Studies of Pacific Island Plants, XXII
New Flowering Plants from Fiji[1]

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STUDY of the flowering plants of Fiji continues to disclose material of unusual interest, in large part among recent collections made by staff members of the Fiji Departments of Agriculture and Forestry and by collectors for the Land Resources Division, Directorate of Overseas Surveys. In the present paper 12 new species are described, belonging to the genera *Elaeocarpus* (Elaeocarpaceae), *Casearia* and *Flacourtia* (Flacourtiaceae), *Cleistocalyx* and *Piliocalyx* (Myrtaceae), *Astronidium* and *Memecylon* (Melastomataceae), *Meryta* (Araliaceae), and *Psychotria* (Rubiaceae).

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ELAEOCARPACEAE

Elaeocarpus L.

Elaeocarpus (Sect. *Fissipetalum*) ***praeclarus*** sp. nov.

DESCRIPTIO SPECIEI: Arbor parva ad 4.5 m alta, partibus juvenilibus obscure puberulis, partibus vegetativis mox glabratis, ramulis teretibus gracilibus apicem versus haud 2 mm diametro ibi folia subcongesta gerentibus; petiolis gracilibus (0.5–0.8 mm diametro apice incrassatis) semiteretibus 2–3.5 cm longis, foliorum laminis chartaceis in sicco fusco-viridibus ovato-lanceolatis, 6.5–8.5 cm longis, 2.5–3.3 cm latis, basi obtusis vel cuneatis, superne in acuminem 1–1.5 cm longum subacutum gracilem angustatis, margine anguste recurvatis et apicem versus leviter crenulatis, costa supra complanata subtus prominente, nervis secundariis utrinsecus 4–6 arcuato-adscendentibus supra prominulis subtus elevatis, rete venularum copioso supra subplano subtus prominulo; racemis axillaribus 1.5–3.5 cm longis 4–9-floris, pedunculo 0.5–2 cm longo et rhachidi pedicellisque gracilibus sub anthesi pilis ad 0.1 mm longis cinereo-strigillosopuberulis, pedicellis sub anthesi 4–7 mm longis; sepalis 4 vel 5 oblongis, 4–4.5 mm longis, 1.5–2 mm latis, apice subacutis, extus parce strigillosis, intus carinatis et minutissime sericeis; petalis 4 vel 5 submembranaceis oblongis, 4.5–5 mm longis, 1.5–1.8 mm latis, extus inferne inconspicue strigillosis, intus basim versus carinatis et ibi sericeis, apice 5- vel 6-lobulatis, lobis obtusis 0.5–1 mm longis; disco ad 0.5 mm alto superne inconspicue hispidulo; staminibus 24–27 ad 3 mm longis plerumque 2-seriatis ubique copiose sed minute hispidulis, filamentis 0.8–1.2 mm longis, antheris 1.3–1.8 mm longis, apice subacutis erostratis; gynoecio glabro, ovario ellipsoideo 2-loculari, loculis 2-ovulatis, stylo gracili ad 2 mm longo.

DISTRIBUTION: Known only from the type collection, from a small tree about 4.5 m high and with a trunk about 7 cm in diameter, growing on forested slopes.

HOLOTYPE: *Fiji*—Vanua Levu, Mathuata, northern slope of Mt. Korombasonga, in drainage of Vuindavuwani Creek, south of Nakoroutari, inland from Lambasa, alt about 600 m, *W. J. Howard 301* (BISH holotype; isotype at SUVA), October 10, 1968.

The new species is very distinct from the four Fijian species thus far referred to Sect. *Fissipetalum* (cf. A. C. Smith in Contr. U.S. Nat. Herb. 30: 534–539. 1953). In the size of its flowers and in its comparatively numerous stamens it suggests *E. pittosporoides* A. C. Sm., but

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it differs from that in its longer petioles, thinner and very differently shaped leaf-blades, much shorter pedicels, narrower petals, shorter stamens, and its 2- rather than 4-ovulate ovary-locules. Although the remaining species of Sect. *Fissipetalum* in Fiji have 2-ovulate ovary-locules, they differ sharply from *E. praeclarus* in their smaller flowers with fewer stamens and in striking foliage characters.

Elaeocarpus (Sect. *Monocera*) ***ampliflorus*** sp. nov.

DESCRIPTIO SPECIEI: Arbor parva 1–2 m alta, partibus vegetativis glabris, ramulis teretibus apicem versus 3–4 mm diametro, foliis non congestis; petiolis subteretibus 1.5–2 mm diametro basi et apice incrassatis 2.5–5 cm longis, foliorum laminis chartaceis in sicco fusco-viridibus ovatis, 10–16 cm longis, 5.5–9 cm latis, basi rotundatis, in acuminem 1–1.5 cm longum acutum angustatis, margine recurvatis integris vel apicem versus obscure undulato-crenulatis, costa valida supra complanata subtus prominente, nervis secundariis utrinsecus 6–8 patentibus marginem versus curvatis et anastomosantibus supra prominulis subtus valde elevatis, rete venularum laxo utrinque prominulo; racemis axillaribus 3- vel 4-floris, pedunculo 2–3 cm longo et rhachidi glabris, bracteis papyraceis glabris deltoideo-oblongis obtusis 3–4 mm longis ad 2 mm latis, pedicellis in sicco striatis sub anthesi 25–30 mm longis apice incrassatis glabris vel obscure strigilloso-puberulis; sepalis 5 rigidis lanceolatis, 43–47 mm longis, 6–7 mm latis, ad apicem acutum gradatim angustatis, extus glabris, intus copiose sed minute puberulis; petalis 5 superne submembranceis basim versus incrassatis et intus acute carinatis, oblongis vel anguste obovatis, 45–55 mm longis, 10–12 mm latis, utrinque glabris, apice truncato-rotundato conspicue fimbriatis, lobis 9–11 lanceolatis acutis 8–10 mm longis; gynandrophoro conspicuo crasso ad 2 mm alto et 4 mm diametro 5-sulcato pilis ad 0.2 mm longis copiose sericeo; staminibus ut videtur 70–90, 4- vel 5-seriatis, circiter 30 mm longis, filamentis 12–15 mm longis pilis 0.2–0.3 mm longis copiose hispidulo-strigillosis, antheris minute papilloso-hispidulis 15–20 mm longis, arista dorsali subulato ad 2 mm longo, apice ventrali obtuso; ovario anguste ellipsoideo basim versus parce strigilloso mox glabro, stylo subulato 25–30 mm longo.

