A NOTE ON GENUS *DRACONTIA* (ORCHIDACEAE: PLEUROTHALLIDINAE), WITH A NEW SPECIES

Adam P. Karremans[1-3] and Christina M. Smith[1]

Abstract. A new species, *Dracontia hydra,* is illustrated and described from Costa Rica. *Dracontia dracontea* is characterized and illustrated, discussion is given on its taxonomical status, while *Dracontia perennis* is added to its synonymy.

Keywords: Orchidaceae, *Dracontia, D. dracontea, D. hydra, D. perennis,* new species, Costa Rica

In 1986 Carlyle Luer proposed *Pleurothallis* subgenus *Dracontia* for a group of 11, mostly Middle American species. The subgenus was elevated to generic rank by the same author (Luer 2004) and by then included 17 species. The group of species was alternatively placed in a broad concept of *Stelis* Sw. by Pridgeon and Chase (2001) based on molecular data published by Pridgeon et al. (2001). However, *Dracontia* is well distinguished from *Stelis* on both morphological and molecular grounds (Karremans 2010, 2011) and is therefore treated here as a separate genus. While studying this group of species in Costa Rica an unnamed species and nomenclatural discrepancies were found and are discussed herein.

Dracontia hydra Karremans & C.M.Sm., *sp. nov.* TYPE: COSTA RICA. Cartago: Cartago, San Francisco, Muñeco, Finca Loma Verde y Jilguero, camino a Alto Belén, entre río sombrero y quebrada Patarrá, 9°46'50.3"N 83°54'21.1"W, 1542 m, bosque pluvial premontano, epífitas en bosque secundario y árboles en zonas abiertas, 22 julio 2010, *D. Bogarín, M. Fernández, R. Trejos & C. M. Smith 7840* (Holotype: CR; isotype: JBL-Spirit). Fig. 1.

Species D. conochilae (Luer) Luer *similis, sed floribus majoribus, sepalis hirsutis acuminatis, labello lineari differt.*

Epiphytic, caespitose, erect, *herb*, up to 20 cm tall. *Roots* basal, filiform. *Ramicauls* terete, 5.5–10.5 cm long, enclosed by a thin tubular sheath born below and ending well above the middle, and with two basal sheaths. *Leaves* erect, coriaceous, elliptic, sessile, obtuse, apex emarginate and apiculate, 5.5–11 cm long and 2.5–3.5 cm wide. *Inflorescence* successive, racemose, secund, apical, from a 10 mm long triangular spathaceous bract, peduncle 19 cm and rachis 13.5 cm long. *Floral bracts* short, acute, 5 mm long. *Pedicel* cylindrical, 9 mm long; *ovary* 5 mm long. *Flowers* 9 in the type specimen, but evidently being able to produce more, 3–4 open at once; sepals reddish-purple, petals white with stripped with reddish purple. *Sepals* glabrous externally, hirsute internally near the apex, somewhat incurved, the dorsal sepal elliptic, shortly acuminate, acute, concave, 16 mm long and 6 mm wide, 3-veined; the lateral sepals connate near the apex into a narrowly elliptic, shortly acuminate, concave lamina, 15 mm long and 8 mm wide, with 6 veins. *Petals* concave, embracing the column, elliptic, obtuse, papillose externally, apex somewhat involute, rounded, 8 mm long and 5 mm wide, with 3 veins. *Lip* fleshy, twisted downward, with transversal grooves, 3-lobed, 8 mm long and 2 mm wide, mid lobe thick, linear, ligulate, acute, mid-line somewhat

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[1] Lankester Botanical Garden, University of Costa Rica, P.O. Box 302-7050 Cartago, Costa Rica.

[2] NCB Naturalis – NHN Leiden Universiteit, The Netherlands.

