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**New Species of Dicotyledonous Spermatophytes
from Tahiti**

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INTRODUCTION

At the invitation of Dr. L. H. Bailey and Dr. L. H. MacDaniels I have made a detailed study of a collection of woody plants obtained from the island of Tahiti in 1927 by Dr. MacDaniels. Comparisons with published records of related species indicate that the following species, diagnoses of which are here presented, are undescribed. The types are deposited at the Bailey Hortorium.

The photographs were provided through the courtesy of Dr. Bailey.

URTICACEAE

1. *Pipturus vaihirianensis*, species nova (fig. 1).

Arbor ad 12 m. alta, truncus 30 cm. crassus, rami glabrescentes subfusci, laminae foliorum 11-14.5 cm. longae 6-8 cm. latae ovatae vel ovato-lanceolatae ad basin leviter cordatae acuminatae sumitate longe apiculatae marginibus crenatae superficie superiore parce hispidulae superficie inferiore in nervis hispidae et hispidulae in areolis pubescentia breve cinera lanatae, apiculum 1-3 mm. longum, petioli 1-4.5 cm. longi, stipulae caducae 6-12 mm. longae 3-4 mm. latae lanceolatae in dorso nervosae et pilis cinereis appressis hispidulae in superficie interiore glabrae in parte superiore (1.5-2 mm.) bifidae, rami floriferi 2.25 mm. crassi pilis albidis longis et pilis brevibus appressis vestiti, inflorescentiae spicatae simplicesque vel ramis paucis paniculatae, bractee prope basin inflorescentiae 4 mm. longae 1.5 mm. latae lanceolatae acuminatae in dorso pilis cinereis appressis hispidulae, axes primarii 1-2 cm. longi, bractee prope basin glomerulorum 1.5-2 mm. longae 1.5 mm. latae ovatae acuminatae, glomeruli staminiferi 3-4 mm. lati, alabastra 1-1.25 mm. lata depresso-globosa, perianthium pubescens post anthesin 1.25 mm. longum lobis 0.4 mm. longis deltoideis, filamenta ad longitudinem 2 mm. proventia,

antherae 0.6 mm. longae 0.6 mm. latae apice emarginatae flavae, flores pistilliferi ignoti.

Tree up to 12 m. high; trunk 30 cm. in diameter; branches glabrescent, with brownish bark; leaf blades 11-14.5 cm. long, 6-8 cm. wide, ovate or ovate-lanceolate, shallowly cordate at the base, acuminate, the tip apiculate, crenate on the margins, sparsely hispidulous on the upper surface, hispid and hispidulous on the nerves on the lower surface, the areoles lanate with grayish-white short pubescence; apiculum 1-3 mm. long; petioles 1-4.5 cm. long; stipules 6-12 mm. long, 3-4 mm. wide, lanceolate, strongly nerved and hispidulous with appressed whitish hairs dorsally, bifid in the upper 1.5-2 mm., glabrous on the inner face, caducous; floriferous branches 2.25 mm.



FIGURE 1.—*Pipturus vaiharianensis* (type).

wide, hispid with long whitish hairs and hispidulous with short appressed pubescence; inflorescences spicate and simple or paniculate with few branches; basal bracts of the inflorescence 4 mm. long, 1.5 mm. wide, lanceolate, acuminate, hispidulous with appressed whitish hairs dorsally; main axes 1-2 cm. long; bracts at the base of the glomerules 1.5-2 mm. long, 1.5 mm. wide, ovate, acuminate; staminate glomerules 3-4 mm. wide; bud 1-1.25 mm. wide, depressed globose; after anthesis perianth 1.25 mm. long, pubescent; lobes 0.4 mm. long, deltoid; filaments attaining a length of 2 mm.; anthers 0.6 mm. long, 0.6 mm. wide, emarginate at the apex, yellow; pistillate flowers not known.

Society Islands: Tahiti, Lake Vaihiria, overhanging stream, alt. 500 m., May 7, 1927, *MacDaniels 1273* (endemic; occasional).

HERNANDIACEAE

2. *Hernandia tahitensis*, species nova (fig. 2).

Arbor ad 12 m. alta, truncus 30 cm. crassus, laminae foliorum 6-10 cm. longae 4-6.5 cm. latae ovatae ad basin cordatae abrupte breviter acuminatae integrae coriaceae mox glabrescentes venulis secundariis 7-8 utro latere costae instructae, petioli 2.5-5.5 cm. longi teretes primo pilis subfuscis puberuli mox glabrescentes, acumen 0.5-1 cm. longum, pedunculi 6-10 cm. longi pilis subfuscis puberuli infra glabrescentes in axillis foliorum tabescentium ficti, quorum laminae 1.5-4 cm. longae 1-2.5 cm. latae petioli 1-2 cm. longi sunt, bracteae ramulorum panicularum 3-4 mm. longae 1 mm. latae spatulatae acutae, bracteae involucrorum 3-4 mm. longae 2-3 mm. latae obovatae apice obtusae vel rotundatae, involucellae ellipsoideae 23-25 mm. longae 20 mm. in diametro orificio 7-8 mm. lato obtuse bidentulatae, fructus (immaturus) 2 cm. longus, stipes 3 mm. longus, umbo 7 mm. in diametro apice rotundatus.

Tree up to 12 m. high; trunk 30 cm. in diameter; leaf blades 6-10 cm. long, 4-6.5 cm. wide, ovate, cordate at the base, abruptly short acuminate, entire, coriaceous, soon glabrescent, with 7-8 secondary nerves on each side of the midrib; the acumen 0.5-1 cm. long; petioles 2.5-5.5 cm. long, terete, at first brownish puberulent; peduncles 6-10 cm. long, brownish puberulent, glabrescent below, borne in the axils of reduced leaves; blades of the reduced leaves 1.5-4 cm. long, 1-2.5 cm. wide, with petioles 1-2 cm. long; bracts of the ultimate branches of the panicles 3-4 mm. long, 1 mm. wide, spatulate, acute; bracts of the involucre 3-4 mm. long, 2-3 mm. wide, obovate, obtuse or rounded at the apex; involucels ellipsoid, 23-25 mm. long, 20 mm. in diameter, obtusely bidentulate at the 7-8 mm. wide orifice; fruit (immature) 2 cm. long; stipe 3 mm. long; umbo 7 mm. in diameter, rounded at the apex.

Society Islands: Tahiti, Pueu Valley, dry ridge, alt. 450 m., May 25, 1927, *MacDaniels 1562* (endemic; occasional).

PITTIOSPORACEAE

3. *Pittosporum orohenensis*, species nova (fig. 3).

