

## NOTES ON BLETIA (ORCHIDACEAE)

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Dressler, R. L. (Smithsonian Tropical Research Institute, Balboa, Canal Zone). Notes on *Bletia* (Orchidaceae). *Brittonia* **20**: 182-190. 1968.—New species of *Bletia* from Mexico are described and illustrated: *B. concolor*, *B. similis*, and *B. urbana*. The identity of *B. campanulata* Llave & Lex. is discussed, and *B. reflexa* Lindl. is considered to be a distinct species. Several South American epithets are treated as synonyms of *B. campanulata*. A key to the recognized species of *Bletia* is given.

The genus *Bletia* Ruiz & Pavón includes less than 30 species, of which the majority occur in Mexico. It is easily recognized, having little variation in vegetative characters; the floral features, also, are relatively uniform. This structural unity of the genus, coupled with variation in floral details, and at least some interspecific hybridization, has given the group a reputation as "difficult." The present notes are largely the result of field studies in central and western Mexico.

*Relationships.* *Bletia* is the type genus of the subtribe Bletiinae Benth. (more often known by a later name, Phajinae Schltr.), a group of genera which are relatively unspecialized in both floral and vegetative features. Among American representatives, the saprophytic *Hexalectris* Raf. is very closely allied, and the Asiatic genera *Spathoglottis* Blume and *Ipsea* Lindley are also very similar to *Bletia*. It may be noted that autogamous forms of *Spathoglottis plicata* have become naturalized in Panama, and a note by Quisumbing suggests that *Bletia purpurea* may be naturalized in the Philippines (*Philippine Orchid Rev.* **3**: 27. 1950).

The floral structure of *Bletia* is sufficiently similar to that of *Laelia* Lindley that Reichenbach was led to unite not only *Laelia*, but *Schomburgkia*, *Brassavola*, *Tetramicra*, and *Homalopetalum* as well, under *Bletia*. Thus he ignored the marked vegetative differences and greatly increased the list of names in *Bletia*. There have been reports of crosses between *Laelia* and *Bletia*, but apparently none of these has survived to flowering, if indeed they were hybrids. The American *Calopogon* R. Br. and the Asiatic *Bletilla* Reichb. f. are customarily widely separated from *Bletia* because their pollinia are more or less soft and mealy. The relationships, however, may be much closer than is usually believed.

*Pollination.* Dodson & Frymire report the pollination of *Bletia purpurea* in Ecuador by *Euglossa hemichlora*, *Melipona* sp., and *Thygater* sp., while Bennett has observed the pollination of *B. catenulata* by *Xylocopa tricuspidifera*.<sup>1</sup> These few observations indicate that the Bletias are, as their flower structure suggests, adapted to bee pollination, although they are in reality relatively unspecialized bee-flowers. Self-pollination is frequent in *B. campanulata*, *B. macrithmochila*, *B. purpurea*, and *B. urbana*, and nearly universal in *B. rosea*. My observations of *B. campanulata* and *B. purpurea* indicate that many plants are facultatively autogamous, selfing or not, according to the condition of the plant and (probably) habitat conditions. Other plants, sometimes in the same populations, are apparently always autogamous.

<sup>1</sup> See van der Pijl, L. & C. H. Dodson, 1966. *Orchid Flowers: Their Pollination and Evolution*. Univ. of Miami Press. Coral Gables, Florida. 214 pp.

