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A SYNOPSIS OF *CISCHWEINFIA* (ORCHIDACEAE)

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ABSTRACT. Problems in the identification of *Cischweinfia* species are discussed, and three recently described species are reduced to synonymy. One new species from Costa Rica, allied to *C. pusilla* and thrice illustrated but rarely collected, is described as *C. donrafae* Dressler & Dalström, and a distinctive population from Veraguas Province in Panama is described as *C. pusilla* subspecies *furcata* Dressler & Dalström. A revised key to the genus is offered.

Key words: *Cischweinfia pusilla* subspecies *furcata, Cischweinfia donrafae,* species key, taxonomy, synonymy

INTRODUCTION

Both Garay (1970) and Senghas (1995a) considered *Cischweinfia* to be a member of the *Trichopilia* alliance, but recent molecular analysis (Williams et al. 2001, Williams pers. comm.) indicates that *Cischweinfia* is closely allied to *Systeloglossum.* Both are in the same clade as *Ada, Aspasia, Brachtia,* and *Brassia,* a group only distantly related to *Trichopilia.* Dressler and Williams described *Cischweinfia* in 1970. A fourth, unnamed species was described and added to these. It was clear that the three species were already known, one described as *Aspasia,* one as *Miltonia,* and one as *Trichopilia.* Clearly the three species had been misplaced and were closely related to each other. Thus they were the basis for a "new" genus, and the group was named to honor Charles Schweinfurth, abbreviated as "C. Schweinf." in botanical literature, since there was already a *Schweinfurthia* A. Braun in the Scrophulariaceae named for Georg A. Schweinfurth.

The genus *Cischweinfia* is a very natural group with 10–12 distinct but similar species, about which there has been a great deal of confusion. *Cischweinfia colombiana* was first identified as *Trichopilia* (*Cischweinfia*) *pusilla* (Garay 1970, 1973). *Cischweinfia popowiana* was identified as *C. parva* by Senghas (1995a). Senghas and Neudecker then, quite understandably, described a form of *C. parva* as *C. horichiana* (Senghas 1995a). The identities of *Cischweinfia dasyandra* and *C. rostrata* have been thoroughly confused. Christenson's well-illustrated synopsis of the genus (2003) adds to the customary confusion, with less than half of the photographs correctly identified, and the superfluous description of three "new" species, all of them already validly named. Christenson (2003) describes *Cischweinfia emarginata, C. glicensteinii,* and *C. sheehanae,* and offers a key to identify 16 supposed species. He seems, however, not to have studied either the type specimens or the original descriptions of *C. dasyandra, C. horichii, C. parva, C. pusilla,* or *C. rostrata,* and his concepts of these species have little scientific basis. We discuss here the identity of each of these species, based, when possible, on study of the type specimen and the original description. Each of Christenson's proposed new species must be reduced to synonymy.

We describe a new species, *Cischweinfia donrafae,* from Costa Rica and a new subspecies of *C. pusilla* from Panama, and offer a revised key.

TAXONOMIC TREATMENTS

Cischweinfia dasyandra (Reichenbach) Dressler & N.H.Williams, Amer. Orchid Soc. Bull. 39: 991. 1970.—*Trichopilia dasyandra* Rchb.f., Xenia Orch. 3: 64, t. 230. 1883. Holotype: *Endres 93* (W-R, seen but not recently.).—*Cischweinfia glicensteinii* Christenson, Orchids 72: 122. 2003. Holotype: *Christenson 2058* (NY!). FIGURES 1–3

There are two plants and two sets of drawings on the type sheet of *Trichopilia dasyandra* (*Endres 93* and *Endres s.n.,* W-R 18032). Each of the plants bears an old flower with young fruit developing. The detailed sketches to the left are by Endres, and the crude sketches to the right

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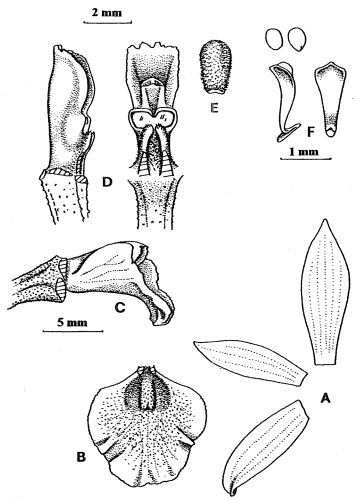