Arbor ad 10 m. alta, truncus ad 30 cm. in diametro, rami subfusci, petioli 8-15 mm. longi canaliculati ad basin lateraliter pubescentes glabrescentes,

laminae 5-10 cm. longae 14-27 mm. latae coriaceae lanceolatae ad basin cuneatae planae ad apicem acutae canaliculatae marginibus subundulatae, cymae umbelliformes sessiles 5-7-floriferae, pedicelli 10-12 mm. longi glabri, calyx 5-fidus parce ciliolatus, sepala 3.5-4 mm. longa 1.5-2 mm. lata lanceolata acuminata, petala 14-15 mm. longa acuta glabra ad basin 4-4.25 mm. latam subfulva parte patente 4 mm. lata purpurea, antherae 2 mm. longae 1.25 mm. latae sagittatae acutae, filamenta 6.5-7 mm. longa complanata libera, stylus 4 mm. longus subulatus, stigma 1 mm. latum, ovarium 3 mm. longum 2.25 mm. latum ellipsoideum stipitatum stipite 1 mm. longo.

Tree up to 10 m. high; trunk up to 30 cm. in diameter; branches with brownish bark; petioles 8-15 mm. long, canaliculate, pubescent on either side toward the base, glabrescent; leaf blades 5-10 cm. long, 14-27 mm. wide, lanceolate, cuneate at the base, acute at and channelled above toward the

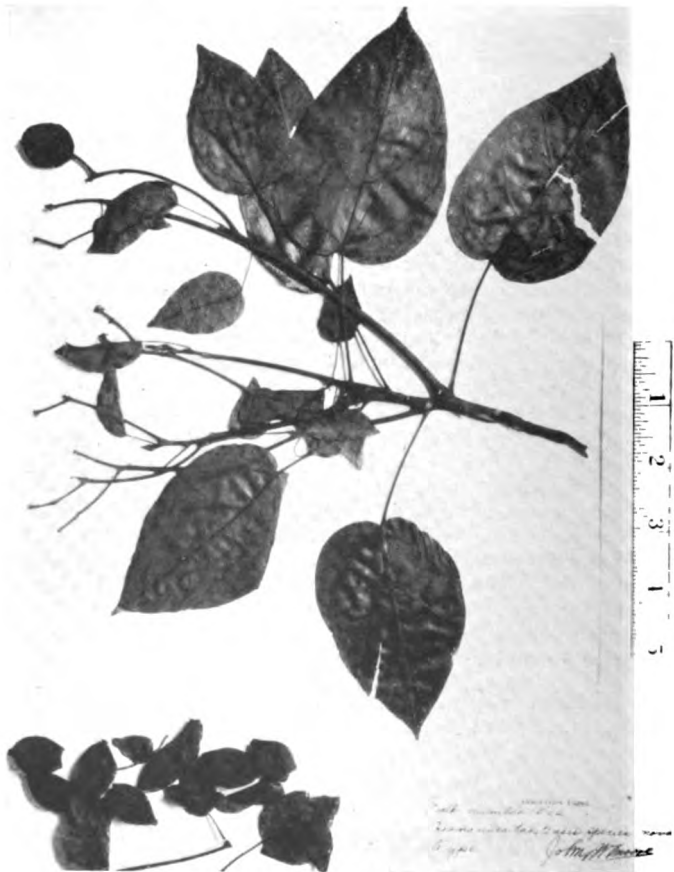


FIGURE 2.—*Hernandia tahitensis* (type).

apex, somewhat undulate margined, coriaceous; cymes umbelliform, sessile, 5-7-flowered; pedicels 10-12 mm. long, glabrous; calyx 5-fid, sparsely ciliate; sepals 3.5-4 mm. long, 1.5-2 mm. wide, lanceolate, acuminate; petals 14-15 mm. long, acute, glabrous; basal portion 4-4.25 mm. wide, yellowish; the patent portion 4 mm. wide, reddish purple; anthers 2 mm. long, 1.25 mm.



FIGURE 3.—*Pittosporum orohensis* (type).

wide, sagittate, acute; filaments 6.5-7 mm. long, complanate, free; style 4 mm. long, subulate; stigma 1 mm. wide; ovary 3 mm. long, 2.25 mm. wide, ellipsoid, stipitate; stipe 1 mm. long.

Society Islands: Tahiti, near summit of ridge, south side of Mount Orohena, alt. 1,600 m., May 16, 1927, *MacDaniels 1328* (endemic; occasional).

EUPHORBIACEAE

4. *Glochidion orohenensis*, species nova (fig. 4).

Arbor 4 m. alta glabra, truncus 12 cm. in diametro, rami patentes, ramuli angulares, petioli 2.5-3 mm. longi, laminae 5-9 cm. longae 23-43 mm. latae ovato-lanceolatae inaequilaterales ad basin obtusae vel rotundatae ad apicem acutae nervis secundariis 9-12 utro latere costae instructae, folia ad basin ramulorum 20-22 mm. lata, stipulae 2 mm. longae denique ad 2 mm. in latitudine amplificatae ovato-triangulares acutae in ramulis decurrentes persistentes, inflorescentiae fasciculatae in juventute axillares in senectute supra-axillares sessiles, flores monoici 4-5 in fasciculis singulis bracteatis, flores staminiferi 1.75 mm. lati crateriformes, pedicelli ad 5 mm. longi graciles, sepala sex 1.75 mm. longa apice obtusa parte inferiore (0.5 mm.) connata, ea in serie exteriori obovata, ea in serie interiori elliptica in dorso carinata, columna staminifera 1.25 mm. longa, antherae 3 connectivis (0.4 mm.) superatae, flores pistilliferi 4.5 mm. longi 1.25-1.5 mm. lati, pedicelli 1.5 mm. longi robusti in fructu ad 7 mm. elongati, sepala sex 1.4 mm. longa 0.6 mm. lata ovata acuta in dorso carinata parte inferiore (0.5 mm.) connata, ovarium 1 mm. longum subglobosum 4-loculare tubo styli 3-3.25 mm. longo cylindrato coronatum, stylus ramis 4 emarginatis instructus, capsula 10 mm. longa 13 mm. crassa turbinata apice truncata, semina 5 mm. longa 4.5 mm. lata in dorso rotundata angularia subrubra opaca minute papillata, plerumque in loculo singulo solitaria.

Glabrous tree 4 m. high; trunk 12 cm. in diameter; branches patent; branchlets angular; petioles 2.5-3 mm. long; leaf blades 5-9 cm. long, 23-43 mm. wide, ovate-lanceolate, inequilateral, obtuse or rounded at the base, acute at the apex, with 9-12 secondary nerves on each side of the midrib; leaves at the base of the branchlets 20-22 mm. wide; stipules 2 mm. long, accrescent in age to a width of 2 mm., ovate-triangular, acute, decurrent on the branchlets, persistent; inflorescences fasciculate, axillary when young, supra-axillary in age, sessile; flowers monoecious, 4-5 in each bracteate fascicle; staminate flowers 1.75 mm. wide, crateriform; pedicels up to 5 mm. long, slender; sepals 1.75 mm. long, obtuse at the apex, 6, united in the basal 0.5 mm., those of the outer series obovate, those of the inner series elliptical, carinate on the back; staminal column 1.25 mm. long; anthers 3; connective surpassing the anthers 0.4 mm.; pistillate flowers 4.5 mm. long, 1.25-1.5 mm. wide; pedicels 1.5 mm. long, stout, accrescent in fruit to a length of 7 mm.; sepals 1.4 mm. long, 0.6 mm. wide, 6, ovate, acute, carinate on the back, united in the basal 0.5 mm.; ovary 1 mm. long, subglobose, 4-celled, crowned by the 3-3.25 mm. long, cylindrical style column; style with 4 emarginate style branches; capsule 10 mm. long, 13 mm. in diameter, turbinata, truncate at the apex; seeds 5 mm. long, 4.5 mm. wide, rounded on the back, angular, reddish, dull, minutely papillate, usually solitary in each cell.

