Telipogon koechlinorum

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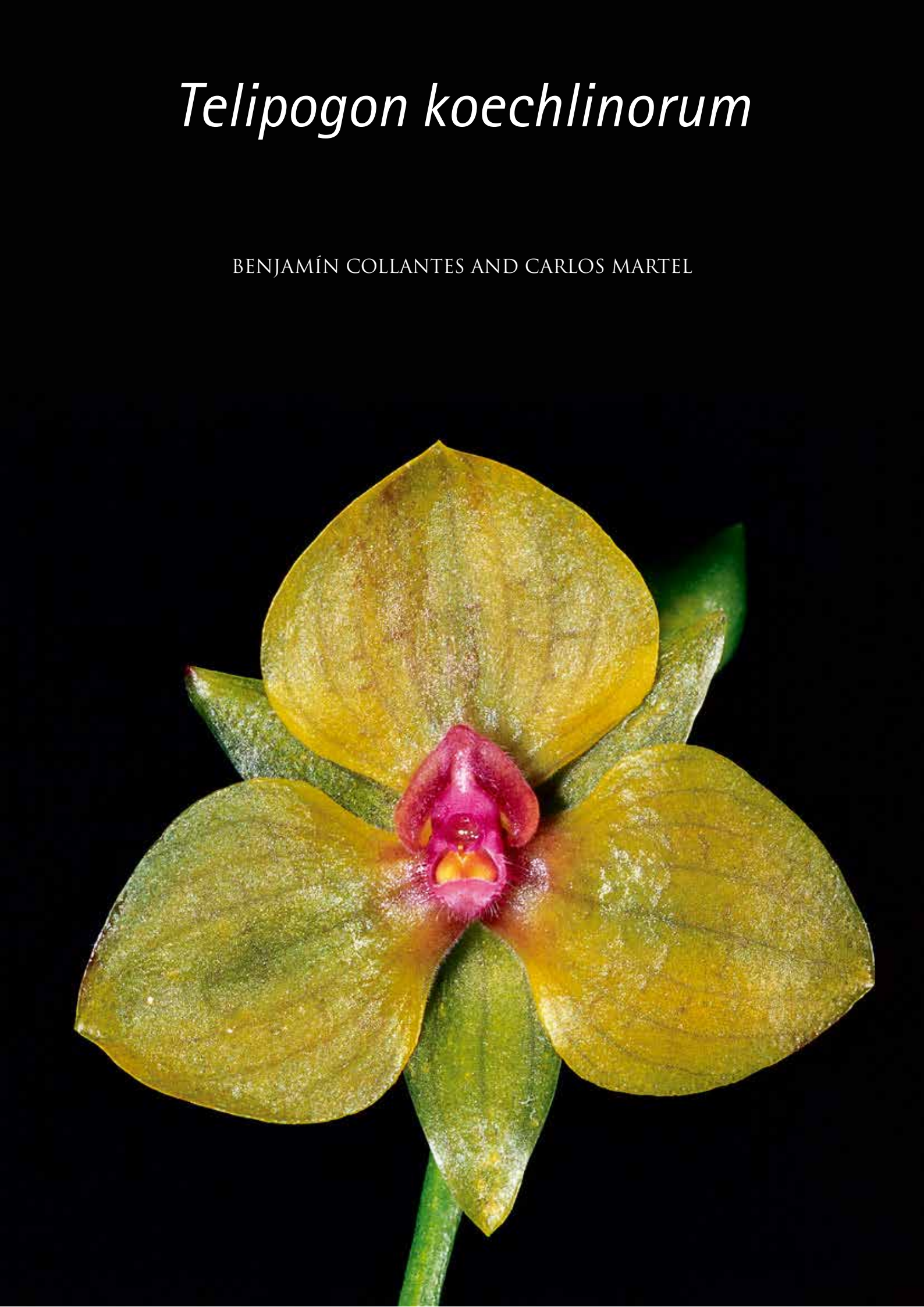

Telipogon koechlinorum (Orchidaceae), a new species from Machu Picchu, Peru

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Abstract. A new species of *Telipogon* (Orchidaceae, Oncidiinae) from Cusco, in Andean Peru, is described and illustrated. **Telipogon koechlinorum** is closely related to *T. casadevalliae*. The most significant differences are the clavate column with an elongate and incurved mentum, and a callus split in two by the column.

