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***SERTIFERA*, A NEW GENERIC RECORD FOR THE PERUVIAN ORCHID FLORA**

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ABSTRACT. An orchid species, previously known from Northern Andes, is reported for first time in Peru: *Sertifera purpurea*. A description, illustration, photographs, and comments about the species are provided.

RESUMEN. Una especie de orquídea, previamente conocida de los Andes del Norte, se reporta por primera vez para el Perú: *Sertifera purpurea*. Se presenta una descripción, ilustración, fotografías y comentarios sobre la especie.

KEY WORDS / PALABRAS CLAVE: Bosque de Protección Alto Mayo, Peru, Sobralieae

Introduction. There are currently four recognized genera in the Neotropical tribe Sobralieae: *Elleanthus* C. Presl, *Epilyna* Schltr., *Sertifera* Lindl. & Rchb.f. and *Sobralia* Ruiz & Pav. (including *Brasolia* (Rchb.f.) Baranow, Dudek & Szlach.) (Neubig *et al.* 2011, Chase *et al.* 2015, Baranow, Dudek & Szlachetko 2017).

Orchids of the genus *Sertifera* have relatively small flowers of bright colors, which resemble the flowers of *Elleanthus*. Vegetatively, *Sertifera*, like *Elleanthus* and *Sobralia*, are caespitose plants with slender, elongate cane-like stems and plicate leaves. However, *Sertifera* is easily distinguished from the other genera of the tribe by having leaf sheaths with tubercles, axillary and secund or subcapitate inflorescences, and flattened peduncle.

Lindley and Reichenbach (Reichenbach 1877) described *Sertifera* with two species: *S. purpurea* Lindl. & Rchb.f. from Ecuador (with “lateral corymbose” inflorescence) and *S. virgata* Rchb.f. from Peru (with terminal racemes inflorescence). However, the latter was transferred by Schweinfurth (1938) to *Elleanthus*. The second species of *Sertifera*, from Ecuador, was described by Kraenzlin (1899) but hiding under the

name of *Diothonea lehmanniana* Kraenzl. (transferred to *Sertifera* by Garay in 1978). Schlechter (1920, 1924) then described three species from Colombia: *Sertifera colombiana* Schltr., *S. major* Schltr. and *S. parviflora* Schltr. Subsequently, Williams (1939) and Schweinfurth (1946) described two more species from the same country: *S. grandifolia* L.O.Williams and *S. aurantiaca* C.Schwein., respectively. Recently, another three species have been proposed for Colombia: *S. gracilis* Rchb.f. ex Szlach. & Baranow, *S. risaraldana* Szlach. & Baranow and *S. albiflora* Szlach., Kolan. & MedinaTr., (Szlachetko & Baranow 2014, Szlachetko, Kolanowska & Medina Trejo 2014). Thereby, at the moment ten species are referable to *Sertifera*.

Sertifera has been referred as a genus restricted to the northern Andes, species have been reported from Ecuador, Colombia, and Venezuela between 1,000 and 3,600 m of elevation (Schlechter 1924, Szlachetko & Baranow 2014).

Recent field work in the North of Peru revealed the presence of populations of *S. purpurea*; which represent the first record for this country. Previously,

