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A NEW GUATEMALAN *SPIGELIA*

DOROTHY N. GIBSON

THREE NEW NICARAGUAN EPIDENDRUMS

ALFONSO H. HELLER

SYAGRUS OLERACEA (MART.) BECC.
AND CLOSELY RELATED TAXA

S. F. GLASSMAN

TROPICAL AMERICAN PLANTS, X

LOUIS O. WILLIAMS

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AUGUST 19, 1968

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*Custodian of the Herbarium
Field Museum of Natural History*

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Three New Nicaraguan Epidendrums

ALFONSO H. HELLER

ASSOCIATE, FIELD MUSEUM OF NATURAL HISTORY

Almost exactly a half century ago Rudolf Schlechter in his "Kritische Aufzählung der bisher aus Zentral-Amerika bekanntgewordenen Orchideen" (1918) catalogued 57 species of orchids as having been recorded from Nicaragua. Williams in his "Enumeration" in 1956 recorded a total of 139 orchids for the country. My own record for May 1960 indicated that I had found and confirmed 315 species here. Now in April 1968 this total has grown to nearly 700 species.

Nicaragua at the turn of the century was botanically the least known country of Central America, and I am sure that this is still so. Nicaraguan botanical exploration really has only just begun in very recent years with the co-operative programs of Field Museum and Escuela Agrícola Panamericana supported with grant funds from National Science Foundation. The total of flowering plants known from Nicaragua is perhaps three or four times as great as at the beginning of the century, and still great areas of Nicaragua are essentially unknown botanically.

***Epidendrum phragmites* Heller & Williams, sp. nov.**

Herbae epiphyticae usque ad 80 cm. longae. Folia coriacea, ovato-elliptica vel ovato-lanceolata, obtusa, obliqua et retusa, articulata; inflorescentia lateralis, uniflora; sepala anguste oblongo-lanceolata, acuta, 5-nervia; petala anguste oblongo-oblancheolata, acuta, 3-nervia; labellum ovatum vel ovato-rhombicum, acutum, obscure trilobulatum, carinatum, columna seccionis Pleuranthium.

Spreading or pendent epiphytic herbs with unbranched stems 80 cm. long or perhaps more. Stems slightly compressed up to 1 cm. in diameter but mostly less, leafy on annual increment but these falling away with time, covered with chartaceous sheath which persists far on the reed-like stems; leaves fleshy, coriaceous, ovate-elliptic to ovate-lanceolate, carinate dorsally, the apex obtuse, oblique, retuse 4-8 cm. long and 1.5-4 cm. broad, articulate to the sheaths and easily deciduous; inflorescence of one or two flowers borne from the stem at the base of the sheath corresponding to the leaf axil, subsessile or on peduncles to 3 mm. long, the pe-

duncles with about 4 closely appressed, imbricated bracts; flowers coriaceous, greenish yellow, sepals narrowly oblong-lanceolate, acute, 5-nerved, the laterals slightly oblique, about 1.2 cm. long and 0.3–0.4 mm. broad; petals narrowly oblong-oblancheolate, acute, slightly oblique, 3-nerved, the nerves on the inner face carinate, about 1.1 cm. long and 0.2 cm. broad; lip ovate or ovate-rhombic, acute, somewhat constricted above the middle and appearing lobulate, disc with a transverse lamellate flap at about the apex of the column, this with two tube-like cavities extending back to the claw and with two longitudinal lamellate carinae that extend three-fourths the length of the lip, the lateral margins erect and enclosing the column, about 10–11 mm. long and 7 mm. broad when spread; column with the rostellum on the lower two-fifths which is fleshy and terete, the upper part semi-tubular and denticulate at the apex; anther suberect with 4 pollinia; pedicellate ovary about 9 mm. long.

NICARAGUA: epiphyte, Perla Finca, Cordillera Central de Nicaragua, Depto. Jinotega, alt. 1,100 m., March 1961, *Heller 4377* (type, F). Additional collections are *Heller 6384, 7117, 8948* and *9143*, all from the Cordillera Central de Nicaragua in Jinotega and Matagalpa departments.

Allied to *Epidendrum albertii* Schltr. which it resembles in habit and in inflorescence. It is a larger plant with flower about twice as large, the sepals have five nerves instead of three, the petals with three nerves instead of one. *E. phragmites* is a species of the wet highland forests.

***Epidendrum segoviense* Heller, sp. nov.**

Herbae epiphyticae parvae, repens; caules subfusiformes, bi-vel trifoliates; folia lineari-oblonga vel ligulata, obtusa, subcoriacea; inflorescentia triflora; sepala lineari-lanceolata, acuta vel acuminata; petala lineares vel lineari-lanceolata, acuta; labellum trilobatum; columna generis.