Key Words: Andes, cloud forest, Cusco, Machu Picchu, new species, *Telipogon*.

Resumen. Una especie nueva de *Telipogon* (Orchidaceae, Oncidiinae) proveniente de Cusco, en los Andes peruanos, es descrita e ilustrada. **Telipogon koechlinorum** sería cercanamente relacionado a *T. casadevalliae*. Las diferencias más significativas son la columna clavada con un mentón elongado e incurvado y un callo divido en dos por la columna.

Telipogon Kunth is a Neotropical genus that belongs to the subtribe Oncidiinae (Orchidaceae). It is distributed from Mexico, Central America and the Caribbean, to Bolivia (Ackerman, 2004; Pridgeon et al., 2009; Bogarín, 2012). Plants of *Telipogon* grow exclusively at mid elevations in the cloud forests from 500 to 3500 m. *Telipogon* consists of roughly 200 species and presents its highest species diversity in the Andes (Martel & Nauray, 2013). *Telipogon* (including the previously transferred *Stellilabium* Schltr.; Williams et al., 2005) differs from its allies, *Hofmeisterella* Rchb. f. and *Trichoceros* Kunth (formerly subtribe Telipogoninae Schltr.; sensu Dressler, 1993), by the viscidium morphology (Martel, in prep.). Furthermore, *Hofmeisterella* flowers are not insect-like, which is the case of *Trichoceros* and *Telipogon* flowers; *Trichoceros* also has pseudobulbs, which are absent in *Telipogon* (except in *T. pseudobulbosus* N. H. Williams & Dressler and *T. selbyanus* (D. E. Benn. & Christenson) N. H. Williams & Dressler).

The diversity of Peruvian *Telipogon* has increased considerably during the last two decades (Brako & Zarucchi, 1993; Nauray & Galán, 2008). There are fifty-three currently recognized *Telipogon* species in Peru, and most of them have a restricted distribution. During field exploration in the Machu Picchu Historical Sanctuary (department of Cusco) conducted by the Inka Terra Association in 2003, an unknown *Telipogon* was recorded. This was later identified as a new *Telipogon* species (Collantes et al., 2007) but it has remained undescribed until now. The new species was found forming a small population and only one was collected. Therefore, the description of this new taxon is only based on the type collection. Here, we describe, illustrate, and discuss the affinities of this new *Telipogon* species.

Telipogon koechlinorum Collantes & C. Martel, **sp. nov.** Type**:** Peru. Cusco: Prov. Urubamba, Distr. Machu Picchu, Quebrada Allccamayo, Jardín de Orquídeas, Centro de Conservación *in situ* del Inkaterra Machu Picchu Pueblo Hotel, 3000 msnm, 6 Oct 2003, *M. Quispe & E. Quispe Batallanos 350* (holotype: USM). (Figs. 1 and 2)

Species haec *Telipogoni casadevalliae* Nauray, A. Galán & M. Mamani affinis, sed labello 9-venio, suborbiculari, callo ob columna bipartito, columna clavata, mento oblongo et incurvo, labello petalisque inmaculatis differt.

