolete in Diels' species would seem to set it apart from the plant here described, as does the pubescence of the branchlets, petioles, and peduncles of *S. cauliflorum*.

2. **Syzygium megalospermum** (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. **23**: 264. 1942.

*Jambosa megalosperma* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 472. 1901. TYPE: *Lauterbach 2434*, Territory of New Guinea, Madang District, Schumann River.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland and foothill rain forests to about 360 meters.

3. **Syzygium porphyrocarpum** (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 250. 1942.

*Eugenia porphyrocarpa* Greves, Jour. Bot. **61**(Suppl.): 17. 1923. TYPE: *Forbes 298*, Papua, Central District, Sogeri, Mt. Wori-Wori (BM, holotype; A, carbon rubbings, notes).

DISTRIBUTION: Territory of New Guinea, Papua; foothill and montane rain forests, 500–2000 meters.

4. **Syzygium cladopterum** (Diels) Merr. & Perry, Jour. Arnold Arb. 23: 249. 1942.

*Jambosa cladoptera* Diels, Bot. Jahrb. **57**: 391. 1922. TYPE: *Schlechter 17337*, Territory of New Guinea, Madang District, Djamu.

DISTRIBUTION: Territory of New Guinea, Papua; lowland and foothill rain forests to 800 meters.

5. **Syzygium macrocalyx** Merr. & Perry, Jour. Arnold Arb. 23: 253. 1942. TYPE: *Clemens 3078*, Territory of New Guinea, Morobe District, Sattelberg, 1000 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

6. **Syzygium flavidum** Hartley & Perry, sp. nov.

Arbor ca. 18 m. alta; ramulis compressis, pallide brunnescentibus; foliis leviter coriaceis, sub lente minute sed profuse pellucido-punctatis, olivaceis, ellipticis, 24–25 cm. longis, 11–11.5 cm. latis, apice acuminatis, basi cuneatis, venis primariis utrinsecus 8–10 supra manifestis subtus prominulis, secundariis subobscuris; petiolo 1–1.5 cm. longo; floribus (alabastris tantum visis) lateralibus vel terminalibus, solitariis vel 2–3-fasciculatis (?), pedunculatis, pedunculo ca. 1.2–3 cm. longo (vel fortasse pedunculo usque ad 5 mm. longo et pedicello 1–2.7 cm. longo); calycis tubo sub lobis 3–3.5 cm. longo, turbinato-obconico-stipitato, parte inferior superiore longiore; lobis 5–7 mm. altis. HOLOTYPUS: *Hartley 9936* (A).

**Territory of New Guinea.** MOROBE DISTRICT: near the Busu River about 7 miles N of Lae, lowland rain forest at about 60 m., *Hartley 9936*.

Although the leaves are larger, in general they resemble those of *Syzygium gonatanthum* in the distance between the primary veins, but the flower buds are about twice as large as the flowers of *S. gonatanthum*.

7. **Syzygium nutans** (K. Schum.) Merr. & Perry, Jour. Arnold Arb. 23: 263. 1942.

*Eugenia nutans* K. Schum. in K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 90. 1889. TYPE: *Hollrung 818*, Territory of New Guinea, Sepik District (K, isotype; A, phot.).
*Jambosa nutans* (K. Schum.) Niedenzu, Nat. Pflanzenfam. III. **7**: 84. 1893.

DISTRIBUTION: Territory of New Guinea, Papua; lowland and foothill rain forests to 1050 meters.

8. **Syzygium insulare** Hartley & Perry, sp. nov.

Arbor usque 7.5 m. alta; ramulis brunnescentibus; foliis ellipticis vel elliptico-ovatis, 15–25 cm. longis, 6–9 cm. latis, apice acuminatis, basi rotundatis vel interdum obtusis, supra atrovirentibus, subtus pallidioribus,

venis primariis utrinsecus costa 10–14, utrinque distincte manifestis, venis reticulatis visis sed inconspicuis; petiolo 5–8 mm. longo crassiusculo supra canaliculato; floribus albis solitariis axillaribus et terminalibus, magnis; pedunculis pedicellisque 5 mm. longis; calycis tubo 1.8 cm. longo, obconico, lobis exterioribus 5 mm. longis, interioribus ± 8 mm. longis, petalis ca. 2 cm. longis; fructibus ovoideis usque 8(–15) cm. longis, rubris. HOLOTYPUS: *Floyd NGF 3546* (A).

**Bismarck Archipelago.** NEW BRITAIN: West Nakanai, Galilo village, near Cape Hoskins, *Floyd NGF 3546*; Talasea Subdistrict, upper slopes and summit of Mt. Lollo, an extinct volcano, alt. ca. 800 m., *NGF 10850*; foot of Mt. Bango, in *Pandanus* swamp, *NGF 10892*. **Solomon Islands.** BOUGAINVILLE: Karngu, Buin, *Kajewski 2248*. GUADALCANAL: Mt. Austin, ridge rain forest, alt. ca. 240 m., *BSIP 65*; Berande, rain forest at sea level, *Kajewski 2400*. SAN CRISTOBAL: Waimamura, *Brass 2649*.

In an earlier work (cf. Jour. Arnold Arb. 23: 263. 1942) Merrill and Perry associated the collections from the Solomon Islands with *Syzygium nutans*, noting that there were differences in the color of the flowers and the size of the fruits. However, now that we have at hand several collections of *S. nutans* as well as the photograph of the isotype in Kew, we are satisfied that the above cited specimens represent a distinct species. All the attached mature flowers on specimens of *S. nutans* have a short, bent axis so that the flowers are cernuous; in *S. insulare* it is difficult to tell since the flowers are all detached except one very small bud (6 mm. long) which is upright; the remains of the floral or fruiting axes, however, point upward, and the flowers are white.

9. **Syzygium burepense** Hartley & Perry, sp. nov.

Arbor ca. 10.5 m. alta, ramulis hornotinis ca. 4 mm. diametro brunnescentibus, novellis compressis; foliis coriaceis non pellucido-punctatis, obovato-ellipticis, 19–21.5 cm. longis, 7.5–9.5 cm. latis, basi fere rotundato-cuneatis, apice abrupte et breviter acuminatis, costa supra canaliculata subtus elevata, venis primariis utrinsecus costa ± 12 oblique patento-adscendentibus in venam intramarginalem ca. 4–7 mm. a margine distantem confluentibus, supra leviter impressis, subtus prominulis; petiolo 5–10 mm. longo; floribus lateralibus (in specimine typico) in ramulis ± 1 cm. diametro suffultis, ut videtur oppositis, singulis vel 2–3 a nodo oriundis; pedunculo ca. 5 mm. longo, pedicello ca. 3 mm. longo; calycis tubo 2–2.2 cm. longo, obtuse obconico, basi ca. 5 mm. diametro, sub lobis ca. 17 mm. lato; lobis 7–10 mm. altis; corolla pallide rosea; staminibus albis. HOLOTYPUS: *Hartley 11054* (A).

**Territory of New Guinea.** MOROBE DISTRICT: Burep River, ca. 15 miles NE of Lae, stream margin of lowland rain forest, alt. ca. 15 m., *Hartley 11054*.

We are at a loss to recognize the nearest relative of this new species. Its very short peduncle and pedicel suggest *Syzygium macrocalyx* but in the latter the infructescence is terminal and the leaves are smaller but

with similar venation. Also, the rugose fruit would seem to indicate a somewhat costate flower (flowering material not yet seen).

10. **Syzygium dolichophyllum** (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa dolichophylla* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 471. 1901. TYPE: *Rodatz & Klink*, Territory of New Guinea, Bismarck Range.

DISTRIBUTION: West Irian, Territory of New Guinea; lowland and foothill rain forests to 1100 meters.

11. **Syzygium callianthum** Merr. & Perry, Jour. Arnold Arb. **23**: 252. 1942. TYPE: *Brass 4146*, Papua, Central District, Mt. Tafa (A, holotype).

DISTRIBUTION: Papua; foothill and montane rain forests, 1400–2100 meters.

12. **Syzygium keysseri** (Schlechter) Merr. & Perry, Jour. Arnold Arb. **23**: 253. 1942.

*Jambosa keysseri* Schlechter, Bot. Jahrb. **62**: 485. 1929. TYPE: *Keysser*, Territory of New Guinea, Morobe District, Sarawaket Range.

DISTRIBUTION: West Irian, Territory of New Guinea; montane rain forests, 2200–3000 meters.

13. **Syzygium daphne** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 254. 1942.

*Eugenia daphne* Ridley, Trans. Linn. Soc. Bot. II. **9**: 45. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype; A, phot.).

DISTRIBUTION: West Irian; along streams and in secondary growth in lowland and foothill forests.

14. **Syzygium trachyanthum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa trachyantha* Diels, Bot. Jahrb. **57**: 394. 1922. TYPE: *Ledermann 10871*, Territory of New Guinea, Sepik District, Malu.
*Jambosa lagynocalyx* Diels, *Ibid.*
*Syzygium lagynocalyx* (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

DISTRIBUTION: Territory of New Guinea, Papua; lowland, foothill and montane rain forests to 1800 meters.

15. **Syzygium salicinum** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 254. 1942.

*Eugenia salicina* Ridley, Trans. Linn. Soc. Bot. II. **9**: 45. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype; A, phot.).

DISTRIBUTION: West Irian, Papua; apparently restricted to stream banks in lowland and foothill forests.

16. **Syzygium pyriforme** Merr. & Perry, Jour. Arnold Arb. **23**: 259. 1942. TYPE: *Brass 6966*, Papua, Western District, Palmer River (A, holotype).

DISTRIBUTION: Papua; lowland and foothill rain forests to 1100 meters.

17. **Syzygium erythropetalum** Hartley & Perry, sp. nov.

Arbor ca. 17 m. alta; ramulis compressis cinereis; foliis 3.5–6 cm. longis, 1.3–2.5 cm. latis, coriaceis copiose pellucido-punctatis, in sicco fusco-brunnescentibus subtus pallidioribus, apice acuminatis, basi acutis, venis primariis utrinsecus costa ± 5 irregulariter inter se distantibus in venam intramarginalem (1.5–4 mm. intra marginem) confluentibus subtus prominentibus praecipue in parte inferiore laminae, secundariis utrinque visis sed inconspicuis; petiolo 3–6 mm. longo; floribus solitariis (?), pedunculo articulato vel pedunculo et pedicello 1–1.5 cm. longis; calycis tubo basi 1–2 mm. stipitato deinde 10–12 mm. longo campanulato; lobis 3–5 mm. altis; petalis 1–1.5 cm. longis, 1–1.2 cm. latis, rubescentibus; filamentis roseis. HOLOTYPUS: *Hoogland & Pullen 6059* (A).

**Territory of New Guinea.** WESTERN HIGHLANDS DISTRICT: near Tomla village, S slope of Mt. Hagen Range, forest on steep slope, alt. 2600 m., *Hoogland & Pullen 6059*.

This species is perhaps nearest to *Syzygium subalatum* (incl. *S. soliflorum*), but the venation of the leaves seems to differ in that the primary veins leave the midrib irregularly, and the prominent intramarginal vein seems to begin 2–7 mm. above the base of the leaf.

18. **Syzygium subalatum** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Eugenia subalata* Ridley, Trans. Linn. Soc. Bot. II. **9**: 44. 1916; Greves, Jour. Bot. **61**(Suppl.): 18. 1923. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype; A, phot.).
*Jambosa soliflora* Diels, Bot. Jahrb. **57**: 393. 1922.
*Syzygium soliflorum* (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 254. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; foothill and montane rain forests, 210–3200 meters.

19. **Syzygium sogerense** (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 250. 1942.

*Eugenia sogerensis* Greves, Jour. Bot. **61**(Suppl.): 18. 1923. SYNTYPES: *Forbes*

*372*, *408*, *725*, Papua, Central District, Sogeri and Mt. Wori-Wori (BM; A, isosyntype — *Forbes 372*).

DISTRIBUTION: Papua. Known only from the Forbes collections originally cited.

20. **Syzygium tympananthum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 255. 1942.

*Jambosa tympanantha* Diels, Bot. Jahrb. **57**: 393. 1922. TYPE: *Schlechter 17949*, Territory of New Guinea, Madang District, Finisterre Range.

DISTRIBUTION: West Irian, Territory of New Guinea; primary and secondary lowland and foothill rain forests, 180–1500 meters.

21. **Syzygium gonatanthum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 256. 1942.

*Jambosa gonatantha* Diels, Bot. Jahrb. **57**: 384. 1922. TYPE: *Ledermann 10620*, Territory of New Guinea, Sepik District, Malu (B, holotype; A, phot.).
*Eugenia forbesii* Greves, Jour. Bot. **61**(Suppl.): 16. 1923.
*Syzygium forbesii* (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 261. 1942.

DISTRIBUTION: Territory of New Guinea, Papua; lowland and foothill rain forests to 1400 meters.

22. **Syzygium thomsenii** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa thomseni* Diels, Nova Guinea (Bot.) **14**: 91. 1924. TYPE: *Thomsen 658*, West Irian, Mamberamo District, Pionierbivak (L, isotype; A, phot.).

DISTRIBUTION: West Irian; lowland rain forest at 75 meters.

23. **Syzygium thalassicum** Merr. & Perry, Jour. Arnold Arb. **23**: 258. 1942. TYPE: *Brass 2971*, Solomon Islands, Ulawa (A, holotype).

DISTRIBUTION: Solomon Islands; ocean foreshores or beach rain forest. Cultivated in Hawaii.

24. **Syzygium novoguineense** Merr. & Perry, Jour. Arnold Arb. **23**: 286. 1942. TYPE: *Zippelius* (L, holotype; A, carbon rubbing). "Myrtus auriculata Herb. Zipp. ex parte." Only data in next ref. *Jambosa auriculata* Bl. Mus. Bot. Lugd.-Bat. **1**: 104. 1849, non *S. auriculatum* Brongn. & Gris (1865).

DISTRIBUTION: West Irian, Territory of New Guinea; lowland rain forests.

25. **Syzygium goniocalyx** (Lauterb.) Merr. & Perry, Jour. Arnold Arb. 23: 262. 1942.

*Jambosa goniocalyx* Lauterb. Nova Guinea (Bot.) 8: 851. 1912. TYPE: *von Roemer 223*, West Irian, south coast (L, isotype; A, phot.).

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland and foothill rain forests to 1350 meters.

26. **Syzygium madangense** Hartley & Perry, sp. nov.

Arbor fruticosa usque 6 m. alta; ramulis ut videtur annotinis rotundatis fusco-cinereis; foliis tenuiter coriaceis, ovato-ellipticis, 25–29 cm. longis, 13.5–15 cm. latis, basi rotundatis usque cordatis, apice acuminatis, venis primariis utrinsecus costa ± 10 oblique patentibus irregulariter conjunctis sed non venam intramarginalem formantibus, subtus prominulis, secundariis interdum visis; petiolo brevissimo vel nullo; floribus axillaribus vel terminalibus subsessilibus conglomeratis magnis; in sicco calycis tubo obconico ± 8-costato, 2.5–2.7 cm. longo, basi ca. 4 mm. diametro, apice subtus lobis ca. 1.8 cm. diametro; lobis 5–8 mm. longis interdum carinatis; petalis cremeis apice persicinis. HOLOTYPUS: *K. J. White NGF 10300* (A).

**Territory of New Guinea.** MADANG DISTRICT: Josephstaal, one mile W of Pondoma village, alt. 75 m., *K. J. White NGF 10300.*

The dried ribbed calyx strongly resembles that of *Syzygium goniocalyx* but lacks the lower narrowed attenuate part which forms a stalk on the fruit of that species; however, the leaves of the two are quite different at the base. The end of a branchlet of our new species shows at least four clustered protrusions each marked by 2–5 scars not all of which appear to be the same age; however, no flowers are attached.