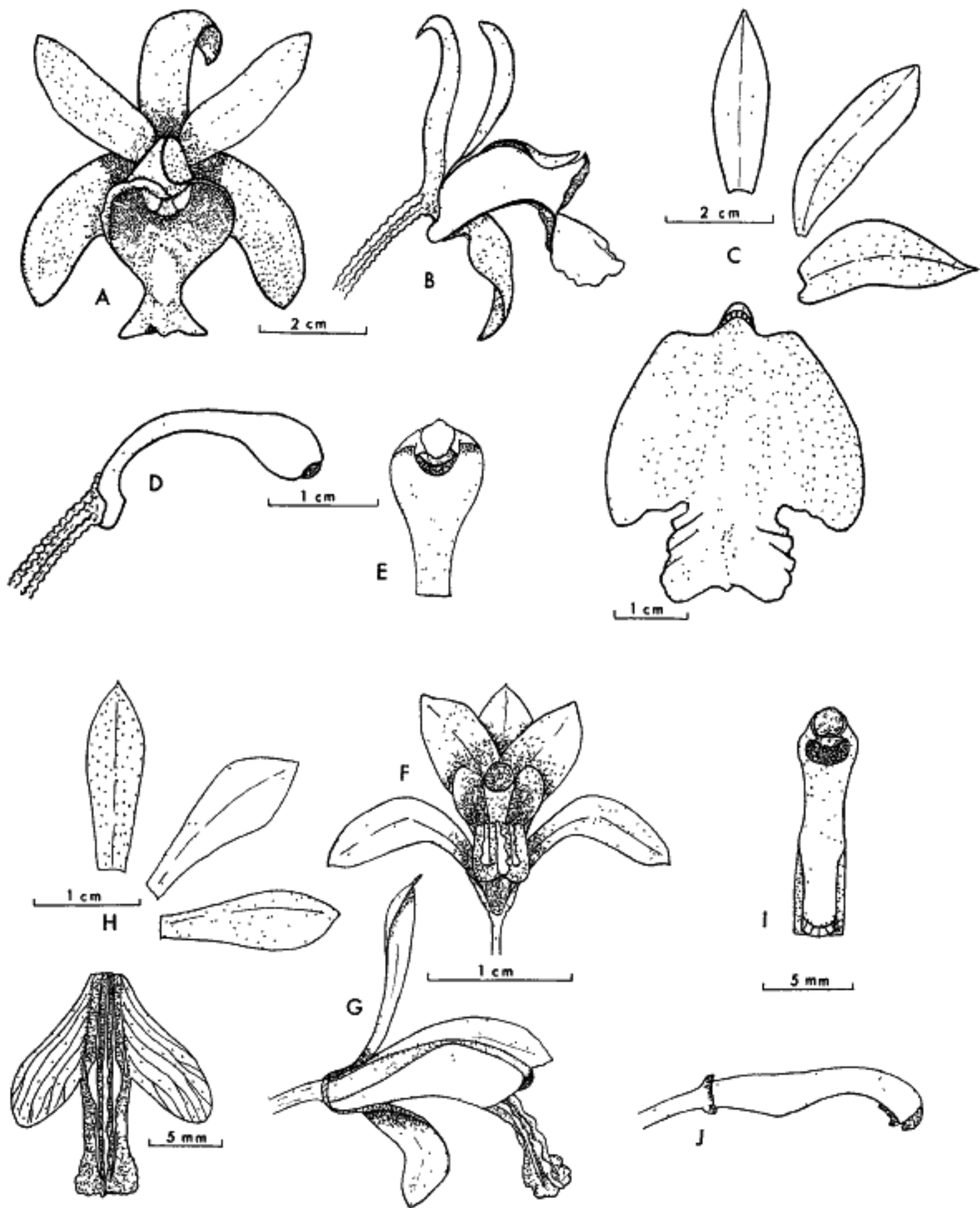


FIG. 1. Above: *Bletia concolor*: A. flower, front view; B. flower, side view, with sepal and petal removed; C. sepals, petal and lip, flattened; D. column, side view; E. apex of column, ventral view. Drawn from photographs and alcohol material of Dressler & Wirth 2773. Below: *Bletia similis*: F. flower, front view; G. flower, side view, with sepal and petal removed; H. sepals, petal and lip, flattened; I. column, ventral view; J. column, side view. Drawn from photographs and alcohol material of Dressler & Wirth 2770.

### I. New species

***Bletia concolor*** Dressler, sp. nov. Fig. 1, A-E.

Pseudobulbo oblongo-globoso; foliis 1 vel 2, lineari-lanceolatis; scapo teretiusculo, 2-4-floro; bracteis subulatis; floribus patentissimis, ovariis verrucosis; sepalis

