

to it; lamina often divergent. Column stout or slender, winged or wingless, footless. Anther terminal, operculate, incumbent, 2-celled, each cell may be more or less divided by a septum; pollinia four in one series, ceraceous, laterally compressed. (*Amphiglottis* Salisb. in Trans. Hort. Soc. London 1: 294. 1812, sine descr. gener.; *Dinema* Lindley, Collect. Bot. 1825. app., nomen subnudum; *Encyclia* Hook. in Bot. Mag. 55: t. 2831. 1828; *Nanodes* Lindl. in Bot. Reg. 18: t. 1541. 1832; *Barkeria* Knowl. & Westc., Flor. Cab. 2: 7, t. 49. 1838; *Prosthechea* Knowl. & Westc., Flor. Cab. 2: 111. 1838; *Epithecia* Knowl. & Westc., Flor. Cab. 2: 167, t. 87. 1839; *Hormidium* Lindl. ex Heynhold, Nomencl. Bot. Nachtr. 880. 1841, ampl. Benth. & Hook. f. Gen. Pl. 3: 524. 1883; *Seraphyta* Fischer & Meyer in Bull. Sci. Acad. St. Petersb. 7: 24. 1840; *Spathiger* Small, Fl. Miami 55. 1913; *Epicladium*, Small Fl. Miami 56. 1913; *Nidema* Britton & Millspaugh, Bahama Fl. 94. 1920; *Dimeranda* Schlechter in Fedde Repert. Beihefte 17: 43. 1922.)

Epidendrum is perhaps the largest of the New World orchid genera. It is extremely variable and polymorphic. About one half of all of the North American species of the genus are to be found in Mexico.

The history of the subgeneric divisions of Epidendrum is rather complicated and still has to be worked out. There are apparently two groups in the genus which may be dignified as subgenera, *Euepidendrum* and *Encyclium*. Each of these subgenera probably contains several sections but a satisfactory exposition of them is still to be made. For convenience I have followed the divisions used by Ames, Hubbard & Schweinfurth in their work cited above, although apparently the names used for these division are incorrect.

In the International Rules of Botanical Nomenclature, ed. 1935, where Epidendrum is conserved (P. 133), the type of the genus is given as *E. nocturnum* Jacq.

KEY TO THE SECTIONS AND SPECIES OF EPIDENDRUM

- A. Stems without true pseudobulbs, though sometimes thickened at the base in § *Barkeria*; leaves usually several distributed along the stem, not clustered at the summit, or in § *Barkeria* at least showing leaf-sheaths surrounding the thickened base of the stem.
- B. Column usually adnate to the lip for nearly its entire length

(sometimes adnate only one-half the length of the column), wingless; stems never thickened.

Section I EUEPIDENDRUM.

- BB. Column wholly free from the lip or in some species adnate at the base or rarely nearly to its middle, more or less expanded into a wing on each side; stems thickened at the base or fusiform-cylindric, leafy or showing leaf-sheaths.

Section II BARKERIA.

- AA. Stems with true pseudobulbs surrounded by non-leaf-bearing sheaths; leaves one or more borne at or near the summit of the pseudobulb; column wholly free from or adnate to the lip.

Section III ENCYCLIUM.

Section I EUEPIDENDRUM Lindley in Hooker Journ. Bot. 3: 81. 1841.

Column usually adnate to the lip for its entire length (sometimes only half its length), wingless; stems never thickened into a pseudobulb at the base.

A. Leaves equitant.

13. *E. equitantifolium*.

AA. Leaves not equitant.

* Lip 3-lobed or 3-lobulate (** on p. 131).

B. Leaves terete or subterete and sulcate.

C. Lip much broader than long; mid-lobe narrowly triangular to linear.

D. Lateral lobes of the lip with porrect rounded apices.

11. *E. cobanense*.

DD. Lateral lobes of the lip without porrect rounded apices.

9. *E. teretifolium*.

BB. Leaves flat and usually more than 3 mm. broad.

E. Mid-lobe of the lip narrowly triangular to linear, several times longer than broad.

/. Leaves acuminate; flowers five or more.

4. *E. lacertinum*.

//. Leaves obtuse or at most subacute; flowers one or at most two present at one time.

3. *E. nocturnum*.

EE. Mid-lobe of the lip not narrowly triangular to linear.

F. Area of the mid-lobe of the lip approximately twice that of either lateral lobe or even larger.

G. Apex of the mid-lobe of the lip rounded or distinctly protuberant, acute.

28. *E. imatophyllum*.

GG. Apex of the mid-lobe of the lip truncate, emarginate or bilobed, in some species with an apicule in the sinus.

H. Lateral lobes of the lip digitate, lacerate, or at least strongly dentate.

29. *E. cristatum*.

- HH. Lateral lobes of the lip entire, minutely dentate or unequally bilobed.
 e'. Base of the mid-lobe of the lip tricallose; flowers white to pale yellow.
 23. *E. verrucosum*.
- e'e'. Base of the mid-lobe of the lip bicallose; flowers lilac-purple.
 22. *E. myrianthum*.
- FI Area of the mid-lobe of the lip about equal to that of either lateral lobe, or less.
- I. Ovary with a saccate vesicle at the summit.
 41. *E. physodes*.
- II. Ovary without a saccate vesicle at the summit.
- J. Inflorescence subumbellate.
 6. *E. difforme*.
- JJ. Inflorescence racemose or paniculate.
- X. Mid-lobe of the lip not bilobed nor retuse.
- K. Petals much exceeding the other floral parts in length; filiform spatulate.
 1. *E. longipetalum*.
- KK. Petals not much exceeding the other floral parts in length.
- L. Floral bracts large and conspicuous, conduplicate, equitant and prominently carinate, subequalling the flowers.
 8. *E. nitens*.
- LL. Floral bracts not large and conspicuous, concave, much shorter than the flowers.
- M. Leaves two to four clustered at the top of a short, simple, sheathed stem.
 26. *E. conopseum*
 var. *mexicanum*.
- MM. Leaves several, distributed along the elongated, often branched stem.
- N. Lip 8.5 mm. or usually less broad; stem unbranched.
 25. *E. anceps*.
- NN. Lip 12 mm. or more broad; stems branched.
- O. Mid-lobe of the lip protuberant beyond the lateral lobes, separated from the divergent lateral lobes on each side by a shallow sinus; leaves 6 cm. or more long, 20 mm. or more broad.
 37. *E. incomptum*.
- OO. Mid-lobe of the lip not protuberant beyond the lateral lobes on each side a sharp and narrow sinus; leaves 5.5 cm. or less long, 13 mm. or less broad.
 38. *E. incomptoides*.

XX. Mid-lobe of the lip bilobed or retuse.

P. Veins of the lateral lobes of the lip distinctly carinate-thickened.

Q. Mid-lobe of the lip longer than broad, ovate-oblong to rectangular.

21. *E. oaxacanum*.

QQ. Mid-lobe of the lip, if present, much broader than long, subreniform.

R. Leaves six or more, distributed long the stem; stem not branched.

14. *E. costatum*.

RR. Leaves up to four, clustered near the termination of the stems or branches; stems probably branched when complete.

31a. *E. arbuscula*
var. *radioferens*.

PP. Veins of the lateral lobes of the lip not carinate-thickened.

S. Leaves two to five clustered near the termination of the stems or branch; the lower part of the stem naked or only with non-leaf-bearing sheaths.

T. Leaves broadly lanceolate to elliptic-oval, normally 1.6-5 cm. broad; stems branched in complete specimens.

31. *E. arbuscula*.

TT. Leaves narrowly lanceolate to linear-lanceolate, 4-13 mm. broad; stems unbranched.

U. Floral bracts narrowly lanceolate, subulate, acuminate; inflorescence usually a simple raceme.

26. *E. conopseum*
var. *mexicanum*.

UU. Floral bracts shortly triangular-ovate, obtuse or subacute; inflorescence a short, often congested panicle.

17. *E. Gomezii*.

SS. Leaves several, distributed along the elongated stem.

V. Lamina of the lip flabellate-reniform with the anterior margin 3-lobulate, without sharp sinuses between the mid-lobe and the lateral lobes.

17. *E. Gomezii*.

VV. Lamina of the lip not flabellate-reniform with sharp sinuses between the mid-lobe and the lateral lobes.

W. Margins of the lateral lobes of the lip digitate, lacerate or dentate.

- Y. Peduncles much elongated with close scarious tubular sheaths and the flowers clustered in dense racemes or sometimes paniculate; stems usually rooting opposite the leaves.
27. E. ibaguense.
- YY. Peduncles not much elongated or if so with spreading foliaceous or imbricating spathes.
- Z. Mid-lobe of the lip with two strongly divaricate lobules.
 a. Lip bearing a central carinate thickening; inflorescence frequently subtended by broad imbricating spathes.
29. E. cristatum.
 aa. Lip bearing three parallel approximate fleshy keels.
24. E. paniculatum.
- ZZ. Mid-lobe of the lip with the lobules more or less porrect, never strongly divaricate.
 b. Petals 1-nerved, linear to spatulate-linear; leaves acuminate.
18. E. polyanthum.
 bb. Petals 3-nerved, oblanceolate-spatulate; leaves obtuse to abruptly acute.
20. E. gladiatum.
- WW. Margins of the lateral lobes of the lip not digitate, lacerate nor dentate (sometimes crenate, undulate or asymmetrically bilobed).
 c. Spread between the widely divaricate lobules of the commonly clawless mid-lobe about twice or more the length of the mid-lobe.
24. E. paniculatum.
 cc. Spread between the tips of the usually porrect lobules of the mid-lobe or breadth of the simple retuse mid-lobe usually much less than twice the length of the mid-lobe.
 d. Pair of basal calluses of the lip absent; peduncle usually elongated.
25. E. anceps.
 dd. Pair of basal calluses of the lip present.
 e. Petals cuneate-oblanceolate, 2.5 mm.

or more broad; leaves linear-ligulate to narrowly lanceolate, the upper ones approximate, obtuse to sub-acute.

20. *E. gladiatum*.

ee. Petals linear to cuneate-linear, 2 mm. or less broad; leaves lanceolate to elliptic-lanceolate, rather remote and distributed along the stem, acuminate.

f. Pedicellate ovary and exterior surface of the lateral sepals smooth.

19. *E. chlorops*.

ff. Pedicellate ovary verrucose or verruculose; exterior surface of the lateral sepals more or less verruculose.

18. *E. polyanthum*.

★★ Lip simple, obscurely lobed, lobulate or bilobed.

g. Lower portion of the lateral margins of the lip irregularly lacerate to coarsely sharp-dentate; lamina of the lip with a prominent central keel extending nearly to its apex.

28. *E. imatophyllum*.

gg. Lower portion of the lateral margins of the lip neither lacerate nor coarsely sharp-dentate.

h. Inflorescence a lax widely spreading, many-flowered (usually more than 25), commonly compound panicle; lip ovate to triangular-ovate.

2. *E. diffusum*.

hh. Inflorescence racemose or a simple panicle.

i. Blade of the leaf not articulated to the sheath, i.e. leaves not deciduous.

43. *E. Schlechterianum*.

ii. Blade of the leaf articulated to the sheath, i.e. leaves deciduous.

j. Ovary with a more or less semi-globose vesicle at its summit just under the lip.

k. Anterior portion of the lamina of the lip broadly rounded.

l. Leaves triangular-lanceolate, scattered along the stem; lip not strongly conduplicate.

41. *E. physodes*.

ll. Leaves elliptic to elliptic-oblong, congested on the upper half of the stem; lip strongly conduplicate.

16. *E. Carolii*.

kk. Anterior portion of the lip acute to acuminate.

35. *E. strobiliferum*.

jj. Ovary without a more or less semiglobose vesicle at its summit.

m. Lamina of the lip with radiating thickened keels or costae.

14. *E. costatum*.

mm. Lamina of the lip without radiating thickened keels or costae.

n. Lip with a tridentate (not tricarinate) or V-shaped callus at or near the base of the lamina.

o. Leaves sulcate or subterete or terete, if flattened then very narrowly linear-lanceolate (often conduplicate, elongated, grass-like and acuminate).

36. *E. isomerum*.

oo. Leaves flat (or at most conduplicate), ligulate or linear-oblong to lorate, or lanceolate to nearly elliptic, obtuse or bilobulate.

p. Callus of the lip bifurcate at its base; lip obtuse to short acuminate; sepals and petals obtuse to acute.

33. *E. ramosum*.

pp. Callus tridentate or trilobulate at its apex; lip long acuminate; sepals and petals usually acuminate.

33a. *E. ramosum*
var. *angustifolium*.

nn. Lip never with a tridentate or V-shaped callus at or near the base of the lamina.

q. Entire length of the column adnate to the bases of the lateral sepals.

42. *E. porpax*.

qq. Entire length of the column not adnate to the bases of the lateral sepals.

r. Stems (not rhizomes) branched.

s. Lip callose thickened, at least more than a callose mid-nerve.

32. *E. ledifolium*.

ss. Lip ecallose, though the mid-nerve is sometimes thickened.

t. Apical portion of the lip very broadly rounded or truncate.

40. *E. comayaguense*.

tt. Apical portion of the lip distinctly narrowed; inflorescence 1-flowered.

34. *E. repens*.

rr. Stems unbranched.

u. Floral bracts conspicuous due to their large size.

B. Lamina of the lip noticeably broader than long, reniform, bilobed or retuse at the apex.

7. *E. coriifolium*.

- BB. Lamina of the lip longer than broad or at most slightly broader than long.
- v. Lateral sepals prominently keeled at their apices; lip slightly contracted in the middle of each side.
8. *E. nitens*.
- vv. Lateral sepals not keeled; lip not contracted in the middle.
5. *E. rigidum*.
- uu. Floral bracts not conspicuous.
- w. Inflorescence subumbellate.
6. *E. difforme*.
- ww. Inflorescence racemose or paniculate (rarely appearing subumbellate).
- x. Lip conduplicate, usually strongly so.
16. *E. Carolii*.
- xx. Lip not conduplicate but flat, convex or somewhat concave.
- *. Wings of the ovary toothed near the apex.
30. *E. Nagelii*.
- ** . Wings of the ovary not toothed near the apex or the ovary wingless.
- y. Length of the lip greater than its breadth (rarely nearly equal), leaves subulate to elliptic.
- z. Leaves subulate, exceeded by the inflorescence.
12. *E. subulatifolium*.
- zz. Leaves flat, not subulate, exceeding or exceeded by the inflorescence.
- . Disc of the lip callose, peduncle usually elongated.
25. *E. anceps*.
- . Disc of the lip callose or carinate.
39. *E. eximium*.
- yy. Length of the lip less than its breadth; leaves linear-elliptic, lanceolate or elliptic-lanceolate, not long attenuate.
15. *E. eustirum*.

Section II. BARKERIA (Knowles & Westcott) Bentham in Bentham & Hooker, Gen. Pl. 3: 529. 1883. (*Barkeria* Knowles & Westcott, Fl. Cab. 2: 7. t, 49. 1883; *Eupidendrum* § *Barkeria* Pfitzer in Engler & Prantl, Pflanzenfam. 2: 145. 1889).

Column wholly free from the lip or in some species adnate at the base or nearly to the middle, more or less expanded into a wing on each side; stems thickened at the base or fusiform-cylindric, leafy (or showing leaf sheaths).

