Notes and Emended Description of Telipogon Peruvianus T. Hashim. (Orchidaceae)

Authors: Martel, Carlos, and Huari, William Nauray

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Carlos Martel & William Nauray Huari

Abstract

MARTEL, C. & W. NAURAY HUARI (2013). Notes and emended description of Telipogon peruvianus T. Hashim. (Orchidaceae). *Candollea* 68: 245-250. In English, English and French abstracts.

Telipogon peruvianus T. Hashim. *(Orchidaceae, Oncidiinae),* a Peruvian endemic and poorly known species, is recollected in the type locality and its distribution revised. An emended description, taxonomic and ecological notes are provided.

Key-words

ORCHIDACEAE – Telipogon – Peru – Taxonomy

Résumé

MARTEL, C. & W. NAURAY HUARI (2013). Notes et description révisée de Telipogon peruvianus T. Hashim. (Orchidaceae). *Candollea* 68: 245-250. En anglais, résumés anglais et français.

Telipogon peruvianus T. Hashim. *(Orchidaceae, Oncidiinae),* une espèce peu connue et endémique du Pérou, est récoltée dans sa localité type et sa répartition géographique revue. Une description révisée et des notes taxonomiques et écologiques sont fournies.

Addresses of the authors: CM: Institute of Experimental Ecology, Ulm University, Albert-Einstein-Allee 11, Ulm 89069, Germany. Email: **carlos.martel-gora@uni-ulm.de**
WNH: Universidad de Gerona, 17071 Montilivi s/n, Gerona, Spain.

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Introduction

Telipogon Kunth, belonging to *Oncidiinae (Orchidaceae)* (Williams & al., 2005; Pridgeon & al., 2009; Neubig & al., 2012), forms the *Telipogon* alliance with *Hofmeisterella* Rchb. f., *Trichoceros* Kunth and *Stellilabium* Schltr. Molecular phylogenetic analyses show that *Stellilabium* is embedded within *Telipogon* (Williams & al., 2005; Neubig & al., 2012). Thus, *Telipogon* s.l. consists of approximately 200 species distributed from Mexico, Central America and the Caribbean to Venezuela and Colombia to Bolivia (Dodson, 2003; Ackerman, 2004; Pridgeon & al., 2009; Bogarín, 2012).

Several *Telipogon* species, such as *T. peruvianus* T. Hashim., show narrow distributions. *Telipogon peruvianus* was described on the basis of a single collection (*N. Nakata 5225*, TNS; Fig. 1) in Cusco in 1984 (Hashimoto, 1990) and until now it has only been known from the type locality (Brako & Zarucchi, 1993; Roque & León, 2006). The original description of *T. peruvianus* was based on herbarium dry specimens (not a preserved or fixed sample), and observations on living individuals were not carried out. Also it seems that during the type herborization, some morphologic characteristics were lost or they were misinterpreted. The holotype and the isotype are currently in TNS. After the revision of several living individuals in the type locality and herbarium specimens kept at AMES, CUZ, G, HGI, K, MOL, TNS, USM and USP we determined that the species description needed to be amended. Here, we provide an emended description and ecological notes on *T. peruvianus*.

Telipogon peruvianus T. Hashim. in Bull. Natl. Sci. Mus. Tokyo, B 16: 21. 1990 **(**Fig. 1-3).

Typus: Peru. Dept Cuzco. Prov. Quispicanchis: between Marcapata and Achubamba, along the road from Marcapata to Quincemil; in wet forest in "Ceja de Selva" zone, 2600-2800 m, 13.IX.1984, *M. Nakata 5225* (holo:- TNS!; iso:- TNS!) (Fig. 1).

