LANKESTERIANA 15(1): 101—105. 2015

A NEW AND PREVIOUSLY MISIDENTIFIED *CYRTOCHILUM* (ORCHIDACEAE: ONCIDIINAE) FROM THE HIGH PLAINS OF CENTRAL ECUADOR

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Abstract. A new and previously misidentified, small-flowered *Cyrtochilum* (Orchidaceae: Oncidiinae) from central Ecuador is described, illustrated with a line drawing and photographs, and compared with the species that it has previously been taxonomically mixed-up with by the author. The new species is readily distinguished by the dark yellow, gibbous and carnose lip callus, versus more elongate, longitudinally furrowed and bilobed calli for similar species.

Key words: *Cyrtochilum*, Orchidaceae, Oncidiinae, new species, Ecuador, Azuay

Introduction. The *Cyrtochilum* species described here has previously been misidentified by the author as "*Cyrtochilum viminale* (Rchb.f.) Dalström" (2001, 2010). However, that name refers to a different species with a different floral morphology. Our new, but well-known species represents an enigmatic paradox. It is very common along roads in the south-central highlands of Ecuador, particularly around the old city of Cuenca. Plants can sometimes be found growing on the road itself, clinging tenaciously to the dirt while the relentless traffic constitutes a permanent threat to crush the plants. Anybody that passes by and has an interest in orchids will sooner or later notice the flowers and stop to investigate, and often make herbarium specimens. The peculiar thing, however, is that our new *Cyrtochilum* is most rarely encountered in herbaria from older collections. The reason for this may have an interesting explanation. It seems plausible that before modern transportation entered the stage (and the Ecuadorian wilderness) this species occurred only as terrestrials in remote, scrub and grass vegetation, not seen by anybody except occasional natives passing by. Professional collectors probably avoided this seemingly 'empty' land that did not seem to host any commercial rewards. As roads began to crisscross these relatively flat and engineering friendly areas, however, the disturbed road cuts offered suitable habitats for the orchid. In addition, passing vehicles loaded with livestock, plants and miscellaneous equipment may have helped dispersing the seeds, with new populations establishing along the roads as a consequence.

Taxonomic treatment

Cyrtochilum soennemarkii Dalström *sp.nov*.

TYPE: Ecuador. Azuay, km 52 from Cuenca towards Loja, in full sun along roadside, at 3250 m, 13 Dec. 1982, *S. Dalström 354* (holotype: SEL). Figs. 1, 2.

Diagnosis. *Cyrtochilum soennemarkii* (Figs. 1–4) is distinguished by the tall and erect loosely flowered inflorescences, carrying dull brownish to clear yellow flowers commonly with a purplish column and a bright yellow to orange, basally gibbous, carnose and somewhat tuberous callus. *Cyrtochilum soennemarkii* differs from the similar but previously misapplied *Cyrtochilum viminale* Rchb.f.) Dalström (Fig. 5) by the gibbous and convex lip with a carnose and bright yellow to orange callus, versus a basally straight, slightly elongated, smooth, dorsally furrowed and bifurcated callus of the same ivory white color as the lip lamina for *C. viminale*. *Cyrtochilum soennemarki* is distinguished from all other yellow-flowered and superficially similar species by the gibbous lip with a carnose and slightly tuberous callus.

