foot. Petals similar to the dorsal sepal. Lip 3-lobed, attached to the column-foot; lateral lobes large, erect; mid-lobe erect or reflexed; lamina usually with callus veins. Column erect, arcuate, broadly bialate, produced into a foot at the base; anther operculate, incumbent; pollinia 8, ceraceous. (*Thorvaldsenia* Liebmann in Bot. Notis. 103. 1844.)

A small genus of three or four species which is limited to Central America and Indean South America. Occasionally in cultivation.

Bracts of the inflorescence 1.5-3 cm. long, ovate, greenish; sepals and petals white.
1. *C. bractescens*

Bracts of the inflorescence 0.6-2 cm. long, lanceolate to ovate-lanceolate; sepals and petals yellow or if white then with prominent purple markings.

Sepals and petals yellow.
2. *C. aurea*

Sepals and petals white with purple markings.
2a. *C. aurea* var. *Limminghei*

1. CHYSIS BRACTESCENS Lindley in Bot. Reg. 26: Misc. p. 61. 1840; Hooker in Bot. Mag. 86: t. 5186. 1860; Bateman, Sec. Cent. Orch. Pl. t. 138. 1867; Hagerup & Williams in Am. Orch. Soc. Bull. 10: 23, t. 1. 1941.

Thorvaldsenia speciosa Liebmann in Bot. Notis. 103. 1844, as *Thorwaldsenia* in Bot. Zeit. 4: 396. 1846.

Range: Mexico (Vera Cruz and possibly other states), British Honduras (fide Schlechter) and Guatemala.

Chysis bractescens is probably the prettiest species of this small genus.

2. CHYSIS AUREA Lindley in Bot. Reg. 23: t. 1937. 1837; Hooker in Bot. Mag. 64: t. 3617. 1837.

Chysis laevis Lindley in Bot. Reg. 26: Misc. p. 61. 1840; Bateman, Orch. Mex. & Guat. t. 31. 1842.

Range: Mexico (Vera Cruz, Chiapas and possibly other states), British Honduras, Honduras, Costa Rica, Panama, Colombia and Venezuela.

Although *Chysis aurea* and *C. laevis have usually* been maintained as distinct species I am inclined to think them

inseparable. Lindley's original plate of *C. aurea* is based on a Mexican specimen and it is this plate which we accept as typical. Hooker (Bot. Mag. t. 3617) figured the Hechman collection from Venezuela, which Lindley had cited. The two plates seem to differ only slightly in coloration of the lips.

Chysis laevis is said to have larger flowers than *C. aurea*. I find no significant difference between the two.

2a. CHYSIS AUREA Lindl. var. LIMMINGHEI Lemaire in Illustr. Hort. 26: t. 240, in adnot. 1860.

Chysis Limminghei Linden & Reichenbach filius in Allgem. Gartenzeit. 26: 380. 1858.

Range: Mexico (state not known to us).
Possibly only a color variation of *C. aurea* Lindl.

48. BULBOPHYLLUM Thouars, Hist. Pl. Orch. Tabl. des espèc. III, t. 93-97. 1822.

Repent epiphytic herbs. Pseudobulbs unifoliate or bifoliate. Inflorescence lateral, from the base of the pseudobulbs, axis of the rhachis sometimes thickened. Sepals free or the laterals connate, the laterals adnate to the column-foot. Petals smaller than the sepals. Lip simple (in ours) or 3-lobed, attached to the column-foot, fleshy or with various callus thickenings. Column short, ours with two aristate terminal arms, produced into a foot at the base; anther operculate, incumbent; pollinia 8, ceraceous. — (*Bolbophyllaria* Reichenbach filius in Bot. Zeit. 10: 934. 1852.)

Bulbophyllum is one of the few orchid genera which occurs on all of the continents. It is a vast and difficult genus of which there are but few species in the western hemisphere.

Pseudobulbs unifoliate; petals minutely serrulate.
1. *B. Nagelii*

Pseudobulbs bifoliate; petals not serrulate.
Petals obtuse; fruits vernicose, smooth.
2. *B. pachyrachis*

Petals acute or aristate; fruits not vernicose, papillose.
Petals aristate, not broadened at the extreme base.
3. *B. aristatum*

Petals acute, prominently broadened at the very base.
4. *B. cirrhosum*

BULBOPHYLLUM NAGELII L. O. Williams in B
Harv. Univ. 7: 144. 1939.

ange: Mexico (Mexico and Morelos).

BULBOPHYLLUM PACHYRACHIS (A. Rich.) G
t. W. Ind. 613, as *Bolbophyllum pachyrrhachi*

leurothallis ? pachyrachis A. Richard in La Sag
ub. 11: 234, t. 74. 1850.
ulbophyllum vinosum Schlechter in Beihefte B
lbl. 36, Abt. 2: 411. 1918.

ange: Mexico (Vera Cruz and Chiapas), Gu
ras, Costa Rica, Panama and the West Indies.

BULBOPHYLLUM ARISTATUM (Reichb. f.) He
n & Salvin, Biol. Centr. Am. Bot. 3: 213. 188

olbophyllaria aristata Reichenbach filius in Bei
entr. Am. 60. 1861.

ange: Mexico (Oaxaca and Chiapas), Guatema
Costa Rica and Panama.
ulbophyllum aristatum resembles *B. pachyrac*
ut may be distinguished readily by the aristat
n fruit by the papillose ovaries. The species i
xican flora.

BULBOPHYLLUM CIRRHOSUM L. O. Williams
Soc. Bull. 9: 21, t. 1940.

ange: Mexico (Guerrero).
distinctive species which has been recently dis

9. EULOPHIA R. Brown in Bot. Reg. 8: t. 68
rect terrestrial herbs. Leafy stem thickened in
s at the base. Leaves plicate-veined, often la
Inflorescence simple or racemose. Sepals subequ
erals adnate to the base of the column. Petals
dorsal sepal. Lip erect, free, gibbous-saccate or
base, 3-lobed (in ours); lateral lobes of the
ore or less enfolding the column; mid-lobe ere
sometimes bilobed. Column short, with a sh
operculate, incumbent; pollinia 4, ceraceous. –

ndley, Gen. & Sp. Orch. Pl. 189. 1833.)
ophia is a rather large genus, mainly of Asi
with a few species in the western hemisphere.

with a prominent spur.

1. *E. fi*

with the base subsaccate.

2.

EULOPHIA FILICAULIS Lindley in Ann. & Mag
: 184. 1842.
ge: Mexico (state unknown).
ave seen only a photograph of Lindley's sketch
ence and a flower. So far as I know the speci
en recollected.

