

NEW ORCHIDS FROM WESTERN ECUADOR

C. H. Dodson\*

*Dichaea richii* Dodson, sp. nov.

(Plate 13:C).

*Dichaeae panamensi* Lindl. similis, sed ovario muricato et plantis floribusque parvioribus differt.

Plant epiphytic. Stems simple or sparsely branched, commonly several, caespitose, erect or arcuate, to 10 cm long, entirely concealed by imbricating leaf sheaths. Leaves numerous, distichous, articulated, linear, acuminate, apiculate, spreading, 2.5 cm long, 0.4 cm wide. Inflorescences axillary, 1-flowered, much shorter than the leaves; peduncles filiform; flowers small, sub-campanulate, white, heavily blotched inside with purple; ovary and capsule muricate; dorsal sepal ovate, acute, concave, 3 mm long, 2.5-3 mm wide; lateral sepals oblique, triangular-ovate, acute, deeply concave below, 8 mm long, 3.5-4 mm wide; petals obliquely ovate, acuminate, 6 mm long, 2 mm wide; lip anchoriform, apiculate at the apex, 4.3 mm long, 5 mm wide across the lobules, the claw 1.5 mm wide; column short, stout, 1 mm long at the back, with a broadly triangular, glabrous ligule below the stigma, the rostellum flap-like, much protruding beyond the anther; stigma 1 mm wide.

ETYMOLOGY: Named in honor of Dr. Earl R. Rich who helped in its collection.

TYPE: *ECUADOR*: LOS RÍOS: Río Palenque Science Center, km 56 Quevedo-Santo Domingo, alt. 150-220 m, 5 March 1976, C. H. Dodson & E. R. Rich 6000, (HOLOTYPE: SEL, ISOTYPE: RPSC).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: PICHINCHA: Río Baba, 28 km S of Santo Domingo, alt. 350 m, 3 Nov. 1961, C. H. Dodson & L. B. Thien 1151b (SEL).

DISTRIBUTION: Western Ecuador.

*Dichaea richii* is similar to *D. panamensis* Lindl., but it is distinguished by a muricate ovary and much smaller flowers. *Dichaea richii* is also similar to *D. riopalenquensis* Dodson, but the former has smaller flowers, broader flower parts, a rostellum much projecting beyond the anther, and much shorter leaves.

*Dichaea riopalenquensis* Dodson, sp. nov.

(Plate 13:D).

*Dichaeae panamensi* Lindl. similis, sed ovario muricato, sepalis petalisque angustioribus et lobis lateralibus labelli gracillimis differt.

Plant epiphytic. Stems simple or sparsely branched, commonly several, caespitose, erect or arcuate-ascending, to 15 cm long, entirely concealed by imbricating leaf sheaths. Leaves numerous, distichous, articulated, linear, acute, apiculate, spreading, 3.0 cm long, 0.6 cm wide. Inflorescences axillary, 1-flowered, much shorter than the leaves; peduncle slender; flowers medium in size, open, white or white flecked with tiny red spots; ovary and capsule muricate; sepals elliptical, acute, concave, the lateral sepals slightly oblique, 8 mm long, 5 mm wide; petals narrowly obovate, acute 8 mm long, 3 mm wide; lip anchoriform, 9 mm long, 7 mm wide across the lobules, apiculate at the apex, from a claw which is narrower at the base than at the apex; column short, stout, 3 mm long at the back, with a broadly triangular, microscopically bristly ridge below the stigma; stigma 3 mm wide.

\*The Marie Selby Botanical Gardens, 800 S. Palm Ave., Sarasota, FL 33577, U.S.A.

ETYMOLOGY: Named for the Río Palenque Science Center where it is a common plant.

TYPE: *ECUADOR*: LOS RÍOS: Río Palenque Science Center, km 56 Quevedo-Santo Domingo, alt. 150-220 m, 23 Apr. 1973, *C. H. Dodson 5257*, (HOLOTYPE: SEL, ISOTYPE: RPSC).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: LOS RÍOS: same locality, 27 Feb. 1975, *C. H. Dodson 5784b* (SEL); PICHINCHA: along Río Baba, 28 km S of Santo Domingo, alt. 350 m, 3 Oct. 1961, *C. H. Dodson & L. B. Thien 1151a* (SEL).