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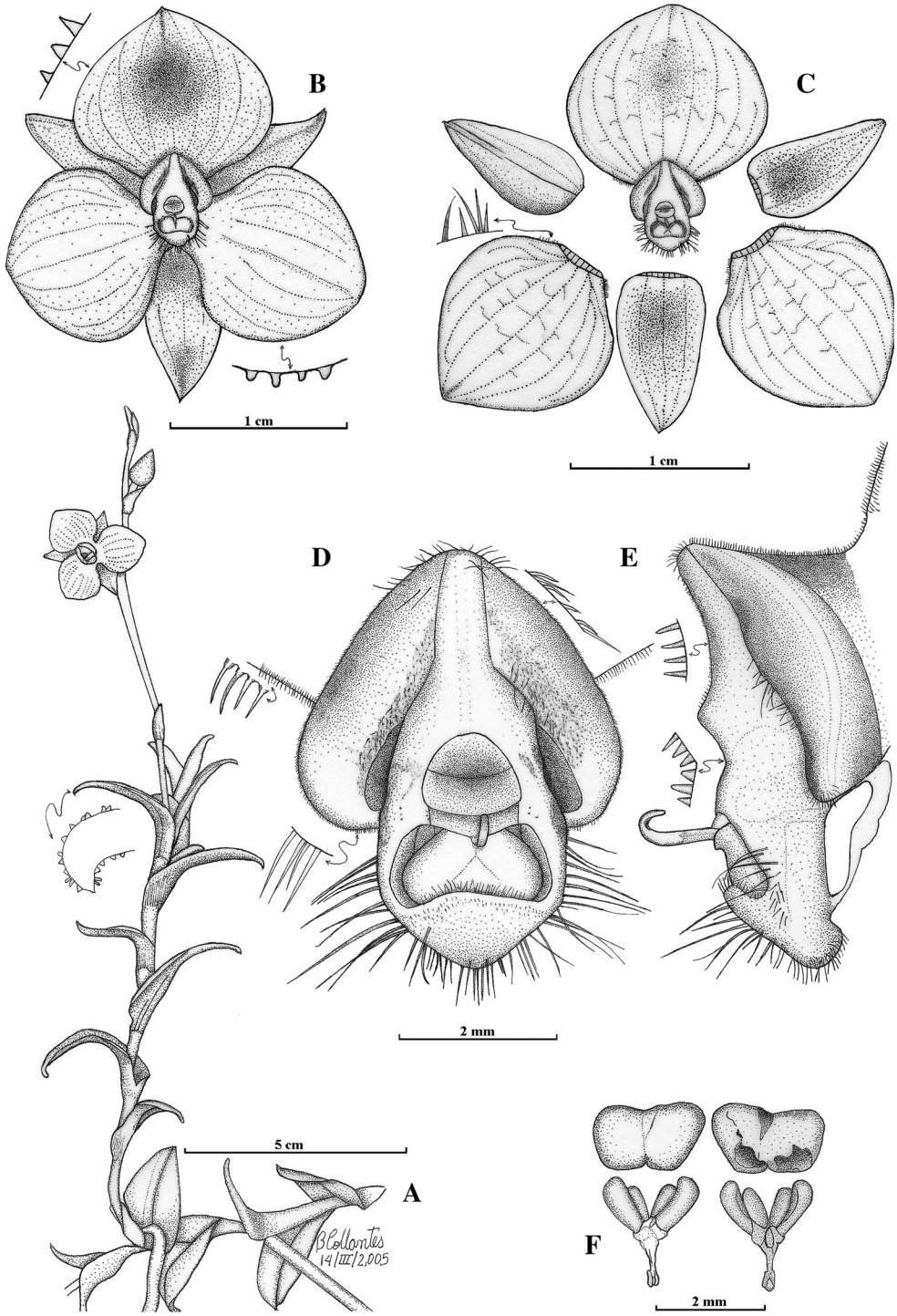

FIG. 1. *Telipogon koechlinorum.* **A.** Habit. **B.** Flower, frontal view, with details of the sepal apex and perianth margins. **C.** Flower, dissected view, details of perianth. **D.** Column and callus details, frontal view. **E.** Column and callus details, lateral view. **F.** Pollinarium with the anther cap removed, dorsal (left) and ventral (right) views. (Drawn from the holotype by B. Collantes).