27. **Syzygium heterobotrys** Merr. & Perry, Jour. Arnold Arb. 23: 257. 1942. TYPE: *Brass 8238*, Papua, Western District, Lower Fly River, rain forest substage (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

28. **Syzygium lagerstroemioides** Merr. & Perry, Jour. Arnold Arb. 23: 262. 1942. TYPE: *Brass 1393*, Papua, Milne Bay District, Kurandi (A, holotype).

DISTRIBUTION: Territory of New Guinea, Papua; generally along streams in lowland, foothill and lower montane rain forests to 1570 meters.

29. **Syzygium randianum** Merr. & Perry, Jour. Arnold Arb. 23: 264. 1942. TYPE: *Brass 6673*, Papua, Western District, Upper Fly River, flood banks of creek at 80 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

30. **Syzygium normanbiense** Hartley & Perry, sp. nov.

Arbor magna usque 35 m. alta; ramulis obtuse angulatis partim decorticatis; foliis 14.5–16.5 cm. longis, 6–8.5 cm. latis, disperse pellucido-punctatis, supra brunnescentibus, subtus olivaceis, ellipticis apice plerumque recurvato-acuminatis, basi breviter cuneatis vel fere attenuatis, venis primariis utrinsecus costa ± 20 prominulis oblique patentibus, secundariis et reticulo fere aequaliter prominulis; petiolo 1.5–2 cm. longo; inflorescentiis terminalibus, axe ca. 5 cm. longo, ramulis paucis, 1–2 cm. longis; floribus sessilibus, albis; bracteis non visis; calycis tubo ca. 1.5 cm. longo, ad basin 5 mm. diametro in parte inferiore fere cylindrico deinde versus apicem sub lobis subabrupte ampliato ± 1 cm. diametro; lobis 5–7 mm. longis, rotundatis. HOLOTYPUS: *Brass 25478* (A).

**Papua.** MILNE BAY DISTRICT: Normanby Island, Waikaiuna, rain forest of lower ridges, alt. 20 m., *Brass 25478*.

Perhaps this species is near *Syzygium caryophylloides*. It differs in the acuminate (not subacute or subrounded) leaf tips, larger inflorescence and flowers, and apparently caducous bracts. The flower buds are similar in shape to those of *S. randianum*, but considerably smaller.

31. **Syzygium suborbiculare** (Benth.) Hartley & Perry, comb. nov.

*Eugenia suborbicularis* Benth. Fl. Austral. **3**: 285. 1866. SYNTYPES: *W. Hill*, Queensland, Cape York (K); *A. Cunningham*, Queensland, Endeavour River.
*Careya jambosoides* Lauterb. Nova Guinea (Bot.) **8**: 313. 1910.
*Eugenia jambosoides* (Lauterb.) O. Schwarz, Repert. Sp. Nov. **24**: 90. 1927.
*Syzygium jambosoides* (Lauterb.) Merr. & Perry, Jour. Arnold Arb. **23**: 262. 1942.

**West Irian.** Merauke, *Versteegh BW 60*. **Papua.** WESTERN DISTRICT: Lower Fly River (east bank), Gaima, *Brass 8301*. **Australia.** NORTHERN TERRITORY: Darwin, *Schultz 557* (K); *Specht 1080* (A, K). QUEENSLAND: Cape York, *Damel* (K), *Moseley* (Challenger Expedition) (K), *Hill 41* (K), *136* (K).

The Australian specimens listed from Kew were borrowed to confirm our belief that the New Guinea collections designated as *Syzygium jambosoides* belong to this Australian species. The habitats given are savannah forest, or landward edge of coastal dune, or mixed open forest at base of sandstone scarp.

32. **Syzygium leonhardii** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 258. 1942.

*Jambosa leonhardii* Diels, Bot. Jahrb. **57**: 384. 1922. TYPE: *Schultze Jena 177*, Territory of New Guinea, Sepik District.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; swampy woods or floodplain rain forest to about 1200 meters.

We have seen no authentic material of this species. Consequently, just as in many other instances, we have tried to estimate the variability of the characters from the original description and the key. In Diels' key we find the species listed in the part where the flowers are described thus: lower part of the receptacle (i.e. calyx tube) cylindric, longer than the upper. In the description: petiole 7–15 mm. long. These characters are mentioned in particular since a specimen collected in the Botanic Gardens, Bogor, seems to belong here; it has petioles 2.5–3 cm. long and flowers with the tubular part of the calyx tube ca. 2 cm. long and the enlarged upper part scarcely 1 cm. long — but it bears the name of another species.

33. **Syzygium vernicosum** Merr. & Perry, Jour. Arnold Arb. **23**: 260. 1942. TYPE: *Brass 8113*, Papua, Western District, Lower Fly River (A, holotype).

DISTRIBUTION: Papua; lowland and foothill rain forests.

34. **Syzygium synaptoneurum** (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa synaptoneura* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 475. 1901. TYPE: *Lauterbach 2356*, Territory of New Guinea, Madang District, Ssigaun (Sigaun).

DISTRIBUTION: West Irian, Territory of New Guinea; lowland rain forest.

The collections we have placed in this species do not have winged branchlets. The flowers and leaves, however, seem approximately to suit the description although the inflorescence is on old nodes as well as axillary and terminal on recent growth.

35. **Syzygium evenulosum** Merr. & Perry, Jour. Arnold Arb. **23**: 261. 1942. TYPE: *Brass & Versteegh 14108*, West Irian, Idenburg River, Bernhard Camp, foothill rain forest at 80 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

36. **Syzygium versteegii** (Lauterb.) Merr. & Perry, Jour. Arnold Arb. **23**: 256. 1942.

*Jambosa versteegii* Lauterb. Nova Guinea (Bot.) **8**: 321. 1910. TYPE: *Versteeg 1386*, West Irian, Lorentz River (L, isotype; A, phot.).

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland rain forests to 125 meters.

37. **Syzygium pachycladum** (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. **23**: 258. 1942.

*Jambosa pachyclada* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl.

Deutsche Schutzgebiete Südsee 474. 1901. TYPE: *Lauterbach 2841*, Territory of New Guinea, Madang District, Schumann River.

DISTRIBUTION: Territory of New Guinea; foothill and lower montane rain forests to 1200 meters.

38. **Syzygium pteropodum** (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. 23: 263. 1942.

*Jambosa pteropoda* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 473. 1901. TYPE: *Lauterbach 2214*, Territory of New Guinea, Madang District, Astrolabe Plain.

DISTRIBUTION: West Irian, Territory of New Guinea, Bismarck Archipelago; lowland and foothill rain forests to 1700 meters.

We are not at all sure that the specimens assigned to this species all belong together, but all have winged inflorescence axes and young branchlets which are very narrowly winged. In *Docters van Leeuwen 9660* (determined by Diels) the primary veins toward the base of the leaves are closer and more nearly ascending than in the other specimens; the base of the leaf is also narrower.

39. **Syzygium laqueatum** Merr. & Perry, Jour. Arnold Arb. 23: 257. 1942. TYPE: *Brass & Versteegh 11157*, West Irian, 18 km. W of Lake Habbema (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea; foothill and montane rain forests, 1500–2350 meters.

40. **Syzygium malaccense** (L.) Merr. & Perry, Jour. Arnold Arb. 19: 215. 1938, *sensu lato*.

*Eugenia malaccensis* L. Sp. Pl. 470. 1753.
*Jambosa malaccensis* (L.) DC. Prodr. 3: 286. 1828.

DISTRIBUTION: Native of some part of the Indo-Malesian region and widely cultivated. In New Guinea and the Solomon Islands, a fairly common tree in rain forests at lower elevations.

We are not sure that the specimens placed here are *Syzygium malaccense* in the strict interpretation of the species; the dried leaves have the same texture, but the flowers are smaller, sometimes scarcely more than half as large, and in some instances the inflorescence seems to be longer and more profusely flowering as well as more openly branched than in *S. malaccense, sensu stricto*; e.g. the specimens: *Hoogland 5062* and *NGF 5678* with inflorescences 9 and 7 cm. long, respectively.

41. **Syzygium multiglandulosum** Merr. & Perry, Jour. Arnold Arb. 23: 269. 1942. TYPE: *Brass & Versteegh 13194*, West Irian, Idenburg River, Bernhard Camp (A, holotype).

DISTRIBUTION: West Irian; foothill rain forests, 650–1150 meters.

We have fragmentary specimens of some Clemens collections with flower buds, young fruit, and almost mature fruit from the Territory of New Guinea (Yunziang, Quembung and Ogeramnang). The leaves closely resemble those of *Syzygium multiglandulosum* in venation, but they are much stiffer in the dried state. Also, the pericarp of the fruit in these collections is not more than 2–3 mm. thick at base and looks as if it might have been fleshy before drying. That of *S. multiglandulosum* appears to be woody.

42. **Syzygium spectabile** Merr. & Perry, Jour. Arnold Arb. **23**: 265. 1942. TYPE: *Brass 12995*, West Irian, Idenburg River, Bernhard Camp (A, holotype).

DISTRIBUTION: West Irian; foothill rain forests, 400–1200 meters.

43. **Syzygium samarangense** (Bl.) Merr. & Perry, Jour. Arnold Arb. **19**: 115, 216. 1938.

*Eugenia javanica* Lam. Encycl. **3**: 200. 1789, non *Syzygium javanicum* Miq. 1855.

*Myrtus samarangensis* Bl. Bijdr. 1084. 1826. TYPE: "in cultis." Bl. *Ibid.* 1085.

*Jambosa javanica* K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 470. 1901.

DISTRIBUTION: Lower Burma, south on various islands of Indonesia and the Philippines to New Guinea and the Solomon Islands; a common species of scrub back of ocean beach.

44. **Syzygium amplum** Hartley & Perry, sp. nov.

Arbor 15 m. alta; ramis teretibus, ramulis compressis, pallide brunnescentibus; foliis 17–29 cm. longis, 10–17 cm. latis, chartaceis vel tenuiter coriaceis, copiose pellucido-punctatis, ellipticis vel ovato-ellipticis obtusis basi cuneatis; venis primariis utrinsecus costa 10–12 oblique adscendentibus, in venam intramarginalem 4–9 mm. intra marginem arcuato-conjunctis, utrinque prominulis supra interdum impressis; petiolo 1.5–2 cm. longo; inflorescentiis plerumque lateralibus, axe ramulisque usque 1.5–3 cm. longis; floribus ad apicem ramulorum solitariis in sicco post anthesin subsulcatis; calycis tubo parte inferiore 1.5–2 cm. longo (basi 2 mm., apice partis angustae 4–5 mm. diametro) deinde subabrupte campanulato hic subtus lobis ca. 7 mm. longo, ca. 14 mm. lato, lobis exterioribus ca. 4 mm. longis, interioribus 8 mm. longis, dense minuteque pustulatis glandulosis, petalis etiam filamentis et stylo glandulosis. HOLOTYPUS: *Brass 32645* (A).

**Territory of New Guinea.** MOROBE DISTRICT: Umi River, Markham Valley, rain forest at 480 m., *Brass 32645*; Edie Creek, about 4 miles SW of Wau, oak

forest at 1500 m., *Hartley (leg. Sayers) 12614.* MADANG DISTRICT: Lower Ramu-Atitau Area, Aiome Patrol Post, lowland rain forest at ca. 100 m., *Pullen 977.* **Papua.** CENTRAL DISTRICT: Brown River, lowland rain forest, *NGF 7157.*

This species is perhaps related to *Syzygium pachycladum*, but the latter has no clearly marked marginal vein, a much more robust floral axis, and rose- to lilac-colored flowers. The profusion of minute glands in the leaves of *S. amplum* is not mentioned in the description of *S. pachycladum.*

45. **Syzygium validinerve** Hartley & Perry, sp. nov.

Arbor ca. 4.5 m. alta; cortice brunnescente, laevi; ramulis cinereis non angulatis; foliis anguste ellipticis basi acutis, apice acuminatis, moderate pellucido-punctatis, venis primariis utrinsecus costa ± 8 oblique adscendentibus irregulariter inter se distantibus intra marginem 5 mm. in venam confluentibus utrinque distincte manifestis sed non prominulis, vena marginali secundaria vix visa; petiolo 0.8–1.5 cm. longo, parte inferiore fusca; inflorescentia in ramulo defoliato ± 8 cm. longo, pedunculo et pedicello quoque ca. 2 cm. longo; calycis tubo in parte inferiore stipitate (± 5 mm.) gradatim sursum ampliato turbinato, in toto infra lobos ca. 2 cm. longo, 1 cm. diametro; lobis exterioribus 0.5 cm. interioribus 1 cm. longis; petalis et staminibus albis. HOLOTYPUS: *Hartley 12015* (A).

**Territory of New Guinea.** EASTERN HIGHLANDS DISTRICT: above Sassaura, montane rain forest at about 1800 m., *Hartley 12015.*

The brief description of the leaves of *Syzygium alutaceum* (Diels) Merr. & Perry has some likeness to this species but here the flowers are very much larger with large calyx lobes.

46. **Syzygium womersleyi** Hartley & Perry, sp. nov.

Arbor 6 m. vel plus (± 24 m.) alta; ramulis novellis compressis, brunnescentibus; foliis coriaceis 8–18(–25) cm. longis, 3–6(–8.5) cm. latis, apice obtusiusculis vel subrotundatis vel interdum acutiusculis, basi obtusis vel cuneatis, in sicco brunnescentibus, venis primariis utrinsecus costa 6–10 oblique et arcuatim adscendentibus interdum supra impressis subtus prominulis, secundariis saepe inconspicuis; petiolo 5–10 mm. longo; inflorescentiis lateralibus brevibus, axe 1–3 cm. longo, pauciramoso; floribus magnis; calycis tubo 1.5(–2) cm. longo, basi breviter stipitato deinde turbinato vel infundibulari, rubello; lobis 8–15 mm. altis; petalis et staminibus albis; fructibus ± oblongis vel brevioribus et ad apicem et basin angustatis. HOLOTYPUS: *Womersley & Hoogland NGF 4989* (A).

**Territory of New Guinea.** WESTERN HIGHLANDS DISTRICT: near Nondugl, alt. ca. 1680 m., *Womersley & Hoogland NGF 4989, NGF 4990, NGF 4845*; twelve miles N of Wabag, Porget logging area, mountain forest, alt. 2100 m., *NGF 11080, NGF 11257*; Kutu, near Mt. Hagen, *NGF 9610.* EASTERN HIGHLANDS DISTRICT: near Purosa, about 18 miles SW of Okapa, rain forest on slope, alt. 1500 m., *Hartley 13184*; Mt. Wilhelm, east slopes, in forest substage,

alt. 2650 m., *Brass 30716*. MOROBE DISTRICT: Sambanga, steep mountain forest, alt. 1500–1800 m., *Clemens 7414*. **Papua.** SOUTHERN HIGHLANDS DISTRICT: Enep, N of Mende, mixed *Nothofagus* forest, alt. 2130 m., *Schodde 2130*.

In the texture of the leaves and the position of the inflorescence (below the leaves) this species suggests *Syzygium malaccense*, but the flowers are white (red calyx, white petals and stamens) and few in an inflorescence.

47. **Syzygium goniopterum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 259. 1942.

*Jambosa gonioptera* Diels, Bot. Jahrb. **57**: 391. 1922. TYPE: *Ledermann 8689*, Territory of New Guinea, Sepik District (K, isotype; A, phot.).

DISTRIBUTION: Territory of New Guinea, Papua; lowland and foothill rain forests to 750 meters.

48. **Syzygium platypodum** Diels, Bot. Jahrb. **57**: 406. 1922. TYPE: *Schlechter 16380*, Territory of New Guinea, Madang District, Wobbe (K, isotype; A, phot.).

DISTRIBUTION: Territory of New Guinea; lowland, foothill and montane rain forests, 200–2010 meters.