DISTRIBUTION: Western Ecuador.

*Dichaea riopalenquensis* is similar of *D. panamensis* Lindl., but the flower parts of the former are much narrower and the ovary is muricate. *Dichaea richii* is similar but much smaller in all its parts. The base of the claw of *D. riopalenquensis* is narrower than the apex.

**Dipteranthus estradae** Dodson, sp. nov.

(Plate 14:A).

*Dipterantho grandifloro* (Lindl.) Pabst similis, sed floribus parvioribus et labello integro ecallosoque differt.

Plant epiphytic, with a very short rhizome. Pseudobulbs tightly clustered, ovate, up to 5 mm long, unifoliate at the apex, enveloped laterally in distichous sheaths or bracts with a leaf at their apex. Leaves thick, rigid, elliptical, 2 cm long, 0.5 cm wide. Inflorescence basal, erect, to 5 cm long, 9-15 flowered, the lower portion with expanded, ovate bracts. the floral bracts much smaller; pedicellate ovary 9 mm long, curved at the apex so that the flower faces downward; flowers yellow; sepals ovate, 2 mm long, 0.7 mm wide, concave; petals obovate, spatulate, 2 mm long, 1.5 mm wide; lip narrowly obovate, deeply concave, 1.7 mm long, 0.8 mm wide; column short with the stigma at the base, apical portion round, held over the stigma by a narrow strap, the apex projected with an elongate, slender, hair-like rostellum which is twisted to one side; anther held in the round, apical portion of column; pollinia 4 on an elongate stipe.

ETYMOLOGY: Named in honor of Sr. Roberto Estrada G. of Guayaquil, Ecuador, who discovered the species.

TYPE: *ECUADOR*: MANABI: Epiphyte in small tree in dry forest near Jipijapa, alt. 60 m, May 1976, *Roberto Estrada s.n.*, (HOLOTYPE: SEL).

The genus *Dipteranthus* has been thought to be primarily Brazilian in distribution with the yellow-flowered *D. planifolius* (Rchb. f.) Garay having been reported from Venezuela. I have found *D. planifolius* near Chiriboga in the province of Pichincha in western Ecuador and Fred Fuchs reports *D. grandiflorus* (Lindl.) Pabst from the Rio Payamino in the province of Napo in eastern Ecuador.

*Dipteranthus estradae* is similar to *D. grandiflorus* but differs in smaller flowers, and an entire lip without an obvious callus.

**Encyclia naranjapatisensis** C. H. Dodson, sp. nov.

(Plate 14:B).

*Encycliae osmanthae* Barb. Rodr. similis, sed sepalis leviter concavis, lobis lateralibus labelli integris et lobo mediano ovali integroque differt.

Plant epiphytic, to about 70 cm tall. Rhizome very short, pseudobulbs ovoid-cylindric, 2- to 3-leaved at the apex, to 7 cm long. Leaves narrowly linear, to 60 cm long, 2 cm wide, acute at the apex, clasping at the base,

coriaceous. Inflorescence terminal, simple to paniculate, to 70 cm long; pedicellate ovary smooth; flowers large for the genus, with spreading red-green segments, lip white with red lines in the center; sepals narrowly obovate, 2 cm long, 0.6 cm wide; petals spatulate-obovate, acute, 2 cm long, 1 cm wide; lip adnate to the basal portion of the column, deeply 3-lobed, 2 cm long; the lateral lobes falcate, oblique, entire, surrounding the column, flared at the apex, 1 cm long, 0.4 cm wide; the mid-lobe clawed, oval, emarginate at the apex, the center with a broad, elongate callus, ending in the 3 thickened veins; column slightly curved at the midpoint, with a strongly developed quadrate auricle on each side of the stigma, the anther orange.

ETYMOLOGY: Named for the site of its origin, Naranjapata, Province of Bolivar, Ecuador.

TYPE: *ECUADOR*: BOLIVAR: Naranjapata, km 107 on Railroad from Duran to Riobamba, alt. 700 m, 10 April 1961, *C. H. Dodson 397* (HOLOTYPE: SEL).