Epiphytic, *sympodial plants* rather small or medium size, about 10 to 35 cm long. *Rhizome* short with several long, fleshy, whitish roots, 3.5-7 mm diameter. *Stem* 2-13 cm long, 1 to 11 leaves. *Leaves* congested, relatively thick, green; leaf-sheath conduplicate, 3-12 cm long, 12-25 mm wide, oblong to narrowly elliptic, articulated, acuminate, with minutely dentate margins. Up to two *reproductive branches* (inflorescences) per plant and up to two flowers in anthesis per inflorescence at the same time. *Inflorescence* 1- 7- flowered, rachis 4-24 cm long, triangular axis compressed in small individuals and extended in large individuals, ascendant or arcuate, wings nearly 1.5 mm wide. *Flowers* 37-65 mm in diameter, non-resupinate. *Floral bracts* 12-20 mm long, conduplicate, cymbiform, acuminate, keeled outside. *Dorsal sepal* 15-28 mm long, 6-11 mm wide; ovate to ligulate-ovate, acuminate, thin, keeled outside, 3- or 5-nerved, light green to yellow-green with light brown nerves; lateral sepals slightly shorter, narrower and bowed. *Petals* 19-34 mm long, 16-28 mm wide, rhombic-ovate to almost flabellate, obtuse to short-acuminate, oblique, 12- 16-nerved with few dark red-brown reticulations; red-brown trichomes present at the base of the inner surface. *Lip* 19-35 mm long, 19-43 mm wide, deltoid-suborbicular to reniform-obtuse, semi-elliptic transversely, convex in the centre, 27- 33-nerved, covered by erected brown hairs at the base; lip and petals bearing papillate cells on their surface, margins papillate; base of lip and petals fleshy and brown. *Column* compact 2.5-3.5 mm long, glabrous; rostellum 5-7 mm, thin, elongated. *Pollinarium* with 4 yellow pollinia, first pair obovoid, second pair ovoid; anther-cap yellowish; stipe 59-71 mm long, yellow, winged, flattened, keeled; caudicle developed, yellowish; viscidium 5.6-7.3 mm long, red-brown, hook-like, with sticky inner surface. *Ovary* 25-40 mm long, pedicellate, triangular-winged in cross-section.

Distribution and habitat. – The species had only been recorded near to the town of Marcapata in the Araza river (before Marcapata river) basin (Quispicanchis province). However, it was recently discovered near to the town of Quico (*Nauray 3711,* CUZ) in the Queros river basin (Paucartambo province). Thus *T. peruvianus* is distributed in Quispicanchis- and Paucartambo provinces in the Dept. of Cusco from 2600 to 3200 m, in the basin slopes. It grows isolated or in groups due to its growth form and several ramets can be found on a single tree. It can be found in the cloud forests of west Andes on trees, shrubs and bamboo-like grasses, associated with mosses, near to roads and trails in disturbed or sun-exposed areas. Its habitat is currently severely affected by deforestation, livestock, agriculture expansion and the Inter-oceanic (Peru-Brazil) highway. Small patches and strong dry-seasons also seem to be affecting the populations of *T. peruvianus*. Its conservation status has been assessed as critically endangered (Roque & León, 2006).

Ecology. – Plants are epiphytic, growing in disturbed and secondary forests. It can be found associated to trees and shrubs such as *Hesperomeles sp. (Rosaceae), Polylepis sp. (Rosaceae), Duranta sp. (Verbenaceae), Senna sp. (Fabaceae)*. As pointed out by earlier authors (Dodson, 1962; Van der Pijl & Dodson, 1966; Christensen, 1994; Van der Cingel, 2001) *Telipogon* is pollinated by male flies of *Tachinidae* family. A detailed description on the pollination will be presented elsewhere. Flowers of *T. peruvianus* are long-living; flowering occurs during the dry-season, from June to October, with a peak in August. Fruits are commonly found in the forest. Several ramets may be found in a solely tree due to their sympodial growth.