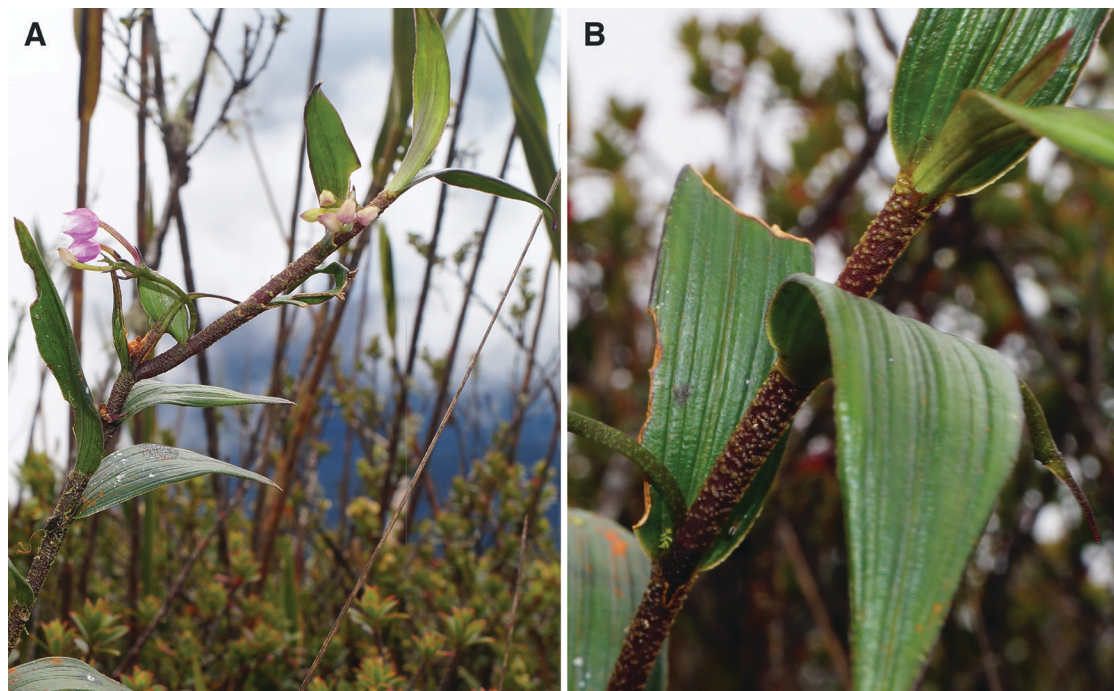


FIGURE 1. *Sertifera purpurea*. A. Plant in its natural habitat showing a branched stem. B. Verrucose leaf sheaths. Photographs by J. Edquén.

during a Rapid Assessment in The Cordillera del Cóndor, next to the Ecuadorian border, two specimens (one sterile) were collected and identified as *Sertifera* sp. (Schulenberg & Awbrey 1997). Those specimens are housed at MOL and were examined for this present study. Here, we formally record the genus *Sertifera* for Peru and provide a description of *Sertifera purpurea* based on the Peruvian specimens.

TAXONOMIC TREATMENT

Sertifera purpurea Lindl. & Rchb.f., *Linnaea* 41: 64. 1877.

TYPES: Ecuador, [Andes Quitensis], Tungurahua; *Spruce 5394* (syntype: W-76627, photo seen, designated as lectotype by Garay, 1978). Ecuador, [Quito], *Jameson s.n.* (syntype W-76625, photo seen). Ecuador, [Valley of Lloa, 1857], *Jameson s.n.* (syntype: K-501912, photo seen, (mixed), photo at AMES). Ecuador, [from the forest on the western slope of the Andes, 1854] *Jameson s.n.* (syntype: K-501912, photo seen, (mixed), photo at AMES).

Synonym: *Sertifera lehmanniana* (Kraenzl.) Garay,

Fl. Ecuador 9: 135. 1978. *Diothonea lehmanniana* Kraenzl., Bot. Jahrb. Syst. 26: 489. 1899. TYPE: Ecuador. Pichincha: Western declivity of Cerro Corazón, near Canchacoto on Río Pilatón, [2000 m, Jan 1881], *Lehmann 126* (G-422011, photo seen, lectotype, designated by Garay, 1978; isoelectotype G[x2], photos seen, HUH-82476 [flower at AMES ex G], photo seen).

Plant terrestrial, up to 1 m tall. *Stem* cane-like, erect to slightly arcuate, enclosed by reddish brown verrucose tubular leaf sheaths, unbranched (rarely branched), leafy above (Fig. 1A, B). *Leaves* somewhat coriaceous, blades ovate-lanceolate to elliptic-lanceolate, acuminate, plicate, margins minutely erose, sessile on tubular sheaths, $3.1\text{--}7.7 \times 0.7\text{--}1.8$ cm. *Inflorescence* axillary, arcuate, subcapitate, shorter than the subtending leaf; peduncle flattened, 1.0–2.5 cm long; rachis 0.7–1.0 cm long, 6 to 8 flowers. *Floral bracts* linear-lanceolate, acute to acuminate, green turning blackish purple, 2.0–4.5 mm long (decreasing in size towards the apex). *Flowers* globose, sepals and petals pink to purplish, lip and tip of petals white (Fig. 2A); ovary and pedicel green to red-violet. *Dorsal*