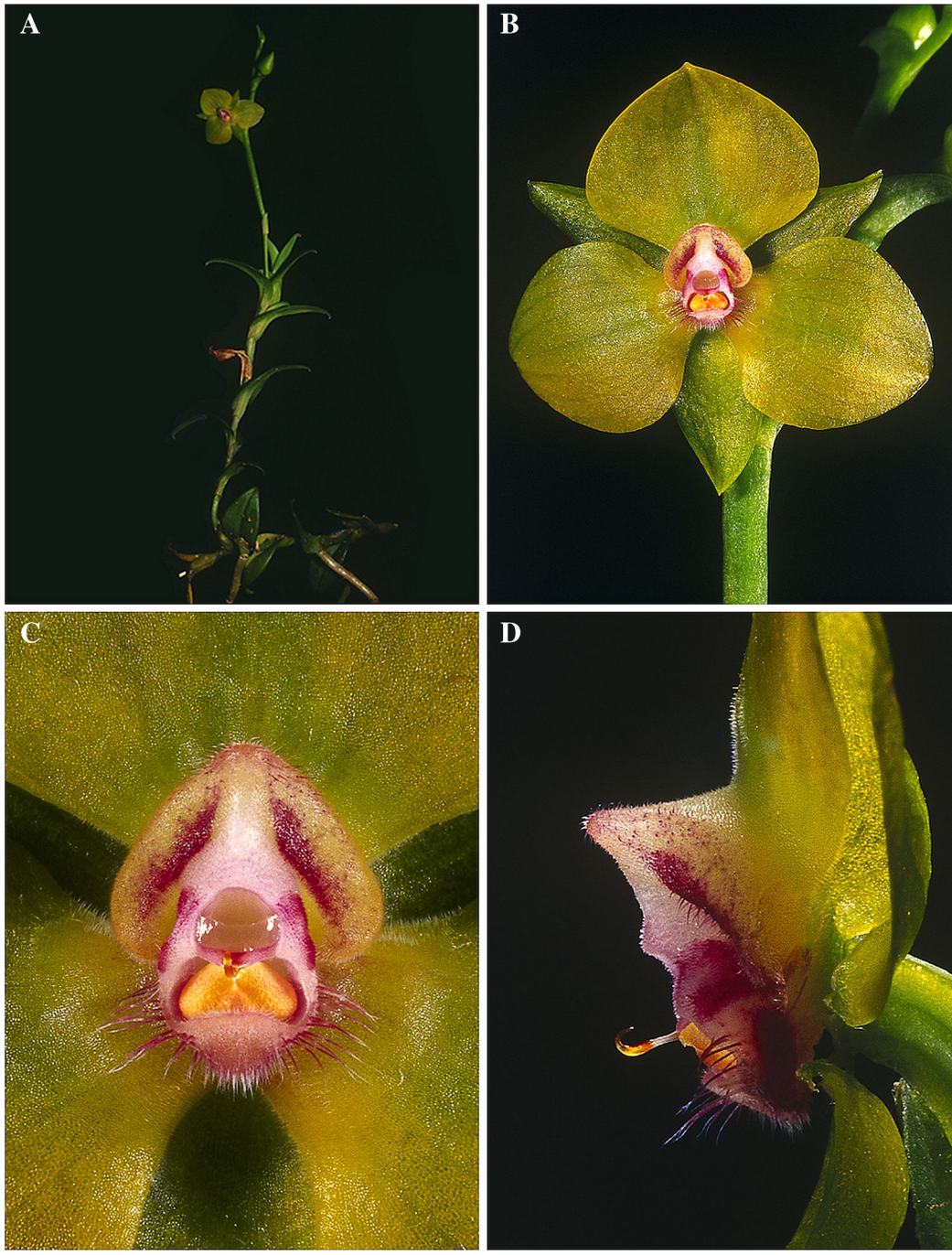

FIG. 2. *Telipogon koechlinorum.* **A.** Habit. **B.** Flower, frontal view. **C.** Callus and column details, frontal view. **D.** Callus and column, lateral view. Note the trichomes on the callus and lip base in C and D. (Photographs by B. Collantes).

