

A REVISION OF THE GENUS
PSYCHILIS RAFINESQUE (ORCHIDACEAE)

Ruben P. Saulea (Florida Atlantic University,
Department of Biological Sciences, Boca Raton, FL.
33431)

ABSTRACT

This study treats the genus Psychilis Rafinesque (Orchidaceae), a natural species complex of 15 species, 2 natural interspecific hybrids and one natural intergeneric hybrid. The genus was first proposed by Rafinesque (1838) based on Epidendrum bifidum Aublet. This treatment, which includes keys and descriptions, consolidates the species previously placed in various genera into Psychilis which is here re-established. Included are 11 new combinations, P. atropurpurea, P. bifida, P. buchii, P. cogniauxii, P. domingensis, P. truncata, P. kraenzlinii, P. krugii, P. olivacea, P. vernicosa and P. x tudiana, five new species, P. correllii, P. dodii, P. macconnelliae, P. monensis, P. rubeniana and a new natural hybrid, P. x raganii. A new hybrid genus x Laelichilis and a new intergeneric combination x Laelichilis yumanensis are also proposed.

INTRODUCTION

When the genus Epidendrum was established by Linnaeus (1763); few epiphytic orchids were known and the genus became a nomenclatural catch-all for epiphytic orchids. The botanical explorations of the late 18th and early 19th centuries led to an exponential increase in the number of epiphytic orchids placed in Epidendrum, rendering the Linnean concept unwieldy. As the number of Epidendrum species increased, taxonomists realized that the genus contained many species groups that were best considered distinct genera. Swartz first addressed this problem by establishing the segregate genera Dendrobium (1799a), Stelis (1799) and Oncidium (1800). Approximately 50 further segregate genera have since been described based on species originally placed in Epidendrum.

Hooker (1828) established the genus Encyclia based on Encyclia viridiflora Hooker, characterized by having "a roundish bulb, scape branching into a panicle, labellum 3-lobed". Hooker's emphasis on the

non-resupinate nature of the flowers of the type species probably led to the eventual abandonment of the generic concept of Encyclia by both Hooker and Lindley. Although this feature is rare, it does occur in other species in the genus (e.g., Encyclia caicensis Saulea & Adams). Lindley (1853) reduced Encyclia to a subgenus of Epidendrum and included most species corresponding to Hooker's concept. Lindley's treatment, with some modifications at the subgeneric level, was followed by Cogniaux (1898, 1910), Ames et al. (1936), Ames & Correll (1952), Williams (1952), Garay & Sweet (1974), Hamer (1974), and Dunsterville & Garay (1979).

Although not immediately accepted, the establishment of the genus Encyclia was a major step in understanding this species complex and acted as the catalyst for the eventual segregation of many other genera from Epidendrum. These include: Dinema Lindley (1831), based on Epidendrum polybulbon Swartz; Psychilis Rafinesque (1838), based on Epidendrum bifidum Aublet; Prosthechea Knowles & Westcott (1838), based on Prosthechea glauca Knowles & Westcott; Hormidium Lindley ex Heynhold (1841), based on Hormidium uniflorum Lindley ex Heynhold; Anacheilium Hoffmannsegg (1842), based on Epidendrum cochleatum Linnaeus; Nidema Britton & Millspaugh (1920), based on Epidendrum ottonis Reichenbach f. The acceptance of Epidendrum nocturnum Jacquin as the conserved type species for Epidendrum by the International Botanical Congress established the basis of the genus.

Schlechter (1914) adopted Hooker's concept of the genus Encyclia, transferring numerous species from Epidendrum. Hoehne (1952) later followed Schlechter's lead and transferred other species to Encyclia. Dressler (1961) however, broadened the generic concept by transferring into Encyclia species belonging to four already established genera (Anacheilium Hoffmannsegg, Hormidium Lindley ex Heynhold, Prosthechea Knowles and Westcott, and Dinema Lindley). Pabst et al. (1981) specifically addressed the uncontrollably expanding concept of Encyclia by restricting it to plants without druse crystals, with free or almost free labella, generally with winglet columns not gibbous, with shallow clinandria and undivided rosetta, inflorescences with a stem, generally without spathes, and with fusiform fruits. If to these characteristics is added, from Hooker's (1828) protologue, a roundish bulb, scape branching into a panicle, and labellum 3-lobed, a generic concept that very closely

corresponds to Schlechter's (1914) application of *Encyclia* emerges.

The acceptance of the generic concept of *Encyclia* as originally proposed by Hooker (1828), excludes a number of species groups from the broader concept of Dressler (1961).

One of these species complexes, the genus *Psychilis*, a natural group of 17 taxa endemic to the West Indies, was proposed by Rafinesque (1838) based on *Epidendrum bifidum* Aublet. Dressler (1961) recognized this complex as a distinctive assemblage, which he informally designated the "bifidum group". The consolidation of the species in this group into a distinct genus is a logical extension of Dressler's work. This paper reestablishes *Psychilis*. The genus as recognized here is composed of 15 species and two interspecific hybrids. An intergeneric hybrid between *Psychilis* and *Laeliopsis* Lindley also is reported.

The genus *Psychilis* differs from *Encyclia* both vegetatively and florally. Most species of *Psychilis* have leaves articulated with the leaf-sheaths which enclose the base of the inflorescence and the margins of the leaves are usually erose-dentate. In *Encyclia* the leaf-sheaths do not enclose the base of the inflorescence and the leaf margins are entire. The pseudobulbs of *Psychilis* are more fusiform, have numerous evenly-spaced sheath scars, and are often sulcate, while the pseudobulbs of *Encyclia* are more pyriform, have sheath scars basally, and are usually not sulcate. Florally, the most obvious and consistent difference is in the habit of the inflorescence. *Psychilis* has a long pedunculate and capitate raceme with new racemes repeatedly produced from the old peduncle for as long as three years. *Encyclia* usually produces a simple, pedunculate raceme or panicle with new racemes not produced from the old peduncle. In most species of *Psychilis* the base of the lateral lobes of the labellum are adnate to the column while the midlobe of the labellum under the column has a raised, platform-like, canaliculate callus. In *Encyclia*, the lateral lobes are free and the callus usually consists of lateral erect keels.

TAXONOMIC TREATMENT

Psychilis Rafinesque, Fl. Tellur. 4: 40. 1838 ("1836").

Type: *Epidendrum bifidum* Aublet

Epiphytic or epilithic, rhizomatous plants. Roots many, slender, canescent or velamentous. Rhizome short, stout, creeping, completely enclosed by imbricating scarious sheaths. Stem modified into pseudobulbs, these erect or ascending, clustered, enclosed by scarious imbricating sheaths, to 6-leaved at apex. Leaves coriaceous to rigid, margin entire or cartilaginous, crenate to erose-dentate. Inflorescence terminal, pedunculate, peduncles slender, elongate, completely enclosed by appressed, imbricating, chartaceous sheaths, terminated by a short, compact, globose, or capitate raceme; racemes several, produced one or two at a time during a two- to three-year period. Flowers produced several at a time, in succession, pedicellate. Ovary slender. Sepals and petals free, spreading or reflexed. Labellum basally clawed and adnate to column, 3-lobed, lateral lobes basally adnate to column, midlobe with a broad canaliculate callus, disc variously callose. Column fleshy, without basal foot, cylindrical, without auricles. Anther terminal, operculate, incumbent, 2-celled. Pollinia 4, equal, compressed, waxy, connected by a caudicle, sessile, eglandular. Stigmas 2, confluent, transverse. Fruit an ovoid to ellipsoid capsule, with prominent ribs.

Key to Species

The preparation of a key which can be used with dried material is difficult for the genus Psychilis. Most of the species are vegetatively similar and the floral characters are difficult to recognize on dried specimens. The following key is most useful with live material. The country of origin has been added to further aid identification.

1. Callosity on midlobe of labellum under column not canaliculate, shape oval and flattened with 3-4 lateral grooves or broad, flattened and involute2
1. Callosity on midlobe of labellum under column deeply canaliculate, shape oblong, cordate or rhombic.....3
 2. Petals elliptic to obovate, obtuse; disc of labellum with 5-9 undulate lamellae; apex of disc emarginate; lateral lobes of labellum erect, enclosing and concealing column; inflorescence arching; labellum deep reddish-purple; endemic to Dominican Republic.....12. P. olivacea

2. Petals spatulate, mucronulate; disc of labellum with 3 undulate lamellae; apex of disc mucronulate; lateral lobes of labellum erect, oriented away from column; inflorescence erect; labellum yellow with reddish-purple radiating lines, endemic to Hispaniola.....14. *P. truncata*
3. Callosity on midlobe of labellum under column rhombic; disc of labellum orbicular; endemic to Dominican Republic.....6. *P. dodii*
3. Callosity on midlobe of labellum under column oblong or cordate; disc of labellum obovate, flabellate, reniform or pandurate.....4
4. Disc of labellum with 5-8 rows of fleshy protuberances; lateral lobes of labellum enclosing and concealing column.....5
4. Disc of labellum with undulate lamellae, erect keels or without ornamentation; lateral lobes of labellum clasping but not concealing column.....6
5. Petals oblanceolate; sepals and petals green to greenish-yellow; lateral lobes of labellum white to greenish-white with pale purple radiating lines or spots; endemic to Hispaniola.....3. *P. buchii*
5. Petals spatulate; sepals and petals yellow with reddish-brown lines; lateral lobes of labellum yellow with reddish-brown radiating lines; endemic to Hispaniola.....4. *P. cogniauxii*
6. Disc of labellum without ornamentation; inflorescence arching; endemic to Dominican Republic.....15. *P. vernicosa*
6. Disc of labellum with undulate lamellae or erect keels; inflorescence erect.....7
7. Callosity on disc of labellum under column elliptic.....8
7. Callosity on disc of labellum under column cordate.....10
8. Disc of labellum with 3 lateral erect keels joining callosity on midlobe; endemic to Hispaniola.....1. *P. atropurpurea*
8. Disc of labellum with 1-9 undulate lamellae not joined to callosity under column.....9
9. Disc of labellum with 1 central undulate lamella, disc magenta, scarlet or yellow.....14
9. Disc of labellum with 3-9 undulate lamellae, disc white with radiating purple lines; endemic to Dominican Republic.....13. *P. rubeniana*

