

STUDIES IN THE CAPPARIDACEAE XIV<sup>1</sup>  
CAPPARIS ECUADORICA, A NEW SPECIES

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The mostly tropical genus *Capparis* Linnaeus is well represented and even dominant in Ecuador. However, the only recent treatment of *Capparis* for any tropical South American country deals with the Colombian species (Dugand, A. El Genero *Capparis* en Colombia. *Caldasia* 2: 29-54. 1941), which differ from those of Ecuador, each country having its own endemics. One of these is herewith described for the first time.

*Capparis* (Sect. *Cynophalla*) *ecuadorica* Iltis, sp. nov.

Frutex vel arbuscula parva, glabra vel puberula, foliis elliptico-oblongo-latis membranaceis, abrupte longi-acuminatis, subcordatis vel cuneatis, petiolo 2-5 mm longo. Racemi complanati, graciles, 2-5 cm longi, pedicellis 9-20 mm longis; corolla 2 cm lata, alba; stamina 28-50, 16-25 mm longa; bacca clavata vel cylindraceo-oblonga, 16-80 mm longa, 9-20 mm, lata, crassiuscula, constricta vel leviter torulosa; valvae carnosae, plus minusve irregulares, tarde dehiscentes; gynophora 12-31 mm longa, pedicellis 10-32 mm longis. Semina 1-7, 10-15 mm longa, 6-8 mm lata, in arillo albo inclusa, cum filis atropurpureis affixa.

Shrub or small tree 2-5 (-8) m tall; stems 5-18 cm in diam., glabrous or glabrescent, branches, petioles and leaves sometimes minutely puberulent. Branchlets leafy, glabrous, slender, 2-3 mm in diam. bearing 1-3 cyathiform-crateriform to clavate, 0.8-1.3 mm long, extra-floral myrmecophilous nectaries (or "glands") above each axillary bud or axillary raceme (i.e., above each petiole). Leaves short-petiolate to sessile, thin-membranaceous, (5-) 7-12 (-17) cm long, 3-6 cm wide, elliptic or lanceolate to oblong-oblongate or obovate, long-acuminate ("drip-tipped") to acute, cuneate to subcordate or rounded, entire, minutely undulate; petioles 2-6 mm long, subtended by a pair of 1 mm long triangular to cordate-acuminate, hyaline-margined stipules. Racemes delicate, highly telescoped, corymbiform, few-flowered, distichous-flattened, leafless, "ebraceteate," much shorter than the leaves, both lateral (axillary) and terminal, if lateral, usually solitary near the base of the branch, paired near the apex of the branch, the terminal often in 2's or 3's and appearing branched; flowers and buds very few at any one time, one open flower and 3-8 larger buds visible per lateral raceme (in the terminal cluster to 15 buds and 2 or 3 open flowers); raceme axes very slender, 1-3(-4) cm long, 1 mm in diam., elongating to at most 5-6 cm at maturity, with 3-15(-28) pedicel scars, these 2-4 mm apart. Pedicels very slender (0.5 mm), each subtended by a 1-2 mm, awl-shaped, caducous bractlet, this in turn subtended by a pair of minute, hyaline-brown, cordate, stipules, the lowest 1 to 2 pedicels each substituted by a cyathiform, stipitate, 1 mm long, brown, "cynophalla-type" nectary. Flower buds spherical, just before anthesis 5-6(-9) mm long, 4-8 mm wide. Open corolla radially symmetrical, 2 cm in diam., the androecium 4 cm in diam.; pedicels 9-20 mm long. Sepals 4, concave, thin, ovate-orbicular to broadly oblong, rounded to emarginate, with hyaline, minutely erose margins, glabrous, imbricate in two series in

<sup>1</sup>No. XIII of this series, but unnumbered, is my treatment of Capparidaceae in Correll, D.S. and M.C. Johnston, *Manual of the Vascular Plants of Texas* (Renner, Texas) 1970, pp. 706-711.