Society Islands: Tahiti, south side of Mount Orohena, rain forest, alt. 1,300 m., May 14, 1927, *MacDaniels 1312* (endemic; frequent).



FIGURE 4.—*Glochidion orohenensis* (type).

STERCULIACEAE

5. *Melochia tahitensis*, species nova (fig. 5).

Arbor 12 m. alta, truncus 45 cm. in diametro, rami glabrescentes subfusci, petioli 3-8 cm. longi teretes pilis parvis brevibus puberuli, laminae 6-11 cm. longae 3.5-7.5 cm. latae ovatae ad basin truncatae acutae vel abrupte et breviter acuminatae marginibus crenatae et undulatae in siccatione chartaceae utrinque parce pilis minutis stellatis granulato-hispidulae ad basin 7-nervatae venulis secundariis 8-10 utro latere costae instructae, stipulae 3.5-4 mm.

longae 2 mm. latae ovatae acuminatae hispidulae caducae, inflorescentiae 4-6 cm. latae paniculatae axillares, pedunculi 3.5-8 cm. longi hispiduli, alabastra 5 mm. longa 3 mm. lata oblonga acuta, pedicelli 2 mm. longi in fructu ad 4-5 mm. elongati, calyx 5 mm. longus 4-5 mm. latus complanatus extus pilis simplicibus hispidus et pilis stellatis hispidulus, lobi 2-2.5 mm. longi 1.5-2.25 mm. lati ovati vel ovato-lanceolati acuti superficie interiore puberuli, petala 7-8 mm. longa 3-3.25 mm. lata oblanceolata apice rotundata unguibus 1-1.5 mm. longis, filamenta 4 mm. longa parte inferiore (2 mm.) tubo connata, antherae 1.75 mm. longae 1.25 mm. latae oblongae fulvae, styli 3 mm. longi parte inferiore (1 mm.) connati, lobi stigmatici recurvi, ovarium 2 mm. longum 0.75 mm. latum villosum, capsula 6-7 mm. longa 5-6 mm. crassa ovoideo-conica dense hispida.

Tree 12 m. high; trunk 45 cm. in diameter; branches glabrescent, with brownish bark; petioles 3-8 cm. long, terete, sparsely puberulent; leaf blades 6-11 cm. long, 3.5-7.5 cm. wide, ovate, truncate at the base, acute or abruptly



FIGURE 5.—*Melochia tahitensis* (type).

short acuminate, crenate and undulate on the margin, chartaceous when dry, sparsely granulate hispidulous on both surfaces with minute stellate hairs, 7-nerved at the base, with 8-10 additional secondary nerves on each side of the midrib; stipules 3.5-4 mm. long, 2 mm. wide, ovate, acuminate, hispidulous, caducous; inflorescences 4-6 cm. wide, paniculate, axillary; peduncles 3.5-8 cm. long, hispidulous; flower buds 5 mm. long, 3 mm. wide, oblong, acute; pedicels 2 mm. long, accrescent in fruit to a length of 4.5 mm.; calyx 5 mm. long, 4.5 mm. wide, campanulate, hispid with simple hairs and hispidulous with stellate hairs exteriorly; lobes 2-2.5 mm. long, 1.5-2.25 mm. wide, ovate or ovate-lanceolate, acute, puberulent on the inner face; petals 7-8 mm. long, 3-3.25 mm. wide, clavate, rounded at the apex; claws 1-1.5 mm. long; filaments 4 mm. long, united into a tube in the basal 2 mm.; anthers 1.75 mm. long, 1.25 mm. wide, oblong, yellow; styles 3 mm. long, united in the basal 1 mm.; stigmatic lobes recurved; ovary 2 mm. long, 0.75 mm. wide, villous; capsules 6-7 mm. long, 5-6 mm. in diameter, ovoid-conical, densely hispid.

Society Islands: Tahiti, Pueu Valley, rare on dry ridge, alt. 300 m., May 26, 1927, *MacDaniels 1568* (endemic).

FLACOURTIACEAE

6. *Xylosma tahitense*, species nova (fig. 6).

Arbor inermis 8 m. alta, truncus 20 cm. crassus, rami graciles patentes cinnamomei, squamae gemmarum hispidae, petioli 8-12 mm. longi prope teretes minute hispiduli in siccatione prope leves canaliculati, laminae 5-9 cm. longae 2.5-4 cm. latae ovato-lanceolatae ad basin obtusae vel acutae abrupte et breviter acuminatae marginibus subcallosae et serratae tenuiter coriaceae venulis secundariis 10-12 utro latere costae instructae, planta staminifera ignota, inflorescentiae pistilliferae axillares, axes primarii 4-6 mm. longi, bracteae 1-1.25 mm. longae 0.5-1 mm. latae ovatae acutae ciliolatae in dorso hispidulae, pedicelli 2.25-3.25 mm. longi, calyx 4-5-partitus extus glaber superficie interiore parce pilis brevibus sericeis instructus, lobi ciliati parte inferiore 0.4-0.5 mm. connati, lobi inferi 1.25-2 mm. longi 1.25-1.5 mm. lati ovato-triangularis acuti, lobi superi 1.75-2.25 mm. longi 1-2 mm. lati ovato-elliptici apice obtusi vel rotundati, discus 1.25-1.5 mm. latus annularis inaequaliter lobatus, stylus 0.75 mm. longus conicus, stigma 0.75-1 mm. latum peltatum inaequaliter 2-lobatum, ovarium 1.75 mm. longum 1.5 mm. latum ovoideo-ellipsoidale glabrum placentis 2 instructum, ovula 2 in placentis singulis, bacca (immatura) 5 mm. longa 3.75 mm. lata ellipsoidalis leviter rugosa seminibus 4-instructa, pericarpium crustaceum.

Unarmed tree 8 m. high; trunk 20 cm. in diameter; branches slender, patent, with light brown bark; bud scales hispid; petioles 8-12 mm. long, nearly terete, minutely hispidulous, nearly smooth when dry, canaliculate; leaf blades 5.9 cm. long, 2.5-4 cm. wide, ovate-lanceolate, obtuse or acute at the base, abruptly short acuminate, somewhat callous thickened and serrate on the margins, thinly coriaceous, with 10-12 secondary nerves on each side of the midrib; staminate plants unknown; pistillate inflorescences axillary; primary axes 4-6 mm. long; bracts 1-1.25 mm. long, 0.5-1 mm. wide, ovate, acute, ciliolate, hispidulous dorsally; pedicels 2.25-3.25 mm. long; calyx 4-5-parted, glabrous exteriorly, sparsely silky puberulent on the inner surface; lobes ciliate, fused in the basal 0.4-0.5 mm.; lower lobes 1.25-2 mm. long, 1.25-1.5

mm. wide, ovate-triangular, acute; the other lobes 1.75-2.25 mm. long, 1-2 mm. wide, ovate-elliptical, obtuse or rounded at the apex; disk 1.25-1.5 mm. wide, annular, unequally lobed; style 0.75 mm. long, conical; stigma 0.75-1 mm. wide, peltate, unequally 2-lobed; ovary 1.75 mm. long, 1.5 mm. wide, ovoid-ellipsoid, glabrous, with 2 placentae; ovules 2 on each placenta; berry (immature) 5 mm. long, 3.75 mm. wide, ellipsoid, lightly rugose, 4-seeded; pericarp crustaceous.