Epiphytic, monopodial, caulescent, herb to 20 cm tall (including the inflorescence). *Roots* 0.2–0.4 cm in diameter, basal. *Stem* to 11 × 0.4 cm, leafy, laterally complanate, with 1–2 branches from the lower and upper nodes. *Leaves* 1.5–3.0 × 0.5–1.2 cm, 5–8, coriaceous, distichous,

lanceolate, acute, the margins provided with minute conic papillae, leaf base deeply conduplicate, pseudopetiole decurrent on the stem. *Inflorescence* an apical, successively few-flowered raceme up to 9 cm long, pedunculate. *Floral bracts* 1.1 × 1.0 cm, ovate, conduplicate, as long as the ovaries. *Ovary* triquetrous, winged, 7 × 2 mm, pedicelate, ca. 1.1 cm. *Flowers* non-resupinate, 2 cm diam. *Sepals* 10 × 5 mm, pale green, lanceolate, subacute, minutely aristate, oblique, 3-veined, lateral sepals minutely aristate-mucronate and slightly carinate along the distal third. *Petals* 12 ×10 mm, yellowish green, slightly reflexed, suborbicular to broadly ovate from a cuneate claw, obtuse, 9-veined, veins greenish grey thin and inconspicuous, the margins minutely papillose, minutely setulose at the base. *Labellum* 12 × 12 mm, suborbicular, obtuse, the margins provided with minute conic papillae, basally minutely setose, 9-veined, veins greenish grey thin and inconspicuous. *Callus* 4 × 4 mm, creamy with two maroon fringes, cordiform, split in two by the column, basally minutely setose, setose above, the margin retrorse setulose. *Column* 0.5 × 2.5 mm, whitish with pale pink dots and maroon spots irregularly distributed, clavate, dorsally minutely setose, the apex setose, the lateral setae incurvate, to 1.6 mm long, setae maroon to whitish, apex setulose within, setulae whitish pink, mentum elongated and incurved. *Stigma* 1.4 × 1.1 mm, transversely ovate. *Rostellum* erect. *Anther cap* golden, hepatiform. *Pollinarium* 2.0 × 1.7 mm; *pollinia* 4, in 2 unequal pairs, the outer pair larger, oblong-obovoid, the inner pair smaller, ellipsoid; caudicles hyaline; *viscidium* ancistrous.

Distribution and ecology.—*Telipogon koechlinorum* is known only from the western slope of the Andes, on the Allccamayo hills of Machu Picchu, department of Cusco, Peru. It grows as an epiphyte in remnant cloud forest at around 3000 m. Plants were found growing on branches and trunks of *Clusia* sp. (Clusiaceae).

Conservation status.—This species is presently only known from one location within the Machu Picchu sanctuary, thus according to the IUCN Red List (IUCN, 2010) it should be listed as critically endangered (CR, criterion D2/very small or restricted population).

Eponymy.—Named it in honor of José "Joe" Koechlin and his wife Denise Koechlin, for their active support to the conservation of the orchid flora inside of the Historic Sanctuary of Machu Picchu.

Telipogon koechlinorum is closely related to *T. casadevalliae* Nauray, A. Galán & M. Mamani and *T. mesotropicalis* Nauray & A. Galán; all of those species bear non-resupinate flowers with the labellum slightly differentiated from the petals (almost an actinomorphic perianth). Both *T. casadevalliae* and *T. mesotropicalis* present a 7-veined labellum which differs from the 9 veins in *T. koechlinorum. Telipogon koechlinorum* appears to be more related to *T. casadevalliae* than to *T. mesotropicalis* because the first two have a much more similar column structure and a callus that distally is not totally attached to the column. *Telipogon koechlinorum* is easily recognized by bearing a callus split in two by the column, an oblong and incurved mentum, the petals and lip are greenish yellow and with thin and inconspicuous veins on the perianth. All of these three species occur in the cloud forest of Cusco department but *T. koechlinorum* is found sympatric with only *T. mesotropicalis*.

Nauray and Galán (2008) recognized 20 species of *Telipogon* for southern Peru, but they did not include the species formerly described as *Stellilabium* and previously transferred to *Telipogon* (Williams et al., 2005). Therefore there are twenty-four currently recognized *Telipogon* species for southern Peru. Nevertheless, this number will surely be increased in the near future with more exploration.

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