In maintaining *Barkeria* as a section, rather than a subsection, we have followed Bentham and the recent work of Ames, Hubbard &

- NN. Petals narrowly oblanceolate, subequal to the sepals; disc of the lip with a broad verrucose central band and three crenulate keels on each side.
90. *E. tenuissimum*.
- MM. Apex of the lip acute or long acuminate; disc of the lip without crenulate keels or rows of papillae.
- O. Lip pandurate-ligulate; flowers vermilion, drying orange.
54. *E. vitellinum*.
- OO. Lip not pandurate-ligulate; flowers not vermilion.
- P. Inflorescence laxly paniculate; pseudobulbs small and globose.
51. *E. distantiflorum*.
- PP. Inflorescence racemose; pseudobulbs more or less elongated.
- Q. Spathe at the base of the peduncle elongated and conspicuous; lip long acuminate.
- R. Pseudobulbs 3-5 leaved; inflorescence shorter than the leaves.
63. *E. chondylobulbon*.
- RR. Pseudobulbs 2-leaved; inflorescence commonly exceeding the leaves.
62. *E. Brassavolae*.
- QQ. Spathe at the base of the peduncle small or wanting; lip acute or at most short acuminate.
70. *E. madrense*.
- XX. Lamina of the lip as broad as long or broader than long.
- S. Apex of the lip broadly truncate, retuse or bilobed.
- T. Petals ovate to broadly oblanceolate, broader than the sepals.
69. *E. radiatum*.
- TT. Petals oblong-lanceolate, narrower than the sepals.
56. *E. Ghiesbreghtianum*.
- SS. Apex of the lip obtuse to acute or short acuminate.
- U. Lamina of the lip flabellate-rhomboid, the lower half cuneate.
101. *E. flabellatum*.
- UU. Lip not flabellate-rhomboid, the lower half cordate or rounded.
- V. Callus of the lip a bilobed or simple cushion.

64. *E. ionophlebium*.
 VV. Callus of the lip consisting of two or three basal keels or swellings.
 W. Petals elliptic-lanceolate; lip yellow-green with purple veins.
 67. *E. lancifolium*.
 WW. Petals narrowly linear-lanceolate; lip dark purple with darker veins.
 68. *E. cochleatum*.
- AA. Lip 3-lobed or 3-lobulate.
- x. Column with a distinct lateral auricle on each side about opposite the stigma.
- a. Lamina of the mid-lobe of the lip much longer than broad.
 98. *E. nemorale*.
- aa. Lamina of the mid-lobe of the lip about as broad as long or broader than long.
- b. Column adnate to the lip for one third of its length; lateral lobes of the lip linear, usually slightly broader toward the apex.
 77. *E. bractescens*.
- bb. Column free from the lip or adnate only at its very base; lateral lobes of the lip oblong, spatulate, pandurate, ovate or obovate.
- c. Veins of the mid-lobe of the lip strongly verrucose, apex of the mid-lobe strongly crisped.
 100. *E. alatum*.
- cc. Veins of the mid-lobe of the lip smooth or somewhat verrucose.
- d. Column more or less sharply recurved in the middle; veins of the mid-lobe of the lip smooth or nearly so.
 108. *E. oncidoides*.
- dd. Column nearly straight; veins of the mid-lobe of the lip frequently verruculose.
- e. Lateral lobes of the lip triangular-lanceolate to oblong.
 108a. *E. oncidoides*
 var. *gravidum*.
- ee. Lateral lobes of the lip oblong-spatulate.
 108c. *E. oncidoides*
 var. *profusum*.
- xx. Column without a distinct lateral auricle on each side of the stigma but occasionally dentate or winged near the summit of the column.
- f. Apex of the mid-lobe of the lip with a clavate or bulbose-thickened termination of the centrally extended callus.
- g. Sepals and petals obtuse; lateral sepals about 22 mm. long.
 94. *E. magnispatha*.
- gg. Sepals and petals acute; lateral sepals about 13 mm. long.
 92. *E. Boothianum*.

- ff. Apex of the mid-lobe of the lip without a clavate or bulbose-thickened termination of the callus.
- h. Mid-lobe of the lip acicular, linear to linear-lanceolate or linear-triangular, without a markedly broader base.
- i. Lateral lobes of the lip fimbriate-ciliate.
74. *E. ciliare*.
- ii. Lateral lobes of the lip entire or almost dentate.
- j. Rachis elongated; flowers in a raceme.
- *. Apex of the pseudobulbs unifoliate; lateral lobes of the lip rounded.
72. *E. rhynchophorum*.
- **.. Apex of the pseudobulbs 2-4-foliate; lateral lobes of the lip subacute.
4. *E. lacertinum*.
- jj. Rachis almost wanting; flowers solitary or fascicled.
- k. Lip 5.5-8 cm. long from the base of the column to the tip of the mid-lobe.
73. *E. Parkinsonianum*.
- kk. Lip 3.5-4 cm. long from the base of the column to the tip of the mid-lobe.
73a. *E. Parkinsonianum*
var. *falcatum*.
- hh. Mid-lobe of the lip not acicular, linear-lanceolate nor linear-triangular.
- l. Outer margins of the mid-lobe of the lip sharp-dentate to fimbriate; mid-lobe with two divaricate suborbicular-obovate lobules.
109. *E. Stamfordianum*.
- ll. Outer margins of the mid-lobe of the lip not sharp-dentate nor fimbriate.
- m. Mid-lobe of the lip smaller than each lateral lobe or about equal to it.
- n. Mid-lobe of the lip triangular, from a markedly broader base.
- o. Flowers small; sepals 5-8 mm. long.
50. *E. pygmaeum*.
- oo. Flowers relatively large; sepals 2.5 cm. long.
75. *E. pugioniforme*.
- nn. Mid-lobe of the lip never triangular.
- (. Plants small, less than 4 cm. high; pseudobulbs leafless at flowering time; flowers resemble those of *E. anceps*.
111. *E. miserum*.
- ((. Plants more than 4 cm. high; pseudobulbs with leaves at flowering time; flowers unlike those of *E. anceps*.
- p. Lateral lobes of the lip oblong to pandurate-oblong, free portion longer than broad; inflorescence usually paniculate; callus more or less elliptic, unisulcate; more or less thickened.

- q. Sinus between the mid-lobe and the lateral lobes very narrow, often concealed by the overlapping lobes.
102. *E. Candollei*.
- qq. Sinus between the mid-lobe and the lateral lobes very broad and well defined.
103. *E. selligerum*.
- pp. Lateral lobes of the lip semi-circular or subquadrate, free portion about as broad as long; inflorescence usually racemose.
r. Lateral sepals lanceolate, acuminate.
61. *E. pterocarpum*.
- rr. Lateral sepals elliptic, broadly obovate or obovate-oblong, obtuse or acute.
s. Pseudobulbs long attenuate from a thickened base; leaves narrowly oblong-lanceolate or linear-ligulate, up to 15 mm. broad.
81. *E. ochraceum*.
- ss. Pseudobulbs not long attenuate from a thickened base; leaves usually elliptic to elliptic-lanceolate, usually broader than 15 mm.
t. Raceme short, 3-4-(or more)-flowered; teeth of the clinandrium lacerate.
82. *E. maculosum*.
- tt. Raceme elongate, 10 or more flowered; teeth of the clinandrium entire.
95. *E. bicameratum*.
- mm. Mid-lobe of the lip considerably larger than each lateral lobe, often twice as large.
u. Pedicellate ovary hyaline-echinate; lateral lobes of the lip linear to linear-spatulate.
76. *E. xiphères*.
- uu. Pedicellate ovary not hyaline-echinate though verrucose to mucronate in some species.
v. Mid-lobe of the lip rhombic-spatulate, with a distinct claw, its margin entire.
96. *E. brachiatum*.
- vv. Mid-lobe of the lip not rhombic-spatulate.
w. Flower self-colored rose-pink inside; leaves many times shorter than the showy inflorescence; petals retuse or somewhat bilobed, short clawed and abruptly dilated into a lamina.
97. *E. erubescens*.
- ww. Flowers not self-colored rose-pink; leaves not many times shorter than the inflorescence; petals rounded to acuminate.
y. Lamina of the lip transversely rhombic, with more or less obscure lateral lobes.
93. *E. favoris*.

yy. Lamina of the lip never transversely rhombic, usually distinctly 3-lobed.

z. Mid-lobe of the lip variously shaped, but never oval-elliptic; callus never forcipate nor forcipate at the base with 5 parallel lamellae above.

B. Pseudobulbs 1-leaved.

C. Lateral sepals obovate, purple with yellow border when fresh.

84. *E. limbatum*.

CC. Lateral sepals oblong-spatulate or oblanceolate to elliptic-lanceolate.

D. Lateral lobes of the lip small suborbicular basal lobules more like auricles than lateral lobes.

60. *E. hastatum*.

DD. Lateral lobes of the lip well defined, elongate.

E. Mid-lobe of the lip flabellate or transversely oblong.

79. *E. concolor*.

EE. Mid-lobe of the lip suborbicular to broadly ovate.

108a. *E. oncioides*
var. *gravidum*.

BB. Pseudobulbs 2 or more leaved.

F. Pseudobulbs contracted into a caulescent neck which separates the leaves from the swollen portion.

86. *E. varicosum*.

FF. Pseudobulbs not contracted into a caulescent neck, the leaves practically sessile on the swollen portion.

G. Disc of the lip without a distinct callus or fleshy thickening; lamina of the mid-lobe and tips of the lateral lobes of the lip scaly; lateral lobes long decurrent with outcurving apices.

78. *E. microbulbon*.

GG. Disc of the lip with a distinct callus or fleshy thickening; lamina of the mid-lobe and tips of the lateral lobes not densely scaly.

H. Middle tooth on the summit of the column broad or rather broad, erect, fleshy and quadrate or rounded-quadrate, separated from the lateral teeth by relatively narrow and deep sinuses.

I. Lamina of the lip 16 mm. or more

broad, the mid-lobe never triangular, commonly retuse or bilobed at the apex.

&. Lip more than 4 cm. long.

55. *E. Mariae*.

&&. Lip less than 3 cm. long.

56. *E. Ghiesbreghtianum*.

II. Lamina of the lip 14 mm. or less broad, the mid-lobe triangular or subtriangular in shape.

J. Disc of the mid-lobe of the lip with 3 longitudinal rows of prominent separated tuberculose papillae.

35. *E. chondylochilum*.

JJ. Disc of the mid-lobe of the lip without three longitudinal rows of prominent separate tuberculose papillae.

K. Width between the apices of lateral lobes (when spread out) less than the width of the mid-lobe or about equal to it.

L. Lateral lobes of the lip short-oblong, broadly rounded at the apex, abruptly contracted to a short claw; lateral sepals about 22 mm. long.

57. *E. venosum*.

LL. Lateral lobes of the lip triangular or dentiform, not broadly rounded at the apex (subacute to acute), decurrent to a long-cuneate base; lateral sepals 16 mm. or less long.

58. *E. Diquetii*.

KK. Width between the apices of the lateral lobes of the lip (when spread out) greater than the width of the mid-lobe (usually noticeably so).

M. Lateral lobes of the lip triangular-lanceolate, acute to sub-obtuse, more or less porrect from a long decurrent base; disc of the lip with usually 5 equally prominent more or less moniliform verrucose keels.

80. *E. Linkianum*.

MM. Lateral lobes of the lip ligulate to round-obovate, wide spre-

ading, commonly obtuse to broadly rounded; disc of the lip with one to three more or less prominent smooth keels, the central one most prominent.

83. *E. virgatum*.

HH. Middle tooth at summit of column (some times wanting) small, triangular, incurved and obtuse to acute, separated from the tooth on each side by a broad usually shallow sinus.

N. Column adnate to the lip for one third to one half of its length.

105. *E. papillosum*.

NN. Column adnate to the lip one fourth of its length at most, usually much less.

O. Mid-lobe of the lip not unguiculate, the lateral lobes separated from it by a very narrow sinus.

P. Veins or keels of the mid-lobe of the lip strongly verrucose.

107. *E. aromaticum*.

PP. Veins or keels of the mid-lobe of the lip smooth or at most

102. *E. Candollei*.

slightly verrucose.

OO. Mid-lobe of the lip unguiculate (sometimes shortly so), the lateral lobes noticeably separated from it.

R. Area of the mid-lobe of the lip about four to ten times that of each lateral lobe; mid-lobe usually retuse to bilobed.

S. Mid-lobe of the lip about 11 mm. long, about 8 mm. broad; wing on each side of the column terminating in a triangular produced summit.

106. *E. trachycarpum*.

SS. Mid-lobe of the lip 19 mm. or more long, 13 mm. or more broad; wing on each side of the column not terminating in a triangular produced summit.

99. *E. atropurpureum*.

RR. Area of the mid-lobe of the lip about three times that of each side lobe or less.

T. Petals unguiculate, distinctly abrupt spatulate.

U. Lateral sepals 19-24 mm. long; lamina of the mid-lobe of the lip transversely oblong to suborbicular, about 12 mm. or more long.

103. *E. selligerum*.

UU. Lateral sepals 12 mm. or less long; lamina of the mid-lobe of the lip broadly triangular-ovate, about 5 mm. long.

104. *E. Oestlundii*.

TT. Petals not unguiculate, oblanceolate to spatulate-oblanceolate.

a. Column more or less sharply recurved in the middle; veins of the mid-lobe of the lip usually smooth.

108d. *E. oncidioides*
var. *ramonense*.

aa. Column not recurved or only very slightly so; veins of the mid-lobe of the lip usually verrucose.

V. Lateral lobes of the lip oblong-pandurate; transition from the apically bidentate cushion-callus to the nerves abrupt.

108b. *E. oncidioides*
var. *perplexum*.

VV. Lateral lobes of the lip triangular-lanceolate (rarely long; transition from cushion-callus to the three central nerves gradual.

108a. *E. oncidioides*
var. *gravidum*.

1. EPIDENDRUM LONGIPETALUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 22. 1845.

Epidendrum antenniferum Lindley & Paxton in Paxton's Flower Gard. 1: 184, fig. 113. 1851; Reichenbach filius in Saunders Ref. Bot. 2: t. 91. 1869.

Range: Mexico (Vera Cruz, Puebla, Guerrero (?) and Oaxaca).

Epidendrum longipetalum is a most unusual and distinct species, being sharply set off from all others by the long antenna-like petals.

Reichenbach filius' account of the species (Saunders Ref. Bot.) gives much of the early history of it. In addition he states that "Perhaps the discovery belongs to Jurgensen, as high numbers above 5000 of Galeotti usually do".

2. EPIDENDRUM DIFFUSUM Swartz, Prodr. Veg. Ind. Occ. 121. 1788; Hooker in Bot. Mag. 64: t. 3565. 1837.

Seraphyta multiflora Fischer & Meyer in Bull. Sci. Acad. Petersb. 7: 24. 1840.

Seraphyta diffusa Pfitzer in Engler & Prantl, Nat. Pflanzenf. 2; Abt. 6: 142. 1889; Pfitzer ex Fawcett & Rendle Fl. Jam. 1: 81. 1910.

Range: Mexico (Vera Cruz, San Luis Potosí and Oaxaca), Guatemala, the West Indies, Colombia, Dutch Guiana and Brazil.

A handsome small-flowered species often with large diffuse panicles of flowers.

3. EPIDENDRUM NOCTURNUM Jacquin, Enum. Pl. Carib. 29. 1760. Select. Stirp. Am. 225, t. 139. 1763.

Nyctosma nocturna Rafinesque, Fl. Tellur. 2: 9. 1837.

Epidendrum discolor Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 22. 1845.

Phaedrosanthus nocturnus O. Kuntze in Post & Kuntze, Lex. Gen. Phanerog. 429. 1904.

Auliza nocturna Small. Fl. Miami 56. 1913.