FIGURE 6.—*Xylosma tahitense* (type).

Society Islands: Tahiti, rocky ground near Lake Vaihiria, alt. 500 m., May 6, 1927, *MacDaniels 1263* (infrequent; endemic).

THYMELAEACEAE

7. *Wikstroemia caudata*, species nova (fig. 7).

Frutex deciduus 3 m. altus, truncus 10 cm. crassus, rami teretes rubrofusci, ramuli complanati lineis elevatis decurrentibus prominentibus infra insertionem foliorum instructi, folia ramulorum singulorum deorsum diminuta, folia ima petiolis 1-1.5 mm. longis laminisque 1.5 cm. longis vel minoribus instructa, folia alia petiolis 2.5 mm. longis semiteretibus leviter canaliculatis laminisque 3.5-9 cm. longis 17-37 mm. latis ellipticis ad basin cuneatis vel obtusis ad apicem acutis glabris venulis secundariis 17-21 utro latere costae instructa, venulae secundariae ad basin foliae ascendentes ex plano horizontale 40-50° aliae 15-30°, racemi simplices terminales cernui, pedunculi 2-6 mm. longi, rachis interdum ad 5 cm. elongata ad apicem persistens in florendo, pedicelli florum staminiferorum 0.5-1 mm. longi hispiduli, calyx tubulato-infundibuliformis extus parce hispidulus fauce glaber 4-lobatus, tubus calycis 6.5-7 mm. longus, lobi exteriores 2.5 mm. longi 1.75 mm. lati obovato-oblongi apice obtusi vel rotundati cucullati, lobi interiores 2 mm. longi 1.5-1.75 mm. lati ovato-orbiculares apice obtusi vel rotundati, squami hypogyni 4 glabri inaequales alii parvi ad 0.75 mm. longi alii magni 1-1.25 mm. longi lineares vel oblongi apice integri vel 2-3-dentati, stamina 8 biseriata, filamenta staminum inferiorum ad tubum parte inferiore (4 mm.) adnata, pars libera filamentorum 0.2-0.25 mm. longa, antherae 0.66-0.75 mm. longae lanceolato-oblongae, filamenta staminum superiorum ad tubum parte inferiore (5.5 mm.) adnata, pars libera filamentorum 0.1 mm. longa, antherae 0.75-0.8 mm. longae oblongae, stylus 0.1 mm. longus hispidulus, stigma tabescens, ovarium 1.5 mm. longum clavatum apice hispidulum, fructus ignotus.

A deciduous shrub 3 m. high; trunk 10 cm. in diameter; branches terete, with reddish brown bark; branchlets complanate, with prominent decurrent ridges below the leaf insertions; leaves of each branchlet successively smaller downward; lowermost leaves with petioles 1-1.5 mm. long and blades 1.5 cm. or less long; the other leaves with petioles 2-5 mm. long, semiterete, shallowly canaliculate, and blades 3.5-9 cm. long, 17-37 mm. wide, elliptical, cuneate or obtuse at the base, acute at the apex, glabrous, with 17-21 secondary nerves on each side of the midrib; secondary nerves toward the base of the blade ascending from the horizontal 40-50 degrees, the others 15-30 degrees; racemes simple, terminal, cernuous; peduncles 2-6 mm. long; rachis sometimes elongated to a length of 5 cm., continuing to flower toward the apex; pedicels of the staminate flowers 0.5-1 mm. long, hispidulous; calyx tubular-funneliform, sparsely hispidulous exteriorly, glabrous at the throat, 4-lobed; calyx tube 6.5-7 mm. long; the outer lobes 2.5 mm. long, 1.75 mm. wide, obovate-oblong, obtuse or rounded at the apex, cucullate; the inner lobes 2 mm. long, 1.5-1.75 mm. wide, ovate-orbicular, obtuse or rounded at the apex; hypogynous scales 4, unequal, glabrous; small ones up to 0.75 mm. long; large ones 1-1.25 mm. long, linear or oblong, entire or 2-3-dentate at the apex; stamens 8, biseriate; filaments of the lower stamens fused to the tube in the basal 4 mm.; free part of the filaments 0.2-0.25 mm. long; the lower anthers 0.66-0.75 mm. long, lanceolate-oblong; filaments of the upper stamens fused to the tube in the basal 5.5 mm.; free part of the filaments 0.1 mm. long; the upper anthers 0.75-0.8 mm. long, oblong; style 0.1 mm. long, hispidulous; stigma rudimentary; ovary 1.5 mm. long, clavate, hispidulous at the apex; fruit unknown.



FIGURE 7.—*Wikstroemia caudata* (type).

Society Islands: Tahiti, slope of Mount Orohena, occasional in moist woods, alt. 350 m., May 12, 1927, *MacDaniels 1310* (staminate; endemic).

ONAGRACEAE

8. *Fuchsia cyrtandroides*, species nova (fig. 8).

Arbor 5 m. alta, truncus 15 cm. in diametro, rami 4-angulares cinnamomei, ramuli glabri, folia opposita, petioli 6-12 mm. longi infra teretes supra semiteretes glabri, stipulae verruciformes ad basin 0.5-0.75 mm. latae, laminae 4-7 cm. longae 2-4.5 cm. latae late ellipticae elliptico-oblongae vel obovatae ad basin et apicem rotundatae vel obtusae marginibus obscure dentatae carnosae in siccatione chartaceae in superficie superiore virides nitidae in superficie inferiore albae et saepe roseae venulis secundariis 9-10 utro latere costae instructae, pedicelli 1 cm. longi glabri, calyx campanulatus 2.5 cm. longus purpureus, lobi 1.5 cm. longi lanceolati acuminati patentes, petala 5 mm. longa cuneata atropurpurea, filamenta 18-22 mm. longa, stylus 2.5 cm. longus, stigma 2 mm. latum capitatum bilobatum, ovarium 7 mm. longum ovoideo-oblongum.