DISTRIBUTION: West central Ecuador.

This species occurs in the provinces of Cañar and Bolivar in dry valleys in rain shadow at elevations of 700 to 1,000 meters. The flowers are showy with an attractive white lip.

*Encyclia naranjapatensis* is similar to *E. osmantha* Barb. Rodr. but the sepals are not as concave, the side lobes of the lip are entire, not crenate, and the mid-lobe is oval and entire, not obcordate and crenate.

*Epidendrum ilense* Dodson, sp. nov.

(Plate 14:C).

*Epidendro ancipi* Jacq. similis, sed margine labelli longifimbriato, floribus majoribus et inflorescentiis lateratibus terminalibusve differt.

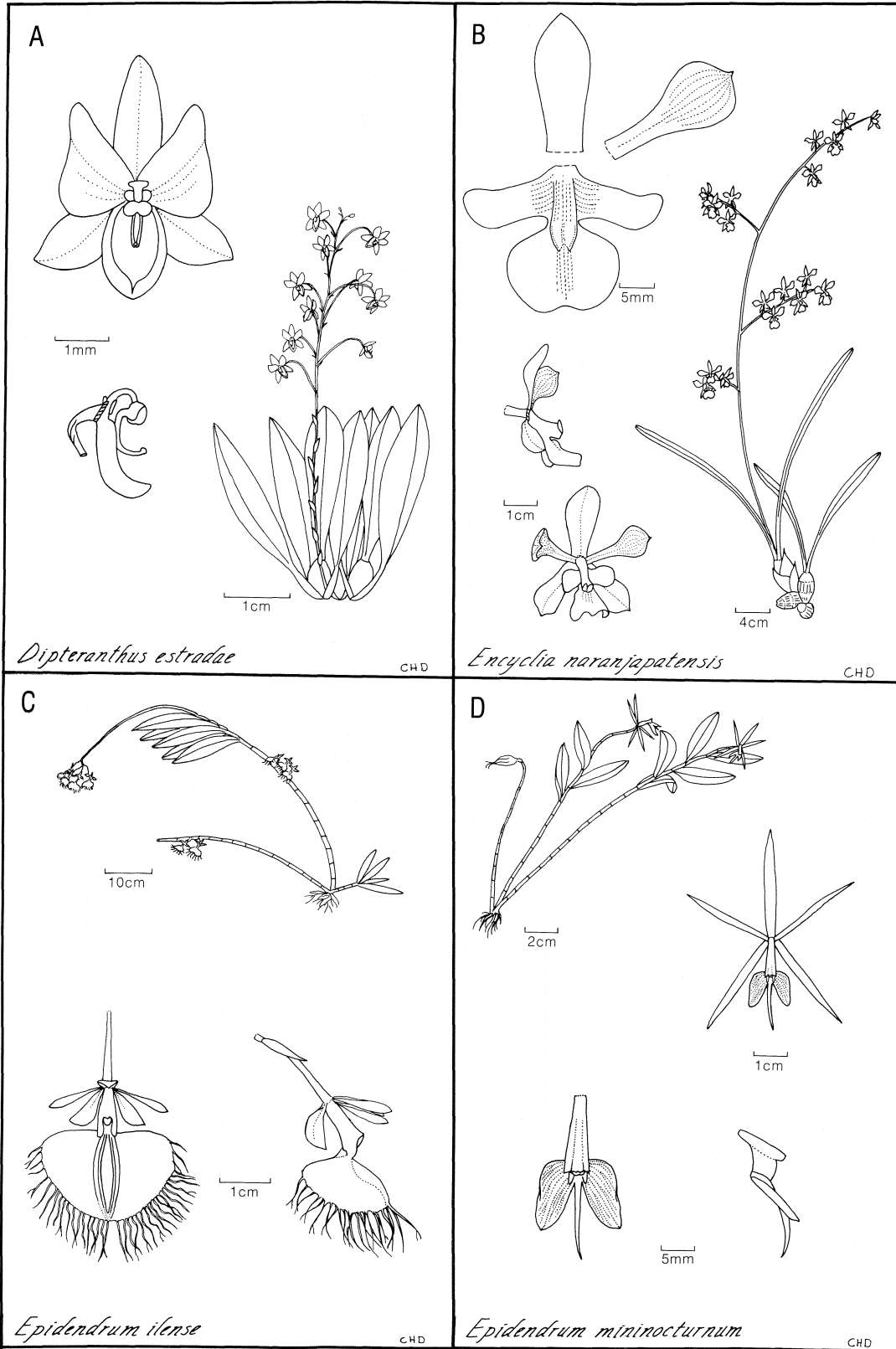
Epiphytic, caespitose plant with cane-like stems to 80 cm long. Stem compressed, leafy except at the base, entirely concealed by sheaths. Leaves distichous, few to numerous, narrowly elliptic, 11-18 cm long, 2-4 cm wide, acute at the apex. Inflorescence terminal or lateral, if terminal, elongate, to 30 cm long, pendent, enveloped with several distichous compressed sheaths, bearing one or several compact, subcapitate racemes at the nodes, if lateral, inflorescences short, subcapitate, produced from the stem nodes; flowers medium in size for the genus, the sepals and petals green-white, the lip ivory, fleshy; sepals obovate, 12 mm long, 6 mm wide, the lateral sepals oblique, slightly broader than the dorsal sepal; petals linear-obovate, 12 mm long, 2 mm wide; lip adnate to the column nearly to its apex; the lamina cuneate in outline, 2 cm long, 3 cm wide, truncate at the apex, the apical margin long-fimbriate, the hairs to 1 cm long, the disc with 2 calli; column sigmoid, dilated above.