Fig. 1

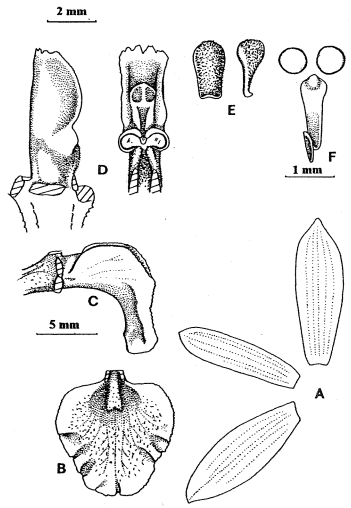


Fig. 2

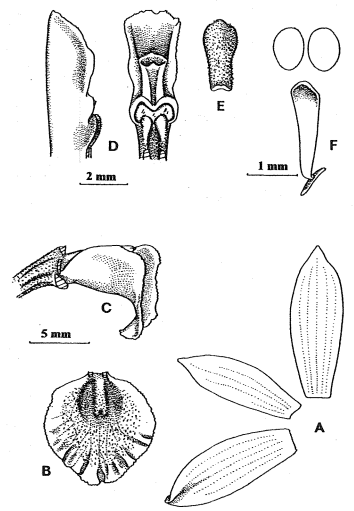


Fig. 3

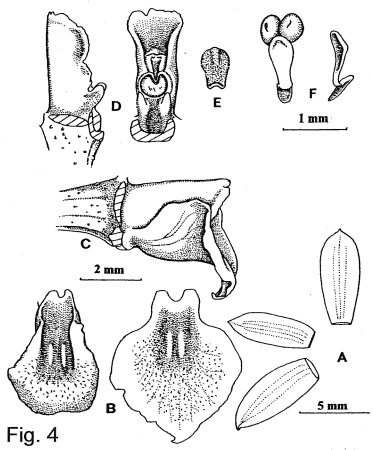


Fig. 4

FIGURE 1. *Cischweinfia dasyandra.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *Dressler 6382* (MO).

FIGURE 2. *Cischweinfia dasyandra.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium; voucher: *E. Christenson 2058* (NY).

FIGURE 3. *Cischweinfia dasyandra.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *Dressler s.n.* (SEL-Spirit).

FIGURE 4. *Cischweinfia jarae.* **A.** Sepals and petal. **B.** Lip in natural position and flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *Dressler 6405* (FLAS).

are by Reichenbach, who apparently felt that the Endres sketches were too symmetrical to be natural, and stated that he had redrawn some of them. Christenson, following unpublished notes by Garay, argues that the two plants are different species and chooses the left-hand plant, *Endres 93,* as the holotype of *C. glicensteinii,* leaving the right-hand plant, *Endres* s.n., to be the type of *Trichopilia dasyandra.* The type sheet of *Trichopilia dasyandra* is not available for study, having been on loan for many years. We have studied Endres' notes, however, and we are convinced that *Trichopilia dasyandra,* as understood by Garay and Christenson, is simply a chimera. Endres' notes show that both color descriptions quoted by Reichenbach refer to *Endres 93,* the left-hand specimen, and that specimen must be taken as the type of *Trichopilia dasyandra.* Thus, even if there are two different species on the type sheet (which seems unlikely), *Cischweinfia glicensteinii* is a synonym of *C. dasyandra.* Note that the crude drawing of the lip on the right is scarcely more circular than Endres' detailed drawing on the left, from which it was apparently copied.

Considerable variation in color occurs in *Cischweinfia dasyandra.* The throat is yellow with or without brown spots or streaks. The blade of the lip usually has radiating pink bands, these varying from subliminal to quite prominent. A population in Bocas del Toro, Panama, has a cream lip and only a little yellow in the throat. Though some Panamanian collectors consider this a distinct species, we can find no convincing structural difference, though all parts are just a little smaller than in typical *C. dasyandra,* as is often the case in albinistic forms. When flattened, the lip of *C. dasyandra* varies from circular or ovate to very broadly ovate, with a short claw at the base. In natural position, the base of the blade is rather tightly enrolled about the column, forming a relatively long, narrow throat.

Cischweinfia jarae Dodson & D.E.Bennett, Icon Pl. Trop. II pl. 28. 1989. Holotype (*Bennett 4170,* MO, not seen).—*Cischweinfia suarezii* Dodson, Icon. Pl. Trop. II pl. 420. 1989. Holotype (*G.A. Suárez 104,* SEL!).—*Cischweinfia kroemeri* Vásquez & Dodson, Rev. Soc. Bol. Bot. 2: 143. 1999. Holotype: (*Kroemer & Acebey 192*), LPB, isotype Herb. Vasquezianum, not seen).