Tree 5 m. high; trunk 15 cm. in diameter; branches 4-angled, light brown; branchlets glabrous; leaves opposite; petioles 6-12 mm. long, terete below, semiterete above, glabrous; stipules verruciform, 0.5-0.75 mm. wide at the base; leaf blades 4-7 cm. long, 2-4.5 cm. wide, broadly elliptic, elliptic-oblong or obovate, rounded or obtuse at the base and apex, obscurely dentate on the margin, carnosae, chartaceous when dry, dark green and glossy on the upper surface, white and often pinkish tinged on the lower surface, with 9-10 secondary nerves on each side of the midrib; pedicels 1 cm. long, glabrous; calyx campanulate, 2.5 cm. long, reddish purple; lobes 1.5 cm. long, lanceolate, acuminate, patent; petals 5 mm. long, cuneate, acute, deep purple; filaments 18-22 mm. long; style 2.5 cm. long; stigma 2 mm. wide, capitate, bilobed; ovary 7 mm. long, ovoid-oblong.

Society Islands: Tahiti, south side of Mount Orohena, rain forest, alt. 1,500 m., May 14, 1927, *MacDaniels 1315* (endemic; occasional).

The specimen shows a fusion of two sepals and a fusion of two staminal filaments. This condition, however, obtains occasionally as an abnormality in many of the cultivated fuchsias. It is probably an individual abnormality in this case also, and accordingly has been disregarded in drawing up the formal description of the species.

ARALIACEAE

9. *Meryta salicifolia*, species nova (fig. 9).

Arbor 4 m. alta, truncus 15 cm. crassus, rami fusci, petioli 3-6 cm. longi graciles, laminae 5-15 cm. longae 1-2 cm. latae lineari-lanceolatae ad basin cuneatae ad apicem acuminatae subcoriaceae integrae marginibus undulatis crassiusculis superficie superiore nitidae venulis secundariis 25-32 utro latere costae instructae, inflorescentia terminalis, ramis singulis bracteatis fasciculis florum sessilium instructis, flores dioici, flores staminiferi ignoti, inflorescentia pistillifera 4 cm. longa ramis 3-4 instructa, flores 5 mm. longi fasciculis 5-8-floriferis subsessilibus lati singuli in axillo bractae late ovatae acutae carnosae 2-3 mm. longae ficti, petala 5 ovata acuta 1 mm. longa, rudi-

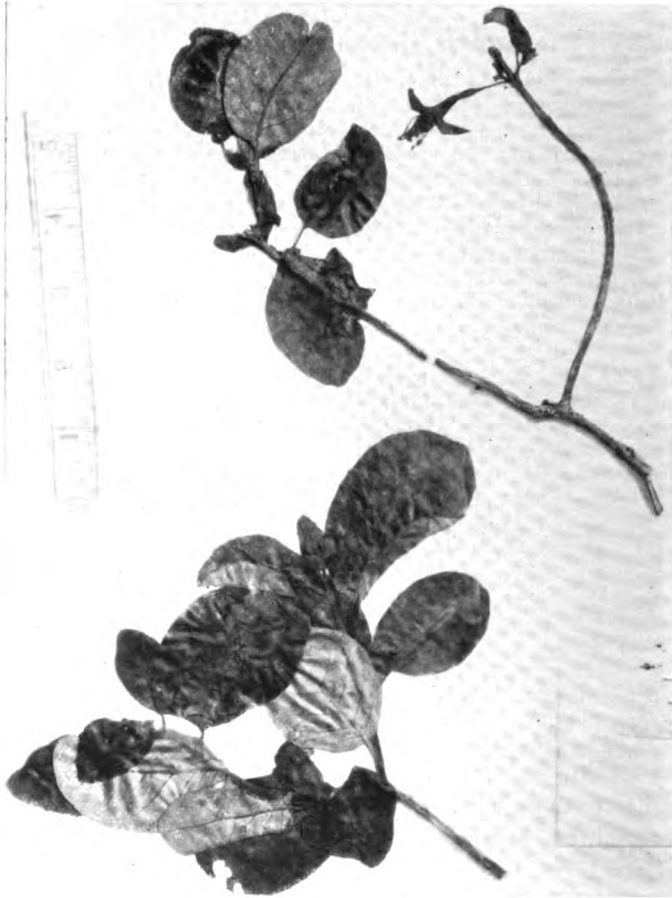


FIGURE 8.—*Fuchsia cyrtandroides* (type).

menta staminum omnino desunt, styli 5-6 robusti acuti 3 mm. longi parte inferiore (1-2 mm.) connati, ovarium 4 mm. longum ovoideum 5-6-loculare, fructus 10 mm. longus ovoideus angularis stylis persistentibus coronatus ad basin cum membris proximis fasciculi connatus.

Glabrous tree 4 m. high; trunk 15 cm. in diameter; branches brown; petioles 3-6 cm. long, slender; leaf blades 5-15 cm. long, 1-2 cm. wide, linear-lanceolate, cuneate at the base, acuminate, thinly coriaceous, entire, undulate and thickened on the margins, glossy on the upper surface, with 25-32 secondary nerves on each side of the midrib; inflorescences terminal; each branch bracteate, with fascicles of sessile flowers; flowers dioecious; staminate flowers unknown; pistillate inflorescence 4 cm. long, 3-4-branched, pistil-

late flowers 5 mm. long, borne in nearly sessile clusters of 5-8, with each flower borne in the axil of a bract; bracts 2-3 mm. long, broadly ovate, acute, fleshy; petals 1 mm. long, ovate, acute, 5; rudimentary stamens absent; styles 3 mm. long, stout, acute, 5-6, united in the basal 1-2 mm.; ovary 4 mm. long, ovoid, 5-6-celled; fruit 10 mm. long, ovoid, angular, connate toward the base with adjacent members of the cluster, capped by the persistent styles.



FIGURE 9.—*Meryta salicifolia* (type).

Society Islands: Tahiti, south side of Mount Orohena, rocky knoll, alt. 1,400 m., May 14, 1927, *MacDaniels 1320* (endemic; rare).

MYRSINACEAE

10. *Rapanea orohenensis*, species nova (fig. 10).

Frutex vel arbor parva ad 2.5 m. alta, truncus ad 15 cm. in diametro, rami robusti glabri, cortex fuscus nitidus sulcatus rimis transversis instructus, ramuli prope horizontales saepe verticillati glabri rubro-fusci, folia in summitate ramulorum agglomerata, petioli 1-2 mm. longi glabri, laminae 1-5 cm. longae 8-30 mm. latae obovatae ad basin rotundatae vel obtusae ad apicem rotundatae et breviter emarginatae integrae coriaceae glabrae in superficie superiore nitidae conspicue punctis et lineis notatae punctis in foliis siccis supra superficiem elevatis venulis secundariis 11-12 utro latere costae instructae, flores in fasciculis 3-4-floriferis bracteatis in ramulis verruciformibus infra folia ficti, pedicelli 1.5-2 mm. longi glanduloso-punctati, calyx 1.25 mm. longus crateriformis parce glanduloso-punctatus, lobi 0.75-1 mm. longi late ovati obtusi marginibus glandulosi, petala 1.5-1.75 mm. longa 0.75 mm. lata anguste ovato-oblonga obtusa glanduloso-punctata parte inferiore (0.4 mm.) connata, filamenta 0.75 mm. longa basi petalorum adnata, antherae 1 mm. longae 0.4 mm. latae ovato-triangulares, stylus 1.25 mm. longus clavatus, ovarium 1.25 mm. longum 0.6 mm. latum ovoideum supra stylo attenuatum, fructus 5 mm. in diametro globosus punctis lineisque (ad 0.6 mm. longis) glandulosus crassis instructus, pyren 3.5 mm. in diametro.