Epidendrum nocturnum Jacq. var. *panamense* Schlechter in Fedde Repert. Beihefte 17: 36. 1922.

Amphiglottis nocturna Britton in Britton & Wilson, Bot. Porto Rico and the Virgin Islands 1: 200. 1924.

Range: Florida, Mexico (Vera Cruz, San Luis Potosí, Oaxaca, Campeche and Chiapas), Guatemala, British Honduras, Honduras, Nicaragua, Costa Rica, Panama, the West Indies, Colombia, Venezuela, the Guianas, Brazil, Ecuador and Peru.

Epidendrum nocturnum is a large flowered species mainly of Caribbean distribution.

4. EPIDENDRUM LACERTINUM Lindley in Bot. Reg. 27: Misc. p. 53. 1841.

Range: Mexico (Chiapas) and Guatemala.

New to the flora of Mexico. *Epidendrum lacertinum* would perhaps, be best placed in section Encyclium near *E. pugioniforme* Regel.

5. EPIDENDRUM RIGIDUM Jacquin, Enum. Pl. Carib. 29. 1760; Select. Stirp. Am. 222, t. 134. 1763.

Epidendrum cardiophorum Schlechter in Fedde Repert. 9: 214. 1911.

Spathiger rigidus Small, Fl. Miami 55. 1913.

Range: Florida, (U.S.A.) Mexico (Vera Cruz, San Luis Potosí, Guerrero, Oaxaca, Tabasco and Chiapas), British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, the West Indies, Colombia, Venezuela, the Guianas, Brazil, Peru and Bolivia.

A widespread and variable species mainly of Caribbean distribution.

6. EPIDENDRUM DIFFORME Jacquin, Enum. Pl. Carib. 29. 1760; Select. Stirp. Am. 223, t. 136. 1763; Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 2: 53. 1934.

Epidendrum chlorocorymbos Schlechter in Fedde Repert. Beihefte 17: 30. 1922.

Auliza difforme Small, Fl. Miami 56. 1913.

Amphiglottis difformis Britton in Britton & Wilson, Bot. Porto Rico and Virgin Islands 1: 200. 1924.

Range: Mexico (Vera Cruz, San Luis Potosí, Guerrero, Oaxaca, Tabasco, Chiapas and Quintana Roo), Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, the West Indies, Colombia, Venezuela, British Guiana, Dutch Guiana, French Guiana, Brazil, Ecuador and Peru.

A widespread and somewhat variable species.

7. EPIDENDRUM CORIIFOLIUM Lindley in Journ. Linn. Soc. London 6: 218. fig. 1851.

ican material. It is quite possible that the Costa Rica specimens which I have seen should be segregated as a distinct variety.

14. EPIDENDRUM COSTATUM Richard & Galeotti in Ann. Sci. Nat. ser. 3. 3: 21. 1845; Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 64. 1935.

Range: Mexico (Oaxaca).

Epidendrum costatum has been found, as far as definite records are concerned, only on Cerro San Felipe near Oaxaca City. The species is easily distinguished by the suborbicular lip with radiating lamellae.

15. EPIDENDRUM EUSTIRUM Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 70. 1935.

Epidendrum carinatum Lindley, Fol. Orch. Epid. p. 61. 1853, *nec* L., *nec* Vahl.

Range: Mexico (Vera Cruz, Puebla and Chiapas) and Guatemala.

16. EPIDENDRUM CAROLII Schlechter in Fedde Repert. Beihefte 19: 35, 117. 1923.

Range: Mexico (Oaxaca) and Costa Rica.

Epidendrum Carolii is new to the flora of Mexico and the present collection is the only one known outside of Costa Rica.

17. EPIDENDRUM GOMEZII Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 403. 1918.

Epidendrum Jurgensenii Reichenbach filius sensu Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 6. 1934, (as *Juergensii*) *non* Reichenbach filius.

Range: Mexico (Guerrero and Michoacan).

The basis of *Epidendrum Jurgensenii* Reichenbach filius with which Ames, Hubbard, and Schweinfurth confused this plant in the above cited publication and also in their key is *Epidendrum anisatum* Llave & Lexarza sensu Lindley in Fol. Orch. Epid. p. 65. 1853, *non* Llave & Lexarza. In as much as I do not know whether or not Lindley ever saw the La Llave plants (probably not because he did not add the usual v. s. sp. to indicate that he had seen the specimen) we must accept the

Hartweg specimen as the basis of Lindley's conception of *Epidendrum anisatum* and hence it is the type of *Epidendrum Jurgensenii*.

The Hartweg specimen is not exactly interpretable from our record but would seem to be *Epidendrum vandifolium* Lindley, a surmise that is strengthened by the fact that some of the Hinton plants which were determined at Kew (possibly by V. S. Summerhayes) as *Epidendrum Jurgensenii* are exactly *Epidendrum vandifolium*. If the Hartweg specimen is not *Epidendrum vandifolium* then it is possibly *Epidendrum chlorops* Reichenbach filius.

Epidendrum Gomezii is somewhat allied to *E. vandifolium* and *E. chlorops*, and not to *E. longipetalum* Rich. & Gal. as Schlechter indicated.

18. EPIDENDRUM POLYANTHUM Lindley, Gen. & Sp. Orch. Pl. 106. 1831.

Epidendrum bisetum Lindley in Bot. Reg. 27: Misc. p. 68. 1841.

Epidendrum colorans Klotzsch in Allg. Gartenz. 19: 250. 1851.

Epidendrum pergameneum Reichenbach filius Beitr. Orch. Cent.-Am. 86. 1866.

Epidendrum Stallforthianum Kränzlin in Gard. Chron. ser. 3, 51: 114, fig. 49. 1912.

Epidendrum verrucipes Schlechter in Fedde Repert. 15: 208. 1918.

Epidendrum heteroglossum Kränzlin in Arkiv Bot. 16, no. 8: 19. 1920.

Epidendrum quinquelobum Schlechter in Fedde Repert. Beihefte 19: 125. 1923.

Range: Mexico (Vera Cruz, San Luis Potosí, Michoacan, Tabasco and Chiapas), Guatemala, Honduras, Costa Rica, Panama, Venezuela and Brazil.

Epidendrum polyanthum is a variable species which should probably include *E. chlorops* Reichb. f.

19. EPIDENDRUM CHLOROPS Reichenbach filius in Gard. Chron. n.s. 14: 524. 1880.

Epidendrum flavovirens Reichenbach filius Beitr. Orch. Cent.-Am. 85. 1866, non Regel.

Epidendrum piestocaulos Schlechter in Fedde Repert. 15: 207. 1918.

Epidendrum simile Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 408. 1918.

Range: Mexico (Vera Cruz, Sinaloa, Colima, Guerrero, Michoacan and Chiapas), Guatemala and Honduras.

Epidendrum chlorops is closely allied to *E. Clowesii* Bate-man from which it is dubiously distinct although Ames, Hubbard and Schweinfurth maintain it. The species is apparently one of comparatively low altitudes, ranging from about 350 meters in Sinaloa to some 1400 meters in San Salvador. The main area of distribution seems to be on the western slopes of the Sierra Madre and the Sierra Madre del Sur. A possible outlying station is Nogales, Vera Cruz from which locality we have a Matuda specimen.

20. EPIDENDRUM GLADIATUM Lindley, Gen. & Sp. Orch. Pl. 106. 1831; in Bentham, Pl. Hartw. 72. 1840.

Epidendrum vandifolium Lindley in Journ. Hort. Soc. London 4: 269. 1849; Ames, Hubbard & Schweinfurth Genus Epidendrum in U. S. & Mid. Am. 187. 1936.

Epidendrum anisatum "La Llave" ex Lindley, Fol. Orch. Epidendrum p. 65. 1853, as to the Hartweg plant, *non* Llave & Lexarza.

Epidendrum Jurgensenii Reichenbach filius in Gard. Chron. 14: 524. 1880 in obs.

Epidendrum Juergensii "Reichenbach filius" ex Ames, Hubbard & Schweinfurth in Bot. Mus. Leaflet Harv. Univ. 3: 6. 1934. sphalm; exclude synonymy, description and specimens cited except the Hartweg specimen.

Range: Mexico (Morelos, Mexico, Guerrero, Michoacan, Jalisco and Nayarit).

Epidendrum gladiatum Lindley was described from a Pavon plant which was presumed to have been collected in Peru. However the type is certainly the same as the plant ordinarily determined as *E. vandifolium* Lindl. It is possible that the "Pavon" specimen is one of those which was collected by Sessé and Mociño in Mexico and distributed by Pavon, perhaps without label, and was assumed by Lindley to have been collected in Peru by Pavon. In Reichenbach's herbarium in Vienna is a similar specimen, certainly the species under consideration,

which bears as a label only "Epid. gladiatum" and "Pavon" in Reichenbach's handwriting.

The species extends from Morelos to Nayarit along the Sierra Madre. An outlying representative is Nagel's number 3107 which was collected in the Sierra Madre del Sur. It differs in having very narrow leaves and in other details.

21. EPIDENDRUM OAXACANUM Rolfe ex Ames in Proc. Biol. Soc. Wash. 17: 120. 1904.

Range: Mexico (Oaxaca).

Epidendrum oaxacanum, so far as known, is limited to Cerro San Felipe. It is somewhat allied to *E. polyanthum* Lindl.

22. EPIDENDRUM MYRIANTHUM Lindley, Fol. Orch. Epid. p. 59. 1853; Bateman in Bot. Mag. 92: t. 5556. 1866.

Epidendrum verrucosum var. *myrianthum* Ames & Correll in Bot. Mus. Leafl. Harv. Univ. 10: 82. 1942.

Range: Mexico (Chiapas), Guatemala and Honduras.

Epidendrum myrianthum is new to Mexico. Ames & Correll consider this to be a variety of *E. verrucosum* Sw., to which it is very closely allied. If this form is made a variety possibly the name should be based on *Epidendrum myrianthum* var. *album* Reichb. f.

23. EPIDENDRUM VERRUCOSUM Swartz in Nov. Act. Ups. 6: 68. 1799.

Range: Mexico (Chiapas), Guatemala, Honduras and Jamaica.

24. EPIDENDRUM PANICULATUM Ruiz and Pavon Syst. Veg. 243. 1798; Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 2: 67. 1934 and Genus *Epidendrum* in the United States and Middle America 142. 1936.

Epidendrum densiflorum Hooker in Bot. Mag. 67: t. 3791. 1840.

Range: Mexico (Vera Cruz, Puebla and Chiapas), British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Dutch Guiana, Brazil, Ecuador, Peru, Bolivia and Argentina.

Epidendrum paniculatum is widespread and extremely variable. Ames, Hubbard & Schweinfurth list twenty-five synonyms in their key to the genus.

25. EPIDENDRUM ANCEPS Jacquin, Select. Stirp. Am. 224, t. 138. 1763.

Epidendrum musciferum Lindley in Hooker Journ. Bot. 1: 6. 1834.

Epidendrum Galeottianum A. Richard in Ann. Sci. Nat. ser. 3, 3: 21. 1845.

Epidendrum ensatum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 22. 1845.

Epidendrum fuscatum Sm. (B) *virescens* Lindley, Fol. Orch. Epid. p. 65. 1853.

Epidendrum fuscatum Sm. (C) *viridipurpureum* Lindley, Fol. Orch. Epid. p. 66. 1853.

Epidendrum anceps Jacq. (B) *virescens* Hemsley in Godman & Salvin Biol. Centr.-Am. Bot. 3: 225. 1883.

Epidendrum anceps Jacq. (Z) *viridipurpureum* Hemsley in Godman & Salvin. Biol. Centr.-Am. Bot. 3: 225. 1883.

Epidendrum Schenckianum Kränzlin in Fedde Repert. 7: 114. 1909.

Range: Mexico (Vera Cruz and Chiapas), Guatemala, Honduras, Nicaragua, Costa Rica, Panama, the West Indies, Colombia, Venezuela, British Guiana, Dutch Guiana, Brazil, Ecuador and Peru.

An extremely variable species and a common and widespread one.

26. EPIDENDRUM CONOPSEUM R. Br. var. **mexicanum** L. O. Williams var. nov.

A specie foliis late lanceolatis, labello subintegro differt.

Range: Mexico (Morelos).

Mexico: in mixed oak and pine forest on oaks, north of Tetla del Volcan, foot of Mt. Popocatepetl, state of Morelos, longitude 99°45' west, latitude 18°54' north, at about 2000 meters altitude, July 13, 1932, (flowered in greenhouse April 6, 1933), *Juan González 2200* (TYPE in Herb. Ames, sheets numbered 52176 and 40341).

Epidendrum conopseum var. *mexicanum* differs from the species only in having comparatively broad lanceolate leaves and a subentire lip. Geographically the difference is much greater; the species grows along the coastal plain, North Carolina to Mississippi, avoiding the southern part of Florida where one would expect to find orchids of Caribbean basin distribution, and is unknown from the coastal plain of Mexico or Central America. The variety grows at an elevation of some 2000 meters at the base of a tremendous snow capped peak, across two ranges from the Caribbean and on the Pacific watershed.

27. EPIDENDRUM IBAGUENSE Humboldt, Bonpland & Kunth, Nov. Gen. et Sp. 1: 354. 1816.

Epidendrum radicans Pavon ex Lindley, Gen. & Sp. Orch. Pl. 104. 1831.

Epidendrum rhizophorum Bateman ex Lindley in Bot. Reg. 24: Misc. p. 8. 1838.

Epidendrum pratense Reichenbach filius, Beitr. Orch. Centr.-Am. 84. 1866.

Epidendrum radicans Pavon var. *chiriquense* Schlechter in Fedde Repert. Beihefte 17: 39. 1922.

Range: Mexico (Vera Cruz & Chiapas), Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama.

Epidendrum ibaguense is one of the most abundant and wide spread of the American species of orchids. It grows on dry barren hillsides and on plant debris floating in ponds. Its bright flowers call attention to it and there is hardly a plant collector that does not find it.

28. EPIDENDRUM IMATOPHYLLUM Lindley, Gen. & Sp. Orch. Pl. 106. 1831; Ames, Sched. Orch. 4: 43, figs. 1923.

Epidendrum palpigerum Reichenbach filius in Gard. Chron. n. s. 12: 40. 1879.

Epidendrum lorifolium Schlechter in Fedde Rep. Beihefte 17: 35. 1922.

Range: Mexico (Vera Cruz, Oaxaca, Tabasco, Yucatan, Quintana Roo), British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Trinidad, Venezuela, the Guianas, Brazil and Peru.

29. EPIDENDRUM CRISTATUM Ruiz & Pavon, Syst. Veg. 243. 1798; C. Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 11: 222. 1944.

Epidendrum raniferum Lindley, Gen. & Sp. Orch. Pl. 109. 1831; in Bot. Reg. 28: t. 42. 1842.

Range: Mexico (Vera Cruz & Chiapas), Guatemala, Honduras, Trinidad, Venezuela, British Guiana, Brazil, Peru and Bolivia.

A large and coarse species with greenish flowers. The lip is quite variable as is the vegetative habit.

30. EPIDENDRUM NAGELII L. O. Williams in Am. Orch. Soc. Bull. 10: 103, t. 4, figs. 6-9. 1941.

Range: Mexico (Guerrero).

Epidendrum Nagelii is allied to *E. trianthum* Schltr., a Costa Rica species, from which it differs in having much smaller flowers with the perianth parts differently shaped than are those of *E. trianthum*; plant larger; leaves smaller and narrower.

31. EPIDENDRUM ARBUSCULA Lindley in Bentham, Pl. Hartweg. 93. 1842, as arbusculum.

Epidendrum Nubium Reichenbach filius, Beitr. Orch. Centr.-Am. 81. 1866.