FIGURE 4

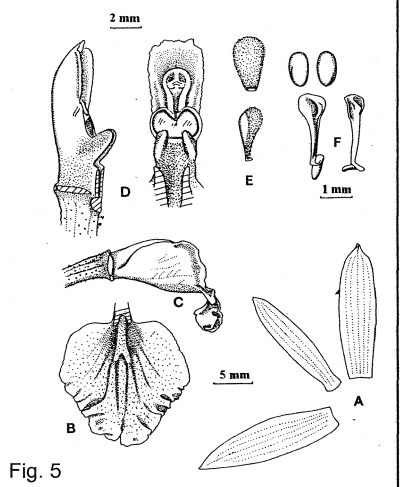
All three of these supposed species have small warts (not hairs) on the ovaries, and the bristles of the anther vary greatly in other species; thus we consider both *Cischweinfia suarezii* and *C. kroemeri* synonyms of *C. jarae.* The name *C. suarezii* is somewhat better known, but was published at the same time as *C. jarae.* Christenson (2003) chose to use *C. jarae.* We have seen relatively little of these tiny-flowered species, but the variation suggests that there have been too many names.

Cischweinfia parva (C.Schweinf.) Dressler & N.H.Williams Amer. Orchid Soc. Bull. 39: 992. 1970.—*Miltonia parva* C.Schweinf., Amer. Orchid Soc. Bull. 14: 294. 1945. Holotype: *C. Schunke N. 571671* (F, Isotype AMES!).—*Cischweinfia chasei* D.E. Bennett & Christenson, Brittonia 46: 26. 1994. Holotype: (*Arias ex Bennett & Chase 4080,* USM, not seen).—*Cischweinfia horichii* Senghas & Neudecker, J. Orchideenfr. 2: 137. 1995. Holotype: *Neudecker s.n.* (HEID 0–20550, not seen).—*Cischweinfia emarginata* Christenson, Orchids 72: 122. 1003. Holotype: *Vásquez 124* (SEL!).

FIGURES 5–8

This species was described in 1945 by Charles Schweinfurth as *Miltonia parva* from Peru. The color was described as "sepals and petals appearing (in the dried specimen) brownish and the lip cream color with purplish spots." Both the description and the original drawing agree very well with plants from Bolivia, Colombia, Ecuador, and Peru. Christenson (2003) offers three photos of such plants, labeled as "*C. horichii.*" *Cischweinfia horichii* (Senghas & Neudecker 1995) is apparently a variant of *C. parva* with lower callus and more crenate lip margin. Christenson also describes *C. emarginata,* based on *Vasquez 124,* from Bolivia, which agrees very well with *C. parva.* Christenson compares *C. emarginata* with *C. horichii,* but not with *C. parva.* He distinguishes *C. emarginata* by its having a notch in the lip ("lip emarginate") but gives no other feature that can distinguish *C. emarginata* from *C. parva.* In fact, most specimens of *C. parva* have at least a slight notch on the lip. One needs a little more than a variable notch to justify a new species. We suspect that the photograph of a Peruvian flower with a deep notch is *C. parva,* and we feel quite sure that *Vasquez 124,* with a quite shallow notch, is *C. parva.*

In southeastern Ecuador (Morona-Santiago and Zamora-Chinchipe) and adjacent Peru, there is a *Cischweinfia* with very large flowers and white or nearly white lips (including *Hirtz 4029,* MO). These plants have distinct keels from the base of the lip, or, alternatively, the basal portion of the callus is divided into two ridges or keels. We consider these to be variants of *C. parva,* as we find no other consistent difference. An adequate geographic sample with good locality data



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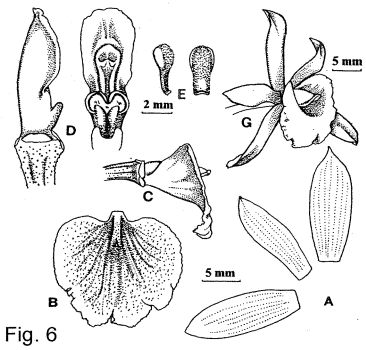

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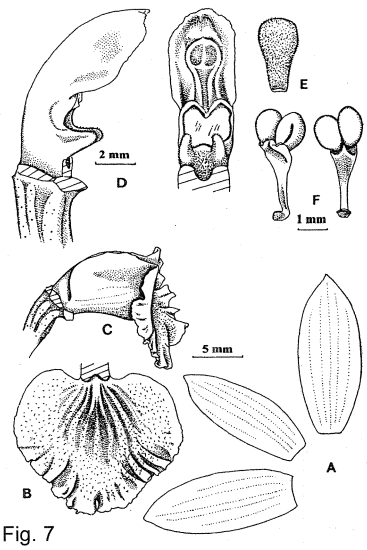