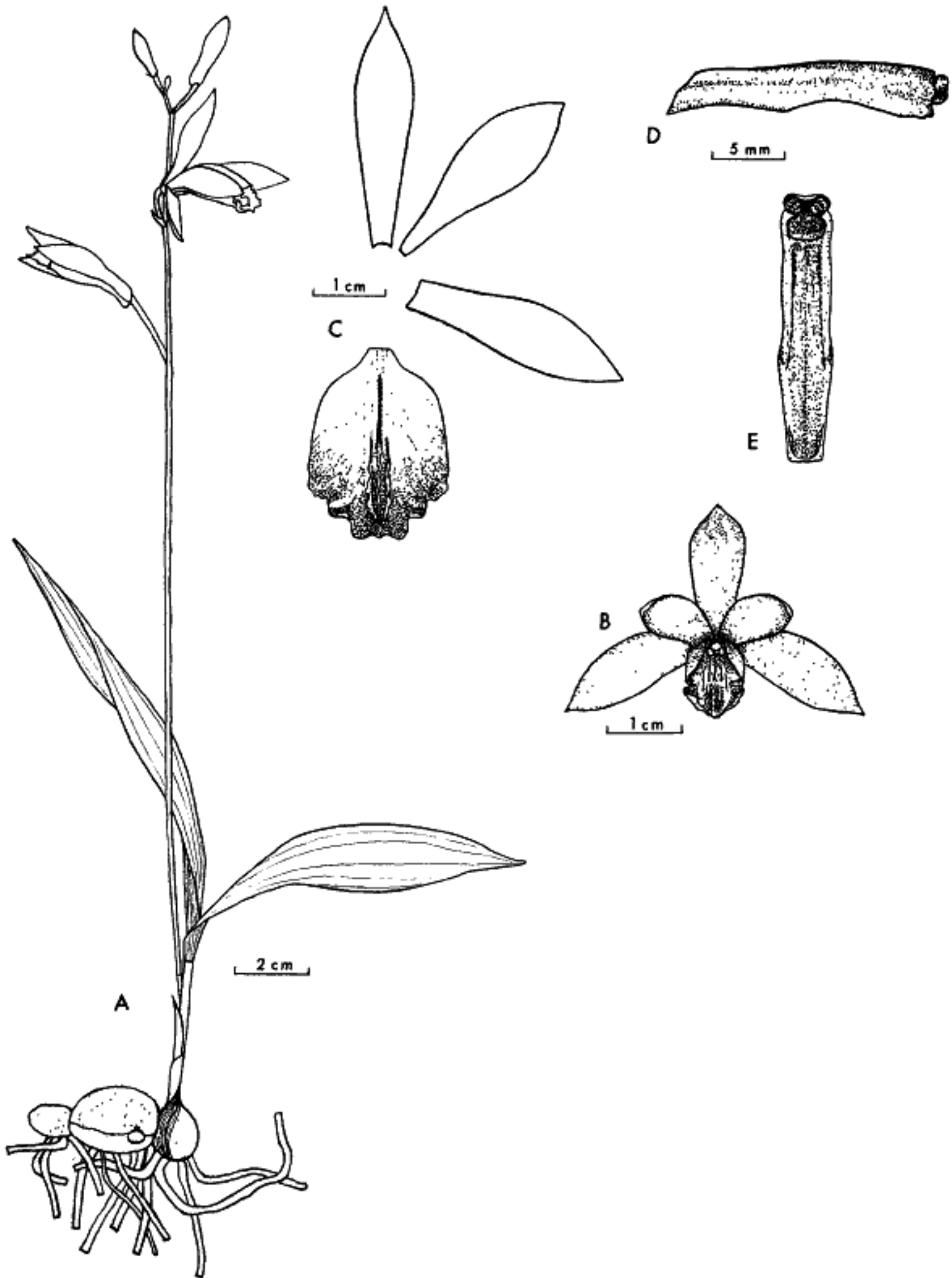


FIG. 2. *Bletia urbana*: A. habit; B. flower, front view; C. sepals, petal and lip, flattened; D. column, side view; E. column, ventral view. Drawn from cultivated material of *Dressler* 2460.

oblongo-ellipticis, acutis; petalis arcuato-oblongis; labello 3-lobato, lobis lateralibus obtusis, lobo terminali subquadrato, tenuiter cristato; columna arcuata, apice bialata.

Corms oblong-subglobose, ca. 3 cm long, 1.5 cm in diam; shoot with 3-4 tubular sheathing bracts at base; leaves 1 or 2, 30-45 cm long, 7-12 mm wide; scape

