

*Ghiesbreght s.n.* (P). 10 km. al SE de Jamiltepec, o sea 3 km, al SE de "La Humedad", en el camino a Puerto Escondido, 150 m, 11 Feb. 1976, *M. Souza 5263* (MEXU). Microonda, San Cristobal, Carr. Oax-Tehuantepec. km 144, tomar desviación hacia la derecha aprox. 1 km, 1100 m, 12 July 1987, *R. Jiménez et al. 3169* (AMO, 2-Sheets). Mpio. Asunción Ixcaltepec, Dto. de Juchitán, a 1 km en línea recta al NE (32°) de Nizanda, 16°39'53"N, 95°0'26"W, 150 m, 6 Dec. 1995, *E. A. Pérez-García et al. 848, 852* (MEXU). Cerro Verde a 1.75 km en línea recta al NE de Nizanda, 16°39'14"N, 94°59'7"W, 300 m, 11 Mar. 1998, *E. A. Pérez-García et al. 1383* (MEXU). Road from Yalalag to Villa Alta, 1600 m, 13 Feb. 1919, *E. Ostlund 2331* (MEXU). Mpio. San Pedro Pochutla, 11 km NE de Pochutla camino a El Limón, 180 m, 21 Nov. 1991, *S. Acosta 2125* (OAX). **NICARAGUA.** *A. H. Heller s.n.* (SEL). **Chontales:** 2 km south of Acoyapa, 4 Jan. 1969, *J. T. Atwood 1656* (SEL). **Managua:** 8.7 km E of San Benito along Hwy 7, 12°19'N, 85°58'W, 100 m, 31 Jan. 1981, *W. D. Stevens & B. A. Krukoff 19038* (SEL). **GUATEMALA. Huehuetenango:** Mpio. Nentón, km 11 hacia Gracias a Dios, 15°53'0.63"N, 91°44'21"W, 1061 m, 21 Sep. 2006, *M. Véliz et al. 18454* (BIGU). Mpio. Nentón, km 10 a Gracias a Dios, 15°53'22.8"N, 91°44'0.4"W, 1099 m, 24 Mar. 2007, *P. Velásquez et al. 184* (BIGU). Mpio. Nentón, km 11 a Gracias a Dios, 15°53'2.7"N, 91°44'16.4"W, 1074 m, 21 Sep. 2006, *M. Véliz et al. 17461* (BIGU). **Jalapa:** El Rancho, 28 Dec. 1907, *W. A. Kellerman 7002* (NY). El Progreso, San Agustín AC Transecto El Rancho Norte, 14°53'28"N, 90°01'17"W, 200–300 m, 20 Sep. 2003, *A. Cobar et al.* (BIGU). **EL SALVADOR. Santa Ana:** Mpio. Santa Ana, salida a Metapan, ca. 8 km al N del centro de la ciudad de Santa Ana, 10 Jan. 2000, *J. L. Linares s.n.* (MEXU). Mpio. Metapán, Orillas del Río Chimalapa, a 3 km al N de Metapán (Carr. Metapán-Angiatú), luego 0.8 km al O, camino al Jicaro, 14°21'N, 88°28'W, 500 m, 2 Jan. 2000, *J. L. Linares 4734* (EAP). Mpio. Metapán, ca. 6 km al NO de Metapán, por el camino al despoblado, 12 Jan. 2000, *J. L. Linares et al. 4755* (MEXU). **Usulután:** Hacienda San Isidro, Cerro Chinito, 800 m, 5 Nov. 1975, *F. Hamer 2* (EAP). **HONDURAS. Comayagua:** 1800 ft, 17 Feb. 1933, *J. B. Edwards 363* (SEL). **El Paraíso:** Mpio. Yuscarán, El Rodeo, entre Yuscarán y

Oropoli, 11 Dec. 1996, *J. L. Linares 4124* (EAP). **Francisco Morazán:** At El Zamorano, 800 m, 16 Dec. 1946, *L. O. Williams & A. Molina 11245* (EAP). Vicinity of Zamorano, 2700 ft., 28 Jan. 1947, *P. H. Allen 4246* (SEL). **Valle:** Jicaro Galán, 20 m, 11 Jan. 1949, *L. O. Williams & A. Molina 15006* (SEL). **COSTA RICA. Alajuela:** Finca Prado, above Atenas, 7 Feb. 1956, *B. G. Schubert 1030* (SEL). **San José:** Monte Redondo, 1400 m, 1 May 1926, *A. Alfaro 270* (AMES). Santa María de Dota, 5 Mar. 1924, *A. Alfaro 36617* (AMES). Turrúcares, 650 m, 15 Jan. 1925, *A. Alfaro s.n.* (AMES, US). **Guanacaste:** La cruz, 15 Jan. 1930, *O. Jiménez 7909* (AMES). Miravalles, *A. C. Brade 1241* (HB). 20 km N of Hwy 1 along road from Canas to Upala, 28 Dec. 1985, *P. M. Catling & V. R. Brownell C11.1* (SEL).