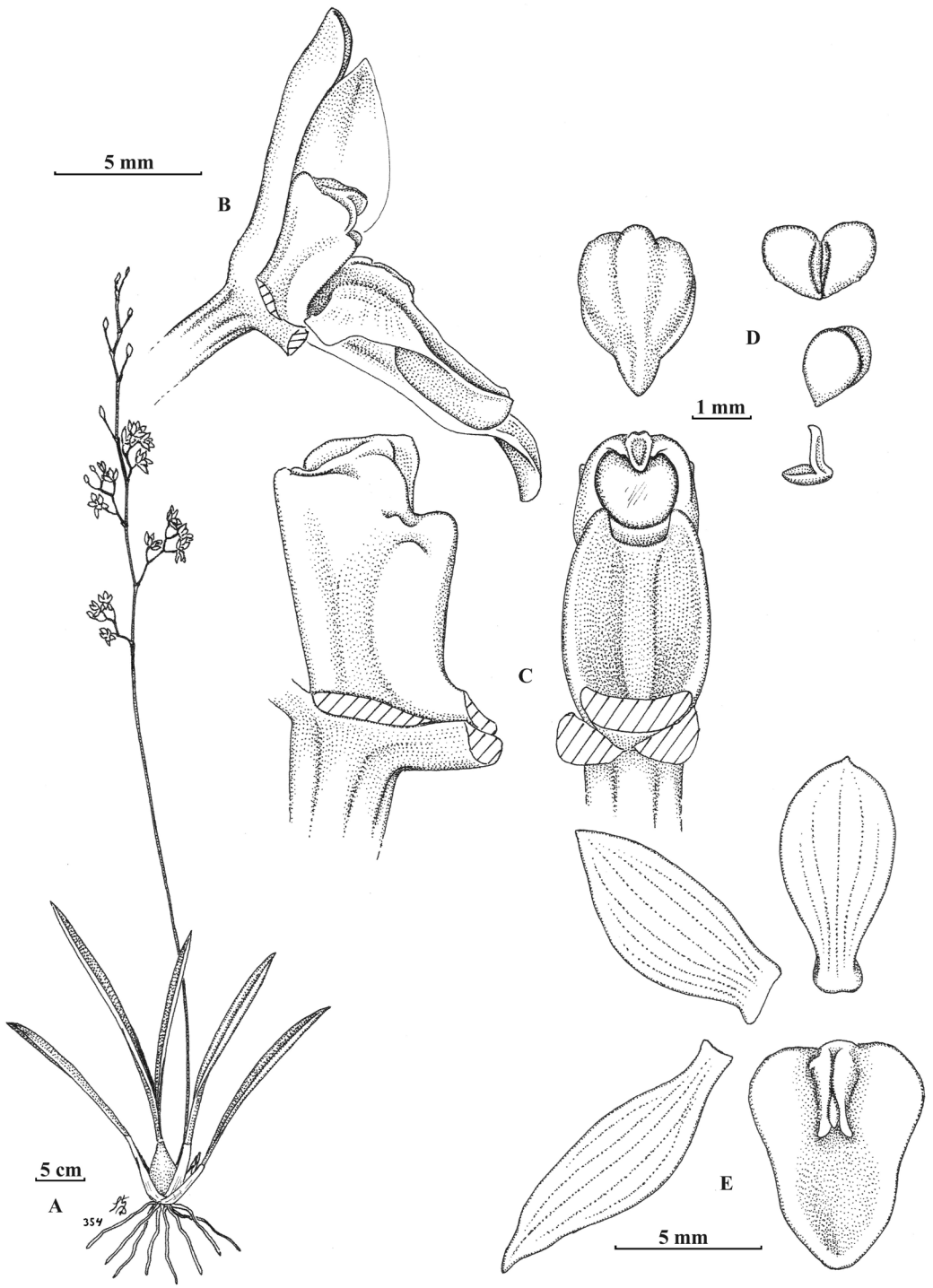

FIGURE 1. *Cyrtochilum soennemarkii*. A. Plant habit. B. Column and lip lateral view. C. Column lateral and ventral views. D. Anther cap dorsal view and pollinia frontal, and lateral view with stipe. E. Flower dissected. Drawn from holotype by Stig Dalström.

Figure 2. *Cyrtochilum soennemarkii*. Plant cultivated and photographed by G. Deburghgraeve.

Figure 3. *Cyrtochilum soennemarkii*, plant habit, Azogues, Ecuador. Photo by S. Dalström.