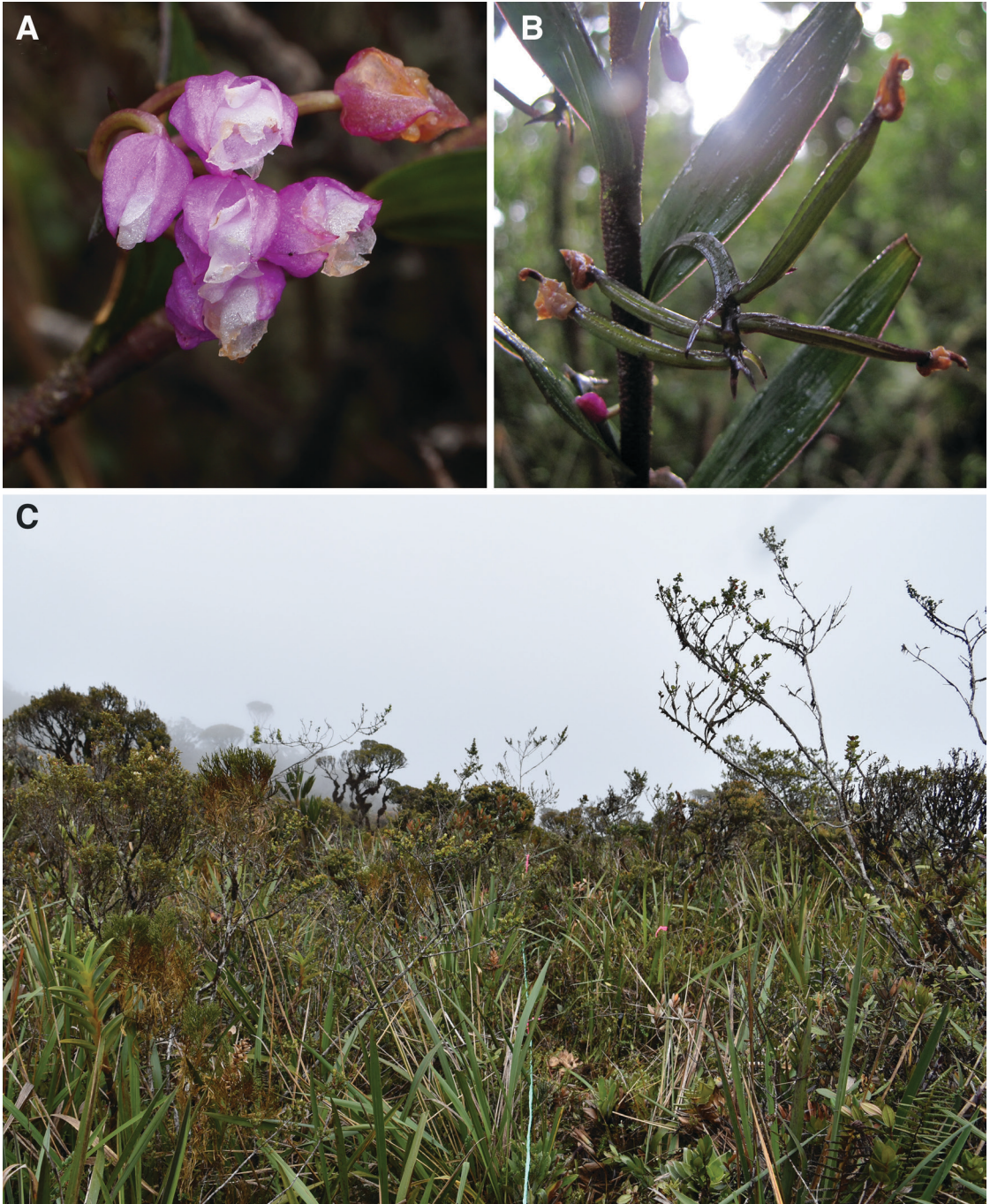


FIGURE 2. *Sertifera purpurea* A. Inflorescence B. Fruits, C. Habitat. Photographs A by J. Edquén; B, C by M. Acuña-Tarazona.

sepal elliptic, acute to obtuse, minutely mucronate at apex, 3-nerved, $5.5\text{--}6.5 \times 3\text{--}4$ mm. *Lateral sepals* slightly connate at base, oblique, elliptic, acute, mucronate, dorsally carinate, 3-nerved, $6\text{--}7 \times 3\text{--}4$ mm.