**Cohniella leptotifolia** Cetzal & Carnevali, *sp. nov.* Type: **México:** Sonora: ca. Álamo Gordo, aprox. 27°1'1.56"N, 108°55'48"O, collected by M. Gómez, 2002, flowered in cultivation 2 May 2003, *G. Carnevali & M. Gómez-Juárez 6803* (Holotype: CICY; Isotypes, AMES, AMO, MEXU, NY, US). Fig. 6.

Species *Cohniellae brachyphyllae* (Lindl.) Cetzal & Carnevali affinis sed differt plantae minore foliis pluribus, rigidis erectis, inflorescentiis simplicis vel raro paniculatis, regiones subtropicalibus habitat.

Small-sized epiphytic **herbs**, 5.6–16(–26) cm tall, shortly creeping to cespitose; **rhizome** short, thin, brittle; **roots** 1–2 mm thick, white; **pseudobulbs** 5–13 mm long, 6–10 mm wide, subspherical to broadly ovoid, red-purple tinged, totally enclosed by 3 imbricate sheaths (2.2–)3.5–5.3(–7.7) cm long, 1.0–1.5 cm wide, upon spreading, eventually deciduous; **leaves** terete, thickly fleshy-coriaceous, 5.5–21.0 cm long, 3–14 mm wide, dark green, usually purple spotted, abruptly constricted proximally when fresh, broadest at its lowest 1/5, gradually attenuated distally into a pungent apex, often somewhat falciform; **inflorescences** solitary from the base of the pseudobulbs, (12–)19.5–78.0(–139) cm long, a 4–18(–36)-flowered raceme or panicle with 1–2(–) branches, (3.8–)4.6–11.5(–18.5) cm long, the branches 3–5-flowered; peduncle and rachis dark green, purple tinged; peduncle erect to arched, 1.5–3.2 mm thick, terete, with (3–)7–10(–13) remotely bracted internodes, peduncle bracts (6–)8–20(–32) mm long, (2–)5–8 mm