[3] Author for correspondence: adam.karremans@ucr.ac.cr

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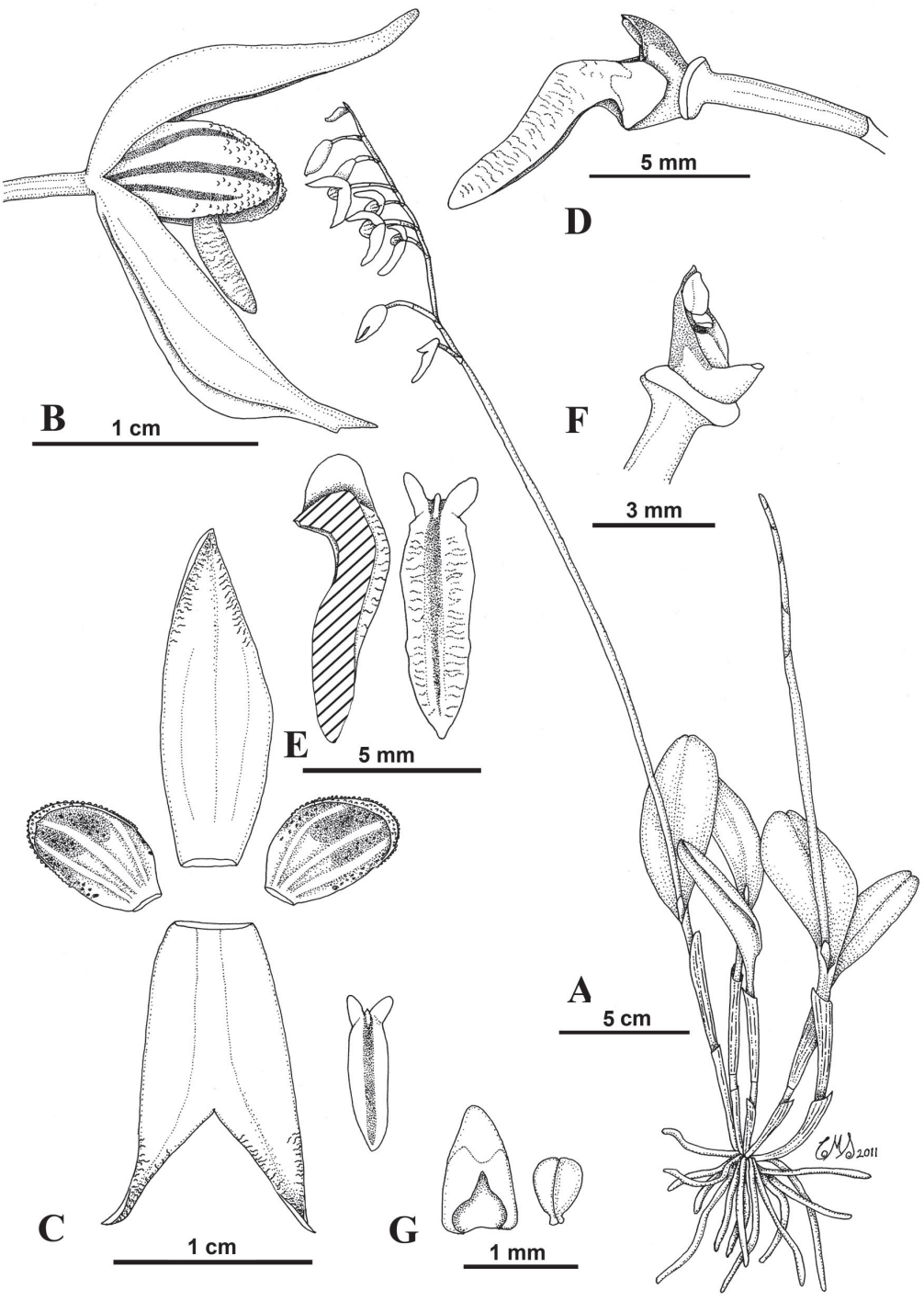

FIGURE 1. *Dracontia hydra* Karremans & C.M.Sm. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and lip, lateral view; **E**, lip, front view and longitudinal dissection; **F**, column, lateral view; **G**, anther cap and pollinarium. Drawing by C.M. Smith based on *D. Bogarín 7840*.

depressed, with a low callus at the base, lateral lobes basal, erect, suborbicular, inconspicuous, base of the lip hinged to the tip of the column-foot. *Column* semiterete, conical, 3 mm long, with a short, thick, slightly incurved column foot, with a white bubble-like rostellum. *Anther* membraneous, helm-like, prominent. *Pollinaria* 2, subglobose, with two flat, transparent, whale-tail like caudicles.

