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New records and nomenclatural notes in the *Specklinia grobyi* complex (Orchidaceae, Pleurothallidinae) from Peru, including the description of a new species from the western Amazon

JOSÉ D. EDQUÉN[1,9], ELMER YRIGOÍN[2,10], MABEL ENCO[3,11], KELY EDQUEN[3,12], ROGER VELÁSQUEZ[4,13], RÓMULO CASANOVA[4,14], MILUSKA L. AGUIRRE[4,15], WIILLY VELÁSQUEZ[4,16], JESSY P. ARISTA[1,17], ETHIAN LICONA[5,18], MANUEL OLIVA-CRUZ[1,19], BOSCO J. ZAMBRANO[6,20], GERARDO A. SALAZAR[7,21] & RODOLFO SOLANO[8,22,*]

[1]*Instituto de Investigación para el Desarrollo Sustentable de Ceja de Selva (INDES–CES), Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Calle Universitaria 304, Chachapoyas, 01001, Amazonas, Peru*
[2]*Universidad Nacional de San Martín (UNSM), Jr. Maynas 177, Tarapoto, 22201, San Martín, Peru*
[3]*Universidad Católica Sedes Sapientiae - Filial Rioja, Jr. Santa Cruz cdra 4 s.n., sector Nuevo Eden, Nueva Cajamarca, 22846, San Martín, Peru*
[4]*Pukuni Consultores y Servicios Generales SAC, Jr. Francisco de Zela 1078 Inter. 501, Jesus Maria, 17073, Lima, Peru*
[5]*Facultad de Estudios Superiores Iztacala, Universidad Nacional Autónoma de México, Avenida de los Barrios 1, Tlalnepantla de Baz, 54090, Estado de Mexico, Mexico*
[6]*Orquiecuador y Gloxinias, Sucre y García Moreno, esquina frente al Parque central, Piñas, 071050, El Oro, Ecuador*
[7]*Departamento de Botánica, Instituto de Biología, Universidad Nacional Autónoma de México, Apartado Postal 70-367, 04510 Mexico City, Mexico*
[8]*Centro Interdisciplinario de Investigación para el Desarrollo Integral Regional, Unidad Oaxaca, Instituto Politécnico Nacional, Hornos 1003, Santa Cruz Xoxocotlan, 71230, Oaxaca, Mexico*
[9] *jose.edquen.epg@untrm.edu.pe; https://orcid.org/0000-0002-7289-3974*
[10] *elmeryrigoinvasquez@gmail.com; https://orcid.org/0000-0002-0517-462X*
[11] *menco04c@gmail.com; https://orcid.org/0009-0003-6105-9313*
[12] *kelyedquenoblitass@gmail.com; https://orcid.org/0009-0007-4768-7259*
[13] *rvelasquez@pukuniperu.com; https://orcid.org/0009-0006-8079-7348*
[14] *rcasanova@gpukuni.com; https://orcid.org/0009-0009-0498-6368*
[15] *maguirre@gpukuni.com; https://orcid.org/0009-0003-8912-5618*
[16] *wvelasquez@pukuniperu.com; https://orcid.org/0009-0004-2282-5246*
[17] *patricia.arista@untrm.edu.pe; https://orcid.org/0000-0001-8334-5538*
[18] *ethianlicona@gmail.com; https://orcid.org/0009-0008-0785-8284*
[19] *manuel.oliva@untrm.edu.pe; https://orcid.org/0000-0002-9670-0970*
[20] *bosco_escorpion@hotmail.com; https://orcid.org/0000-0003-4694-5651*
[21] *gasc@ib.unam.mx; https://orcid.org/0000-0002-5203-5374*
[22] *asolanog@ipn.mx; https://orcid.org/0000-0002-0355-5496*
**Autor for correspondence*

Abstract

The systematics of the *Specklinia grobyi* complex in Peru is reconsidered. Traditionally referred as a widely distributed species, the *Specklinia grobyi* complex is recognized here to comprise six closely related taxa. The taxonomic identities of *S. crepidophylla*, *S. densifolia*, *S. florulenta*, *S. grobyi*, and *S. picta* are discussed, and *S. bretannensis* is described and illustrated. *Specklinia bretannensis*, from the plains of the western Amazon region, is compared with *S. grobyi* and other morphologically similar taxa. Additionally, new combinations in *Specklinia* are proposed for *Pleurothallis crepidophylla* and *P. densifolia*, while *Specklinia florulenta* is recognized as an accepted name here. A lectotype for *P. densifolia* is proposed, as no holotype was designated by its author among the several duplicates of the original collection.

Key words: Amazonian Plain, flooded alluvial forest, *Specklinia bretannensis*, *Specklinia picta*, *Specklinia* subgen. *Hymenodanthae*

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Introduction

The subtribe Pleurothallidinae is the most diverse in the Orchidaceae family, with 5,481 accepted species belonging to 46 genera (Karremans & Vieira-Uribe 2020, Smidt *et al.* 2021, Doucette *et al.* 2022), distributed throughout the Neotropics. One of these genera is *Specklinia* Lindley (1830: 8) which, as defined by Karremans *et al*. (2016), comprises 106 species ranging from southern Mexico to Bolivia and southern Brazil, including the Antilles. Although *Specklinia* was proposed nearly two centuries ago, it was long considered a synonym of *Pleurothallis* Brown (1813: 211) or given an infrageneric category within it (Garay 1974, Luer 1986). This delimitation was widely accepted until Pridgeon *et al.* (2001) showed the polyphyly of *Pleurothallis*, segregating *Specklinia* from it (Pridgeon & Chase 2001). Subsequently, Karremans *et al.* (2016) defined it as a monophyletic genus.

Species of *Specklinia* are recognized by their stems being shorter than the leaves, the bilabiate flowers (half-open, with a concave dorsal sepal and lateral sepals fused for at least one-half of their length), the mostly obtuse, entire petals that are wider above the middle, and a motile lip hinged to the apex of the column foot. The column is prominently winged, with a dentate clinandrium, the anther and stigma are ventral, and the two naked pollinia lack caudicles and a viscidium (Karremans *et al.* 2016, Karremans & Vieira-Uribe 2020).

One member of the genus is *Specklinia grobyi* (Bateman ex Lindl. in Lindley (1835a, tab. 1797)) Barros (1984: 86), generally considered a widely distributed species in the Neotropics, ranging from southern Mexico to southern Brazil (Bogarín *et al.* 2014, Karremans *et al.* 2016, Luer 2023). Throughout this extensive distribution range, numerous morphological variants have been described as different species, but all of them have come to be considered synonyms of *S. grobyi*, as in the Flora e Funga do Brasil (https://reflora.jbrj.gov.br/), GBIF (https://www.gbif.org/), POWO (https://powo.science.kew.org/), Tropicos (https://tropicos.org/home), and WFO (https://wfoplantlist.org/) online databases. The synonyms associated with S. *grobyi* include at least 20 binomials (Luer 1986, Luer 2006, Bellone & Archila 2013, Karremans *et al*. 2016, Goicochea-Rojas *et al.* 2019). However, the name *S. grobyi* refers to a species complex that includes several morphologically similar taxa, some of which already have valid names, while other forms remain to be described. Plants within this complex are characterized by the obovate or spathulate, marginate leaves, inflorescence with simultaneous flowers and its peduncle longer than the leaf, white to yellowish flowers sometimes suffused or lined with red or pink, lateral sepals fully connate to their apices, oblong lip, and bicallose column foot. As will be discussed below, there are significant differences in both vegetative and floral traits that permit define the boundaries among members of the complex.