DISTRIBUTION: Known only from the type collection, from a small tree 1–2 m high, growing in lowland forest; the petals are indicated as yellowish.

HOLOTYPE: Fiji—Viti Levu, Rewa, upper Waimanu River basin, near Waimbue Creek, *Fiji Dept. Agr.* (coll. *S. Vodonaivalu*) *15576* (BISH holotype; isotype at SUVA), August 22, 1968.

Elaeocarpus ampliflorus, among the known Fijian species of Sect. *Monocera*, is distinguished by its comparatively large flowers as to their sepals, petals, and stamens. Although *E. storckii* Seem. has flowers nearly as large, that species has characteristically stout branchlets and congested, thick-coriaceous leaves very different in shape. The closer relationship of the new species is with *E. chelonimorphus* Gillespie and *E. gillespieanus* A. C. Sm., but the largest flowers noted for either of these have sepals no more than 32 mm long and copiously sericeous or tomentellous within, petals not exceeding 37 mm long, stamens up to 22 mm long, and a style up to 20 mm long. *Elaeocarpus chelonimorphus*, the most abundant species of Sect. *Monocera* in Fiji, has the leaf-blades prevailingly elliptic-lanceolate in shape and acute to attenuate at base, whereas the new species and *E. gillespieanus* have prevailingly ovate leaf-blades rounded at base; many obvious floral characters other than dimensions separate the two latter species.

FLACOURTIACEAE

Casearia Jacq.

Casearia pubipes sp. nov.

DESCRIPTIO SPECIEI: Arbor ad 18 m alta, ramulis petiolisque manifeste pilosis (pilis cinereis minutis subappressis cum aliis patulis ad 0.4 mm longis intermixis), ramulis gracilibus apicem versus angulatis haud 1 mm diametro demum glabratis lenticellatis; stipulis parvis deltoideis 1–1.5 mm longis ut partibus

novellis primo copiose subsericeis demum glabratis caducis; petiolis gracilibus canaliculatis 5–7 mm longis, foliorum laminis papyraceis primo punctis striulisque pellucidis instructis demum fuscis, oblongo-lanceolatis, 10–17 cm longis, 3–5 cm latis, basi acutis, superne in acuminem brevem gradatim angustatis, margine integris vel apicem versus obsolete undulato-crenulatis, supra glabris, subtus primo parce pilosis praeter domatia pilis ad 0.5 mm longis barbellata in axillis nervorum mox glabratis, costa supra paullo elevata subtus prominente, nervis secundariis utrinsecus 8–11 adscendentibus supra subplanis subtus acute elevatis, rete venularum intricato utrinque plano vel subtus prominulo; floribus numerosis (sub anthesi 8–15 simul maturis) in glomerulos axillares dispositis, bracteis numerosis suborbicularibus haud 0.6 mm longis dorso et margine copiose strigillosis; pedicellis gracilibus sub anthesi 3–4 mm longis pilis circiter 0.2 mm longis copiose indutis basim versus articulatis; sepalis 5 vel saepe 6 oblongo-ellipticis, 1.8–2.2 mm longis, 1.5–2 mm latis, exterioribus dorso strigillosis, interioribus margine scariosis; staminibus 10 vel 12 alternatim parum inaequalibus, filamentis gracilibus 0.6–0.8 mm longis obscure hispidulis, antheris oblongis ad 0.3 mm longis; disci lobis oblongis 0.4–0.5 mm longis apice truncato copiose barbellatis; gynoecio glabro, ovario ovoideo, stylo ad 0.2 mm longo, stigmate capitato.

DISTRIBUTION: Known only from the type collection, taken from a tree about 18 m high in forest near sea level; the inflorescences are noted as light green.

HOLOTYPE: Fiji—Yathata (northern Lau Group), Navakathuru, *Fiji Dept. Agr.* (coll. *D. Koroiveibau*) *15553* (BISH holotype; isotype at SUVA), April 2, 1968.

The new species is closely related only to *C. longifolia* A. C. Sm. and *C. stenophylla* A. C. Sm., differing from both in the copious indument of its branchlets, petioles, pedicels, and sepals, these parts being essentially glabrous in the related species. In addition, *C. longifolia* seems consistently to lack leaf-domatia, while *C. stenophylla* has only 4–7 pairs of secondary nerves.

Flacourtia L'Hérit.

Flacourtia amalotricha sp. nov.

