

(Editorial note. The following series of papers dealing with the Galápagos Islands are published together here in anticipation of the *Flora of the Galápagos Islands* being edited by Ira L. Wiggins and Duncan M. Porter. — J. H. T.)

STUDIES ON PLANTS OF THE GALÁPAGOS ISLANDS. I. NEW SPECIES AND COBINATIONS

IRA L. WIGGINS

Galium galapagoense Wiggins, sp. nov. Herba gracillima pluribus caulibus e basi communi tenuibus quadrangulis adscentibus vel scandentibus usque 1 m longi sparse scaberulis. Folia plerumque 4-verticillata 3—7 cm distantia; lamina membranaceo-herbacea elliptica vel obovato-elliptica apice rotundata breviter apiculata basi sub cuneata, utrinque sparse pilosa margina scabra, 5—17 mm longa, 2—9 mm lata. Flores minuti sessile in cymis axillaribus paucifloris dispositi; ovarium subglobosum unicate pilose 0.6—0.8 mm diamentiens; corolla rotata flaves-cens in lacinias 4 ovatas acuminatus 1 mm longas divisa; stamina paullum infra faucem inserta, filamentia brevissime, antherae parvae rotundato-ellipsoidae vix 0.3 mm longae; stylus 1—1.4 mm longus in ramulis 2 breves subdivergentus corolla laciniis circa dimidio breviores divisus; stigmatibus capitatis coronatis. Fructus subglobosus 1.5—2 mm diametiens ruber breve papillatus.

Holotype. Ecuador. Isla Santa Cruz. Flanks of Cerro Copa, near center of island, altitude about 570 m. *Sigvard Horneman* 2, Feb. 8, 1964 (DS).

This species is unlike any of the known species of *Galium* on the mainland of South America, particularly in that the dichasium has each terminal flower sessile between the subtending leaves, and with the slender branches of the next order of the inflorescence arising in the axils between the leaves and the terminal flower. This system of branching and flowering repeats itself two to four times in each axillary dichasium. The arrangement is totally unlike that in *Relbunium*, to which the plant was referred by Stewart (Proc. Calif. Acad. Sci. IV. 1: 146. 1911). Occasionally one of the axillary branches in a dichasium fails to develop, and then the morphologically terminal flower appears to be axillary to a leaf borne on a straight branch.

The minute flowers are distinctive, also, for they are no more than 2—2.4 mm wide when fully open, and the cup is about 1 mm deep.

The leaves are distinctly 3-nerved, and generally are considerably thinner than those of *Galium ferrugineum* Krause, to which it would key in Macbride's *Flora of Peru* (Field Mus. Nat. Hist., Bot. Ser. 13(6): 260. 1936). *Galium ferrugineum* has 1-nerved leaves, with pinnately arranged secondary veins, and the tissue is much more coriaceous than that in *G. galapense*.

Galium has not been reported, as such, from the Archipiélago de Colón by earlier workers.

Passiflora colinvauxii Wiggins, sp. nov. Herba scandens sparsim puberula mox glabra, caule angulato; stipulae setaceae falcatae 2—4 mm longae; folia membranacea bilobata integra trinervia 3—5 cm longa 7—16 cm lata basi rotundata vel subtruncata, lobis oblongo-lanceolatis divaricatis acutis vel obtusis lobo medio obsoleto vel brevissimo, petiolo gracili eglanduloso; bracteae setaceae librae integrae falcatae; tubus calycis cupulatus 6—7 mm latus glaber, sepalis late oblongis 6—7 mm longis 3—4 mm latis apice rotundatis; petalae albae membranaceae 2—2.5 mm latae 3.5—6 mm longae anguste oblongae; corona biseriata, filamentis purpureis vel apicem albis, exterioribus longioribus; operculum membranaceum plicatum incurvatum breviter fimbriatum. Ovarium ovoideum glabrum; fructus anguste ovoideus 3—4 cm longus 1.5—2 cm latus glaber; semina ovoidea-lenticularia 2—2.5 mm longa ca 2 mm lata minute corrugata fusca.