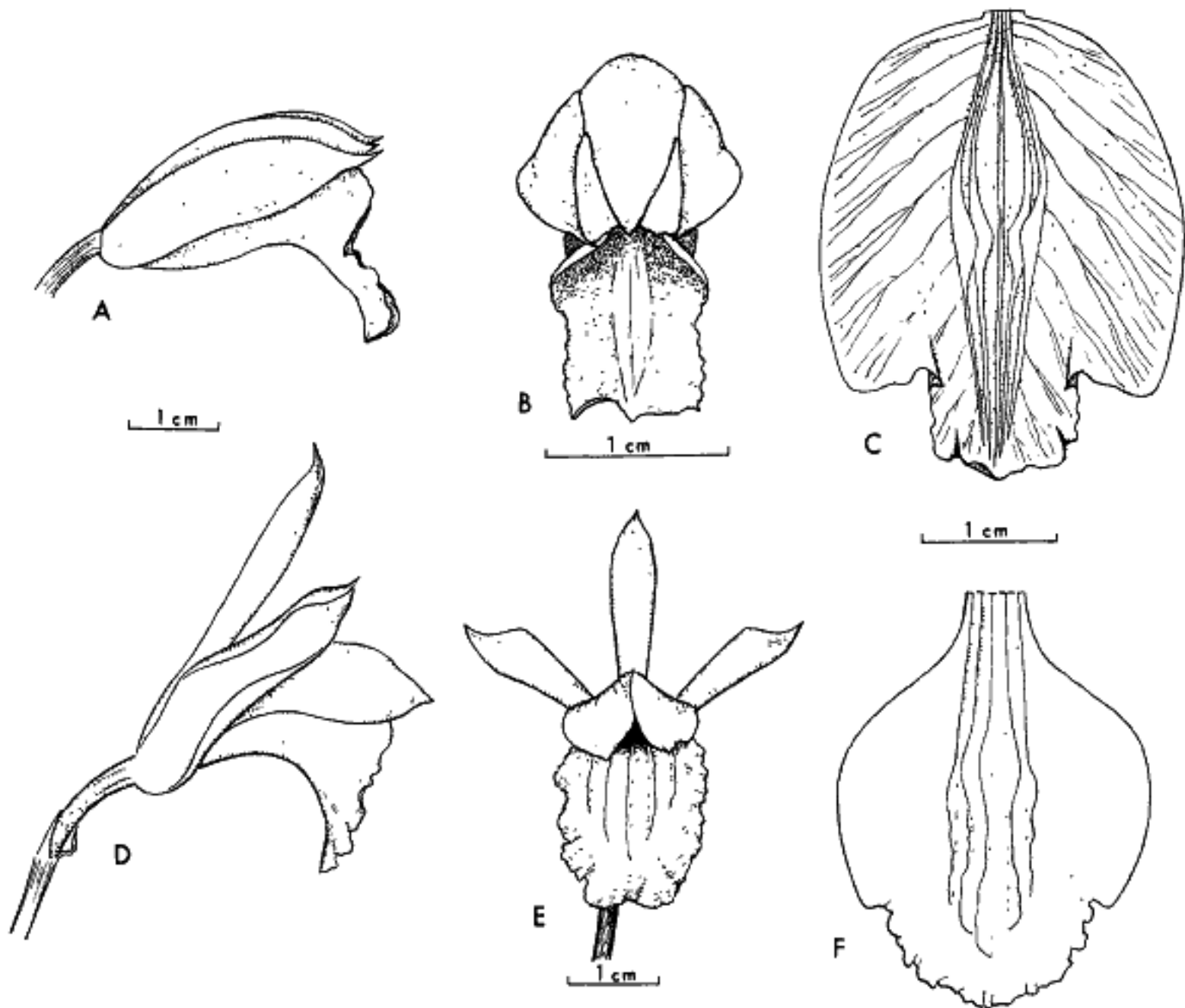


FIG. 3. Comparison of *Bletia campanulata* and *B. reflexa*: Above: *B. campanulata*: A. flower in natural position, side view; B. same, front view (much enlarged); C. lip flattened. Drawn from photographs and alcohol material of Dressler 2462. Below: *B. reflexa*: D. flower in natural position, side view; E. same, front view; F. lip, flattened. Drawn from photographs and alcohol material of Dressler 2486.

arising from young growth before corm is mature, 30–55 cm high, sometimes faintly verruculose above; bracts subulate, 6–12 mm long, 2–6 mm wide; ovary with pedicel 20–28 mm long, strongly verrucose; flowers 2–4, each with a pronounced mentum at base (ca. 2.5 mm long); lateral sepals arcuate, acute, ca. 33 mm long, 11 mm wide; dorsal sepal elliptic, acute, ca. 36 mm long, 10 mm wide; petals arcuate-oblong, broadly acute, ca. 38 mm long, 11 mm wide; lip ca. 35 mm long and 36 mm wide across lateral lobes, truncate at base, distinctly 3-lobed, but with obtuse sinuses, lateral lobes obtuse, ca. 27 mm long (from base), 13 mm wide, mid-lobe subquadrate, ca. 12 mm long, 18 mm wide, 12 mm wide at base, with a very small elongate callus on disk, column arcuate, ca. 22 mm long and 8 mm wide at the expanded apex.

TYPE: MEXICO: GUERRERO: Aguazarca-filo Mina, pine forest orchid, 30 Jun 1937, *G. B. Hinton 10481*. (HOLOTYPE: US 2020217; ISOTYPES: W! UCB!)

Additional collections examined:

MEXICO: GUERRERO: Aguazarca-filo Mina, 1600 m, *Hinton 10382* (US); Yesceros Mina, 200 m, oak and pine forest ground orchid, flowers purple, *Hinton 14401* (US). MICHOACÁN: near Uruapan, 1800 m, flowers magenta, *R. Medina 5993* (MO); about 14 km S of Uruapan, pine forest, found only at higher elevations, flowers pale rose-purple, lip only slightly darker, with white spot on callus, *Dressler & Wirth 2773* (US, MEXU).

This species is similar to *B. macrithmochila* in having a large, open, rose-purple flower with a distinctly 3-lobed lip, but the verrucose ovary, the conspicuous mentum and the absence of lamellae set it apart from all other species.

**Bletia similis** Dressler, sp. nov. Fig. 1, F–J.

Pseudobulbo subgloboso; foliis elliptico-lanceolatis; scapo teretiusculo, plurifloro; bracteis subulatis; sepalis oblongo-obovatis, acutis; petalis cuneato-obovatis; labello trilobato, basi cuneato, lobis lateralibus oblongis, obtusis, lobo terminali oblongo, truncato, disco 5-lamellato; columna ad basin versus bialata.