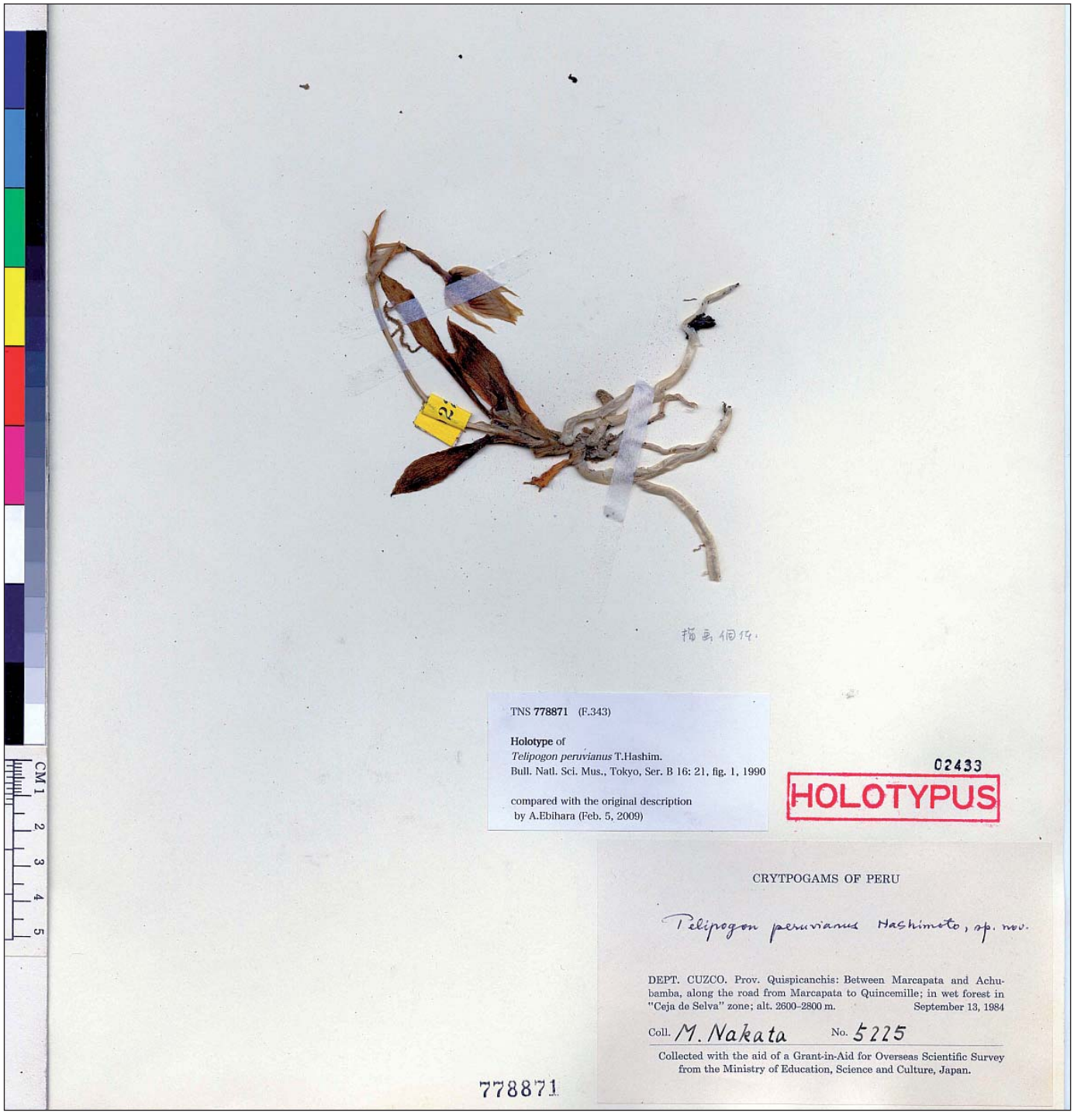

Fig. 1. – Holotype of *Telipogon peruvianus* T. Hashim.

[*M. Nakata 5225*, TNS] [© National Museum of Nature and Science, Tsukuba. reproduced with permission]

Taxonomical notes. – HASHIMOTO (1990) points out that this species presents two pollinia, however all examined specimens present a pollinarium with four-pollinia. The first pair of pollinia is much larger than the second pair. The caudicle corresponds to Hashimoto's "intermediary tissue" and it is attaching the 4 pollinia to the stipe, it is developed and yellow. The rostellum is always facing up, and not bent as it is shown in HASHIMOTO (1990).

The morphologic variation observed seems to be related to the plant age. Younger plants seem to have fewer and smaller organs (leaves, flowers, etc.) than older plants. However, the species is easily to identify due to the fact that its flower morphology is always conserved. Two floral characteristics are distinctive: (a) this species lacks bristles on the column and a conspicuous callus; and (b) the white area with dark red-brown-veined developed in the first 2/3 of the lip and the petals (Fig. 2-3). PRIDGEON & al. (2009) point out that flowers of *Telipogon* are resupinate but the flowers of *T. peruvianus* are not (Fig. 2) like other *Telipogon* species (PABÓN-MORA & GONZÁLEZ, 2008). Although ROQUE & LEÓN (2006) assert that *T. peruvianus* is only known from the type collection, other specimens had been collected before in the type locality and elsewhere, but they were not reviewed or remained unidentified until recently.