10. Disc of labellum with 5 undulate lamellae; lateral lobes enclosing column; endemic to Haiti.....2. P. bifida
10. Disc of labellum with 3 undulate lamellae; lateral lobes erect and clasping but not overlapping column.....11
11. Disc of labellum white to yellow with discontinuous, radiating, pale purple lines; apex obcordate; endemic to Puerto Rico....9. P. krugii
11. Disc of labellum magenta, scarlet or lavender with dark purple radiating lines; apex emarginate....12
12. Disc of labellum magenta or scarlet, middle lamella white; endemic to the northern islands of the Lesser Antilles.....5 P. correllii
12. Disc of labellum lavender with 3-5 reddish-purple lines.....13
13. Disc of labellum flabellate or reniform, shallowly emarginate; endemic to Puerto Rico and the Virgin Islands.....10. P. macconnelliae
13. Disc of labellum ovate, deeply emarginate; endemic to Mona Island.....11. P. monensis
14. Disc of labellum magenta or scarlet, endemic to Puerto Rico.....8. P. kraenzlinii
14. Disc of labellum yellow with magenta radiating lines, endemic to Dominican Republic7. P. domingensis

Taxonomic Treatment

1. Psychilis atropurpurea (Willdenow) Saulea, comb. nov.

Basionym: Epidendrum atropurpureum

Willdenow, Sp. Pl. 4: 115. 1805.

Encyclia atropurpurea (Willdenow)

Schlechter, Orchideen, 208. 1914. Type: In the absence of any specimens verifiable as type material, the illustration cited by Willdenow (Plumier, Pl. Amer. 8: t. 178, f. 1. 1758) is here designated as the lectotype.

PLANT epiphytic, to 2.4 m tall. ROOTS velamentous. PSEUDOBULBS elongate, fusiform to ovoid, apically attenuate, to 16 cm long, 3.5 cm thick, to 5-leaved. LEAVES rigid, distichous, articulated with the leaf sheaths, linear-lanceolate to linear-oblong, subacute, margin entire, to 45 cm long, 3.0 cm wide. INFLORESCENCE to 2.2 m long, peduncle erect, racemes erect, rachis to 7.0 cm long, to 18-flowered. FLORAL

BRACTS broadly ovate, acute to acuminate, to 2 mm wide, 1 mm long. PEDICEL to 5.5 cm long. SEPALS and PETALS pale green to greenish-brown, tipped with reddish-brown, reverse side of segments rose-carmine. SEPALS oblanceolate, obtuse, to 2.0 cm long, 0.7 cm wide. PETALS spatulate to oblanceolate, obtuse to 1.9 cm long, 0.5 cm wide. LABELLUM to 2.4 cm long, 1.4 cm wide; lateral lobes obovate, obtuse, erect, concave, clasping column, yellow to reddish-purple with reddish-brown radiating lines; midlobe obovate, emarginate, with a broad, oblong, canaliculate callus, apex terminating in three, lateral, erect keels extending onto disc, midlobe white, streaked with purple or reddish-purple, with a white margin and a white triangular spot on disc in front of column. COLUMN rose-carmine to reddish-purple, apex white or yellow, to 1.4 cm long, 0.5 cm wide; anther yellow. CAPSULE ellipsoid, to 2.6 cm long, 1.3 cm thick.

Distribution: Endemic to central Hispaniola.

Flowers sporadically throughout the year, mainly from December to May.

Epidendrum atropurpureum described in 1805 by Willdenow, was reduced to synonymy under Epidendrum bifidum Aublet by Lindley (1853). The nomenclatural history was complicated by the misapplication of the name E. atropurpureum to a different and common Central American species by Ames et al. (1936). Dressler (1964) recognized that the Plumier plate upon which E. atropurpureum was based did not represent the Central American species. He determined the correct name for the Central American species to be Encyclia cordigera (Kunth) Dressler. Dressler (1964), like Lindley before him, failed to recognize that E. atropurpureum and E. bifidum are two closely related but distinct species occurring in Hispaniola and incorrectly treated E. atropurpureum as a nomen confusum. The two Plumier plates, representing the types of E. atropurpureum and E. bifidum, although crude and diagrammatic, clearly differentiate between the two. The lateral lobes of the labellum, one of the most important diagnostic characters which separates the two species, are clearly illustrated. The lateral lobes of the labellum of P. atropurpurea are short and clasp the column on either side near the base while those of P. bifida are considerably longer and embrace the column, extending over and almost concealing it. Psychilis atropurpurea is abundant throughout central Hispaniola while P. bifida is rare, found only along the northern coast of Haiti.

Vegetatively, P. atropurpurea is similar to and may be confused with Psychilis dodii Saulea. Florally these two species differ in the shape of the callus on the midlobe of the labellum and the shape of the disc of the labellum. Psychilis dodii has a rhombic callus and an orbicular disc while P. atropurpurea has an oblong callus and an obovate disc.

2. Psychilis bifida (Aublet) Saulea, comb. nov.

Basionym: Epidendrum bifidum Aublet, Hist.

Pl. Guiane 824. 1775.

Epidendrum papilionaceum Vahl in West,

Bidr. Beskr. St. Croix 303, 1793, nom.

illegit. et non Lamarck 1783. Psychilis

amena Rafinesque, Fl. Tellur. 4: 40.

1838 ("1836"), nom. illegit.

Encyclia papilionacea Schlechter,

Repert. Spec. Nov. Regni Veg. Beih. 6: 74.

1919. Encyclia bifida (Aublet) Britton

& Wilson, Bot. Porto Rico 6: 532. 1930.

Type: In the absence of any specimens

verifiable as type material, the

illustration cited by Aublet (Plumier,

Pl. Amer. 8: t. 186, f. 1. 1758),

is here designated as the lectotype.

Epidendrum ekmanii Mansfeld ex Urban, Ark.

Bot. 20A (15): 16. 1926. Encyclia

ekmanii (Mansfeld) Dod, Moscosoa 2(1):

15. 1983. Type: HAITI: NW peninsula,

Port-de-Paix, Saline-Michel, epiphyte, 16

May 1925, Ekman H4030 (holotype, B,

destroyed; lectotype, US; isotype, S).

Lectotype (US sheet number 1304879) here

designated.

PLANT epiphytic, to 1.6 m tall. ROOTS velamentous. PSEUDOBU LBS slender-pyriform to cylindrical, apically attenuate, to 10 cm long, 2.5 cm thick, to 3-leaved at apex. LEAVES rigid, linear-lanceolate, margin entire, subacute to acute, to 24 cm long, 1.8 cm wide. INFLORESCENCE to 1.5 m tall, peduncle erect, racemes erect, rachis to 18 cm long, to 25-flowered. FLORAL BR ACTS ovate, acute, to 1 mm long, 1 mm wide. PEDICEL to 2.5 cm long. SEPALS and PETALS pale rose-carmine. DORSAL SEPAL obovate to oblanceolate, subacute, to 1.5 cm long, 0.5 cm wide. LATERAL SEPALS elliptic, obtuse, mucronulate, to 1.5 cm long, 0.7 cm wide. PETALS oblanceolate, subacute, to

1.3 cm long, 0.3 cm wide. LABELLUM to 2.4 cm long and 2.4 cm wide, pale rose-carmine; lateral lobes ovate, obtuse, erect, embracing column; midlobe reniform emarginate, with a cordate, canaliculate callus, apex with two shallow teeth, basally broadly rounded; disc with 3 central and 2 lateral, undulate lamellae in front of callus. COLUMN to 1.2 cm long, 0.4 cm wide. CAPSULE ellipsoid to 2.0 cm long, 1.4 cm thick.

Distribution: Endemic to the xeric coastal regions of northern Haiti.

Flowers sporadically throughout the year, mainly from March to August.

Although this rare species occurs only in northern Haiti, the name has been misapplied to three different species. The most common misapplication (Lindley, 1853; Dressler, 1964; Withner, 1967) is to *Psychilis atropurpurea* (Willdenow) Sauleda, a species endemic to central Hispaniola. It has also been misapplied (Withner, 1967) to both *Psychilis monensis* Sauleda, a species endemic to Mona Island, and *Psychilis macconnelliae* Sauleda, a species endemic to southeastern Puerto Rico and the Virgin Islands. Vahl (1793) described the species from southeastern Puerto Rico and the Virgin Islands as *Epidendrum papilionaceum* but cited as the type the Plumier plate which typifies *Epidendrum bifidum* Aublet, thereby making *E. papilionaceum* a homotypic synonym of *E. bifidum*. The name *E. papilionaceum* has been misapplied by many authors. Cogniaux (1910) used it to include *P. bifida*, *P. macconnelliae*, *P. atropurpurea*, *P. correllii* Sauleda, endemic to St. Martin and St. Barthelemy, and *P. kraenzlinii* (Bello) Sauleda and *P. krugii* (Bello) Sauleda, both endemic to Puerto Rico. Britton and Wilson (1924) used the name to include *P. bifida*, *P. macconnelliae*, *P. kraenzlinii*, and *P. krugii*. Moscoño (1943) considered *E. bifidum* as a synonym of *Encyclia papilionacea* Schlechter. Urban (1926) described *Epidendrum ekmanii* based on an Ekman collection from the northern coast of Haiti. An examination of the type (Ekman H4030) clearly shows that the lateral lobes of the labellum are long and embrace the column, corresponding to the Plumier plate which typifies *E. bifidum*.

