

VALIDATION OF TWO NAMES AND THE DESCRIPTION OF A NEW SPECIES OF *FREZIERA* (PENTAPHYLACACEAE) FROM THE PERUVIAN ANDES

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Abstract. Three species of *Freziera* from Peru are described and illustrated, including a discussion of their distinguishing characters and affinities to other closely related species. The names of two of these species, *F. cyanocantha* and *F. incana*, were proposed by A. L. Weitzman in herbarium annotations in 1990.

Resumen. Se describen e ilustran tres nuevas especies de *Freziera* de Perú, se discuten sus posibles relaciones y caracteres distintivos entre las especies más cercanamente relacionadas. Los nombres de dos de estas especies, *Freziera cyanocantha* y *F. incana*, fueron propuestos por A. L. Weitzman en anotaciones de herbario en 1990.

Keywords: Andes, Peru, Theaceae, Yanachaga-Chemillén

The present paper validates the names *Freziera cyanocantha* and *F. incana*, first proposed by A. L. Weitzman on herbarium sheets in 1990 but never formally published. An additional Peruvian new species, *F. oxapampensis*, is also described.

Twelve species of *Freziera* Willd. were reported in the Catalog of the Flowering Plants and Gymnosperms of Peru (van der Werff, 1993). With the addition of the three species described here and elsewhere (Santamaría-Aguilar and Lagomarsino, in press), *Freziera* is represented by 16 formally described species in Peru.

TAXONOMY

Freziera cyanocantha A. L. Weitzman ex D. Santam., *sp. nov.* TYPE. PERU. Pasco: Oxapampa, Cordillera Yanachaga: Cerro Pajonal “chacos,” 12 km SE of Oxapampa. Shrubland on white sandstone, spongy sphagnum humus up to 2 m deep except where burned, 10°35'S, 075°20'W, 2700–2800 m, 07 October 1982 (bud fl, fr), *R. B. Foster 9046* (Holotype: MO [3012790]; Isotypes: F [1961946], MEX [608111-digital image], MO [3891057], USM [69535]). Fig. 1–2.

Shrubs 1–2 m tall; external and internal bark undescribed. Mature branches cylindrical, the outer bark grayish, longitudinally striate, not lenticellate, glabrous; leaf-bearing branches weakly angulate and flattened, densely arachnoid-villous, trichomes ferruginous or grayish, ca. 0.2–0.5 mm long, inconspicuously papillate, barely lenticellate, the lenticels reddish-brown or whitish-gray, elliptical or rounded. *Terminal bud* conduplicate-involute 21–32 mm long, densely arachnoid-villous, trichomes ferruginous ca. 0.2–0.6 mm long. *Leaves* petiolate; petiole (0.2–) 0.4–0.7 cm long, adaxially caniculate, abaxially rounded, densely arachnoid-villous, trichomes ferruginous or grayish, ca. 0.3–0.8 mm long, weakly winged, the wings erect, without setae on their margins; colleters absent. *Laminae* 4.7–7.3 × 1.7–2.2 cm, lanceolate-elliptic; base not revolute or weakly revolute, cuneate or subtruncate, both sides equal or one side weakly unequal; apex acute, bearing a single and curved black seta, caducous; margin denticulate or serrate, with 30–50 teeth per side, each tooth with a black, conical,

caducous seta, the seta usually ringed by trichomes; adaxial surface glabrous (except in young leaves), pustulate; abaxial surface densely arachnoid-villous, trichomes ferruginous, ca. 1.0 mm long, not papillate; midrib flat or weakly caniculate, glabrous on adaxial surface, sparsely or densely pubescent, pustulate, rounded and densely arachnoid-villous on abaxial surface, not papillate; lateral veins 15–20 per side, weakly elevated on the adaxial surface, indistinct on the abaxial surface; tertiary veins reticulate and conspicuous on the adaxial surface, indistinct on the abaxial surface. *Inflorescences* fasciculate, bearing 1–3 flowers per axil. *Flowers* pedicellate, pedicel 3.0–6.0 mm long, curved or erect, cylindrical, densely arachnoid-villous; *bracts* 3.5–5.5 × 1.0–1.5 mm, at base of pedicel, persistent, lanceolate or narrowly triangular, carinate, external surface densely arachnoid-villous, internal surface glabrous, margin entire, apex acute or acuminate, with black, curved, caducous seta at apex; *bracteoles* 2, 4.0–5.5 × 3.0–4.0 mm, persistent, opposite or subopposite, at apex of pedicel, weakly unequal, ovate, not carinate, external surface densely arachnoid-villous, internal surface glabrous, margin entire, apex rounded and without seta; *sepals* 5, imbricate; outer sepals 4.0–4.5 × 3.0–3.5 mm, ovate, apex acute or rounded, margin entire and chartaceous, external surface densely arachnoid-villous, internal surface glabrous; inner sepals 3.5–4.5 × 2.5–3.5 mm, ovate, apex acute or rounded, margin entire, ciliate and membranaceous, external surface densely

I would like to thank the directors, curators, and collection managers the following herbaria: A, BM, CAY, CR, F, GH, INB, LPB, LSCR, MO, MOL, NY, PMA, SCZ and USM, for access to their collections, loans, and/or gift material. In addition, I would like to thank the Missouri Botanical Garden and an Elizabeth E. Bascom Grant for supporting a visit to MO, Kanchi Gandhi for nomenclatural advice, the curators and staff in the Harvard University Herbaria for their support and hospitality, Robin Foster and the Field Museum for permission to use images of *F. cyanocantha*, and Laura Lagomarsino for help with English and comments on an earlier draft of this manuscript.