We have hesitated about determining several higher altitude collections as Diels' species, but the only differences we have found are the somewhat smaller leaves and higher calyx lobes. Only part of our specimens show the prismatic character of the calyx tube, but since in a single specimen some flowers show the prismatic tendency while others are turbinate, it would appear to be a weak character in this instance. As to the calyx lobes, in the collections at hand the exterior ones are 2.5 mm. high and the inner pair is higher — a character which would place the plant in *Jambosa* as used by Diels. He simply says, "calyx lobes short." We suspect that this is because the type was only in bud with few open flowers.

49. **Syzygium waikaiunense** Hartley & Perry, sp. nov.

Arbor usque 25 m. alta; ramulis teretibus vel novellis forte sulcatis; foliis rigide coriaceis supra brunnescentibus subtus paulo pallidioribus ellipticis 5.5–11 cm. longis, 3–5 cm. latis, apice obtusis, basi angustatis, venis primariis utrinque visis sed plerumque inconspicuis inter se 2–3.5 mm. distantibus ± 1 mm. infra marginem laxe arcuato-anastomosantibus; petiolo 7–10 mm. longo; inflorescentiis terminalibus et axillaribus, axibus 1–4, floribus plerumque in apice congestis sessilibus, interdum flore uno infra-apicali; calycis tubo basi 2 mm., apice 7–8 mm. lato, obtuse obconico vel subturbinato, usque sub lobis 8–10 mm. longo, lobis 2–2.5 mm. altis; petalis ca. 7 × 7 mm. ad basin paulo angustatis. HOLOTYPUS: *Brass 25919* (A).

**Papua.** MILNE BAY DISTRICT: Normanby Island, mountains behind Waikaiuna Bay, rain forest on lower slopes, alt. 100 m., *Brass 25919*; Waikaiuna, rain forest at 20 m. alt., *Brass 25887*.

This species is related to *Syzygium micrandrum*, but differs in the obtuse, coriaceous leaves that are scarcely, if at all, punctate, and calyces that are obtuse at the base and not rugulose (under a lens).

50. **Syzygium variabile** Hartley & Perry, sp. nov.

Arbor mediocris multoties ramosa; cortice brunnescente, ramulis compressis; foliis (in typo 3–6 cm. longis, 1.7–3 cm. latis, in ceteris usque 14.5 × 6 cm.) ellipticis vel subovato-ellipticis subcoriaceis in sicco olivaceo-brunneis, non pellucido-punctatis, basi obtusis apice subobtusis, venis primariis utrinsecus costa ca. 8–10 utrinque manifestis, vena intramarginali intra marginem 2–4 mm.; petiolo plerumque brevi usque 5(–10) mm. longo; inflorescentiis terminalibus (vel axillaribus vel lateralibus) cymosis ca. 4–6 cm. longis, paucifloris, floribus sessilibus; calycis tubo anguste turbinato vel infundibulari 10–12 mm. longo inconspicue breviter stipitato, glanduloso; lobis 2–3 mm. longis; petalis 5–6 mm. longis singulatim caducis. HOLOTYPUS: *Womersley NGF 11423* (A).

**Territory of New Guinea.** WESTERN HIGHLANDS DISTRICT: Wahgi Valley near Banz, along creek in grassland country, alt. ca. 1750 m., *Hoogland & Pullen 6213*; foothills near Jimmi Divide, Banz, secondary growth at 1800 m. alt., *Robbins 602*; 1.5 miles W of Kawil on side of Paranuk River, alt. ca. 1600 m., *NGF 7684*; Nondugl, secondary growth, *NGF 4365*. EASTERN HIGHLANDS DISTRICT: NE slopes of Mt. Michael, gully in *Nothofagus* forest at 2000 m. alt., *Brass 31319*; Kini Creek, NE slopes of Mt. Michael, *Castanopsis* forest, alt. 1950 m., *Womersley NGF 11423*, gully forest, *NGF 11405*; Mt. Otto, S slopes, rocky creek bank in *Castanopsis* forest, alt. 2000 m., *Brass 31091*; Goroka Subdistrict, Upper Dunantina Valley, secondary forest on steep slope, alt. ca. 1700 m., *Hoogland & Pullen 5303*.

The specimens cited above show great variation in leaf size. Most have short petioles; only *NGF 11405* and *Brass 31319* have some petioles 1 cm. long. The leaf base is generally obtuse but varies to cuneate with the longer blades. One inflorescence of *Brass 31319* is 9 cm. long, also the leaves of the two numbers mentioned tend to be acuminate. Nevertheless, we believe these all to be one species.

The new species is possibly related to *Syzygium hylophilum* (including *Jambosa weinlandii, fide* Diels), but the leaves are generally not acuminate, and the flowers of *S. hylophilum* are a little smaller. In *NGF 4365* the flower buds are clavate, which may be due to their immaturity.

51. **Syzygium puberulum** Merr. & Perry, Jour. Arnold Arb. 23: 263. 1942. TYPE: *Brass 838*, Papua, Central District, Port Moresby (A, holotype).

DISTRIBUTION: Papua; in gullies and along streams in foothill forests to 450 meters.

In most specimens at hand the calyx tube is minutely puberulous, but this character is variable and in some specimens the tube is essentially glabrous, cf. *Brass 21800, Hoogland 4344, 4683* and *Saunders 155*.

52. **Syzygium coalitum** (Greves) Hartley & Perry, comb. nov.

*Eugenia coalita* Greves, Jour. Bot. **61**(Suppl.): 15. 1923. TYPE: *Forbes 28*, Papua, Central District, Sogeri (BM, holotype).
*Jambosa sargentiana* Diels, Jour. Arnold Arb. **10**: 83. 1929.
*Syzygium sargentianum* (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

DISTRIBUTION: Territory of New Guinea, Papua; mainly bordering streams in foothill forests, 360–450 meters.

Since the 1942 study, Merrill examined Greves' type.

53. **Syzygium virescens** Merr. & Perry, Jour. Arnold Arb. **23**: 260. 1942. TYPE: *Brass 13950*, West Irian, Idenburg River, Bernhard Camp (A, holotype).

DISTRIBUTION: West Irian, Papua; lowland rain forests to 50 meters.

54. **Syzygium phaeostictum** Merr. & Perry, Jour. Arnold Arb. **23**: 270. 1942. TYPE: *Brass & Versteegh 11935*, West Irian, Idenburg River, 15 km. SW of Bernhard Camp (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea; foothill and lower montane rain forests, 1140–1650 meters.

55. **Syzygium hylochare** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa hylocharis* Diels, Jour. Arnold Arb. **10**: 83. 1929. TYPE: *Brass 1065*, Papua, Gulf District, Aroara, Vailala River (A, isotype).

DISTRIBUTION: Territory of New Guinea, Papua; foothill rain forests to 1100 meters.

56. **Syzygium delicatulum** Merr. & Perry, Jour. Arnold Arb. **23**: 273. 1942. TYPE: *Brass 2781*, Solomon Islands, San Cristobal, Waimasi (A, holotype).

DISTRIBUTION: New Britain, Solomon Islands; lowland and foothill rain forests to 1700 meters.

57. **Syzygium aqueum** (Burm. f.) Alston, Ann. Roy. Bot. Gard. Peradeniya **11**: 204. 1929.

*Eugenia aquea* Burm. f. Fl. Ind. 114. 1768. Based on *Jambosa aquea* Rumphius, Herb. Amboin. **1**: 126. *t. 38, f. 2*. 1741.
*Jambosa aquea* (Burm. f.) DC. Prodr. **3**: 288. 1828.

DISTRIBUTION: Territory of New Guinea; primary and secondary lowland and foothill rain forests. Cultivated since early botanical history in India and Malesia.

58. **Syzygium roemeri** (Lauterb.) Merr. & Perry, Jour. Arnold Arb. 23: 275. 1942.

*Jambosa roemeri* Lauterb. Nova Guinea (Bot.) **8:** 851. 1912. TYPE: *von Roemer 986*, West Irian, foothills of the Hellwig Mts. (L, isotype; A, phot.).

*Jambosa rubella* Rechinger, Repert. Sp. Nov. **11:** 183. 1912. Denkschr. Math.-Nat. K. Akad. Wiss. Wien **89:** 583. *f. 25* (Bot. Zool. Ergeb. Wiss. Forsch. Samoa – I. Neug.-Arch. Solomensins. **5:** 141). 1913.

*Syzygium rubellum* (Rech.) Merr. & Perry, Jour. Arnold Arb. **23:** 275. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland, foothill and montane rain forests to 2100 meters.

59. **Syzygium saliciforme** Merr. & Perry, Jour. Arnold Arb. 23: 253. 1942. TYPE: *Brass 7243*, Papua, Western District, Palmer River (A, holotype).

DISTRIBUTION: West Irian, Papua; apparently restricted to inundation banks of streams in lowland forests to 100 meters.

60. **Syzygium uniflorum** Merr. & Perry, Jour. Arnold Arb. 23: 255. 1942. TYPE: *Brass 5608*, Papua, Central District, Kubuna, riverbed gravel banks at 100 m.

DISTRIBUTION: Known to us only from the type collection.

61. **Syzygium xylopiaceum** (Diels) Merr. & Perry, Jour. Arnold Arb. 23: 249. 1942.

*Jambosa xylopiacea* Diels, Bot. Jahrb. **57:** 392. 1922. TYPE: *Ledermann 8239*, Territory of New Guinea, Sepik District, Hunstein Mts.

DISTRIBUTION: Territory of New Guinea, Papua; stream borders in lowland forests to 300 meters.

62. **Syzygium garcinioides** (Ridley) Merr. & Perry, Jour. Arnold Arb. 23: 249. 1942.

*Eugenia garcinioides* Ridley, Trans. Linn. Soc. Bot. II. **9:** 44. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition, Camp III, at 650 m. (BM, holotype; A, phot.).

DISTRIBUTION: West Irian (no other data on habitat given).

63. **Syzygium cinctum** Merr. & Perry, Jour. Arnold Arb. 23: 272. 1942. TYPE: *Brass 3344*, Solomon Islands, Ysabel, Tiratona (A, holotype).

*Eugenia cincta* (Merr. & Perry) Whitmore, Guide For. British Solomon Isl. 203. 1966; Gard. Bull. Singapore **22**: 16. 1967.

DISTRIBUTION: Solomon Islands; foothill rain forests to 600 meters.

64. **Syzygium richardsonianum** Merr. & Perry, Jour. Arnold Arb. **23**: 274. 1942. TYPE: *Brass 11354*, West Irian, Bele River, 18 km. NW of Lake Habbema (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea; primary and secondary foothill and montane rain forests, 990–2800 meters.

We are not sure whether *NGF 24534* belongs here or not. The inflorescence is similar, but the branchlets are very narrowly winged and the bark, although cracked, is not flaking off as it is in the other specimens; further, it is very dark (almost black) in color, similar to that of *Syzygium subglobosum*.

65. **Syzygium sylvicola** Hartley & Perry, sp. nov.

Arbor 20–25 m. alta; ramulis teretibus, fuscis; foliis valde coriaceis, 4.5–6.5 cm. longis, 3.5–5 cm. latis, ellipticis apice rotundatis deinde brevissime obtuseque acuminatis, acumine 3–5 mm. longo, basi cuneatis vel rotundato-cuneatis, venis primariis inter se 5–7 mm. distantibus utrinque facile manifestis, secundariis etiam rete venularum fere aequaliter visis, vena intramarginali intra marginem 3–4 mm.; petiolo 7–10 mm. longo fusco; paniculis terminalibus 5–7 cm. longis, ramulis adscendentibus, bracteis deciduis; calycis tubo obconico, 7 mm. longo, basi 1 mm. apice 5–6 mm. diametro, lobis exterioribus 1.5 mm. altis; petalis in calyptram connatis (vel discretis). HOLOTYPUS: *Brass 30717* (A).

**Territory of New Guinea.** EASTERN HIGHLANDS DISTRICT: Mt. Wilhelm, east slopes, tall valley forest, alt. 2650 m., *Brass 30717*. **Papua.** CENTRAL DISTRICT: above The Gap, forest at ca. 2400 m., *Carr 13813*.

There is no doubt in our minds that these two specimens belong to the same species, although the Carr specimen has slightly larger flowers (calyx tube 9 mm. long, outer lobes 2.5–3 mm. high, and apex of the calyx 6–7 mm. in diameter) with petals that fall separately. The distinctive characteristic is the rather obvious venation of the very stiff dried leaves. Perhaps it is related to *Syzygium multiglandulosum*.

66. **Syzygium rubro-punctatum** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 268. 1942.

*Eugenia rubro-punctata* Ridley, Trans. Linn. Soc. Bot. II. **9**: 46. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition, Canoe Camp (BM, holotype; A, phot. and carbon rubbing).
*Syzygium insculptum* Merr. & Perry, Jour. Arnold Arb. **23**: 267. 1942.

DISTRIBUTION: West Irian (Wollaston Expedition), Papua (Fly River); lowland forests, 50–80 meters.

When Merrill and Perry described *Syzygium insculptum* the similarity in the two species was mentioned. Since then Merrill made a carbon rubbing of a part of a leaf of the Boden Kloss collection which exactly matches the same part in *S. insculptum*, so now we believe the difference in flower bud size is due to Ridley's type having very immature flower buds.

67. **Syzygium pergamaceum** (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 250. 1942.

*Eugenia pergamacea* Greves, Jour. Bot. **61**(Suppl.): 16. 1923. TYPE: *Forbes 805*, Papua, Central District, Sogeri, Mt. Koikoko (BM, holotype; A, carbon rubbing, notes).
*Syzygium archboldianum* Merr. & Perry, Jour. Arnold Arb. **23**: 271. 1942.
*Syzygium discolor* Merr. & Perry, *Ibid.* 274.

DISTRIBUTION: Aroe Islands, West Irian, Territory of New Guinea, Papua; primary and secondary lowland and foothill rain forests to 1150 meters.

We believe, from Merrill's carbon rubbing and notes, that both the above named species should be reduced to synonymy of the taxon named by Greves. Although the leaves of *Syzygium discolor* are not more than half as large as those of the rest of the collections, this size variation may be caused by some ecological factor rather than by a genetic difference; the flowers seem to resemble those of the other specimens.

68. **Syzygium pluviatile** Hartley & Perry, sp. nov.

Arbor magna; ramulis compressis vel obtuse 4-angulatis, brunnescentibus; foliis tenuibus et leviter coriaceis pellucido-punctatis, ellipticis, apice recurvis et basi acutis vel attenuatis, 8.5–11 cm. longis, 5.5–7.5 cm. latis, venis primariis inter se 6–7 mm. remotis, fere patentibus in venam intramarginalem a margine 2–4 mm. conjunctis, venis secundariis inconspicuis; petiolo 1–1.5 cm. longo fusco; inflorescentiis terminalibus (in specimine hoc in ramulo annotino) paniculatis ± 14 cm. longis latisque, cortice axis et ramorum ± rimoso; floribus purpureis sessilibus (alabastris tantum in typo), bracteis non visis; calycis tubo ca. (6–)12 mm. longo anguste pyriformi vel turbinato, basi 1.4–2 mm. lato, apice sub lobis ca. 6 mm. diametro, lobis exterioribus 2 mm. altis, interioribus ca. 4 mm. altis; disco intus 1 mm. superanti aream staminiferam. HOLOTYPUS: *Brass 28739* (A).

**West Irian.** Manokwari, Dessa, Momi, primary forest at ca. 10 m., *NIFS bb 33382*. **Territory of New Guinea.** MADANG DISTRICT: Lower Ramu-Atitau area, about 1/4 mile N of Josephstaal airstrip, flood-plain forest at ca. 90 m., *Saunders 959*. **Papua.** MILNE BAY DISTRICT: Woodlark Island, Kulumadau, rain forest on coral limestone ridge, alt. 100 m., *Brass 28739*.

In the holotype the inflorescence is terminal on a grayish brown, defoliated branchlet 5 mm. in diameter; the branchlet bearing leaves is

brownish, 3 mm. in diameter, and separate from the flowering one. The three cited specimens have in common an extension of the disc free for about 1 mm. above and within the area of staminal insertion. This is an unusual character in *Syzygium*. The species appears from the description to be most like *S. pyrrophloem* Diels, which differs in having numerous primary veins, (dried) longitudinally sulcate calyx tube, and calyx lobes often not separate from petals[?]. We are sure Diels would have considered our plant to be a member of the group which he called *Jambosa* on account of the obvious calyx lobes.