Corms subglobose; shoot with tubular, sheathing bracts at base; leaves 1 or 2, 24–35 cm long, 28–40 mm wide; scape 45–60 cm tall, with 10–18 flowers; bracts subulate, 6–10 mm long, 2–4 mm wide; ovary with pedicel ca. 23 mm long; sepals oblong-obovate, acute, ca. 15 mm long, 4.5–5 mm wide; petals cuneate-obovate, obtuse or broadly acute, ca. 16 mm long, 6 mm wide; lip deeply 3-lobed, ca. 14 mm long, 12 mm wide across lateral lobes, the base cuneate, lateral lobes oblong, obtuse, ca. 8 mm long, 4 mm wide, mid-lobe oblong, truncate, ca. 8 mm long, 4 mm wide, base ca. 3 mm wide, mid-lobe with 5 lamellae, 2 (outer) near base, and 3 extending to near apex; column slightly winged near base, arcuate above, ca. 10 mm long.

TYPE: MEXICO: MICHOACÁN: about 18 km S of Uruapan, oak forest, 30 Jul 1961; flowers pale yellow, flushed and lined with red-violet, side-lobes of lip lined with red-violet, mid-lobe edged with red-violet, callus yellow; several plants without flowers apparently this species, *Dressler & Wirth 2770* (HOLOTYPE: US).

This species was found growing with *B. adenocarpa*, which it somewhat resembles. The very long mid-lobe of the lip readily distinguishes it from other small-flowered species.

**Bletia urbana** Dressler, sp. nov. Fig. 2.

Pseudobulbo subgloboso; foliis lineari-lanceolatis; scapo teretiusculo, paucifloro; bracteis subulatis; sepalis oblongis, acutis; petalis ellipticis; labello oblongo-subquadrato, apice tenuiter retusis, disco fere usque ad apicem 5-lamellato; columna ad basin versus tenuiter bialata.

Corms conic-subglobose, ca. 3 cm long, 2 cm diam; shoot with ca. 3 tubular sheathing bracts at base; leaves 1–3, ca. 30–55 cm long, 15–30 mm wide; scape from young corm, ca. 35–60 cm in height, with 5 or 6 flowers; bracts subulate, 5–11 mm long, ca. 3 mm wide; ovary with pedicel 12–18 mm long; flower with a distinct though small mentum; lateral sepals oblong, acute, 24–28 mm long, 7–8 mm wide; dorsal sepal similar, 26–29 mm long, 6–7 mm wide; petals elliptic, subacute, 24–27 mm long, 7–10 mm wide; lip entire, oblong-subquadrate, 24–26 mm long, ca. 18 mm wide, shortly attenuate at base, slightly retuse at apex, ruffled, the disk with 5 lamellae, these largest near apex; column slightly winged near base, arcuate above, 17–18 mm long.

TYPE: MEXICO: DISTRITO FEDERAL: Pedregal de San Angel, infrequent local colonies in grass, 2 Jul 1959; sepals and petals yellow, heavily flushed with rose-purple, lip same, marked with rose-purple terminally, keels yellow at apex; often autogamous, *Dressler 2460* (HOLOTYPE: US).

Additional collections examined:

MEXICO: DISTRITO FEDERAL: Pedregal S of Tlalpam, 2700 m, lip fringe pink, callus and rest of lip yellow, column white, petals and sepals white suffused with pink within, without brown suffused with pink, *Sawyer 8057* (AMES?—[“Harvard” in my notes]); Pedregal de San Angel, Agosto 1956, *Gorman s.n.* (MEXU).

In floral details this species resembles *B. parkinsonii* and the large-flowered *B. rosea*. Of the other small-flowered species with subentire lip, only *B. parkinsonii* and *B. lilacina* have well developed lamellae. Both are much smaller than *B. urbana*; *B. lilacina* differs in its wingless, arcuate column, and *B. parkinsonii* in its much narrower lip. This new species was found growing in vacant lots near the elegant homes of El Pedregal, and the type population probably has been destroyed by further construction in the area. It is to be expected, though, in other, less settled areas of the Pedregal de San Angel.

## II. Identity of *Bletia campanulata* and *B. reflexa*.

Recent authors have relegated *Bletia campanulata* La Llave & Lexarza to the category of "obscure species," though all of the *Bletia* descriptions of La Llave & Lexarza are good (excellent for their time), and both the description and the epithet fit only one of the species which occur in western Mexico. Williams (Ceiba 2: 225, 1951) treated these plants as *B. reflexa* Lindley, as have other recent authors. On seeing the plants in the field, however, one is quickly convinced that *B. campanulata* and *B. reflexa* are distinct species. The general proportions of the flower parts are similar, but the posture of the flowers, the structure of the underground parts (noted by La Llave & Lexarza!), and the flowering season are all sharply different, as outlined below.