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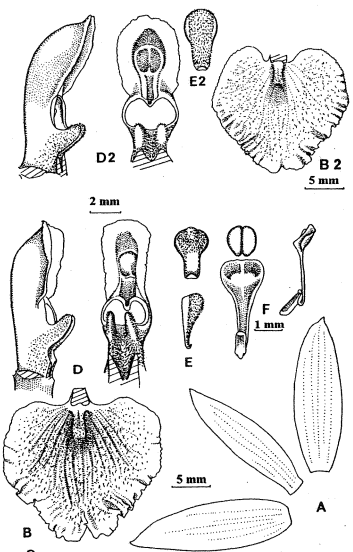

Fig. 8

FIGURE 5. *Cischweinfia parva.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium; voucher *M. Arias s.n.* (SEL-Spirit).

FIGURE 6. *Cischweinfia parva.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **G.** Flower sublateral view; voucher *A. Hirtz 7193* (SEL-Spirit).

FIGURE 7. *Cischweinfia parva.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *R. Vasquez 124* (SEL).

FIGURE 8. *Cischweinfia parva.* **A.** Sepals and petal. **B.** Lip flattened. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium; voucher: *Whitten et al. 2458* (FLAS). **B2.** Lip flattened. **D2.** Column lateral and ventral view. **E2.** Anther cap dorsal view; voucher: *Dressler s.n.* (SEL-Spirit).

might show that this deserves to be treated as a subspecies.

We must consider both *Cischweinfia chasei* and *C. emarginata* to be synonyms of *C. parva,* and we believe that *C. horichii* is also a synonym. *Cischweinfia horichii* could conceivably be a distinctive population or subspecies, but that could be determined only by studying plant-to-

plant variation in the field or a much better sample.

In the discussion of *Cischweinfia parva,* Christenson (2003) criticizes Dodson and Escobar, as they cite a voucher of *C. parva* (*Hirtz 4029*), "but without any reference to where the specimen is conserved, thus making its study by other botanists impossible." The voucher is at MO. We agree that the location of voucher specimens and, especially, type specimens should be clearly stated, and that they should be available for study. In the case of *C. chasei* (Bennett & Christenson 1994), however, the type specimen is said to be *E. Jara P. ex D. Bennett 4497,* supposedly deposited in USM (Museo de Historia Natural, Universidad Nacional Mayor de San Marcos de Lima, Lima, Peru). Yet, as with many other species described by Bennett and\or Christenson, there is no such specimen deposited in USM. To make matters worse, many of the published drawings are so highly stylized that it is nearly impossible to determine the identity of the plant from the drawing, alone. This does create real problems for botanists.

Cischweinfia pusilla (C.Schweinfurth) Dressler & N.H.Williams Amer. Orchid Soc. Bull. 39: 992. 1970.—*Aspasia pusilla* C. Schweinf., Bot. Mus. Leafl. 10: 21, t. 1. 1941. Holotype: M.E. & R.A. Terry 1502 (AMES), isotypes (F, MO!).—*Cischweinfia sheehanae* Christenson, Orchids 72: 126. 2003. Holotype: *Christenson 2057* (NY!) FIGURES 9–11

This species was first described by Charles Schweinfurth (1941), based on a plant collected in eastern Panama by M.E. and R.A. Terry (their number 1502) and deposited at AMES with duplicates at F and MO. To be sure, the Missouri specimen is labeled as "Mrs. M.E. Terry 1502," but it is surely part of the same collection. The original drawing, by Gordon W. Dillon, was based on a dried specimen but shows the features rather well. The lip is rather flat and narrowed (cuneate) basally, but also slightly concave, and the callus is shown as rather Y-shaped and warty. In fact, the callus is of two subparallel keels that diverge apically and are finely hairy, rather than warty. One of the most distinctive features of *Cischweinfia pusilla* is the very short stipe of the pollinarium, less than twice the length of the viscidium. Most other larger-flowered species of *Cischweinfia* have quite long stipes, from 2 to 5 times the length of the viscidium.