69. **Syzygium tierneyanum** (F. Muell.) Hartley & Perry, comb. nov.

*Eugenia tierneyana* F. Muell. Frag. Phytogr. Austral. **5**: 14. 1865; F. M. Bailey, Queensl. Fl. 2: 660. 1900. TYPE: *Dallachy*, Queensland, North Kennedy District, Dalrymple Creek.
*Syzygium floribundum* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 476. 1901, non F. Muell. (1864).
*Jambosa floribunda* (Lauterb. & K. Schum.) Diels, Bot. Jahrb. **57**: 388. 1922.
*Syzygium lauterbachianum* Merr. & Perry, Jour. Arnold Arb. **23**: 268. 1942.
*Syzygium lauterbachianum* var. *phaeophloium* Merr. & Perry, *Ibid.*

DISTRIBUTION: West Irian, Territory of New Guinea, Papua, Solomon Islands, Queensland; lowland, foothill, and lower montane rain forests to 1350 meters.

We are not certain of the limits of this species, but we have included specimens which might reasonably belong. We would like to mention here two other described species, *S. platycarpa* (Diels) Merr. & Perry and *S. cornifolium* (Bl.) Merr. & Perry, which may be *S. tierneyanum*, or very closely related, but we are not sufficiently certain to place them in synonymy. We have a photograph of a paratype of *S. platycarpum* from the Berlin herbarium, and one specimen, *Brass 1148*, determined by Diels as spec. aff. *Jambosa platycarpa*. Merrill & Perry had determined it as *S. cornifolium*. However, we now have a photograph of the type of *S. cornifolium* from Leiden, and we suspect the Brass specimen may be *S. tierneyanum*, although the intramarginal vein is nearer the margin than that in some other collections. The distance of this inner intramarginal vein from the leaf margin seems to be variable, the collections of *S. tierneyanum* from the Solomon Islands, appear to have the greatest distance. *Syzygium cornifolium* was described on a collection from Celebes, but has been reported from New Guinea.

70. **Syzygium roseum** Merr. & Perry, Jour. Arnold Arb. **23**: 270. 1942. TYPE: *Brass 5618*, Papua, Western District, Oriomo River (A, holotype).

DISTRIBUTION: Papua; lowland alluvial rain forest. Known only from the type collection.

71. **Syzygium fibrosum** (F. M. Bailey) Hartley & Perry, comb. nov.

*Eugenia fibrosa* F. M. Bailey, Queensl. Fl. **2**: 662. 1900. TYPE: *F. M. Bailey*, Queensland, Moreton District, Somerset (BRI, holotype).

DISTRIBUTION: West Irian, Aroe Islands(?), Papua, Queensland; lowland and foothill monsoonal and evergreen forests to 1400 meters.

There is considerable variation in the few specimens we have determined as this species. The calyx lobes in *Carr 13031* (collected at 1400 m.), *Kanehira & Hatusima 13137* (fruit only), and *Kanehira & Hatusima 13171* (with buds) are very slender; the buds of *Kanehira & Hatusima 13171* are 10–11 mm. long and pointed at the apex. On the other hand, the buds of *NGF 8288* are ca. 6 mm. long and tend to be rounded at the apex. The only Queensland specimen we have which is not yet in flower has buds ca. 9 mm. long that only tend to be pointed at the apex.

72. **Syzygium brevicymum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 261. 1942.

*Jambosa brevicyma* Diels, Bot. Jahrb. **57**: 389. 1922. TYPE: *Ledermann 10414*, Territory of New Guinea, Sepik District, Malu (B, holotype; A, phot.).
*Syzygium caudiferum* Merr. & Perry, Jour. Arnold Arb. **23**: 272. 1942.

DISTRIBUTION: Territory of New Guinea, Papua, Bismarck Archipelago; lowland and foothill rain forests.

73. **Syzygium hylophilum** (Lauterb. & K. Schum.) Merr. & Perry, Jour. Arnold Arb. **23**: 273. 1942.

*Jambosa hylophila* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 471. 1901. TYPE: *Lauterbach 50*, Territory of New Guinea, Morobe District, Butaneng [near Finschhafen].
*Jambosa weinlandii* K. Schum. Nachtr. Fl. Deutsche Schutzgebiete Südsee 326. 1905.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua(?), New Britain(?); lowland, foothill and montane rain forests to 2000 meters.

Without type and supporting collections this species has been difficult to define. In addition, there are two other species, *Syzygium dolichostylum* (Diels) Merr. & Perry and *S. riparium* (Diels) Merr. & Perry, which either belong here or seem to be very closely related. In the descriptions all of the species have reasonably short petioles, nearly the same number of primary veins, and inflorescences of approximately the same size. The calyx tube in *S. dolichostylum* is 1.5 cm. long, in the others 1–1.2 cm. long, but all are similar in shape and at present we have been unable to key them separately. Only *S. hylophilum* is in the key, and in the identification list of specimens all are designated as cf. 73.

74. **Syzygium aeoranthum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa aeorantha* Diels, Nova Guinea (Bot.) **14**: 90. 1924. TYPE: *W. Feuilleteau de Bruyn 246*, West Irian, plain N of Van Rees Mts. (L, isotype; A, phot.).

DISTRIBUTION: West Irian, Territory of New Guinea; lowland and foothill rain forests.

75. **Syzygium longipes** Merr. & Perry, Jour. Arnold Arb. **23**: 274. 1942.

*Eugenia longipes* Warb. Bot. Jahrb. **13**: 391. 1891, non Berg (1854). TYPE: *Warburg*, Territory of New Guinea, Morobe District, Finschhafen.
*Jambosa longipes* (Warb.) Diels, Bot. Jahrb. **57**: 382. 1922.
*Jambosa longipes* var. *leptopoda* Diels, *Ibid.* 383.
*Eugenia daphnoides* Greves, Jour. Bot. **61**(Suppl.): 15. 1923.
*Syzygium daphnoides* (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 270. 1942.
*Syzygium longipes* var. *leptopodum* (Diels) Merr. & Perry, *Ibid.* 274.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland and foothill rain forests.

Comparison of the types of *Eugenia pendula* (Bl.) DC. (described from Java, but apparently collected in Amboina, *fide* Amshoff, Blumea **5**: 496. 1945) and *E. stipularis* Miq. (from Amboina) is necessary to determine whether these and the New Guinea collections all belong to one species. Further, considerable variation exists among the specimens we have cited in the length of peduncle or axis of inflorescence. *Eugenia daphnoides* is described as having peduncles 5–8 cm. long, but in *E. longipes* Warb. they are said to be 10–30 cm. long. This seems to us not to be a specific difference. Also, we are not sure that the color of the flower (i.e. of the corolla and stamens — the calyx seems mostly to be red) is a useful characteristic here. Certainly most flowers are pink or red, but a few white flowers are listed as cf. 75, as is a specimen having an inflorescence with very short axis. One specimen, *Brass 28549*, has very fine thread-like axis and branchlets of inflorescences which seem to be terminal on year-old wood. Its real relationship may be elsewhere.

76. **Syzygium anomalum** Lauterb. Nova Guinea (Bot.) **8**: 853. 1912. TYPE (designated by Diels, Bot. Jahrb. **57**: 405. 1922): *Gjellerup 163*, West Irian, Hollandia (L, isotype; A, phot.).

DISTRIBUTION: Known to us only from the type region. Although Lauterbach cited also a *von Roemer* collection when describing this species in 1912, Diels doubted that the two collections were of the same species. However, the paucity of the material before him precluded a definite decision.

77. **Syzygium pallens** Merr. & Perry, Jour. Arnold Arb. **23**: 251. 1942. TYPE: *Brass 3936*, Papua, Central District, Ononge Road, Dieni, rain forest at 500 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

78. **Syzygium dictyophlebium** Merr. & Perry, Jour. Arnold Arb. **23**: 267. 1942. TYPE: *Brass 5338*, Papua, Central District, Mafulu (A, holotype).

DISTRIBUTION: Territory of New Guinea, Papua, Queensland; foothill rain forests, 900–1250 meters.

The abundant flowers of this species are creamy and apple-scented (*fide Hoogland 5157*), the calyx tube pyriform, 6 mm. long below the lobes, the smaller pair of lobes 1–1.5 mm. high, the inner and larger pair 2.5–3 mm. high. Persistent floral bracts may also be present but this character is variable and in some specimens the bracts are deciduous before anthesis. In Proc. Roy. Soc. Queensl. **69**: 51. 1958, Blake cited *Hoogland 5157*, *NGF 8567* and *NGF 5214* under this species. *NGF 7475*, from Bulolo, also seems to belong here.

79. **Syzygium acutangulum** K. Schum. in K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 89. 1889. TYPE: *Hollrung 643*, Territory of New Guinea, Sepik District (K, isotype; A, phot.).

*Syzygium papuasicum* Merr. & Perry, Jour. Arnold Arb. **23**: 251. 1942.

DISTRIBUTION: West Irian, Aroe Islands, Territory of New Guinea, Papua, New Britain, Solomon Islands; lowland and foothill rain forests to 1000 meters.

In the introduction we commented on the angular and compressed branchlets of this species. There is also variation in the leaves, which are acute in some specimens and acuminate in others. The fruiting specimens available to us appear somewhat atypical and are referred to as cf. 79 in the identification list. Unfortunately we do not have flowering and fruiting collections from the same locality.

80. **Syzygium bracteosum** Merr. & Perry, Jour. Arnold Arb. **23**: 250. 1942. TYPE: *Brass & Versteegh 11986*, West Irian, Bele River, 18 km. NW of Lake Habbema (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea; foothill and montane rain forests, 1800–2300 meters.

81. **Syzygium torricellianum** Diels, Bot. Jahrb. **57**: 405. 1922. TYPE: *Schlechter 20270*, Territory of New Guinea, Sepik District, Torricelli Mts. (K, isotype; A, phot.).

DISTRIBUTION: West Irian, Territory of New Guinea; foothill rain forests, 900–1740 meters.

82. **Syzygium viburnoides** Diels, Bot. Jahrb. **57**: 405. 1922. TYPE: *Ledermann 7744*, Territory of New Guinea, Sepik District (K, isotype; A, phot.).

DISTRIBUTION: Territory of New Guinea, Papua; lowland and foothill rain forests.

83. **Syzygium fastigiatum** (Bl.) Merr. & Perry, Mem. Am. Acad. Arts Sci. **18**: 152. 1939 (Mem. Gray Herb. 4).

*Calyptranthus fastigiata* Bl. Bijdr. 1090. 1826. TYPE: probably *Blume* (L, holotype); forests of western Java.
*Eugenia bibracteata* Greves, Jour. Bot. **61**(Suppl.): 18. 1923.
*Syzygium bibracteatum* (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

DISTRIBUTION: Burma, Malay Peninsula, Sumatra, Borneo, Java, New Guinea (West Irian, Territory of New Guinea, Papua), New Britain; lowland, foothill and lower montane rain forests.

84. **Syzygium iteophyllum** Diels, Bot. Jahrb. **57**: 414. 1922. TYPE: *Ledermann 8527*, Territory of New Guinea, Sepik District, Hunstein Mts.

DISTRIBUTION: Territory of New Guinea; lowland and foothill rain forests to 1200 meters.

We have been very much puzzled about this species and have not found anything to work with except the original description. We have at hand five herbarium sheets (all cited in the exsiccatae as cf. 84). Four appear to be of one species the dried specimens of which have pale olive-green, thin leaves, cauliflorous inflorescences, small, shining flowers with longitudinally and slenderly sulcate calyx tube (2–2.5 mm. long), and purple fruit. The axis of the inflorescence up to the first branch is 2–3.5 cm. long. Diels described the inflorescence axis as 5–7 cm. long, the only character in which our four specimens vary from the original description. In the original, however, the flowers were immature, so that their ultimate size is not known. In the fifth specimen at hand [*Hartley (leg. Sayers) 12576*], collected at 1200 meters altitude (the others all from lowland rain forests), the inflorescence appears to be a branchlet probably collected from the stem. It is 6 cm. long to the first node (only one leaf attached) and the branching part of the inflorescence is 10.5 cm. long with rather immature, wrinkled flower buds. The leaves dried brownish. Although the label indicates, "fruit white, produced on the main trunk," no fruit was found (either separate or with the specimen).

85. **Syzygium pyrocarpum** (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 280. 1942.

*Eugenia pyrocarpa* Greves, Jour. Bot. **61**(Suppl.): 17. 1923. TYPE: *Forbes 99*, Papua, Central District, Sogeri (BM, holotype; A, carbon rubbing of leaf, notes).

*Eugenia xylantha* Greves, *Ibid.* 18.

*Syzygium xylanthum* (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 280. 1942.

DISTRIBUTION: Papua; lowland and foothill rain forests to 450 meters.

Greves described *Eugenia pyrocarpa* as having complanate branchlets, strongly winged petioles, and a compact lateral cymose inflorescence. She says *E. xylantha* has strongly quadrangular branchlets, slightly winged petioles, and a loose lateral cymose inflorescence. Merrill, who examined both types, was of the opinion that the two were one species. On a carbon rubbing of *Syzygium xylanthum* he wrote "ultimate branchlet (one only) 4-angled, but its small branch terete."

86. **Syzygium buettnerianum** (K. Schum.) Niedenzu, Nat. Pflanzenfam. III. **7**: 85. 1893; Diels, Bot. Jahrb. **57**: 406. 1922.

*Eugenia buettneriana* K. Schum. in K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 89. 1889. TYPE: *Hollrung 658*, Territory of New Guinea, Sepik District (L, isotype; A, fragment).

DISTRIBUTION: West Irian, Territory of New Guinea, Papua, Solomon Islands; lowland, foothill, and montane rain forests to 2500 meters.

There is considerable altitudinal variation in this species which is reflected by a marked shortening of the inflorescence and the flowers in collections from the montane rain forests. Also, the leaves of the higher altitude specimens are more coriaceous with more pronounced venation than those of the lowland specimens. There are, however, intermediate specimens from foothill rain forests (ca. 1000 meters) and so we do not feel the montane extreme warrants any taxonomic status. Examples of the montane form are *Brass 31858*, *Hartley 12325*, and *Hoogland & Pullen 5961*. Examples of the intermediate form are *NGF 4065*, *NGF 19417* and *Schodde 2186*.

*Syzygium buettnerianum* is at least superficially similar to *S. subcorymbosum* (species no. 132), and the two have often been confused by recent New Guinea collectors. The distinguishing characters are given below.

| S. BUETTNERIANUM | S. SUBCORYMBOSUM |
|---|---|
| 1. Bark of branchlets and inflorescence finely scaly or at least sulcate and wrinkled. | 1. Bark of branchlets and inflorescence smooth. |
| 2. Flowers red. | 2. Flowers white. |
| 3. Fruits subglobose, 1–1.5 cm. in diameter. | 3. Fruits barrel shaped, 2.5–3.5 cm. long. |

87. **Syzygium squamatum** Merr. & Perry, Jour. Arnold Arb. 23: 277. 1942. TYPE: *Brass & Versteegh 13125*, West Irian, Bernhard Camp, Idenburg River, primary rain forest at 850 m. altitude.

DISTRIBUTION: Known to us only from the type collection.

88. **Syzygium busuense** Hartley & Perry, sp. nov.