Epidendrum magnificum Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 406. 1918.

Range: Mexico (Guerrero, Oaxaca and Chiapas), Guatemala, El Salvador and Honduras.

Epidendrum arbuscula is a branched species but a few specimens do not show the character.

31a. EPIDENDRUM ARBUSCULA Lindl. var. RADIOFERENS Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 62. 1935.

Range: Mexico (Chiapas and "Chiapas etc.") and Guatemala.

A rather weak variety with no definitive characters.

32. *EPIDENDRUM LEDIFOLIUM* Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 21. 1845.

Epidendrum propinquum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 21. 1845.

Epidendrum lamprocaulon Reichenbach filius in Bot. Zeit. 10: 732. 1852.

Epidendrum lucidum Schlechter in Fedde Repert. 15: 206. 1918.

Range: Mexico (Tamaulipas, Vera Cruz, San Luis Potosí, Puebla, Guerrero, Oaxaca and Chiapas), Guatemala and Honduras.

Epidendrum ledifolium and *E. propinquum* were maintained as separate species by Ames, Hubbard & Schweinfurth in their treatment of the Genus *Epidendrum* in United States and Middle America (1936) 115 and 155. To justify this course the following statement is given under *E. ledifolium*: "This species is easily confused with *E. propinquum* A. Rich. & Gal. from which it differs in having broadly lanceolate floral bracts and a lip which is broadly rounded at the apex. *Epidendrum propinquum* has long-acuminate, almost filiform floral bracts and a lip which is commonly narrowed to an acute apex".

The characters given are rather weak ones at best and do not seem to be at all consistent. Bracts of the two sorts mentioned may be found in the same collection as may the two shapes of lips. Furthermore the supposed lip and bract characters do not always occur as they are supposed to.

33. *EPIDENDRUM RAMOSUM* Jacquin, Enum. Pl. Carib. 29. 1760; Stirp. Am. 221, t. 132. 1763; Ames Hubbard & Schweinfurth in Bot. Mus. Leaflet. Harv. Univ. 2: 45. 1934.

Epidendrum flexicaule Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 403. 1918.

Epidendrum modestiflorum Schlechter in Fedde Repert. Beihefte 19: 213. 1923.

Range: Mexico (Vera Cruz, Guerrero, Oaxaca and Chiapas), Guatemala, Honduras, Costa Rica, Panama, the West Indies, Colombia, Venezuela, British Guiana, Dutch Guiana, French Guiana, Brazil, Ecuador and Peru.

It is peculiar that this not uncommon tropical American *Epidendrum* apparently had not been collected in Mexico until recent years, except at two localities in Vera Cruz by Purpus. It speaks well for the ability of Mr. Ostlund's collectors, especially Otto Nagel, who have found it at eight localities in four States.

33a. *EPIDENDRUM RAMOSUM* Jacq. var. *AUGUSTIFOLIUM* (Cogn.) L. O. Williams in Ann. Mo. Bot. Card. 28: 422. 1941.

Epidendrum imbricatum Lindl. var. *augustifolia* Cogniaux in Mart. Fl. Bras. 3, pars 5: 171. 1898.

Epidendrum mixtum Schlechter in Fedde Repert. 10: 294. 1912.

Epidendrum ramosum Jacq. var. *mixtum* (Schltr.) Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 2: 49. 1934.

Range: Mexico (Chiapas), Guatemala and Honduras.

34. *EPIDENDRUM REPENS* Cogniaux in Fedde Repert. 7: 122. 1909.

Epidendrum Bourgeavii Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 401. 1918.

Epidendrum solisequum Kränzlin in Arkiv Bot. 16, No. 8: 17. 1920.

Range: Mexico (Vera Cruz and Chiapas), Costa Rica, the West Indies and Venezuela.

Epidendrum repens is essentially Caribbean in distribution. It seems to occur at rather high elevation and hence probably will never be found in Florida as are many species with a similar distribution.

35. *EPIDENDRUM STROBILIFERUM* Reichenbach filius in Nederl. Kruidk. Arch. 4: 333. 1858.

Epidendrum verecundum Schlechter in Fedde Repert. Beihefte 17: 42. 1922, non Poir.

Range: Florida (U.S.A.), Mexico (Vera Cruz), Guatemala, Honduras, Nicaragua, the West Indies, Venezuela, British Guiana, Dutch Guiana, French Guiana, Brazil and Peru.

Epidendrum strobiliferum is new to the flora of Mexico.

The species is essentially Caribbean in its distribution and is found at relatively low altitudes in that region.

36. EPIDENDRUM ISOMERUM Schlechter in Fedde Repert. 2: 132. 1906.

Range: Mexico (Vera Cruz), Guatemala, Honduras, Costa Rica and Panama.

37. EPIDENDRUM INCOMPTUM Reichenbach filius in Bot. Zeit. 10: 733. 1852.

Range: Mexico (Chiapas), Guatemala, Costa Rica and Panama.

Epidendrum incomptum is new to the flora of Mexico; it is closely allied to *E. incomptoides*.

38. EPIDENDRUM INCOMPTOIDES Ames, Hubbard and Schweinfurth in Bot. Mus. Leaflet. Harv. Univ. 3: 71. 1935.

Range: Mexico (State not known) and Costa Rica.

The locality for *Epidendrum incomptoides* is "Mts. near Fenia". The locality is not known to us; possibly in Vera Cruz. The species is closely allied to *E. incomptum* from which it is distinguished by the small leaves and by the lip.

39. EPIDENDRUM EXIMIUM L. O. Williams in Am. Orch. Soc. Bull. 10: 103, t. 4, figs. 1-5. 1941.

Epidendrum Amesianum Correll in Am. Orch. Soc. Bull. 16: 106, t. 1947.

Range: Mexico (Mexico and Chiapas).

Epidendrum eximium is a handsome species which is allied to *E. cerinum* Schltr. and to *E. comayaguense* Ames.

40. EPIDENDRUM COMAYAGUENSE Ames in Bot. Mus. Leaflet. Harv. Univ. 1, no. 8: 1, fig. 1933.

Range: Mexico (Chiapas) and Honduras.

A rare species which is new to the flora of Mexico.

41. EPIDENDRUM PHYSOIDES Reichenbach filius in Gard. Chron. 289. 1873.

Range: Mexico (state unknown), Guatemala and Costa Rica.

This species is known only from a specimen cultivated in Germany, which was said to have originated in Mexico. It is allied to the South American *E. prostratum* (Lindl.) Reichb. f.

42. EPIDENDRUM PORPAX Reichenbach filius in Bonplandia 3: 220. 1855.

Epidendrum porphyrophyllum Schlechter in Fedde Repert. Beihefte 17: 37. 1922.

Range: Mexico (Chiapas), Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Venezuela and Peru.

Epidendrum porpax has much the habitual aspect of *Epidendrum Schlechterianum* Ames. The species is new to the flora of Mexico.

43. EPIDENDRUM SCHLECHTERIANUM Ames in Sched. Orch. 7: 9, fig. 1. 1924.

Nanodes discolor Lindley in Bot. Reg. 18: t. 1541. 1832, non *Epidendrum discolor* Richard & Galéotti.

Epidendrum brevicaule Schlechter in Fedde Repert. Beihefte 17: 30. 1922, non Schltr. 1921.

Epidendrum congestoides Ames & Schweinfurth in Sched. Orch. 10: 61. 1930.

Range: Mexico (Guerrero and Oaxaca), Guatemala, Honduras, Costa Rica, Panama, the West Indies, Dutch Guiana, Brazil and Peru.

A peculiar congested little species which is similar in habit to *Epidendrum porpax* Reichb. f.

44. EPIDENDRUM CHINENSE (Lindl.) Ames in Sched. Orch. 7: 4. 1924.

Broughtonia chinensis Lindl. in Hooker Lond. Journ. 1: 492. 1842.

Epidendrum nonchinense Reichb. f. in Walp. Ann. 6: 324. 1862.

Epidendrum strophinx Reichb. f. in Linnaea 41: 78. 1876.

Laeliopsis chinensis Lindley ex Reichb. f. in Saunders Refug. Bot. 2: sub. t. 139. 1882, in synon.

Epidendrum Palmeri Rolfe in Kew. Bull. 6. 1893.

Barkeria nonchinensis Schltr., Orchideen 206. 1914.

Barkeria Palmeri Schltr. in Bot. Centralbl. 36, Abt. 2: 470. 1918.

Range: Mexico (Mexico, Morelos, Guerrero, Colima and Chiapas), Guatemala, El Salvador, Honduras and Costa Rica.

Epidendrum chinense unfortunately was originally said to be from Hong Kong hence the name. The species is quite variable as to size as well as to floral parts.

44a. EPIDENDRUM CHINENSE var. **naevosum** (Lindl.) comb. nov.

Epidendrum naevosum Lindley, Fol. Orch. Epid. p. 4. 1853; Ames, Hubbard & Schweinfurth Genus Epidendrum in U. S. and Middle Am. 127. 1936.

Barkeria naevosa Schlechter in Fedde Repert. Beihefte 19: 46. 1923, in text.

Range: Mexico (Sinaloa, Nayarit, Guerrero and Oaxaca).

The distinction between this variety and the species is a very weak one depending upon whether or not the covering over the cavity under the column at the top of the ovary is swollen or not, possibly a transitory character, and whether the lip is rounded or subcordate at the base or, as in *E. chinense*, more or less cuneate at the base. The latter character is not constant.

45. EPIDENDRUM LINDLEYANUM (Batem.) Reichb. f. in Walp. Ann. 6: 375. 1862.

Barkeria Lindleyana Bateman ex Lindley in Bot. Reg. 28: Misc. p. 2. 1842.

Barkeria spectabilis Bateman ex Lindley in Bot. Reg. 28: Misc. p. 43. 1842.

Barkeria melanocaulon Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 22. 1845.

Epidendrum melanocaulon Reichb. f. in Walp. Ann. 6: 375. 1862.

Epidendrum spectabile Reichb. f. in Walp. Ann. 6: 375. 1862, non Foecke.

Epidendrum Whartonianum C. Schweinf. in Am. Orch. Soc. Bull. 17: 316. t. 1948.

Range: Mexico (Puebla, Guerrero, Michoacan, Oaxaca and Chiapas), Guatemala, Honduras and Costa Rica.

Epidendrum Lindleyanum is one of the finest of the Epidendrums and also one of the most variable in size and in shape of flower parts.

46. EPIDENDRUM ELEGANS (Knowles and Westcott) Reichenbach filius in Walp. Ann. 6: 374. 1862.

Barkeria elegans Knowles & Westcott Floral Cab. 2: 7, t. 49. 1838.

Range: Mexico (Puebla, Mexico, Michoacan, Guerrero).

Epidendrum elegans is distinguished from *Epidendrum Lindleyanum* by the lack of true keels on the lip. The flowers of *E. elegans* are larger with broader petals and the leaves are smaller.

47. EPIDENDRUM BARKERIOLA Reichenbach filius in Gard. Chron. n. s. 22: 616. 1884, in synon.

Barkeria Barkeriola Reichb. f. in Gard. Chron, n. s. 22: 616. 1884.

Range: Mexico (Sinaloa and Colima).

Epidendrum barkeriola is very closely allied to *E. elegans* and might be best treated as a variety of it.

48. EPIDENDRUM STENOPETALUM Hooker in Bot. Mag. 62: t. 3410. 1835; Ames, Hubbard & Schweinfurth, Genus Epidendrum in U. S. and Mid. Am. 179. 1936.

Dimoranda stenopetala Schlechter in Fedde Repert. Beihefte 17: 44. 1922.

Range: Mexico (Vera Cruz and Oaxaca), Guatemala, Honduras, Costa Rica, Panama, the West Indies, Colombia, Venezuela, Ecuador, British Guiana, Dutch Guiana and Brazil.

Epidendrum stenopetalum is a peculiar species. Although it has much the same vegetative appearance of section *Euepidendrum*, Ames, Hubbard & Schweinfurth place it in section *Barkeria*. However it would doubtless be better placed in the section *Euepidendrum*.

49. EPIDENDRUM POLYBULBON Swartz, Prodr. Veg. Ind. Occ. 124. 1788; Hooker, Exot. Fl. 2: t. 112. 1824.

Dinema polybulbon Lindley, Gen. & Sp. Orch. Pl. 111. 1831.

Epidendrum polybulbon Sw. var. *luteo-album* Miethé in Orchis 8: 33, t. 1. 1914.

Range: Mexico (Vera Cruz and Chiapas), Guatemala, Honduras, Cuba and Jamaica.

A curious little, repent species which has rather showy flowers.

50. EPIDENDRUM PYGMAEUM Hooker in Bot. Mag. 60: t. 3233. 1833.

Epidendrum uniflorum Lindley in Bot. Reg. 24: Misc. p. 15. 1839.

Hormidium uniflorum Heynhold, Nomencl. Bot. Nachtr. 880. 1841.

Hormidium pygmaeum Bentham & Hooker ex Hemsley in Gard. Chron. n. s. 19: 700. 1883; in Godman & Salvin Biol. Centr.-Am. Bot. 3: 218. 1883.

Epidendrum pseudopygmaeum Finet in Bull. Herb. Boiss. 7: 121. t. 3. 1899.

Range: Florida (U. S. A.), Mexico (Vera Cruz and Chiapas), British Honduras, Honduras, Costa Rica, Panama, the West Indies, Venezuela, British Guiana, Brazil, Peru and Bolivia.

51. EPIDENDRUM DISTANTIFLORUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 19. 1845.

Range: Mexico (Oaxaca).

Known only from the type specimen.

52. EPIDENDRUM SUBAQUILUM Lindley in Bot. Reg. 32: sub. t. 64. 1846.

Epidendrum Harrisii Fawcett in Urban, Symb. Antill. 1: 291. 1899.

Range: Jamaica, possibly also Mexico or Guatemala. "Mexico or Guatemala": Hort. Warner.

The type locality of *E. subaquilum* was given as "Mexico or Guatemala" but even that may be wrong.

53. EPIDENDRUM CARDIOCHILUM L. O. Williams in Am. Orch. Soc. Bull. 9: 97, t. 1940.

Range: Mexico (Vera Cruz).

A peculiar species which resembles *E. exile* Ames, of section *Eupepidendrum*. It is most closely allied however, to *E. abbreviatum* Schlechter.

54. EPIDENDRUM VITELLINUM Lindley, Gen. & Sp. Orch. Pl. 97. 1831; Lindl., Bot. Reg. 26: t. 35. 1840; Lindl. Sert. Orch. t. 45. 1841; Hooker in Bot. Mag. 70: t. 4107. 1844.

Range: Mexico (Vera Cruz, Puebla, Oaxaca and Chiapas), Guatemala and Costa Rica (?).

In the Gray Herbarium there is a specimen labelled by Reichenbach filius "Costa Rica, Warscewicz 2693" but in his account of the Warscewicz plants he indicated it only from Guatemala. Likewise Ames, Hubbard & Schweinfurth indicate the range only as Mexico and Guatemala.

55. EPIDENDRUM MARIAE Ames in Bot. Mus. Leafl. Harv. Univ. 5: 36. 1937.

Range: Mexico (San Luis Potosí and Hidalgo).

Epidendrum Mariae is certainly one of the most handsome *Epidendrum*s of Mexico and well worthy of cultivation. It is allied to *E. Ghiesbreghtianum* Rich. & Gal.

56. EPIDENDRUM GHIESBREGHTIANUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 19. 1845; Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 4. 1934.

Range: Mexico (Guerrero and Oaxaca).