Terrestrial *herb*. *Pseudobulbs* caespitose, ovoid, unifoliate or bifoliate, *ca*. 5 × 3 cm, subtended basally by 5 to 6 distichous sheaths, the uppermost foliaceous. *Leaves* subpetiolate, conduplicate, linear elliptic to obovate, acute to obtuse, sometimes apiculate, 22–34 × 1.5–1.7 cm. *Inflorescences* axillary and arising from the uppermost sheaths, erect to slightly arching, to *ca*. 80 cm long almost straight panicle, with widely spaced, to *ca*. 5 cm long and to 5-flowered side-branches; *bracts* appressed, scale-like, 0.2–1.2 cm long; *pedicel* with *ovary* 0.5–1.5 cm long. *Flowers* campanulate to stellate; *dorsal sepal* dull olive brown on type, but generally yellow and sometimes with purple stains near the base, unguiculate, broadly elliptic to obovate, obtuse, apiculate, *ca*. 8 × 4 mm; *lateral sepals* similar in color, slightly oblique, narrowly unguiculate to slightly spathulate, ovate, acute, *ca*. 10–11 × 3.0–3.5 mm; *petals* similar in color, broadly unguiculate, obliquely ovate, acute, *ca*. 8.5 × 4.0 mm; *lip* similar in color, rigidly fused to the base of the column, then gibbose and recurved away from the column, apically concave, truncate, broadly ovate to indistinctly 3-lobed, lateral lobes rotund, front lobe bluntly obtuse, *ca*. 7.5 × 6 mm; *callus* bright yellow, of a fleshy

FIGURE 4. *Cyrtochilum soennemarkii*, flowers of the type specimen. Photo by S. Dalström.

and broad, gibbose, central, longitudinally grooved, fleshy keel, extending from the base up to *ca*. 1/2 of the length of the lamina, ending in a pair of rounded, somewhat diverging angles, with an intermediate apical knob; *column* variably purplish, stocky, dorsally straight, ventrally concave, with concave lateral flanks, ending in a rounded lobe on each side of the stigmatic surface, *ca*. 4 mm long; *anther cap* purplish to yellow, campanulate, rostrate, dorsally lobulate; *pollinarium* of two obovoid, cleft, or folded, pollinia with an ovate, *ca*. 1 mm long stipe on a pulvinate viscidium.

ADDITIONAL MATERIAL SEEN: Ecuador. Cañar, uplands of "Huairacaja", 10–20 km NE Azogues, 3600 m, 2 Feb. 1945, *W. H. Camp E-1788* (NY). Cañar, near San Marcos, NE Azogues, "1000" m [most certainly 3000 m; author's note], 13 Apr. 1945, *W. E. Camp E-2602* (AMES). Cañar, Azoguez to Taday, 3300 m, 9 Mar. 1992, *S. Dalström 1630* (SEL). Cañar, Azogues—Taday, km 16, 3300 m, 2 Feb. 1988, *U. Molau et al. 2849* (QCA). Azuay, Cuenca—Loja, km 78, 3000 m, 20 Sep. 1980, *C. A. Luer et al. 5507* (SEL). Azuay,

FIGURE 5. *Cyrtochilum viminale*. Plant cultivated and photographed by G. Deburghgraeve.