Arbor parva ca. 6 m. alta; ramulis distincte tetragonis vel anguste alatis, brunnescentibus; foliis 25–30 cm. longis, 9–10.5 cm. latis, oblongo-ellipticis, basi cuneatis, apice obtusis deinde breviter acuminatis, acumine 0.5–1.5 cm. longo obtuso, chartaceis vel subcoriaceis, costa siccata utrinque prominente, venis primariis utrinque prominulis ca. 20-jugis oblique adscendentibus in venam intramarginalem ca. 3 mm. intra marginem anastomosantibus, secundariis inconspicuis; petiolo 1.5–2.5 cm. longo, 3 mm. diametro; inflorescentiis 7–12 cm. longis, 7 cm. latis, aperte thyrsoideis, cauligeris supra medium ramosis, bracteis deciduis, axi et ramulis confertim sulcatis interdum minute decorticantibus; floribus (alabastris et post anthesin vel fructibus juvenilibus) sessilibus in apice ramorum confertis; alabastro clavato 7 mm. longo, apice 3 mm. diametro, post anthesin calycis tubo 7 mm. longo, apice 5 mm. diametro, lobis ca. 0.5–1 mm. altis, vertice umbilicato 3 mm. profundo. HOLOTYPUS: *Floyd NGF 5683* (A).

**Territory of New Guinea.** MOROBE DISTRICT: Busu [River], near Lae, lowland rain forest, *Floyd NGF 5683*; Busu River about 12 miles N of Lae, rain forest on slope, alt. 30 m., *Hartley 11885*.

In general aspect of leaves this species has some resemblance to *Syzygium richardsii* Airy Shaw and *S. villamilii* (Merr.) Merr. & Perry, both of western Malesia, but it differs in being cauliflorous (the inflorescences in the western Malesian species are chiefly terminal) and having coarser and larger inflorescences. If an isotype of *S. cruriflorum* Diels is found, this species should be compared with it, although neither specimen cited as *S. busuense* has calyx lobes as large as those described by Diels.

89. **Syzygium thornei** Hartley & Perry, sp. nov.

Arbor ca. 13.5 m. alta; ramulis teretibus fuscis interdum decorticantibus; foliis ellipticis tenuiter coriaceis, 8–12 cm. longis, 3–5 cm. latis, apice acuminatis, acumine ± 1 cm. longo, basi cuneatis, costa utrinque paulo elevata, venis primariis inter se 5–7 mm. distantibus inconspicuis, secundariis vix visis sed interdum venis omnibus ut videtur tenuissimis et fere indistinctis; petiolo 5–8 mm. longo; paniculis ca. 6–8 cm. longis, e trunco etiam e ramis subter folia ortis; axi et ramulis hic illic decorticantibus, bracteis caducis; calycis tubo 5(–7) mm. longo turbinato, siccato longitudinaliter tenuiter sulcato, lobis exterioribus 1 mm. altis, interioribus paulo longioribus; fructibus obovoideis, 1.5 cm. longis, 0.9 cm. diametro. HOLOTYPUS: *Gray & Thorne NGF 12899* (A).

**Territory of New Guinea.** MOROBE DISTRICT: Morobe, *Womersley NGF 3140*.

**Papua.** CENTRAL DISTRICT: Brown River, lowland rain forest, alt. 60 m., *Gray & Thorne NGF 12899, Schodde 2560, NGF 5876.*

The collection from Morobe was distributed as *Syzygium dolichorhynchum* Diels *vel aff.* We have found no material of that species.

90. **Syzygium sambogense** Hartley & Perry, sp. nov.

Arbor parva, ca. 7 m. alta; ramulis teretibus brunneis decorticantibus; foliis 21–23 cm. longis, 8.5–10 cm. latis, ellipticis, basi late cuneatis, apice subabrupte obtuseque acuminatis, acumine 1–1.5 cm. longo, siccatis supra fusco-brunnescentibus subtus pallidioribus, venis primariis inter se 7–10 mm. distantibus, supra inconspicuis, subtus facile visis, secundariis manifestis, reticulo inconspicuo, vena intramarginali 2–3 mm. intra marginem; pedunculo 1.5–1.8 cm. longo; paniculis ut videtur lateralibus, ± compactis, axi et ramulis decorticantibus, ramulis ultimis brevibus 1–3-floribus sessilibus ferentibus; bracteis deciduis (hinc inde una visa); calycis tubo obpyramidali 5–6 mm. longo, lobis exterioribus 1 mm., interioribus 1.5 mm. longis; fructibus ovoideis, 1.2 cm. longis, fere 0.8 cm. diametro. HOLOTYPUS: *Hoogland 3838* (A).

**Papua.** NORTHERN DISTRICT: Samboga River near crossing W of Embi Lakes, stony riverside flooded by high water, alt. ca. 60 m., *Hoogland 3838.*

The leaves of *Syzygium sambogense* differ from those of *S. pyrocarpum* in the acuminate apex and the inconspicuous reticulate venation; the dried flowers are obtusely angular and about half as large as those of *S. pyrocarpum*, further, only single bracts are left here and there on the mature inflorescence of this plant, whereas in the specimens which we have associated with *S. pyrocarpum* each flower is subtended by bracts.

91. **Syzygium furfuraceum** Merr. & Perry, Jour. Arnold Arb. 23: 276. 1942. TYPE: *Clemens 2133*, Territory of New Guinea, Quembung (A, holotype).

*Syzygium folidorhachis* Merr. & Perry, *Ibid.*

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland, foothill and montane rain forests to 2200 meters.

Some of the specimens included here differ in having the flowers somewhat narrowed towards the base into a fairly stout pseudostipe. This character is variable, however, and does not seem to have great significance in this species. We have reduced *Syzygium folidorhachis* to *S. furfuraceum*, since the distinguishing character of prominent reticulate venation of the leaves may well be the result of variation in habitat.

92. **Syzygium taeniatum** Diels, Bot. Jahrb. 57: 411. 1922. TYPE: *Ledermann 6705*, Territory of New Guinea, Sepik District, Malu (K, isotype; A, phot.).

*Syzygium maschalocladum* Merr. & Perry, Jour. Arnold Arb. **23**: 284. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; lowland, and foothill rain forests to 1050 meters.

93. **Syzygium alatum** (Lauterb.) Diels, Bot. Jahrb. **57**: 411. 1922.

*Aphanomyrtus alata* Lauterb. Nova Guinea (Bot.) **8**: 854. 1912. TYPE: *von Roemer 725*, West Irian, Hellwig Mts. (L, isotype; A, phot.).
*Syzygium vaccinioides* Merr. & Perry, Jour. Arnold Arb. **23**: 256. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; upper montane rain forests and cloud forests, 2700–3560 meters.

In spite of the difference in the size and shape of the leaves of the types of *Syzygium alatum* and *S. vaccinioides*, we now have enough material at hand to suggest that the two intergrade and probably belong to a single variable species. The wing character of the branchlets varies from straight to slightly, to very much, rippled and apparently is not correlated with relative length or width of leaves.

94. **Syzygium benjaminum** Diels, Bot. Jahrb. **57**: 411. 1922. TYPE: *Ledermann 10944*, Territory of New Guinea, Sepik District, Hunstein Mts.

*Syzygium micropetalum* Merr. & Perry, Jour. Arnold Arb. **23**: 293. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; montane rain forests and cloud forests, 1350–2700 meters.

Although we have seen only Diels' description, all our material appears to agree well with it and seems best placed here. The type of *Syzygium micropetalum* has somewhat larger leaves as well as both terminal and axillary inflorescences, but this may be the result of a more favorable habitat.

95. **Syzygium adelphicum** Diels, Nova Guinea (Bot.) **14**: 93. 1924. TYPE: *Lam 1971*, West Irian, Doorman Peak (L, holotype; A, phot.).

*Syzygium adelphicum* var. *adenanthum* Merr. & Perry, Jour. Arnold Arb. **23**: 292. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; montane rain forests and cloud forests, 2000–2070 meters.

Although *Syzygium adelphicum* var. *adenanthum*, with mostly more prominent primary veins, appears to be the commoner form, we have decided not to recognize varieties in this work since we are dealing with such a limited amount of material. The most distinctive character of the species appears to be the sessile, terminal inflorescence with sometimes short axillaries contributing to the appearance of a larger terminal cluster.

We also have a few specimens bearing an apparent compound inflorescence, e.g. *Eyma 4782*, *Clemens 7565A* and *Kanehira & Hatusima 13695*. More material is required to determine the significance of this variation.

96. **Syzygium robbinsii** Hartley & Perry, sp. nov.

Arbor 15 m. alta; ramis decorticatis; ramulis quadrangulis alatis, alis internodia decussate circumscribentibus; foliis 1.5–3.5 cm. longis, 1.5–2.8 cm. latis, late ellipticis basi et apice obtusis vel rotundatis, in sicco brunnescentibus, rigide coriaceis, subtus venis primariis prominulis, utrinsecus costa 7–9, rete distincte manifesto; petiolo 2–4 mm. longo, atrofusco; inflorescentiis ramosis (alabastris plerumque) compactis, 1.5–2 cm. longis bracteatis; axibus alatis; bracteis 2–3 mm. longis, inferioribus subrotundatis, superioribus oblongis, caducis; floribus sessilibus 2 vel 3 apicalibus; calycis tubo obconico 3 mm. longo, lobis 5 ca. 1 mm. longis; calyptra caduca vel petalis singillatim caducis. HOLOTYPUS: *Robbins 849* (A; BM, isotype).

**Territory of New Guinea.** EASTERN HIGHLANDS DISTRICT: Goroka Subdistrict, Mt. Otto area, Omahaiga River Valley, Collins' mill, lower montane forest, *Robbins 849*.

Superficially *Syzygium robbinsii* suggests *Eugenia wrayi* King, of the Malay Peninsula, but its branches are only quadrangular, not winged, and the reticulations of its leaves are finer and much less clearly visible.

97. **Syzygium schumannianum** (Niedenzu) Diels, Bot. Jahrb. **57**: 402. 1922.

*Eugenia neurocalyx* K. Schum. in K. Schum. & Hollr. Fl. Kaiser Wilhelms Land 90. 1889, non A. Gray (1854).
*Jambosa schumanniana* Niedenzu, Nat. Pflanzenfam. III. **7**: 84. 1893. TYPE: *Hollrung 749*, Territory of New Guinea, Sepik District.
*Eugenia schumanniana* (Niedenzu) Greves, Jour. Bot. **61**(Suppl.): 18. 1923.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua. The only habitat stated in our collections is that given by *Brass 13610*, West Irian, Bernhard Camp, Idenburg River: rain forest of more or less swampy river plain, 850 meters.

98. **Syzygium carrii** Hartley & Perry, sp. nov.

Arbor ca. 30 m. alta; ramis teretibus, ramulis tetragonis fusco-brunnescentibus; foliis 1.7–3 cm. longis, 1–1.7 cm. latis, coriaceis, pellucido-punctatis, ellipticis vel lanceolato-ellipticis obtusiusculis vel acutiusculis basi cuneatis, venis primariis inter se 1–2 mm. distantibus utrinque facile visis sed non prominulis; petiolo ca. 2 mm. longo ruguloso; inflorescentiis ± 2 cm. longis, terminalibus axillaribusque; axi gracili; alabastris anguste clavatis ca. 1 cm. longis ut videtur profuse glandulosis. HOLOTYPUS: *Carr 13511* (A).

**West Irian.** Arfak Mts., alt. 1500–2100 m., *Beccari 3896* (fragment). **Papua.** CENTRAL DISTRICT: Boridi, forest at 1500 m., *Carr 13511.*

This species is characterized by tetragonous branchlets, small, short-petiolate leaves, and slender, clavate flower buds. *Syzygium carrii* is apparently closely related to *S. leptopodium* (see note under species no. 102).

99. **Syzygium bicolor** Merr. & Perry, Jour. Arnold Arb. **23**: 286. 1942. TYPE: *Brass 13018*, West Irian, Idenburg River, Bernhard Camp (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea; foothill and montane rain forests, 1200–1800 meters.

100. **Syzygium attenuatum** (Miq.) Merr. & Perry, Mem. Am. Acad. Arts Sci. **18**(3): 185. 1939 (Mem. Gray Herb. 4).

*Jambosa attenuata* Miq. Fl. Ind. Bat. **1**(1): 437. 1855. TYPE: *Junghuhn*, Java. A note by Dr. Merrill indicates that he did not find Miquel's type at Leiden in 1930.

DISTRIBUTION: Malay Peninsula, Borneo, Java, Aroe Islands, West Irian, Territory of New Guinea, Papua; lowland and foothill rain forests to 1050 meters.

101. **Syzygium claviflorum** (Roxb.) Cowan & Cowan, Trees North. Bengal 67. 1929.

*Eugenia claviflora* Roxb. Fl. Ind. II. **2**: 488. 1832. TYPE: no specimen cited in original description; native in Chittagong.
*Eugenia leptantha* Wight, Ill. **2**: 15. 1841, non Benth. (1840).
*Syzygium leptanthum* (Wight) Niedenzu, Nat. Pflanzenfam. III. **7**: 85. 1893.
*Eugenia leptalea* Craib, Fl. Siam Enum. **1**: 649. 1931.

DISTRIBUTION: China and India throughout Malesia to Australia; in Papuasia from West Irian, Territory of New Guinea and Papua; lowland foothill and montane rain forests to 2300 meters.

A complete study of this group of clavate-flowered species is desirable both in the field and in the herbarium. There is considerable variation in the herbarium specimens placed together as *S. claviflorum* and sometimes no apparent correlation between the foliar and floral characters. For example, the leaves of *Hoogland & Pullen 6132* are 5–8 cm. long and 2–3.3 cm. wide, i.e. near the size of those of *Syzygium leptopodium*, but the flower buds are 2–2.3 cm. long and 5 mm. in diameter at the apex and are the largest among the specimens we have at hand. There are also other questions concerning both floral and foliar characters as well as those of branchlets needing study and evaluation.

102. **Syzygium leptopodium** Merr. & Perry, Jour. Arnold Arb. **23**:

284. 1942. TYPE: *Clemens 5326*, Territory of New Guinea, Morobe District, Ogeramnang (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea; foothill and montane rain forests, 550–1950 meters.

Some very small-leaved specimens of *Syzygium leptopodium* from West Irian seem to approach *S. carrii* in aspect, but in the former the leaves are acuminate rather than acute or obtuse and the plants are shrubs or small rather than large trees.

103. **Syzygium subamplexicaule** Merr. & Perry, Jour. Arnold Arb. 23: 285. 1942. TYPE: *Brass 8218*, Papua, Western District, Lower Fly River, rain forest on river bank (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

104. **Syzygium nemorale** Merr. & Perry, Jour. Arnold Arb. 23: 280. 1942. TYPE: *Brass 3456*, Solomon Islands, Ysabel, Sigana (A, holotype).

DISTRIBUTION: New Britain, Solomon Islands; lowland and foothill rain forests to 800 meters.

105. **Syzygium megistophyllum** Merr. & Perry, Jour. Arnold Arb. 23: 279. 1942. TYPE: *Brass 13340*, West Irian, Idenburg River, Bernhard Camp, *Agathis* forest at 900 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

106. **Syzygium camptodromum** Merr. & Perry, Jour. Arnold Arb. 23: 285. 1942. TYPE: *Brass 3528*, Solomon Islands, Ysabel, Sigana, coastal rain forest (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

107. **Syzygium naiadum** (Diels) Merr. & Perry, Jour. Arnold Arb. 23: 249. 1942.

*Jambosa naiadum* Diels, Jour. Arnold Arb. **10**: 82. 1929. TYPE: *Brass 754*, Papua, Central District, Budatobara (A, isotype).

DISTRIBUTION: West Irian, Papua; borders of streams, sea level to 100 meters.

108. **Syzygium capituliferum** Merr. & Perry, Jour. Arnold Arb. 23: 287. 1942. TYPE: *Brass 8482*, Papua, Western District, Wassi Kussa River, along stream in lowland rain forest (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

109. **Syzygium cartilagineum** Merr. & Perry, Jour. Arnold Arb. **23**: 287. 1942. TYPE: *Brass 3062*, Solomon Islands, San Cristobal, Hinuahaoro, montane forest at 900 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

110. **Syzygium subglobosum** Merr. & Perry, Jour. Arnold Arb. **23**: 290. 1942. TYPE: *Brass & Versteegh 12584*, West Irian, Idenburg River, Bernhard Camp (A, holotype).