Christenson states that the lip of *Cischweinfia pusilla* should be flat. Well, the type has been pressed flat for more than 60 years, but when softened properly, the base of the lip becomes somewhat concave, just as in other collections from eastern Panama or in the plant described as *C. sheehanae.* Christenson maintains that the true *C. pusilla* has 11 radiating white keels, but we have seen nothing like this either in *Terry & Terry 1502* or in any other Panamanian plant (but see the description of *C. donrafae,* below.) We find no significant difference between *C. pusilla* and *C. sheehanae.* We have seen no specimens of *C. pusilla* from Costa Rica. The drawing published as *C. pusilla* in Atwood and Mora (1999) is clearly *C. dasyandra.*

Plants similar to typical *Cischweinfia pusilla* from the Panamanian Province of Veraguas are consistently different from the species as it occurs in central and eastern Panama and Colombia. At present, we have seen no specimens from the area between Veraguas and central Panama. Better geographic sampling might show intergradation between the two populations or that the plants of Veraguas represent a distinct species. For now, we describe this plant as:

Cischweinfia pusilla subspecies **furcata** Dressler & Dalström, subsp. nov. Holotype: Panama. Veraguas: El Pantano, N.E. of Santa Fé; flowered in cult. 16 Oct. 2002, *Dressler 6396A* (MO), Clonotype: 18 Aug. 2003, *Dressler 6396B* (PMA). FIGURE 12

A forma typica floribus aliquantum majoribus, ovario verruculoso, labello breviter cuneiforme tum obovato, carinis calli abrupte sub medio divergentibus postea subparallelis dignoscenda.

Ovary verruculose; dorsal ***sepal*** ca. 16 × 4–4.5 mm, narrowly elliptic, acute or apiculate; lateral sepals ca. 15 × 3.5–4.5 mm, oblanceolate, apiculate; ***petals*** 15–17 × 3.3–5 mm, elliptic-oblanceolate, apiculate; ***lip*** 13–14 × 13–14 mm, base shortly cuneate, obovate, apiculate; ***column*** ca. 7 mm, hood 2–2.5 mm, sublacerate; ***anther*** densely short-hispid.

The flowers of *Cischweinfia pusilla* subsp. *furcata* are a bit larger than those of subsp. *pusilla,* and the shape of the lip is somewhat different (see FIGURES 9–12). The most distinctive feature is the shape of the callus, which approximates a 2-tined fork. Thus, we use the epithet *furcata,* or forked. The flowers of the Veraguas population are often somewhat darker than those of subsp. *pusilla,* and Andrew Maduro has one clone that is very dark and quite handsome in Finca Dracula, Cerro Punta, Panama.

With regard to the elusive "*Cischweinfi pusilla*" of Costa Rica, a few months before his death, C.K. Horich collected a *Cischweinfia* near Cien Manzanas, Cartago Province, Costa Rica. This species was illustrated by Senghas as *C. pusilla* (1995a, 1995b), and there are two paintings of similar plants, also identified as *C. pus-*