Holotype. Ecuador. Isla Santa Cruz. In treeless region en route to El Chato (west of village of Bella Vista). *Paul A. Colinvaux 443*, July 30, 1966 (DS).

The label on the holotype further states, "Creeping plant, covering large areas of ground and climbing on trees. Flowers white, fruits green."

This species is strikingly different from the other two *passifloras* known to occur on the Galápagos Islands, both in the broad, lunate leaves and in the narrowly ovoid fruits. The oclae at the base of the leaf blade are rather conspicuous, but the herbage is eglandular, and no glands occur on the petioles.

Sicyocaulis Wiggins, gen. nov. Cucurbitaceae. Herba graciles scandentes radice perennante. Folia integra vel plus minusve lobata; petiolus gracilis quam lamina paullo brevior. Cirrhi bifidi vel rarissime simplices. Flores monoici minuti lutei. Flores masculi pedicellati ad apices racemorum dispositi; pedunculis gracilibus foliis duplo longioribus. Receptaculum complanatum latum. Sepala dentiformia minuta. Corolla profunde 5-partida segmentis ovatis vel lanceolatis integris. Stamina 4, filamentis connatis basi tubo receptaculii inserta; antherae oblongae omnes biloculares in capitulum subglobosum conniventes. Pistillodeum nullum. Flores feminei pedicellati solitarii vel 2—3 ad bases racemorum dispositi, perianthium ut in mare. Staminodia nulla. Ovarium ovoideum unilocularis, stylus gracilis in stigmata non profunde bifida divisus; ovulum unum pendens. Fructus ovoideus rostratus ad basem parce minutusque spinulosus. Semen solitarium oblongus compressum testa firma laevis vel ad apicem minute tuberculata.

This plant keys out to the vicinity of *Sicyos* in Hutchinson (Gen. Fl. Pl. 2: 411. 1967) and at first glance resembles that genus. But the flowers are much smaller than any I have seen in that genus, the pistil-

late flowers are not gathered into heads of several flowers, each flower being slenderly pedicellate. Further, the forward-pointing, few spines at the base of the fruit are quite unlike the radiating, numerous bristles common on the fruits of *Sicyos*.

Neither can it be placed in the genus *Frantzia*, for that genus has the female flowers borne singly in the axils, or paired in that position with a male flower. In contrast, our plant has the pistillate flowers borne on slender pedicels at or near the base of the flowering part of the racemes, these always being long-stalked and the flowers removed a considerable distance from the stem on which the peduncle is borne.

Type species. *Sicyocaulis pentagonus* Wiggins.

Sicyocaulis pentagonus Wiggins, sp. nov. Plantae monoicae scandens 3—5 m altae; rami gracillimi angulatosulcati sparse puberula vel subglabra internodia 1—2 dm longa; cirrhi bifidi graciles elongati glabri ramis 10—25 cm longis; folia alterna, petiolis gracilibus 2—8 (—10) cm longis, laminae minute scaberulae, cordato quinquelobae 2—12 cm longae et latae, sinu basali 2—3 cm profundo; inflorescentiae racemosae 1—5 cm longae elongatae; pedicelli 3—6 mm longi filiformes ad apicem clavatos; sepals minute; lobi corollae oblongi 0.6—1 mm longi 0.4—0.6 mm lati acuti vel minute apiculati flavascentes glabri; columna staminum gracilis 1—1.4 mm alta antheris ca 0.6 mm longis interne ad columnam adnatis externe libris; fructus ovoideus 10—15 mm longus 4—5 mm latus rostratus rostello 2.5—3 mm longo, fructu supra basin sparse spinoso parallelo ad axem.

Holotype. Ecuador. Isla Santa Cruz. Along trail about 1 km south of Bella Vista, along trail from Bahía Academia, altitude about 225 m. *I. L. Wiggins* 18679, Feb. 21, 1964 (DS).