Vegetatively, this species may be confused with *Psychilis atropurpurea* and *Psychilis dodii* Sauleda. Florally, these three species differ significantly in the size and shape of the lateral lobes of the labellum. In *P. atropurpurea* and *P. dodii* the lateral lobes of the labellum are short and clasp the column on either side near the base, while in *P. bifida* the

lateral lobes of the labellum are considerably longer and embrace the column, extending over and almost concealing it.

3. Psychilis buchii (Cogniaux) Sauleda, comb. nov.

Basionym: Epidendrum buchii Cogniaux in Urban, Symb. Antill. 6: 501. 1910.
Encyclia buchii (Cogniaux) Dod, Moscosoa 2(1): 15. 1983. Type: HAITI: Near Gonaives, 250 m alt., s.d. Bush 836 (holotype, B, destroyed). In the absence of any of the originally cited material, the following specimen is here chosen as the neotype: HAITI: Vicinity of St. Michel de l'Atalaye, Depart. du Nord, 17 Nov 1925 (fl), Leonard 7108 (US).

PLANT epiphytic, to 72 cm tall. ROOTS velamentous. PSEUDOBULBS ovoid to pyriform, to 3.5 cm long, 2 cm thick, to 3-leaved at apex. LEAVES coriaceous, linear-lanceolate to ligulate, acute, margin minutely erose-dentate, to 14 cm long, 1.5 cm wide. INFLORESCENCE to 68.5 cm tall, peduncle arching, rachis to 2.5 cm long, to 12-flowered. FLORAL BRACTS lanceolate, acute to acuminate, to 3 mm long, 1 mm wide. PEDICEL to 2.4 cm long. SEPALS and PETALS green to greenish-yellow. SEPALS elliptic, subacute to acute, to 1.4 cm long, 0.5 cm wide. PETALS oblanceolate, obtuse, to 1.2 cm long, 0.3 cm wide. LABELLUM to 1.2 cm long, 1.2 cm wide; lateral lobes elliptic to orbicular, erect, concave, enclosing and concealing column, white to greenish-white with pale purple radiating lines or spots; midlobe flabellate to reniform, emarginate, with a cordate, canaliculate callus; disc with 5-8 rows of fleshy protuberances, white, sometimes with pale purple spots or streaks near base. COLUMN white, to 0.7 cm long, 0.3 cm thick. CAPSULE not observed.

Distribution: Endemic to the central mountain regions of Hispaniola.

Flowers sporadically throughout the year, mainly from October to March.

4. *Psychilis cogniauxii* (L.O. Williams) Sauleda,
comb. nov.

Basionym: *Epidendrum cogniauxii* L.O. Williams, Bot. Mus. Leaflet 6(7): 139. 1938. *Epidendrum christii* Cogniaux in Urban, Symb. Antill. 6: 695, 1910; non Reichenbach f. (1876). *Encyclia cogniauxii* (L.O. Williams) Dod, *Moscosoa* 2(1): 15. 1983. Type: HAITI: Near Dupety and Ranquette, 4 Sep 1909, Christ 2139 (holotype, B, destroyed; fragment of holotype at BR here designated as lectotype).

PLANT epiphytic, to 52 cm tall. ROOTS velamentous. PSEUDOBULBS pyriform to ellipsoid, to 4.6 cm long, 1.6 cm thick, to 2-leaved at apex. LEAVES rigid, linear-lanceolate, subacute, margin entire to minutely erose-dentate, to 18 cm long, 1.5 cm wide. INFLORESCENCE to 47.4 cm tall, peduncle arching, rachis to 2 cm long, to 15-flowered. FLORAL BRACTS lanceolate, acuminate, concave, to 3 mm long, 1 mm wide. PEDICEL to 1.5 cm long. SEPALS and PETALS yellow with reddish-brown lines, occasionally tipped with reddish-brown. DORSAL SEPAL oblanceolate, obtuse, to 0.9 cm long, 0.4 cm wide. LATERAL SEPALS obovate, subacute, to 0.8 cm long, 0.4 cm wide. PETALS spatulate, falcate, obtuse, occasionally mucronulate, to 0.9 cm long, 0.4 cm wide. LABELLUM to 1.0 cm long, 0.9 cm wide; lateral lobes elliptic, erect, enclosing and concealing column, yellow with reddish-brown radiating lines; midlobe flabellate, obcordate, with a cordate callus, bilobed in front, lobes acute; disc with 5 parallel rows of fleshy protuberances, white with purple radiating lines. COLUMN white, to 0.5 cm long, 0.2 cm thick. CAPSULE to 1.4 cm long, 0.6 cm thick.

Distribution: Endemic to central Hispaniola.

Flowers sporadically throughout the year, mainly from August to January.

This species was originally named *Epidendrum christii* by Cogniaux (1910), but the name had been previously used by Reichenbach filius in 1876 for a different species of *Epidendrum*. L.O. Williams (1938) renamed the species, *Epidendrum cogniauxii*, commemorating Cogniaux, the original author.

5. *Psychilis correllii* Sauleda, sp. nov. (Fig. 1B)

Plantae rhizomatosae; pseudobulbi gracili-pyriformes ad cylindrici; inflorescentia erecta; lobus medius labelli flabellatus, marginibus lateralibus recurvatis; lobus medius labelli callo cordato; discus labelli lamellis tribus ante callum.

Type: FRENCH WEST INDIES: St. Martin, Plum Bay, S of Marigot, 27 Sep 1982 (fl), Sauleda & Sauleda 7750 (holotype, NY; isotypes, F, FTG, K, MO, US, USF, W).

PLANT epilithic, rarely epiphytic, to 1.1 m tall. ROOTS velamentous to canescent. PSEUDOBULBS elongate, slender-pyriform to cylindric, to 11 cm long, 1.2 cm thick, to 3-leaved at apex. LEAVES rigid, ligulate, acute, margin entire to sparsely erose-dentate, to 27 cm long, 1.5 cm wide. INFLORESCENCE to 99 cm tall, peduncle erect, racemes erect, rachis to 7 cm long, to 30-flowered. FLORAL BRACTS broadly ovate, acute, to 2 mm long, 2 mm wide. PEDICEL to 2.4 cm long. SEPALs and PETALS rose-carmine, petals occasionally tipped with reddish-purple. DORSAL SEPAL oblanceolate, obtuse, to 1.7 cm long, 0.5 cm wide. LATERAL SEPALs elliptic to obovate, obtuse, to 1.7 cm long, 0.7 cm wide. PETALS ligulate to linear-oblanceolate, subacute, occasionally mucronulate, to 1.7 cm long, 0.4 cm wide. LABELLUM bright magenta or scarlet, to 1.8 cm long, 1.5 cm wide, lateral lobes orbicular, rounded, clasping column; midlobe flabellate, emarginate, lateral margins recurved, midlobe with a cordate, canaliculate callus, bilobed in front, lobes obtuse, with 2 shallow teeth, basally emarginate, basal lobes obtuse; disc with 3 parallel, undulate lamellae in front of callus, middle lamella white. COLUMN rose-carmine, to 1.3 cm long, 0.4 cm wide. CAPSULE ellipsoid, to 2.3 cm long, 1.0 cm thick.

Additional Specimens Examined: ST. BARTHELEMY: Morne Larigot, 19 Jun 1952 (fl), LeGallo 812 (NY); Merlette, 21 Apr 1954 (fl), LeGallo 2262 (NY); Le Rhin, 30 Jun 1938 (fl), Questel 360 (NY); Morne Saline, 29 Nov 1938 (fl), Questel 605 (US).

Distribution: Endemic to the coastal regions of St. Martin and St. Barthelemy. In low scrub from sea level to 100 m.

Flowers sporadically throughout the year, mainly from August to January.

There are reports of this species occurring on Saba as Epidendrum kraenzlinii Bello (Garay & Sweet, 1974) and on Saba, St. Eustatius, and St. Kitts as Epidendrum papilionaceum Vahl (Stehle, 1939). However, no

herbarium specimens are extant to support these reports. A careful search of Saba, St. Eustatius, and St. Kitts failed to corroborate these reports.

Psychilis correllii was incorrectly identified by Swartz (1806) as *Epidendrum bifidum* Aublet and as *Epidendrum papilionaceum*, a synonym of *E. bifidum*, by Stehle (1939). Garay and Sweet (1974) incorrectly referred this species to *Epidendrum kraenzlinii*.

Psychilis correllii is similar to *P. kraenzlinii* and can be confused with it. *Psychilis correllii* has a cordate callus on the midlobe of the labellum while *P. kraenzlinii* has an oblong callus. Additionally, *P. correllii* has three undulate lamellae on the disc of the labellum and the middle lamella is white. *Psychilis kraenzlinii* has only a single scarlet or magenta lamella on the disc of the labellum.

This species is named in honor of the late Dr. Donovan S. Correll (1908-1983).

6. *Psychilis dodii* Sauleda, sp. nov. (Fig. 2A)

Plantae rhizomatosae; pseudobulbi pyriformes ad ovoidei; folia margine integra; inflorescentia erecta; lobus medius labelli orbiculatus callo rhombico.

Type: DOMINICAN REPUBLIC: Vicinity of Constanza, along Rio Grande, 1.5 km SW of Nueva Suiza Hotel, 22 Aug 1982 (fl), Sauleda, Sauleda, Ragan & Dod 7524A (holotype, NY).

PLANT epiphytic, rarely epilithic, to 1.5 m tall. ROOTS velamentous. PSEUDOBULBS pyriform to ovoid, apically attenuate, to 12 cm long, 5.5 cm thick, to 3-leaved. LEAVES coriaceous, distichous, articulated with the leaf sheaths, lanceolate to linear-lanceolate, subacute to obtuse, margin entire, to 25 cm long, 3.5 cm wide. INFLORESCENCE to 1.4 m tall, peduncle erect, racemes erect, rachis to 5 cm long, to 12-flowered. FLORAL BRACTS ovate, acute, to 6 mm long, 3 mm wide. PEDICEL to 5.3 cm long. SEPALS and PETALS yellowish-brown, tipped with reddish-brown, reverse side of segments pale yellow to yellowish-brown. SEPALS elliptic, acute, to 2.5 cm long, 0.8 cm wide. PETALS spatulate to oblanceolate, subacute, occasionally mucronulate, to 2.3 cm long, 0.5 cm wide. LABELLUM to 3.1 cm long, 1.7 cm wide; lateral lobes elliptic, obtuse, concave, clasping column, yellowish-brown with reddish-brown radiating lines; midlobe orbicular, emarginate, with a rhombic,

canaliculate callus, apex terminating in two lateral erect parallel keels, joined by one smaller central keel on midlobe, callus white, basally and apically streaked with purple. COLUMN white, basally pale green, to 1.6 cm long, 0.6 cm wide. CAPSULE ellipsoid, to 2.0 cm long, 1.4 cm thick.