Petals ovate-elliptic to subrhombic, obtuse, somewhat undulate towards the apex, 1-nerved (sometimes with 1 or 2 short lateral nerves), $5\text{--}7 \times 3.0\text{--}3.5$ mm. *Lip* enfolding the column, basally saccate, conduplicate,

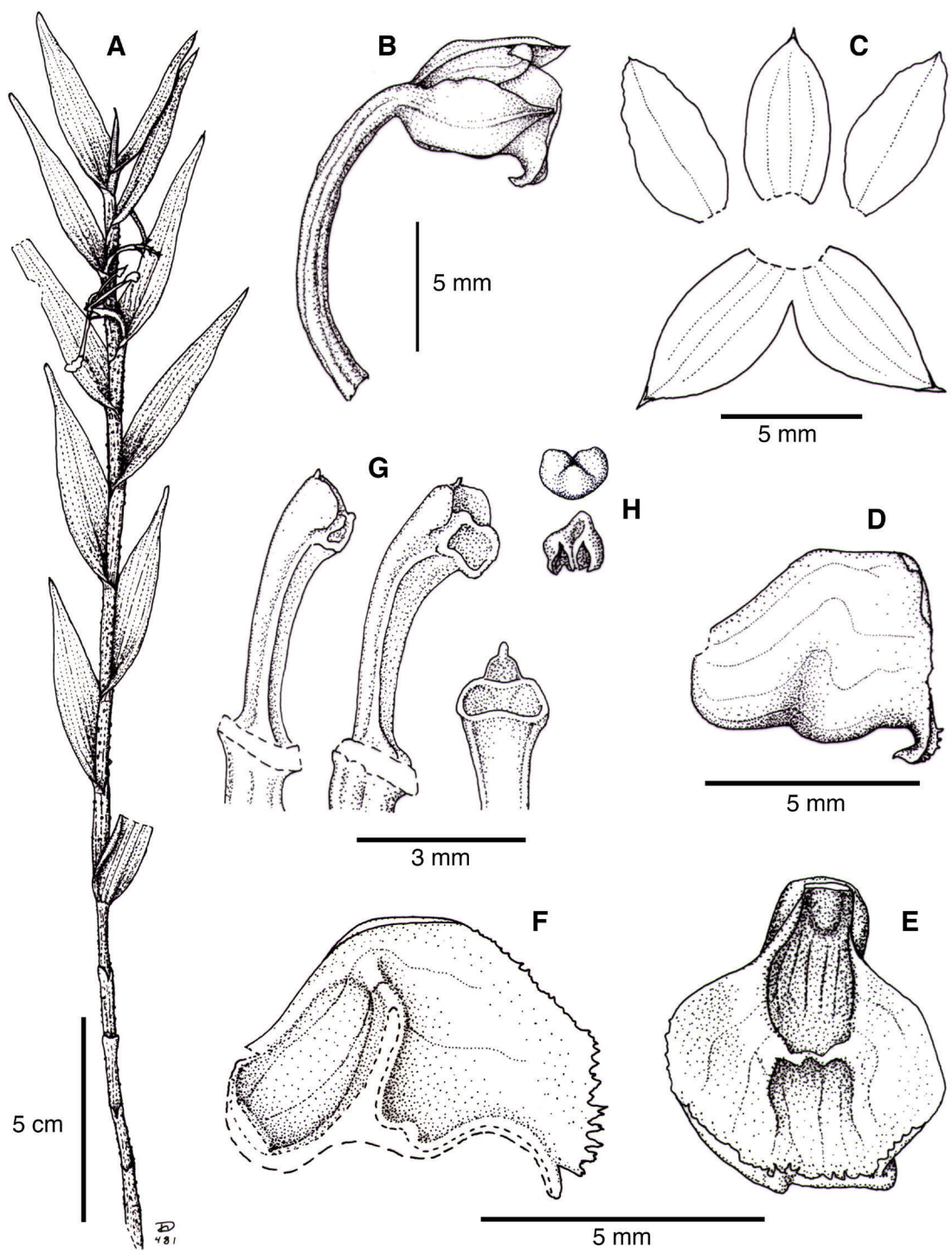


FIGURE 3. *Sertifera purpurea*. A. Habit. B. Flower. C. Dissected perianth. D. Lip, lateral view. E. Lip, ventral view, F. Lip, longitudinal section. G. Column (from two different flowers). H. Anther cap. Drawing by D. Trujillo based on *M. Acuña 1803* (USM).

flattened laterally, seen from the side subquadrate-obovate, when expanded transversely elliptic, base of the lip thickened, with a small callus, disc provided with a transverse, plate-like ridge which holds the two sides together, the upper margins involute and irregularly erose to shortly lacerate, 5.5–7.0 mm long. *Column* slender, slightly curved upward, auriculate at apex, 3.5–5.0 mm long. *Anther* reniform, 1 mm long. *Stigma* bilobed. *Ovary* cylindric, curved, glabrous, 7–14 mm long. *Fruit* narrowly ellipsoid, 13–17 × 2–5 mm (Figs. 2B, 3).