EULOPHIA ALTA (L.) Fawcett & Rendle, Fl. Ja
2, figs. 4-8. 1910.

odorum altum Linnaeus, Syst. ed. 12, 2: 594.
topodium Woodfordii Sims in Bot. Mag. 43: t.
6; Lindley in Bot. Reg. 18: t. 1508. 1832.
topera Woodfordii Lindley, Gen. & Sp. Orch. P
3.
drobium longifolium Humboldt, Bonpland &
. Gen. & Sp. 1: 360. 1815.
topera longifolia Reichenbach filius in Walp
668. 1863.
ophia Woodfordii Rolfe in Fl. Trop. Afr. 7: 68.
ophia longifolia Schlechter, Orch. 347. 1914.

ge: Florida (U.S.A.), Mexico (Vera Cruz, Gu
pas), British Honduras, Guatemala, Panama, th
Venezuela, Brazil, Colombia, Peru and West
parently this is the first report of this species

CYRTOPODIUM R. Brown in Aiton, Hort. Ke
6. 1813.
phytic herbs. Stems swollen into cylindric or fu
ulbs. Leaves distichous, plicate, contracted into
lorescence erect, from the rhizome; raceme sim
l, flower (of our species) showy. Sepals free, s

ing, subequal or the laterals broader at the base and more or less adnate to the column-foot. Petals similar to the dorsal sepal, usually broader and shorter. Lip shortly adnate to the column-foot, 3-lobed; lateral lobes broad, erect or spreading; mid-lobe entire, retuse or crisped. Column erect, produced into a distinct foot at the base; anther operculate, incumbent; pollinia 2, ceraceous.

Cyrtopodium is a small genus, of probably fewer than ten species, which is limited to the American tropics and subtropics.

1. CYRTOPODIUM PUNCTATUM (L.) Lindley, Gen. & Sp. Orch. Pl. 188. 1833; Lindl., Sert. Orch. t. 12. 1838; Hooker in Bot. Mag. 63: t. 3507. 1836; Ames, Orch. 1: 55, t. 15. 1905.

Epidendrum punctatum Linnaeus, Syst. Nat. 2: 1246. 1760.

Cyrtopodium Willmorei Knowles & Westcott, Flor. Cab. 1: t. 4. 1837.

Range: Florida (U.S.A.), Mexico, (Tamaulipas, Puebla, Michoacan, Guerrero, Hidalgo, Chiapas and Yucatan), Guatemala, Costa Rica, the West Indies and in South America to northern Argentina.

51. GOVENIA Lindley in Lodd., Bot. Cab. 18: t. 1709. 1831.

Terrestrial herbs with plicate leaves which are usually large. Sepals subequal; the dorsal sepal erect, incurved and usually navicular; lateral sepals falcate. Petals similar to the lateral sepals, falcate. Lip articulated to the short column-foot, entire or rarely dentate or crenulate toward the apex. Column arcuate, produced into a short foot, winged near the apex. Anther terminal, one-celled. Pollinia 4, ceraceous.

Petals conspicuously broader than the lateral sepals.
Apex of the lip not crenulate; stem usually bifoliate.
1. *G. liliacea*
Apex of the lip crenulate; stem usually unifoliate.
1a. *G. liliacea* var. *Purpusii*
Petals not conspicuously broader then the lateral sepals.

Lip ovate; flowers yellow.
2. *G. superba*

Lip not ovate; flowers probably not yellow.
3. *G. pauciflora*

1. GOVENIA LILIACEA (Llave & Lex.) Lindley in Bot. Reg. 21: t. 1795 in text. 1836; Lindl. in Bot. Reg. 24: t. 13. 1838; Reichenbach filius in Walp. Ann. 6: 556. 1863.

Maxillaria liliacea La Llave & Lexarza, Orch. Mex. pars 2: 12. 1824.
Eucnemis brevilabris Lindley, Gen. & Sp. Orch. Pl. 161. 1832.
Govenia capitata Lindley, Bot. Reg. n. s. 8: sub t. 1795. 1836.
Govenia alba Richard & Galeotti in Ann. Sci. Nat. serie 3, 3: 25. 1845.
Govenia deliciosa Reichenbach filius in Bot. Zeit. 10: 836. 1852; Reichenbach filius in Walp. Ann. 6: 557. 1863.
Govenia brevilabris Reichenbach filius in Beitr. Orch. Cent. Am. 3: 249. 1883.
Govenia utriculata var. *capitata* Correll in Lloydia 10: 226. 1947.

Range: Mexico (Nuevo Leon, Mexico, Puebla and Chiapas).

Govenia liliacea is one of the commonest species of the Mexican area. It may be distinguished from the closely allied *G. superba* by the broad sepals and the white flowers. The species is extremely variable.

1a. GOVENIA LILIACEA var. PURPUSII (Schltr.) L. O. Williams in Bot. Mus. Leafl. Harv. Univ. 7: 146. 1939.

Govenia Purpusii Schlechter in Beih. Bot. Centralbl. 25 Abt. II: 412. 1918; in Fedde Repert. Beih. 59: t. 61, f. 241. 1921.

Govenia mutica var. *Purpusii* Correll in Lloydia 10: 222. 1947.

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

Plants smaller than the species usually with a single leaf and a few-flowered inflorescence, otherwise like the species.

2. GOVENIA SUPERBA (Llave & Lexarza) Lindley ex Loddiges, Bot. Cab. 18: t. 1709. 1831; Lindley, Gen. & Sp. Orch. Pl. 153. 1832; Lindley in Bot. Reg. n.s. 8: t. 1795. 1836; Knowles & Westcott, Floral Cab. 1: t. 41. 1837.

Maxillaria superba La Llave & Lexarza, Orch. Mex. pars 2: 13. 1824.
Govenia Andrieuxii Reichenbach filius in Bot. Zeit. 10: 835. 1852.
Govenia lagenophora Lindley in Bot. Reg. 25: misc. 46. 1839; in Bot. Reg. 31: sub t. 67, excl. syn. 1845; in Bentham Pl. Hartw., 53. 1840; Rolfe in Orch. Rev. 14: 316. 1906; in Bot. Mag. 145: t. 8794. 1919.

Range: Mexico (Vera Cruz, Distrito Federal, Morelos and Guerrero) south to Guatemala.

A beautiful species allied to *G. liliacea*, from which it is distinguished by the yellow flowers and the narrower petals.

3. GOVENIA PAUCIFLORA Lindley in Ann. Nat. Hist. 10: 184. 1842; Reichenbach filius in Walp. Ann. 6: 556. 1863.

Govenia elliptica S. Watson in Proc. Am. Acad. 26: 153. 1891.
Govenia superba var. *elliptica* Correll in Lloydia 10: 224. 1947.

Range: Mexico (Durango, Nuevo Leon).

Govenia pauciflora is poorly known.

EXCLUDED SPECIES

GOVENIA MUTICA Reichenbach filius in Bot. Zeit. 10: 856. 1852; in Walp. Ann. 6: 556. 1864; Xen. Orch. 3: 46, t. 220. 1881.