Shrub or small tree up to 2.5 m. high; trunk up to 15 cm. in diameter; branches stout, glabrous; bark brown, glossy, furrowed, cross-checked; branchlets nearly horizontal, often somewhat verticillate, glabrous, reddish brown; leaves agglomerate at the ends of the branchlets; petioles 1-2 mm. long, glabrous; leaf blades 1-5 cm. long, 8-30 mm. wide, obovate, rounded or obtuse at the base, rounded and shallowly emarginate at the apex, entire, coriaceous, glabrous, glossy on the upper surface, conspicuously marked with glandular punctae and lines, with 11-12 secondary nerves on each side of the midrib; punctae elevated above the surface on the dried leaves; flowers borne in bracteate fascicles of 3-4 on verruciform branchlets below the leaves; pedicels 1.5-2 mm. long, gland dotted; calyx 1.25 mm. long, crateriform, sparsely glandular dotted; lobes 0.75-1 mm. long, broadly ovate, obtuse, glandular margined; petals 1.5-1.75 mm. long, 0.75 mm. wide, narrowly ovate-oblong, obtuse, glandular dotted, connate in the lower 0.4 mm.; filaments 0.75 mm. long, fused with the base of the petals; anthers 1 mm. long, 0.4 mm. wide, ovate-triangular; style 1.25 mm. long, clavate; ovary 1.25 mm. long, 0.6 mm. wide, ovoid, narrowed above into the style; fruit 5 mm. in diameter, globose, fleshy, marked with broad glandular punctae and lines up to 0.6 mm. long; stone 3.5 mm. in diameter.

Society Islands: Tahiti, south of Mount Orohena, on exposed ridge, alt. 1,650 m., May 15, 1927, *MacDaniels 1326* (endemic; occasional).

11. *Rapanea rhomboidalis*, species nova (fig. 11).

Arbor 7 m. alta, rami graciles, ramuli graciles patentes glabri, folia deorsum in ramulis minora ad basin acuta vel cuneata in juventute marginibus ciliolata, folia ima laminis 8-20 mm. longis 10-15 mm. latis obovatis ad

apicem obtusis et petiolis 3-4 mm. longis instructa, folia alia laminis 3-7 cm. longis 1.5-3 cm. latis elliptico-rhomboidalibus ad apicem obtusis vel acutis integris subcoriaceis in superficie superiore nitidis conspicue punctis lineisque notatis punctis in foliis sicis supra superficiem elevatis venulis secundariis 13-17 utro latere costae instructa et petiolis 5-10 mm. longis gracilibus semiteretibus superficie superiore canaliculatis instructa, flores ignoti, pedicelli fructiferi 1-2 mm. longi glanduloso-punctati, calyx 1 mm. longus crateriformis parce glanduloso-punctatus, lobi 0.6-0.75 mm. longi deltoidei glanduloso-punctati, fructus 6 mm. in diametro globosus carnosus niger, pyren 4 mm. in diametro.

Tree 7 m. high; branches slender; branchlets slender, patent, glabrous; leaves smaller downward on the branchlets, acute or cuneate at the base.



FIGURE 10.—*Rapanca orohenensis* (type).

ciliolate on the margin when young; the lowermost leaves with blades 8-20 mm. long, 10-15 mm. wide, obovate, obtuse at the apex, and petioles 3-4 mm. long; the other leaves with blades 3-7 cm. long, 1.5-3 cm. wide, elliptic-rhomboidal, obtuse or acute at the apex, entire, thinly coriaceous, glossy on the upper surface, conspicuously marked with punctae and lines, with 13-17 secondary nerves on each side of the midrib, and petioles 5-10 mm. long, slender, semiterete, canaliculate; punctae elevated above the surface on the dried leaves; flowers not known; fruit bearing pedicels 1-2 mm. long, glandular dotted; calyx 1 mm. long, crateriform, sparsely gland-dotted; lobes 0.6-0.75 mm. long, deltoid, glandular-dotted; fruit 6 mm. in diameter, globose, fleshy, black; stone 4 mm. in diameter.



FIGURE 11.—*Rapanea rhomboidalis* (type).

Society Islands: Tahiti, Mount Orohena, slope, alt. 1,219 m., May 13, 1927, *MacDaniels 1322* (endemic).

RUBIACEAE

12. *Coprosma orohenensis*, species nova (fig. 12).

Arbor 5 m. alta, truncus 15 cm. crassus, ramuli patentes arcuati ascendentes glabrescentes, ramuli graciles quadrangulares grisei pilis brevibus instructi, petioli 7-13 mm. longi puberuli, laminae 38-55 mm. longae 18-34 mm. latae ovatae vel ovato-ellipticae ad basin acutae ad apicem rotundatae vel obtusae vel acutae coriaceae utrinque praesertim in venulis parce puberulae ad apicem in superficie superiore canaliculatae venulis secundariis 8-10 utro latere costae (in siccatione utrinque prominentibus) his 2-5 mediis fovea in axillia praeditis instructae, inflorescentia staminifera ignota, inflorescentia pistillifera axillaris cymosa 2-3-florifera in pedunculis 5-8 mm. longis ficta, flores pistilliferi sessiles, calyx 1.5 mm. longus campanulatus ciliolatus parte libera crateriformi 0.5 mm. alta lobisque 4 acutis instructus, fructus 6-7 mm. longus late obovoideus, pyren 5-6 mm. longus 2.75-3 mm. latus 1.5-2 mm. crassus obovato-oblongus atro-fuscus ad basin cuneatus ad apicem rotundatus in dorso juxta costam leviter transverse rugosus, costa supra medium valide ampliata.



FIGURE 12.—*Coprosma orohenensis* (type).

Tree 5 m. high; trunk 15 cm. in diameter; branches patent, arcuate, ascending, glabrescent; branchlets slender, 4-angled, puberulent, grayish; petioles 7-13 mm. long, puberulent; leaf blades 38-55 mm. long, 18-34 mm. wide, ovate or ovate-elliptical, acute at the base, rounded, obtuse, or acute at the apex, coriaceous, sparsely puberulent on both surfaces especially on the nerves, channelled toward the apex on the upper surface, on either side of the midrib on the lower surface provided with a fovea at the junction of 2-5 median major secondary nerves and the midrib; secondary nerves 8-10 on each side of the midrib, prominent on both surfaces when dry; staminate inflorescences unknown; pistillate inflorescences axillary, cymose, 2-3-flowered, borne on peduncles 5-8 mm. long; pistillate flowers sessile; calyx 1.5 mm. long, campanulate, ciliolate, with a cup-shaped free portion 0.5 mm. high and 4 acute lobes; fruit 6-7 mm. long, broadly obovoid; stone 5-6 mm. long, 2.75-3 mm. wide, 1.5-2 mm. thick, obovate-oblong, cuneate at the base, rounded at the apex, brownish black, shallowly transversely rugose on the back on each side of the midrib; midrib broadened markedly above the middle.