ETYMOLOGY: Named for the Montañas de Ila, the habitat of the species.

TYPE: *ECUADOR*: LOS RÍOS: Montañas de Ila, km 58 Quevedo-Santo Domingo, on side road from Patricia Pilar to 24 de Mayo, km 12, alt. 300-600 m, 30 May 1976, *C. H. Dodson 6094*, (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

This species is unusual for its long-fimbriate lip margin. It has features of *Epidendrum anceps* Jacq., in the elongate, terminal rachis, with subcapitate inflorescences at the nodes of the rachis, and also features of the *Pleuranthium* group with short, subcapitate inflorescences produced from older stem nodes.



**Epidendrum mininocturnum** Dodson, sp. nov.

(Plate 14:D).

*Epidendro nocturno* Jacq. similis, sed statura parvula et columna rubra differt.

Plant epiphytic; rhizome short; stems cane-like, to 15 cm long, slender, flattened, unbranched, concealed by tubular sheaths, without leaves below and leaf-bearing toward the apex. Leaves distichous, 5-7, elliptic, 7 cm long, 2 cm wide. Inflorescence a very short raceme, with single flowers produced in succession, the floral bracts small; pedicellate ovary to 3 cm long; flowers medium in size for the genus, the sepals pink, the petals pale green, the lip white, the column red; sepals narrowly elliptical, 2.8 cm long, 0.4 cm wide; petals slightly oblique, narrowly elliptical, 2.6 cm long, 0.2 cm wide; lip adnate to the column nearly to its apex, shorter than the sepals, sharply 3-lobed, the lateral lobes obliquely semi-ovate, cordate at the base, acuminate at the apex, to 1.1 cm long, the margins entire, the mid-lobe narrowly triangular, long-acuminate, to 1.5 cm long; disc with two elongate parallel lamellae at the base between the lateral lobes; column dilated at the apex, to 1.2 cm long.

ETYMOLOGY: Named for its similarity to *Epidendrum nocturnum* Jacq., but much smaller in size in all its parts.

TYPE: *ECUADOR*: LOS RÍOS: Río Palenque Science Center, km 56 Quevedo-Santo Domingo, alt. 150-220 m, 10 March 1977, in fruit, *C. H. Dodson 6654*, (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: LOS RÍOS: Montañas de Ila, km 12 Patricia Pilar to 24 de Mayo, cloud forest near summit, alt. 550 m, 28 July 1976, in flower, *C. H. Dodson 6128* (SEL), PICHINCHA: Río Baba 28 km S of Santo Domingo, alt. 300 m, 1 Nov. 1961, *C. H. Dodson and L. B. Thien 1160* (SEL).

DISTRIBUTION: Western Ecuador.