To date, only three species of *Specklinia* have been recorded in Peru: *S. acutiflora* (Ruiz & Pavon (1798: 236)) Pupulin (2012: 167), *S. grobyi*, and *S. picta* (Lindley (1835b: tab. 1825)) Pridgeon & Chase (2001: 259) (Goicochea-Rojas *et al.* 2019). During a field study conducted in the spring of 2023 in a flooded alluvial forest near the community of Bretaña, in the Amazonian Plain of northeastern Peru, an undescribed species belonging to *Specklinia* subgen. *Hymenodanthae* (Barbosa Rodrigues (1882: 9)) Karremans (in Karremans *et al*. 2016: 22), and member of the *S. grobyi* complex, was discovered. In herbarium collections, additional specimens from Amazonian Plain of western South America have been found. The unknown entity is described here as a new species and compared with morphologically similar taxa. Moreover, *Pleurothallis crepidophylla* (Reichenbach (1878: 18), *P. densifolia* Rolfe in Rusby (1895: 260), and *S. florulenta* (Linden & Rchb.f. in Reichenbach (1855: 223)) Pridgeon & Chase (2001: 257), previously considered synonymous either of *S. grobyi* or *S. picta*, are recognized as distinct species of *Specklinia* and the required combinations for the first two are proposed.

Materials and methods

Specimens of the new species were collected as part of the project "Programa de Monitoreo de Biodiversidad (PBM) en el marco del Estudio de Impacto Ambiental Detallado (EIA-d) del Proyecto de Desarrollo del Campo Petrolero Bretaña Norte-Lote 95", protected under the General Directorate Resolution N° D000001-2020-MINAGRI-SERFOR-DGGSPFFS (authorization N° AUT-EP-2020-047), and its term extension with the General Directorate Resolution N° D000194-2022-MINAGRI-SERFOR-DGGSPFFS (authorization N° AUT-EP-2022-057). The specimens were pressed and deposited in the herbarium of the Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas (KUELAP). Plants of the new species were photographed *in situ* using a Nikon D850 digital camera and a Nikkor 60 mm, 2.8 lens, paired with a Nikon Speedlight SB-70 (Nikon Corporation, Tokio, Japan). These photographs were used to prepare a Lankester Composite Digital Plate (LCDP). Image processing was done with Adobe Photoshop CC 2019®.

The description of the new species was based on both live and preserved specimens (dried and in spirit). To verify

that these specimens belong to an undescribed species, specialized literature about members of *Specklinia* subgen. *Hymenodanthae* was consulted, emphasizing species reported for the western Amazonia (Brazil, Bolivia, Colombia, Ecuador, and Peru) (Luer 2006, Luer 2023, Bellone & Archila 2013). Additional information was obtained through the online databases of Tropicos (https://tropicos.org/home?langid=66), GBIF (https://www.gbif.org/es/), and iNaturalist (https://www.inaturalist.org). A distribution map of the new species was prepared with the occurrence data. Records lacking geographic coordinates were georeferenced using Google Earth (https://earth.google.com/web/). The point data were superimposed on a digital elevation model of South America using the software QGIS 3.34 (QGIS, 2024) showing the localities where the specimens were collected.

The terminology for vegetative and reproductive structures used here follows Luer (2006) and Karremans *et al.* (2016), with the exception for the caulinar structure bearing the leaf and inflorescence. In this case we opted by stem instead of ramicaul, in line with Solano (2015).

Taxonomy

Specklinia bretannensis Edquén, Enco & Yrigoín, *sp. nov.* (Figures 1–2).

Type:—PERU. Loreto: Distrito de Puinahua, provincia de Requena, Comunidad Bretaña, 109–115 m, 1 September 2023, *J. D. Edquén-Oblitas & M. Enco-Calderón 7132* (holotype: KUELAP-333!).

Similar to *Specklinia grobyi*, from which differs in its elliptic-oblanceolate to elliptic-obovate leaves (*vs.* obovate leaves), secund, ascendent flowers (*vs.* distichous, perpendicular to the rachis), dorsal sepal ovate, thickened at the apex (*vs.* lanceolate, not thickened at the apex), synsepal oblong-elliptic (*vs.* oblong-obovate), petals asymmetrically oblanceolate-spathulate, acute (*vs.* lanceolate, acuminate), lip oblong-obovate, almost three times longer than wide (*vs.* oblong-ligulate, almost twice as long as wide).

Description:—Caespitose, erect to ascendent *herb*, up to 4.0 cm tall, excluding the inflorescence; roots 0.5–0.7 mm in diameter; rhizome 0.8–1.0 mm long. *Stems* 3.0–9.0 × 0.6–0.9 mm, with two internodes, concealed by scarious sheaths, 3.5–8.0 mm long, with an annulus near the base of the upper internode. *Leaves* 9.0–20.0 × 5.5–9.0 mm, elliptic-oblanceolate to elliptic-obovate, obtuse, 2-lobed and mucronate at the apex (the mucron 0.3-0.4 mm long), marginate, coriaceous, biconvex, longitudinally sulcate along the midvein adaxially, glabrous, olive green to yellowish green, abaxially suffused with purple, abruptly attenuated into a petiole 3.0–11.0 × 0.5–1.3 mm. *Inflorescence* 4.5–6.0 cm long, racemose, arising from the annulus, erect, glabrous; spathaceous bract 1.0–1.5 mm long; peduncle filiform, longer than the leaf, 2.5–4.0 cm long, purple, with 2 tubular-infundibuliform bracts, oblique, acute, membranaceous, 0.6–1.4 mm long, hyaline and somewhat suffused with purple; rachis 1.0–1.6 cm long, with 2–5 secund, ascendent, simultaneous flowers. *Floral bracts* 1.0–1.5 mm long, obliquely tubular-infundibuliform, obtuse, shortly apiculate, membranaceous, glabrous, hyaline and somewhat suffused with purple. *Ovary* 0.6–1.5 × 0.3–0.5 mm, obconical, trigonous, yellow suffused with red; *pedicel* 1.0–1.8 mm long, greenish yellow to purple. *Flowers* bilabiate, hyaline, 4.0–5.0 × 2.5–3.0 mm; sepals greenish-yellow, dark yellow or cream, petals greenish yellow, striped with dark yellow along the midvein, lip yellow, striped with red along the lateral veins, column white, foot yellow, anther white. *Sepals* concave, abaxially carinate along the veins, marginally cellular-papillose; *dorsal sepal* 3.8–4.5 × 1.8–2.3 mm, ovate, acute, 3-veined, thickened and glandular-papillose toward the apex, *lateral sepals* fully fused into an oblong-lanceolate, obtuse, shortly bilobed synsepal, the latter 4.0–5.0 × 1.8–2.4 mm, 4–veined, thickened and glandular-papillose towards the apex. *Petals* 1.4–2.0 × 0.4–0.7 mm, obliquely oblanceolate-spathulate, acute, 1-veined, with the margin closer to the lip broadly rounded and dilated. *Lip* 1.0–1.6 × 0.5–0.9 mm, fleshy, lamina oblong-obovate, rounded, slightly pandurate, 3-veined, glandular-papillose, sulcate along the middle, with a pair of submarginal and longitudinal thickenings for ¾ of its length, with a depression near the apex (somewhat similar to a glenion), shortly channeled at the basal part on the midvein. *Column* 1.4–1.8 × 0.5–0.8 mm, slightly arcuate, ventrally concave with two vertical, broad, entire wings, these 0.5 mm long, apically bidentate, acute and falcate; clinandrium ovate; column foot 1.0–1.5 × 0.3–0.4 mm, fleshy, incurved, with two hemispherical, thickened, papillose calli near the base; *stigmatic cavity* ventral, 0.3 × 0.4 mm, semi-orbicular; rostellum laminar, oblong. *Anther* ventral, 0.3–0.4 mm long, elliptic-obovoid. *Pollinia* 2, 0.2 mm long, elliptic-obovoid, yellow, without caudicles nor viscidium. *Capsule* not seen.