Additional Specimens Examined: DOMINICAN REPUBLIC: Vicinity of Constanza, 10 Apr - 15 May 1929 (fl), Abbott s.n. (US); Prov. San Cristobal, 2 km SW of Cambita, 11 km NW of DR2, 27 Aug 1982 (fl), Sauleda et al. 7631 (USF).

Distribution: Endemic to the Dominican Republic. In mesic forests from 275 to 1250 m.

Flowers sporadically throughout the year, mainly from October to March.

Vegetatively, P. dodii is similar to and may be confused with P. atropurpurea. Florally, these two species are distinct. Psychilis dodii has a rhombic callus on the midlobe of the labellum and an orbicular disc while P. atropurpurea has an oblong callus and an obovate disc.

This species is named in honor of Donald Dod curator of orchids at Jardin Botanico Nacional, Dr. Rafael M. Moscoso, Santo Domingo, Dominican Republic.

7. Psychilis domingensis (Cogniaux) Sauleda,
comb. nov.

Basionym: Epidendrum domingense Cogniaux in Urban, Symb. Antill. 6: 695. 1910.
Encyclia domingense (Cogniaux) Dod, Moscosoa 2(1): 15. 1983. Type: DOMINICAN REPUBLIC: Near Constanza, Tuerckheim 3090 (holotype, B, destroyed; fragment of holotype at BR here designated as lectotype; putative isotypes labeled with this collector and number at G, M, NY are a different species).

PLANT epiphytic to 61 cm tall. ROOTS slender, velamentous. PSEUDOBULBS ellipsoid to pyriform, to 6 cm long, 1.2 cm thick, to 3-leaved at apex. LEAVES coriaceous, rigid, linear-lanceolate, obtuse, emarginate, margin serrulate, slightly conduplicate, to 15 cm long, 1.5 cm wide. INFLORESCENCE to 55 cm tall, peduncle erect, rachis erect, to 2.0 cm long, inflorescence with up to 5 branches flowering at one time, to 6 flowers per rachis. FLORAL BRACTS ovate-triangular, acute, tightly appressed, to 5 mm

long. FLOWERS pedicellate, pedicel to 2.0 cm long. SEPALS and PETALS light yellowish-tan. SEPALS flat, oblong-ovate, subacute to obtuse, to 15 mm long, 4 mm wide. PETALS flat, spatulate, apex thickened, obtuse, to 14 mm long, 3 mm wide. LABELLUM deeply 3-lobed, basally adnate to column, to 11 mm long, 10 mm wide, lateral lobes narrowly-oblong, concave, papillose, with a deep sinus at base, apex slightly inflexed, with several pink radiating keels, midlobe unguiculate, obovate, emarginate, slightly reflexed at apex with several rose keels, with one central entire keel and several lateral branching keels, papillose-warty. COLUMN rose, slender, subterete below, canaliculate above, wider and thicker at apex, to 1.0 cm long. CAPSULE ellipsoid, to 1.7 cm long, 0.8 cm thick.

Additional Specimens Examined: DOMINICAN REPUBLIC: Cordillera Central, San Juan de la Maguana, el Guanito, Ramirez National Park, near entrance, Loma del Frio, 1000 m, collected 5 Dec 1984, flowered in cultivation, 18 Mar 1985, Dod 1033 (JBSD); San Jose de Ocoa, Rio del Canal, 1000 m, 3 Mar 1929, Ekman 11758 (AMES, S, US).

Distribution: Endemic to the Dominican Republic. In mesic forests from 1000 to 1250 m.

Flowers sporadically throughout the year, mainly from December to May.

Psychilis domingense is a rare high altitude species represented by three collections: Tuerckheim 3090 (BR, which is a fragment of the destroyed holotype, designated as the lectotype); Ekman 11758 (US, S), and Dod 1033 (JBSD) from Ramirez National Park. All of the other herbarium specimens identified as E. domingense, which we have examined, including the putative isotypes of E. domingense (G, M, NY) are a new species, Psychilis rubeniana, described below.

8. Psychilis kraenzlinii (Bello) Sauleda, comb. nov.

Basionym: Epidendrum kraenzlinii Bello, Anales Soc. Esp. Hist. Nat. 12: 116, t. 1, f. 1-3. 1883.

Type: PUERTO RICO: Isabela, (lectotype, Bello Anales Soc. Esp. Hist. Nat. 12: 116, t. 1, f. 1-3, 1883). Lectotypified by Garay & Sweet, (1974).

PLANT epiphytic or lithophytic, to 1.4 m tall.
ROOTS velamentous. PSEUDOBULBS elongated,

slender-pyriform to cylindrical, terete, to 16 cm long, 2.5 cm thick, to 3-leaved at apex. LEAVES rigid, linear to linear-lanceolate, subacute to acute, margin entire, rarely erose-dentate, to 25 cm long, 1.8 cm wide. INFLORESCENCE to 1.2 m tall, peduncle erect, racemes erect, rachis to 6 cm long, to 40-flowered. FLORAL BRACTS linear-lanceolate, acuminate, concave, to 1.4 cm long, 2 mm wide. PEDICEL to 2.5 cm long. SEPALS and PETALS bright magenta, scarlet or rose-carmine. DORSAL SEPAL to 2.0 cm long, 0.6 cm wide, obovate to oblanceolate, acute. LATERAL SEPALS to 2.0 cm long, 0.7 cm wide, obovate, acute. PETALS to 1.8 cm long, 0.5 cm wide, spatulate to oblanceolate, obtuse, occasionally mucronulate. LABELLUM to 2.1 cm long, 1.9 cm wide, bright magenta, scarlet or rose-carmine; lateral lobes elliptic to obovate, obtuse, erect, clasping column; midlobe pandurate, emarginate with an oblong, canaliculate callus, deeply bilobed in front, lobes rounded; disc with one central, undulate lamella in front of callus. COLUMN rose carmine, to 1.3 cm long, 0.5 cm wide. CAPSULE to 2.4 cm long, 1.3 cm thick.

Distribution: Endemic to Puerto Rico.

Flowers sporadically throughout the year, mainly from December to June.

This species has been incorrectly placed in synonymy with Epidendrum papilionaceum Vahl (Cogniaux, 1910) and Encyclia papilionacea Schlechter (Britton & Wilson, 1924), a homotypic synonym of E. bifidum.

This species has been erroneously considered synonymous with Epidendrum krugii Bello (Britton & Wilson, 1924), an error easily made when only casual examinations of herbarium specimens are made.

Psychilis kraenzlinii grows sympatrically in the Reserva Forestal Susua with Psychilis krugii (Bello) Saulea. Immature or nonreproductive plants of the two species may be confused, but florally these two species differ significantly in color, size, and shape of the callus on the midlobe of the labellum. The flowers of P. krugii are pale yellow or greenish-yellow to yellowish-brown while those of P. kraenzlinii are rose-carmine to scarlet. Psychilis krugii is smaller than P. kraenzlinii. Psychilis krugii has a cordate callus while P. kraenzlinii has an oblong callus. These two species hybridize and a large hybrid population, Psychilis x raganii Saulea, occurs in the Reserva Forestal Susua. The hybrid is easily distinguished from P. kraenzlinii by its smaller size and reddish-orange color. The callus is yellow or pale rose-carmine to white.

9. *Psychilis krugii* (Bello) Sauleda, comb. nov.

Basionym: *Epidendrum krugii* Bello, Anales Soc. Esp. Hist. Nat. 12: 117, t. 1, f. 4-7. 1883. *Encyclia krugii* (Bello) Britton & Wilson, Sci. Bot. Porto Rico 6: 532. 1930. Type: PUERTO RICO: Guanica (lectotype, Bello, Anales Soc. Esp. Hist. Nat. 12: t. 1, f. 4-7 1883). Lectotype here designated.

PLANT epiphytic or epilithic, to 2.2 m tall. ROOTS velamentous. PSEUDOBULBS elongate, slender-pyriform to cylindrical, to 27 cm long, 2.8 cm thick, to 4-leaved at apex. LEAVES rigid to coriaceous, ligulate to linear-lanceolate, subacute to obtuse, margin erose-dentate, rarely entire, to 41 cm long, 3.1 cm wide. INFLORESCENCE to 1.9 m tall, peduncle erect, racemes erect, rachis to 5 cm long, to 32-flowered. FLORAL BRACTS linear-lanceolate, acuminate, concave, to 9 mm long, 2 mm wide. PEDICEL to 2.4 cm long. SEPALS and PETALS pale yellow or green to yellow-brown, occasionally tipped with reddish-brown. SEPALS obovate to elliptic, to 1.4 cm long, 0.6 cm wide, acute to subacute. PETALS to 1.3 cm long, 0.4 cm wide, spatulate to oblanceolate, subacute, occasionally mucronulate. LABELLUM to 1.7 cm long, 1.5 cm wide; lateral lobes orbicular to obovate, broadly rounded, erect, clasping column, white with yellow to yellowish-brown radiating lines; midlobe obovate to pandurate, lateral margins recurved, midlobe with a cordate, deeply canaliculate callus, with two shallow teeth in front, basally cordate with lobes broadly rounded; disc white to yellow with discontinuous radiating pale purple lines, with 3 central parallel undulate lamellae in front of callus. COLUMN white or pale yellow, to 1.2 cm long, 0.6 cm wide. CAPSULE to 2.7 cm long, 1.4 cm thick.