DESCRIPTIO SPECIEI: Arbor gracilis ad 6 m alta, partium juvenilium squamis ciliolatis, ramulis glabris gracilibus teretibus apicem versus 1–1.5 mm diametro infra conspicue lenticellatis; petiolis leviter canaliculatis glabris 5–7 mm longis, foliorum laminis in sicco fusco-olivaceis ovato-ellipticis, 11–15 cm longis, 4.8–6.7 cm latis, basi obtusis vel subrotundatis et in petiolum abrupte decurrentibus, superne in acuminem conspicuum gracilem obtusum 1.5–3 cm longum gradatim angustatis, margine integris vel superne obsolete undulato-crenulatis, supra glabris vel costa nervisque minutissime papilloso-puberulis, subtus per totam faciem pilis patentibus 0.3–0.5 mm longis copiose et molliter pilosis, costa valida supra complanata subtus prominente, nervis secundariis utrinsecus 6–9 adscendentibus marginem versus curvatis supra leviter subtus valde elevatis, rete venularum intricato utrinque prominulo; inflorescentiis pistillatis solitariis vel binis plerumque axillaribus breviter racemosis 2–5-floris, pedunculo brevi et rhachidi glabris ad 5 mm longis, bracteis deltoideis obtusis 1–1.5 mm longis margine ciliolatis, ramulis lateralibus infra articulum 1–1.5 mm longis; pedicellis glabris teretibus 1.5–2 mm longis; sepalis sub fructu immaturo plerumque 4 ovato-deltoideis obtusis breviter ciliolatis, 1–1.5 mm longis latisque; staminodiis subpersistentibus filiformibus 0.3–0.7 mm longis; fructibus immaturis ovoideo-subglobosis glabris ad 6 mm diametro, ovario 5-septato, ovulis 2 per loculo, stylis 5 crassis 0.1–0.3 mm longis basi contiguis non connatis, stigmatibus parvis.

DISTRIBUTION: Known only from the type collection, from a slender, freely branching tree 4–6 m high, in dense forest along stream; the ovary and stigmas are noted as greenish white and the young fruits as green.

HOLOTYPE: Fiji—Viti Levu, Tailevu, hills east of Wainimbuka River, in vicinity of Ndakuivuna, alt 100–200 m, *Smith 7181* (US holotype; isotypes at BISH, SUVA, etc.), April 22, 1953.

In type of leaf-indument the new species agrees with *F. mollipila* Sleumer, also known only from Viti Levu, but in that species the indument is obvious and persistent on the branchlets, petioles, inflorescence-branches, and pedicels as well as the leaf-blades, the petioles are only 2–3 mm long, and the leaf-blades are narrowly but obviously cordate at base and conspicuously crenate on the margins nearly to the base.

MYRTACEAE

Cleistocalyx Bl.

In their discussion of *Cleistocalyx* Bl., Merrill and Perry (in J. Arnold Arb. 18: 322–343. 1937) reduce to it the genus *Acicalyptus* A. Gray, noting that the latter is composed of five Fijian species that have the calyx-tube 4-angled, the fruit also obscurely 4-angled, and the calyx-limb in fruit narrow but usually deep. They propose a Section *Acicalyptus* (A. Gray) Merr. & Perry for the Fijian species, a procedure which seems unwarranted, since some of the Fijian material has essentially terete calyx-limbs and fruits. However, maintenance of the genus *Cleistocalyx* from *Syzygium* Gaertn. and certainly from *Eugenia* L. seems definitely desirable, in view of the consistent calyptrate calyx-limb in the species of *Cleistocalyx*. Henderson (in Gard. Bull. Singapore 12: 1–293. 1949), in reviewing the Malayan species of this alliance, has construed *Eugenia* in the broadest sense, to include the genera *Syzygium* and *Acmena* DC. as well as *Cleistocalyx*, maintaining these groups as sections, a procedure which seems to imply that they are natural groups. In the absence of mature flowers or advanced buds it is sometimes difficult to distinguish between the Fijian species of *Cleistocalyx* and certain species of *Syzygium*, most notably *S. nidie* Guillaumin and *S. fijiense* Perry. The fruits of *Cleistocalyx* spp. bear no remnant of calyx-lobes, and the calycine scar remains as a frayed margin; in *Syzygium*, however, even in the oldest fruits a few well-formed calyx-lobes can be found on the outer margin of the rim. The flowers and flower-buds of the two genera, of course, are strikingly different, and it seems unwise to ignore so basic a distinction merely because sterile and fruiting specimens require very close scrutiny for identification.

Cleistocalyx kasiensis sp. nov.

DESCRIPTIO SPECIEI: Arbor parva ad 1.5 m alta, ubique glabra, ramulis gracilibus apicem versus 1–1.5 mm diametro et ad nodos paullo complanatis; petiolis semiteretibus rugulosis 1.5–2 mm longis, foliorum laminis subcoriaceis in sicco fuscis oblongo-ellipticis, 5–7 cm longis, 2.5–4 cm latis, basi rotundatis vel late obtusis et in petiolum abrupte decurrentibus, apice in acuminem 3–5 mm longum e basi 3–4 mm lata obtuse cuspidatis, costa supra paullo canaliculata subtus prominente, nervis secundariis utrinsecus 20–27 patentibus utrinque obtuse prominulis, nervo collectivo 1–2 mm intra marginem incrassatum et paullo revolutum conspicuo, nervo marginali altero inconspicuo, rete venularum utrinque immerso vel subprominulo; inflorescentia terminali cymoso-paniculata e basi tripartita ad 4 cm longa et lata, ramulis (radiorum pedunculis ad 2 cm longis) rugulosis paullo complanatis, bracteis minutis subcoriaceis late semiorbicularibus; floribus sessilibus apice ramulorum ultimorum 2 vel 3, alabastris clavatis maturitate 4–4.5 mm longis, calycis tubo obscure 4-angulato, calyptra breviter conica umbonata 1–1.5 mm longa et sub anthesi ad 2.5 mm diametro; petalis membranaceis suborbicularibus minutis cum calycis calyptra caducis; staminibus numerosis (videtur 50–70), filamentis sub anthesi 3–4 mm longis, antheris oblongis 0.2–0.3 mm longis; stylo subulato 1.5–2 mm longo.

DISTRIBUTION: Known only from the type collection, taken from a perhaps stunted tree about 1.5 m high, with white flowers, growing in a forested area, and known locally, like many other species of Myrtaceae, as *yasiyasi*.

HOLOTYPE: Fiji—Vanua Levu, Thakaundrove, Mt. Kasi area, alt about 150 m, *Fiji Dept. Agr.* (coll. *E. Damanu* for *M. J. Berry*) *15740* (BISH holotype), June 7, 1968.