DISTRIBUTION: West Irian, Papua; foothill rain forests, 810–1830 meters.

111. **Syzygium rubiginosum** Merr. & Perry, Jour. Arnold Arb. **23**: 289. 1942. TYPE: *Brass 7491*, Papua, Western District, Middle Fly River, Lake Daviumbu (A, holotype).

DISTRIBUTION: Papua (Western District), Queensland; lowland rain forests.

112. **Syzygium triphlebium** Diels, Bot. Jahrb. **57**: 400. 1922. TYPE: *Ledermann 10288*, Territory of New Guinea, Sepik District, Lordberg (isotype seen by Dr. Merrill).

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; primary and secondary lowland and foothill rain forests to 1500 meters.

113. **Syzygium waterhousei** Merr. & Perry, Jour. Arnold Arb. **23**: 290. 1942. TYPE: *Brass 3208*, Solomon Islands, Ysabel, Tiratona (A, holotype).

DISTRIBUTION: New Britain, Solomon Islands; lowland and foothill rain forests to 600 meters.

114. **Syzygium nitidum** Benth. Hooker's London Jour. Bot. **2**: 221. 1843. SYNTYPES: *Hinds*, New Guinea (K); *Barclay*, Tobie (Tobi) Island (K; A, isosyntype).

*Eugenia benthamii* F. Muell. Descript. Notes Papuan Pl. **1**: 9. 1875. Based on *Syzygium nitidum* Benth.
*Syzygium japenense* Merr. & Perry, Jour. Arnold Arb. **23**: 288. 1942.

DISTRIBUTION: Philippines, Tobi Island, New Guinea (Japen Island); no habitat given except forest and roadside on some Philippine labels.

115. **Syzygium lorentzianum** Lauterb. Nova Guinea (Bot.) **8**: 852. 1912. TYPE: *Gjellerup 315*, West Irian, Hollandia.

DISTRIBUTION: West Irian (Hollandia); we have seen only *Brass 8864*, from the type locality; said to be common in secondary growth on a rocky slope.

116. **Syzygium trivene** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 288. 1942.

*Eugenia trivenis* Ridley, Trans. Linn. Soc. Bot. II. **9**: 47. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype; A, phot. and carbon rubbing).

*Syzygium modestum* Diels, Bot. Jahrb. **57**: 400. 1922.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua, Solomon Islands; lowland and foothill rain forests to 1000 meters.

With the abundance of material at hand from the Territory of New Guinea, but only the description of *Syzygium modestum* Diels, we believe Diels' species is the same as Ridley's, which carries the older epithet. Although the bracts of the inflorescence are very small, they are present when the flowers are in bud and sometimes at anthesis; however, since the bracts are predominantly deciduous, we have placed this species under that division in the key.

117. **Syzygium verniciflorum** (Diels) Merr. & Perry, Jour. Arnold Arb. **23**: 249. 1942.

*Jambosa verniciflora* Diels, Bot. Jahrb. **57**: 387. 1922. TYPE: *Schlechter 17751*, Territory of New Guinea, Kani (K, isotype; A, phot.).

DISTRIBUTION: Territory of New Guinea; lowland rain forests to 100 meters.

118. **Syzygium flavescens** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 278. 1942.

*Eugenia flavescens* Ridley, Trans. Linn. Soc. Bot. II. **9**: 46. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype; A, phot.).

DISTRIBUTION: West Irian, Papua; lowland rain forests to 800 meters.

119. **Syzygium brassii** Merr. & Perry, Jour. Arnold Arb. **23**: 277. 1942. TYPE: *Brass 7682*, Papua, Western District, Middle Fly River (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

Not to be confused with *Eugenia brassii* Merr. & Perry, Jour. Arnold Arb. **23**: 247. 1942.

120. **Syzygium kietanum** Rechinger, Repert. Sp. Nov. **11**: 183. 1912; Denkschr. Math.-Naturw. Kl. Akad. Wiss. Wien **89**: 585 (Bot. Zool. Ergeb. Wiss. Forsch. Samoa-I., Neug.-Arch., Salomonins. **5**: 143). 1913. TYPE: *Rechinger 4704*, Solomon Islands (W, holotype).

DISTRIBUTION: Solomon Islands; steep foreshores.

121. **Syzygium branderhorstii** Lauterb. Nova Guinea (Bot.) **8**: 322. 1910. TYPE: *Branderhorst 129*, West Irian, south coast, Okaba.

DISTRIBUTION: West Irian, Papua; lowland rain forests.

We have not seen the type of this species. We have a specimen, *Brass 844*, which Diels named (listed thus in White, Jour. Arnold Arb. **10**: 253. 1929). It is a good match for *Gjellerup 162*, and *Brass 27815*, also the leaves of *Anta 164* (inflorescence very immature). In these the dried calyx tube is 3–4 mm. long and longitudinally sulcate. Lauterbach described the ovary of *S. branderhorstii* as cyathiform, 6–7 mm. long, but apart from the size of the flowers we do not find other differences. We have a specimen, *Hoogland 4990*, with leaves reminding us of this species; but the lateral inflorescence is somewhat corymbose with branches ascending-spreading rather than widely spreading as in *S. branderhorstii*. Although inflorescence is only in bud, the calyx has definite lobes and below the enlarged top of the bud is an angled pseudostalk 2–2.5 mm. long. Since we have so little material of *S. branderhorstii*, we merely point out the characters by which this specimen seems to differ from it.

122. **Syzygium leptophlebioides** Merr. & Perry, Jour. Arnold Arb. **23**: 282. 1942. TYPE: *Brass 8979*, West Irian, Hollandia (A, holotype).

DISTRIBUTION: West Irian; lowland rain forests, 50–100 meters. Known to us only from the type locality.

123. **Syzygium decipiens** (Koords. & Val.) Merr. & Perry, Jour. Arnold Arb. **23**: 281. 1942.

*Eugenia decipiens* Koords. & Val. Meded. Lands Plant. **40**: 131 (Bijdr. Booms. Java 6). 1900; Atlas Baumart. Java **3**: *t. 495*. 1915. TYPE: described from two Koorders collections in fruit and two living trees (flowering in July and fruiting in October) in Hort. Bogor. So far as we know no single collection has been designated as the type.
*Syzygium megalanthelium* Diels, Nova Guinea (Bot.) **14**: 93. 1924.
*Syzygium rectangulare* Merr. & Perry, Jour. Arnold Arb. **23**: 282. 1942.

DISTRIBUTION: Java, Aroe Islands, West Irian, Territory of New Guinea, Solomon Islands; lowland rain forests to 140 meters.

We have reduced *Syzygium rectangulare* to *S. decipiens* as in this instance we are inclined to regard the angled base of the calyx and the obtusely angled fruits as variable characters. The embryos of the two are very similar in appearance.

124. **Syzygium rosaceum** Diels, Bot. Jahrb. **57**: 406. 1922. TYPE: *Ledermann 9029*, Territory of New Guinea, Sepik District, Etappenberg.

DISTRIBUTION: Territory of New Guinea, Papua; lowland and foothill rain forests to 1000 meters.

125. **Syzygium badium** Merr. & Perry, Jour. Arnold Arb. **23**: 281. 1942. TYPE: *Brass & Versteegh 11992*, West Irian, Idenburg River, 18 km. SW of Bernhard Camp, primary forest at 2200 m. (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

126. **Syzygium acetosum** Merr. & Perry, Jour. Arnold Arb. **23**: 280. 1942. TYPE: *Brass 6267*, Papua, Western District, Daru Island, lowland rain forest (A, holotype).

DISTRIBUTION: Known to us only from the type collection.

127. **Syzygium leptoneurum** Diels, Bot. Jahrb. **57**: 407. 1922. TYPE: *Schlechter 17379*, Territory of New Guinea, Morobe District, Waria River near Jatuna.

DISTRIBUTION: Territory of New Guinea, Papua; stream banks at low elevations.

128. **Syzygium micrandrum** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 294. 1942.

*Eugenia micrandra* Ridley, Trans. Linn. Soc. Bot. II. **9**: 48. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype; A, phot.).

DISTRIBUTION: West Irian, Papua, Solomon Islands; lowland and foothill rain forests.

129. **Syzygium myriadenum** Merr. & Perry, Jour. Arnold Arb. **23**: 293. 1942. TYPE: *Kajewski 2713*, Solomon Islands, Guadalcanal, lowland rain forest at ca. 180 m. (A, holotype).

*Eugenia myriadena* (Merr. & Perry) Whitmore, Guide For. British Solomon Isl. 203. 1966; Gard. Bull. Singapore **22**: 16. 1967.

DISTRIBUTION: Known to us only from the type collection.

130. **Syzygium homichlophilum** Diels, Bot. Jahrb. **57**: 409. 1922. TYPE: *Ledermann 11797*, Territory of New Guinea, Sepik District, Schraderberg.

*Syzygium retivenium* Merr. & Perry, Jour. Arnold Arb. **23**: 294. 1942.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; montane rain forests and cloud forests, 1500–2650 meters.

We have received from Berlin a photograph of *Ledermann 11644*, a paratype and topotype of *Syzygium homichlophilum*. With this we have tried

to match Diels' species. He omitted any description of the branchlets, but those assumed to belong here are quadrangular with bark very often flaking off between the nodes.

131. **Syzygium effusum** (A. Gray) C. Muell. Walpers Ann. **4**: 838. 1857, *sensu lato.*

*Eugenia effusa* A. Gray, Bot. U. S. Expl. Exped. 524. 1854. TYPE: *U. S. Expl. Exped.*, Fiji, Mbua Bay (US, holotype; GH, isotype).
*Eugenia sylvana* Ridley, Trans. Linn. Soc. Bot. II. **9**: 48. 1916.
*Syzygium leucoderme* Diels, Bot. Jahrb. **57**: 409. 1922.
*Eugenia nivifera* Greves, Jour. Bot. **61**(Suppl.): 19. 1923.
*Syzygium niviferum* (Greves) Merr. & Perry, Jour. Arnold Arb. **23**: 250. 1942.
*Syzygium doctersii* Merr. & Perry, *Ibid.* 283.
*Syzygium obtusum* Merr. & Perry, *Ibid.* 294.
*Syzygium sylvanum* (Ridley) Merr. & Perry, *Ibid.* 295.

DISTRIBUTION: Throughout New Guinea east to Fiji; lowland, foothill and montane rain forests to 2800 meters.

We have a wide range of specimens that fall into this complex for which we have not been able to find any constant or correlating characters enabling us to recognize more than a single species. Some of the morphologic variation we have accepted includes, bark of branchlets gray to brown; leaves obovate to spatulate to elliptic, subcoriaceous to coriaceous, obtuse to abruptly short-acuminate at apex, 2–8 cm. long, 1.4–5.2 cm. broad; calyx tube (including stipe, when present) 3–4.5 mm. long; calyx lobes obsolete to 0.5 mm. high.

We have no specimens which seem to agree with Diels' description of *Syzygium ganophyllum* with shiny, narrow leaves. He compares his species with *S. mainitense* (Elmer) Merr., from the Philippines, of which we have several collections and which we think ought to be studied in conjunction with *S. effusum.*

*Jambosa* (*Clavimyrtus*) *arfakensis* Gibbs seems to be an elusive species. Diels says it belongs in the relationship of *Syzygium leucoderme*, but he does nothing further with it. One would need authentic collections from the type locality of *J. arfakensis* in order to distinguish the specific characters.

132. **Syzygium subcorymbosum** Merr. & Perry, Jour. Arnold Arb. **23**: 297. 1942. TYPE: *Brass 5573*, Papua, Central District, Kubuna (A, holotype).

DISTRIBUTION: West Irian, Territory of New Guinea, Papua, New Britain, Solomon Islands; lowland and foothill rain forests to 300 meters.

Similar to *Syzygium buettnerianum* (see note under species no. 86).

133. **Syzygium luehmannii** (F. Muell.) L. Johnson, Contrib. New S. Wales Natl. Herb. **3**: 99. 1962.

*Eugenia luehmanni* F. Muell. Victorian Nat. **9**: 10. 1892. TYPE: *S. Johnson*, Queensland, Cook District, Mt. Bartle Frere (MEL, holotype).
*Eugenia parvifolia* C. Moore, Jour. & Proc. Roy. Soc. New S. Wales **27**: 85. 1893, non DC. (1828).

DISTRIBUTION: Papua (Goodenough Island), eastern Queensland, northeastern New South Wales; in Papua in mossy oak forest at 1600 meters.

From Australia we have only a sterile specimen of this species (as *Eugenia parvifolia*) collected by W. D. Francis at Myer's Ferry, Southport, Queensland. The Brass collection from Goodenough Island matches this well, and the flowers and fruit correspond to the original descriptions. *Eugenia parvifolia* was placed in synonymy under *Syzygium luehmannii* by L. Johnson, *loc. cit.*

134. **Syzygium walkeri** Merr. & Perry in C. T. White, Jour. Arnold Arb. **31**: 101. 1950. TYPE: *F. S. Walker BSIP 249*, Solomon Islands, Guadalcanal, Buru-Buru River (A, holotype).

DISTRIBUTION: Solomon Islands; lowland rain forest.

135. **Syzygium rostratum** (Bl.) DC. Prodr. **3**: 261. 1828.

*Calyptranthus rostrata* Bl. Bijdr. 1092. 1826. TYPE: probably *Blume* (L, holotype); "in sylvis altioribus."

DISTRIBUTION: Sumatra, Borneo, Java, West Irian; humid forest (*fide* Fl. Java).

136. **Syzygium plumeum** (Ridley) Merr. & Perry, Jour. Arnold Arb. **23**: 296. 1942.

*Eugenia plumea* Ridley, Trans. Linn. Soc. Bot. II. **9**: 46. 1916. TYPE: *B. Kloss*, West Irian, Wollaston Expedition (BM, holotype).
*Syzygium leptanthelium* Diels, Bot. Jahrb. **57**: 410. 1922.

DISTRIBUTION: West Irian, Territory of New Guinea, Papua; foothill and montane rain forests to 2300 meters.

137. **Syzygium finisterrae** (Lauterb.) Merr. & Perry, Jour. Arnold Arb. **23**: 295. 1942.

*Eugenia finisterrae* Lauterb. Repert. Sp. Nov. **13**: 240. 1914. TYPE: *Keysser 300*, Territory of New Guinea, Madang District, Finisterre Range.

DISTRIBUTION: Territory of New Guinea; foothill and lower montane rain forests; 600–1350 meters.

138. **Syzygium onesimum** Merr. & Perry, Jour. Arnold Arb. **23**: 296. 1942. TYPE: *Kajewski 2043*, Solomon Islands, Bougainville, Koniguru, Buin (A, holotype).

*Eugenia onesima* (Merr. & Perry) Whitmore, Guide For. British Solomon Isl. 203. 1966; Gard. Bull. Singapore **22**: 17. 1967.

DISTRIBUTION: Solomon Islands; lowland and foothill rain forests to 1000 meters.

## UNMATCHED OR OTHERWISE EXCLUDED SPECIES DESCRIBED FROM PAPUASIA

**Eugenia altipeta** Greves, Jour. Bot. **61**(Suppl.): 14. 1923. Type should be re-examined. Doesn't look like *Eugenia*, according to Merrill.

*Eugenia argyrocalyx* Warb. Bot. Jahrb. **13**: 390. 1891 [**Syzygium argyrocalyx** (Warb.) Merr. & Perry, Jour. Arnold Arb. **23**: 264. 1942].

*Eugenia baeuerlenii* F. Muell. Australas. Jour. Pharm. **1**: 199. 1886. = **Cleistocalyx baeuerlenii** (F. Muell.) Merr. & Perry, *Ibid.* **18**: 331. 1937.

*Eugenia bartonii* F. M. Bailey, Proc. Roy. Soc. Queensl. **18**: 2. 1902 [**Syzygium bartonii** (F. M. Bailey) Merr. & Perry, *Ibid.* **23**: 250. 1942].