Specimens examined. – **PERU. Dept Cusco. Prov. Quispicanchis:** two km from Marcapata on the lower road, 22.VII.1978, *Aronson & Berry 530* (USM); Achubamba, near to Marcapata town, 13.IX.1984, *Fernández & al. 499* (USM); Marcapata, 13.592°S 70.619°W, 20.VII.2012, *Martel & Cairampoma 007* (USM); between Marcapata and Achubamba, along the road from Marcapata to Quincemil, 13.IX.1984, *Nakata 5225* (TNS); Marcapata town, 13°35'10'S 70°58'16'W, 20.IV.2007, *Nauray & Farfán 3765* (HGI, MOL, USP); locality between Yuncawara and Marcapata, 24-25.VII.1966, *Vargas 17509* (AMES, CUZ); locality at 5 km to Marcapata, 13.X.1976, *Wasshausen & Encarnación 781* (G, K). **Prov. Paucartambo:** Q'eros locality, Quico Grande, X.2004, *Nauray 3711* (CUZ).

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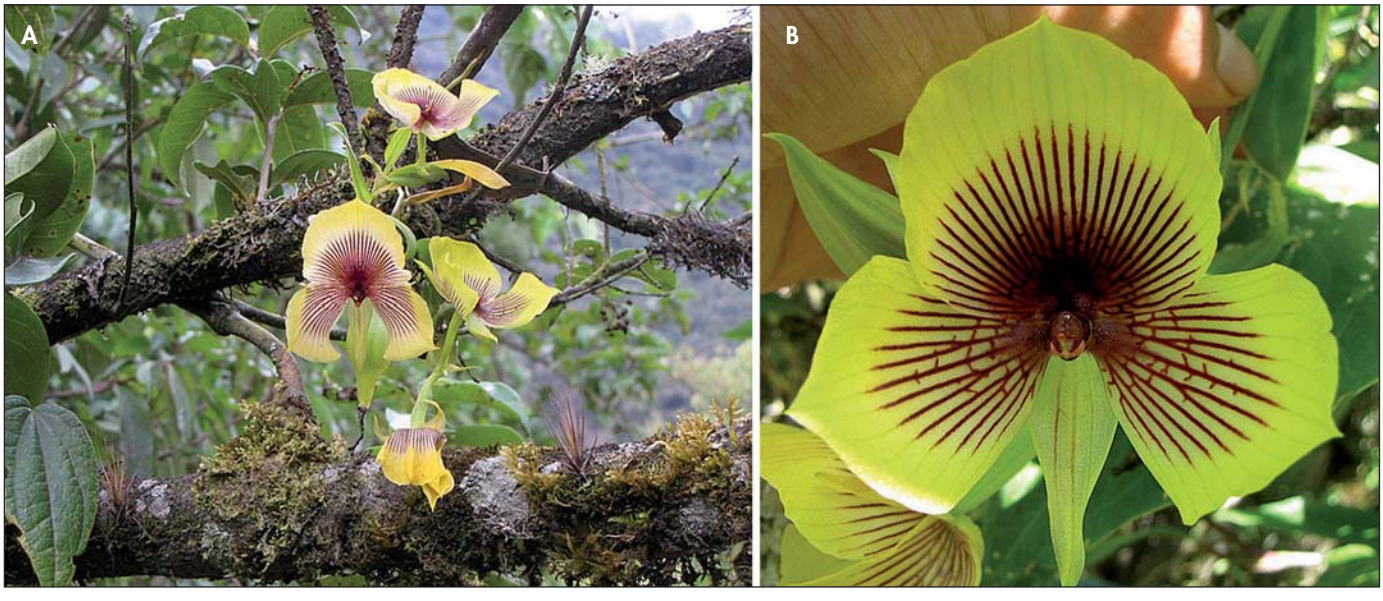

Fig. 2. – *Telipogon peruvianus* T. Hashim. **A.** Non-resupinate flower showing the bald column; **B.** Habit and plant flowering.