This species is very similar to *Epidendrum nocturnum* Jacq. but much smaller in all its features. The population is consistent in floral and plant size and shape. With pink sepals, white petals and lip, and a red column, the flower color is different from *E. nocturnum* and its allies.

**Epidendrum williamsii** Dodson, sp. nov.

(Plate 15:A).

*Epidendro apagano* Mansf. similis, sed foliis multo angustioribus, floribus parvioribus et lobo antico labelli truncato differt.

Plant epiphytic, rhizome sort, stems cane-like, to 30 cm long, unbranched, flexuose, concealed by persistent, flaring leaf-sheaths. Leaves distichous, narrowly elliptic, to 6.5 cm long, 1.8 cm wide, the sheaths flattened, with sharp edges, appearing inflated. Inflorescence terminal, subcapitate, surrounded by a reduced, spathe-like leaf, 2-3 flowers produced at a time and in succession for most of the year, the flowers green; sepals elliptical, the lateral sepals oblique, 1 cm long, 0.4 cm wide; petals narrowly obovate, 0.9 cm long, 2 mm wide; lip adnate to the column to its apex; the lamina simple, truncate across the apex, cordate at the base with basal lobes up-turned alongside the column, 8 mm long and 1.2 cm wide when spread, the disc bicarinate at the base; column dilated toward the apex.

ETYMOLOGY: Named in honor of Dr. Norris Williams, of Florida State Univ., who fruitlessly studied the pollination of this species.

TYPE: *ECUADOR*: PICHINCHA: Near bridge over Río Chiguilpe 7 km S of Santo Domingo near junction with Río Baba, alt. 450 m, 15 Aug. 1975, *C. H. Dodson 5946* (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: COTOPAXI: Hacienda California in Guava tree, km 64 Quevedo-Latacunga, alt. 500 m, flowered in cultivation, *C. H. Dodson 6727* (SEL), greenhouse acc. no. 44-76-25.

This species is very close to *Epidendrum apaganum* Mansf., from eastern Peru, Colombia and Venezuela, but the leaves are much narrower, the flowers are smaller, and the apex of the lip is truncate.

*Masdevallia thienii* Dodson, sp. nov. (Plate 15:B).

*Masdevalliae sprucei* Rchb. f. similis, sed labello bilamellato et inflorescentia pendenti differt.

Plant epiphytic, with a short rhizome, the secondary stems very short, unifoliate. Leaf obovate, 10-13 cm long, 1.6-2 cm wide, petiolate, acute at the apex, attenuate at the base. Inflorescences pendent, 9-15 cm long, 6-9 flowers produced singly in succession, red with yellow base and antennae; floral bract loose; pedicellate ovary to 1.2 cm, smooth; dorsal sepal cuneate, the apical portion produced into a filiform, yellow tail 1.8-2 cm long, united to the lateral sepals for 1.5 cm, the lateral sepals ovate, united to above the middle, the apices tapered into similar tails, 2-2.2 cm long; petals oblong, 7 mm long, 4 mm wide, the apex emarginate, with an elongate, thickened ridge along the lower half; lip oblong, 3-lobed, the apical lobe ovate, 3 mm long, 2 mm wide, the lateral lobes cordate at the base and projecting behind the articulation with the column foot, the disc with 2 elongate, lamellate calli which extend for the length of the lip; column subterete, 4 mm long, with an elongate wing on each margin on the underside on each side of the stigma.

ETYMOLOGY: Named in honor of Dr. Leonard Thien of Tulane University who helped with its collection.

TYPE: *ECUADOR*: PICHINCHA: Km 28 Santo Domingo to Quevedo, epiphytic on tree overhanging river 4 km from main road, alt. 300 m, 27 Oct. 1961, *C. H. Dodson & L. B. Thien 1133* (HOLOTYPE: SEL).

DISTRIBUTION: Western Ecuador.

*Sigmatostalix adamsii* Dodson, sp. nov. (Plate 15:C).

*Sigmatostalici gramineae* (Poepp. & Endl.) Rchb. f. affinis, sed floribus albis multiparvioribusque, et inflorescentia expansa notabilis.