The first two descriptions cited above do not agree with the last one and the plate. I have seen no authentic material.

52. MORMODES Lindley, Nat. Syst. Bot. ed. 2: 446. 1835.

Epiphytic herbs. Stems short, several-leaved, developing into oblong or fusiform pseudobulbs. Leaves plicate, distichous. Inflorescence lateral, simple, often pendulous. Flowers

often showy. Sepals free, spreading or reflexed, rarely connivent. Petals similar to the sepals or broader. Lip entire or 3-lobed, articulated to the base of the column, often contracted into a claw, duplicate or sometimes concave; lateral lobes usually reflexed. Column thickened, erect, usually twisted to one side, without antennae, exalate, footless. Anther operculate, incumbent, convex, uni- or biloculate; pollinia 4, incumbent in two pairs or 2 which are sulcate, ceraceous. — (*Cyclosia* Klotzsch in Allgem. Gartenzeit. 6: 305. 1838.)

An interesting genus because of the torsion to which the parts of the flower are subjected. It is a difficult genus to study and the species are often variable.

Lindley originally assigned the feminine gender to Mormodes but in most of his later works he treated it as neuter.

Lip 3-lobed.
  Lip hemispherical, concave, obscurely 3-lobed at the apex.
    1. *M. luxatum*
  Lip not hemispherical, not concave, prominently 3-lobed.
    Lip sparsely long pubescent.
      8. *M. lineatum*
    Lip glabrous.
      Lateral lobes of the lip arising near the middle of the lip; midlobe of the lip lanceolate, much exceeding the lateral lobes in length.
        Flowers maculate.
          7. *M. maculatum*
        Flowers not maculate.
          7a. *M. maculatum* var. *unicolor*
      Lateral lobes of the lip arising near the base of the lip; midlobe of the lip linear-oblong, only a little longer than the lateral lobes.
        8. *M. lineatum*

Lip not 3-lobed.
  Lip serrate, at least at the apex.
    2. *M. uncium*
  Lip not serrate.
    Lip prominently unguiculate.
      Blade of the lip broadly cordate.
        3. *M. aromaticum*
      Blade of the lip obovate, oval to orbicular.
        4. *M. buccinator*
    Lip not unguiculate.
      Lip triangular with a short inflexed apicule in the middle.
        5. *M. Dayanum*
      Lip-oblanceolate-ovate, obtuse or truncate with an apicule.
        6. *M. Nagelii*

1. MORMODES LUXATUM Lindley in Bot. Reg. 28: Misc. p. 60. 1842; in Bot. Reg. 29: t. 33. 1843.

Range: Mexico (Michoacan ?).

Known to me only by the literature cited. See the discussion under *M. uncium* Reichb. f.; Bentham and Hooker thought that *Mormodes luxatum* should be referred to Catasetum.

2. MORMODES UNCIUM Reichenbach filius in Gard. Chron. 892. 1869.

Mormodes Greenei Hooker in Bot. Mag. 95: t. 5802. 1869.
Mormodes incisa Reichenbach filius in Gard. Chron. n. s. 12: 592. 1879, *nomen.*

Range: "Mexico".

Mormodes uncium is probably allied to *M. luxatum* Lindl. Both are beautiful and showy species and it is diffcult to understand how they could have been missed by such excellent collectors as Pringle, Nagel and Hinton, not to mention a host of other collectors who have been in Mexico. It may be that for horticultural "reasons" the true country of origin was not given.

3. MORMODES AROMATICUM Lindley in Bot. Reg. 27: Misc. p. 76. 1841; in Bot. Reg. 29: t. 56. 1843.

Range: Mexico (Mexico and Oaxaca) and Honduras.

The lip in some specimens is unguiculate with the terminal part broadly cordate.

4. MORMODES BUCCINATOR Lindley in Bot. Reg. 26: Misc. p. 10. 1840; in Bot. Reg. 29: sub t. 33. 1843.

Range: Mexico (Michoacan, Guerrero), reported from other countries in Central and South America. See discussion below.

Mormodes buccinator was described from horticultural material for which the country of origin was not mentioned. In the second citation, given above, the species of Mormodes then known to Lindley were brought together and Mexico was given as the country of origin of *M. buccinator*, a fact which seems to have been overlooked.

The species has been considered to be an extremely variable and polychromatic one but it is possible that many of the plants which have been referred here belong elsewhere.

5. MORMODES DAYANUM Reichenbach filius in Gard. Chron. n.s. 24: 552. 1885.

Range: Mexico (state not known).

We have seen only a record, from Reichenbach's herbarium, of this species.

6. MORMODES NAGELII L. O. Williams in Am. Orch. Soc. Bull. 9: 153, t. 1940.

Range: Mexico (Chiapas).

The locality where this species was collected is probably not more than five kilometers from the Guatemala border.

7. MORMODES MACULATUM (Kl.) L. O. Williams in Ceiba 1: 188. 1950.

Cyclosia maculata Klotzsch in Allgem. Gartenzeit. 6: 306. 1838.

Mormodes pardina Bateman, Orch. Mex. & Guat. t. 14. Sept. 1838; ex Lindley in Bot. Reg. 24: Misc. p. 93. Dec. 1838; Hooker in Bot. Mag. 68: t. 3900. 1841.

Range: Mexico (Oaxaca).

Bateman refers, in his Orchidaceae of Mexico and Guatemala, to the fact of *Mormodes pardina* having been published previously in the Miscellaneous Notices of the Botanical Register. He refers also to the fact that Dr. Klotzsch had already published the species in the Allgemeine Gartenzeitung, under the name of *Cyclosia maculata*, but that it was published later than his own in the Botanical Register. These last observations of Bateman's do not seem to be correct in as much as the first notice of *Mormodes pardina* to appear in the Botanical Register was among the Miscellaneous Notices for December 1838; in which, as a matter of fact, Bateman's Orchidaceae of Mexico and Guatemala t. 14 was cited.

7a. MORMODES MACULATUM (Kl.) L. O. Williams var. UNICOLOR (Hook.) L. O. Williams in Ceiba 1: 189. 1950.

Mormodes pardina Batem. var. *unicolor* Hooker in Bot. Reg. 67: t. 3879. 1841.

Range: Mexico (Vera Cruz and Puebla).

The only specimens of this species in Mexico for which definite localities are known, are of this unicolored variety.

8. MORMODES LINEATUM Bateman ex Lindley in Bot. Reg. 27: Misc. p. 52. 1841; Lindley in Bot. Reg. 28. t. 43. 1842.

Mormodes histrio Linden & Reichenbach filius in Hamb. Gartenz 15: 54. 1859.

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

Mormodes lineatum is new to the flora of Mexico. Our specimens have flowers which are slightly smaller than those illustrated in the plate cited.