[Photos: C. Martel]

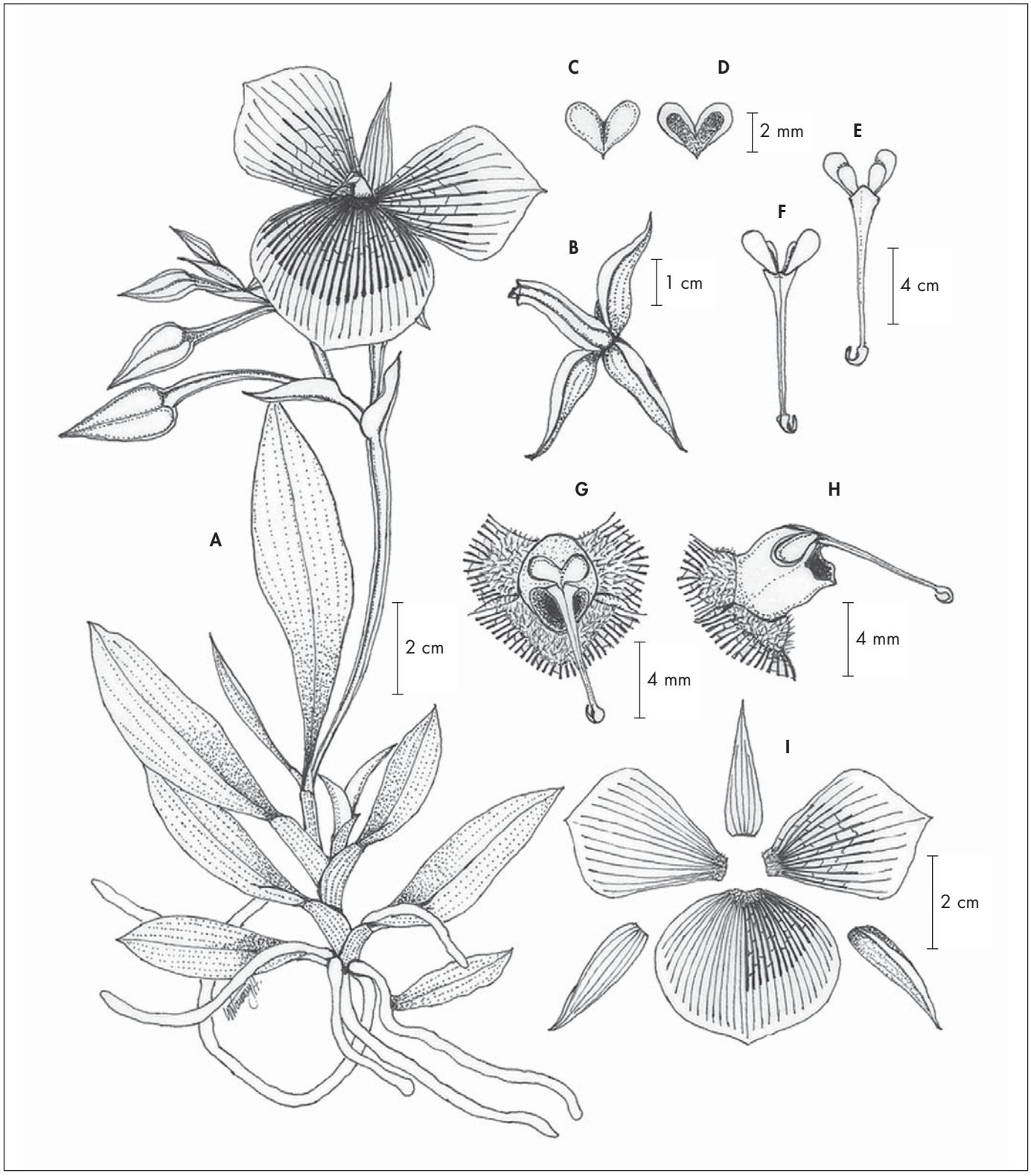

Fig. 3. – *Telipogon peruvianus* T. Hashim. **A.** Habit; **B.** Sepals in dorsal view; **C.** Anther in frontal view; **D.** Anther in dorsal view; **E.** Pollinarium in frontal view; **F.** Pollinarium in dorsal view; **G.** Column in frontal view; **H.** Column in lateral view; **I.** Sepals, petals and lip.

[*Nauray & Farfán 3765*, MOL] [Drawn by W. Nauray]

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