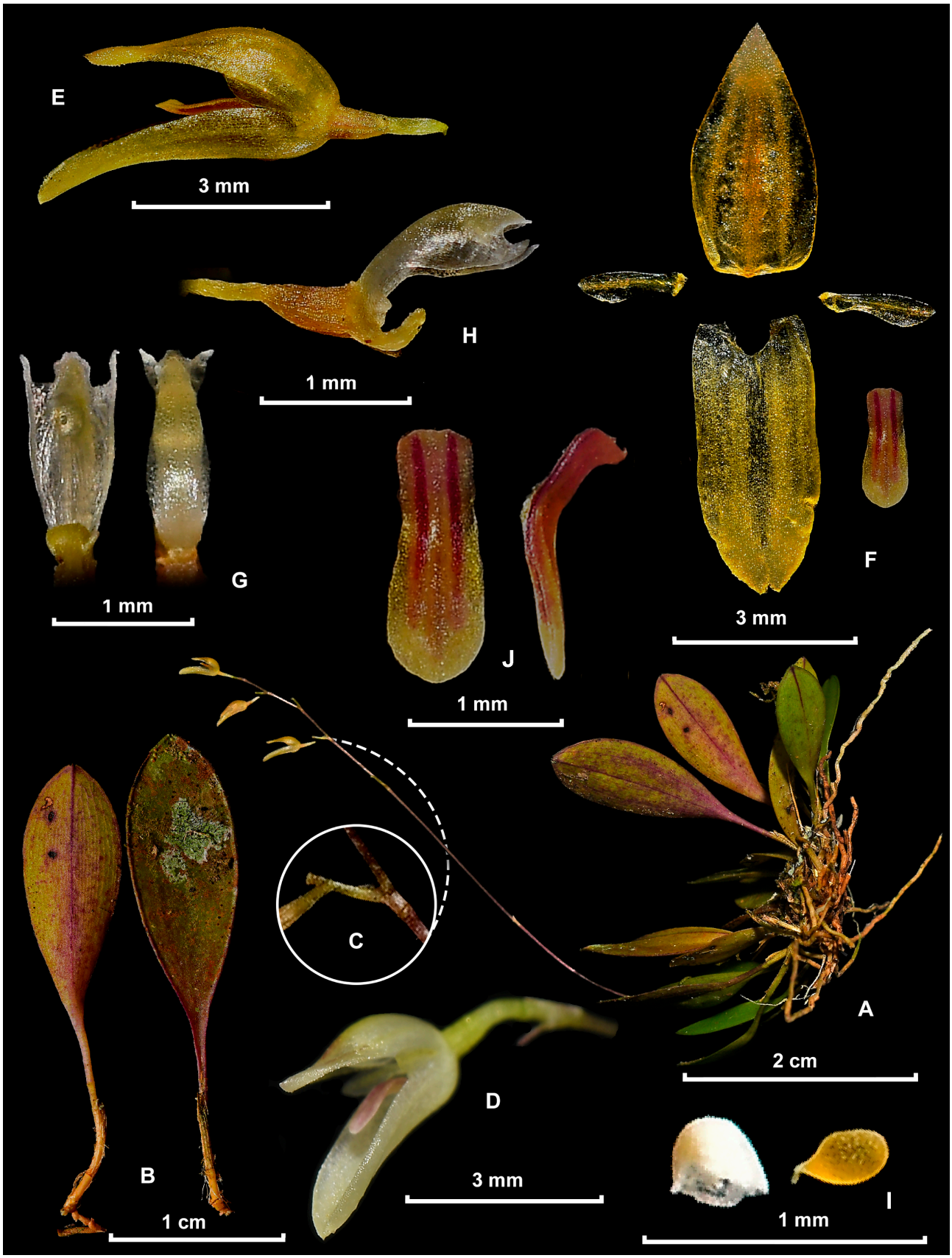

FIGURE 1. Lankester composite digital plate of *Specklinia bretannensis* Edquén, Enco & Yrigoín. **A.** Habit. **B.** Leaf with stem, abaxial and adaxial views. **C.** Pedicel and floral bract. **D.** Flower, ¾ view. **E.** Flower, lateral view. **F.** Dissected perianth. **G.** Column, ventral and dorsal views. **H.** Column and ovary, lateral view. **I.** Anther cap and a pollinium. **J.** Lip, frontal and lateral views. Photographs by J.D. Edquén from the type specimen, plate by E. Yrigoín and R. Solano.

FIGURE 2. *Specklinia bretannensis* Edquén, Enco & Yrigoín. Photograph by J.D. Edquén from the type specimen.

Distribution and ecology:—So far, this species is known only from the western Amazonian region, Brazil (Amazonas), Colombia (Amazonas, Vaupes, and Vichada), Ecuador (Sucumbíos), and Peru (Amazonas and Loreto) (Figure 3). The region of Peru where the species occurs is recognized for its rich biodiversity, especially within the Amazon rainforest.