Epidendrum Ghiesbreghtianum is known with certainty only along the Sierra Madre del Sur. The species is allied to *E. Mariae* Ames, *E. venosum* Lindl. and *E. Diquetii* Ames.

57. EPIDENDRUM VENOSUM Lindley, Gen. & Sp. Orch. Pl. 99. 1831.

Epidendrum ensicaulon Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 19. 1845; Reichenbach filius in Walp. Ann. 6: 351. 1862.

Epidendrum Wendlandianum Kränzlin in Gard. Chron. ser. 3, 14: 58. 1893.

Encyclia venosa Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 474. 1918.

Encyclia Wendlandiana Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 474. 1918.

Range: Mexico (Jalisco and Michoacan).

Closely allied to *E. Diquetii* Ames and to *E. hastatum* Lindl.

58. EPIDENDRUM DIQUETHII Ames in Sched. Orch. 1: 15. 1922, as *Diquetii*.

Range: Mexico (Jalisco, Nayarit, Mexico, Morelos and Guerrero).

Epidendrum Diquetii is very closely allied to *E. venosum* Lindl. and may be no more than a variety of that species.

59. EPIDENDRUM PRINGLEI Rolfe ex Ames in Proc. Biol. Soc. Wash. 17: 120. 1904.

Encyclia Pringlei Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 473. 1918.

Range: Mexico (Morelos).

A rare species known only on the mountains northwest of Cuernavaca. The type is in the Ames Herbarium.

60. EPIDENDRUM HASTATUM Lindley in Hooker Journ. Bot. 3: 82. 1840.

Range: Mexico (Guerrero, Oaxaca and Chiapas).

A rare and little known species which is allied to *E. venosum* Lindl.

61. EPIDENDRUM PTEROCARPUM Lindley in Hooker, Journ. Bot. 3: 82. 1840; Lindl. in Bot. Reg. 30: t. 34. 1844.

Epidendrum cinnamoneum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 19. 1845.

Range: Mexico (Nayarit, Colima, Mexico, Michoacan, Guerrero, Oaxaca and Chiapas).

Epidendrum pterocarpum belongs in the alliance with *E. Ghiesbreghtianum* Rich. & Gal., *E. Mariae* Ames, *E. venosum*

Lindl., *E. Diquetii* Ames and *E. hastatum* Lindl., a group of exclusively Mexican species extending along the mountains of the Pacific slope of Mexico from Oaxaca northwestward. The present species is the most widely distributed of the alliance, extending from Chiapas to Nayarit.

62. EPIDENDRUM BRASSAVOLAE Reichenbach filius in Bot. Zeit. 10: 729. 1852, (as *Brasavolae*); Bateman in Bot. Mag. 93: t. 5654. 1867.

Encyclium Brassavolae "Ldl." ex Stein, Orchideen. 224. 1892, in synonym.

Range: Mexico (Guerrero, Oaxaca and Chiapas), Guatemala, Honduras and Panama.

63. EPIDENDRUM CHONDYLOBULBON Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845; Kränzlin in Arkiv Bot. 16, no. 8: 18. 1920.

Range: Mexico (Vera Cruz, Mexico, Michoacan, Colima, Guerrero, Oaxaca and Chiapas).

Epidendrum chondylobulbon is apparently widely distributed in South Mexico. It grows at 1300-2000 meters altitude.

64. EPIDENDRUM IONOPHLEBIUM Reichenbach filius, Beitr. Orch. Centr.-Am. 103. 1866.

Epidendrum pachycarpum Schlechter in Fedde Repert. 3: 109. 1920.

Epidendrum Hoffmannii Schlechter in Fedde Repert. 16: 444. 1920.

Range: Mexico (Vera Cruz, Guerrero, Oaxaca and Chiapas), British Honduras, Guatemala, Honduras, Costa Rica and Panama.

A widespread species which has been recorded from Mexico only recently. The species ranges from sea level to nearly 2300 meters altitude.

65. EPIDENDRUM PENTOTIS Reichenbach filius in Linnaea 41: 81. 1876.

Epidendrum fragrans Sw. var. *megalanthum* Lindley in Journ. Hort. Soc. London 4: 223. 1849; Lindley, Fol. Orch. Epid. p. 39. 1853.

Epidendrum confusum Rolfe in Orch. Rev. 17: 197. 1899.

Epidendrum Beyrodtianum Schlechter in Orchis 9: 49, t. 4, figs. 14-21. 1915.

Range: Mexico (Vera Cruz, Michoacan and Chiapas), Guatemala, El Salvador, Honduras and Brazil (?).

Epidendrum pentotis is new to the flora of Mexico. The species is very closely allied to *E. fragrans* Sw. from which it may be distinguished by the pseudobulbs which are usually bifoliate at their apices. There seems to be no other character of importance and perhaps it would be best to treat the plant as a variety of *E. fragrans* Sw., as Lindley has done.

66. EPIDENDRUM FRAGRANS Swartz, Prodr. Veg. Ind. Occ. 123. 1788; Sims, Bot. Mag. 40: t. 1669. 1814; Loddiges, Bot. Cab. 11: t. 1039. 1825; Ames, Hubbard & Schweinfurth, Genus Epidendrum in U. S. & Mid. Am. 101. 1936.

Epidendrum fragrans Sw. var. *pachypus* Schlechter in Fedde Repert. Beihefte 17: 32. 1922.

Range: Mexico (Guanajuato, Guerrero and Jalisco), Guatemala, Nicaragua, Costa Rica, Panama, the West Indies, Colombia, Venezuela, the Guianas, Brazil, Ecuador and Peru.

Epidendrum fragrans is a variable and wide ranging species which is here reported for the first time for Mexico. See Ames, Hubbard & Schweinfurth, cited above, for more complete synonymy.

67. EPIDENDRUM LANCIFOLIUM Pavón ex Lindley, Gen. & Sp. Orch. Pl. 98. 1831; Bot. Reg. 28: t. 50. 1842.

Epidendrum Langlassei Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 404. 1918.

Range: Mexico (Jalisco, Michoacan, Colima, Guerrero and Oaxaca).

Epidendrum lancifolium is closely allied to *E. fragrans* Sw.

68. EPIDENDRUM COCHLEATUM Linnaeus, Sp. Pl. ed. 2: 1351. 1763, excl. Sloane synonym.; Sims in Bot. Mag. 15: t. 572. 1802.

Anacheilum cochleatum Hoffmannsegg in Linnaea 16: Litt. 229. 1842.

Phaedrosanthus cochleatus O. Kuntze in Post & Kuntze, Lex. Gen. Phanerog. 429. 1904.

Epidendrum cochleatum L. var. *costaricense* Schlechter in Fedde Repert. Beihefte 19: 118, 211. 1923.

Range: Mexico (Tamaulipas, Vera Cruz, San Luis Potosí, Tabasco and Chiapas), British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, the West Indies, Colombia and Venezuela.

The Mexican form of the species often has unusually large flowers.

69. EPIDENDRUM RADIATUM Lindley in Bot. Reg. 27: Misc. p. 58. 1841; Lindl. in Bot. Reg. 30: t. 45. 1844.

Epidendrum marginatum Link, Klotzsch & Otto, Icon Pl. Rar. 1: 89, t. 36. 1841, non L. C. Richard.

Range: Mexico (San Luis Potosí, Vera Cruz, Oaxaca and Chiapas), Guatemala, Honduras and Venezuela (?).

A not uncommon and a distinctive species.

70. EPIDENDRUM MADRENSE Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 405. 1918.

Range: Mexico (Michoacan and Guerrero).

Epidendrum madreense is allied to *E. radiatum* Lindl. and *E. ionophlebium* Reichb f.

71. EPIDENDRUM BOOTHII (Lindl.) L. O. Williams in Ann. Mo. Bot. Gard. 26: 282. 1939.

Maxillaria Boothii Lindley in Bot. Reg. 24: Misc. p. 52. 1838.

Dinema paleacea Lindley in Bot. Reg. 26: Misc. p. 51. 1840.

Epidendrum auritum Lindley in Bot. Reg. 29: Misc. p. 4. 1843.

Epidendrum Lindenianum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845.

Epidendrum paleaceum Reichenbach filius, Beitr. Orch. Centr.-Am. 80. 1866; Reichb. f. in Saunders Ref. Bot. 2: t. 87. 1869; Ames, Hubbard & Schweinfurth Genus Epidendrum in U. S. & Mid. Am. 140. 1936.

Nidema Boothii Schlechter in Fedde Repert. Beihefte. 17: 43. 1922.

Range: Mexico (Vera Cruz, San Luis Potosí, Hidalgo and Chiapas), British Honduras, Guatemala, Nicaragua, Costa Rica, Panama, Cuba, Venezuela and Dutch Guiana.

Epidendrum Boothii is widely distributed in Mexico, Central and South America, mainly on the Caribbean watershed.

Ames, Hubbard & Schweinfurth, in their monograph, did not take up *Maxillaria Boothii* which is the oldest name for the species because of *Epidendrum Boothianum* Lindl., which they supposed would make the combination *Epidendrum Boothii* a homonym. The use of the name *Epidendrum Boothianum* does not exclude the use of the name *Epidendrum Boothii*, one being adjectival in form, the other genitive. (cf. International Rules of Botanical Nomenclature, ed. 1935. Art. 70, note 4).

72. EPIDENDRUM RHYNCHOPHORUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845; Ames, Hubbard & Schweinfurth in Bot. Mus. Leaflet. Harv. Univ. 1, no. 2: 2, t. 1932.

Epidendrum rhynchanthum "A. Rich. & Gal." ex Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 467. 1918, *sphalm.*

Range: Mexico (Oaxaca and Chiapas).

The type of this species is probably from Oaxaca but there is a duplicate of the type number in the Kew Herbarium which is labelled Vera Cruz. It is the latter locality which Ames, Hubbard & Schweinfurth gave in their publication cited above.

73. EPIDENDRUM PARKINSONIANUM Hooker in Bot. Mag. 67: t. 3778. 1840.

Epidendrum aloifolium Bateman, Orch. Mex. & Guat. t. 25, 1840, *non* Linnaeus.

Brassavola suaveolens "Gal." ex Hemsley in Gard. Chron. n. s. 11: 236. 1879, *nomen.*

Epidendrum falcatum Lindl. var. *Zeledoniae* Schlechter in Fedde Repert. Beihefte 19: 37. 1923.

Range: Mexico (Vera Cruz, Morelos and Chiapas), Guatemala, Honduras, Costa Rica and Panama.

A rather handsome large flowered species which has been often in cultivation.

73a. EPIDENDRUM PARKINSONIANUM Hook. var. FALCATUM Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 74. 1935.

Epidendrum falcatum Lindley in Ann. Nat. Hist. 4: 382. 1840.

Epidendrum lactiflorum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 22. 1845.

Range: Mexico (Puebla and Oaxaca) and Guatemala. The variety differs from the species mainly in its smaller flowers.

74. EPIDENDRUM CILIARE Linnaeus, Syst. Nat. ed. 10: 1246. 1759; Lindley in Bot. Reg. 10: t. 784. 1824.

Auliza ciliaris Salisbury in Trans. Hort. Soc. London 1: 294. 1812.

Epidendrum viscidum Lindley, Bot. Reg. 26: Misc. p. 81. 1840.

Epidendrum ciliare L. (C) *viscidum* Lindley, Fol. Orch. Epid. p. 30. 1853.

Range: Mexico (Vera Cruz, Nayarit, Colima, Michoacan, Guerrero, Campeche, Oaxaca and Chiapas), British Honduras, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama, the West Indies, Colombia, Venezuela, British and French Guianas, Brazil and perhaps naturalized in India.

Epidendrum ciliare is a rather common, wide spread species which is cosmopolitan in altitudinal range.

75. EPIDENDRUM PUGIONIFORME Regel in Act. Hort. Petrop. 11: 505. 1890.

Range: Mexico (Guerrero and Oaxaca).

No authentic specimen or record of this species has been seen. The treatment of Ames, Hubbard & Schweinfurth, in Genus *Epidendrum* in U. S. & Mid. Am. 158. 1936, seems to be correct and is followed here.

76. EPIDENDRUM XIPHERES Reichenbach filius in Fl. des Serres ser. 1, 9: 98. 1853-54.

Encyclia xipheres Schlechter, Orchideen 212. 1914.

Epidendrum yucatanense Schlechter, Orchideen 212. 1914,
in synon.

Encyclia Purpusii Schlechter in Fedde Repert. 21: 337.
1925.

Range: Mexico (Vera Cruz and Yucatan), Guatemala,
Honduras and possibly Peru.

The type of *Epidendrum xipheres* was said to have come from Peru but that is probably an error in as much as the species is unknown from that country by a wild specimen. The type is a horticultural specimen. It is interesting to note that the drawing of a specimen, in the Ames Herbarium, which is a copy of the original from Reichenbach's herbarium gives the locality as Guatemala.

77. EPIDENDRUM BRACTESCENS Lindley in Bot. Reg. 26:
Misc. p. 58. 1840; Ames, Hubbard & Schweinfurth in Bot.
Mus. Leaf. Harv. Univ. 3: 63. 1935.

Epidendrum aciculare Bateman ex Lindley in Bot. Reg.
27: Misc. p. 46. 1841.

Epidendrum linearifolium Hooker in Bot. Mag. 77: t.
4572. 1851.

Encyclia acicularis Schlechter, Orchideen 207. 1914.

Range: Mexico (Vera Cruz, Oaxaca and Chiapas), British Honduras, Guatemala, Honduras and the Bahamas (?).

Although the type of *E. aciculare*, a synonym of *E. bractescens* is said to have originated in the Bahamas we should be inclined to doubt it until wild specimens are secured from there.

78. EPIDENDRUM MICROBULBON Hooker, Ic. Pl. 4: t. 347.
1841.

Epidendrum ovulum Lindley in Bot. Reg. 29: Misc. p.
55. 1843; Ames, Sched. Orch. 3: 16. 1923.

Epidendrum sisyrinchiiifolium Richard & Galeotti in Ann.
Sci. Nat. ser. 3, 3: 19. 1845.

Encyclia microbulbon Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 473. 1918.

Encyclia ovalum Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 473. 1918.

Encyclia sisyrinchiiifolia Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 474. 1918.

Range: Mexico (Sonora, Michoacan, Mexico, Guerrero and Oaxaca).

An uncommon species with an unusual station in the state of Sonora.

79. EPIDENDRUM CONCOLOR Llave & Lexarza, Nov. Veg. Descr., Orch. Opusc. 2: 25. 1825.

Epidendrum pruinatum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845; Ames, Sched. Orch. 1: 19. 1922.

Encyclia concolor Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 472. 1918.

Encyclia pruinosa Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 473. 1918.

Range: Mexico (Jalisco, Michoacan, Guerrero, Puebla and Oaxaca).

We have followed Ames, Hubbard & Schweinfurth (Genus *Epidendrum* in U. S. and Mid. Am. 81. 1936,) in using the name *E. concolor* although the name can never be definitely proven.

80. EPIDENDRUM LINKIANUM Klotzsch in Allg. Gartenz. 6: 299. 1838.

Epidendrum tripterum Lindley in Hooker, Journ. Bot. 3: 83. 1840, non Smith 1793.

Epidendrum pastoris Link & Otto, Icon. Pl. Rar. 23, t. 12. 1828.

Encyclia Linkiana Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 472. 1918.

Range: Mexico (Vera Cruz, Morelos, Michoacan, Guerrero, Nayarit and Oaxaca).

Epidendrum Linkianum occurs mainly at fairly high elevations in Central Mexico, mostly above 1000 meters. The species is quite variable.