Distribution: Endemic to southwestern Puerto Rico.

Flowers sporadically throughout the year, mainly from October to April.

This species has been incorrectly placed in synonymy with *Epidendrum papilionaceum* Vahl (Cogniaux, 1910) and *Encyclia papilionacea* Schlechter (Britton & Wilson, 1924), a homotypic synonym of *E. bifidum*. Additionally, this species has been considered synonymous with *E. kraenzlinii* (Britton & Wilson, 1924), an error easily made when only casual examinations of herbarium specimens are made.

In the Reserva Forestal Susua this species grows sympatrically and hybridizes with Psychilis kraenzlinii. The flowers of the hybrid, Psychilis x raganii Sauleda, are larger and are reddish-orange with a yellow, white or pale-rose carmine callus.

10. Psychilis macconnelliae Sauleda, sp. nov.
(Fig. 2B)

Plantae rhizomatosae; pseudobulbi pyriformes ad cylindrici; inflorescentia erecta; lobus medius labelli flabellatus vel reniformis; callus in lobo medio labelli sub columna cordatus; discus labelli lamellis tribus.

Type: U.S. VIRGIN ISLANDS: Water Isle, on NE side, 29 Sep 1982 (fl), Sauleda, Sauleda & Phillips 7785 (holotype, NY; isotypes, FTG, US, USF).

PLANT epilithic or epiphytic, to 2.3 m tall. ROOTS velamentous or canescent. PSEUDOBULBS pyriform to cylindrical, apically attenuate, to 18 cm long, 12.5 cm thick, to 3-leaved at apex. LEAVES rigid to coriaceous, lanceolate to linear-lanceolate, margin entire or minutely erose-dentate, acute to obtuse, to 28 cm long, 3 cm wide. INFLORESCENCE to 2.1 m tall, peduncle erect, racemes erect, rachis to 14 cm long, to 55-flowered. FLORAL BRACTS lanceolate, acute to acuminate, to 4 mm long, 2 mm wide. PEDICEL to 3.0 cm long. SEPALS AND PETALS pale green, yellow, yellowish-brown or pale lavender, tipped with reddish-brown or reddish-purple. SEPALS oblanceolate to elliptic, subacute, to 2.1 cm long, 0.7 cm wide. PETALS spatulate to oblanceolate, obtuse, mucronulate, to 2.0 cm long, 0.6 cm wide. LABELLUM to 2.8 cm long, 2.6 cm wide; lateral lobes orbicular to obovate, erect, clasping column, yellowish-brown with yellow radiating lines or pale lavender with dark lavender radiating lines; midlobe flabellate or reniform, emarginate, pale to dark lavender, with a cordate, canaliculate callus, bilobed in front, lobes with 2-3 shallow teeth, basally bilobed with lobes acute; disc with 3 thick parallel lamellae in front of callus, middle lamella basally white becoming reddish-purple towards apex, 2 lateral lamellae reddish-purple. COLUMN white or pale lavender, to 0.9 cm long, 0.6 cm wide. CAPSULE ellipsoid, to 3.2 cm long, 1.6 cm thick.

Additional Specimens Examined: PUERTO RICO: Santurce, 10 Jan 1899 (fl), Armour 277 (NY); Icacos Island, 30 Jan 1923 (fl), Britton 7173 (NY); Playa de Fajardo, 2-6 Mar 1913 (fl), Britton & Shafer 1568 (US); Culebra Island, 3-12 Mar 1906 (fl), Britton & Wheeler 1 (NY); Culebrita Island, 3-12 Mar 1909 (fl), Britton & Wheeler s.n. (NY); Vieques Island, 1 mi W of Naval Ammunition Facility H.Q., 2 Jun 1978 (fl), Fosberg 57513 (US); Fajardo, 8 Apr 1899 (fl) Heller & Heller 1000 (NY, US); Santurce, 3 Jun 1899 (fl), Heller & Heller 1417 (NY); Icacos Island, 4 Jul 1913 (fl), Johnston 796 (NY); Vieques Island, Banario Publico Sunbay, La Esperanza area, at Playa Media Luna, 27 Nov 1981 (fl), Sauleda et al. 6940 (F, FTG, MO, NY, US, USF); Palmas del Mar, Punta Guayanes, 6 mi NE of Yabucoa, 1 Dec 1981 (fl), Sauleda et al. 6997 (FTG, NY, US, USF); Vieques Island, Banario Publico Sunbay, La Esperanza area, at Playa Media Luna, 5 Nov 1983, Sauleda et al. 8494 (USF); Vieques Island, Cayo Puerto Real, 7 Feb 1914 (fl), Shafer 2777 (NY, US); Vieques Island, Cerro Ventana, 20-21 Feb 1914 (fl), Shafer 2967A (NY, US); Vieques Island, Puerto Medio to Salina, 24-25 Feb 1914 (fl), Shafer 3028 (NY, US).

VIRGIN ISLANDS: Anegada, west end, 19-20 Feb 1913 (fl), Britton & Fishlock 967 (F, NY, US); Virgin Gorda, near valley, 21 Feb 1913 (fl), Britton & Fishlock 1112 (NY, US); St. Thomas, Cowell Point, 21 Jan-4 Feb 1913 (fl), Britton et al. 82 (NY, US); St. Thomas, Water Isle, 31 Jan-4 Feb 1913 (fl), Britton et al. 136 (NY, US); St. Croix, W side of ridge above Cottogarden Point, 19 Jul 1970 (fl), D'Arcy 4703 (US); Anegada, near Setting Point, 30 Jul 1970 (fl), D'Arcy 4827 (NY); St. Thomas, Aug 1881 (fl), Eggers s.n. (US); St. Croix, Sandy Point, 1 mi SW of Frederiksted, 25 Sep 1982 (fl), Sauleda et al. 7712 (FTG, MO, NY, USF); St. Croix, East Point, along road, 25 Sep 1982 (fl), Sauleda et al. 7734 (USF); St. Thomas, N side of island, behind Charlotte Amalie, 29 Sep 1982 (fl), Sauleda & Sauleda 7788 (USF); Tortola, 18-21 Feb 1913 (fl), Shafer 1169 (NY).

Distribution: Endemic to eastern Puerto Rico and the Virgin Islands. In xeric coastal regions from sea level to 100 m.

Flowers sporadically throughout the year, mainly from March to August.

From island to island *P. macconnelliae* varies in the color of the floral segments, the shape of the petals, and the shape of the lateral lobes and disc of the labellum. Each island has a distinctive form. However, diagnostic characters, especially those

involved in the pollination mechanism, (e.g., shape and position of the callus on the midlobe of the labellum, the number and color of the lamellae on the disc of the labellum) do not vary. The geographic variation displayed by this species requires the examination of many specimens from each locality in order to delimit the species properly.

This species is named in honor of Mrs. Herbert S. McConnell of St. Thomas, U.S. Virgin Islands.

Epidendrum papilionaceum was a name given to this species. However, the type designated had been used previously for Epidendrum bifidum Aublet, thereby making E. papilionaceum a synonym of E. bifidum and requiring that a new epithet be established. This species was incorrectly referred to Epidendrum bifidum Aublet, a distinct species from Haiti, by Swartz (1806), Lindley (1836) and Eggers (1882).

11. Psychilis monensis Sauleda, sp. nov.

Plantae in Insula Mona endemicae; pseudobulbi pyriformes ad cylindrici; inflorescentia erecta; lobus medius labelli flabellatus vel reniformis; callus in lobo medio labelli sub columna cordatus; discus labelli lamellis tribus ante callum.

Type: PUERTO RICO: Mona Island, Sardinera, 20-26 Feb 1914 (fl), Britton, Cowell & Hess 1663 (holotype, NY; isotype, US).

PLANT epilithic or epiphytic, to 1.3 m tall. ROOTS velamentous or canescent. PSEUDOBULBS slender-pyriform to cylindric, to 10 cm long, 1.5 cm thick, to 3-leaved at apex. LEAVES rigid, lanceolate to ligulate, subacute, margin entire, to 18 cm long, 2.0 cm wide. INFLORESCENCE to 1.2 m tall, peduncle erect, racemes erect, rachis to 17 cm long, to 70-flowered. FLORAL BRACTS ovate, acute, to 3 mm long, 2 mm wide. PEDICEL to 3.0 cm long. SEPALS and PETALS pale lavender or green tinged with lavender. DORSAL SEPAL oblanceolate, subacute, to 1.6 cm long, 0.5 cm wide. LATERAL SEPALS elliptic, subacute, to 1.8 cm long, 0.6 cm wide. PETALS spatulate to oblanceolate, obtuse, mucronulate, to 1.6 cm long, 0.3 cm wide. LABELLUM to 2.2 cm long, 1.8 cm wide; lateral lobes orbicular to obovate, broadly rounded, concave, erect, clasping column, pale lavender with dark purple radiating lines; midlobe obovate, deeply emarginate, with a small cordate canaliculate callus, callus

bilobed in front, lobes with 1-3 teeth, basally bilobed with lobes subacute; disc with 3 central parallel undulate lamellae in front of callus, pale lavender with dark purple radiating lines. COLUMN white or pale lavender, to 1.1 cm long, 0.4 cm wide. CAPSULE 2.0 cm long, 1.3 cm thick.

Additional Specimens Examined: PUERTO RICO: Mona Island, 20-21 Dec 1913 (fl), Stevens 6220 (NY), 6222 (NY), 6223 (NY), 6446 (NY).

Distribution: Endemic to Mona Island.

Flowers sporadically throughout the year mainly from December to March.

This species was erroneously referred to *Encyclia bifida* (Swartz) Britton & Wilson by Britton & Wilson (1924).

12. *Psychilis olivacea* (Cogniaux) Sauleda, comb. nov.