Cleistocalyx kasiensis differs sharply from the known Fijian species of the genus in its subsessile leaves, with the blades rounded or broadly

obtuse at base; the other described Fijian species have leaves with obvious petioles and with blades acute to attenuate at base. In the shape and venation of its leaf-blades the new species suggests *C. ellipticus* (A. C. Sm.) Merr. & Perry, which has larger, more obviously acuminate blades and smaller flowers.

Cleistocalyx decussatus sp. nov.

DESCRIPTIO SPECIEI: Arbor ad 12 m alta vel ultra, ubique glabra, ramulis robustis superne 3–10 mm diametro in nodis ultimis conspicue decussatim biangulatis vel bialatis, alis coriaceis 0.5–1 mm latis, ramulis vetustioribus teretibus cinereis; foliis sessilibus, laminis coriaceis in sicco fuscis vel interdum subtus rubro-fuscis, supra saepe nitidis, obovato-oblongis, 11–27 cm longis, 5–13 cm latis, basi anguste cordatis et subamplexicaulibus, apice rotundatis vel emarginatis, margine valde recurvatis vel conspicue revolutis, costa valida supra complanata vel paullo canaliculata subtus prominente et peracute carinata, nervis secundariis utrinsecus 25–30 patentibus supra leviter subtus valde elevatis, nervo collectivo 5–10 mm intra marginem conspicuo, nervis marginalibus 1 vel 2 alteris manifestis, rete venularum utrinque prominulo vel supra subimmerso; inflorescentia sub fructu terminali cymoso-paniculata e basi tripartita ad 11 cm longa et 17 cm lata, ramulis crassis complanatis 3–8 mm latis, internodiis contiguiis ut ramulis decussatim angulatis vel coriaceo-alatis, bracteis coriaceis brevibus transversim late deltoideis caducis; fructibus sessilibus apice ramulorum ultimorum 2 vel 3 vel interdum 1 ramulo crasso (3–4 mm diametro) cylindrico 1–2 mm longo pseudo-pedicellatis, coriaceis, obovoideo-ellipsoideis, ad 20 × 8 mm sed immaturis, basi obtusis, apice margine incrassato cicatricoso et disco cupuliformi truncatis, facie rugulosis et pallide lenticellatis, lateraliter angulis coriaceis vel alis angustis 2 ornatis.

DISTRIBUTION: Endemic to Fiji and thus far known from Viti Levu and Vanua Levu, occurring in dense forest at a recorded elevation of 150–180 m, and noted as a tree 4–12 m high with a trunk to 25 cm in diameter. Local names are *yasiyasi* and *yasimoli.*

HOLOTYPE: Fiji—Viti Levu, Naitasiri, Tholo-i-suva, alt about 180 m, *Fiji Dept. Forestry* (coll. *I. Bola 108*) *310* (BISH holotype; isotype at SUVA), February 22, 1962.

OTHER MATERIAL: Fiji—Viti Levu, Naitasiri, Waindrandra Creek, Waindina River basin, *Fiji Dept. Agr.* (coll. *J. Samudu*) *647* (BISH, SUVA); Savura Nature Reserve, Tholo-i-suva, *M. J. Berry* (coll. *I. Macunaqio*) *257* (BISH, SUVA). Vanua Levu—Thakaundrove, Navonu, Natewa Peninsula, *M. J. Berry 199* (BISH, SUVA).

Cleistocalyx decussatus is so strikingly distinct from the other Fijian species of the genus as to obviate comparison, being characterized by stout branchlets and inflorescence-branches and by very large sessile leaves, of which the blades have cordate, subamplexicaul bases. The distal internodes of the branchlets are sharply angled or winged in a decussate manner, each wing continuing distally into the sharp costa of the lower leaf-surface. The specimen designated as the type bears immature fruiting inflorescences and the other collections are sterile, but the fruit is entirely typical for the genus.

Piliocalyx Brongn. & Gris

This genus of about eight species, otherwise endemic to New Caledonia, was first recorded from Fiji by L. M. Perry in 1950 (in J. Arnold Arb. 31: 370). The genus is distinct from the related *Cleistocalyx* Bl. in having its calycine calyptra flattened-umbonate rather than conical or subulate-rostrate, and by having the ovules dependent from the apical angle of the ovary-locules rather than laterally oriented. The Fijian collections are definitely closer to *P. wagapensis* Brongn. & Gris, to which Perry assigned them, than to any other species of *Piliocalyx* (cf. Guillaumin, Fl. Anal. et Synopt. Nouvelle Caléd. 239. 1948). I am indebted to the interest of Dr. H. S. McKee, of the Centre National de la Recherche Scientifique, Paris, and to Dr. M. Schmid, of the Office de la Recherche Scientifique et Technique Outre-Mer, Nouméa, for making available additional material of *P. wagapensis* from New Caledonia, where it is said to occur frequently along streams on the east coast. Examination of this material indicates

that the Fijian collections represent a different species, herewith described as new.

Piliocalyx concinnus sp. nov.

Piliocalyx wagapensis sensu Perry in J. Arnold Arb. 31: 370. 1950; A. C. Sm. in J. Arnold Arb. 36: 285. 1955; J. W. Parham, Pl. Fiji Isl. 137. 1964; non Brongn. & Gris