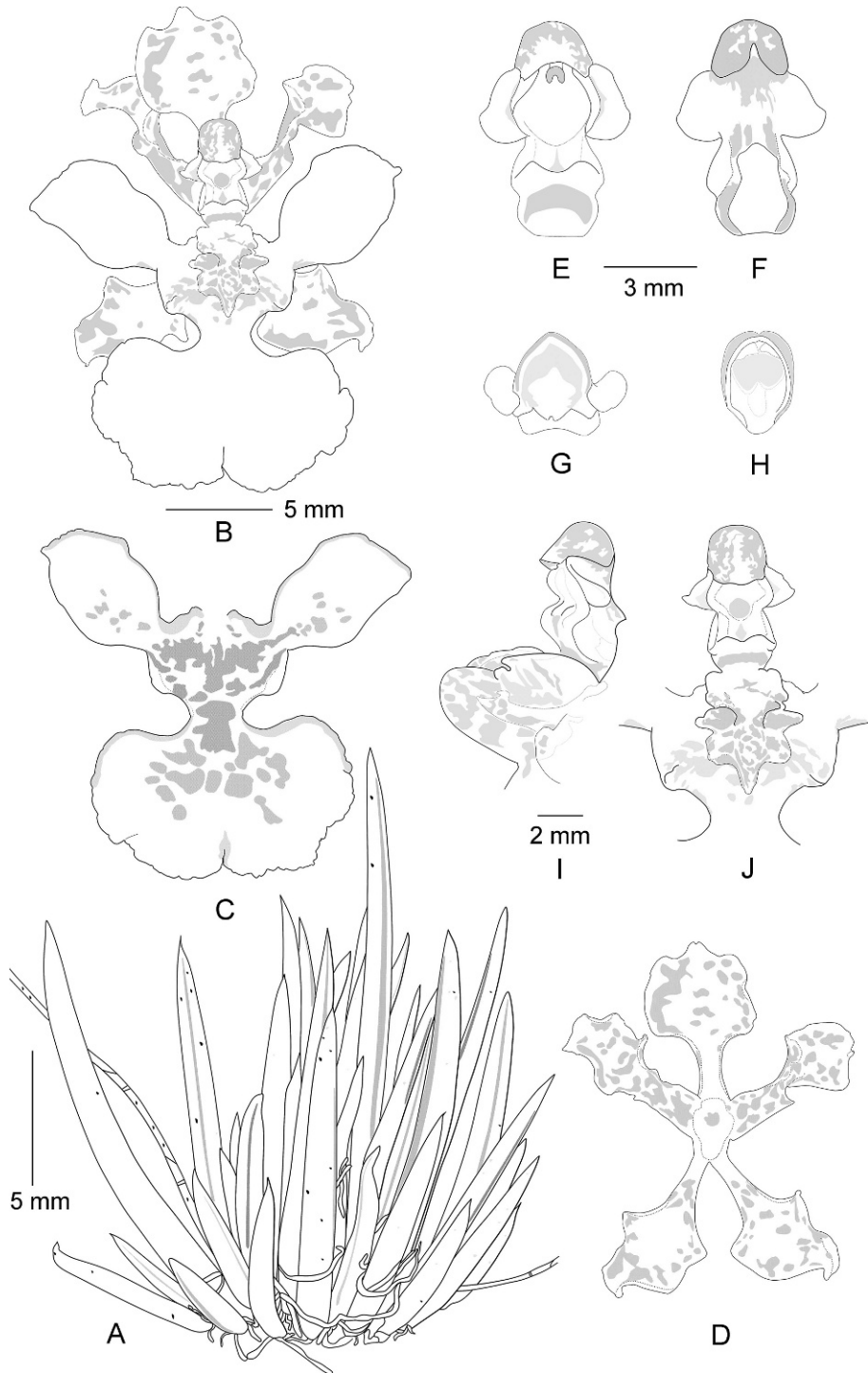


FIG. 6. *Cohniella leptotifolia*. Based on Carnevali & M. Gómez Juárez 6803 (CICY). A. Habit with partial inflorescence. B. Whole flower, front view. C. Labellum, back view. D. Sepals and petals, front view. E-F. Column with anther cap, front and back views. G. Clinandrium and column-wings. H. Anther. I. Lateral view of the callus and column. G. Callus and column. Scale: A. 5 mm. B-D. 5 mm. E-H. 3 mm. I-J. 2 mm. Drawings by W. Cetzal Ix.

wide, the basal longest, oblanceolate, acuminate, tubular; bracts subtending the lateral branches 2–10 mm long, 1.5–3.3 mm wide, elliptic, acuminate; floral bracts 3.0–4.5 mm long, 1.0–2.1 mm wide, narrowly elliptic, acuminate; **flowers** resupinate, medium sized for the genus, with perianth parts widely spreading and the petals and sepals somewhat reflexed; ovary with pedicel 19–22 mm long, of which ca. 4–5 mm correspond to the ovary, this 1–2 mm thick; **sepals** basally clawed, the claw almost 1/2 of sepal total length, the sepal blade flat or somewhat reflexed, dorsal sepal 7–10 mm long, 3–6 mm wide, oblanceolate, apically obtuse and minutely apiculate, concave in the upper half, the claw 3–4 mm wide; lateral sepals partially fused at the very base, then free, similar to dorsal, 6–8 mm long, 3–4 mm wide; **petals** 8–10 mm long, 3–5 mm wide, oblanceolate, somewhat oblique, the apex rounded, somewhat reflexed in natural position; **labellum** deeply 3-lobed, 10–15 mm long from the base to the apex of the central lobe, 12–16 mm wide across the apices of the lateral lobes, the lateral lobes in the same plane as the central lobe and  $\pm$  perpendicular to it; central lobe 8–13 mm long, 5–8 mm wide, spathulate to transversely elliptic or obovate in outline, apically rounded to subquadrate, basally produced into a short isthmus, 2–3 mm long, ca. 1.5–2.0 mm wide; lateral lobes 5–9 mm long, 3–5 mm wide, erect-patent, oblong to subquadrate, apically truncate-rounded, both margins of the lateral lobes flat to rounded; disc relatively large, ca. 3.0–6.2 mm long, 4–7 mm wide, in general outline oblong, a developed callus, ca. 4–5 mm long, 3.0–3.6 mm wide, consisting of a large, elevated,  $\pm$  flat, oblongoid to subquadrate platform, ca. 2.0–3.2 mm long, 3.0–3.6 mm wide, margin of the apex with two diminute teeth in each side; proximally with two smaller, lateral divergent teeth that are conical and point upward; distally with two small, lateral divergent teeth, broadly rectangular to conical; the central tooth or keel laterally compressed; the basal portion of the callus with conspicuous lateral extensions; **column** 4–5 mm long, 2.0–2.5 mm wide, the ventral face in the same plane as the labellum lobes, oblongoid, tabula infrastigmatica longitudinally channelled, stigmatic cavity rounded, ca. 1.5 mm long and wide; column wings small, proximal and distal lobes ca. 1.0–1.2 mm long, 2.0–2.4 mm wide, obovate; anther 2 mm long,