Plant small, epiphytic, with a short rhizome. Pseudobulbs aggregated, ovate, strongly compressed, 3 cm long, 1.3 cm wide, unifoliate at the apex, clothed below by several pairs of imbricating, leaf-bearing sheaths. Leaves linear, acute and obliquely emarginate at the apex, 8-17 cm long, 0.8 cm wide. Inflorescence basal in the axils of the sheaths, paniculate, 10-20 cm long, the secondary branches to 8 cm long, each flower arising singly from an abbreviated, erect branch; flowers very small for the genus; sepals and petals membranaceous, white, reflexed, cuneate, 2 mm long, 0.5 mm wide; lip 2 mm long, the lamina ovate, 1 mm long, recurved, the disc at the base with a transversely concave callus, 1 mm wide, 1.2 mm long, yellow inside, bilobed at the apex; column slender, 1 mm long, with a quadrate auricle on each side of the stigma.

ETYMOLOGY: Named for Dr. Ralph Adams of Florida Atlantic University who helped in its collection.

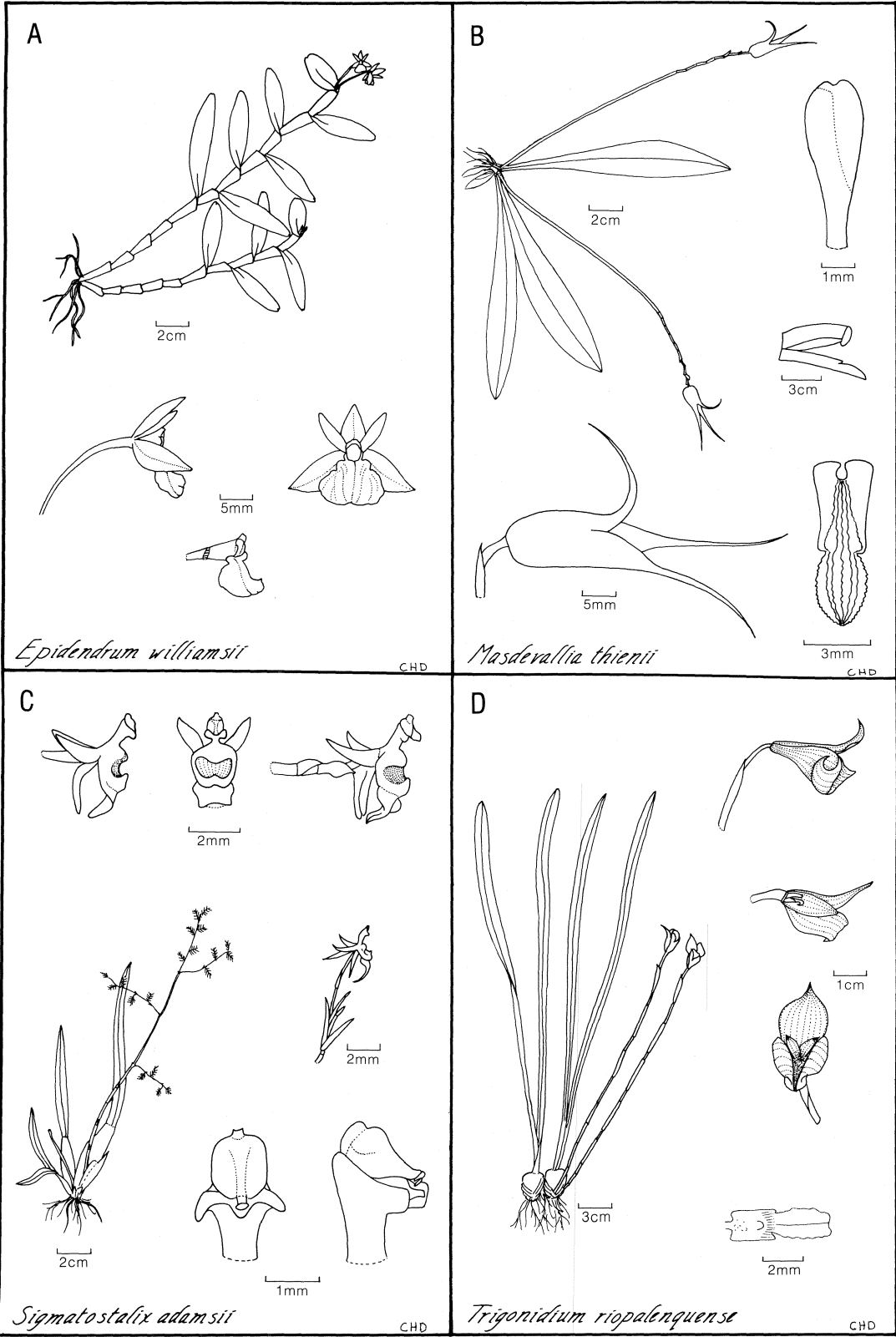


Plate 15

TYPE: *ECUADOR*: PICHINCHA: Very common in orange trees in the city of Santo Domingo, alt. 650 m, 15 June 1967, *C. H. Dodson, N. Williams & R. Adams 3705* (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: PICHINCHA: Epiphytic in citrus trees between Alluriquin and Tinalandia, east of Santo Domingo, alt. 900 m, 13 Mar. 1976, *C. Luer, J. Luer & P. Taylor 856* (SEL); same region, 15 Aug. 1975, *C. Luer, G. Luer & Wilhelm 529* (SEL); Santo Domingo, 26 Oct. 1961, *C. H. Dodson & L. B. Thien 1128* (SEL).

DISTRIBUTION: Western Ecuador.

This species is probably the least significant member of the genus. It is unusual for the relatively large, much ramified, paniculate inflorescence with tiny white flowers. Considering its present day abundance, it is surprising that this species was not collected and described by early orchid collectors passing through Santo Domingo. Perhaps it was rare in the past, but the presence of numerous moss-covered orange trees has provided an appropriate habitat. It is very rare in nearby mature forests.

*Trigonidium riopalenquense* Dodson, sp. nov.