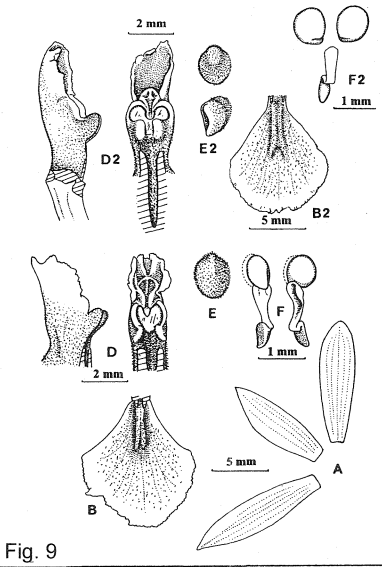

Fig. 9

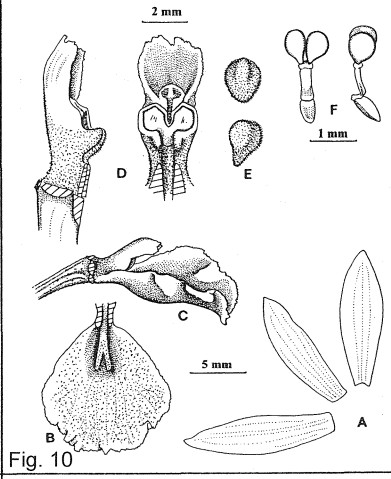

Fig. 10

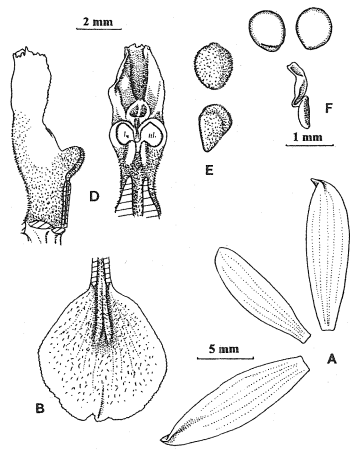

Fig. 11

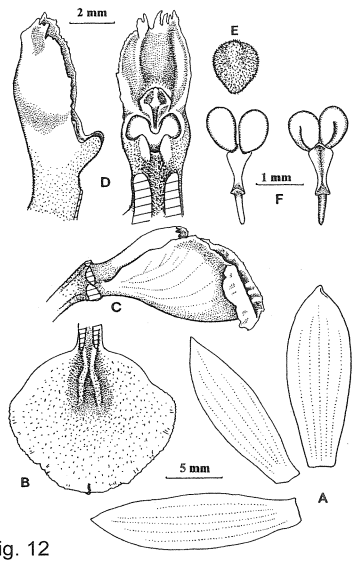

Fig. 12

FIGURE 9. *Cischweinfia pusilla.* **A.** Sepals and petal. **B.** Lip flattened. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *Terry & Terry 1502* (MO). **B2.** Lip flattened. **D2.** Column lateral and ventral view. **E2.** Anther cap dorsal and lateral view. **F2.** Pollinarium; voucher: *Dressler 2923* (MO).

FIGURE 10. *Cischweinfia pusilla.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column ventral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium. Cultivated in Florida, said to be from Tropical Orchid Farm, in Hawaii.

FIGURE 11. *Cischweinfia pusilla.* **A.** Sepals and petal. **B.** Lip flattened. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium; voucher: *E. Christenson 2057* (NY).

FIGURE 12. *Cischweinfia pusilla* subsp. *furcata.* **A.** Sepals and petals. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *Dressler 6396A* (MO).

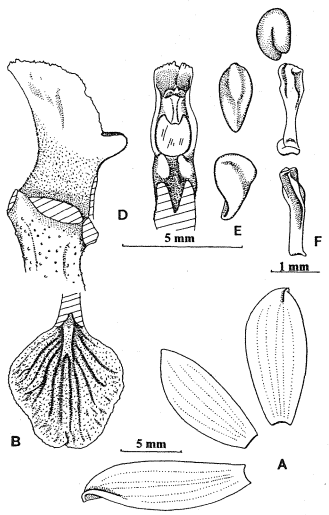

Fig. 13

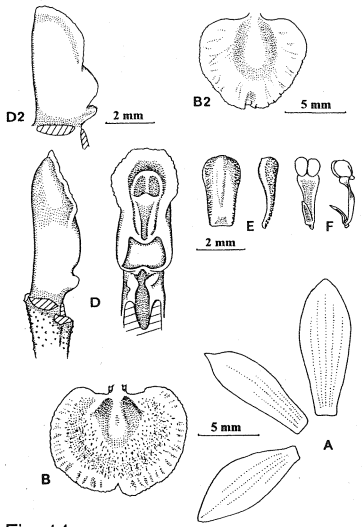

Fig. 14

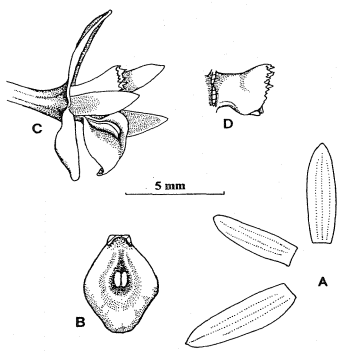

Fig. 15

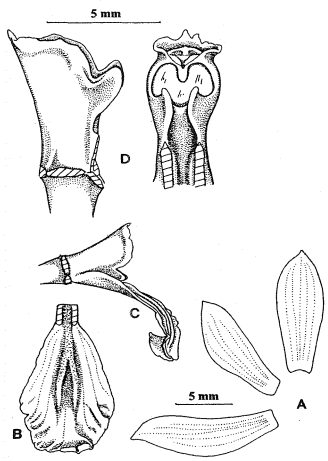

Fig. 16

FIGURE 13. *Cischweinfia donrafae.* **A.** Sepals and petal. **B.** Lip flattened. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and ventral view. **F.** Pollinarium; voucher: *Lankester 1496* (AMES).

FIGURE 14. *Cischweinfia rostrata.* **A.** Sepals and petal. **B.** Lip flattened. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium; voucher: *M. Whitten 1839.* **B2.** Lip flattened. **D2.** Column lateral view; voucher: *Dodson et al. 3601* (US).

FIGURE 15. *Cischweinfia nana.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Flower lateral view. **D.** Column lateral view; voucher: *Dressler 5700* (MO).