DESCRIPTIO SPECIEI: Arbor ad 25 m alta, ubique glabra, ramulis gracilibus in internodiis distalibus leviter complanatis et ibi 1–1.5 mm latis demum teretibus, ad nodos saepe incrassatis; petiolis gracilibus canaliculatis (4–) 7–15 mm longis, foliorum laminis subcoriaceis vetustis coriaceis, in sicco viridi-fuscis vel demum fuscis, ellipticis vel lanceolatis, 6–9.5 cm longis, 2–4.7 cm latis, basi attenuatis vel acutis et in petiolum longe decurrentibus, apice callosoacutis vel in acuminem ad 1 cm longum callososubacutum angustatis, margine integris vel undulatis anguste recurvatis, utrinque praecipue subtus brunneo-punctatis, costa supra impressa saepe profunde canaliculata subtus prominente, nervis secundariis utrinsecus 13–23 cum aliis insolite anastomosantibus subpatentibus supra in sicco vulgo acute impressis subtus prominulis vel subplanis, nervo collectivo 0.5–1 mm intra marginem, nervo altero marginali nullo, rete venularum utrinque immerso; inflorescentia terminali cymoso-paniculata sub anthesi 3–7 cm longa sub fructu ad 9 cm lata pedunculo ad 2 cm longo ornata vel e basi 2- vel 3-partita, pedunculo ramulisque gracilibus rugulosis ad nodos complanatis, bracteis minutis late semiorbicularibus haud 0.5 mm longis 2 mm latis caducis; floribus sessilibus ternatis vel apice ramulorum ultimorum brevium solitariis, alabastris obovato-clavatis maturitate 3.5–5 mm longis apicem versus 2–2.5 mm diametro basi gradatim angustatis apice truncato-umbonatis, calycis limbo incurvato ad 0.8 mm alto apice lobos calyptratos et stamina gerenti, disco plano, calyptra 1–1.5 mm diametro, umbone haud 0.2 mm longo; petalis minutis membranaceis calycis calyptram valde adhaerenti; staminibus biseriatis numerosis (30–40) in alabastro incurvatis, filamentis in alabastro gracilibus ad 0.5 mm longis apice contractis, antheris late oblongis haud 0.2 × 0.4 mm, thecis divergentibus; stylo 0.4–0.6 mm longo, loculis 2, ovulis paucis dependentibus; fructibus sessilibus subglobosis vel obovoideo-subglobosis saepe obliquis ad 16 mm longis latisque, basi in stipitem crassum ad 1 mm longum abrupte contractis, apice rotundatis et fovea vadosa 3–6 mm diametro et 0.5–1 mm profunda conspicue ornatis, stylo persistenti, pericarpio coriaceo 1–2 mm crasso, semine unico, testa pericarpium adhaerenti, cotyledonibus crassis subaequalibus liberis.

DISTRIBUTION: Endemic to Fiji and thus far known only from northwestern and central Viti Levu, occurring in dense forest at elevations of 580–1,150 m. It has been noted as a tree 5–25 m high, with white flower buds and with fruits that are cream colored when young, soon turning dull pink to crimson. Local names are *yasiyasi* and *yasi ndraundrau*. Fruits have been obtained between May and September, and the only flowering specimen, designated as the type, was collected in September.

HOLOTYPE: Fiji—Viti Levu, Mba, hills between Nandala and Nukunuku creeks, along trail from Nandarivatu toward Lewa, alt 750–850 m, *Smith 6155* (A holotype; isotypes at BISH, US, etc.), September 22, 1947.

OTHER MATERIAL: Fiji—Viti Levu, Mba, northern portion of Mt. Evans Range, between Mt. Vatuyanitu and Mt. Natondra, *Smith 4373* (A, BISH, US); vicinity of Nandarivatu, *Degener 14532* (A); western and southern slopes of Mt. Tomanivi, *Smith 5118* (A, BISH, US). Nandronga and Navosa: Nausori Highlands, *Fiji Dept. Agr. 13329* (BISH, SUVA), *Fiji Dept. Forestry 1260* (SUVA); northern portion of Rairaimatuku Plateau, between Nandrau and Nanga, *Smith 5467* (A, BISH, US). Without data: *Fiji Dept. Agr. 13312* (BISH, SUVA).

The relationship of the new species is doubtless with the New Caledonian *P. wagapensis* Brongn. & Gris, with which it has a striking superficial similarity in foliage. However, the leaf-blades of *P. wagapensis* have the major marginal collecting nerve 1.5–5 mm within the margin, paralleled by a less conspicuous outer nerve; in the new species the collecting nerve is only 0.5–1 mm within the margin and an outer nerve is completely lacking. In fruit there is also a difference; in *P. wagapensis* the caly-

cine rim is very short, and when a fruit is laterally viewed the floor of the disk equals or exceeds the limb; in *P. concinnus* the calycine rim of the fruit is obvious, 0.5–1 mm high and incurved, and the floor of the disk is distinctly exceeded by the rim-apex. This probably reflects a floral difference: in *P. concinnus* the calyx-limb of the flower projects nearly 1 mm above the apex of the calyx-tube, bearing on its rimlike apex the stamens, petals, and calyptrate calyx-lobes; it is probable that the calyx-limb in the flowers of *P. wagapensis* is somewhat shorter.

Our new species is readily separable from Fijian species of *Cleistocalyx* and *Syzygium* when flowers are available. The mature fruits of *Cleistocalyx* are distinctly longer than broad, and those of *Syzygium*, if similar in shape and texture, have at least remnants of calyx-lobes borne on the apical rim. Even in sterile condition, *P. concinnus* may be distinguished from superficially similar species of *Cleistocalyx* and *Syzygium* by the characteristically sharply impressed secondary nerves of the upper surfaces of dried leaf-blades.

MELASTOMATACEAE

Astronidium A. Gray

Astronidium saulae sp. nov.