(Plate 15:D).

*Trigonidio egertoniano* Rchb. f. ex Benth. & Hook. similis, sed floribus roseis et foliis multiangustioribus differt.

Plant epiphytic with a short or creeping rhizome. Pseudobulbs ovoid, flattened, with a rib on each side, 2.5-3 cm long, 1.5-2 cm wide, bifoliate at the apex. Leaves linear, acute at the apex, gradually narrowed at the base to form a petiole, 30-35 cm long, 1.2 cm wide. Scapes arising from the base of the pseudobulb, erect, 1-flowered; peduncle 15-18 cm long, mostly concealed by 4 or 5 clasping sheaths; flower erect, pink with brownish veins; dorsal sepal obovate, acute, 2.5-3 cm long, 1.4 cm wide, recurved to a 90° angle for upper half; lateral sepals similar, slightly broader than the dorsal sepal, abruptly recurved to lie against its base; petals much smaller than the sepals, 2 cm long, 1 cm wide, erect, obliquely elliptic, thickened at the apex; lip erect, 3-lobed below the middle, the mid-lobe elliptical, 1 cm long, 0.25 cm wide, the apical half recurved, the lateral lobes erect, narrow, the disc through the lower half with a median, linear callus; column erect, semi-terete, 5 mm long.

ETYMOLOGY: Named for the Río Palenque Science Center where it is a common species.

TYPE: *ECUADOR*: LOS RÍOS: Epiphyte in top of mature forest, Río Palenque Science Center, km 56 Quevedo-Santo Domingo, alt. 220 m, 23 Mar. 1973, *C. H. Dodson 5251* (HOLOTYPE: SEL).

ADDITIONAL MATERIAL EXAMINED: *ECUADOR*: PICHINCHA: Epiphytic in tree by Río Toachi, 15 km above Santo Domingo, alt. 1000 m, 28 Feb. 1975, *C. Luer & R. Kent 248* (SEL).

This species is similar to *Trigonidium egertonianum* Rchb. f. ex Benth. & Hook., but the pseudobulbs are smaller, and the leaves much narrower. The flowers are pink with brown veins rather than yellow with brown veins, and the plant is dark green rather than yellow-green. The population of *T. riopalenquense* seems to be restricted to the wet forest region while *T. egertonianum* occurs in the dry forests around Guayaquil. When plants of both species grow under comparable conditions the distinctions remain.