SPECIMEN EXAMINED: Peru. [Amazonas, Prov. Condorcanqui], Cordillera del Cóndor, [July -August 1994] *M. Caveró 1636* (MOL). San Martín, Prov. Rioja, Distrito Pardo Miguel Naranjos, Bosque de Protección Alto Mayo, 2500 m, 13 April 2017, *M. Acuña et al. 1803* (USM). Same locality, 3053 m, 23 May 2017, *M. Acuña et al. 1969* (USM).

OTHER SPECIMENS: Peru [Amazonas, Prov. Condorcanqui], Cordillera del Cóndor, [July -August 1994], *M. Caveró 1627* (MOL [sterile]).

DISTRIBUTION: Venezuela, Colombia, Ecuador, and Peru. In Peru, it is known in the Departments of Amazonas and San Martín, between 2,150 and 3,053 m elevation (Fig. 4).

HABITAT AND ECOLOGY: Plants of this species were found growing in shrub vegetation with small trees up to 5 m tall, dominated by *Podocarpus oleifolius* D. Don ex Lamb., *Clusia* sp., *Weinmannia* sp., *Miconia* sp., and *Myrcia* sp., and open areas with herbs and small shrubs (Fig. 2C). Individuals with flowers and fruits were recorded in April, May and October.

Sertifera purpurea and *S. lehmanniana* were described based on plants from the north-central Andes of the Ecuador. The type specimens of *S. purpurea* were collected in the Province of Tungurahua (*Spruce 5394*) and the Province of Pichincha: Quito (*Jameson s.n.*) and in the Valley of Lloa (*Jameson s.n.*). The type specimen of *S. lehmanniana* was collected in the Province of Pichincha: west of Cerro Corazon (south of Quito), near Canchacoto (*Lehman 126*). Both species display similar morphological features. Based on examination of the herbarium specimens (digital images) and a dissected flower of the lectotype

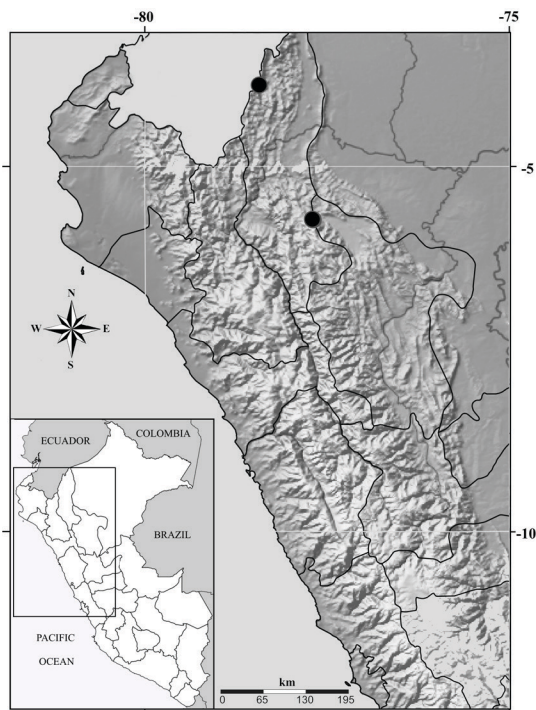


FIGURE 4. Distribution map of *Sertifera purpurea* (black circles) in Peru.

of *S. lehmanniana* (microscope slide prepared by Garay, HUH-82476), the feature that distinguishes *S. lehmanniana* from *S. purpurea* is that the first displays ovate-oblong to ovate-ligulate petals (vs. ovate-elliptic to subrhombic). Dunsterville and Garay (1966) considered that they both represent the same species and placed *S. lehmanniana* as synonym of *S. purpurea*; we agree with that assessment.

Sertifera colombiana is also similar to *S. purpurea* (Schlechter 1920, Mansfeld 1929, plate 13, nr. 46); however, additional research is necessary to state whether they are the same species.

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