Basionym: *Epidendrum olivaceum* Cogniaux in Urban, Symb. Antill. 6: 506. 1910.
Encyclia olivacea (Cogniaux) Beckner,
Phytologia 20: 217. 1970. Type:
 DOMINICAN REPUBLIC: Savana de Guaina Moca, 20 Jun 1887 (fl), Eggers 2554 (holotype, B, destroyed; fragment of holotype at BR, which includes an illustration by Cogniaux, here designated as lectotype; isotypes, BM, BR, C, L, M).

Epidendrum bifidum Lindley ex Reichenbach
 f., Hamb. Gartenz. 15: 52. 1859.

Epidendrum brittonianum A. D. Hawkes,
Orquidea 18: 168. 1957. Type: DOMINICAN
 REPUBLIC: Santo Domingo, flowered in cultivation, s.d., (holotype, W).

PLANT epiphytic, rarely epilithic, to 62 cm tall. ROOTS velamentous. PSEUDOBULBS slender-pyriform, to 8 cm long, 2 cm thick, to 4-leaved at apex. LEAVES coriaceous, linear-lanceolate to lanceolate, acute, margin erose-dentate to entire, to 27 cm long, 2.3 cm wide. INFLORESCENCE to 54 cm tall, peduncle arching, rachis to 2 cm long, to 12-flowered. FLORAL BRACTS ovate, acute to acuminate, concave, to 6.0 cm long, 2 mm wide. PEDICEL to 2.6 cm long. SEPALS AND PETALS yellow to reddish-orange. DORSAL SEPAL elliptic, subacute, to 1.4 cm long, 0.7 cm wide. LATERAL SEPALS broadly elliptic, subacute, to 1.6 cm long, 0.9 cm wide. PETALS elliptic to obovate, obtuse, to 1.4 cm long, 0.5 cm wide. LABELLUM to 2.0 cm long, 1.7 cm

wide; lateral lobes elliptic, erect, enclosing and concealing column, dark red; midlobe obovate, emarginate, midlobe with a broad flattened callus, with 4 shallow lateral grooves, callus red with a central broad lateral yellow band; disc red, obovate to pandurate, emarginate, provided with up to 9 parallel undulate lamellae in front of callus. COLUMN white or light rose-carmine, becoming darker towards apex, to 1.2 cm long, 0.4 cm wide. CAPSULE to 2.1 cm long, 1.4 cm thick.

Distribution: Endemic to Hispaniola.

Flowers sporadically throughout the year, mainly from December to April.

In the vicinity of Boca de Yuma, Dominican Republic, P. olivacea occurs sympatrically with Laeliopsis domingensis Lindley ex Lindley & Patton with which it hybridizes.

13. Psychilis rubeniana Dod, sp. nov. (Fig. 1A)

Plantae epiphyticae, raro epilitticae, rhizomatosae, usque ad 68 cm altae. Radices velamentae. Pseudobulbi gracili-pyriformes ad cylindrici, rugosi. Folia 1-2, rigitentia, leviter conduplicata, ligulato-lanceolata, margine eroso-serrulata, acuta vel rotundata, apice obliqua tenuiter apiculata. Inflorescentia erecta, rachis primum simplices, demum ramificantes, bractee triangularia, basi rachis cingens. Flores fragrantis per diem, nutantes, sub-patula, ovaria pedicillata 10-12 mm longa. Sepala luteo-viridia, equilonga, transverse revoluta, longistrorsum, tenuiter concava; posticum lineari-obvatum, obtusum, extus apicem versum tenuiter carinatum, margine exile, 9-nervatum, 15.0 mm longum, 5.0 mm latum; lateralia tenuiter obliqua, carinata, elliptico-obovata, obtusa, margine exilia, 8-10 nervata, 13.3 mm longa, 5.4 mm lata. Petala luteo viridia, tenuiter obliqua, apicem versus carinata, spatulata, apice rotundata, 5-nervata, 12.5 mm longa, 3.8 mm lata. Labellum obovatum, trilobatum, 14.4 mm longum, lobi laterales lutei, concavi, margine supra ad columnam connati basim supra 4.0 mm, columnam amplectentes, obliqui, ovati, obtusi, extus glabrum, intus carinis tritius magenteis auctis, inter lobum medium sinus angustus, 5.0 mm longus, lobum medium candidissimum, unguiculatum, flabellatum, emarginatum, sinus 1.8 mm longo, apicem versus carinis magenteis, novem, verrucosis, 9 mm latum, basi lamina 2.5 mm longa, 1.9 mm lata, magentea, elevata, plana, apice,

dentata. Columna basi virella, apice candida, clavata, clinandrium incisura duo maculata magentea, 7.7 mm longa, 3.1 mm lata, anthera recumbente, magentea, stigma luneta, rostellum cereum, 1.4 mm latum.

Type: DOMINICAN REPUBLIC: Central Plain, Santo Domingo, SE of Central Ozama sugar mill, Agrarian Reform Farm, near Yabacao River, many plants growing on an old branch of a Saman tree, elev. 20 m, collected Nov 1984, flowered in cultivation, 1986, Dod 1430 (holotype, JBSD; isotypes, AMES, MO, NY, SEL, UC, US).

PLANT epiphytic, rarely epilithic, to 68 cm tall. ROOTS velamentous. PSEUDOBULBS elongate-slender pyriform, to 6.0 cm long, 1.4 cm thick, 2-leaved at apex. LEAVES rigid, linear, slightly conduplicate, finely erose-serrate, acute to rounded, apex oblique apiculate, to 18 cm long, 1.8 cm wide. INFLORESCENCE to 62 cm tall, peduncle erect, rachis erect, branching in successive flowerings, to 1.5 cm long, branches to 2.0 cm long, up to 6 flowers open at one time. FLORAL BRACTS lanceolate, acute to acuminate, to 3.0 mm long, 1.0 mm wide. PEDICEL to 2.0 cm long. SEPALS and PETALS green to yellowish-brown. SEPALS elliptic to oblanceolate, acute to subacute, to 1.8 cm long, 9.0 mm wide. LABELLUM deeply 3-lobed, to 1.4 cm long, 1.4 cm wide; lateral lobes elliptic, erect, concave, clasping column, yellow with radiating magenta lines; midlobe obovate, emarginate, rounded, with narrow, shallow, oblong, canaliculate callus, bilobed in front, lobes rounded; disc white with radiating magenta lines, with 3-9 undulate keels in front of callus. COLUMN white, basally green, to 7 mm long, 3 mm wide; anther magenta, recumbent; stigma semi-circular; rostellum yellow. CAPSULE to 1.8 cm long, 0.8 cm thick.

Additional Specimens Examined: DOMINICAN REPUBLIC: Prov. Santo Domingo, near KM 28, Duarte Highway towards Haine River, Sabana de Santa Rosa, 11 Oct 1947 (fl), Allard 16031 (US); N of Bayaguana Mata-Santiago, Finca Los Georgi, 21 Nov 1975 (fl), Dod s.n. (NY); Prov. Santo Domingo, at Manielito, 22 Jan 1929 (fl), Ekman 11288 (US); Distrito Nacional Villa Mella, Sierra Prieta, 12 Dec 1964 (fl), Lavastre 1825 (NY); about 5 mi N of Bayaguana, 21 Nov 1970 (fl), Liohier 17681 (NY); Distrito Nacional, Santo Domingo, 0.6 km N of DR 1, 1.6 km NE of Ozama River, 19 Aug 1982 (fl), Sauleda et al. 7419 (USF); San Lorenzo, Samana Bay, 29-30 Oct 1909 (fl), Taylor 104 (NY); without locality, Jan - Mar 1871 (fl), Wright 661 (US).

Distribution: Endemic to eastern Dominican Republic. In mesic forests from sea level to 200 m.

Flowers sporadically throughout the year, mainly from December to May.

This species was misidentified by Cogniaux (1910) as Epidendrum domingense Cogniaux.

This species is named in honor of Ruben P. Sauleda who has taken the initiative to study this genus which has confused taxonomists and amateur orchid collectors.

14. Psychilis truncata (Cogniaux) Sauleda, comb. nov.

Basionym: Epidendrum truncatum Cogniaux in Urban, Symb. Antill. 6: 496. 1910.
Encyclia truncata (Cogniaux) Beckner, Phytologia 20: 217. 1970. Type: DOMINICAN REPUBLIC: Near El Puerto, 2 Jun 1887, Eggers 2310 (holotype, B, destroyed; fragment of holotype, which includes an illustration by Cogniaux, at BR here designated as lectotype).

Epidendrum eggersii Cogniaux in Urban, Symb. Antill. 6: 496. 1916. Type: DOMINICAN REPUBLIC: In Savana de Buena Moca, 20 Jun 1887 (fl), Eggers 2553 (holotype, B, destroyed; fragment of holotype at BR, which includes an illustration by Cogniaux, here designated as lectotype; isotypes, BM, L, M).

PLANT epiphytic, rarely epilithic, to 75 cm tall. ROOTS velamentous. PSEUDOBULBS slender-ovoid, to 5 cm long, 1.4 cm thick, to 2-leaved at apex. LEAVES coriaceous, linear-lanceolate to ligulate, acute, margin erose-dentate, to 21 cm long, 1.4 cm wide. INFLORESCENCE to 70 cm tall, peduncle erect, racemes erect, rachis to 4 cm long, to 18-flowered. FLORAL BRACTS ovate, acute, to 3 mm long, 1 mm wide. PEDICEL to 1.4 cm long. SEPALS and PETALS pale green or yellow to reddish-brown, usually with darker reddish-brown lines or suffusion towards the apex. SEPALS orbicular to obovate, subacute to obtuse, to 0.9 cm long, 0.5 cm wide. PETALS spatulate, obtuse, mucronulate, to 0.8 cm long, 0.3 cm wide. LABELLUM to 0.8 cm long, 1.0 cm wide; lateral lobes orbicular, erect, oriented away from column, yellow with reddish-purple radiating lines, occasionally suffused with purple toward apex; midlobe obovate, mucronulate, midlobe with a broad flattened callus, involute, apex erose-dentate; disc white with reddish-purple lines or purple with darker

reddish-purple lines, obovate, lateral margins slightly revolute or forming a tube or two tubes, disc provided with 3 parallel undulate lamellae in front of callus. COLUMN white or rose-carmine, to 0.7 cm long, 0.3 cm wide. CAPSULE 1.8 cm long, 1.2 cm thick.