A form with short lateral lobes of the lip occurs in Guatemala. Correll (Bot. Mus. Leafl. Harv. Univ. 10: 15. 1941) assumes that this is the typical form of the species and separates all other material from it as *M. histrio* Reichb. f.

53. CATASETUM L. C. Richard in Kunth, Synops. Pl. Aequin. 1: 330. 1822; Mansfeld in Fedde Repert. 30: 257-275. 1932; 31: 99-125. 1932.

Terrestrial or epiphytic herbs. Stems short, several-leaved, soon thickened into ovoid or fusiform pseudobulbs. Leaves plicate, contracted into a sheath at the base. Inflorescence lateral, simple, erect or pendent. Flowers often large and showy, unisexual or hermaphroditic, monomorphic, dimorphic or trimorphic. Sepals and petals free, subequal, narrow or broad, connivent or part or all of them spreading. Lip fleshy (often very fleshy), sessile. MALE FLOWERS: lip very fleshy, broad, concave or galeate, margins often crenulate, dentate or fimbriate; column erect, with two reflexed antennae or antennae lacking, footless; anther operculate, terminal, incumbent, 1-celled or imperfectly 2-celled; pollinia 4, in two pairs or bisulcate or bilobed, ceraceous. FEMALE FLOWERS: lip about as in the male flowers; column short or very short, without antennae; anther about as in the male flowers but smaller; pollinia imperfect. PERFECT FLOWERS: lip narrowly oblong to ovate, plane or with the base somewhat concave; column

similar to that of the male flowers or without antennae but the stigma perfect. — (*Myanthus* Lindley in Bot. Reg. 18: sub t. 1538. 1832; *Monachanthus* Lindley in Bot. Reg. 18: sub t. 1538; 1832; *Clowesia* Lindley in Bot. Reg. 29: Misc. p. 25, t. 39. 1843.)

Catasetum is one of the most interesting, and at the same time most difficult, genera of the Orchidaceae because of the polymorphism of the flowers.

According to Mansfeld's monograph of Catasetum the genus is divided into two subgenera, Clowesia and Orthocatasetum. The first four species of our region belong to Clowesia, the last two to Orthocatasetum. — The following key is based on perfect or male flowers. Female flowers are unknown for many species, where di- or trimorphic flowers are supposed to exist, or at least have not been correlated with the male flowers. Specimens which bear only female flowers are often impossible to identify.

Column without antennae; flowers perfect, (or male?).
  Margins of the lateral lobes of the lip not fimbriated.
    Sac of the lip curved outward.
      1. *C. Russellianum*
    Sac of the lip curved backward.
      Lip with longitudinal membranaceous calli.
        2. *C. thylaciochilum*
      Lip with the membranaceous calli transverse at the apex.
        3. *C. glaucoglossum*
  Margins of the lateral lobes of the lip fimbriated.
    4. *C. roseum*
Column (of at least the male flowers) with two antennae.
  Lip with a lamelliform callus.
    5. *C. laminatum*
  Lip without a lamelliform callus.
    6. *C. integerrimum*

1. CATASETUM RUSSELLIANUM Hooker in Bot. Mag. 67: t 3777. 1840; Mansfeld in Fedde Repert. 30: 260. 1932.

Catasetum calceolatum Lemaire, Jard. Fleuriste 1: Misc. p. 45. 1851.

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

Catasetum Russellianum is allied to *C. thylaciochilum* Lem.

2. CATASETUM THYLACIOCHILUM Lemaire, Illustr. Hort. 3: Misc. p. 90, fig. 1856; Mansfeld in Fedde Repert. 30: 261. 1932.

Range: Mexico (Morelos, Guerrero and Oaxaca).

Mexico: *Conzatti 1944; Nagel & Juan González 624, 964, 1414.*

The specimens cited above are apparently among the few wild ones known. Mansfeld saw only two specimens, both from cultivated plants; one in Reichenbach's Herbarium, the other in Schlechter's Herbarium.

3. CATASETUM GLAUCOGLOSSUM Reichenbach filius in Gard. Chron. n.s. 24: 552. 1885; Mansfeld in Fedde Repert. 30: 261. 1932.

Range: Mexico (state unknown).

I have seen no specimens referable to this species but have seen a copy of Reichenbach's analysis. *Catasetum glaucoglossum* is apparently allied to *C. thylaciochilum* Lem.

4. CATASETUM ROSEUM (Lindl.) Reichenbach filius in Gard. Chron. 1003. 1872.

Clowesia rosea Lindley in Bot. Reg. 29: Misc. p. 25, t. 39. 1843.

Range: Mexico (Michoacan and Oaxaca), Costa Rica, Panama, Colombia and Venezuela.

This small flowered Catasetum is a new report for the flora of Mexico; it was originally thought to be Brazilian.

5. CATASETUM LAMINATUM Lindley in Ann. Nat. Hist. 4: 384. 1840; Sert. Orch. t. 38. 1840; Reichenbach filius in Saunders Ref. Bot. 2: t. 137. 1882.

Catasetum laminatum Lindl. var. *maculatum* Lindley, Sert. Orch. sub t. 38. 1840.

Catasetum laminatum Lindl. var. *eburneum* Lindley, Sert. Orch. sub t. 38. 1840; in Bot. Reg. 27: t. 5, fig. 5. 1841.

Range: Mexico (Guerrero, Michoacan and Oaxaca).

Catasetum laminatum is a curious and distinctive species. Two of the specimens (*Hinton 7195* and *Nagel 3811*) bear female flowers as well as the male flowers.

6. CATASETUM INTEGERRIMUM Hooker in Bot. Mag. 67: t. 3823. 1840.

Catasetum integerrimum Hook. var. *purpurascens* Hooker in Bot. Mag. 67: sub t. 3823. 1840.
Catasetum integerrimum Hook. var. *viridiflorum* Hooker in Bot. Mag. 67: sub t. 3823. 1840.
Catasetum Wailesii Hooker in Bot. Mag. 38: t. 3937. 1842.
"*Catasetum maculatum* Kunth" of authors, *non* Kunth; Bateman Orch. Mex. & Guat. t. 2. 1837; Lindley in Bot. Reg. 26: t. 62. 1840.

Range: Mexico (Vera Cruz, San Luis Potosí, Campeche and Chiapas), British Honduras, Guatemala, Honduras, El Salvador and Nicaragua.

New to the flora of Mexico although not uncommon there.

54. CYCNOCHES Lindley, Gen. & Sp. Orch. Pl. 154. 1832; Schlechter in Orchis 10: 47. 1916.

Epiphytic herbs. Stems becoming elongated, fleshy thickened or pseudobulbous, many-leaved. Leaves plicate. Inflorescence lateral, erect or pendent. Flowers mostly large, unisexual or hermaphroditic (?), monomorphic (?), dimorphic or trimorphic (?). Sepals subequal, free, spreading. Petals similar to the sepals or a little broader. Lip fleshy, base unguiculate, the lamina lanceolate or orbicular, entire or variously lobed, cristate or fimbriate. Column usually elongated and slender, more or less arcuate, wingless, footless. Anther terminal, operculate, incumbent, 1-celled or imperfecty 2-celled; pollinia 2, waxy, ovoid, sulcate.