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very young bud, the outer (ab- and adaxial) ones enclosing the inner (lateral) ones completely, at anthesis the inner almost twice as large as the outer, 3-4 mm long, 2-4 mm wide, all divergent horizontally and persistent a day or so past anthesis. Petals white to "greenish-white with purple markings" (C & P 5048) to yellowish (H 5011), obovate, rounded, broadly cuneate, 7-10 mm long, 4-4-7 mm wide. Stamens many, 28-50; filaments white, 16-25 mm long, slightly unequal, arranged in an open funnel, inserted on a conical (when dry) platform at the gynophore base; anthers 1.1-1.5 mm long; gynophore filiform, curved, (14-) 25-31 mm long, 0.4 mm thick. Receptacle ca. 2-3 mm in diam., with 4 raised, horizontal, oval, nectar-secreting glands above the sepals between the petals. Siliques when mature only 1-2 per raceme, as many as 5 in terminal inflorescence clusters, pendent, obovoid or rhomboid (in 1-to 2-seeded small ones) to stoutly cylindrical, slightly torulose to nonconstricted in the largest (16-) 40-55 (-80) mm long, 9-15 (-20) mm wide, smooth "shiny purple-brown" or "dark purple," fleshy, the smaller indehiscent(?) or poorly dehiscent by 1, 2, 3 or 4 "sutures" (along replum plus, irregularly, down the middle of one or both valves), thus opening into 2, 3, or 4 irregular "fleshy valves" that more or less arch out and up to expose the pendent seeds. Fruiting peduncles slender, 1.5-6 cm long, 1-1.2 mm in diam.; pedicels (10-)15-32 mm long, 0.6-1.0 mm in diam.; mature receptacles only 2-3 mm in diam., 2 mm high; gynophores 12-32 mm long, 0.4-0.9 mm diam., the staminal scars forming a cone at its base. Seeds few, 1-7, covered with a white fleshy aril, in open fruit "remaining attached by purple threads" (L 6234), 10-15 mm long, 6-8 mm wide, ca. 6 mm thick (when fresh "17 mm long, 8 mm wide" with "white, fleshy" testa).

CHROMOSOME NUMBER:  $2n = 50$  or  $52$ . (Counted by Batia Pazy, 1978, for *Ittis* 196 from El Recreo).

DISTRIBUTION: An Ecuadorian endemic, infrequent in mature wet or seasonal rain forest, often along rivers, both inland and less commonly (as a variant) near the coast, mostly in the Pacific lowlands at the base of the Andes, from sea level to 300 m., flowering and fruiting intermittently throughout the year (except during the dry season from mid-May through August).

TYPE: *ECUADOR*: LOS RIOS: Rio Palenque Field Station, 56 km north of Quevedo on Santo Domingo de los Colorados Highway, alt. 200 m. Wet forest. Small tree 5 m; buds green; single flower opened in collecting bag, white, 16 Feb. 1974, *Alwyn Gentry* 9973 (HOLOTYPE: WIS; ISOTYPE: MO).

*ECUADOR*: *ESMERALDAS*: Timbre, rainforest, 25 Feb. 1953 (fr), *Fagerlind & Wibom* 2491 (S, WIS); Timbre, the Hacienda-Lake Anderson, 4 March 1953 (fl, fr), *Fagerlind & Wibom* 2524 (S). Small tree, 4 m tall, 3 km E of Quinidé, 12 April 1943 (fr), *Little* 6234 (K, MAD, US, WIS-fragm). *PINCHINCHA*: 3-4 m shrub in virgin forest, Rio Blanco below confluence with Rio Toachi, 16 March 1959 (fr), *Harling* 4486 (S). Shrub or small tree to 6 m, seasonal rain forest, alt. 300 m, 20 km W of Santo Domingo de los Colorados, 17 Oct. 1971 (fl, fr), *Cazalet & Pennington* 5048 (B, K, NY, UC, US-photo WIS). 5 m treelet, lowland (200 m) forest 37 km S of Santo Domingo de los Colorados, 29 Oct. 1960 (fl), *Pennington* 77SD (K, NY). [indicated as in Los Rios on label, but all maps show it in Pinchincha]: Small tree to 8 m, in understory of deep wet forest, Rio Palenque Biological Station, km 56 Quevedo - Santo Domingo de los Colorados Highway, alt. 150-200 m, 6 Sept. 1972 (fl, fr), *Dodson & McMahon* 5125