	<i>B. campanulata</i>	<i>B. reflexa</i>
corms	elongate, fusiform, loosely connected	pyriform-subglobose, firmly connected
flowering season (in Mexico)	June–August	October–January
posture of flower	campanulate, horizontal	lip arcuate, petals hooded over lip, sepals reflexed, erect
base of lip	obtuse	cuneate
apex of lip	subentire to distinctly 3-lobed	subentire

While I find *B. campanulata* and *B. reflexa* to be easily separable, the distinction between *B. campanulata* and *B. macrithmochila* is rather more arbitrary. It would appear that these species (which have the same flowering season) occasionally cross. Since both species show strong tendencies toward autogamy, the hybrids are likely to form stable intermediate populations. All that I have seen have the aspect of very large *B. campanulata*, often with thicker corms than normal for the species or with markedly wide or retuse mid-lobes. *Bletia amabilis* C. Schweinf. is based on such a plant.

Though I may be accused of "splitting" in distinguishing *B. campanulata* and *B. reflexa*, I must surely be labelled a "lumper" for the other names which I consider to be synonyms of *B. campanulata*. *Bletia greenmaniana* L. Williams is based on a peloric (and cleistogamous) form of *B. campanulata*; similar forms are represented by *Leavenworth* 299 (F), near Tancitaro, Michoacán (mixed with the normal form) and *Östlund* [*Conzatti*] 6906 (AMES?), from Mt. San Felipe, Oaxaca. An even more extreme abnormality is found in some Venezuelan plants which have the column sharply bent in two places to give nearly a "Z" shape (*Velasco* 10 [VEN], *Dunsterville* 572). Such a structure would surely be fatal to normal reproduction, but it is evidently neutral in an autogamous population and

has been able to persist and increase. The various Central and South American plants which I treat as *B. campanulata* vary in the development of the lamellae, the lobing of the lip and the apices of the lobes, but all show the narrow corms and campanulate flowers typical of the species, and all show a strong tendency to autogamy. Marked local variation is exactly what one would expect of a facultative self-pollinator spread over such a wide area. South of the equator the flowering season shifts to December–March.

1. *BLETIA CAMPANULATA* La Llave & Lexarza, Nov. Veg. Descr. Orch. Opusc. 17. 1825. *Limodorum campanulatum* (Llave & Lex.) Ames & Schweinf., Sched. Orch. **10**: 78. 1930.

?*Bletia anomala* Rich. & Gal., Ann. Sci. Nat. III. **3**: 23. 1845.

*Bletia wagneri* Reichb. f., Linnaea **26**: 143. 1853. TYPE: Colombia [Venezuela?]: in savannis ad Chacao, 4000 ft, Aug, *Wagner 374 & 375* (HOLOTYPE: W!).

*Bletia landsbergii* Reichb. f., Nederl. Kruidk. Arch. **4**: 317. 1859. TYPE: Venezuela: Guareyma, 3000 ft, Jun 1850, *Wagner* (HOLOTYPE: W? not seen).

*Bletia ecuadorensis* Schltr., Repert. Spec. Nov. **14**: 393. 1916. TYPE: Ecuador: near Portalanza, Fl. Sep 1891, *A. Sodiro 76* (presumably destroyed).

*Bletia mandonii* Schltr., Repert. Spec. Nov. Beih. **10**: 48. 1922. TYPE: Bolivia: La Paz, Cerro del Iminipi, in scopulis humo repletis, 2650 m, Feb–Apr 1859, *G. Mandon 1147* (ISOTYPES: F! W!).

*Limodorum lankesteri* Ames & Schweinf., Sched. Orch. **10**: 78. 1930. TYPE: Costa Rica: Las Cónavas, "terrestrial, rare on exposed sterile grass slopes," *C. H. Lankester 1136* (HOLOTYPE: AMES!). *Bletia lankesteri* (Ames & Schweinf.) Ames, Hubbard, & Schweinf., Bot. Mus. Leaf. (Harvard Univ.) **3**: 41. 1934.

*Bletia edwardsii* Ames, Proc. Biol. Soc. Washington **45**: 1. 1932. TYPE: Honduras: Dept. Tegucigalpa: vicinity of San Juancito, "Peña Blanca," terrestrial in cloud forest, 5000–6000 ft, 9 Aug 1931, *J. B. Edwards 24* (HOLOTYPE: AMES!).

*Bletia amabilis* Schweinf., Bot. Mus. Leaf. (Harvard Univ.) **6**: 62. 1938. TYPE: Mexico: Sonora: Sierra Charuco, Río Mayo, "Upper Sonoran; oaks, shaded humus . . . terrestrial in soil; fl. lavender, laterals yellow with purple veins, upper lip purple," 23 Jul 1936, *H. S. Gentry 2302* (HOLOTYPE: AMES!).