Cycnoches is an interesting but difficult genus because of the dimorphism of the flowers. It is possible that the two "species" given below are the male and female plants of the same species.

Lamina of the lip lanceolate, entire. 1. *C. ventricosum*

Lamina of the lip orbicular, digitate. 2. *C. stelliferum*

1. CYCNOCHES VENTRICOSUM Bateman Orch. Mex. & Guat. t. 5. 1837; Schlechter in Orchis 10: 53. 1916.

nge: Mexico (Vera Cruz and Chiapas), Gua
as, Costa Rica and (?) Panama.
e have only the female flowers of this species
e same as *C. stelliferum* Lodd.?

CYCNOCHES STELLIFERUM Loddiges, Cat. Or
Lindley in Bot. Reg. 32: sub t. 46. 1846.

cnoches Egertonianum Batem. var. *viride* Lindley
g. 32: t. 46. 1846.
cnoches glanduliferum Richard & Galeotti ex H
Gard. Chron. 11: 268. 1879.

nge: Mexico (Vera Cruz and Tabasco) and Ho
rhaps this is the male plant of *C. ventricosum*

. ACINETA Lindley in Bot. Reg. 29: 67. 184
in Orchis 11: 21. 1917.

iphytic herbs of considerable size. Stems thicker
ulbs, the apex 1- or few-leaved. Leaves plicate
e lateral, pendent (in ours) or erect. Flowers
shy. Sepals subequal, broad, usually connivent,
nnate at their bases. Petals similar to the sep
smaller. Lip fleshy, unguiculate, 3-lobed; latera
nfolding the column; mid-lobe concave; disc with
ges. Column erect, footless or nearly so, wing
rrow terminal wings; anther terminal, opercul
; pollinia 2, waxy.
single species in Mexico and another reported
y does not occur.

ACINETA BARKERI (Batem.) Lindley in Bot. R
68. 1843; Schlechter in Orchis 11: 38, fig. 19
risteria Barkeri Bateman, Orch. Mex. & Gua
38; Hooker in Bot. Mag. 72: t. 4203. 1846.

nge: Mexico (Vera Cruz, Oaxaca and Chiapas
handsome species very closely allied to *Acineta*
Morr.) Lindl. It has been cultivated occasiona

Ceiba

Excluded Species

INETA CHRYSANTHA (Morr.) Lindley in Paxton
: 31. 1850; Schlechter in Orchis 11: 35, fig

ippergia chrysantha Morren in Ann. Soc. Bo
375, t. 282. 1849.

hough *Acineta chrysantha* was thought possibly
ed in Mexico this appears doubtful as we have
ns from this country nor do we know one to e
number of specimens from Costa Rica and Pan

LACAENA Lindley in Bot. Reg. 29: Misc.
n Bot. Reg. 30: t. 50. 1844.

iphytic herbs. Stems pseudobulbous, with 2 or
pex. Leaves plicate. Inflorescence lateral, recu
Flowers showy, fleshy. Sepals subequal, sp
ree, the laterals forming a short mentum with
t. Petals similar to the dorsal sepal, usually
bed, attached to the column-foot. Column sligh
bclavellate, shortly bialate at the apex, the
nto a short column-foot; anther subterminal,
umbent, imperfectly 2-celled; pollinia 2, waxy,
a Klotzsch in Allgem. Gartenz. 21: 193. 1853.

Lacaena bicolor Lindley in Bot. Reg. 29:
3; in Bot. Reg. 30: t. 50. 1844.

isteria longiscapa Richard & Galeotti in Ann.
3, 3: 25. 1845.

nge: Mexico (Oaxaca), Guatemala and Hondur
ta Rica.
very rare species.

STANHOPEA Frost ex Hooker in Bot. Mag.
49. 1829; Lindley, Folia Orch. Stanhopea 18
n filius in Xenia Orch. 1: 111-123. 1855-56.

phytic herbs. Pseudobulbs usually large, un
usually large, plicate, contracted into a petiol
lateral, pendent; the bracts often large, char

Flowers large and often showy, fleshy. Sepals free, spreading, subequal or the laterals broader. Petals similar to the sepals but smaller and narrower, often undulate. Lip affixed to, or rarely shortly adnate with the column, very thick and fleshy; the lateral lobes usually thickened into a *hypochile* which is variously shaped; the mid-lobe entire or variously divided, often forming a *mesochile* which may be simple or bicornute (the horns termed *metachile*) and an epichile which is articulated, entire or 3-lobed and variously shaped. Column long, erect or slightly arcuate, footless, wingless or usually with broad membranaceous wings on the upper part; anther terminal, operculate, incumbent; pollinia 2, waxy.—(*Ceratochilus* Lindley ex Loddiges Bot. Cab. t. 1414. 1828, *non* Blume.)

Nearly all of the species of Stanhopea have been described from cultivated specimens, often without knowledge of country of origin. Because of the extremely fleshy flowers and their peculiar shapes dried specimens, unless well prepared, often do not show the characters by which they may be identified. It is probable that a monographic treatment, based on living materials as well as on dried specimens, would show many of the species now maintained to be little more than color variations of others.

The species of Stanhopea respond well even to moderate care in the greenhouse and have been widely cultivated.

The following tentative account of the Mexican species is offered with the knowledge that it is doubtless inadequate but with the hope that it will be helpful.

Epichile deeply retuse.
10. *S. saccata*

Epichile not deeply retuse.
Epichile linear-oblong, usually trilobulate.
1. *S. Martiana*

Epichile not linear-oblong.
Hypochile with a horn-like process on either side at the base.
11. *S. quadricornis*

Hypochile not as above.
Epichile trilobulate.
Flowers parts maculate.
2. *S. devoniensis*

Flowers parts not maculate.
5. *S. intermedia*

Epichile not trilobulate.

Hypochile cymbiform.
Epichile acute only.
7. *S. oculata*
Epichile sinuate toward the apex.
6. *S. Bucephalus*
Hypochile oblong, erect or with an angulate base.
Epichile acute.
Column velutinous at the base.
9. *S. inodora*
Column glabrous.
Hypochile equal in width at the base and at the apex.
Hypochile angled on both sides near the base, canal narrow; basal 1/3 of column wingless.
8. *S. Wardii*
Hypochile hardly angled at the base, canal ample; basal 1/6 of the column wingless.
7. *S. oculata*
Hypochile with the base obviously narrower than the apex, obovate.
5. *S. Ruckeri*
Epichile truncate with the apex semilunate.
3. *S. Fregeana*

1. STANHOPEA MARTIANA Bateman ex Lindley in Bot. Reg. 26: Misc. p. 50. 1840; Bateman Orch. Mex. & Guat. t. 27. 1841.

Stanhopea velata Morren in Ann. Soc. Gand 3. t. 153. 1847.