DESCRIPTIO SPECIEI: Arbor gracilis ad 10 m alta, ramulis subteretibus robustis in internodiis distalibus 5–7 mm diametro et ibi copiose hirsutis, trichomatibus crassis multicellularibus 0.3–1 mm longis apice oblique capitatis vel attritis; foliis oppositis vagina persistenti laminarum stipuloidearum subtentis, laminis subcoriaceis irregulariter et late suborbicularibus 3–10 mm longis saepe anguste involutis inter petiolos lateraliter extensis et margine auriculatis eis oppositis contiguis; petiolis canaliculatis anguste alatis, (2–) 2.5–4 cm longis, alis inclusis 2–5 mm latis, dorso ut ramulis trichomatiferis, foliorum laminis chartaceis vel subcoriaceis in sicco viridi-fuscis obovato-ellipticis, (14–) 17–25 cm longis, (6–) 8–13 cm latis, basi in alas petiolares angustatis, apice rotundatis vel breviter cuspidatis et mucrone conspicuo dorsali subapicali ad 0.5 mm longo obtuse callosis, margine integris vel obsolete crenulatis et anguste recurvatis, supra glabris, subtus costa et nervis ut ramulis pilis 0.2–0.4 mm longis hirsutis, nervis principalibus 3 e basi divergentibus vel ad 2 cm contiguis supra impressis subtus prominentissimis, nervis collectivis 2 vel 3, interiore intra marginem 4–10 mm conspicuo, exteriore 1–1.5 mm intra marginem, tertio margine occulto, venulis transversis et rete venularum supra subplanis subtus prominulis; inflorescentia terminali trichotome cymosa ad 14 cm longa et 17 cm lata multiramulosa multiflora pedunculo crasso complanato ad 3 cm longo enata vel e basi 3-divisa, pedunculo ramulisque sub anthesi copiose furfuraceo-hirsutis, pilis ad 0.4 mm longis saepe apice lateraliter complanatis, ramulis ad nodos complanatis, bracteis principalibus saepe ad nodos transversim suborbicularibus, bracteis aliis oblongo-obovatis 3–15 mm longis 1–5 mm latis inferioribus subfoliaceis superioribus minoribus; floribus 3–8 apice ramulorum ultimorum aggregatis, pedicellis gracilibus sub anthesi 1.5–2 mm longis ut calyce minute et dispersim lepidotis; calyce cupuliformi 2.5–3 mm longo et 2–2.5 mm diametro, limbo erecto ad 1.5 mm longo in lobis plerumque 4 oblongis brevibus obtusis irregulariter fisso; petalis 4 submembranaceis obovato-oblongis, 2.8–3.2 mm longis, 1.5–2 mm latis, apice rotundatis vel obtusis; staminibus 8 valde inflexis, filamentis ligulatis 2.5–3 mm longis, antheris oblongis 2–2.2 mm longis, thecis subapicalibus recurvatis ad 1 mm longis, calcari basilari acuto ad 0.5 mm longo; stylo 2.5–3 mm longo apice clavato, ovarii loculis 4; inflorescentiae sub fructu indumento persistenti, fructibus oblato-subglobosis ad 3.5 mm diametro in sicco rugulosis calycis limbo coronatis, placentis erectis clavatis ad 1 mm longis, seminibus numerosis obovoideis 0.5–0.7 mm longis apice truncatis.

DISTRIBUTION: Thus far known only from a single colony at the type locality, in southeastern Viti Levu at an elevation of 200–300 m. At this locality were noted many individuals, slender trees 3–10 m high, forming a grove in mixed dense forest.

HOLOTYPE: Fiji—Viti Levu, Rewa, southern slope of Mt. Korombamba, *Fiji Dept. Agr.* (coll. *Saula Vodonaivalu*) *17273* (BISH holotype; isotype at SUVA), April 27, 1970.

OTHER MATERIAL: Fiji—Viti Levu, Rewa, southern slope of Mt. Korombamba, *Fiji Dept. Agr. 16529, 17218, 17357* (all BISH, SUVA).

The extraordinary species here described differs from other *Astronidia* in having each pair of leaves subtended by large, persistent, stipule-like organs forming a sheath. Each blade of these leaf-subtending organs arises from the branchlet below the petiole, curving upward and laterally across the interpetiolar ridge, where it is marginally auriculate and contiguous with the corresponding opposite blade. Since stipules are not present in the Melastomataceae, and since these sheaths are not actually connected with the petioles themselves, it seems probable that they are bracteolar in origin; this is also suggested by the fact that smaller counterparts occur on the lower inflorescence-nodes. Some other species of *Astronidium* have the petiole-bases expanded and confluent across the interpetiolar ridge; in others an incipient transverse ridge or at least a line is apparent between paired petioles. However, no such extreme horizontal winged outgrowth has been seen as in *A. saulae*. In floral characters the new species is not unlike *A. parviflorum* A. Gray, fairly frequent in Fiji, from which it is at once distinguished by the coarse trichomes of its vegetative parts and inflorescences, its larger leaves, and its winged petioles, in addition to the organs discussed above. It may be noted that another species, *A. floribundum* (Gillespie) A. C. Sm., also occurs on Mt. Korombamba, but it has substantially larger flowers and is otherwise so different from *A. saulae* as to obviate comparison.

The present species was first noted on April 24, 1969, by a collecting party including the writer, J. W. Parham, P. B. Tomlinson, and assistants from the Fiji Department of Agriculture. A fairly extensive colony was located on Mt. Korombamba, but only a few immature inflorescences could be found (no. 16529). Because the plant was recognized as a species of exceptional interest, local collectors revisited the location until excellent flowering material (no. 17273) became available. It is a pleasure to name this outstanding discovery for Saula Vodonaivalu, of the Fiji Department of Agriculture, in recognition of his many fine collections of indigenous Fijian plants.

Memecylon L.

Memecylon insperatum sp. nov.