*Bletia greenmaniana* L. Williams, Bot. Mus. Leaf. (Harvard Univ.) **12**: 246. 1946. TYPE: Mexico: Veracruz: région de Orizaba, 28 Juillet 1865–66, *Bourgeau 2812* (HOLOTYPE: GH! ISOTYPE: US!).

*Bletia altilamellata* Garay, Svensk Bot. Tidskr. **47**: 222. 1953. TYPE: Colombia: Cauca, El Tambo, loco gramínozo, ca. 1700 m, *K. v. Sneidern 2033* (HOLOTYPE: S, not seen).

2. *BLETIA REFLEXA* Lindley, Bot. Reg. **21**: t. 1760. 1853. TYPE: Mexico: grown by Messrs. Loddiges, Nov 1834 (HOLOTYPE: CGE-Herb. Lindl!).

*Bletia jucunda* Linden & Reichb. f., Bonplandia **3**: 221. 1855. TYPE: Mexico: sur les rochers dans l'état de Michoacán, Oct–Dec, *Ghiesbreght 17* (HOLOTYPE: W! ISOTYPE: CGE-Herb. Lindl!).

### III. Key to the species of *Bletia*

My experience has been primarily with the Mexican representatives of the genus, but there are only a few described species which are not found in Mexico, so that I have included all known species in the present key. *Bletia florida* has been treated as a synonym of *B. purpurea*, but it seems to me rather intermediate between *B. purpurea* and *B. patula* and as difficult to distinguish from one as the other in a large series. It may be that *B. florida* is of hybrid origin, though it occurs in Jamaica, where *B. patula* is not recorded. There are, of course, some problems even among the Mexican species. I believe that *B. palmeri* will eventually be considered as a subspecies of *B. adenocarpa*. As noted by Williams (*Ceiba* **2**: 223. 1951), *B. palmeri* has smooth ovaries and a more lamellate callus than *B. adenocarpa*. Color, however, is very similar in the two forms. My field notes indicate that the flowers of *B. palmeri* are yellow-tan or butter-yellow with the sepals bronze without,

while *B. adenocarpha* lacks the bronzy flush, having clear canary or chrome-yellow sepals and petals. Williams (Ceiba 1: 188. 1950) has considered *B. roezlii* to be a variety of *B. gracilis*, but I have seen no intermediates, though they are very similar in all but the structure of the lip. I have seen also a few collections from Mexico and Central America which may represent new species, but more material is needed in each case.

I have used La Llave & Lexarza's epithet, *coccinea*, for the large orange-red flowered *Bletia* which occurs in western Mexico, the only species to which it could possibly be applied. The material of *B. campanulata* and *B. coccinea* in the Reichenbach Herbarium had the names reversed, which may be the reason that Reichenbach described this plant as *B. fulgens* and annotated the type as "non est llaveane plante . . ." Similarly, I consider *B. punctata* La Llave & Lexarza to be the correct name for *B. secunda* Lindley.

The present key is based primarily upon the structure of the lip, and especially the form and proportions of the lobes when flattened. I have avoided the use of the lamellae, except as a presence or absence feature, since the details of these structures show great variation. I have used size as a key feature, since the species are usually clearly divided into large-flowered and small-flowered groups. I cannot guarantee, however, that all future specimens will show due respect for the measurements given, which are based largely on my own collections.

1. Lip distinctly 3-lobed, the sinuses deep, and usually acute
    2. Lip more than 2 cm long
      3. Mid-lobe of lip about 1/2 total length of lip or more; lateral lobes divergent (distance from base of lip to sinus about equal to width of lobe)
        4. Base of lip subcordate, lateral lobes suborbicular, lip without an isthmus; flowers rose-purple (Colombia, Ecuador, Peru, Bolivia, Brazil) . . . . . *B. catenulata* Ruiz & Pavón
        4. Base of lip attenuate, lateral lobes elongate, lip with a conspicuous isthmus; flowers orange-red (Mexico) (*B. fulgens* Reichb. f.) . . . . . *B. coccinea* Llave & Lex.
      3. Mid-lobe of lip less than 1/2 total length of lip, lateral lobes broad and decurrent (distance from base of lip to sinus more than twice the width of lobe)
        5. Mid-lobe wider than greatest width across lateral lobes, or subequal; free portion of lateral lobes small, overlapping mid-lobe at sinus; leaves purplish, usually wide; flowers greenish
          6. Lip with 1-3 lamellae, not verrucose (Mexico) . . . . . *B. gracilis* Lodd.
          6. Lip strongly verrucose on veins (Mexico, Guatemala, Honduras) . . . . . *B. roezlii* Reichb. f.
    5. Mid-lobe much narrower than greatest width across lateral lobes; leaves narrow; flowers rose-purple
      7. Lip with a distinct isthmus, mid-lobe much broader than isthmus (Mexico) . . . . . *B. macristhmochila* Greenman
      7. Lip without a distinct isthmus, mid-lobe not markedly broader above base
        8. Lip without conspicuous lamellae; ovary coarsely verrucose; flower with a conspicuous mentum (Mexico) . . . . . *B. concolor* Dressler
        8. Lip with conspicuous lamellae; ovary smooth; flower without a conspicuous mentum (Mexico, Central America, Venezuela, and Colombia to Argentina) . . . . . *B. campanulata* Llave & Lex.
2. Lip less than 2 cm long
  9. Lip with a series of thick papillae on each side of the lamellate callus (Cuba) . . . . . *B. carabiaiana* L. Williams
  9. Lip without thick papillae
    10. Base of lip suborbicular or cordate; lateral lobes convergent (width across apices much less than at base of lip or between base and apices)
      11. Mid-lobe of lip suboblong, not markedly expanded above base; leaves usually less than 5 mm in width (Mexico) . . . . . *B. tenuifolia* Ames & Schweinf.
      11. Mid-lobe of lip conspicuously expanded above base; leaves usually 1 cm or more in width