Range: Mexico (Guerrero and Oaxaca).

Stanhopea Martiana is a most distinctive species which is known to occur only on the Pacific slopes of Guerrero and Oaxaca. It is well marked by the linear-oblong, trilobulate epichile, the cirrhose points of the apex of the linear metachile, the slender, narrowly winged column and other characters.

2. STANHOPEA DEVONIENSIS Lindley, Sert. Orch. t. 1. 1837.

Stanhopea tigrina Bateman ex Lindley, Sert. Orch. sub. t. 1. 1838; Bateman, Orch. Mex. & Guat. t. 7. 1839; Lindley in Bot. Reg. 25: t. 1839; Hooker in Bot. Mag. 71: t. 4178. 1845; Cogniaux & Goossens Dict. Icon. Orch. Stanhopea t. 7. 1906.

Stanhopea Cavendishii Lindley ex Baxter in Lond. Hort. Brit. suppl. 3: 643.

Stanhopea maculosa Knowles & Westc., Flor. Cab. 3: t. 121. 1839.

Stanhopea nigroviolacea "(Morren)" ex Beer, Prakt. Orch. 313. 1854.

Range: Mexico (Vera Cruz, Hidalgo, Puebla, Morelos, Michoacan and Oaxaca) and Guatemala.

We are unable to distinguish between *S. devoniensis* and *S. tigrina* although the latter is supposed to have the epichile 3-lobed at the apex as contrasted to an entire epichile in *S. devoniensis*, but the drawing on Lindley's type specimen of *S. devoniensis* shows the epichile to be trilobulate even though the original plate does not.

Stanhopea devoniensis is probably the most beautiful of the genus and has been widely cultivated.

3. STANHOPEA FREGEANA Reichenbach filius in Allgem. Gartenzeit. 23: 313. 1855; Xenia Orch. 1: 122, 209, t. 82. 1855-56.

Range: Mexico (state unknown).

Mexico: "Ruiz & Pavón; Galeotti"; fide Reichenbach.

Stanhopea Fregeana is very closely allied to *S. devoniensis* Lindl. and may be only a highly colored form of that species. Reichenbach states that Galeotti had sent the species alive so it may be assumed that collection is the source of the illustration. Neither Ruiz nor Pavón were ever in Mexico.

4. STANHOPEA RUCKERI Lindley in Bot. Reg. 29: sub. t. 44. 1843; Folia Orch. Stanhopea p. 4. 1852.

Range: Mexico (state unknown).

We have seen no wild material of this species. It is probably very near to *S. Wardii* Loddiges, *S. oculata* (Lodd.) Lindl. and to others.

5. STANHOPEA INTERMEDIA Klinge in Act. Hort. Petrop. 17: 142, t. 3, figs. 23-35. 1898.

Range: Mexico (Guerrero and Michoacan).

The determination of our material is based on Klinge's description and his figures. While the determination may be correct there are some variations between our specimens and the text and figures.

It is interesting to note that the above specimens all occur on the Pacific watershed, at intermediate altitudes, while the closely allied *S. Wardii* Lodd. is found along the Atlantic slope at low elevations.

6. STANHOPEA BUCEPHALUS Lindley, Gen. & Sp. Orch. Pl. 157. 1832; Hooker in Bot. Mag. 87: t. 5278. 1861.

Stanhopea ornatissima Lemaire, Illustr. Hort. 9: t. 325. 1862.

Range: Mexico (Vera Cruz) and Panama; possibly also in South America.

Stanhopea Bucephalus is hardly distinct from *S. oculata* (Lodd.) Lindl. The hypochile is a little more saccate and the base color of the flowers is a deeper yellow or orange.

7. STANHOPEA OCULATA (Lodd.) Lindley, Gen. & Sp. Orch. Pl. 158. 1832; in Bot. Reg. 21: t. 1800. 1835; Hooker in Bot. Mag. 88: t. 5300. 1862; Cogniaux & Goossens. Dict. Icon. Orch. Stanhopea t. 6. 1906.

Stanhopea guttulata Lindley in Bot. Reg. 29: Misc. p. 75. 1843.
Ceratochilus oculatus Loddiges, Bot. Cab. t. 1764. 1832.
Stanhopea Lindleyi Zuccarini in Abh. Akad. Münch. 2: 300. 1831-1836, fide Schlechter.
Stanhopea guttata Koch in Allgem. Gartenzeit. 364.
Stanhopea oculata (Lodd.) Lindl. var. *Barkeriana* Lindley in Bot. Reg. 25: Misc. p. 69. 1839.
Stanhopea oculata (Lodd.) Lindl. var. *geniculata* Klinge in Act. Hort. Petrop. 17: 143, t. 3, fig. 28. 1898.

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

A handsome species which has been often cultivated. The hypochile is long and narrow with a prominent dark spot on each side, it is canaliculate but not deeply saccate.

8. STANHOPEA WARDII Loddiges ex Lindley, Sert. Orch. t. 20. 1838; Knowles & Westcott, Flor. Cab. 2: t. 90. 1839; Hooker in Bot. Mag. 88: t. 5289. 1862; Cogniaux & Goossens Dict. Icon. Orch. Stanhopea t. 2. 1900.

Stanhopea aurea Loddiges ex Lindley in Bot. Reg. 27: Misc. p. 11. 1841, *nomen subnudum.*
Stanhopea Wardii Lodd. ex Lindl. (B) *aurea* Lindley, Folia Orch. Stanhopea p. 4. 1852.
Stanhopea Purpusii Schlechter in Orchis 10: 186, fig. 1916; Schlechter ex Mansfeld in Fedde Repert. Beihefte 50: t. 62, Nr. 246. 1931.

Range: Mexico (Vera Cruz), Guatemala, Honduras, Costa Rica and Panama. Probably also in northern South America.

Stanhopea Wardii is closely allied to *S. inodora* Lodd. ex Lindl. and to *S. Ruckeri* Lindl. I am not able to distinguish *S. Purpusii* Schltr. from *S. Wardii,* hence reduce it.

9. STANHOPEA INODORA Loddiges ex Lindley in Bot. Reg. 31: t. 65. 1845.

Range: Mexico (state unknown).

I have seen no specimens of this species. *Stanhopea Wardii* Lodd. ex Lindl. is a very closely allied species but is not the same unless Lindley's plate is inaccurate. In *S. inodora* the ovaries are comparatively short and the bracts subtending the flowers are apparently nearly equal to the ovaries in length; the bracts on the rachis are sparse. In *S. Wardii* Lodd. ex Lindl. the ovaries are relatively very long and the subtending bracts about 1/2 to 2/3 the length of the ovaries.