Society Islands: Tahiti, south side of Mount Orohena, upper limit of rain forest, alt. 1,500 m., May 16, 1927, *MacDaniels 1318* (endemic).

13. *Ixora umbellata*, species nova (fig. 13, *a-b*).

Arbor 5-6 m. alta, truncus 12-20 cm. in diametro, rami graciles glabri cinerei, petioli 7-12 mm. longi robusti semiteretes glabri, laminae 10-15 cm. longae 3.5-7 cm. latae elliptico-ovatae vel elliptico-oblongae ad basin rotundatae apice abrupte contractae et acutae in superficie superiore nitidae venulis secundariis 15-17 utro latere costae instructae, stipulae 8-10 mm. longae parte inferiore (2-3 mm.) connatae supra carinatae acumine unciformi a latere compresso acuminatae intus annulo setarum 0.5-1.5 mm. longarum instructae, inflorescentia terminalis umbelliformis 12-20-florifera bracteis binis foliaceis involucriformibus subtenta, bractee petiolis 6-8 mm. longis et lamina ovatis 5-8 cm. longis 3.5-5 cm. latis apicibus abrupte angustatis acutis instructae, pedicelli 2-3 mm. longi, tubus calycis in parte inferiore 1-1.25 mm. ovario adnatus, limbus 1 mm. longus ciliatus intus pubescens lobis 4 acutis 0.4 mm. longis instructus, corolla rubra tubo 12-15 mm. longo cylindrato gracili glabro lobisque 6.5 mm. longis lanceolatis acuminatis glabris pars filamentorum libera 1 mm. longa fauci corollae affixa, antherae 4.75-5 mm. longae lanceolatae acuminatae ad basin caudatae (caudis 0.75 mm. longis), stylus 15 mm. longus ad basin setulosus et ad medium pilis paucis longioribus instructus, stigma 2-lobatum lobis 2 mm. longis lanceolatis acutis, fructus 13-15 mm. longus 11-12 mm. latus obovoideo-oblongus apice truncatus, cicatrix apicalis 3 mm. lata, stipes 3-4 mm. longus.

Tree 5-6 m. high; trunk 12-20 cm. in diameter; branches slender, glabrous, grayish; petioles 7-12 mm. long, stout, semiterete, glabrous; leaf blades 10-15 cm. long, 3.5-7 cm. wide, elliptic-ovate or elliptic-oblong, rounded at the base, abruptly narrowed and acute at the apex, glossy on the upper surface, with 15-17 secondary nerves on each side of the midrib; stipules 8-10 mm. long, fused in the basal 2-3 mm., carinate above, attenuated into a laterally compressed claw-like acumen, provided within with a ring of bristles 0.5-1.5 mm. long; inflorescences terminal, umbelliform, 12-20-flowered, subtended by leaf-

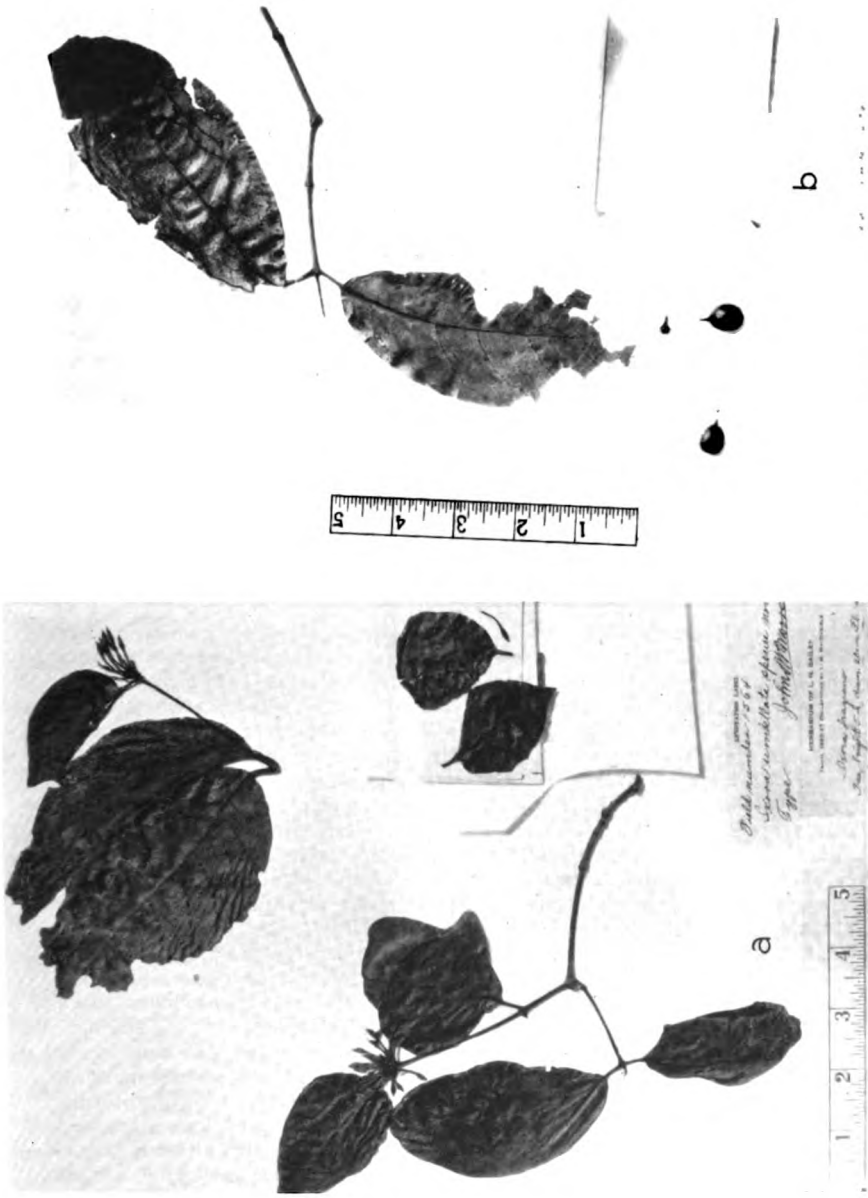


FIGURE 13.—a, *Ixora umbellata* (type) ; b, *Ixora umbellata* (MacDaniels 1256).

like bracts with petioles 6-8 mm. long and ovate blades 5-8 cm. long, 3.5-5 cm. wide; the tips abruptly narrowed and acute; pedicels 2-3 mm. long; fused portion of the calyx tube 1-1.25 mm. long; limb 1 mm. long, ciliate, pubescent within, with 4 acute lobes 0.4 mm. long; corolla red; the tube 12-15 mm. long, cylindrical, slender, glabrous; lobes 6.5 mm. long, lanceolate, acuminate, glabrous; free portion of the filaments 1 mm. long, arising at the throat of the corolla; anthers 4.75-5 mm. long, lanceolate, acuminate, caudate at the base (tails 0.75 mm. long); style 15 mm. long, setulose near the base and provided with a few longer hairs near the middle; stigma 2-lobed; lobes 2 mm. long, lanceolate, acute; fruit 13-15 mm. long, 11-12 mm. wide, obovoid-oblong, truncate at the apex; apical cicatrice 3 mm. wide; stipe 3-4 mm. long.