81. EPIDENDRUM OCHRACEUM Lindley in Bot. Reg. 24: t. 26, Misc. p. 14. 1838; Reichenbach filius in Saunders Ref. Bot. 2: t. 88. 1869.

Encyclia ochracea Lindley in Bot. Reg. 24: Misc. p. 15, 1838, *in textu*.

Epidendrum triste Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845.

Epidendrum panthera Reichenbach filius in Bonplandia 4: 326. 1856.

Epidendrum pachyriferum Schlechter in Bull. Herb. Boiss. 7: 543. 1899.

Encyclia panthera Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 473. 1918.

Range: Mexico (Vera Cruz, Puebla, Oaxaca and Chiapas), Guatemala, El Salvador, Honduras and Costa Rica.

Epidendrum ochraceum is rather variable as to size of the flower and of the plant.

82. EPIDENDRUM MACULOSUM Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 72. 1935.

Epidendrum guttatum Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845, *non* Linnaeus.

Encyclia guttata Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 472. 1918.

Range: Mexico (Oaxaca).

It is not impossible that this is a synonym of *E. ochraceum* Lindl. but the type is not very good so it is difficult to be sure.

83. EPIDENDRUM VIRGATUM Lindley in Hooker Journ. Bot. 3: 83. 1840; Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 76. 1935.

Epidendrum amabile Linden & Reichenbach filius in Bonplandia 3: 219. 1855.

Epidendrum virgatum var. *pallens* Reichenbach filius in Bonplandia 4: 326. 1856.

Epidendrum sphaerobulbon Richard & Galeotti ex Reichenbach filius in Bonplandia 4: 326. 1856, *in synon.*

Epidendrum punctulatum Reichenbach filius in Gard. Chron., n. s. 24: 70. 1885.

Encyclia amabilis Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 471. 1918.

Epidendrum ichtyphyllum Ames, Sched. Orch. 2: 28. 1923.

Range: Mexico (Mexico, Michoacan, Morelos, Guerrero and Oaxaca), Guatemala and Honduras.

Epidendrum virgatum is a variable species, both as to habitat and to flowers. Although normally an epiphytic type, growing on trees or rocks, it is most often to be found on the ground.

84. EPIDENDRUM LIMBATUM Lindley in Bot. Reg. 29: Misc. p. 69. 1843.

Prosthechea glauca Knowles & Westcott, Floral Cab. 2: 111. 1838.

Epithecia glauca Knowles & Westcott, Floral Cab. 2: 167, t. 87. 1838.

Epidendrum glauca Lindley in Bot. Reg. 26: Misc. p. 29. 1840, non Swartz.

Amblostoma tridactylum Reichb. f. var. *mexicanum* Kränzlin in Saetr. af Vidensk Medd. fra Dansk Naturh. Foren. 71: 177. 1920.

Epidendrum glaucovirens Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 70. 1935.

Range: Mexico (Oaxaca) and Guatemala.

85. EPIDENDRUM CONDYLOCHILUM Lehmann & Kränzlin in Engler Bot. Jahrb. 26: 459. 1899.

Epidendrum tessellatum Bateman ex Lindley in Bot. Reg. 24: Misc. p. 7. 1838, non Roxbury 1795.

Encyclia tessellata Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 474. 1918.

Epidendrum Deamii Schlechter, l.c. 402.

Range: Mexico (Tamaulipas, San Luis Potosí, Vera Cruz, Oaxaca, Campeche and Chiapas), Guatemala, Honduras, Costa Rica, Panama and Venezuela.

Epidendrum condylochilum is a variable species which is allied to *E. Linkianum*, *E. virgatum* and to the non-Mexican *E. lividum* Lindl. of which it may be a synonym.

86. EPIDENDRUM VARICOSUM Batem. ex Lindley in Bot. Reg. 24: Misc. p. 30. 1838.

Epidendrum leiobulbon Hooker in Journ. Bot. 3: 308, t. 10. 1831.

Epidendrum quadratum Klotzsch in Allg. Gartenz. 18: 402. 1850, *fide* Lindley.

Epidendrum chiriquense Reichenbach f. in Bot. Zeit. 10: 730. 1852, *fide* Lindley.

Epidendrum phymatoglossum Reichenbach f. in Bot. Zeit. 10: 731. 1852, *fide* Lindley.

Epidendrum Lunaeum A. Richard ex Lindley, Fol. Orch. Epid. 23. 1853, *in synonym*.

Encyclia chiriquensis Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 472. 1918.

Encyclia phymatoglossa Schlechter, l.c. 473.

Encyclia varicosa Schlechter, l.c. 474.

Epidendrum Ramirezzi Gajón Sánchez, Mejores Orquíd. Mex. 46, t. 16. 1930.

Range: Mexico (Vera Cruz, Puebla, Mexico, Morelos, Guerrero, Oaxaca and Chiapas), Guatemala, El Salvador, Honduras, Costa Rica and Panama.

Epidendrum varicosum is quite a variable species. It is not uncommon in the south of Mexico.

87. EPIDENDRUM KIENASTII Reichenbach f. in Gard. Chron. ser. 3, 2: 126. 1887; Ames, Sched. Orch. 5: 29. 1923.

Range: Mexico.

This species is known only from a horticultural specimen.

88. EPIDENDRUM LUTEOROSEUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 19. 1845; Ames, Sched. Orch. 3: 15. 1923.

Epidendrum seriatum Lindley, Fol. Orch. Epid. 59. 1853; Reichenbach f. in Saunders Ref. Bot. 2: t. 90. 1869.

Range: Mexico (Vera Cruz, Oaxaca and Chiapas), Guatemala, El Salvador and Honduras.

Epidendrum luteoroseum is allied to *E. tenuissimum* AHS. and to *E. cyanocolumna* AHS.

89. EPIDENDRUM TRIPUNCTATUM Lindley in Bot. Reg. 27: Misc. p. 66. 1841.

Range: Mexico (Guerrero).

90. EPIDENDRUM TENUISSIMUM Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 15. 1934.

Range: Mexico (Mexico, Michoacan, Guerrero and Oaxaca).

91. EPIDENDRUM CYANOCOLUMNA Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 2. 1934.

Range: Mexico (Tamaulipas, San Luis Potosí and Puebla).

Epidendrum cyanocolumna is closely related to *E. tenuissimum* AHS.

92. EPIDENDRUM BOOTHIANUM Lindley in Bot. Reg. 24: Misc. p. 5. 1838.

?*Epidendrum bidentatum* Lindley, Gen. & Sp. Orch. Pl. 98. 1831.

?*Diacrium bidentatum* Hemsley in Godman & Salvin, Biol. Cent.-Am., Bot. 3: 221. 1883.

Epidendrum erythronioides Small, Fl. S. E. United States 328. 1903.

Epicladium Boothianum Small, Fl. Miami 56. 1913.

Range: Florida (U.S.A.), Mexico (Quintana Roo), British Honduras and Cuba.

New to the flora of Mexico. If *Epidendrum bidentatum* proves to belong here, as I think it may, then the species will have to take that name.

93. EPIDENDRUM FAVORIS Reichenbach f. in Gard. Chron. n. s. 2: 98. 1874.

Range: Mexico (Colima).

This species has been known to me previously only by the original description, a drawing of the type and a copy of Reichenbach's sketches. Specimens collected by Otto Nagel (numbers 3988 and 4049) seems to differ from these records in that they have two or three leaves instead of one. The species is intermediate between *E. Boothianum* Lindl. and *E. magnispathum* AHS.

94. EPIDENDRUM MAGNISPATHEM Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 10. 1934.

Range: Mexico (Guerrero and Oaxaca).

A rare and handsome species allied to *E. favoris* and to *E. Boothianum*.

95. EPIDENDRUM BICAMERATUM Reichenbach f. in Gard. Chron. p. 1194. 1871.

Epidendrum Karwinskii Reichenbach f. in Gard. Chron. p. 710. 1869, *non* Reichenbach f. 1856.

Range: Mexico (Oaxaca).

A rare species which has not appeared in recent collections.

96. EPIDENDRUM BRACHIATUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 20. 1845; Reichenbach f. in Gard. Chron. n.s. 13: 648. 1880.

Range: Mexico.

Known only from Richard's drawing and a specimen said to be from horticulture, both in Reichenbach's herbarium.

97. EPIDENDRUM ERUBESCENS Lindley in Hooker, Journ. Bot. 3: 87. 1840; Bateman, Orch. Mex. & Guat. t. 32. 1843.

Encyclia erubescens Schlechter, Orchideen 214. 1914.

Range: Mexico (Oaxaca).

Epidendrum erubescens is a handsome species which is known only in the mountains at no great distance from Oaxaca city.

of cultivation. — Mr. Ostlund apparently was fond of the

98. EPIDENDRUM NEMORALE Lindley in Hooker, Journ. Bot. 3: 82. 1840.

Epidendrum verrucosum Lindley in Bot. Mag. 30: t. 51. 1844; Hooker in Bot. Mag. 76: t. 4606. 1851, *non* Swartz.

Encyclia nemoralis Schlechter, Orchideen 210. 1914.

Range: Mexico (Nayarit, Jalisco, Michoacan and Guerrero).

Epidendrum nemorale is a handsome species well worthy of cultivation. — Mr. Ostlund apparently was fond of the species for he had many plants of it on the trees in his patio in Cuernavaca.

99. EPIDENDRUM ATROPURPUREUM Willdenow, Sp. Pl. 4: 115. 1805.

Epidendrum macrochilum Hooker in Bot. Mag. 63: t. 3534. 1836.

Epidendrum macrochilum Hook. var. *roseum* Bateman, Orch. Mex. & Guat. t. 17. 1839.

Epidendrum macrochilum Hook. [var.] *roseo-pictum* J. E. Planchon, Hort. Donat. 165. 1858.

Epidendrum longipetalum Godefroy-lebeuf in Orchidoph. 12: 257. 1892, non Richard & Galeotti, nec Lindley & Paxton.

Encyclia atropurpurea Schlechter, Orchideen 208, fig. 49. 1914.

Encyclia atropurpurea (Willd.) Schltr. var. *leucantha* Schlechter in Fedde Repert. Beihefte 17: 45. 1922.

Encyclia atropurpurea (Willd.) Schltr. var. *rhodoglossa* Schlechter, l.c.

Range: Mexico (Vera Cruz and Chiapas), Guatemala, El Salvador, Nicaragua, Honduras, Costa Rica, Panama, the West Indies, Colombia, Venezuela, Brazil and Peru.

I have not seen Mexican specimens of this species. The record is based on *E. macrochilum* which is said to have originated in Mexico.

100. EPIDENDRUM ALATUM Bateman, Orch. Mex. & Guat. t. 18. 1840; Lindley in Bot. Reg. 33: t. 53. 1847.

Epidendrum calocheilum Hooker in Bot. Mag. 68: t. 3898. 1841.

Epidendrum longipetalum Lindley & Paxton in Paxton's Flow. Gard. 1: 149, t. 30. 1850-51, non Richard & Galeotti, 1845.

Epidendrum formosum Klotzsch in Allg. Gartenz. 21: 201. 1853.

Epidendrum ambiguum Lindley, Fol. Orch. Epid. p. 18. 1853.

Epidendrum trachychilum Lindley, l.c. 19.

Epidendrum belizenze Reichenbach filius in Linnaea 41: 78. 1876.

Encyclia alata Schlechter, Orchideen 207. 1914.

Encyclia ambigua Schlechter, l.c. 208.

Encyclia belizensis Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 471. 1918.

Encyclia trachychila Schlechter, l.c. 474.

Range: Mexico (Tamaulipas, San Luis Potosí, Vera Cruz, Puebla, Chiapas, Tabasco, Campeche and Yucatan), British Honduras, Guatemala, Honduras and Nicaragua.

Epidendrum alatum is very closely allied to *E. Candollei* Lindl. I have reduced *Epidendrum ambiguum*, which Ames, Hubbard and Schweinfurth maintained in "The Genus *Epidendrum*", to *E. alatum*. It seems to me that the shape of the base of the lip, as a distinguishing character, is rather too evasive for the purpose.

101. EPIDENDRUM FLABELLATUM Lindley, Fol. Orch. Epid. 6. 1853.

Range: Mexico.

The type of this species, a specimen from horticulture, is unsatisfactory and the plant may either be a synonym of *E. Candollei* or *E. alatum* or possibly it is a valid species. It is maintained here because it can not be better placed.

102. EPIDENDRUM CANDOLLEI Lindley in Bot. Reg. 25: 55. 1839.

Epidendrum cepiforme Hooker in Bot. Mag. 66: t. 3765. 1839.

Epidendrum meliosmum Reichenbach f. in Gard. Chron. 989. 1869.

Encyclia Candollei Schlechter, Orchideen 208. 1914.

Encyclia meliosma Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 472. 1918.

Range: Mexico (Vera Cruz, Jalisco, Michoacan, Guerrero and Oaxaca).

Epidendrum Candollei and *E. meliosmum* are maintained as distinct species by Ames, Hubbard and Schweinfurth in their key (The Genus *Epidendrum* in the U. S. and Middle America) but the characters used appear to me to be very weak and I can find no others.

103. EPIDENDRUM SELLIGERUM Bateman ex Lindley in Bot. Reg. 24: Misc. p. 40. 1838.

Epidendrum diotum Lindley in Bot. Reg. 29: Misc. p. 65. 1843.

Epidendrum Hanburii Lindley in Bot. Reg. 30: Misc. p. 46. 1844.

Epidendrum violodora Galeotti ex Lindley. Fol. Orch. Epid. 10. 1853, *nomen in synon.*

Epidendrum insidiosum Reichenbach f. in Linnaea 41: 80. 1876.

Epidendrum atrorubens Rolfe in Kew Bull. 46. 1896.

Encyclia Hanburii Schlechter, Orchideen 209. 1914.

Encyclia selligera Schlechter, l.c. 211.

Encyclia atrorubens Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 471. 1918.

Encyclia diota Schlechter, l.c. 472.

Encyclia insidiosa Schlechter in Fedde Repert. Beihefte 7: 254. 1920.

Range: Mexico (Guerrero, Michoacan, Oaxaca and Chiapas), Guatemala and Honduras.

A rare plant allied to *E. Oestlundii* AHS. Ames, Hubbard and Schweinfurth have maintained *Epidendrum selligerum*, *E. Hanburii* and *E. atrorubens* as distinct in their key (The Genus *Epidendrum* in the U. S. and Middle America) but I find little reason for so doing.

104. EPIDENDRUM OESTLUNDII Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 11. 1934.

Mexico: Guerrero.

Epidendrum Oestlundii is closely allied to *E. selligerum* Batem.

105. EPIDENDRUM PAPILLOSUM Bateman ex Lindley in Bot. Reg. 24: Misc. p. 7. 1838; Hooker in Bot. Mag. 65: t. 3631. 1838.

Epidendrum adenocarpum "La Llave" ex Lindley in Bentham, Pl. Hartw. 92. 1842; ex Ames, Hubbard & Schweinfurth in Genus *Epidendrum* in U. S. & Mid. Am. 51. 1936, hardly of La Llave & Lexarza.

Epidendrum adenocarpum Llave & Lexarza var. *Rosei* Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 61. 1935.

Range: Mexico (Sonora, Nayarit, Mexico and Guerrero), Guatemala, Honduras, El Salvador and Nicaragua.

The name *Epidendrum adenocarpum* has been most often used for this unit but that name, like so many of the La Llave and Lexarza names, is not determinable with accuracy. There are several species of this group which they might have had in hand.