10. STANHOPEA SACCATA Bateman, Orch. Mex. & Guat. t. 15. 1838.

Stanhopea radiosa Lemaire, Illustr. Hort. 6: Misc. 72, figs. 1-2. 1859.

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

A handsome, small species which is easily distinguished by the saccate hypochile and the retuse epichile.

11. STANHOPEA QUADRICORNIS Lindley in Bot. Reg. 24: t. 5. 1838; Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 491. 1918.

Range: Mexico (state unknown) and Guatemala.

Mexico: I have seen no specimens.

Stanhopea quadricornis was described from the "Spanish Main". Schlechter reports in from Mexico and Guatemala. The species is easily distinguished among those of Mexico by the horns on the hypochile.

OBSCURE AND EXCLUDED SPECIES

The six following species, which have been credited to Mexico, I am not able to place satisfactorily, or believe that they do not occur there.

STANHOPEA DELTOIDEA Lemaire, Illustr. Hort. 9: sub. t. 340. 1862.

I know nothing of this species.

STANHOPEA EXPANSA P. N. Don in Donn Hort. Cantab. ed. 13: 721. 1845.

This is probably a synonym of *S. devoniensis* Lindl.

STANHOPEA GRANDIFLORA (Lodd.) Lindley, Gen. & Sp. Orch. Pl. 158. Dec. 1832; Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 490. 1918.

Ceratochilus grandiflorus Loddiges Bot. Cab. t. 1414. 1828.

Said, by Loddiges, to have been sent to him from Trinidad. *Stanhopea eburnea* Lindl., a Brazilian species, is probably a synonym. Perhaps Schlechter's reference to the species in Mexico is a stenographic error.

STANHOPEA HERNANDEZII (Kunth) Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 490. 1918.

Anguloa Hernandezii Kunth, Syn. 1: 332. 1822.

This species is based on an unrecognizable plate in Hernández Rer. Med. Nov. Hisp. Thes. 1661. It is questionable if it should ever have been taken up.

STANHOPEA LYNCEA P. N. Don in Donn, Hort. Cantab. ed. 13: 608. 1845.

This is possibly a synonym of *S. devoniensis* Lindl.

STANHOPEA MACROCHILA Lemaire, Illustr. Hort. 6: Misc. p. 79, t. 1859.

No material from Mexico of this species has been seen. *Stanhopea Lewisae* Ames & Correll from Guatemala is a possible synonym.

58. GONGORA Ruiz & Pavón, Fl. Peruv. & Chil. Prodr. 117, t. 25. 1794.

Epiphytic herbs. Pseudobulbs usually bifoliate. Leaves plicate. Inflorescence lateral, simple, often reflexed. Flowers often showy, fleshy. Dorsal sepal erect or spreading, base adnate to the column. Lateral sepals broader than the dorsal, adnate to the base of the column, spreading or reflexed. Petals adnate with the dorsal sepal and with the base of the column. Lip articulated on the column-foot or apparently so, spreading or ascending; hypochile fleshy, erect, variously horned or aristate, sometimes saccate, complicate or laterally compressed. Column erect or ascending, semiterete, produced into a short foot at the base; anther terminal, operculate, incumbent; pollinia 2, ovoid or narrowly oblong, ceraceous.—(*Acropera* Lindley, Gen. & Sp. Orch. Pl. 172. 1833.)

Gongora contains many beautiful species and is often cultivated, as a result there are many colored illustrations of the various species; also as a result many species have been described from garden material of which the origin was not known.

Petals about half as long as the column.

5. *G. truncata*

Petals subequal to the column in length, at least more than half as long.

Epichile bifurcate.

4. *G. cassidea*

Epichile not bifurcate.

Apex of the petals truncate or nearly so and with the terminal angles obtuse to subaristate.

3. *G. galeata*

Apex of the petals acute or acuminate.

Terminal part of the hypochile bearing two erect cirrhose appendages. 1. *G. maculata*
Terminal part of the hypochile ecirrhose. 2. *G. Galeottiana*

1. GONGORA MACULATA Lindley in Bot. Reg. 19: t. 1616. 1833; Hooker in Bot. Mag. 65: t. 3687. 1838.

Gongora fulva Lindley in Bot. Reg. 25: t. 51. 1839.
Gongora maculata Lindl. var. *alba* Lindley in Bot. Reg. 27: Misc. p. 48. 1841.
Gongora leucochila Lemaire in Fl. Serres 1: 207, t. 37. 1845.
Gongora bufonia Lindl. var. *leucochila* Lindley in Bot. Reg. 33: t. 17. 1847, not based on *G. leucochila* Lem.
Gongora maculata Lindl. var. *tricolor* Lindley in Bot. Reg. 33: t. 69. 1847.
Gongora tricolor Reichenbach filius in Bonplandia 2: 93. 1854; in Xenia Orch. 1: 53. 1854; Hooker in Bot. Mag. 123: t. 7530. 1897.
Gongora Powellii Schlechter in Fedde Repert. Beihefte 17: 62. 1922.

Range: Mexico (Vera Cruz, Guerrero, Michoacan and Oaxaca), British Honduras, Guatemala, Honduras, Nicaragua, Costa Rica, Panama, the West Indies and South America.

Gongora quinquenervis Ruiz & Pavón has been used for this plant but the name is at best obscure.

Gongora maculata is extremely variable as to coloration, as the plates cited in bibliography will reveal.

2. GONGORA GALEOTTIANA A. Richard in Ann. Sci. Nat. ser. 3, 3: 25. 1845.

Range: Mexico (state unknown).

There is apparently no type specimen in existence. I have seen a photograph of a drawing of the plant and a flower, both probably made by A. Richard.

3. GONGORA GALEATA (Lindl.) Reichenbach filius in Xenia Orch. 1: 51. 1854.

Maxillaria galeata Lindley ex Loddiges, Bot. Cab. 17: t. 1645. 1831.

Acropera Loddegesii Lindley, Gen. & Sp. Orch. Pl. 172. 1833; Hooker in Bot. Mag. 64: t. 3563. 1837.
Acropera Loddigesii Lindley, Gen. & Sp. Orch. Pl. 172. 1851.

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

Gongora galeata is apparently restricted to Mexico.

4. GONGORA CASSIDEA Reichenbach filius in Bot. Zeit. 22: 298. 1864; Xenia Orch. 3: 155, t. 289, figs. 6-11. 1896. Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 488. 1918.

Acropera Batemanni Lindley ex Reichenbach filius in Gard. Chron. 2: 322. 1874.

Range: Mexico, fide Schlechter (state unknown), Guatemala and Honduras.