Distribution: Endemic to Hispaniola.

Flowers sporadically throughout the year, mainly from August to March.

Examination of the fragments of the holotypes at BR, including drawings made by Cogniaux of the floral segments of Epidendrum eggertii and Epidendrum truncatum, unequivocally demonstrates their conspecificity. Both names were simultaneously published by Cogniaux (1910). Dod (1983), the first to combine the two species, adopted E. truncatum, rejecting E. eggertii.

15. Psychilis vernicosa (Dod) Sauleda, comb. nov.

Basionym: Encyclia vernicosa Dod, Moscosoa

2(1): 2. 1983. Type: DOMINICAN

REPUBLIC: Prov. de Pedernales, Cabo Rojo,

Sierra Baoruco, elev. 1100 m, collected 10

Dec 1978, flowered in cultivation 5 Mar

1979, Dod 698 (holotype, JBSD;

isotypes, AMES, NY, SEL, US).

PLANT epiphytic, to 38 cm tall. ROOTS velamentous. PSEUDOBULBS pyriform, to 1.5 cm long, 1 cm thick, to 2-leaved at apex. LEAVES rigid, ligulate to linear-lanceolate, subacute, margin entire to minutely erose-dentate, to 17 cm long, 1.2 cm wide. INFLORESCENCE to 36.5 cm tall, peduncle arching, racemes erect, rachis to 1.5 cm long, to 8-flowered. FLORAL BRACTS ovate, acute, to 2 mm long, 1 mm wide. PEDICEL to 1.4 cm long. SEPALS AND PETALS yellowish-brown to brownish-orange. DORSAL SEPAL oblanceolate, obtuse, to 1.4 cm long, 0.5 cm wide. LATERAL SEPALS obovate to elliptic, subacute to obtuse, 1.3 cm long, 0.5 cm wide. PETALS oblanceolate, obtuse, to 1.2 cm long, 0.3 cm wide. LABELLUM to 1.2 cm long, 0.9 cm wide, lateral lobes elliptic, acute, concave, clasping column, white; midlobe obovate to flabellate, with a cordate deeply canaliculate callus, with two shallow teeth in front, basally cordate, lobes obtuse; disc white, with pale purple spots or streaks in front of callus. COLUMN white, to 0.9 cm long, 0.3 cm thick. CAPSULE not observed.

Distribution: Endemic to southwestern Dominican Republic.

Flowers sporadically throughout the year, mainly from December to March.

Vegetatively P. vernicosa resembles P. truncata (Cogniaux) Saulea. Florally these two species are distinct. Psychilis vernicosa has a cordate callus on the midlobe of the labellum and no lamellae or keels on the disc of the labellum, while P. truncata has a broad flattened callus with an involute apex and three undulate lamellae on the disc.

The following two natural interspecific hybrids are found.

1. Psychilis x raganii Saulea, hybr. nov.

Psychilis kraenzlinii (Bello) Saulea X
Psychilis krugii (Bello) Saulea

Hybrida naturalis Psychili kraenzlinii magis similis. A P. kraenzlinii differt callo in lobo medio labelli sub columna basaliter latiore. Callus aurantiacus vel albus; lamella media in disco labelli cerina.

Type: PUERTO RICO: Reserva Forestal Susua, 2.5 mi ESE of Sabana Grande, 23 Sep 1982 (fl),
Saulea, Saulea & Ragan 7664 (holotype, NY).

PLANT epiphytic or epilithic, to 1.5 m tall. ROOTS velamentous to canescent. PSEUDOBULBS elongate, slender-pyriform to cylindrical, terete, to 10 cm long, 1 cm thick, to 2-leaved at apex. LEAVES rigid, ligulate, subacute to obtuse, margin erose-dentate, to 20 cm long, 1.5 cm wide. INFLORESCENCE to 1.4 m tall, peduncle erect, racemes erect, rachis to 5 cm long, to 27-flowered. FLORAL BRACTS ovate, acute to acuminate, to 0.7 cm long, 2 mm wide. PEDICEL to 2.6 cm long. SEPALS and PETALS scarlet to orange. DORSAL SEPAL to 1.9 cm long, 0.5 cm wide, oblanceolate, subacute. LATERAL SEPALS to 1.9 cm long, 0.6 cm wide, elliptic to oblanceolate, subacute. PETALS to 1.8 cm long, 0.5 cm wide, spatulate, obtuse, occasionally mucronulate and tipped with reddish-purple. LABELLUM to 2.0 cm long, 1.8 cm wide; scarlet to orange; lateral lobes elliptic, obtuse, erect, clasping column; midlobe pandurate,

emarginate, with a yellow or orange, canaliculate callus, shallowly bilobed in front, lobes with 2 shallow teeth, basally emarginate with lobes broadly rounded; disc with 3 parallel undulate lamellae in front of callus, middle lamella usually yellow. COLUMN basally rose-carmine, apex yellow to orange, to 1.3 cm long, 0.5 cm wide. CAPSULE not observed.

Additional Specimens Examined: PUERTO RICO: Reserva Forestal Susua, 2.5 mi ESE of Sabana Grande, 23 Sep 1982 (fl), Sauleda et al. 7661 (FTG, USF), 7662 (USF), 7663 (USF).

Distribution: Endemic to Puerto Rico. In xeric forests from 200 to 350 m.

Flowers sporadically throughout the year, mainly from December to May.

This natural hybrid is abundant and easily recognized. Florally it is similar to *Psychilis kraenzlinii* (Bello) Sauleda but is smaller in size and has a reddish-orange color. The callus on the midlobe of the labellum of the hybrid is yellow or pale rose-carmine to white and basally broader.

This natural hybrid is named in honor of Marv E. Ragan of Orange Park, Florida.

2. *Psychilis x tudiana* (Dod) Sauleda, comb. nov.

Psychilis truncata (Cogniaux) Sauleda X
Psychilis atropurpurea (Willdenow) Sauleda.

Basionym: *Encyclia x tudiana* Dod, Moscosoa 1(2): 141, f. 2. 1977. Type: DOMINICAN REPUBLIC: Along roadside from Descubierta to Guayabal, near Lago Enriquillo, collected 7 Jul 1974, flowered 10 Nov 1976, Dod 581 (holotype, SDM).

PLANT epiphytic, to 1.2 m tall. ROOTS velamentous. PSEUDOBULBS elongate, slender-pyriform to cylindrical, to 6 cm long, 1.6 cm thick, to 3-leaved at apex. LEAVES rigid, ligulate to linear-lanceolate, subacute, margin erose-dentate, to 28 cm long, 1.6 cm wide. INFLORESCENCE to 1.1 m tall, peduncle erect, racemes erect, rachis to 6 cm long, to 12-flowered. FLORAL BRACTS lanceolate, acuminate, to 6 mm long, 2 mm wide. PEDICEL to 3.0 cm long. DORSAL SEPAL oblanceolate, subacute, to 2.0 cm long, 0.6 cm wide. LATERAL SEPALS elliptic, acute, to 2.0 cm long, 0.6 cm wide. PETALS oblanceolate, obtuse, to 1.8 cm long, 0.3 cm wide. LABELLUM to 1.8 cm long, 1.5 cm wide; lateral lobes

orbicular to obovate, obtuse, concave, clasping column; midlobe obovate, lateral margins recurved forming a tube, midlobe with a broad flattened involute callus, margin erose; disc with 3 parallel undulate lamellae in front of callus. COLUMN to 1.0 cm long, 0.4 cm thick. CAPSULE not observed.

Distribution: Southwestern Dominican Republic.

Flowers in November.

This natural hybrid is known only from the type collection from the western side of the Cordillera Central near the Haitian border in the Sierra del Baoruco. It was collected along the road from Descubierta to Guayabal not far from Lago Enriquillo.

Encyclia x tudiana was described as a natural hybrid of Encyclia truncata (Cogniaux) Dod and Encyclia bifida (Swartz) Britton & Wilson. Dod misapplied the name E. bifida to material of Psychilis atropurpurea (Willdenow) Saulea, an abundant species which is sympatric with the hybrid.

Psychilis x tudiana is florally and vegetatively intermediate between the parental species. The lateral margins of the disc of the labellum of the hybrid are revolute, a characteristic occurring only in forms of P. truncata which are sympatric with the hybrid.

The following intergeneric hybrid between Laeliopsis and Psychilis is found.

X Laelichilis Saulea, *hyb. gen. nov.*

Laeliopsis Lindley ex Lindley & Paxton X
Psychilis Rafinesque

X Laelichilis yumanensis (Withner) Saulea, *comb. nov.*

Basionym: X Epilopsis yumanensis Withner, *Amer. Orchid Soc. Bull.* 40: 1085. 1971.

(Laeliopsis domingensis Lindley X
Psychilis olivacea (Cogniaux) Saulea

Type: DOMINICAN REPUBLIC: Vicinity of Boca de Yuma, 1967, Osment s.n. (holotype, AMES).

PLANT epiphytic, to 50 cm tall. ROOTS velamentous. PSEUDOBULBS pyriform to ellipsoid, to 4 cm long, 2.5 cm wide, to 3-leaved at apex. LEAVES rigid to coriaceous, ligulate, subacute, margin erose-dentate, to 14 cm long, 2.0 cm wide. INFLORESCENCE to 46 cm long, peduncle arching, rachis to 2.5 cm long, to 8-flowered.