Additional specimens examined: COSTA RICA. Cartago: Jiménez, Pejibaye, Tucurrique, Bajos del Humo, entre ríos Humo y Vueltas, ladera este de Cerros Duán, 9°48'36.7"N 83°45'16.2"W, 1396 m, bosque pluvial montano bajo, epífitas en árboles en potreros y borde de bosque, 24 Noviembre 2008, *D. Bogarín, R.L. Dressler, R. Gómez & R. Trejos 5746* (JBL-Spirit). Same locality, *D. Bogarín, R.L. Dressler, R. Gómez & R. Trejos 5747* (JBL-Spirit D3794; JBL-Spirit D4212). Same locality, *D. Bogarín, R.L. Dressler, R. Gómez & R. Trejos 5764* (JBL-Spirit; CR; USJ). Paraíso, Cachí, Peñas Blancas, camino a Cerros Duán, 9°49'51.3"N 83°46'13.1"W, 1400 m, bosque muy húmedo premontano, epífitas en árboles de potreros y borde de bosque, 13 Noviembre 2008, *D. Bogarín, R.L. Dressler, R. Gómez, F. Pupulin & R. Trejos 5567* (JBL-Spirit) (Fig. 28 in Karremans 2011; as *Dracontia* sp. 4). Jiménez, Pejibaye, Selva, 4.8 km desde Taus hacia Selva, cerca del Río Taus y Quebrada Selva, 9°47'10.4"N 83°45'37.4"W, 1087 m, bosque pluvial premontano, epífitas en bosque secundario a orillas del camino, 30 Abril 2009, *D. Bogarín, M. Fernández, R. Gómez, Y. Kisel, F. Pupulin, P. Renshaw & R. Trejos 6967* (JBL-Spirit).

Additional Records: COSTA RICA. Without collecting data, *D. Jimenez s.n.* (Digital voucher at JBL) (Fig. 27 in Karremans 2011; as *Dracontia* sp. 4).

Distribution and ecology: The species is known from only a few localities in Cartago in the Central Volcanic Cordillera in Costa Rica. It grows epiphytically in very humid lower montane forests in open areas, at elevations from 1087 to 1542 m. It flowers at least from June to September.

Etymology: The epithet refers to the Greek mythological creature Hydra, which in most versions of its legend had nine heads and would produce more if one was cut. Likewise, this species commonly produces around nine flowers, but may develop more if they die off or are removed.

Dracontia hydra is similar to *Dracontia conochila* (Luer) Luer, but differs in its larger flowers (dorsal sepal 16 mm long and 6 mm wide vs. 8 mm long and 3.75 mm wide), the sepals hirsute at the apex (vs. glabrous), and linear-ligulate (vs. narrowly conical) lip. *Dracontia conochila*'s type specimen was collected at around 700 m in elevation in the Caribbean watershed of the Talamanca Cordillera, while *D. hydra* is from around 1100–1500 m in the Central Volcanic Cordillera.

An Internal Transcribed Spacer (ITS) sequence of *D. Bogarín 5746* can be found in GenBank under accession number *JF934809*.

Dracontia dracontea (Luer) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 257. 2004.

Basionym: *Pleurothallis dracontea* Luer, Phytologia 49: 104. 1981. TYPE: COSTA RICA. Heredia: epiphytic in cloud forest east of the pass north of Castillo, alt. 2000 m, 21 June 1981, *C. Luer & A. Luer 6358* (holotype: SEL [not seen]; isotype: CR).