**Eugenia brassii** Merr. & Perry, *Ibid.* 247. = Eugenia *sensu stricto*.

*Eugenia dispansa* Ridley, Trans. Linn. Soc. Bot. II. **9**: 47. 1916 [**Acmena dispansa** (Ridley) Merr. & Perry, *Ibid.* **19**: 18. 1938].

*Eugenia duplomarginata* Greves, Jour. Bot. **61**(Suppl.): 15. 1923 [**Syzygium duplomarginatum** (Greves) Merr. & Perry, *Ibid.* **23**: 249. 1942].

*Eugenia glomerata* Warb. Bot. Jahrb. **13**: 390. 1891 [**Syzygium warburgii** Merr. & Perry, *Ibid.* 250].

**Eugenia koikokoensis** Greves, Jour. Bot. **61**(Suppl.): 20. 1923. Type should be re-examined. Merrill considered flower Jambosa-like. We were unable to match the carbon rubbing of the leaves.

*Eugenia laevifolia* Ridley, Trans. Linn. Soc. Bot. II. **9**: 48. 1916 = **Acmena laevifolia** (Ridley) Merr. & Perry, *loc. cit.* **19**: 18. 1938.

*Eugenia lehuntei* F. M. Bailey, Queensl. Agric. Jour. **9**: 411. 1910 [**Syzygium lehuntei** (F. M. Bailey) Merr. & Perry, *Ibid.* **23**: 250. 1942, or possibly belongs in *Acmena*].

*Eugenia merokensis* Greves, Jour. Bot. **61**(Suppl.): 16. 1923 [**Syzygium merokense** (Greves) Merr. & Perry, *Ibid.* 249].

*Eugenia monetaria* Ridley, Trans. Linn. Soc. Bot. II. **9**: 49. 1916 [**Syzygium monetarium** (Ridley) Merr. & Perry, *Ibid.* 249]. Photograph of type at A.

*Eugenia pleiopetala* F. Muell. Descript. Notes Papuan Pl. **1**: 106. 1875 = **Octamyrtus pleiopetala** (F. Muell.) Diels, Bot. Jahrb. **57**: 373. 1922.

*Eugenia pterocalyx* Greves, Jour. Bot. **61**(Suppl.): 17. 1923 [**Syzygium grevesianum** Merr. & Perry, *loc. cit.* 253].

*Eugenia racemoides* Greves, Jour. Bot. **61**(Suppl.): 20. 1923. The type of this species ought to be examined. We have no notes by Merrill, but from the description it might belong to *S. longipes s.l.*

*Eugenia salomonensis* Hemsley, Jour. Linn. Soc. Bot. **30**: 212. 1894 [**Syzygium salomonense** (Hemsley) Merr. & Perry, *loc. cit.* 273]. Photograph of type at A.

**Eugenia salomonica** C. T. White, Jour. Arnold Arb. **32**: 141. 1951 = Eugenia *sensu stricto*.

*Eugenia salpingantha* Greves, Jour. Bot. **61**(Suppl.): 19. 1923 [**Syzygium salpinganthum** (Greves) Merr. & Perry, *loc. cit.* 250].

*Eugenia scolopacina* Ridley, Trans. Linn. Soc. Bot. II. **9**: 49. 1916 = **Xanthomyrtus scolopacina** (Ridley) Diels, Bot. Jahrb. **57**: 365. 1922.

*Eugenia trichotoma* Greves, Jour. Bot. **61**(Suppl.): 19. 1923 [**Syzygium trichotomum** (Greves) Merr. & Perry, *loc. cit.* 250].

*Eugenia vandewateri* Ridley, Trans. Linn. Soc. Bot. II. **9**: 45. 1916 [**Syzygium vandewateri** (Ridley) Merr. & Perry, *Ibid.* 249]. Photograph and carbon rubbing of type at A.

*Eugenia wollastonii* Ridley, Trans. Linn. Soc. Bot. II. **9**: 47. 1916 [**Syzygium wollastonii** (Ridley) Merr. & Perry, *Ibid.* 249]. Photograph and carbon rubbing of type at A.

*Jambosa alutacea* Diels, Bot. Jahrb. **57**: 386. 1922 [**Syzygium alutaceum** (Diels) Merr. & Perry, *Ibid.* 270]. See note under *S. validinerve*, species no. 45.

*Jambosa arfakensis* Gibbs, Contr. Phytogr. Fl. Arfak Mts. 153. 1917. See note under *S. effusum*, species no. 131.

*Jambosa bruynii* Diels, Nova Guinea (Bot.) **14**: 92. 1924 [**Syzygium bruynii** (Diels) Merr. & Perry, *loc. cit.* 249]. Near *S. trachyanthum*, species no. 14.

*Jambosa caryophylloides* Lauterb. Bot. Jahrb. **45**: 363. 1911 [**Syzygium caryophylloides** (Lauterb.) Merr. & Perry, *Ibid.* 264].

*Jambosa combretiflora* Diels, Bot. Jahrb. **57**: 392. 1922 [**Syzygium combretiflorum** (Diels) Merr. & Perry, *Ibid.* 286].

*Jambosa decoriflora* Diels, *Ibid.* 396 [**Syzygium decoriflorum** (Diels) Merr. & Perry, *Ibid.* 249].

*Jambosa dolichostyla* Diels, Nova Guinea (Bot.) **14**: 91. 1924 [**Syzygium dolichostylum** (Diels) Merr. & Perry, *Ibid.* 272]. See note under *S. hylophilum*, species no. 73.

*Jambosa eximiiflora* Diels, *Ibid.* 92 [**Syzygium eximiiflorum** (Diels) Merr. & Perry, *Ibid.* 252].

*Jambosa keroantha* Diels, Bot. Jahrb. **57**: 385. 1922 [**Syzygium keroanthum** (Diels) Merr. & Perry, *Ibid.* 271].

*Jambosa micrantha* Rech. Repert. Sp. Nov. **11**: 183. 1912 [**Syzygium rechingeri** Merr. & Perry, *Ibid.* 249].

*Jambosa ovalifolia* Bl. Mus. Bot. Lugd.-Bat. **1**: 98. 1849 [**Syzygium ovalifolium** (Bl.) Merr. & Perry, *Ibid.* 260]. Photograph of type at A.

*Jambosa pachyantha* Diels, *loc. cit.* 395 [**Syzygium pachyanthum** (Diels) Merr. & Perry, *Ibid.* 249].

*Jambosa papuana* (Lauterb.) Diels, *Ibid.* 384 [based on ?*Decaspermum papuanum* Lauterb. Nova Guinea (Bot.) **8**: 319. 1910]. Photograph of type at A; no inflorescence visible.

*Jambosa phacelantha* Diels, *Ibid.* 390 [**Syzygium phacelanthum** (Diels) Merr. & Perry, *loc. cit.* 249].

*Jambosa pilgeriana* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 473. 1900 [**Syzygium pilgerianum** (Lauterb. & K. Schum.) Merr. & Perry, *Ibid.* 255].

*Jambosa platycarpa* Diels, Bot. Jahrb. **57**: 385. 1922 [**Syzygium platycarpum** (Diels) Merr. & Perry, *Ibid.* 278]. See note under *S. tierneyanum*, species no. 69.

*Jambosa polyphlebia* Diels, *Ibid.* 391 [**Syzygium polyphlebium** (Diels) Merr. & Perry, *Ibid.* 249].

*Jambosa pycnantha* Diels, *Ibid.* 394 [**Syzygium dielsianum** Merr. & Perry, *Ibid.* 259].

*Jambosa recurvo-venosa* Lauterb. Nova Guinea (Bot.) **8:** 851. 1912 [**Syzygium recurvo-venosum** (Lauterb.) Diels, *Ibid.* 403].

*Jambosa riparia* Diels, *Ibid.* 389 [**Syzygium riparium** (Diels) Merr. & Perry, *loc. cit.* 249]. See note under *S. hylophilum*, species no. 73.

*Jambosa sabangensis* Lauterb. Nova Guinea (Bot.) **8:** 320. 1910 [**Syzygium sabangense** (Lauterb.) Merr. & Perry, *Ibid.* 249]. Photograph of type at A.

*Jambosa tricolor* Diels, *loc. cit.* 393 [**Syzygium tricolor** (Diels) Merr. & Perry, *Ibid.* 255].

*Syzygium acmenioides* Merr. & Perry, *Ibid.* 291. Cf. **Acmena hemilampra** (F. Muell. ex F. M. Bailey) Merr. & Perry, *Ibid.* **19:** 15. 1938.

**Syzygium brachyanthelium** Diels, *Ibid.* 412.

**Syzygium caroli** Diels, *Ibid.* 404. Photograph of type at A.

**Syzygium chamaebuxus** Diels, Nova Guinea (Bot.) **14:** 93. 1924. Perhaps a form of *S. adelphicum* Diels.

**Syzygium cruriflorum** Diels, Bot. Jahrb. **57:** 402. 1922.

**Syzygium dictyoneurum** Diels, *Ibid.* 404, and var. **oreogonum** Diels, *Ibid.* Perhaps the var. is the equivalent of *S. bracteosum*, species no. 80.

**Syzygium dolichorhynchum** Diels, *Ibid.* 413.

*Syzygium ellipticum* Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsche Schutzgebiete Südsee 476. 1900 = **Psidium guajava** L. Sp. Pl. 470. 1753, according to Merr. & Perry, Jour. Arnold Arb. **23:** 250. 1942.

**Syzygium ganophyllum** Diels, *loc. cit.* 408. 1922. See note under *S. effusum*, species no. 131.

**Syzygium gjellerupii** Lauterb. Nova Guinea (Bot.) **8:** 852. 1912. Photograph of type at A.

**Syzygium gyrostemoneum** Diels, *loc. cit.* 412. Photograph of type at A.

**Syzygium heloanthum** Diels, *Ibid.* 403. Perhaps the same as *S. leptopodium*, species no. 102.

**Syzygium lamprophyllum** Diels, *Ibid.* 411.

**Syzygium leptophlebium** Diels, *Ibid.* 406. Perhaps the same as *S. subcorymbosum*, species no. 132.

**Syzygium orthoneurum** Diels, *Ibid.* 400.

**Syzygium oxyphyllum** Diels, *Ibid.* 407. Photograph of type at A.

**Syzygium peekelii** Diels, *Ibid.* 414.

**Syzygium petraeum** Diels, *Ibid.* 410. Photograph of paratype at A.

**Syzygium pullei** Diels, *Ibid.* 401. 1922.

**Syzygium pyrrophloem** Diels, *Ibid.* 413.

**Syzygium schlechteri** Diels, *Ibid.* 402. Photograph of type at A.

**Syzygium scytophyllum** Diels, *Ibid.* 407. Photograph of type at A.

**Syzygium subsimile** Diels, *Ibid.* 401. Photograph of type at A.

**Syzygium tolypanthum** Diels, *Ibid.* 408.

## INDEX TO EXSICCATAE

The numbers in parentheses refer to the corresponding species in the text.

Aet (Expedition Lundquist) *55* (59); *57* (132); *668* (122); *705* (97).
Aet & Idjan (Expedition van Dijk) *344* (40); *552* (75); *612* (114).
Anta (Expedition Wentholt) *164* (121); *167* (13).
Australian National University (ANU series) *750* (94).

Beccari *140* (32).
Boswezen, Forestry Division, Netherlands New Guinea (BW series) *60* (31); *1102* (132); *1382*, *1392*, *2160* (36); *2242* (86); *4773* (132); *9240* (67).
Botanic Garden Bogor *V. B. 47* (32).
Brass *551* (52); *600* (21); *657* (25); *714* (75); *754* (107); *838* (51); *844* (121); *955* (14); *1065* (55); *1079* (25); *1111* (36); *1148* (cf. 69); *1345* (75); *1392* (107); *1393* (28); *1433* (14); *1619* (79); *1653* (107); *2602* (40); *2649* (8); *2752* (69); *2781* (56); *2971* (23); *3006* (43); *3062* (109); *3150* (120); *3182* (43); *3208* (113); *3344* (63); *3445* (138); *3456* (104); *3464* (40); *3528* (106); *3922* (124); *3936* (77); *4146* (11); *4515* (93); *4854* (95); *4910* (18); *5338* (78); *5487* (58); *5573* (132); *5583* (127); *5606* (75); *5608* (60); *5772* (cf. 69); *5816* (70); *6267* (126); *6673* (29); *6681* (66); *6708* (75); *6966* (16); *7034* (4); *7243* (59); *7244* (15); *7323* (32); *7357* (72); *7422* (100); *7423* (124); *7475* (75); *7491*, *7510* (111); *7567*, *7658* (101); *7659* (118); *7682* (119); *7683* (124); *7694* (36); *7753* (67); *7954* (118); *8019* (36); *8102* (43); *8113* (33); *8126* (67); *8137* (25); *8211* (69); *8218* (103); *8238* (27); *8273* (69); *8301* (31); *8314* (86); *8334* (67); *8390* (111); *8482* (108); *8605* (101); *8864* (115); *8979* (122); *9001* (76); *9002* (92); *10804* (64); *11346* (131); *11354* (64); *11392* (12); *12144* (92); *12162* (54); *12995* (42); *13018* (99); *13340* (105); *13610* (97); *13930* (123); *13950* (53); *14056* (123); *21800* (cf. 75); *21931* (cf. 79); *22687* (91); *22865* (130); *23608* (1); *23780*, *23988* (7); *24042* (75); *24090* (7); *24225* (cf. 75); *24298* (40); *24641* (18); *24853* (133); *25441* (131); *25478* (30); *25523* (116); *25738* (131); *25572* (118); *25847* (83); *25887*, *25919* (49); *27179*, *27294* (118); *27729* (86); *27763* (cf. 92); *27815* (121); *27868* (92); *28215* (58); *28238* (75); *28342*, *28357* (82); *28549* (cf. 75); *28566* (118); *28594* (131); *28650* (83); *28739* (68); *28817*, *28895* (69); *28913* (2); *29240*, *29330* (116); *29566*, *29607* (95); *30000* (93); *30599* (94); *30681* (93); *30716* (46); *30717* (65); *30852* (94); *31091*, *31319* (50); *31320* (aff. 91); *31406* (95); *31858* (86); *31937* (18); *32291* (58); *32645* (44); *32653* (cf. 73).
Brass & Versteegh *10498* (64); *11111* (131); *11117* (80); *11134*, *11156* (94); *11157* (39); *11181* (131); *11909* (92); *11913* (131); *11917* (91); *11934* (81); *11935*, *11941* (54); *11945* (110); *11956* (39); *11986* (80); *11988* (131); *11992* (125); *11995* (95); *12543* (131); *12548* (41); *12552* (131); *12562* (36); *12573* (20); *12584* (110); *13106* (39); *13123* (100); *13125* (87); *13159* (20); *13194* (41); *13508* (39); *13577* (41); *13583* (cf. 91); *14030* (131); *14106* (22); *14108* (35).
British Solomon Islands Plants (BSIP series) *22* (123); *65* (8); *92* (43); *99* (23); *102* (40); *152* (63); *165*

(40); *168* (138); *194* (131); *249* (69); *255* (128); *6702* (cf. 83); *6862* (63); *9831* (83).

Buwalda *5019* (123); *5094* (67); *5408* (71); *5432* (79).

Carr *11314* (69); *11356* (127); *11562* (2); *11663* (10); *11780* (101); *11977* (28); *12051* (85); *12256* (91); *12269* (58); *12356* (51); *12454* (21); *12764* (3); *12767* (85); *12837* (75); *12921* (101); *13031* (71); *13511* (98); *13610* (18); *13747* (95); *13813* (65); *13846* (94); *13933* (58); *13995* (18); *14016* (75); *14034* (131); *14035* (cf. 73); *14383* (cf. 85); *14745* (11); *14922* (cf. 73); *15081* (95); *15289* (94); *15436* (32); *15596* (55); *15681* (18); *15727* (cf. 73).