DESCRIPTIO SPECIEI: Frutex ad 2.5 m altus ubique glaber, ramulis gracilibus in internodiis distalibus ad 1.5 mm diametro conspicue 4-angulatis vel 4-alatis, nodos versus superne ad 4 mm incrassatis et alis subcoriaceis 0.5 mm latis ornatis, demum decorticatis et subteretibus; foliis subsessilibus, petiolis crassis (1.5–2 mm diametro) subteretibus rugulosis 1–1.5 mm longis, laminis coriaceis anguste oblongo-lanceolatis, 10–13 cm longis, 2–2.5 cm latis, basi rotundatis et in petiolum abrupte decurrentibus, superne in acuminem calloso-obtusum ad 1 cm longum gradatim angustatis, margine integris vel undulatis et anguste recurvatis, costa supra acute impressa subtus prominente, nervis secundariis omnino immersis (in laminis juvenilibus utrinsecus ad 30 patentibus in nervo submarginali anastomosantibus); inflorescentia axillari vel ramulis infra folia enata breviter cymosa sub anthesi 8–12 mm diametro, e basi pluriramulosa, 15–25-flora, bracteis oblongo-deltoideis 1–1.2 mm longis, floribus apice ramulorum brevium ultimorum solitariis, bracteolis 0.5–1 mm longis, pedicellis sub anthesi 0.7–1.3 mm longis; calyce cupuliformi carnoso ad 1.5 mm longo et 2.5 mm diametro, basi rotundato, limbo incurvato 0.5–0.6 mm longo undulato, lobis 4 inconspicuis ad 1.5 mm latis margine scariosis; petalis 4 sub anthesi membranaceis late ovatis ad 1.5 × 1.8 mm apice obtusis vel rotundatis; staminibus 8, filamentis ad 1.2 mm longis apice inflexis, antheris dolabriformibus 1–1.4 mm longis basi rotundatis apice in tubulos breves incurvatos productis; stylo sub anthesi ad 1.2 mm longo; pedicellis sub fructibus ad 2 mm longis, baccis subglobosis ad 10 mm diametro calycis limbo minuto et disco complanato coronatis.

DISTRIBUTION: Known only from the type collection, taken from a shrub 1.8–2.5 m high, collected in forest; the flowers are reported to be white and the fruits to be blue to black at maturity.

HOLOTYPE: Fiji—Vanua Levu, Thakaundrove, near Nambua Village, Nasavusavu Tikina, in forest on Tambia Road, alt about 100 m, *Fiji Dept. Agr.* (coll. *D. Koroiveibau* and *D. Anderson*) *17098* (BISH holotype; isotype at SUVA), October 25, 1969.

The only species of *Memecylon* thus far recorded from Fiji is *M. vitiense* A. Gray, from which the Tongan *M. harveyi* Seem. can scarcely be separated. Although that species is variable in the size and apex of its leaf-blades, these are elliptic to elliptic-lanceolate, acute to attenuate at base, and obviously petiolate, in sharp contrast to the leaf-blades of the new species, which are elongate and oblong-lanceolate, rounded at base, and subsessile. The strikingly angled or winged branchlets of the new species are not approached in *M. vitiense*. *Memecylon insperatum,* in fact, seems quite unrelated to other Pacific species of *Memecylon*. None of the Malesian species discussed by Bakhuizen van den Brink, Jr. (in Meded. Bot. Mus. Utrecht 91: 333–367. 1943), suggest our new species in its combination of winged branchlets and subsessile leaves with narrowly oblong-lanceolate blades and immersed venation.

ARALIACEAE

Meryta J. R. & G. Forst.

Meryta tenuifolia sp. nov.

DESCRIPTIO SPECIEI: Arbor ad 15 m alta ubique glabra, ramulis validis copiose cicatricosis apicem versus 8–10 mm diametro; foliis simplicibus apicem ramulorum versus congestis, petiolis gracilibus (2–3 mm diametro) in sicco rugulosis 3–6 cm longis, basi in vaginam brevem abrupte incrassatis, laminis chartaceis late ellipticis, (11–) 15–18.5 cm longis, (8–) 11–13 cm latis, basi obtusis vel subrotundatis et in petiolum breviter decurrentibus, apice rotundatis vel obtuse cuspidatis interdum emarginatis, margine integro paullo incrassatis et recurvatis, costa supra elevata subtus prominente, nervis secundariis utrinsecus 8–10 patentibus utrinque elevatis, rete venularum copioso utrinque prominulo; inflorescentiis sub fructu racemoso-paniculatis, ramulis gracilibus, petalis staminibusque interdum subpersistentibus, petalis deltoideis subacutis 0.7–0.9 × 1–1.2 mm, filamentis 0.5–0.7 mm longis, antheris simulate sterilibus; fructibus 5–10 ramulis brevibus ultimis singulariter vel apicem versus 3–5 subcapitatis enatis confertis liberis vel raro 2 lateraliter concrescentibus, subgloboso-oblatis 3.5–4.5 × 4.5–6 mm valde et acute 5–8(–10)-costatis, apice calycis cicatrice ornatis, disco subcalloso 1.5–2 mm diametro, stylis 5–8 (–10) basi divergentibus 0.6–1 mm longis.

DISTRIBUTION: Known only from the type collection, from the bank of a rocky creek in montane high forest, with the local name *lutulutu*. The specimens were taken from a tree about 15 m high, the trunk about 2 m in girth breast high.

HOLOTYPE: Fiji—Viti Levu, Nandronga and Navosa, Nggalivava, near Vanualevu, near edge of plateau east of Singatoka River, alt about 800 m, *M. J. Berry* (coll. *E. Damanu*) *97* (BISH holotype), December 4, 1968.

The widely distributed Pacific genus *Meryta* has been believed curiously absent from Fiji (cf. Smith and Stone in J. Arnold Arb. 49: 434. 1968), a situation remedied by a recent collection made for the Land Resources Division, Directorate of Overseas Surveys. *Meryta tenuifolia* differs sharply from the species known from adjacent archipelagoes, the New Hebrides, Samoa, and Tonga, in having its leaf-blades much shorter, proportionately broader, and broadly obtuse rather than gradually attenuate at base. The new species seems of the relationship of *M. choristantha* Harms, of Rapa, but its leaf-blades are thinner in texture, with prominulous rather than immersed veinlets, and its fruits are smaller and more congested, although still free.

RUBIACEAE

Psychotria L.

Psychotria vescula sp. nov.