Etymology: From the Latin "draconteus," dragon-like, in allusion to the hairy, gaping mouth with a warty upturned tongue.

Synonym: *Pleurothallis perennis* Luer, Lindleyana 11: 86, 1996. ***syn. nov.*** TYPE: COSTA RICA. Alajuela: without other collection data, flowered in cultivation in the Lankester Botanical Garden, Cartago, 18 Mar. 1995, *C. Luer 17418* (holotype: CR [not found]; isotype: MO).

Dracontia perennis (Luer) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 257. 2004.

Etymology: From the Latin "perennis," everlasting, in reference to the inflorescence that seems to go on *ad infinitum*.

Additional specimens examined: COSTA RICA. Heredia: San Rafael, cerca de 500 m norte de la entrada al Paradero Turístico Monte de La Cruz, 1750 m, 10°4'57"N 84°04'39"W, bosque muy húmedo montano bajo, epífitas en ramas caídas en cerca de potreros, 7 Enero 2004, *D. Bogarín, D. Lobo & A. Vargas 616* (JBL-Spirit; Illustration voucher). Heredia. Pasture west of Cerro Chompipe, on north side of road leading to Rio Las Vueltas. 1900–2000 m. Epiphytic on exposed tree in pasture. Flowers elongate, purple, 4th of September 1979, *K.S. Walter 79367* (CR). Sarapiquí. Cuenca del Sarapiquí. 0-2000 m. 10:15:00N 83:57:40W.