Small epiphytic herbs from repent rhizomes, up to about 15 cm. tall. Stems obscurely fusiform thickened, the bases concealed by scarious sheath, the apex with 2 or usually 3 leaves, mostly 5–6 cm. long and to 8 mm. in diameter when living, stems about 2 cm. apart on the rhizome; leaves linear-oblong or ligulate, obtuse and retuse at the apex, narrowed slightly to the base, carinate dorsally, subcoriaceous; inflorescence terminal from a short peduncle, usually with 3 pedicellate flowers; flowers creamy white, aging yellow, column green, anther yellow, subtending bracts minute, linear-lanceolate; sepals linear-lanceolate, acute or acuminate, 3-nerved, about 15 mm. long and 3 mm. broad, the laterals slightly oblique; petals linear or linear-lanceolate, acute, 1-nerved, about 13 mm. long and 0.8 mm. broad below the middle; tip trilobate, the lateral lobes dolabriform, spreading, the apex rounded, about 3 mm. long, the mid-lobe triangular-lanceolate, acute, about 6 mm. long and 3 mm. broad across the base, the disc with two erect mammillate calluses in front of the column; claws narrow, attached to full length of the 6 mm. long clavate column; clinandrium small, triangular; anther oblong-cordate, with 2 large and 2 small locules; pollinia 4, 2 large and 2 one-third as large.

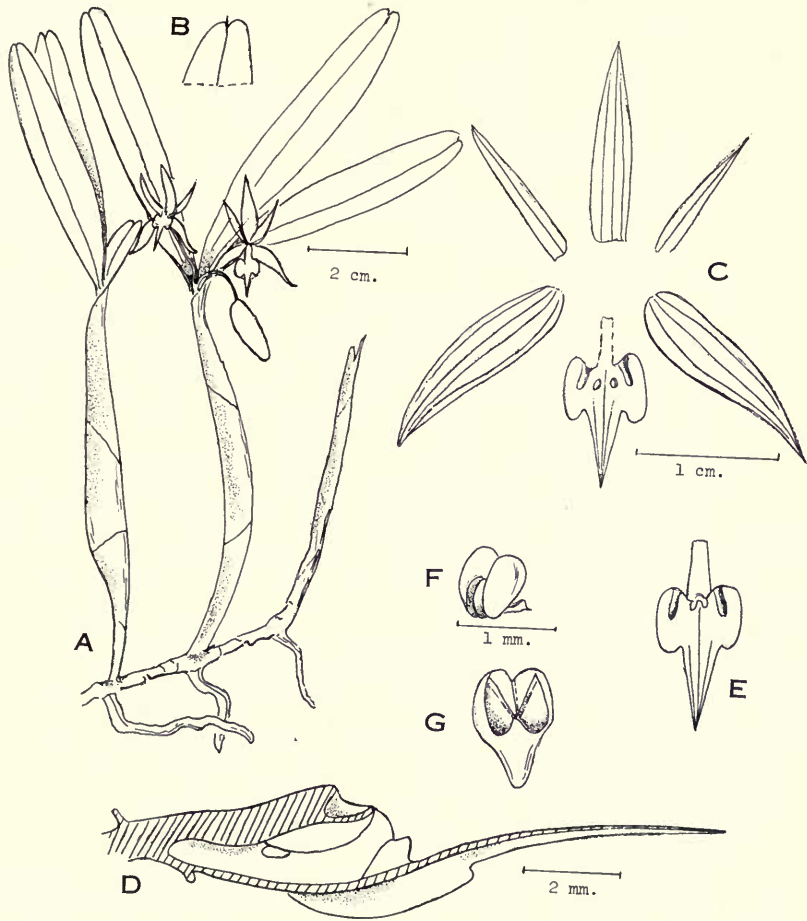


FIG. 1. *Epidendrum vulcanicola*. A, habit, $\times \frac{1}{2}$; B, sepals dissected, $\times 2\frac{1}{2}$; C, longitudinal section through flower, $\times 2\frac{1}{2}$; D, lateral view of flower, $\times 2\frac{1}{2}$; E, flower from front in natural position, $\times 2\frac{1}{2}$; F, anther and pollinia, $\times 10$.

NICARAGUA: epiphytic herbs, mountains near Villa de Flor, department of Nueva Segovia, alt. 1,230 m., 26 December 1966, Heller 10790 (type in herbarium of Field Museum).

Epidendrum segoviense is closely related to *Epidendrum cardiophilum* L. Wms., a species which was originally discovered on a volcano on the west coast of Mexico. The two species, both considered to belong to the section *Encyclium*, may be distinguished as follows:

Epidendrum segoviense has usually three leaves at or near the apex of the thickened stem with an oblique, retuse apex with an apicule in