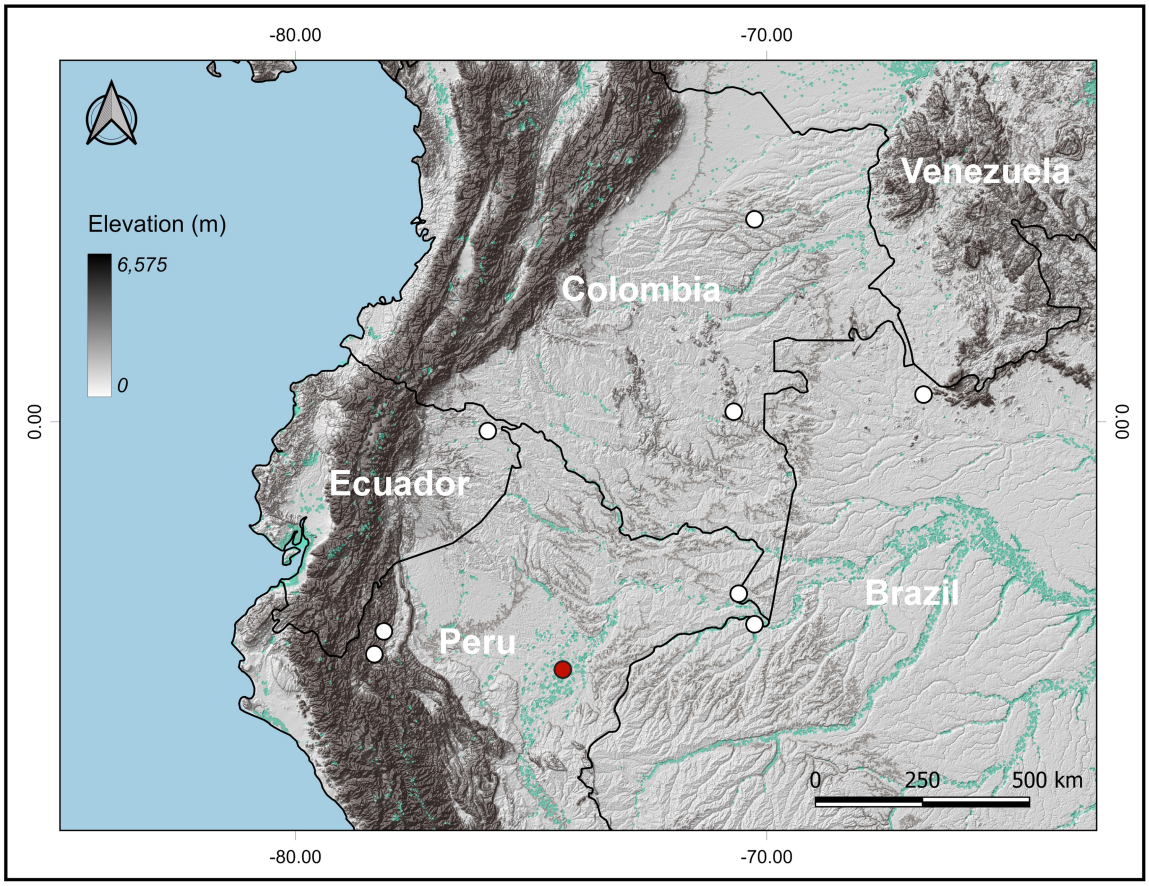

FIGURE 3. Distribution map of *Specklinia bretannensis* Edquén, Enco & Yrigoín. The red dot indicates the type locality, while the white dots indicate the other known localities for the species. Map by E. Licona.

Epiphyte on stems of *Ficus trigona* Linneaus f. (1782: 441), locally known as renaco, and on decaying wood of fallen branches and logs in the interior of the flooded alluvial forest between 90 and 610 m elevation. The area is characterized by a thick layer of organic matter, including leaf litter, fallen logs, and decaying wood, which can be submerged during the rainy season. The area is dominated by tall trees (Figure 4). *Specklinia bretannensis* was found growing with other orchids, such as *Epidendrum musciferum* Lindley (1834: 6), and species of *Camaridium* Lindley (1824: t. 844), *Ornithocephalus* Hooker (1824a: t. 127), *Polystachya* Hooker (1824b: t. 103), and *Prosthechea* Knowles & Westcott (1838: 111-112).

The species was observed flowering in the middle of September, but it probably flowers from August to October, during the dry season.

Etymology:—The specific epithet refers to the community of Bretaña, in the department of Loreto, Peru, where the species was discovered.

Conservation status:—Study of herbarium material of the genus *Specklinia* allowed us the identification of additional specimens of *Specklinia bretannensis* collected in the western Amazonian region of Brazil, Colombia, and Ecuador, which had been mistaken for *S. grobyi*. Hence, the new species has a wide distribution, but other than at the type locality, the conservation status of its populations is unknown. In the type locality, the species is locally abundant, with many clumps of 10–100 individuals in an area of about 500 m². We suggest the category of Data Deficient, according to the IUCN Standards and Petitions Committee (2019), until further field studies over its distribution area permit a more objective assessment of its risk status.

FIGURE 4. Habitat of *Specklinia bretannensis* Edquén, Enco & Yrigoín in the type locality. **A–C, F.** Overall aspect of the understory. **D–E, G.** *Specklinia bretannensis in situ*. Photographs by José D. Edquén; plate by Elmer Yrigoín.

Specimens examined:—BRAZIL. Amazonas: Upper Rio Negro basin, Rio Dimití, at base, Serra Dimití, 90 m, 12-19 May 1948, *R.E. Schultes & F. López 10018B* (GH!). COLOMBIA. Amazonas: Trapecio Amazónico, Loretoyacu River, 100 m, 1944, *R.E. Schultes 6328* (AMES!, GH!); Trapecio Amazónico, Loretoyacu River, about 100 m, October 1945, *R.E. Schultes 6825* (GH!); Vaupés: Río Apaporis, Cachivera de Jirijirimo y alrededores, 250 m, *R.E. Schultes & I. Cabrera 14065* (MO!); Vichada: forest along Rio Vichada, near San José de Ocune, 100 m, 03 May 1939, *O. Haught 2802* (AMES!). PERU. Amazonas: Bagua province, Imaza district, comunidad de Yamayakat, Quebrada Kusu-Chapi, 550 m, February 1995, *R. Vásquez, N. Jaramillo, R. Apanu & R. Kugkumas 19569* (MO!); comunidad de Yamayakat, Quebrada Kusu-Chapi, 550 m, February 1995, *R. Vásquez, N. Jaramillo, R. Apanu & R. Kugkumas 20063* (MO!); comunidad de Yamayakat, Quebrada Kusu-Chapi, 550 m, February 1995, *R. Vásquez, N. Jaramillo, R. Apanu & R. Kugkumas 20075* (MO!); Yamayakat, 340 m, 07 October 1995, *N. Jaramillo & N. Katio 804* (MO!); Condorcanqui province, Rio Cenepa region, trailside east of Huampami, along creek flowing into Nahim, which runs into Huampami Creek, 610 m, 27 November 1972, *B. Berlin 399* (MO!); Loreto: Loreto, Nauta district, Parimari, Reserva Natural Pacaya-Samiria, Yanayacu River, Fariña sua, 95 m, 10 November 1992, *C. del Carpio, O. Tovar & J. Ruiz 1699* (MO!).

iNaturalist observations:—ECUADOR. **Sucumbíos**: Cuyabeno, Reserva de Protección de Fauna Cuyabeno, 220 m, 27 March 2024, *LostinCR* (https://mexico.inaturalist.org/observations/208629027; accessed 20 October 2024]).