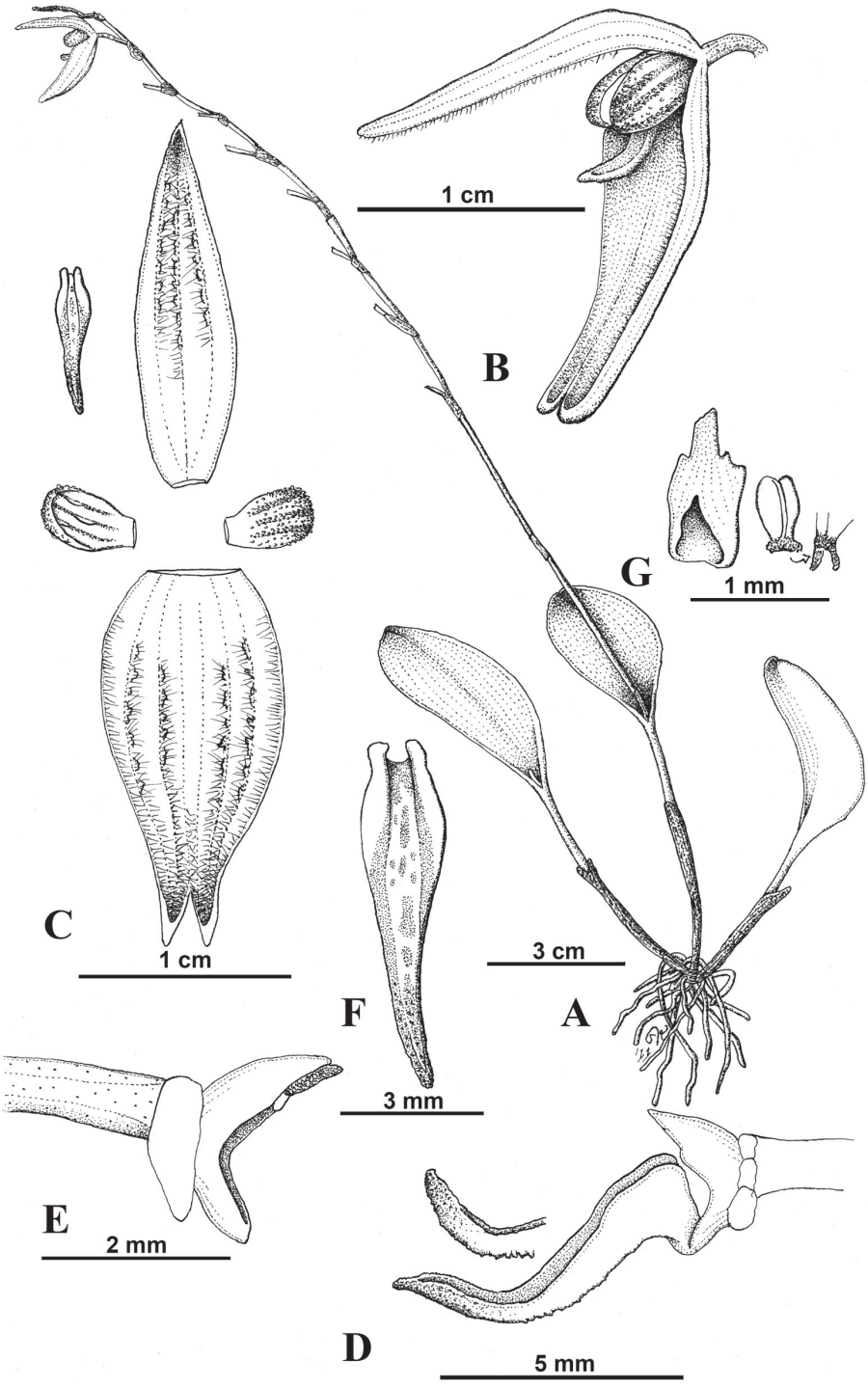

FIGURE 2. *Dracontia dracontea* (Luer) Luer. **A**, habit; **B**, flower; **C**, dissected perianth; **D**, column and lip, lateral view; **E**, column, lateral view; **F**, lip front view; **G**, anther cap and pollinarium. Drawing by A. P. Karremans based on *D. Bogarín 616*.

Epifita. Flores morado claro, pétalos con venas morado oscuro. 9 de Julio 2006, *J.F. Morales s.n.* (INB). Parque Nac. Braulio Carrillo, Cantón de Heredia; Park Refugio at 2050 m in 1' forest 0.5–1 km NE of Refugio. 10°10'40"N 84°07'00"W, 2100 m. Semi-epiphytic on branch in landslide. Sepals dark purple with purple pubescence distally; lower synsepal translucent basally in center, concave; petals translucent with dark purple veins, verrucose with purple spots; lip yellowish with purple spots and margins, pubescent abaxially, 4 November 1990, *S. Ingram & K. Ferrell 666* (INB).

Distribution and Ecology: Endemic to Costa Rica. The species in known only from the northern part of the Central Cordillera in Costa Rica, especially in the province of Heredia, and possibly neighboring Alajuela. It grows at elevations between 1750 m and 2100 m. Flowering has been recorded all year round.

Dracontia perennis was considered a unique species within the genus because of its "elongated, successively many-flowered raceme that continues to produce solitary flowers for many months," however, after careful observation and documentation of living plants at the Lankester Botanical Garden it has become obvious that several *Dracontia* species may produce both finite or infinite inflorescences possibly depending on environmental conditions. *Dracontia dracontea* is one of those species; the plant illustrated (Fig. 2) over the years has produced both short few flowered-inflorescences and very long inflorescences with more than 30 flowers, in both cases flowers are successive, having only one or two flowers open at once.

On the other hand, *D. dracontea* had been said to have a "loose-verrucose lip incurved at the apex," a unique feature within the genus. But, just as with the inflorescence, environmental conditions affect the curvature of the lip. When flowers have just opened the lip is straight and as they dry up the tip curves.

Excluding those characters makes both species undistinguishable, therefore *D. perennis* is placed under the synonymy of *D. dracontea*, which has priority.

A maturase K (*matK*) sequence of *D. Bogarín 616* (illustration voucher) can be found in GenBank under accesion number *EU214426*.

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