FIGURE 16. *Cischweinfia platychila.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view; voucher: *Dressler s.n.* (SEL—Spirit).

KEY TO CURRENTLY KNOWN SPECIES OF *CISCHWEINFIA*

1. Sepals and petals < 10 mm long
   2. Lip flat, not surrounding column (FIGURE 15) . . . . . ***C. nana***
   2. Lip surrounding column, small warts (not hairs) on the ovaries . . . . . ***C. jarae***
1. Sepals and petals > 10 mm long
   3. Lip flat or nearly so, not surrounding column, nor concealing column in lateral view.
      4. Lip oblong or obovate-oblong, length > twice width (FIGURE 16) . . . . . ***C. platychila***
      4. Lip cuneate, obovate, about as wide as long.
         5. Anther with a distinct beak; stipe of pollinarium 2–2.5 mm long . . . . . ***C. donrafae***
         5. Anther without a beak; stipe of pollinarium ca. 1 mm long
            6. Callus of two gradually divergent keels; blade of lip cuneate in basal half . . . . . ***C. pusilla*** subsp. ***pusilla***
            6. Callus of two keels that diverge abruptly and are then subparallel; blade of lip obovate, broadly cuneate only in basal ¼ . . . . . ***C. pusilla*** subsp. ***furcata***
   3. Lip surrounding column, or at least concealing column in lateral view.
      7. Callus of a subquadrate basal block, often with 2 divergent keels apically.
         8. Column arms smooth; sepals and petals mottled with brown; lip with several red spots within, limb cream-yellow (FIGURE 17) . . . . ***C. colombiana***
         8. Column arms markedly hispid; sepals and petals green to brown (not mottled)
            9. Callus low basally and with a conspicuous hump at 3–4 mm from base; lip not completely surrounding column, gap above column subequal to width of column; lip with 1 large red blotch within; margins of lip usually becoming reflexed (FIGURE 18) . . . . . ***C. popowiana***
            9. Callus low throughout; lip surrounding column, gap (if any) narrower than column; lip with or without radiating spots or streaks within; margins not reflexed . . . . . ***C. parva***
      7. Callus of 2 small keels, diverging apically, or indistinct; lip enfolding and concealing column in lateral view
            10. Column 8–9 mm long; lip without purple markings . . . . . ***C. parva*** (large form)
            10. Column 5–6 mm long; lip usually marked with pink
               11. Thickness of column (dorsoventrally) ca. ½ length of column; clinandrial hood ca. 0.5 mm long; tube of lip about as wide distally as long (ca. 4.5 × 4.5 mm) . . . . . ***C. rostrata***
               11. Thickness of column much less than ½ length; clinandrial hood 1.5–2 mm long; tube of lip much longer than wide (ca. 5–6 × 3.5–4 mm) . . . . . ***C.* dasyanda**

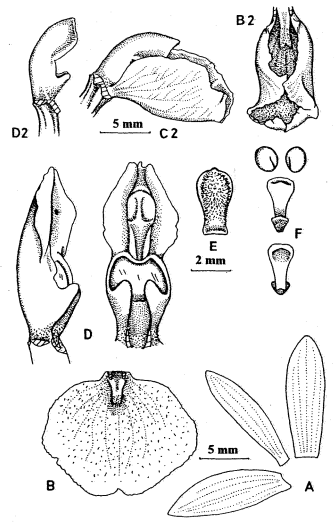

Fig. 17

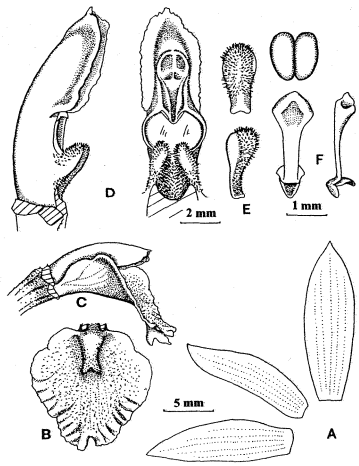

Fig. 18

FIGURE 17. *Cischweinfia colombiana.* **A.** Sepals and petal. **B.** Lip flattened. **D.** Column lateral and ventral view. **E.** Anther cap dorsal view. **F.** Pollinarium; voucher: *C. Luer 4309* (SEL). **B2.** Lip dorsal view. **C2.** Lip-column lateral view. **D2.** Column lateral view; voucher *Mejia 8, 1976* (SEL).