1 mm wide, apical, operculate, obovate; **pollinarium** typical for the genus.

**Paratypes. MEXICO. Chihuahua:** Mpio. Batopilas, arroyo Guimivo between Rio Batopilas and Guimivo, 762–915 m, 24 Mar. 1979, *R. Bye et al. 9235* (NY, MEXU). **Durango:** Glacala, 23 Feb. 1899, *E. A. Goldman 327* (US). **Sinaloa:** Above La Reforma, near Sinchi. Border, 6 Nov. 1977, *Kinnach & Sanchez-Mejorada 2014* (AMES). Badiraguato, camino Badiraguato-Suratato, 1150 m, 26 Apr. 1986, *G. A. Salazar et al. 1955* (AMO). Badiraguato, km 82 de Badiraguato a Suratato, 950 m, 25 Apr. 1986, *G. A. Salazar et al. 2000, 2002, 2003* (AMO). Capadero, Sierra Tacuichamona, 11 Feb. 1940, *H. S. Gentry 5555* (MEXU, SEL). Culiacán, cercanías presa Sanalona a 39 km de Culiacán rumbo a Tamazula, 100 m, 2 Apr. 1987, *A. R. Vega et al. 2322* (MEXU). Culiacán, a más o menos 46 km al N de Culiacán, camino de Badiraguato a la Pitayita, 25°02'N, 107°23'W, 100 m, 25 Feb. 1975, *A. R. Vega et al. 8104* (MEXU). Culiacán, carretera Sanalona, Tamazula,  $\pm$  1 km delante de arroyo de La Higuera, 24°50'21"N, 107°03'22"W, 200 m, 25 Mar. 1995, *A. R. Vega et al. 8206* (MEXU). Mpio. de Cosalá  $\pm$  12 km al NO de Cosalá, 400 m, 1 Feb. 1986, *E. L. Carrasco et al. 52* (MEXU, 2-Sheets). Cosalá, Cordon de los Robles, 225 m, 31 May 1919, *M. Narváez-Montes et al. 813* (US). Cosalá, Cordon de los Robles, 225 m, 31 Mar. 1919, *C. Conzatti 813* (MEXU). Cosalá, Cordon de los Robles, 325 m, *J. González-Ortega 813* (MEXU). Mpio. San Ignacio, San Javier, Balboa, 200 m, Jan. 1923, *J. González-Ortega 5106* (AMES, MEXU); San Ignacio, camino de el Salado hacia tierra adentro a 24 km de la carretera, 1150 m, 25 Apr. 1986, *G. A. Salazar 1955* (AMO). San Ignacio, San Juan 15 km al SE de San Ignacio, 23°55'N, 106°19'W, 19 Mar. 1985, *P. Tenorio et al. 8458* (MEXU). **Sonora:** Álamos, Guiracoba, 17 Apr. 1954, *R. S. Felger 422* (MEXU). Álamos mountain, 300° ft, 22 Feb. 1953, *E. R. Blakley 1665* (AMES).

**Etymology.** The species is named in allusion to the appearance of the plants, which due to the several to many, short, erect, stubby leaves, resemble plants of the totally unrelated orchid genus *Leptotes* Lindley.