5. GONGORA TRUNCATA Lindley in Bot. Reg. 29: Misc. p. 42. 1843; in Bot. Mag. 31: t. 56. 1845.

Gongora Donckelaariana Lemaire. Fl. Serres 4: 336. 1848; Reichenbach filius in Walp. Ann. 3: 546. 1852.
?Gongora Seideliana Reichenbach filius in Bot. Zeit. 10: 637. 1852; Xenia Orch. 1: 51, 55, t. 20. fig. V. 1854.
Gongora truncata alba Nash in Addisonia 2: t. 46. 1917.

Range: Mexico (Vera Cruz and Chiapas).

A rare species which is easily distinguished by the short petals. — *Gongora Seideliana* Reichenbach filius seems to belong here.

59. XYLOBIUM Lindley in Bot. Reg. 11: sub. t. 897. 1825.

Epiphytic herbs. Pseudobulbs short or elongated, 1-2-leaved. Leaves plicate (!), contracted into a petiole. Inflorescence lateral, erect, simple. Flowers racemose. Bracts linear, often long and conspicuous. Sepals subequal, erect or somewhat spreading; the lateral sepals broader than the dorsal, forming a conspicuous mentum with the column-foot. Petals similar to the dorsal sepal but smaller. Lip subsimple or 3-lobed, smooth, lamellate or callused at the base, articulated to the apex of

the column-foot; lateral lobes (or the sides of the lip) erect, usually enfolding the column; mid-lobe large or small, often fleshy. Column erect, concave in front or narrowly winged, with a prominent column-foot; anther terminal, operculate, incumbent; pollinia 4, in pairs or more or less connate.

Xylobium, at first glance, has much the appearence of Maxillaria but is easily distinguished by the plicate leaves and the racemose inflorescence.

Pseudobulbs more than 10 cm. long.
4. *X. elongatum*

Pseudobulbs less than 8 cm. long.
Pseudobulbs bifoliate at the apex.
3. *X. foveatum*

Pseudobulbs unifoliate at the apex.
Pseudobulbs trigonal, not conical.
1. *X. aurantiacum*

Pseudobulbs narrowly conical, cylindric in cross section.
2. *X. Tuerckheimii*

1. XYLOBIUM AURANTIACUM (Rich. & Gal.) Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 492. 1918.

Maxillaria aurantiaca Richard & Galeotti in Ann. Sci. Nat. ser. 3, 3: 25. 1845.

Range: Mexico (state not known).

I have seen only a photograph of Richard's drawing of this species, which is not as clear as might be desired. Apparently no specimen of the species was kept for it seems to be missing in Paris.

2. XYLOBIUM TUERCKHEIMII Kränzlin in Ann. Naturhist. Mus. 44: 325. 1930.

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

Mexico: *Matsumoto 1046, 1621; Nelson 909; von Schmeling 5741.*

Determinations of these specimens was made from the characters. It is possible that this is a synonym of *X. sulphurinum* (Lem.) Schltr.

3. XYLOBIUM FOVEATUM (Lindl.) Nicholson, Dict. Gard. 4: 225. 1887; Cogniaux in Martius. Fl. Bras. 3, pt. 5: 469. 1902.

Maxillaria stachyobiorum Reichenbach filius in Bot. Zeit. 10: 735. 1852.
Xylobium stachyobiorum Hemsley in Godman & Salvin, Biol. Centr.-Am. Bot. 3: 252. 1883.

Range: Mexico (Vera Cruz), Guatemala, Nicaragua, Costa Rica, Panama, Jamaica, British Guiana, Venezuela, Colombia and Peru.

New to the flora of Mexico.

4. XYLOBIUM ELONGATUM (Lindl.) Hemsley in Godman & Salvin, Biol. Centr.-Am. Bot. 3: 252. 1885.

Maxillaria elongata Lindley in Paxton's Flow. Gard. 3: 69, fig. 264. 1852-53.

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

Xylobium elongatum is new to the flora of Mexico. The species is closely allied to *X. scabrilingue* (Lindl.) Schltr., a South American species.

OBSCURE SPECIES

XYLOBIUM CYLINDROBULBON (Regel) Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 493. 1918.

Maxillaria cylindrobulbon Regel in Gartenflora 341. 1858.

Range: Attributed to Mexico by Schlechter.

Mexico: We have seen only the rather inadequate description and are unable to place the species.

60. LYCASTE Lindley in Bot. Reg. 29: Misc. p. 14. 1843.

Epiphytic or terrestrial herbs. Pseudobulbs soon becoming large and conspicuous, with one or few leaves from the summit of each pseudobulb. Leaves often large, plicate. Inflorescence lateral, 1-flowered or very rarely 2-3 flowered; the bracts chartaceous. Flowers usually showy, often nodding. Sepals subequal, erect or spreading, the laterals often broadest, with the column-foot forming a mentum at the base. Petals similar to the dorsal sepal but usually shorter and either narrower or broader. Lip continuous with or articulated to the apex of the

column-foot, usually 3-lobed, the disc much thickened by a callus plate or with a longitudinal callus. Column slender, arcuate, having a short column-foot, wingless or narrowly winged toward the apex; anther terminal, operculate, incumbent; pollinia 4, waxy. — (*Deppia* Rafinesque, Fl. Tellur. 2: 51. 1836.)

Most of the species of Lycaste have been placed in the genus Maxillaria at one time or another but the plicate leaves and other characters immediately separate them from that genus.

Several species of Lycaste have been and are cultivated. *Lycaste virginalis* (Scheidw.) Linden is the national flower of Guatemala and appeared on a 2 centavo postage stamp of that country in 1939.

Callus of the disc plate-like, free at the apex, disc glabrous.
1. *L. aromatica*

Callus of the disc not plate-like, sometimes free at the apex.
Lateral lobes of the lip narrow, parallel to the mid-lobe; disc pubescent.
5. *L. crinita*

Lateral lobes of the lip not narrow nor the free portion parallel to the mid-lobe.
Lateral sepals less than 3 cm. long.
4. *L. cruenta*

Lateral sepals 4-7 cm. long.
Disc of the lip and inner face of the column glabrous or nearly so.
3. *L. Deppei*

Disc of the lip and inner face of the column glabrous or prominently pubescent.
2. *L. virginalis*

1. LYCASTE AROMATICA (Graham) Lindley in Bot. Reg. 29: Misc. p. 16. 1843.

Maxillaria aromatica Graham ex Hooker, Exot. Fl. 3: t. 219. 1826; Lindley in Bot. Reg. 22: t. 1871. 1836.
Lycaste consobrina Reichenbach filius in Bot. Zeit. 10: 669. 1852.
"*Maxillaria consobrina* Beer" ex Schlechter in Beihefte Bot. Centralbl. 36, Abt. 2: 492. 1918, *lapsus*, as synonym under *L. crinita* Lindl.