The column of *E. papillosum* above its junction with the lip, has a broad wing which extends almost to the apex of the column and terminates in an auricle. The same winged condition apparently prevails in the closely allied *E. trachycarpum* Lindl. but that species seems to have a more pronounced auricle. The two species mentioned are distinguished thus from *E. oncidioides* Lindl. and its varieties which either have the wing of the column reduced to an auricle near the apex of the column, a narrow wing along the column or the wing completely lacking.

106. EPIDENDRUM TRACHYCARPUM Lindley in Bentham, Bot. Voy, Sulph. 172. 1846; Ames, Sched. Orch. 4: 50. t. 1923, in part.

Encyclia trachycarpa Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 474. 1918.

Range: Mexico (Colima).

Epidendrum trachycarpum is closely allied to *E. papillosum* Batem., which see for comments.

The original locality for this species is said to be "Bay of Manzanilla" which is perhaps the Bay of Manzanillo in Colima.

107. EPIDENDRUM AROMATICUM Bateman, Orch. Mex. & Guat. t. 10. 1838.

Epidendrum incumbens Lindley in Bot. Reg. 26: Misc. p. 45. 1840.

Encyclia aromatica Schlechter, Orchideen 208. 1914.

Range: Mexico (Chiapas) and Guatemala.

Epidendrum aromaticum has much the appearance of *E. oncidioides* var. *profusum* (Rolfe) AHS. especially in the coloration of the flowers.

108. EPIDENDRUM ONCIDIOIDES Lindley in Bot. Reg. 19: t. 1623. 1833; Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 101. 1935.

Epidendrum guatemalense Klotzsch in Allg. Gartenz. 20: 250. 1852.

Encyclia oncidioides Schlechter, Orchideen 210. 1914.

Range: Mexico (Oaxaca?), Guatemala, Honduras, Trinidad, Colombia, Venezuela, the Guianas and Brazil.

The species seems to be quite rare in Mexico. The taxonomy of the species and its presumed varieties is difficult and not satisfactory.

108a. EPIDENDRUM ONCIDIOIDES Lindl. var. GRAVIDUM (Lindl.) Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 104. 1935.

Epidendrum gravidum Lindley in Journ. Hort. Soc. London 4: 114. 1849; Ames, Sched. Orch. 4: 42, t. 2. 1923.

Encyclia gravida Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 472. 1918.

Epidendrum alajense Ames, Sched. Orch. 1: 13. 1922.

Encyclia Hunteriana Schlechter in Fedde Repert. Beihefte 17: 46. 1922.

Epidendrum peraltense Ames, Sched. Orch. 4: 46. 1923.

Range: Mexico (Vera Cruz and Chiapas), Honduras, Nicaragua, Costa Rica, Panama, Cuba and Argentina.

This variety is probably more widely distributed in South America than is at present recognized. It is rare in Mexico.

108b. EPIDENDRUM ONCIDIOIDES Lindl. var. PERPLEXUM Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 108. 1935.

Range: Mexico (Vera Cruz).

108c. EPIDENDRUM ONCIDIOIDES Lindl. var. PROFUSUM (Rolfe) Ames, Hubbard & Schweinfurth in Bot. Mus. Leaf. Harv. Univ. 3: 107. 1935.

Epidendrum profusum Rolfe in Bot. Mag. 140: t. 8551. 1914.

Range: Mexico?

Perhaps Mexican but the country of origin is indicated only by inference.

108d. *EPIDENDRUM ONCIDIOIDES* Lindl. var. *RAMONENSE* (Reichb. f.) Ames, Hubbard & Schweinfurth in Bot. Mus. Leafl. Harv. Univ. 3: 103. 1935.

Epidendrum ramonense Reichenbach f., Beitr. Orch. Centr.-Am. 81. 1866.

Encyclia ramonensis Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 473. 1918.

Encyclia Powellii Schlechter in Fedde Repert. Beihefte 17: 46. 1922.

Range: Mexico (Chiapas), Honduras, Costa Rica and Panama.

This variety is very close to var. *gravidum* (Lindl.) AHS.

109. *EPIDENDRUM STAMFORDIANUM* Bateman, Orch. Mex. & Guat. t. 11. 1838; Hooker in Bot. Mag. 80: t. 4759. 1854.

Epidendrum Cynostalix Reichenbach f. in Bot. Zeit. 10: 731. 1852.

Epidendrum Stamfordianum Batem. var. *pictum* Ramírez Goyena, Fl. Nicarag. 759. 1911, apparently not Lemaire.

Range: Mexico (Vera Cruz, Oaxaca, Yucatan and Chiapas), British Honduras, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia and Venezuela.

Epidendrum Stamfordianum is a handsome species of relatively low elevations (in Mexico under 600 meters). The inflorescence is usually borne on non-pseudobulbous, leafless basal shoots.

110. *EPIDENDRUM MARMORATUM* Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 21. 1845; Reichenbach f., Xenia Orch. 3: 32, t. 211. 1881.

Range: Mexico (Oaxaca).

A very distinct species with the vegetative aspect of a *Diacrium*.

111. *EPIDENDRUM MISERUM* Lindley in Bot. Reg. 27: Misc. p. 37. 1841.

Range: Mexico (Morelos, Michoacan and Oaxaca).

A very small species which was not satisfactorily known until Mr. H. D. Sawyer collected good specimens from near Tepoztlán, Morelos.

112. EPIDENDRUM BRACHYCOLUMNA L. O. Williams in Am. Orch. Soc. Bull. 10: 309, t. 10. 1942.

Range: Mexico (Guerrero).

A very distinct species by reason of the short column.

UNRECOGNIZED OR EXCLUDED SPECIES OF EPIDENDRUM

The following species, which I have been unable to recognize, were published for Sessé and Mociño in Fl. Mex. ed 2, pages 201 to 207. 1894 and also in La Naturaleza ser. 2, 2: Apénd. 220-226. 1896:

EPIDENDRUM Acinacifolium, Acuminatum, Calcaratium, Capitatum, Cornutum, Crucifolium, Ellipticum, Emarginatum, Fornicatum, Fragrantissimum, Guttatum, Lamellatum, Lineare, Longifolium, Nervosum, Nodosum, Nutans, Paniculatum, Parviflorum, Pulchellum, Pusillum, Retussum, Tigrinum, Tripetalum, Vainilla, Veracruzense, Vermifugum and Viridiflorum.

The following species, which I have been unable to recognize, were published by La Llave and Lexarza in Nov. Veg. Descr. (Orch. Opusc.) 2: 22-44. 1825:

EPIDENDRUM adenocaulum, anisatum, lignosum, ligulatum, macrobulbon, michuacanum, squalidum and turbinatum.

The following unrecognized species have been published by various botanists and are based on Mexican material:

EPIDENDRUM ACUTIFOLIUM Richard & Galeotti in Comp. Rend. Acad. Sci. Par. 18: 512. 1844, *nomen*.

EPIDENDRUM ALLARDTI Regel in Act. Hort. Petrop. 5: 268. 1877.

EPIDENDRUM CHLOROLEUCUM Hook. var. FUSCO-LUTEUM Regel in Ind. Sem. Hort. Petrop. 29. 1875.

EPIDENDRUM FRUTICOSUM Pavón ex Lindley, Gen. & Sp. Orch. Pl. 101. 1831.

EPIDENDRUM FUNCKIANUM Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 21. 1845.

EPIDENDRUM GRAHAMII Hooker in Bot. Mag. 68: t. 3885. 1841.

EPIDENDRUM OBTUSUM A. de Candolle, Pl. Rar. Jard. Genève 8: 17. 1840.

EPIDENDRUM OVALIFOLIUM Lindley, Gen. & Sp. Orch. Pl. 104. 1831.

EPIDENDRUM SCRIPTUM Richard & Galeotti in Comptes Rend. Acad. Sci. Par. 18: 512. 1844, *nomen*, in Ann. Sci. Nat. ser. 3, 3: 22. 1845, *non* Linnaeus.

EPIDENDRUM STENOPETALUM Knowles & Westcott, Floral Cab. 2: 175. 1839, *non* Hooker.

ENCYCLIA MEXICANA Hort. Berol. ex Otto & Dietrich, Allg. Gartenz. 5: 8. 1837, *nomen*.

28. CATTLEYA Lindley, Collect. Bot. tt. 33 & 37. 1824.

Epiphytic herbs with thick, fleshy or pseudobulbous stems, 1-2-foliolate at the apex. Leaves coriaceous or fleshy, most often thick. Inflorescence terminal, usually subtended by a spatheaceous bract; raceme simple; flowers often large and showy, usually few. Sepals subequal, free. Petals usually broader than the sepals. Lip sessile, broad, erect, free from or slightly adnate to the column, sides erect and usually enfolding the column. Column long, wingless, often somewhat arcuate; anther terminal, operculate, incumbent, each cell with a longitudinal septum; pollinia 4, parallel, ceraceous, broad, somewhat compressed.

Cattleya is one of the more important genera to the horticulturist for it is used in most all of the modern hybrids. The species which grow in Mexico all have relatively small flowers and have not been used very much in making commercial hybrids.

Lip obscurely 3-lobed; flowers fleshy, yellow.

4. *C. citrina*.

Lip not 3-lobed; flowers not fleshy, purple or yellow or orange, large or small.

Lip about 2 cm. long; flowers orange or yellow, small.

1. *C. aurantiaca*.

Lip more than 3 cm. long; flowers purple or a similar color, comparatively large.

Lip obtuse or even emarginate.

3. *C. Skinneri*.

Lip acute.

2. *C. Deckeri*.

1. *CATTLEYA AURANTIACA* (Batem.) P. N. Don in Flor. Journ. 185. 1840, as *aurantica*; Rolfe in Orch. Rev. 3: 83. 1895.

Epidendrum aurantiacum Batem. ex Lindley in Bot. Reg. 24: Misc. p. 8. 1838; Bateman, Orch. Mex. & Guat. t. 12. 1838.

Epidendrum aureum Lindley, Fol. Orch. Epid. 4. 1853.

Range: Mexico (Revillagigedo Islands, Jalisco, Colima, Nayarit, Mexico, Morelos, Michoacan, Guerrero, Oaxaca and Chiapas), Guatemala, El Salvador, Honduras and Nicaragua.

Cattleya aurantiaca is a borderline species between the genera *Cattleya* and *Epidendrum*. Perhaps it is best placed in *Cattleya*. The species is not uncommon in Central Mexico.

2. *CATTLEYA DECKERI* Klotzsch in Allg. Gartenz. 23: 81. 1855; Rolfe in Orch. Rev. 8: 261. 1900.

Cattleya Skinneri Batem. var. *parviflora* Hooker in Bot. Mag. 82. t. 4916. 1856.

Cattleya guatemalensis Moore in Flor. Mag. 1: t. 61. 1861.

Range: Mexico (state unknown), Guatemala, Costa Rica, the West Indies and possibly northern South America.

I have seen no specimens from Mexico and no authentic specimens from anywhere and I am sceptical about the species. It is said to differ from *C. Skinneri* Batem. by having smaller flowers, acute lip, and in other minor details.

3. *CATTLEYA SKINNERI* Bateman, Orch. Mex. & Guat. t. 13. 1838; Hooker in Bot. Mag. 72: t. 4270. 1846.

Epidendrum Hugelianum Reichenbach f. in Walp. Ann. 6: 312. 1862.

Range: Mexico (Chiapas), British Honduras, Guatemala, Honduras and Costa Rica.

The most attractive of the Mexican species of *Cattleya*. It is fairly easy to cultivate it out of doors where the climate is suitable and I have seen great lots of it, propagated from small beginning, and within relatively few years.

4. *CATTLEYA CITRINA* (Llave & Lex.) Lindley, Collect. Bot., sub t. 37. 1824; Hooker in Bot. Mag. 66: t. 3742. 1839.

Sobralia citrina La Llave & Lexarza, Nov. Veg. Descr., Orch. Opusc. 21. 1825.

Cattleya Karwinskii Mart. in Ausgew. Merkw. Pfl. p. 14, t. 10. 1831.

Epidendrum citrinum Reichenbach f. in Walp. Ann. 6: 317. 1862.

Range: Mexico (Vera Cruz, Jalisco, Michoacan, Guerrero and Oaxaca).

I presume that the type of this plant does not exist. The La Llave and Lexarza description is good and fits this unusual plant so well that there seems to be not the least reason for not accepting it.

EXCLUDED SPECIES

CATTLEYA PALLIDA Lindley & Paxton in Paxton's Flow. Gard. 2: 51, t. 48. 1851.52.

Epidendrum labiatum (Lindl.) Reichb. f. var. *pallidum* Reichenbach f. in Walp. Ann. 6: 315. 1861.

Cattleya labiata Lindl. var. *pallida* Reichenbach f. ex Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 475. 1918.

Range: Mexico (Nayarit).

The collector of this species, by inference, was Hartweg. The illustration cited shows a *Cattleya* of the *C. labiata* type with white sepals and petals and a pink lip with a yellow spot in the middle. It seems to me unlikely that a *Cattleya* of this

type was ever found wild in Mexico. The plant is probably a South American one and its presumed Mexican origin is no doubt due to mislabelling in the greenhouse.

29. LAELIA Lindley, Gen. & Sp. Orch. Pl. 115. 1831; Bentham & Hooker, Gen. Pl. 3: 533. 1883.

Epiphytic herbs often with showy flowers and ancipitous or terete, solid or hollow, 1-several-leaved pseudobulbs. Sepals subequal, free, spreading, flat or undulate. Petals similar to the sepals, sometimes broader, flat or undulate. Lip free from or slightly connate with the column; 3-lobed (or nearly simple), the lateral lobes enfolding the column or more or less explanate; disc smooth or lamellate. Column long or short, winged or wingless. Anther operculate, incumbent, each cell divided into two by a septum and with each cell sometimes again divided by a more or less perfect septum; pollinia 8, four in each cell, ovate or compressed laterally, waxy. — (*Amalias* Hoffmannsegg in *Linnaea* 16: litt. 228. 1842; *Schomburgkia* Lindley, *Sert. Orch.* t. 10. 1838; *Rhyncholaelia* Schlechter in *Beihefte Bot. Centralbl.* 36, Abt. 2: 477. 1918).

The species of *Laelia* have been much sought after as greenhouse plants and countless thousands of them have doubtless been exported from Mexico for this purpose.

Laelia is often crossed artificially with *Cattleya* and *Brasavola*. The intergeneric hybrids have a variable number of pollinia. The hybrid genera resulting from these crosses are *Laeliocattleya*, *Brassolaelia* and *Brassolaeliocattleya*.

Petals and sometimes the sepals undulate.

Mid-lobe of the lip nearly half the length of the lip; petals 8-12 mm. broad; plants of the Pacific slope.

11. *L. Sawyeri*.

Mid-lobe of the lip much less than half the length of the lip; petals mostly less than 8 mm. broad; plants of the Atlantic slope.

10. *L. tibicinis*.

Petals and sepals (usually) not undulate.

Floral bracts about as long as the pedicels.

Pseudobulbs terete or angled, bifoliate.

9. *L. superbiens*.

Pseudobulbs ancipitous, unifoliate.

7. *L. anceps*.

Floral bracts not more than half as long as the pedicels.

Inflorescence subtended by a spathe 4.5-13 cm. long, 1-flowered; column comparatively short.

Lip lacinate.

2. *L. Digbyana*.

Lip not lacinate.

1. *L. glauca*.

Inflorescence not subtended by a spathe or if so then the spathe very short, 1-several-flowered; column comparatively long.

Pseudobulbs ancipitous, usually 1-leaved; base of the lip usually dark maroon.

4. *L. rubescens*.

Pseudobulbs terete, 1-several-leaved; lip various colors.

Lip mostly less than 2 cm. long; flowers white or whitish.

3. *L. albida*.