FIGURE 18. *Cischweinfia popowiana.* **A.** Sepals and petal. **B.** Lip flattened. **C.** Lip-column lateral view. **D.** Column lateral and ventral view. **E.** Anther cap dorsal and lateral view. **F.** Pollinarium; voucher: *OIC 13799* (SEL).

illa, by R.L. Rodríguez, one collected by Jorge Gómez-Laurito, probably near Turrialba (Rodríguez et al. 1986), and the other without locality (see Kuhn 1980 for a photograph of the painting). Christenson refers to the first Rodríguez painting as true *C. pusilla* but suggests that the other may represent an undescribed species. In this latter suggestion, he is surely correct. Both Senghas' drawing and the paintings by Rodríguez show a plant with the stipe of the pollinarium 2–2.5 mm long and a distinct, narrow beak on the anther, both features quite discordant with *C. pusilla.* The Senghas photograph of this Costa Rican plant (1995a, 1995b) certainly appears to show 10 or 11 white keels, though the keels are not mentioned by Senghas (1995b). This Costa Rican plant is clearly an unnamed *Cischweinfia.* We have visited Cien Manzanas, in the hope of finding this puzzling plant, but as little, if any, natural vegetation remains in the area, we could find no trace of any *Cischweinfia.* One specimen from Costa Rica, however, has been identified as *C. pusilla,* but neither of the flowers had been softened. This plant proves to be the same as the plant collected at Cien Manzanas and twice illustrated by Rodriguez, here described as a new species:

Cischweinfia donrafae Dressler & Dalström, sp. nov. Holotype: Costa Rica. Alajuela: San Miguel de Sarapiquí, June 4, 1941, *C.H. Lankester 1496* (AMES). FIGURE 13

Cischweinfiae pusillae similis, sed anthera rostrata, stipite plusminusvie 2 mm longo, nervis labelli elevatis differt.

Plant epiphytic, caespitose; roots 1.5–2 mm in diameter; pseudobulbs 3–3.7 × 0.9–1.1 cm, elliptic-oblong, flattened; ***leaves*** 8.5–12 × 1.1–1.6 cm, oblong-elliptic or elliptic, short petiolate, acute; ***sheaths*** 3–4, inflorescence lateral, peduncle 4–5 cm, peduncle bracts 6–7 × 2.5 mm, infundibuliform, then ovate, apiculate, rachis 1.5–3 cm, with 2–3 flowers; floral ***bracts*** 5–6 × 4–5 mm, acute, ovary and pedicel 3–3.4 cm; ***sepals*** and petals dusky brownish on basal ⅔, apical ⅓ lemon yellow, column lemon yellow, lip pure white at first day of anthesis, with distinct mauve lines on nerves at base at either side of central orange area; ***ovary*** verruculose; dorsal ***sepals*** 11 × 5.2 mm, obovate, acute; lat-

eral sepals 14 × 4.5 mm, lance-oblong, carinate-apiculate; ***petals*** 10 × 5 mm, ovate, acute; ***lip*** 12 mm long, basal 2 mm adnate to column, blade 9–10 mm wide; broadly ovate or rhombic-ovate, with 9 raised veins; ***column*** 5.5 mm, markedly concave above (in lateral view); ***anther*** 2 mm, with prominent beak, stipe ca. 2 mm; ***viscidium*** 0.7–0.8 mm long.

Cischweinfia donrafae is clearly allied to *C. pusilla,* but distinct in the beaked anther, the relatively long stipe, the form of the column, and the raised veins of the lip. The callus is truly Y-shaped, but with very short branches. It was twice drawn and painted by the late Rafael Lucas Rodriguez C., affectionately known as Don Rafa, and we have chosen this epithet, to distinguish him from any other Rodriguez.

Cischweinfia rostrata Dressler & N.H.Williams, Amer. Orchid Soc. Bull. 39: 993. 1970. Holotype: *Dodson et al. 3601* (US!). FIGURE 14

This species was based on an Ecuadorian plant, from near Santo Domingo de los Colorados. It is similar to *Cischweinfia dasyandra,* but differs in the proportionately short column, the shorter hood over the anther, the shorter, wider throat and some details of the pollinarium. Also the basal "arms" of the column are very small, and the callus is so small that it is easily overlooked. The blade of the lip is sometimes rather bluish. Somehow, the idea has arisen that some Colombian plants with red or purple anthers are *C. rostrata.* These Colombian plants are merely forms of *C. dasyandra* with dark pigment in the anther. Many photographs that are published as *C. "rostrata"* are actually *C. dasyandra,* but Dodson and Escobar (1993) have both species correctly labeled.

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