**Distribution and Ecology.** Endemic to northwestern México. *Cohniella leptotifolia* is re-

stricted to the Pacific coast from Álamos, in Sonora (ca. 27° N) southward into San Ignacio, in Sinaloa (ca. 23.5° N), and it has also been collected in the valleys of the Sierra Madre Occidental in Chacala, Durango. This species grows at elevations of 0–1150 m, usually in tropical deciduous forest, even into thorn scrub and pine-oak forest. It is generally an epiphyte on thick branches, rarely on rocks. It is often found exposed to the sun. This is the only *Cohniella* species whose distributional range extends wholly beyond the Cancer Tropic line. Thus, it may be capable of standing occasional frosts.

**Diagnostic features.** *Cohniella leptotifolia* is distinguished by the smaller plants 5.5–16 cm (vs. other species of *Cohniella*, Table 1). Furthermore, the inflorescences are relatively long, and tend to be racemose while in other Mexican species (except in *C. ascendens*) the inflorescences are usually paniculate. *Cohniella brachyphylla* is similar to *C. leptotifolia* due to the shape of the labellum and the position of its lateral lobes (particularly some *C. brachyphylla* populations from the Mexico and Morelos states). However, the plants of the populations here referred to *C. leptotifolia* are so distinctive that we do not hesitate to treat them as distinct.

**Variation range.** This new species is known from several herbarium specimens from Sinaloa, Sonora, and Durango, and generally seems to be homogeneous in vegetative size and floral morphology. As opposed to other *Cohniella* species, where most adult plants are composed of a few leaves, plants of this new entity seem capable to accumulate many leaves from several growth leads to eventually become specimens of up to 30+ erect leaves. We have had a plant of this species under cultivation for several years and it has become a small mound of short stubby leaves.

**Taxonomic commentary.** As with most taxa in the *Cohniella cebolleta* complex, *C. leptotifolia* has been confused with that species. However, the smaller plants with many short, stiffly erect leaves, the erect, relatively long, usually racemose inflorescences, and its distribution easily distinguish this species from any other *Cohniella*.

**IUCN Conservation assessment.** **DD.** *Cohniella leptotifolia* is known from fewer than 30 localities in the states of Sinaloa, Durango, and Sonora. However, most of the collections are concentrated along a narrow belt of “selva baja caducifolia” (tropical deciduous forest) and “matorral espinoso” (thorn scrub) on the western side of the Sierra Madre Occidental. These ecosystems are being severely threatened in the area due to extensive cattle ranching, irrigation developments, lumber extraction, and wood harvesting for charcoal, thus presumably affecting natural populations of this new species. Since we have no hard population data, we cannot confidently assess the conservation status of this species, but it is most likely that when these kind of data becomes available, the species will warrant upgrading to VU.

***Cohniella longifolia*** (Lindley) Cetzal & Carnevali, Brittonia 62(2): 169. 2010. *Oncidium longifolium* Lindl., Edwards’s Bot. Reg. 27: 22. 1841. Type: Mexico. Without any other locality, collected by T. Hartweg, ex Hort. Royal Horticultural Society and Loddiges (holotype: K-Lindl.). Fig. 7.

Epiphytic **herbs**, caespitose; **pseudobulbs** typical for the genus; **leaves** terete, 97.5 cm long; **inflorescences** solitary from the base of the pseudobulbs, 97.5–130 cm long, 6 mm wide, a 38 flowered raceme or panicle with 5 branches, (1.6–)3.9–10.6 cm long, the branches (2–)5–9 flowered; peduncle more or less erect, terete; bracts subtending the lateral branches ca. 3–6 mm long, 4 mm wide, elliptic, acuminate; floral bracts ca. 3 mm long, 2 mm wide, narrowly elliptic, acuminate; **flowers** 27–36 mm in diameter with widely spreading perianth parts and somewhat reflexed petals and sepals; ovary with pedicel 16–22 mm long, of which ca. 6–7 mm correspond to the ovary; **sepals** basally clawed; dorsal sepal 10–11 mm long, 5–6 mm wide, obovate, apically obtuse and apiculate, concave in the upper half; lateral sepals elliptical, 10–11 mm long, 4–5.5 mm wide; **petals** 11–12 mm long, 4.5–5 mm wide, oblong, the apex truncated; **labellum** 3-lobed, 17–18 mm long from the base to the apex of the central lobe, 20–23 mm wide across the apices of the lateral lobes, the lateral lobes in the same plane as the central lobe; central lobe 7–9 mm long, 12.5–14.0 mm wide, oblate, apically rounded to truncate, basally produced into a relatively long isthmus, 8–