PLANTAGO PARALIAS Decne. var. **pumila** (Hook.f.) Wiggins, comb. nov. *P. tomentosa* Lam. var. ?*pumila* Hook.f., Trans. Linn. Soc. Lond. 20: 194. 1847.

Hooker's specimen was inadequate, consisting only of three or four very depauperate plants that scarcely showed the characters needed to make an identification. Its relationship, as disclosed by more and larger plants collected in 1964, clearly show its relationship with *Plantago paralias*. Known from Islas San Cristóbal, Santa Cruz and Santa Maria.

VALLESIA GLABRA (Cav.) Link var. **pubescens** (Anderss.) Wiggins, comb. nov. *V. pubescens* Anderss., Kongl. Svensk. Vet.-Akad. Handl. 1853: 195. 1855.

Differing from var. *glabra* only in having a fine, closely arranged, erect indument of simple, non-glandular hairs on the twigs, petioles, inflorescences and under surfaces of leaf blades, and certainly not worthy of a higher nomenclatorial rank.

Known only from the Galápagos Islands and there occurring on at

least six of the islands. Plants from Central America sometimes approach this, but have fewer hairs on the young vegetation.

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A NEW COMBINATION IN TRICHONEURA FROM THE GALÁPAGOS ISLANDS

JOHN R. REEDER and CHARLOTTE G. REEDER

TRICHONEURA LINDLEYANA (Kunth) Ekman var. **albemarlensis** (Robins. & Greenm.) Reeder & Reeder, comb. nov. *Leptochloa albemarlensis* Robins. & Greenm., Amer. J. Sci. III. 50:145. 1895.

Known from Islas Genovesa, Isabela, Pinta, San Salvador, Santa Cruz, and Santa María.

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A NEW COMBINATION IN CHAMAESYCE FROM THE GALÁPAGOS ISLANDS

DEREK BURCH

CHAMAESYCE **nummularia** (Hook. f.) Burch var. **glabra** (Robins. & Greenm.) Burch, comb. nov. Amer. J. Sci. III. 50:144. 1895. *Euphorbia nummularia* var. *glabra* Robins. & Greenm., Amer. J. Sci. III. 50: 144. 1895.

Differs from var. *nummularia* only in being completely glabrous.

Known only from Isla Santa María. Recollected by Uno Eliasson in 1966 and 1967 and apparently well established at altitudes of 5–15 m at Las Cuevas and at Black Beach.

University of South Florida, Tampa

NEW COMBINATIONS IN THE CYPERACEAE OF THE GALÁPAGOS ISLANDS

TETSUO KOYAMA

CYPERUS POLYSTACHYOS Rottböll ssp. **holosericeus** (Link) T. Koyama, comb. nov. *C. holosericeus* Link, Hort. Berol. 1:317. 1827. *C. microdontus* Torr., Lyceum Nat. Hist. New York 3:255. 1836. *C. gatesii* Torr., Lyceum Nat. Hist. New York 3:255. 1836. *C. microdontus* var. *texensis* Torr., Lyceum Nat. Hist. New York 3:430. 1836. *C. fugax* Liebm., Vidensk. Selsk. Skr. Kjoeb. ser. 5. 196. 1851. *C. inconspicuus* Liebm., Viednsk. Selsk. Skr. Kjoeb. ser. 5. 197. 1851. *C. liebmännii* Steudel, Syn. Pl. Glumac. 2:7. 1854. *C. texensis* Steudel, Syn. Pl. Glumac. 2:9. 1854. *C. polystachyos* var. *leptostachyus* Böckeler, Linnaea 35:478. 1868. *C. polystachyos* var. *laxiflorus* C. B. Clarke, in Urban, Symbol. Antill. 2(1):17. 1900. *C. polystachyos* var. *leptostachyus* f. *inconspicuus* Kükenth., in Engler, Pflanzenreich IV. 20:372. 1936. *C. polystachyos*



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