Society Islands: Tahiti, Pueu Valley, on ridge (type, in flower), alt. 400 m., May 25, 1927, *MacDaniels 1564* (endemic, occasional); Vaihiria River Valley, steep slope (in fruit), alt. 250 m., May 6, 1927, *MacDaniels 1256* (endemic; infrequent).

COMPOSITAE

• 14. *Bidens societatis*, species nova (fig. 14).

Frutex 2 m. altus, rami subteretes (sicci striati) glabrescentes, ramuli graciles quadrangulares bisulcati canaliculatis glanduloso-puberulis, folia distantia, petioli 5-12 mm. longi ad basin ciliolati semiteretes graciles, laminae 2.5-10 cm. longae 8-27 mm. latae lanceolatae vel elliptico-oblongae acuminatae ad basin cuneatae in parte superiore (0.75) serratae venulis secundariis 15-27 utro latere costae instructae, acumen 4-12 mm. longum, inflorescentiae ad 7 cm. longae paniculatae terminales et axillis foliorum superiorum subtabescentium fictae, folia tabescentia laminis integris vel dentatis instructa, pedunculi ad 20 mm. longi graciles quadrangulares ad basin in furca pilis brevibus et altitudine vario supra basin bracteis linearibus vel spathulatis acutis ad 4 mm. longis instructi vel interdum bracteis deficientibus, capitula numerosa 4-5 mm. longa 5-8 mm. lata campanulata, bractee exteriores involucales 2.5-3.5 mm. longae 1-1.25 mm. latae anguste lanceolatae vel interdum apicibus dilatatis in dorso ad basin pulvinatae puberulae apice obtusae, bractee interiores involucales 4-5 mm. longae 1.25-1.5 mm. latae lanceolatae vel lanceolato-oblongae ad apicem rotundatum vel obtusum glanduloso-ciliolatae, paleae 4-5 mm. longae 0.5-0.75 mm. latae lineares ad summitatem obtusam glandulosam attenuatae, flores ligulati pauci 4-5.5 mm. longi flavi, limbus ellipticus vel elliptico-oblongus emarginatus 2-3-lobatus 5-6-nervatus, flores discoidei 4.5 mm. longi, corolla tubo 2 mm. longo supra basin (0.5-0.75 mm.) inflato lobis 0.5 mm. longis deltoideis, stamina 2.25 mm. longa antheris 1 mm. longis appendicibus apicalibus ovatis 0.25 mm. longis instructis, stylus 3 mm. longus ramis 0.6 mm. longis acuminatis supra in dorso dense papillatis instructus, nectarium 0.25 mm. longum infundibuliforme, ovarium 1.4-1.5 mm. longum setis binis ternisve 1.25-2 mm. longis retrorse barbatis in fructu persistentibus instructum, corpus cypsellae nitidum granulatum parte superiore parce setulosum complanatum vel fusiforme, corpus cypsellae complanatae 3.75-5 mm. longum 0.6-0.75 mm. latum in utraque

superficie sulcis binis profundis proximis lineo elevato incrasso mediano et sulcis binis obscuris ad marginem instructum ad apicem basinque stramineum ad medium atro-fuscum, aristae binae 1.75-2 mm. longae aequales arcuato-ascendentes vel interdum prope horizontales, corpus cypsellae fusiformis 3.75-4.5 mm. longum 1-1.4 mm. latum atro-fuscum ad basin stramineum bi- vel triaristatum aristis subpatentibus, binis 1.75-2 mm. longis, tertia (quum terni adsint) 1-1.25 mm. longa sub apice cypsellae ficta.

Shrub 2 m. high; branches nearly terete, striate when dry, glabrescent; branchlets slender, quadrangular, bisulcate, glandular-puberulent along the grooves; leaves distant; petioles 5-12 mm. long, ciliolate toward the base, semiterete, slender; leaf blades 2.5-10 cm. long, 8-27 mm. wide, lanceolate or elliptic-oblong, cuneate at the base, acuminate, serrate in the upper 0.75, with 15-27 secondary nerves on each side of the midrib; acumen 4-12 mm. long; inflorescences up to 7 cm. long, paniculate, terminal and in the axils of the upper, somewhat reduced leaves; reduced leaves with entire or sparingly toothed blades; peduncles up to 20 mm. long, slender, 4-angled, puberulent



FIGURE 14.—*Bidens societatis* (type).

toward the base on the adaxile surface, provided at various heights above the base with linear or spatulate, acute bracts up to 4 mm. long, or the bracts sometimes absent; heads 4-5 mm. long, 5-8 mm. wide, campanulate, numerous; outer involucre bracts 2.5-3.5 mm. long, 1-1.25 mm. wide, narrowly lanceolate or sometimes dilated at the apex, pulvinate and puberulent at the base exteriorly, obtuse at the apex; inner involucre bracts 4-5 mm. long, 1.25-1.5 mm. wide, lanceolate or lanceolate-oblong, glandular-ciliolate toward the rounded or obtuse summit; chaff 4-5 mm. long, 0.5-0.75 mm. wide, linear, attenuated toward the obtuse, glandular summit; ligulate flowers 4-5.5 mm. long, yellow; limb elliptical or elliptic-oblong, emarginate, 2-3-lobed, 5-6-nerved; disk flowers 4.5 mm. long; tube 2 mm. long, inflated 0.5-0.75 mm. above the base; corolla lobes 0.5 mm. long, deltoid; stamens 2.25 mm. long; anthers 1 mm. long, with an apical, ovate appendage 0.25 mm. long; style 3 mm. long, with acuminate stigmatic branches 0.6 mm. long, densely papillate above exteriorly; nectary 0.25 mm. long, funnellform; ovary 1.4-1.5 mm. long, provided with 2 or 3 downwardly barbed bristles 1.25-2 mm. long; barbs persistent in fruit; body of the cypsellae glossy, granulate, sparsely setulose above, complanate or fusiform; body of the complanate cypsellae 3.75-5 mm. long, 0.6-0.75 mm. wide, with 2 deep sulcae next the thick median ridge and an obscure sulcus farther out on either side of these on both surfaces, stramineous toward the apex and base, brownish black toward the middle; aristae 1.75-2 mm. long, two, equal, arcuate-ascending or sometimes nearly horizontal; body of the fusiform cypsellae 3.75-4.5 mm. long, 1-1.4 mm. wide, brownish black, stramineous toward the base, bi- or tri-aristate; the third arista, when present, 1-1.25 mm. long, arising from below the apex, the others 1.75-2 mm. long; aristae somewhat patent.

Society Islands: Tahiti, south side of Mount Orohena, moist scrub, occasional at high elevations, alt. 1,620 m., May 16, 1927, *MacDaniels 1325* (endemic).

THE AUTHOR IS RESPONSIBLE FOR ALL STATEMENTS IN THIS PAPER