Taxonomic discussion:—*Specklinia bretannensis* has been confused in herbaria with *Specklinia grobyi* or one of its nomenclatural synonyms. Luer (2006) considered that the *Specklinia grobyi* complex consists of two variable and intermingled taxa, representing the most widespread species within Pleurothallidinae, ranging from near the sea level up to 2,500 m of elevation, with populations occurring in different biogeographical regions, each with distinct environmental characteristics. Bellone and Archila (2013) considered *S. picta* as a morphogroup, a name encompassing several morphologically similar species, including some more closely related to *S. grobyi*. However, those authors did not attempt to clarify the members of this group, instead limiting themselves to proposing a new species, *S. succulenta* Bellone & Archila (2013: 86).

Specklinia bretannensis is recognizable by its elliptic-oblanceolate to elliptic-obovate, obtuse leaves, the inflorescence up to 3 times longer than the length of the leaf, with ascendent, lax, secund, yellow with red stripes flowers, the ovate and acute dorsal sepal, oblong-lanceolate and the obtuse synsepal longer than the dorsal one, with thickened and glandular-papillose apices of the sepals, the asymmetrically oblanceolate-spathulate petals, oblong-obovate and the rounded lip (Figures 1 and 2).

In the present paper, five species of the *S. grobyi* complex occurring in western South America, across Bolivia, Brazil, Colombia, Ecuador, and Peru, that show morphological similarities with *S. bretannensis*, are discussed. These species are *S. crepidophylla*, *S. densifolia*, *S. florulenta*, *S. grobyi*, and *S. picta*. Table 1 presents a comparative summary of the key morphological traits that distinguish them.

Specklinia grobyi can be interpreted based on the description and illustration of the species (Fig. 5) published by Lindley (1835a: tab. 1797). No herbarium specimen exists at K for the plant imported by Bateman and cultivated by Lord Grey of Groby. However, Lindley explicitly referred to the watercolor in tabula 1797, in which the species was described. According to Article 9.1 and Note 1 of the Shenzhen Code (Turland *et al.* 2018), this watercolor is considered here the holotype of *Pleurothallis grobyi*.

This species is characterized as a caespitose plant with abbreviated stems; spathulate-obovate, rounded, emarginate leaves, tapering towards the base into a petiole; racemose inflorescence, nearly three times longer than the leaf, peduncle longer than the leaf, rachis bearing up to 8 loose, distichous and simultaneous flowers, perpendicular to the rachis; pedicel shorter than the flower's length; sepals yellow, red striped along the veins, dorsal sepal lanceolate, acute, the lateral sepals fused into an oblong-lanceolate, acute synsepal; petals lanceolate, acuminate, lip longer than the petals, oblong, rounded, nearly twice as long as wide; column with a pair of columnar calli at the base of the foot. The description of *Specklinia grobyi* in Luer (2006) was based on specimens representing two different species. One of them may correspond to the description presented above, while the other is more similar to *S. picta* or a closely allied species. As a result, Luer's description mixed different taxa, reinforcing the perception that the name *S. grobyi* is a morphologically variable entity distributed throughout the Neotropics.

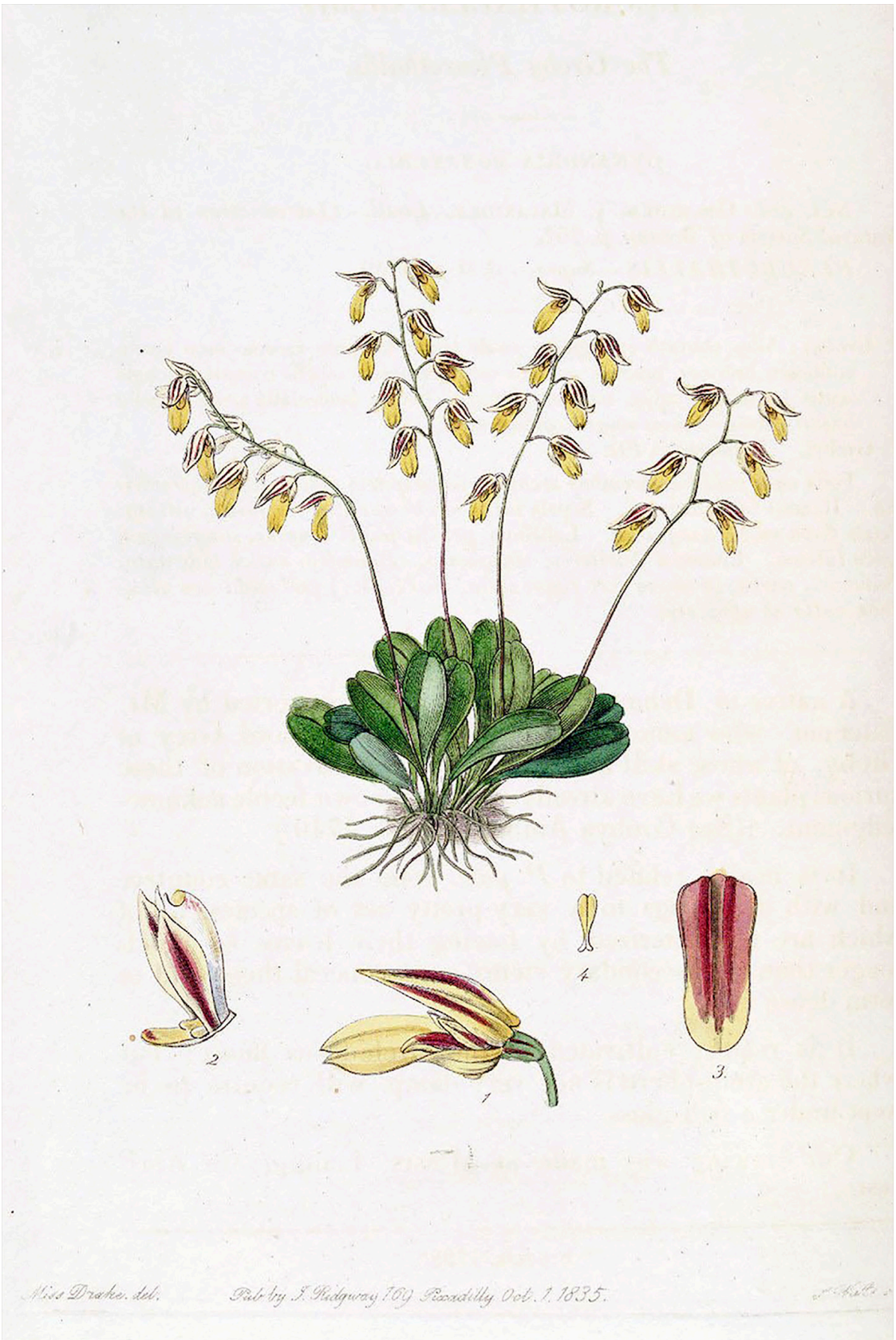

FIGURE 5. Watercolor of *Pleurothallis grobyi* Bateman ex Lindl., published in *Edwards's Botanical Register* 21: t. 1797 (Lindley 1835a).

TABLE 1. Comparison of Specklinia bretannensis and morphologically similar species.