Cuenca—Loja, km 52, 3250 m, 13 Dec. 1982, *S. Dalström 343* (SEL). Azuay, Cuenca—Loja, km 42, 2900 m, 30 Nov. 1984, *C. H. Dodson* & *B. Malo 15490* (MO, QCNE, RPSC). Azuay, Cuenca—Loja, km 67, 3380 m, 30 Jul. 1959, *H. G. Barclay & P. Juajibioy 8573* (AMES, MO). Azuay, Sigsig, 2800 m, 6 May 1981, *J. Kuhn 44* (SEL); Cuenca—Loja, km 30, 3360 m, 29 Dec. 80, *M. Madison et al. 7407* (SEL). Azuay, Sigsig—Ludo, km 5, 3100 – 3300 m, 78° 50'W, 3° 05'S, 17 Nov. 1983, *B. Eriksen* & *B. B. Larsen 45727* (AAU). Azuay, W Andes of Cuenca, 2400 – 2800 m, *F. C. Lehmann 8069* (AMES). Azuay, Cuenca—Loja, km 80, 3000 m, 17 Jul. 1977, *C. A. Luer et al. 1723* (SEL). Azuay, Cuenca—Loja, Paramo de Tinajillos, Sta Rosa, 3000 m, 2 Nov. 1988, *G. Harling* & *L. Andersson 25580* (AMES). Azuay, Cuenca—Loja, 65 km S of Cumbe, 2900, 3 Nov. 1988, *G. Harling* & *L. Andersson 25622* (AMES). Azuay, Cuenca—Loja, Paramo de Tinajillos, Sta Rosa, 3200, 4 Nov. 1988, *G. Harling* & *L. Andersson 25636* (AMES). Azuay, Oña—Rio Yacuambi, 2600 m, 10 Sep. 1945, *F. Prieto P-206* (AMES). Azuay, Sigsig—Gualaquiza, Río Altarurucu, 2800 m, 13 Apr. 1968, *G. Harling et al. 8285* (AMES, GB). Azuay, Sigsig, 10 km S, 3200 m, 3 Aug. 1975, *C. A. Luer et al. 406, 421* & *416* (SEL). Azuay, Km 40 S Cuenca, ca. 3600 m, 20 Sept. 1944, *I. L. Wiggins 10767, 10823* (AMES). Azuay, Cuenca—Loja, km 65 – 70, 3400 m, 3 Jan. 1981, *H. Balslev 1423* (AMES). Loja, Loja—Cuenca, km 65, at pass above Saraguro, 3100 m, 20 Sep. 1980, *C. H. Dodson et al. 10500* (SEL, MO). Loja, Loja—Cuenca, 12 km N Saraguro, 3000 m, 3 Jan. 1981, *H. Balslev 1405* (NY). Loja, Cuenca—Loja, near Saraguro 3000 m, 5 Mar. 1977, *C. A. Luer et al. 1524* (SEL). Loja, Loja—Cuenca, vicinity of Saraguro, 27 Sep. 1918, *J. N. Rose et al. 23141* (US). Loja, Saraguro—Tenta, 2700 m, 16 Sep. 1980, *J. Jaramillo 3828* (AAU, QCA, QCNE). Loja, San Lucas to Oña, 2600, 7 Sep. 1923, *Hitchcock 21574* (US). Loja, Cuenca—Loja, km 80, 3000 m, 19 Dec. 1957, *C. H. Dodson* & *G. P. Frymire 257* (SEL). Loja, Saraguro to Loja, 3100 m, 6 Feb. 1993, *S. Dalström 1854* (SEL). Loja, Cuenca—Loja, km 140, 2800 m, 10 Feb. 1978, *C. A. Luer et al. 2504* (SEL). Loja, Km 78 S Cuenca, *ca*. 3000 m, *C. A. Luer et al. 5510* (SEL). Morona-Santiago, Sigsig—Chiguinda, 3000 m, 11 Aug. 1990, *A. Hirtz et al. 5047* (QCNE). Morona Santiago, Gualaceo—Chiquinda, near Chiquinda, 3200 m, Jan. 1989, *A. Hirtz et al. 4015* (MO).

Distribution and habitat: *Cyrtochilum soennemarkii* is reported from the high altitude, grassy and shrubby plains of the Ecuadorean provinces of Azuay, Cañar and Loja, at the altitude of 2400 – 3600 m.

Eponymy: Named in honor of Jan Sönnemark of Halmstad, Sweden, who contributed substantially to the understanding of the true identity of this species.

Acknowledgments. I thank Jan Sönnemark for many years of great companionship in the field.

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 Received 24 September 2014. Accepted 16 February 2015.