DESCRIPTIO SPECIEI: Frutex ad 2.5 m altus, partibus novellis pilos rubiginosos pluricellulares patentes 0.2–0.4 mm longos inconspicue

gerentibus; stipulis mox glabratis submembranaceis 4–5 mm longis 2–2.5 mm latis ad apicem minute bilobatum lateraliter connatis mox calyptrate caducis; ramulis gracilibus superne 1–1.5 mm diametro glabratis teretibus; foliis subsessilibus vel petiolis ad basim anguste alatis 2–4 mm longis, laminis papyraceis glabris obovatis vel oblanceolatis, (2–) 2.5–3.7 cm longis, (0.7–) 1–1.6 cm latis, basi gradatim angustatis et in petiolum longe decurrentibus, apice obtusis vel obtuse cuspidatis, costa utrinque elevata, nervis secundariis utrinsecus 5–7 inconspicuis brevibus subadscendentibus utrinque subimmersis vel prominulis, venulis obscuris; fructibus videtur 1–3 apice ramulorum brevium sessilibus, subglobosis vel obovoideis, 5–6 mm longis latisque, basi obtusis, apice calycis limbo submembranaceo erecto ad 0.5 mm longo et 1.5 mm diametro 5-denticulato et disco conspicuo annulari-pulvinato coronatis; pyrenis 4.5–5 × 3.5—4 × 1.5–2 mm, basi subacutis, apice minute bifidis, ventre levibus, dorso conspicue unicarinatis.

DISTRIBUTION: Known only from the type collection, from a shrub 1.8–2.5 m high collected in forest; the fruit is red at maturity, and a local name of *langgainggai* was noted.

HOLOTYPE: Fiji—Viti Levu, Mba, forest below Mt. Koromba (altitude not noted but probably about 500–800 m), *Fiji Dept. Agr.* (coll. *D. Koroiveibau* and *I. Qoro*) *14728* (BISH holotype; isotype at SUVA), May 25, 1966.

The new species is closely related only to *P. monocarpa* Fosberg, from which it differs in its smaller and essentially sessile leaf-blades, which are gradually narrowed to a winged base; the petiole, if present at all, is no more than 2–4 mm long and is winged to its base. The petioles of the leaves of *P. monocarpa* are perceptible for some 5–12 mm, although they too are narrowly winged in the distal portion. *Psychotria vescula* has comparatively small fruits and leaf-blades with less obvious venation.

Psychotria brachythrix sp. nov.

DESCRIPTIO SPECIEI: Arbor parva ad 3 m alta, partibus novellis subadpresso-pilosis, pilis rubiginosis pluricellularibus 0.1–0.2 mm longis; stipulis in vaginam gracilem connatis, vagina cylindrica superne gradatim contracta 7–20 mm longa, stipulis veteribus glabratis 2–3 mm latis apice 1.5 mm longo liberis demum e basi fissis margines versus 2-nervatis; ramulis gracilibus arcte pilosis superne paullo complanatis 1–1.5 mm diametro demum teretibus glabratis; petiolis semiteretibus gracilibus (6–) 12–20 mm longis ut ramulis pilosis, foliorum laminis papyraceis in sicco fuscis elliptico-lanceolatis, 6–12 cm longis, 2–4.5 cm latis, basi acutis et in petiolum breviter decurrentibus, in acuminem 5–10 mm longum calloso-obtusum gradatim angustatis, praeter subtus costam et nervos pilis subadpressis 0.1–0.2 mm longis 6–8-cellularibus dense indutos utrinque glabris, costa supra elevata subtus prominente, nervis secundariis utrinsecus 13–15 arcuato-patentibus supra planis vel paullo impressis subtus acute elevatis, rete venularum inconspicuo subimmerso; inflorescentia e basi 3-ramulosa, ramulis sub fructu 3–5.5 cm longis gracilibus primo pilosis simplicibus vel semel divisis, bracteolis lanceolatis ad 0.7 mm longis mox caducis, fructibus apicem ramulorum ultimorum versus 2 vel 3 gerentibus, pedicellis gracilibus glabratis 5–8.5 mm longis; fructibus ovoideis limbo excluso 9–11 mm longis et 6–8 mm latis, in sicco 4-angulatis, calycis limbo papyraceo persistenti dentibus oblongo-lanceolatis ad 1 mm longis inclusis 2–3 mm longo coronatis, disco annulari-pulvinato ad 1.5 mm diametro, stylo ad 5 mm longo subpersistenti, pyrenis hastatis ad 8.5 × 7 × 3 mm, basi subacutis, infra medium margine tenui complanatis, medium versus abrupte contractis, apice ad 1 mm manifeste indentatis, ventre levibus, dorso conspicue acute unicarinatis.

DISTRIBUTION: Known only from the type collection, taken from a small tree 2–3 m high in forest along a creek; the fruit, although essentially mature, was noted as green.

HOLOTYPE: Fiji—Vanua Levu, Mbua, Singasingau Creek, near Ndriti, alt about 150 m, *Fiji Dept. Agr.* (coll. *D. Koroiveibau*) *15188* (BISH holotype; isotype at SUVA), May 29, 1967.

Although flowers are not available, the cited collection clearly represents a new species of the relationship of *P. caldwellii* Gillespie, with which it has in common similar stipules, a com-

paratively simple inflorescence, and unicarinate, laterally indented pyrenes. *Psychotria brachythrix* differs from *P. caldwellii*, a frequent and variable species in Fiji, in the minute but copious indument of its branchlets, petioles, and lower surface of costa and secondary nerves. The new species is further distinguished by its leaves with comparatively numerous secondary nerves (usually 6–11 in *P. caldwellii*), and by its comparatively elongate and obviously dentate calyx-limb. In foliage the new species also bears a resemblance to *P. scitula* A. C. Sm., which, however, has its corresponding indument of lax, elongate, multicellular hairs to 1 mm long; its flowers are sessile and with copiously pilose calyces.