Trait	*S. bretannensis*	*S. crepidophylla*	*S. densifolia*	*S. florulenta*	*S. grobyi*	*S. picta*
Leaf	Elliptic-oblanceolate to elliptic-obovate, obtuse	Elliptic to obovate-elliptic, obtuse	Linear-oblanceolate rounded	Linear, rounded	Obovate-spathulate, rounded	Linear-oblanceolate obtuse
Base of the leaf	Abruptly attenuated into a distinct petiole	Abruptly attenuated into a distinct petiole	Attenuated into a short indistinguishable petiole	Gradually attenuated into a long indistinguishable petiole	Abruptly attenuated into a distinct petiole	Attenuated into an indistinguishable petiole
Raceme	With up to 5 secund, simultaneous, ascendent flowers	With up to 6 secund, simultaneous, ascendent flowers	With up to 9 distichous, simultaneous flowers, perpendicular to the rachis	With up to 10 distichous, simultaneous, erect flowers	With up to 8 distichous, simultaneous flowers, perpendicular to the rachis	With up to 16 distichous, simultaneous, erect flowers
Peduncle	Longer than the leaf	Slightly longer than the leaf	Equal to or slightly longer than the leaf	As long or shorter than the leaf	Longer than the leaf	Equal to or slightly shorter than the leaf
Pedicel	Shorter than the flower's length	Shorter than the flower's length	Longer than the flower's length	As long as the flower's length	Shorter than the flower's length	Shorter than the flower's length
Flowers	Yellow to dark yellow	Yellow with red stripes	Yellow, concolorous	Yellow, concolorous	Yellow with red stripes	Yellow with red stripes
Dorsal sepal	Ovate, acute	Oblong-elliptic, acute	Ovate-lanceolate, acuminate	Lanceolate, acuminate	Ovate, acute	Lanceolate, acuminate
Synsepal	Oblong-lanceolate, obtuse	Elliptical, acute	Ovate-lanceolate, acuminate	Lanceolate, acuminate	Oblong-lanceolate, acute	Lanceolate, acuminate
Petals	Asymmetric oblanceolate-spathulate, acute	Lanceolate, falcate, obtuse	Obovate-oblong, obtuse	Obliquely obovate-spathulate, rounded	Lanceolate, acuminate	Linear-oblanceolate, acute
Lip	Oblong-obovate, rounded	Oblong, obtuse	Oblong, obtuse	Oval to elliptic, rounded	Oblong, rounded	Oblong, rounded

Specklinia picta (Figure 6) is also highly variable and widely distributed in South America. It probably is a complex of species that is not well understood. However, it is easily distinguishable from *S. bretannensis* as can be seen in Table 1. The type specimen of *Pleurothallis picta* and the illustration based on it, housed at K (Fig. 7), along with its description (Lindley 1835b: tab. 1825), help to interpreted *S. picta*. This species is characterized by its caespitose habit with abbreviated stems; linear-oblanceolate, obtuse, emarginate leaves that taper long toward the base into a petiole indistinct from the lamina; racemose inflorescence, nearly twice as long as the leaf, peduncle equal to or slightly shorter than the leaf, rachis bearing up to 16 loose, simultaneous, distichous, erect flowers; pedicel shorter than the flower's length; dorsal sepal and synsepal yellow or yellowish-white with red stripes along the veins, lanceolate, acuminate; petals asymmetrically linear-oblanceolate, acute; lip is as long as the column, oblong, rounded, nearly three times as long as wide; column with a pair of columnar calli at the base of the foot.

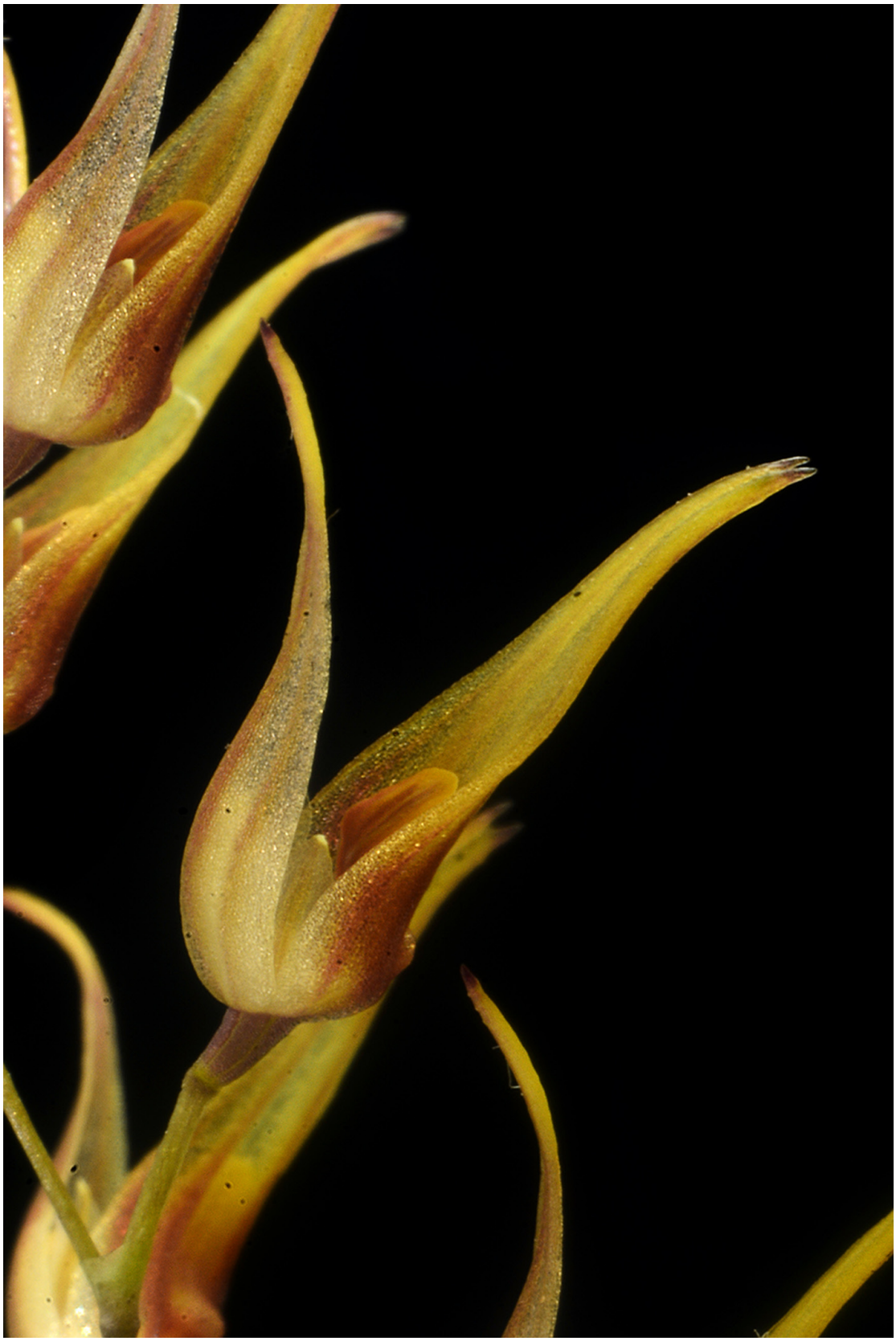

FIGURE 6. *Specklinia picta* (Lindl.) Pridgeon & M.W.Chase. Photograph by B.J. Zambrano, based in *B.J. Zamrano s.n.*, from Chinchipe, Zamora-Chinchipe, Ecuador.