FLORAL BRACTS lanceolate, acute, concave, to 3 mm long, 1 mm wide. PEDICEL to 2.3 cm long. SEPALS and PETALS pale lavender. SEPALS lanceolate to elliptic, acute, to 2.2 cm long, 0.8 cm wide. PETALS obovate, obtuse, to 2.0 cm long, 1.0 cm wide. LABELLUM lavender with a yellow patch near base under column, 3-lobed, basally adnate to column; lateral lobes with dark lavender radiating lines, ovate, obtuse; midlobe obovate to orbicular, emarginate, margin crenulate, callosity under column is 2 lateral, erect keels; disc with 5-9 parallel rows of fleshy protuberances. COLUMN to 1.0 cm long, 0.4 cm thick. CAPSULE not observed.

Distribution: Endemic to southwestern Dominican Republic.

Flowers from September to November.

This intergeneric natural hybrid is known only from the type collection from the vicinity of Boca de Yuma in southeastern Dominican Republic. A single plant was first discovered by William Osment of Hollywood, Florida in 1967 and recollected (no herbarium specimens made) in the same area by Donald Dod (orchid curator, SDM) and Carl Withner in 1969. The plants were discovered growing among the parent species high in large roadside trees. This hybrid has also been produced experimentally and verifies the parental species (Dod, pers. comm.).

LITERATURE CITED

- Ames, O. and D. S. Correll, 1952. Orchids of Guatemala. *Fieldiana, Bot.* 26: 1-395.
- Ames, O., F. T. Hubbard & C. Schweinfurth, 1936. The Genus *Epidendrum* in the United States and Middle America. Botanical Museum, Harvard University, Cambridge.
- Britton, N. L. & P. Wilson, 1924. Scientific Survey of Porto Rico and the Virgin Islands, Orchidaceae 5: 180-217. New York Academy of Sciences.
- Cogniaux, C. A., 1898. Orchidaceae II. In C.F.P. von Martius, *Flora Brasiliensis* 3(5): 1-188. Muenchen, Wien, Leipzig.
- Cogniaux, C. A., 1910. Orchidaceae. In: I. Urban, *Symbolae Antillanae* 6: 293-696. Borntrager, Leipzig..
- Dod, D. D., 1983. Orquideas (Orchidaceae) nuevas para la Espanola y otras notas. IV. *Moscosa* 2(1): 2-18.
- Dressler, R. L., 1961. A reconsideration of *Encyclia* (Orchidaceae). *Brittonia* 13: 253-266.

- Dressler, R. L., 1964. Nomenclatural notes on the Orchidaceae II. *Taxon* 13(6): 245-249.
- Dunsterville, G. C. K. and L. A. Garay, 1979. Orchids of Venezuela. Harvard University Printing Office, Allston.
- Eggers, Baron H. F. A., 1882. The Flora of St. Croix and the Virgin Islands. *Bulletins of the United States National Museum*, II(13). Washington.
- Garay, L. A. and H. R. Sweet, 1974. The Orchidaceae. In: R. A. Howard, *Flora of the Lesser Antilles*. Arnold Arboretum, Harvard University, Jamaica Plain.
- Hamer, F., 1974. The Orchids of El Salvador. Ministerio de Educacion, Direccion de Publicaciones, San Salvador.
- Hoehne, F. G., 1952. Lista preliminar das especies do genero Encyclia Hooker para Coutrole. *Arq. Bot. Estado Sao Paulo*. 2: 147-156.
- Hooker, W. J., 1828. Encyclia viridiflora Hooker. *Bot. Mag.* 55: pl. 2831.
- Lindley, J., 1853. *Folia Orchidacea*. J. Matthews, London.
- Linnaeus, C., 1763. *Species Plantarum*, ed. 2. Stockholm.
- Moscoso, R. M., 1943. *Catalogus Florae Domingensis*. New York.
- Pabst, G. F., J. L. Moutinho and A.V. Pinto, 1981. An attempt to establish the correct statement for genus Anacheilium Hoffmannsegg and revision of the genus Hormidium Lindley ex Heynhold. *Bradea* 3(23): 173-186.
- Rafinesque, C. S., 1838 "1836". *Flora Telluriana*. H. Probasco, Philadelphia.
- Schlechter, R., 1914. *Die Orchideen*. Paul Parey, Berlin.
- Stehle, H., 1939. *Flore Descriptive des Antilles Francaises*, 1. Les Orchidales. Imprimerie Officielle de la Martinique, Fort-de-France.
- Swartz, O. P., 1799. Stelis. *J. Bot. (Schrader)* 2(4): 239.
- Swartz, O. P., 1799a. Dendrobium. *Nova Acta Regiae Soc. Sci. Upsal.* 6: 82.
- Swartz, O. P., 1800. Oncidium. *Kongl. Vetensk. Acad. Nya Handl.* 21: 239.
- Swartz, O. P., 1806. *Flora Indiae Occidentalis*, III. Erlangen.
- Urban, I., 1926. *Plantae Haitienses novae vel rariores* III. a cl. E. L. Ekman 1924-26 lectae. *Ark. Bot.* 20A(15): 14-19.

- Vahl, M., 1793. Gynandria (Orchidaceae). In: Hans West, Bidrag til Beskrivelse over St. Croix, med en Kort Udsigt over St. Thomas, St. Jean, Tortola, Spanishtown og Crabeneiland. Copenhagen.
- Williams, L. O., 1938. Orchid studies X. Bot. Mus. Leaflet 6(7): 137-141.
- Williams, L. O., 1952. *Encyclia*, a segregate from *Epidendrum*? *Ceiba* 3: 154-156.
- Withner, C.L., 1967. Is it *Epidendrum bifidum* or *Epidendrum papilionaceum*? Amer. Orchid Soc. Bull. 36(6): 480-485.

ACKNOWLEDGEMENTS

The list of people who assisted with the field work and preparation of this manuscript is long. However, without the help of any one of the following people, this publication would be incomplete. I sincerely thank the following friends: The late Dr. Donovan S. Correll of Fairchild Tropical Garden and his wife Dr. Helen B. Correll also of Fairchild Tropical Garden; Dr. Ralph M. Adams of Florida Atlantic University and his wife Pat Adams; Drs. Richard P. Wunderlin, Bruce Hansen and Frederick B. Essig of the University of South Florida; Marv E. Ragan of Orange Park, Florida; Dr. Carl L. Withner of Bellingham, Washington; Donald D. Dod and his wife Tudy Dod of Santo Domingo, Dominican Republic; Julio Melendez, the late Eugene P. Antommarchi and his wife Myriam Antommarchi of Puerto Rico; Mauricette Brin of St. Croix, U. S. Virgin Islands; Mrs. Herbert H. McConnell and Walter Phillips of St. Thomas, U. S. Virgin Islands. I wish to additionally thank Donald D. Dod for contributing the treatment of *P. rubeniana* and in part the description of *P. domingense* and to Rebeka Sauleda for the illustrations.

I also wish to express a special thanks to the members of the Tropical Orchid Society of West Palm Beach, Florida, for their continued financial support. They are the only orchid society willing to unselfishly support basic taxonomic research on orchids. This research was also supported in part by funds from the Herbarium, Dr. Richard P. Wunderlin, Director, Biology Department, University of South Florida, Tampa, Florida, and the Department of Biological Sciences, Florida Atlantic University, Boca Raton, Florida.

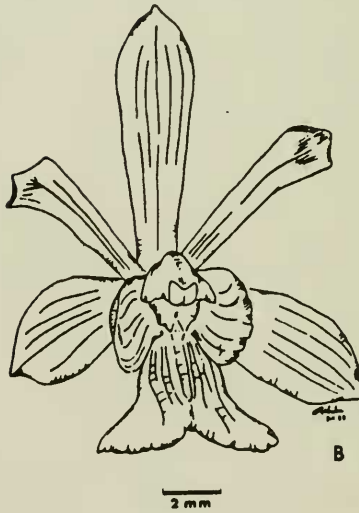
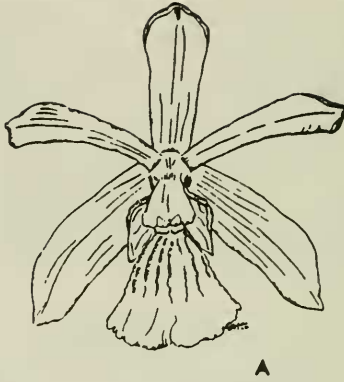


Figure 1. A. Psychilis rubeniana Dod.
B. Psychilis correllii Saulea.

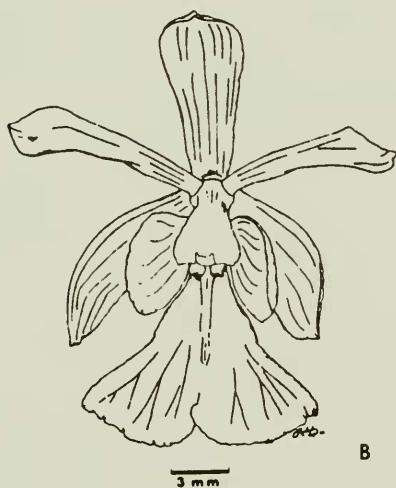
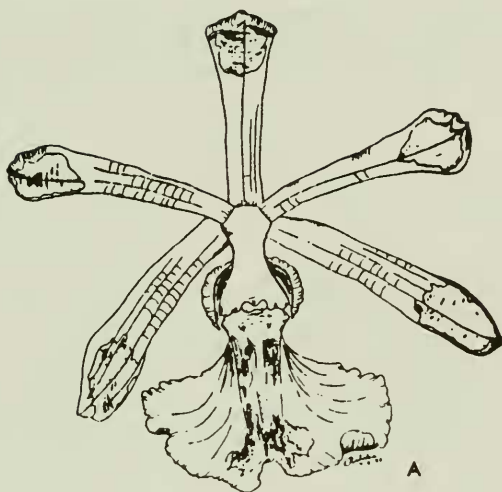


Figure 2. A. *Psychilis dodii* Sauleda.
B. *Psychilis macconnelliae* Sauleda.