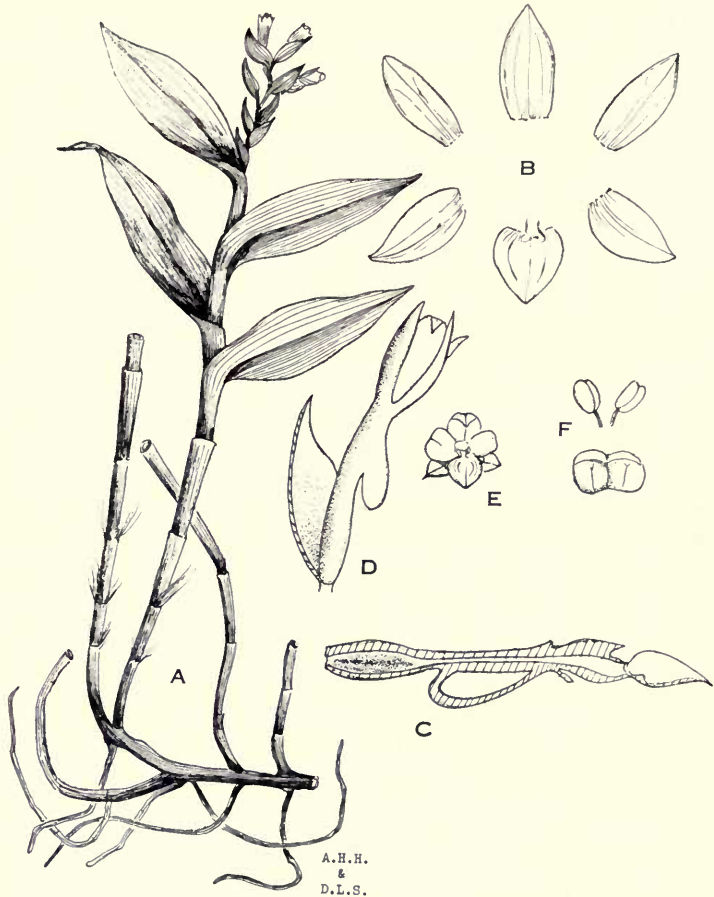


FIG. 2. *Epidendrum segoviense*. A, habit, $\times 2/3$ approx.; B, apex of a leaf, about natural size; C, flower segments, $\times \pm 2$; D, longitudinal section of column and lip, $\times 14$; E, lip and column in natural position, $\times \pm 3$; F, pollinia, $\times \pm 14$; G, anther, $\times \pm 14$.

the notch, while *E. cardiochilum* has two; *E. segoviense* has usually more flowers in each inflorescence, usually three contrasted to one, the sepals have three nerves instead of five and the petals one instead of three; the lip in *E. segoviense* is three-lobed while that of *E. cardiochilum* is not. The two species are similar in the mammillate calluses on the disc.

The similarity of this species to the more abundant *E. octomerioides* Schltr., when the plants are out of flower, is striking.

The illustration was prepared in Nicaragua from living material.

***Epidendrum vulcanicola* Heller, sp. nov.**

Herbae epiphyticae usque ad 50 cm. altae; folia elliptica vel elliptico-lanceolata, acuta, coriacea; inflorescentia racema fractiflexa 3-4 flora; sepalum dorsale oblongo-lanceolatum, acutum; sepala lateralia ovato-lanceolata, acuta, arcuata; petala oblongo-elliptica, acuta; labellum cordatum, basi bicallosum, serrulatum; columna generis.

Much branched epiphytic herbs up to about 50 cm. tall. Stem slender, much branched, twisted, up to about 30 cm. long and 2-4 mm. in diameter, covered by the inflated sheathing leaf bases above, becoming naked with age; leaves 4-5 toward the apex of the stems, elliptic or elliptic-lanceolate, acute, coriaceous, 3-7 cm. long and 1-2 cm. broad, articulated to the laterally compressed leaf sheaths; inflorescence a 3-4-flowered fractiflex raceme to about 6 cm. long; the subtending bracts scarious, navicular, prominently striate, about 1 cm. long and 0.8 cm. broad when spread, rose-colored; sepals all 3-nerved; dorsal sepal oblong-lanceolate, acute about 6 mm. long and 2.5 mm. broad; lateral sepals ovate-lanceolate, acute, arcuate, free portion about 6 mm. long and 2.5 mm. broad, the bases joined and forming a spur-like sac about as long as free portion, the sac adnate to the ovary but free at the base; petals oblong-elliptic, acute, about 6 mm. long and 2.3 mm. broad, lip cordate, acute, about 4 mm. long and 3.8 mm. broad, the disc fleshy with a prominent raised median nerve and 2 shorter lateral nerves, with 2 short, divergent calli at the base, the lateral margins obscurely serrulate; column short, about 3 mm. long and 2 mm. in diameter, the apex serrate; anther 2-celled but each cell with a division thus giving appearance of 4 cells; pollinia 4 from a single branched stipe.

NICARAGUA: uncommon epiphytic herb in mossy cloud forest, Madera Volcano, Omotepe Island in Lake Nicaragua, Prov. Rivas, alt. 1,260 m., April 1963, *Heller 8012* (type in herbarium Field Museum).

So far as I know this is only the second species of *Epidendrum* in Central America in which the lateral sepals are joined to form an elongated spur-like base adnate to the ovary, the other is *E. puteum* L. Wms. There are several characters which separate these species. In *E. vulcanicola* the leaves are narrower and longer, the lip is cordate instead of subquadrate and the keels on the lip are much less prominent, the sepals and petals are shorter 5.5-6 mm. long in contrast to 8-10 mm. in *E. puteum*.

The illustration was prepared in Nicaragua from living material and later readied for engraving by Miss Davida Simon.

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