FIGURE 7. A. Watercolor of *Pleurothallis picta* Lindl., published in *Edwards's Botanical Register* 21: t. 1825 (Lindley, 1835b).

New combinations

1. *Specklinia crepidophylla* (Rchb.f.) Solano & Licona, *comb. nov.*

≡*Pleurothallis crepidophylla* Reichenbach (1878: 18).

≡*Humboltia crepidophylla* (Rchb.f.) Kuntze (1891: 667).

Type:—ECUADOR: Chimborazo: Alausí, río Chimbo, 700 ft, "an Baumstämmen. April 1877. 700 ft". *F.C. Lehmann s.n.* (holotype: W-0049043 [include an analytical drawing of the flower]! (Figure 8).

Taxonomic discussion:—According to Reichenbach (1878), *Specklinia crepidophylla* (Figure 9) is characterized by its caespitose habit with abbreviated stems; elliptic to obovate-elliptic, obtuse, margined leaves, purplish or green and tinged with purple, abruptly tapering at the base into a short petiole; racemose inflorescence, up to twice the length of the leaf, erect, peduncle slightly longer than the leaf; with up to 6 secund, simultaneous, ascendent flowers, pedicel shorter than the flower's length, sepals yellow with red stripes along the veins; dorsal sepal oblong-elliptic, acute, the lateral ones fused into an elliptic, acute synsepal, shortly 2-lobed; petals lanceolate, falcate, obtuse; lip oblong, obtuse.

Distribution:—Ecuador.

Specimens examined:—ECUADOR. Azuay: Cordillera de Molleturo, above río Shumiral, 650 m, 27 January 1992, *Luer et al. 16190* (MO!); El Oro: Cantón Pasaje, pasando el control Quera, vía a Chilla, 200-300 m, 05 May 2015, *Zambrano B. s.n.* (QCNE!); Esmeraldas: Epiphytic in forest west of Lita, 300 m, 12 January 1992, *C. Luer, A. & X. Hirtz, P. & A. Jesup, M. Evans & J. del Hierro 15573* (MO!).

2. *Specklinia densifolia* (Rolfe) Solano, Licona & Edquén, *comb. nov.*

≡*Pleurothallis densifolia* Rolfe (1895: 260).

Type:—BOLIVIA: Yungas, 1890, *M. Bang 216* [lectotype, here designated: GH-74200!; isolectotypes: BR-6585990!, MICH-1655586! MO-1183156! (Figure 10), NY-9225!, NY-9226!, PH-00030689! PH-00030690!, US-00093632].

Taxonomic discussion:—In the protologue, Rolfe (1895) mentioned Miguel Bang's collection number 216. However, since this collection has several syntypes housed in different herbaria, it is necessary to designate a lectotype and some isolectotypes, as proposed above.

According to Rolfe (1895) *S. densifolia* is characterized by its densely caespitose habit with abbreviated stems; linear-oblanceolate, rounded leaves that gradually tapering toward the base into a petiole indistinguishable from the lamina; racemose inflorescence, up to 2.5 times longer than the leaf; peduncle longer than the leaf, somewhat zig-zag rachis; with up to 9 distichous, simultaneous yellow, concolorous flowers, ascendent; pedicels spaced along the rachis and longer than both the flower and ovary combined; dorsal sepal ovate-lanceolate, acuminate-caudate; the lateral sepals fully fused, similar in shape to the dorsal but longer; petals obovate-oblong, obtuse and lip oblong, obtuse; column smaller than the petals.

Distribution:—Bolivia.

3. *Specklinia florulenta* (Linden & Rchb.f.) Pridgeon & Chase (2001:257).

≡*Pleurothallis florulenta* Linden & Reichenbach (in Reichenbach 1855: 223)

≡*Humboltia florulenta* (Linden & Rchb.f.) Kuntze (1891: 667).

Type:—COLOMBIA: Neu Granada, von Herrn Director Linden eingeführt und cultivirt, *J.J. Linden 55* [holotype: W-0049044 [include an analytical drawing of the flower]!; isotypes: AMES-00074259!, AMES-00074260! (Figure 11)].

Taxonomic discussion:—According to Linden & Reichenbach (1855), *S. florulenta* is characterized by its caespitose habit; linear, acute leaves that gradually taper toward the base into a long petiole indistinct to the leaf blade; racemose inflorescence, longer than the leaf, with a peduncle as long or shorter than the leaf; rachis with up to 10 distichous, simultaneous, yellowish, concolorous, erect flowers; pedicels spaced along the rachis and as long as the flower; dorsal sepal lanceolate, acuminate, synsepal similar in form and size to the dorsal one; petals obliquely obovate-spathulate, rounded, and lip oval to elliptic, rounded.