12. Base of lip more or less cordate, widest at base (Mexico, Central America, West Indies, Ecuador, Colombia, Venezuela) . . . . . *B. purpurea* (Lam.) DC.
12. Base of lip rounded, lip widest well above the base (at about middle of lateral lobes) (Cuba, Jamaica) . . . . . *B. florida* (Salisb.) R. Br.
10. Base of lip more or less cuneate, lateral lobes divergent or parallel
13. Mid-lobe  $\frac{1}{2}$  total length of lip or more
14. Mid-lobe more than  $\frac{1}{2}$  total length of lip, much larger than lateral lobes; lateral lobes, basal, narrow (Mexico) (*B. secunda* Lindl.) *B. punctata* Llave & Lex.
14. Mid-lobe about  $\frac{1}{2}$  total length of lip, subequal to lateral lobes, which are broadly decurrent (Mexico) . . . . . *B. similis* Dressler
13. Mid-lobe much less than  $\frac{1}{2}$  total length of lip
15. Sides of lip more or less parallel when flattened; lateral lobes truncate; flowers white or rose-purple (Venezuela, Colombia) . . . . . *B. stenophylla* Schltr.
15. Lip tapering toward base; side-lobes rounded; flowers yellow or bronzy yellow
16. Ovary papillose (Mexico) . . . . . *B. adenocarpa* Reichb. f.
16. Ovary smooth (Mexico) . . . . . *B. palmeri* S. Wats.
1. Lip subentire, sinuses shallow and indistinct, usually more or less ruffled (The Cuban *B. wrightii*, with very small, truncate lateral lobes, is keyed here)
17. Lip more than 30 mm long
18. Column with distinct wings or angles near mid-point
19. Lip without conspicuous lamellae, basally adnate to column and forming a distinct nectary (Mexico, Guatemala, Honduras) (*Crybe rosea* Lindl.) . . . . . *B. rosea* (Lindl.) Dressler
19. Lip with conspicuous lamellae, not basally adnate to column nor with externally visible nectary (Cuba, Hispaniola, Puerto Rico) . . . . . *B. patula* Hook.
18. Column without conspicuous wings, or these subterminal
20. Flowers with sepals opening widely; base of lip cuneate; corms subglobose (Mexico, Guatemala) . . . . . *B. reflexa* Lindl.
20. Flowers campanulate; base of lip obtuse; corms elongate (Mexico, Central America, Venezuela, and Colombia to Argentina) . . . . . *B. campanulata* Llave & Lex.
17. Lip 25 mm long or less
21. Leaves several (3-5), 5-6 mm in width; lip suborbicular (Mexico) . . . . . *B. ensifolia* L. Williams
21. Leaves few, usually much wider; lip longer than wide
22. Lip basally adnate to column, forming a conspicuous nectary at base; more or less tubular (sides parallel when flattened); with conspicuous lamellae (Mexico) . . . . . *B. parkinsonii* Hook.
22. Flower without conspicuous nectary at base; lip not markedly tubular
23. Lip about 25 mm long (Mexico) . . . . . *B. urbana* Dressler
23. Lip less than 20 mm long
24. Lip without conspicuous lamellae (Mexico) . . . . . *B. nelsonii* Ames
24. Lip with conspicuous lamellae
25. Leaves linear, to 4 mm wide; sides of lip subparallel; lateral lobes truncate, not ruffled (Cuba) . . . . . *B. wrightii* Acuña
25. Leaves to 1 cm wide; lip tapering from lateral lobes to base; lateral lobes rounded, ruffled (Mexico) (*B. nagelii* L. Williams) . . . . . *B. lilacina* Rich. & Gal.