Lip mostly more than 2.5 cm. long; flowers pink or darker.

Mature leaves less than 7 cm. long, usually but one on each pseudobulb.

6. *L. furfuracea*.

Mature leaves 10-25 cm. long, 1-4 on each pseudobulb.

Inflorescence 1-2-flowered; petals 2.5-4 cm. broad; low plants.

5. *L. speciosa*.

Inflorescence 3-several-flowered; petals usually much less than 2.5 cm. broad; tall plants.

8. *L. autumnalis*.

1. *LAELIA GLAUCA* (Lindl.) Bentham ex Jackson, Index Kew. 2: 21. 1895.

Brassavola glauca Lindley, Bot. Reg. 25: Misc. p. 47. 1839; Lindley, Bot. Reg. 26: t. 44. 1840; Bateman, Orch. Mex. & Guat. t. 16. 1839; Hooker in Bot. Reg. 69: t. 4033. 1843.

Bletia glauca Reichenbach f. in Walp. Ann. 6: 422. 1862.
Rhyncholaelia glauca Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 477. 1918.

Range: Mexico (Vera Cruz), Guatemala, Honduras and Panama.

Laelia glauca is not a widespread species in Mexico although large numbers of the plant have been exported from Mexico.

2. *LAELIA DIGBYANA* (Lindl.) Bentham ex Jackson, Index Kew. 2: 21. 1895.

Brassavola Digbyana Lindley in Bot. Reg. 32: t. 53. 1846;
Hooker in Bot. Mag. 75: t. 4474. 1849.

Rhyncholaelia Digbyana Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 477. 1918.

Range: Mexico (Yucatan and Quintana Roo), Guatemala, British Honduras and Honduras.

It is this species upon which almost all of the *Brassocattleya* or *Brassolaelia* hybrids of horticulture are based. It is a handsome species although somewhat difficult to flower in cultivation.

I am not sure that this and the foregoing species should be placed in the genus *Laelia* but I think that they fit here better than they do in *Brassavola*. Perhaps they do form a separate genus as Schlechter has proposed.

3. *LAELIA ALBIDA* Bateman ex Lindley, Bot. Reg. 25: Misc. p. 2, t. 54. 1839; Hooker in Bot. Mag. 67: t. 3957. 1842.

Laelia discolor Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 23. 1845.

Cattleya albida Beer, Prakt. Orch. 208. 1854.

Bletia albida Reichenbach f. in Walp. Ann. 6: 428. 1862.

Range: Mexico (Puebla, Jalisco, Nayarit, Michoacan, Guerrero and Oaxaca).

Laelia albida is a small white flowered species with somewhat the aspect of an *Odontoglossum*.

4. *LAELIA RUBESCENS* Lindley, Bot. Reg. 26: Misc. p. 20, t. 41. 1840.

Laelia acuminata Lindley, Bot. Reg. 27: Misc. p. 17, t. 24. 1841.

Laelia peduncularis Lindley, Bot. Reg. 28: Misc. p. 9. 1842; Hooker in Bot. Mag. 70: t. 4099. 1844; Lindley, Bot. Reg. 31: t. 69. 1845.

Laelia pubescens Lemoine, Jard. Fleur. Misc. p. 79. 1852.

Laelia violacea Reichenbach f. in Bonplandia 2: 89. 1854.

Cattleya acuminata Beer, Prakt. Orch. 208. 1854.

Cattleya peduncularis Beer, l.c. 213.

Cattleya rubescens Beer, l.c. 214.

Bletia rubescens Reichenbach f. in Walp. Ann. 6: 425. 1862.

Bletia peduncularis Reichenbach f., l.c. 426.

Bletia violacea Reichenbach f., l.c. 426.

Bletia acuminata Reichenbach f., l.c. 427.

Range: Mexico (Puebla, Nayarit, Michoacan, Guerrero and Yucatan), Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama.

Laelia rubescens is a variable species. The flowers are small to fairly large, white, white with the base of the lip red, and from pink through dark lavender. The leaves are usually one but sometimes there are two on each pseudobulb. The inflorescence is short or elongate, terminal or rarely on undeveloped bulbs and thus appearing to be lateral.

5. *LAELIA SPECIOSA* (HBK.) Schlechter, Orchideen 233. 1914.

Bletia speciosa Humboldt, Bonpland & Kunth, Nov. Gen. & Sp. 1: 342. 1816.

?*Bletia grandiflora* Llave & Lexarza, Nov. Veg. Descr. Orch. Opusc. 17. 1825.

?*Laelia grandiflora* Lindl., Gen. & Sp. Orch. Pl. 115. 1831.

Laelia majalis Lindley, Bot. Reg. 25: Misc. p. 35. 1839; Lindley, Bot. Reg. 30: t. 30. 1844; Bateman, Orch. Mex. & Guat. t. 23. 1840; Bateman in Bot. Mag. 93: t. 5667. 1867.

Cattleya Grahmi Lindley, Gen. & Sp. Orch. Pl. 116. 1841.

Cattleya majalis Beer, Prakt. Orch. 212. 1854.

Laelia majalis Lindl. var. *alba* Dimmock in American Gardening 22: 398. 1901.

Laelia grandiflora (Llave & Lex.) Lindl. var. *alba*, ex Orch. Rev. 9: 202, 312. 1901.

Range: Mexico (Vera Cruz, Hidalgo, Guanajuato, Guerrero, Michoacan and Oaxaca).

Laelia speciosa is one of the most beautiful of the Mexican orchids. It has often been cultivated and commercial collectors have nearly exterminated the species in some localities.

The inflorescence or the whole plants of this *Laelia* are often seen offered for sale in the streets of Mexico City. The Indians bring them in from the mountains south and southwest of Mexico City, I was told, by the burro loads. In collecting

them the Indians apparently tear the plants from the trees with no thoughts of the future. The plant will doubtless disappear from the Mexican flower markets in time, merely by having been exterminated in the adjacent mountains.

6. *LAELIA FURFURACEA* Lindley, Bot. Reg. 25: t. 26. 1839; Hooker in Bot. Mag. 67: t. 3810. 1840.

Cattleya furfuracea Beer, Prakt. Orch. 210. 1854.

Bletia furfuracea Reichenbach f. in Walp. Ann. 6: 428. 1862.

Range: Mexico (Oaxaca).

Laelia furfuracea is similar to *L. autumnalis* (Llave & Lex.) Lindl. from which it may be distinguished by the unifoliate pseudobulbs, smaller leaves and usually by the 1-2-flowered inflorescences.

7. *LAELIA ANCEPS* Lindley, Bot. Reg. 21: t. 1751. 1835; Hooker in Bot. Mag. 67: t. 3804. 1840.

Laelia anceps Lindl. var. *Barkeriana* Lindley, Bot. Reg. 22: t. 1947. 1837.

Laelia Barkeriana Knowles & Westcott, Flor. Cab. 63. 1837.

Amalias anceps Hoffmannsegg in Linnaea 16: litt. 228. 1842.

Cattleya anceps Beer, Prakt. Orch. 208. 1854.

Bletia anceps Reichenbach f. in Walp. Ann. 6: 418. 1862.

Range: Mexico (Vera Cruz, San Luis Potosí, Morelos and Oaxaca) and Honduras.

Laelia anceps is closely related to *L. superbiens* Lindl. The color of the flowers is quite variable.

8. *LAELIA AUTUMNALIS* Lindley, Gen. & Sp. Orch. Pl. 115. 1831; Bateman, Orch. Mex. & Guat. t. 9. 1838; Lindley, Bot. Reg. 25: t. 27. 1839; Hooker in Bot. Mag. 67: t. 3817. 1840.

Bletia autumnalis La Llave & Lexarza, Nov. Veg. Descr., Orch. Opusc. 19. 1825.

Cattleya automnalis Beer, Prakt. Orch. 208. 1854.

Laelia Gouldiana Reichenbach f. in Gard. Chron. ser. 3, 3: 41. 1888.

Range: Mexico (Sonora, Durango, Jalisco, Hidalgo, Michoacan, Mexico, Morelos and possibly Oaxaca).

Laelia autumnalis is closely allied to *L. superbiens* Lindl. and a little less so to *L. anceps* Lindl.

9. LAELIA SUPERBIENS Lindley, Bot. Reg. 26: Misc. p. 46. 1840; Bateman, Orch. Mex. & Guat. t. 38. 1843; Hooker in Bot. Mag. 70: t. 4090. 1844; Hooker, Cent. Orch. Pl. t. 23. 1849; Warner, Select. Orch. Pl. 1: t. 20. 1862-65.

Bletia superbiens Reichenbach f. in Walp. Ann. 6: 418. 1862.

Cattleya superbiens Beer, Prakt. Orch. 214. 1854.

Range: Mexico (Chiapas), Guatemala and Honduras.

Laelia superbiens is rare in Mexico. It must be a beautiful plant.

10. LAELIA TIBICINIS (Batem.) L. O. Williams in Darwiniana 5: 77. 1941.

Epidendrum tibicinis Bateman ex Lindley, Bot. Reg. 24 Misc. p. 8. 1838.

Schomburgkia tibicinis Bateman, Orch. Mex. & Guat. t. 30. 1841.

Schomburgkia tibicinis Batem. var. *grandiflora* Hooker in Bot. Mag. 75: t. 4476. 1849.

Cattleya tibicinis Beer, Prakt. Orch. 215. 1854.

Bletia tibicinis Reichenbach f. in Walp. Ann. 6: 429. 1862.

Range: Mexico (Tamaulipas, Vera Cruz, San Luis Potosí, Hidalgo, Oaxaca, Tabasco, Yucatan and Quintana Roo), British Honduras, Guatemala, Honduras and Costa Rica.

Laelia tibicinis is a very large species. The pseudobulbs are often hollow and inhabited by ants. There is considerable variation in the size of the flowers.

11. LAELIA SAWYERI L. O. Williams in Am. Orch. Soc. Bull. 11: 329, t. 9. 1943.

Range: Mexico (Guerrero and Morelos).

Laelia Sawyeri is allied to *L. tibicinis* but is distinguished by the larger mid-lobe of the lip, broader floral segments and larger flowers.

OBSURE OR EXCLUDED SPECIES

SCHOMBURGKIA CAMPECHEANA Kränzlin in Gard. Chron. ser. 3, 34: 381. 1903.

Range: Mexico (Campeche).

It is not improbable that this is a synonym of *Laelia tibicinis* (Batem.) L. Wms. Kränzlin had only three flowers from which to draw his description.

SCHOMBURGKIA GALEOTTIANA A. Rich. in Ann. Sci. Nat. ser. 3, 3: 23. 1845.

Range: Mexico (state not known).

The type is probably not at Paris but may be in Reichenbach's herbarium. It is probably a synonym of *L. tibicinis* (Batem.) L. Wms.

LAELIA EYERMANIANA Reichenbach f. in Gard. Chron. ser. 3, 4: 91, fig. on p. 109. 1883.

Range: Mexico (state unknown).

Thought to be a natural hybrid of *Laelia autumnalis* and *L. speciosa*. The inadequate illustration looks not unlike *L. autumnalis*.

30. BRASSAVOLA R. Brown in Aiton, Hort. Kew, ed. 2, 5: 216. 1813; Schlechter in Orchis 13: 41. 1919.

Epiphytic herbs with more or less thickened, 1-2-leaved stems. Sepals free, equal, spreading, linear or linear-lanceolate, often long and acuminate. Petals similar to the sepals. Lip sessile, erect, more or less enfolding the column, base short or long and narrow, expanded into a broad lamina which is plain, rarely concave or somewhat cucullate. Column erect, usually shorter than the claw of the lip, more or less bialate, footless; anther operculate, incumbent, each cell of the anther with an obscure longitudinal septum; pollinia 8, four in each cell of the anther, broadly ovate and laterally compressed.

Brassavola is a neotropical genus of about fifteen species. The flowers are often large and quite showy.

Apex of the lip linear, long acuminate; lamina usually less than 2 cm. broad.

2. *B. cucullata*.

Apex of the lip not linear, short acuminate; lamina usually more than 2 cm. broad.

1. *B. nodosa*.

1. *BRASSAVOLA NODOSA* (L.) Lindley, Gen. & Sp. Orch. Pl. 114. 1831; Bot. Reg. 17: t. 1465. 1832.

Epidendrum nodosum Linnaeus, Sp. Pl. 953. 1753.

Cymbidium nodosum Swartz, Nov. Act. Ups. Soc. Sci. 6: 73. 1799.

Brassavola grandiflora Lindley in Bot. Reg. 25: Misc. p. 16. 1839.

Brassavola venosa Lindley in Bot. Reg. 26: t. 39. 1840; Hooker in Bot. Mag. 69: t. 4021. 1843.

Bletia nodosa Reichenbach filius in Walp. Ann. 6: 437. 1862.

Brassavola scaposa Schlechter in Orchis 13: 57. 1919.

Range: Mexico (Vera Cruz, San Luis Potosí, Campeche, Chiapas and Quintana Roo), British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Venezuela and Colombia.

Brassavola nodosa is not an uncommon species in the Central American tropics at low elevations, up to 500 meters.

2. *BRASSAVOLA CUCULLATA* (L.) R. Brown in Aiton, Hort. Kew. ed. 2, 5: 216. 1813.

Epidendrum cucullatum Linnaeus, Sp. Pl. ed. 2, 1350. 1763.

Cymbidium cucullatum Swartz in Nov. Act. Ups. Soc. Sci. 6: 73. 1799.

Brassavola cuspidata Hooker in Bot. Mag. 66: t. 3722. 1839.

Brassavola appendiculata Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 23. 1845.

Brassavola odoratissima Regel in Gartenfl. 1: 325, t. 33. 1852.

Bletia cucullata Reichenbach filius in Walp. Ann. 6: 433. 1862.

Range: Mexico (Vera Cruz, San Luis Potosí, Colima and Yucatan), Guatemala, El Salvador and Honduras.

31. MEIRACYLLIUM Reichenbach filius, *Xenia* Orch. 1: 12. 1854.

Small epiphytic herbs with repent rhizomes which are covered with persistent scales. Stems short, inconspicuous, unifoliolate, pseudobulbous but not greatly thickened. Leaves short, broad, sessile, very fleshy. Inflorescence terminal, 1-2-flowered. Sepals equal, erect and spreading, the lateral forming an inconspicuous mentum at the base. Petals similar to the sepals but narrower. Lip simple, adnate to the base of the column, strongly concave or saccate at the base. Column short, thick, wingless; rostellum large, erect, emarginate; anther incumbent on the back of the rostellum, imperfectly two-celled, convex; pollinia 8, in two fascicles, oblong or clavellate, unequal in size, ceraceous.

Petals linear-oblongate; commoner species.

2. *M. gemma*

Petals lanceolate; rarer species.

1. *M. trinasutum*

1. MEIRACYLLIUM TRINASUTUM Reichenbach filius, *Xenia* Orch. 1: 12, t. 6, figs. II, 8-12. 1854.

Range: Mexico (Chiapas) and Guatemala.

2. MEIRACYLLIUM GEMMA Reichenbach filius in Gard. Chron, 988. 1869; *Xenia* Orch. 3: 13, t. 209, figs. I, II, 1-9. 1878.

Range: Mexico (Vera Cruz, Puebla, Jalisco, Colima, Nayarit, Michoacan, Guerrero and Oaxaca), El Salvador and Guatemala.

Meiracyllium gemma is closely allied to *M. trinasutum* Reichb. f. but seems to be distinguished by its narrower, comparatively longer lip, narrower petals and possibly by details of the column. Reichenbach's plates of this species and of the preceding species, in *Xenia* Orchidacea, are not good.

(To be continued).