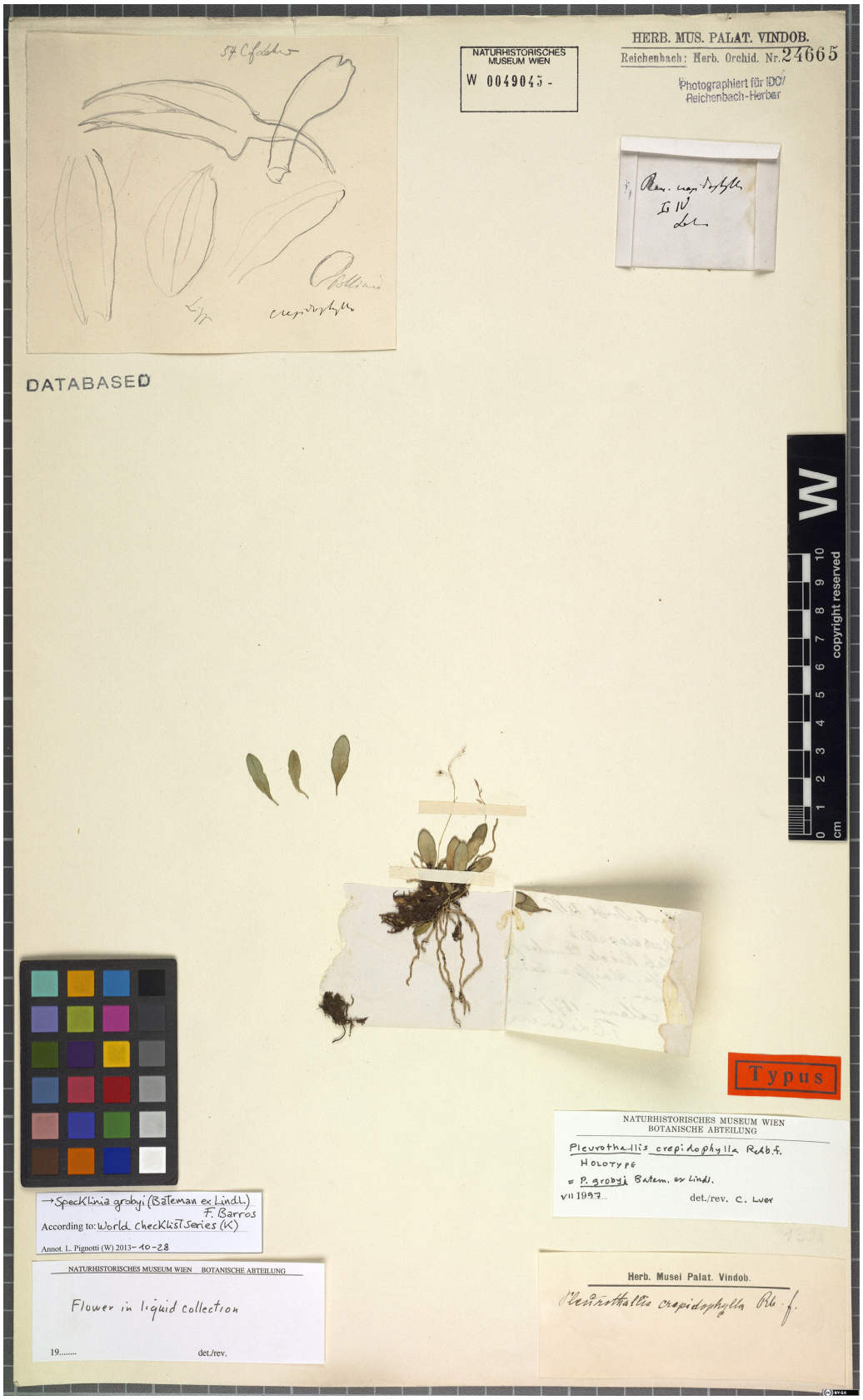

FIGURE 8. Holotype of *Pleurothallis crepidophylla* Rchb.f., *F.C. Lehmann s.n.* (W-0049043). Reproduction with permission of Naturhistorisches Museum Wien.

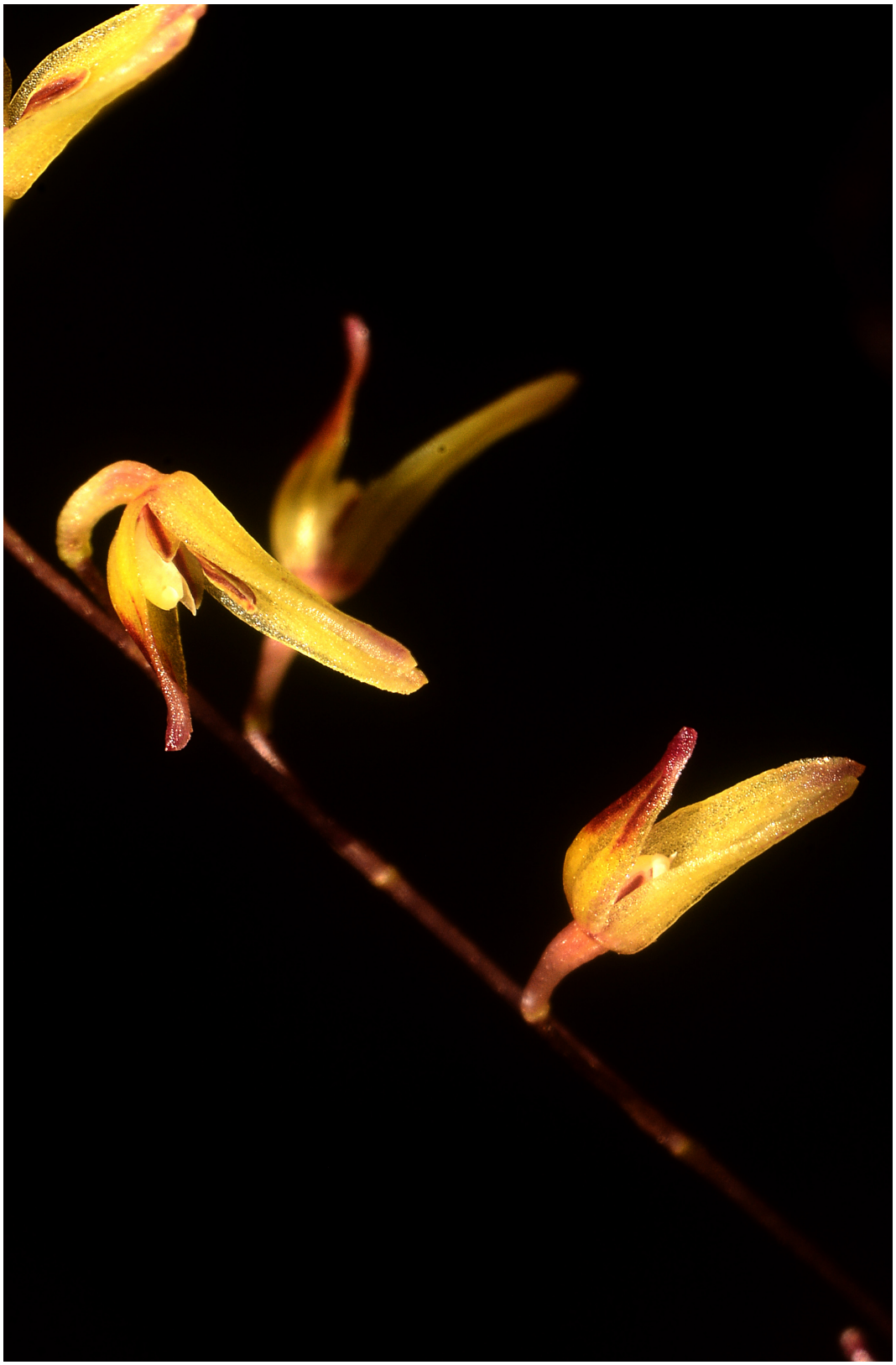

FIGURE 9. *Specklinia crepidophylla* (Rchb.f.) Solano & Licona. Photograph by B.J. Zambrano based in *B.J. Zambrano s.n.*, from Pasaje, El Oro, Ecuador.

FIGURE 10. Isolectotype of *Pleurothallis densifolia* Rolfe, *M. Bang 216* (MO-1183156). Reproduction with permission of Missouri Botanical Garden.

FIGURE 11. Isotype of *Pleurothallis florulenta* Linden & Rchb.f., *J.J. Linden 55* (AMES-00074260). Reproduction with permission of Harvard University.

Although the basonym of this was transferred to *Specklinia* by Pridgeon & Chase (2001), some authors (Govaerts 2004, Luer 2005, Bogarín *et al*. 2014, Luer 2023) have continued considering it conspecific with *S. picta*, or its nomenclatural synonym, *P. picta*. Here, we consider these names as representing distinct taxa, which can be differentiated based on the morphological traits compared in Table 1.

Distribution:—Colombia.

Specimens examined:**—**COLOMBIA. Unknown locality, cultivated by Amelia Lehmann de Sarria in Popayan, 25 July 1978, *C.A. Luer 3004* (SEL!); cultivated by Amelia Lehmann de Sarria in Popayan, 16 November 1982, *C.A. Luer 8441* (SEL [juvenile specimen]!), *C.A. Luer 8442* (SEL!).

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