(MO, QCA, WIS), 16 Feb. 1974 (fl), *Gentry 9973* (MO, WIS), 2 Oct. 1976 (y, fr), at junction of trail 6 and perimeter road, R.P. Biol. Sta., *Dodson & Gentry 6319* (QCA, WIS). Degraded forest being cut on property of Manuel Bravo, 4 km W of Los Angeles, km 51 - Santo Domingo de los Colorados, road alt. 200 m, 7 Oct. 1976 (fl), *Dodson & Gentry 6485* (MO, QCA). GUAYAS: Shrub 2-5 m, coastal rain forest 10 km N of Manglaralto, 6-7 May 1959 (fl), *Harling 5011* (S). El Entable, Naranjal, *Lehmann 7705* (K). Between Las Americas and Palme, 28 Sept. 1952 (fl), *Fagerlind & Wibom 376* (S) (not located). In silvis, Balao, Jan. 1892 (fl, fr.), *Eggers 14283* (A, GH, K, US - photo WIS). Frutex sarmentosus, 15-pedalis, in fruticetis ad fluvem Daule prope Guayaquil, Jan. 1861 (fl, fr) *Spruce 6305* (BM, CGE, K-photo WIS) (this sheet atypical, strongly puberulent, lvs. narrower, smaller, 8 cm long, 3 cm wide). Rio de Ventanas prope Guayaquil (or loc. as in previous, in BM) Dec. 1860 (fl), *Spruce 6349* (BM-photo WIS, CGE, K).

The specimens listed below and indicated on the distribution map by asterisks represent a coastal variant with smaller, rounded to acute leaves, fewer stamens (28), and smaller fruits resembling those of *C. heterophylla* (see below).

ECUADOR: ESMERALDAS: Small shrub, scrubby area with tall grass, 1.5 km S of Esmeraldas, 16 Sept. 1974 (fl), *J. Hudson 753* (MO, WIS). GUAYAS: Shrubby tree 5 m, flowers greenish-white, petals pinkish within, dry steep slopes facing Pacific Ocean, 1 km S. of Recinto Olon, 3 km N. of Montanita, 10 m above sea level, 19 Feb. 1974 (fl), *A. Gentry 10023* (MO, WIS); mangrove swamps 10 km SE of Guayaquil, 21 Jan. 1962 (fr), *Dodson & Thien 2163* (MO). MANABI: El Recreo, (ca. 1892) (y, fr), *H. Eggers 15455* (F, K, US, WIS); Hda. El Recreo (18 km NW of Bahia de Caraquez, 1.5 km SE of Canoa) in xeromorphic coastal scrub 1.5 km inland, with *C. crotonoides*, *C. lanceolata* and *C. heterophylla*, 10 July 1977 (fl, y fr), *Iltis & Iltis 196* (AAU, COL, F, GUAY, K, MO, NY, QCA, UC, US, WIS).

Though *C. ecuadorica* has been known since Robert Spruce first collected it in 1861 near Guayaquil at a station probably now extinct, it has been identified until now simply as one form of the extremely diverse "Capparis flexuosa" complex of which some 15 taxa occur from Florida to Argentina. The best known is the Caribbean *C. flexuosa* (*C. "cynophallophora"* in Eichler, *Flora Brasiliensis*, Vol. 13<sup>1</sup>, 1865), a species recurring in one segregate or another throughout much of tropical coastal South America. Members of sect. *Cynophalla* tend to be characterized by peculiar, diagnostic, axillary myrmecophilous extrafloral nectaries or glands borne singly (or serially in 2's or 3's) above each bud and petiole (cf. Poulsen V.A., 1879, in Vidensk. Medd. Nat. Kopenhagen 31: 35-44. Tab. II), distichous and flattened corymbiform racemes, imbricate aestivation of the sepals in two unequal series, the usually elongate cylindrical, and strongly torulose constricted siliques, the two valves of which dehisce regularly from the replum (much like in Cleome) revealing the few to many, serially arranged, green (sic!) seeds (i.e. green embryos).

This complex is particularly rich in forms on the Pacific slope of Ecuador. Here a perplexing mosaic of vegetative and floral characters make both specific delimitation and understanding of interrelationships very difficult. However, *Capparis ecuadorica* differs by its thin, mesophytic, long-acumi-

nate leaves, and its short, irregularly and tardily dehiscent fruits. These, and its small flowers, it shares only with *C. heterophylla* R. & P., which, however, has uniquely sessile ovaries and fruits, and thicker, duller, more olive-green, xeromorphic leaves, reflecting perhaps its generally more highly arid habitats and a higher chromosome number (ca. 80). The two taxa grow together at El Recreo, but appear not to hybridize.

VERNACULAR NAME: *Pusilde* (sub *Dodson & McMahon 5125*).

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