Clemens *697a* (116); *874* (75); *1071* (20); *1082* (40); *1270* (131); *1420* (137); *1570* (91); *1760* (67); *1795* (131); *1853* (100); *2133* (91); *2136, 2154* (131); *2220* (100); *2954* (18); *3004* (137); *3078* (5); *3620, 3759* (38); *3951* (102); *3976, 4077* (20); *4193* (137); *4291* (40); *4492* (86); *4526* (102); *4612* (131); *4831* (91); *5013* (86); *5056, 5119a, 5326* (102); *5450* (136); *5455* (38); *5459* (136); *6436* (18); *6459* (58); *6599* (136); *6867* (58); *7187* (86); *7414* (46); *7565a* (aff. 95); *7577* (18); *7747, 7890* (58); *8038* (?21); *8041, 8107a* (91); *8248, 8283* (cf. 79); *8296* (47); *9428* (91); *9470* (?93); *9509* (95); *10471* (40); *10514, 10837* (cf. 73); *10843* (47); *10851* (cf. 73); *10859* (79); *12273* (18); *40684* (cf. 73); *40741* (40); *41524* (83); *41680* (47).

Docters van Leeuwen *9491* (122); *9660* (38); *10423* (131); *11191* (122).

Eyma *4782* (aff. 95); *5395* (aff. 91); *5447* (62).

Forbes *101* (3); *372* (19); *399* (18); *546* (128); *547* (131); *729* (83).

Hartley *9630* (cf. 84); *9892* (57); *9936* (6); *9938* (21); *9951* (57); *10047* (40); *10064* (cf. 75); *10070* (116); *10106* (75); *10197* (116); *10233* (91); *10309* (cf. 84); *10404* (132); *10418, 10481* (131); *10506* (132); *10531* (7); *10540* (83); *10550* (116); *10634* (52); *10649* (51); *10677* (2); *10824* (116); *10879* (cf. 79); *10897* (cf. 75); *10902* (57); *11042* (116); *11054* (9); *11088* (74); *11319* (2); *11332* (117); *11416* (131); *11426* (74); *11429* (28); *11438* (cf. 84); *11493* (131); *11503* (37); *11534* (cf. 73); *11668* (93); *11766* (116); *11791* (112); *11815, 11833* (95); *11885* (88); *11994* (102); *11999* (101); *12007* (14); *12011* (99); *12015* (45); *12034* (cf. 73); *leg. Dunstone 12048* (101); *leg. Dunstone 12048a* (102); *12082* (14); *12088* (101); *12132* (131); *12214* (24); *12277* (21); *12320* (130); *12325* (86); *12326* (131); *12357* (74); *12368* (cf. 84); *12390* (21); *12415* (18); *12416* (102); *12448* (131); *12449* (86); *12455* (91 vel aff.); *leg. Sayers 12576* (cf. 84); *leg. Sayers 12595* (136); *leg. Sayers 12614* (44); *leg. Sayers 12617* (18); *12667* (92); *12672* (cf. 73); *12675* (55); *12719* (91); *12733* (130); *12833* (58); *12885* (136); *leg. Sayers 12936* (18); *12974* (93); *13085* (131); *13151* (131); *13156* (39); *13184* (46); *13210* (94); *13291* (131); *13303* (18); *13303a* (3).

Hoogland *3838* (90); *3894* (40); *3951* (21); *4025* (55); *4207* (7); *4344* (75); *4518* (86); *4651* (79); *4681* (cf. 61); *4682* (53); *4683* (cf. 75); *4800* (40); *4829* (86); *4954* (75); *4990* (aff. 121); *5012* (36); *5062* (40); *5157* (78); *5186* (47); *8939* (124).

Hoogland & Pullen *5303* (50); *5604* (95); *5812* (131); *5872* (18); *5961* (86); *6059* (17); *6092* (130); *6125* (95); *6132* (aff. 101); *6213* (50).

Hoogland & Taylor *3392* (131); *3735a* (40).

Kajewski *1543* (69); *1602* (113); *1661*, *1756* (cf. 79); *1814* (40); *2043* (138); *2052* (cf. 79); *2065* (131); *2207* (113); *2248* (8); *2322* (40); *2353* (104); *2400* (8); *2481* (104); *2491* (69); *2588* (cf. 134); *2629* (56); *2695* (123); *2703* (69); *2713* (129).

Kanehira & Hatusima *11937* (18); *12038* (42); *12800* (aff. 128); *13137*, *13171* (71); *13695* (aff. 95); *13934* (64).

Kostermans *70* (34); *160* (68); *196* (75); *214* (34); *357* (132); *383* (34); *2843* (36).

Lam *1005* (123).

Main *508* (67).

Native collector *4744* (116).

Netherlands Indies Forest Service series bossen buitengewesten (NIFS bb series) *21810* (131); *21851* (122); *22092* (79); *22297* (135); *25033* (40); *25048* (92); *25052* (76); *25055* (122); *25064* (135); *25256* (123, in part); *25302* (100); *25324* (67); *25468* (79); *25661* (123); *25678* (76); *25692* (2); *28981* (86); *30584* (114); *30677*, *30682*, *30688*, *30747*, *30750*, *30826* (135); *30962* (83); *33317* (86); *33536* (132); *33603* (86).

New Guinea Forces [now New Guinea Forest Department] (NGF series) *2595*, *2614* (40); *2914* (86); *2925* (91); *3129* (69); *3140* (89); *3154* (91); *3181*, *3224*, *3410* (40); *3504* (cf. 72); *3546* (8); *3557* (75); *3592* (57); *3709* (37); *3820* (7); *3927* (72); *3999* (57); *4065* (86); *4108* (132); *4217* (21); *4223* (52); *4345* (48); *4365* (50); *4473* (48); *4776* (cf. 73); *4845* (46); *4847* (cf. 73); *4984* (48); *4989*, *4990* (46); *5003* (132); *5174* (cf. 69); *5678* (40); *5683* (88); *5774* (36); *5864* (10); *5876* (89); *6009* (3); *6063* (102); *6128* (131); *6221* (75); *6509* (40); *6584* (43); *6766* (58); *6785* (93); *6786* (95); *7157* (44); *7177* (75); *7201* (36); *7204* (57); *7280* (132); *7352* (57); *7376* (18); *7442* (7); *7460* (aff. 91); *7475* (78); *7535* (57); *7684* (50); *7777* (131); *7833* (cf. 73); *7913* (38); *7940* (40); *8202* (75); *8288* (71); *8408* (136); *8528* (28); *8567* (78); *8577* (52); *8741* (80); *9008* (cf. 73); *9070* (20); *9313* (25); *9497*, *9603* (18); *9610* (46); *9954* (116); *9966* (21); *10046* (79); *10119* (aff. 91); *10245* (36); *10264* (38); *10300* (26); *10401* (132); *10412* (131); *10489* (40); *10601* (57); *10850* (8); *10853* (cf. 104); *10892* (8); *10947* (56); *10983* (43); *11045* (25); *11080* (46); *11104* (116); *11257* (46); *11386* (3); *11393* (102); *11401* (aff. 91); *11405*, *11423* (50); *11441* (95); *12899* (89); *13973* (18); *17034* (79); *17337* (86); *17753* (33); *17771* (83); *19088* (132); *19417* (86); *21457* (93); *21593* (67); *21598* (54); *21661* (102); *21724* (79); *24534* (64); *24608* (94); *25040* (116); *29618* (43); *29640* (40).

Pleyte *385* (36); *514* (107).

Pullen *314* (94); *476* (18); *553* (93); *684* (3); *977* (44); *985* (cf. 73); *1342* (57); *1478* (124); *2677* (131); *5515* (16).

Robbins *124* (102); *346* (95); *602* (50); *849* (96); *875* (130); *879* (48).

Royal Society Solomon Islands Expedition (RSS series) *132* (83).

van Royen *3256* (43); *4038* (100); *4047* (101); *4672* (79); *4945* (102).

van Royen & Sleumer *6140* (116); *6520* (123); *7053* (15); *7055* (cf. 75); *7131* (10); *7198* (95).

Saunders *144*, *173* (75); *179* (cf. 69); *671* (94); *786* (95); *959* (68).

Sawyer *107* (75).

Schodde *1807* (93); *2037* (94); *2040* (95); *2130* (46); *2138* (131); *2182* (91); *2186* (86); *2229* (110); *2244* (112); *2441* (cf. 75); *2560* (89).
Stauffer & Sayers *5590* (102).
Stoddard *9, 18* (123).
Warburg *20407* (57).
Waterhouse *120* (113); *417* (cf. 73); *418* (43); *563-B* (86); *849-B* (120); *974* (cf. 73).

## INDEX TO SPECIES AND SYNONYMS

Numbers in parentheses indicate species numbers, not page numbers. New species and new combinations are in **bold face** type; synonyms are in *italics*.

*Aphanomyrtus*
*alata* (93)

*Calyptranthus*
*fastigiata* (83)
*rostrata* (135)

*Careya*
*jambosoides* (31)

*Eugenia*
*aquea* (57)
*benthamii* (114)
*bibracteata* (83)
*buettneriana* (86)
*cincta* (63)
*claviflora* (101)
*coalita* (52)
*daphne* (13)
*daphnoides* (75)
*decipiens* (123)
*effusa* (131)
*fibrosa* (71)
*finisterrae* (137)
*flavescens* (118)
*forbesii* (21)
*garcinioides* (62)
*jambosoides* (31)
*javanica* (43)
*leptalea* (101)
*longipes* (75)
*luehmanni* (133)
*malaccensis* (40)
*micrandra* (128)
*myriadenum* (129)
*neurocalyx* (97)
*nivifera* (131)
*nutans* (7)
*onesima* (138)
*parvifolia* (133)
*pergamacea* (67)
*plumea* (136)
*porphyrocarpa* (3)
*pyrocarpa* (85)
*rubro-punctata* (66)
*salicina* (15)
*schumanniana* (97)
*sogerensis* (19)
*subalata* (18)
*suborbicularis* (31)
*sylvana* (131)
*tierneyana* (69)
*trivenis* (116)
*xylantha* (85)

*Jambosa*
*aeorantha* (74)
*aquea* (57)
*attenuata* (100)
*auriculata* (24)
*brevicyma* (72)
*cladoptera* (4)
*dolichophylla* (10)
*floribunda* (69)
*gonatantha* (21)
*goniocalyx* (25)
*gonioptera* (47)
*hylocharis* (55)
*hylophila* (73)
*javanica* (43)
*keysseri* (12)
*lagynocalyx* (14)
*leonhardii* (32)
*longipes* (75)
var. *leptopoda* (75)
*malaccensis* (40)
*megalosperma* (2)
*naiadum* (107)
*nutans* (7)
*pachyclada* (37)
*pteropoda* (38)
*roemeri* (58)
*rubella* (58)
*sargentiana* (52)
*schumanniana* (97)
*soliflora* (18)
*synaptoneura* (34)
*thomseni* (22)
*trachyantha* (14)
*tympanantha* (20)
*verniciflora* (117)
*versteegii* (36)

*weinlandii* (73)
*xylopiacea* (61)

*Myrtus*
*samarangensis* (43)

Syzygium
acetosum (126)
acutangulum (79)
adelphicum (95)
var. *adenanthum* (95)
aeoranthum (74)
alatum (93)
**amplum** (44)
anomalum (76)
aqueum (57)
*archboldianum* (67)
attenuatum (100)
badium (125)
benjaminum (94)
*bibracteatum* (83)
bicolor (99)
bracteosum (80)
branderhorstii (121)
brassii (119)
brevicymum (72)
buettnerianum (86)
**burepense** (9)
**busuense** (88)
callianthum (11)
camptodromum (106)
capituliferum (108)
**carrii** (98)
cartilagineum (109)
*caudiferum* (72)
**cauliflorum** (1)
cinctum (63)
cladopterum (4)
claviflorum (101)
**coalitum** (52)
daphne (13)
*daphnoides* (75)
decipiens (123)
delicatulum (56)
dictyophlebium (78)
*discolor* (67)
*doctersii* (131)
dolichophyllum (10)
effusum (131)
**erythropetalum** (17)
evenulosum (35)
fastigiatum (83)
**fibrosum** (71)
finisterrae (137)
flavescens (118)
**flavidum** (6)
*floribundum* (69)
*folidorhachis* (91)
*forbesii* (21)
furfuraceum (91)
garcinioides (62)
gonatanthum (21)
goniocalyx (25)
goniopterum (47)
heterobotrys (27)
homichlophilum (130)
hylochare (55)
hylophilum (73)
*insculptum* (66)
**insulare** (8)
iteophyllum (84)
*jambosoides* (31)
*japenense* (114)
*javanicum* (43)
keysseri (12)
kietanum (120)
lagerstroemioides (28)
*lagynocalyx* (14)
laqueatum (39)
*lauterbachianum* (69)
var. *phaeophloium* (69)
leonhardii (32)
*leptanthelium* (136)
*leptanthum* (101)
leptoneurum (127)
leptophlebioides (122)
leptopodium (102)
*leucoderme* (131)
longipes (75)
var. *leptopodum* (75)
lorentzianum (115)
luehmannii (133)
macrocalyx (5)
**madangense** (26)
malaccense (40)
*maschalocladum* (92)
*megalanthelium* (123)
megalospermum (2)
megistophyllum (105)
micrandrum (128)
*micropetalum* (94)
*modestum* (116)
multiglandulosum (41)
myriadenum (129)

naiadum (107)
nemorale (104)
*niviferum* (131)
**normanbiense** (30)
novoguineense (24)
nutans (7)
*obtusum* (131)
onesimum (138)
pachycladum (37)
pallens (77)
*papuasicum* (79)
pergamaceum (67)
phaeostictum (54)
platypodum (48)
plumeum (136)
**pluviatile** (68)
porphyrocarpum (3)
pteropodum (38)
puberulum (51)
pyriforme (16)
pyrocarpum (85)
randianum (29)
*rectangulare* (123)
*retivenium* (130)
richardsonianum (64)
**robbinsii** (96)
roemeri (58)
rosaceum (124)
roseum (70)
rostratum (135)
*rubellum* (58)
rubiginosum (111)
rubro-punctatum (66)
saliciforme (59)
salicinum (15)
samarangense (43)
**sambogense** (90)
*sargentianum* (52)
schumannianum (97)
sogerense (19)
*soliflorum* (18)
spectabile (42)
squamatum (87)
subalatum (18)
subamplexicaule (103)
subcorymbosum (132)
subglobosum (110)
**suborbiculare** (31)
*sylvanum* (131)
**sylvicola** (65)
synaptoneurum (34)
taeniatum (92)
thalassicum (23)
thomseni (22)
**thornei** (89)
**tierneyanum** (69)
torricellianum (81)
trachyanthum (14)
triphlebium (112)
trivene (116)
tympananthum (20)
uniflorum (60)
*vaccinioides* (93)
**validinerve** (45)
**variabile** (50)
verniciflorum (117)
vernicosum (33)
versteegii (36)
viburnoides (82)
virescens (53)
**waikaiunense** (49)
walkeri (134)
waterhousei (113)
**womersleyi** (46)
*xylanthum* (85)
xylopiaceum (61)

T. G. Hartley
C. S. I. R. O.
Division of Land Research
Herbarium Australiense
Canberra, Australia 2601

L. M. Perry
Arnold Arboretum
Harvard University
Cambridge, Massachusetts 02138

Hartley, T G and Perry, Lily M. 1973. "A Provisional Key and Enumeration of Species of Syzygium (Myrtaceae) from Papuasia." *Journal of the Arnold Arboretum* 54(2), 160–227. https://doi.org/10.5962/p.184523.

**View This Item Online:** https://www.biodiversitylibrary.org/item/41242
**DOI:** https://doi.org/10.5962/p.184523
**Permalink:** https://www.biodiversitylibrary.org/partpdf/184523

**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.

This file was generated 29 November 2023 at 17:25 UTC