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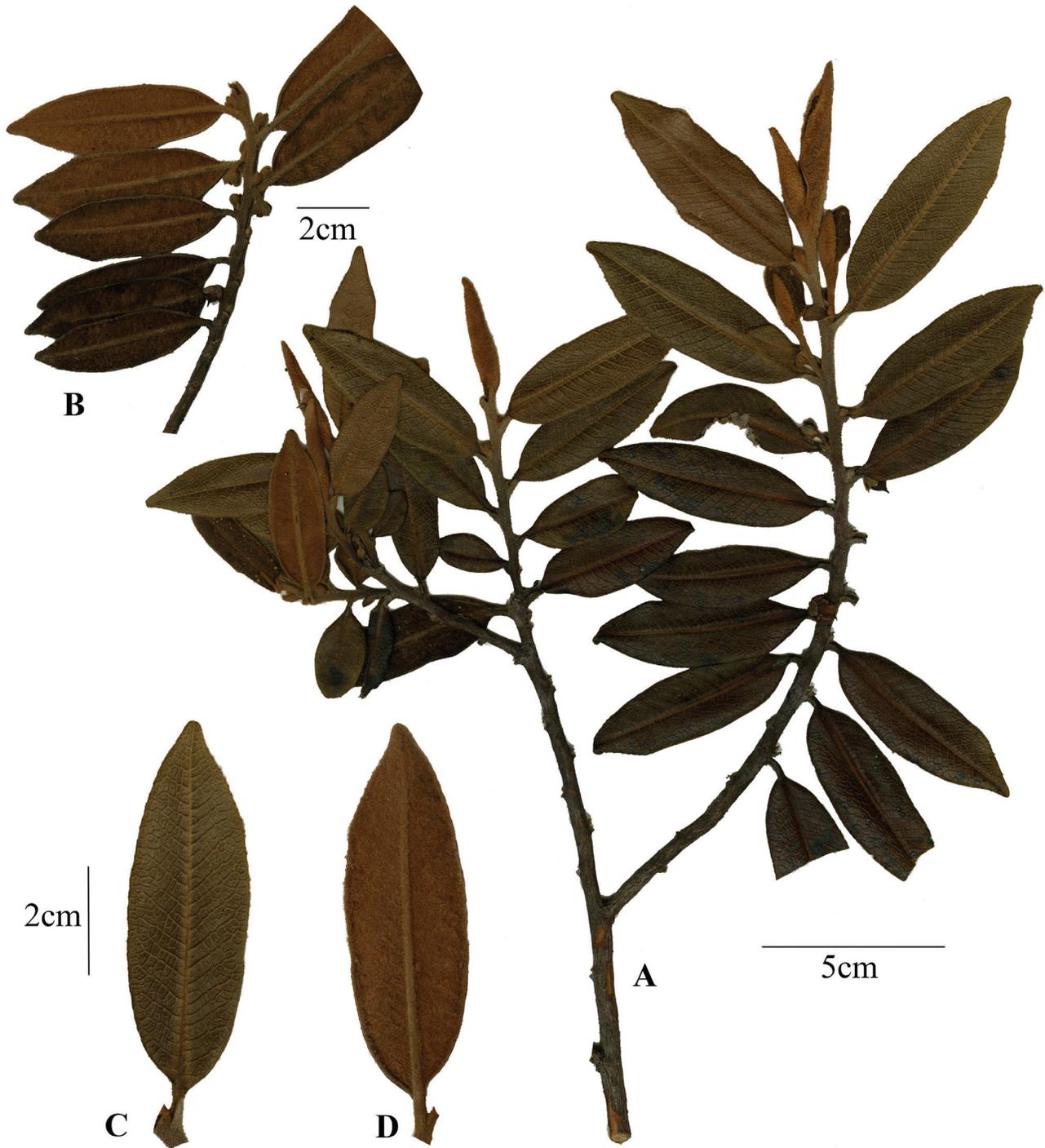


FIGURE 1. *Freziera cyanocantha* A. L. Weitzman ex D. Santam. A, branch with fruits; B, twig with flower bud; C, lamina showing adaxial surface and venation; D, lamina showing abaxial surface. Based on *Vásquez 34510* (GH).

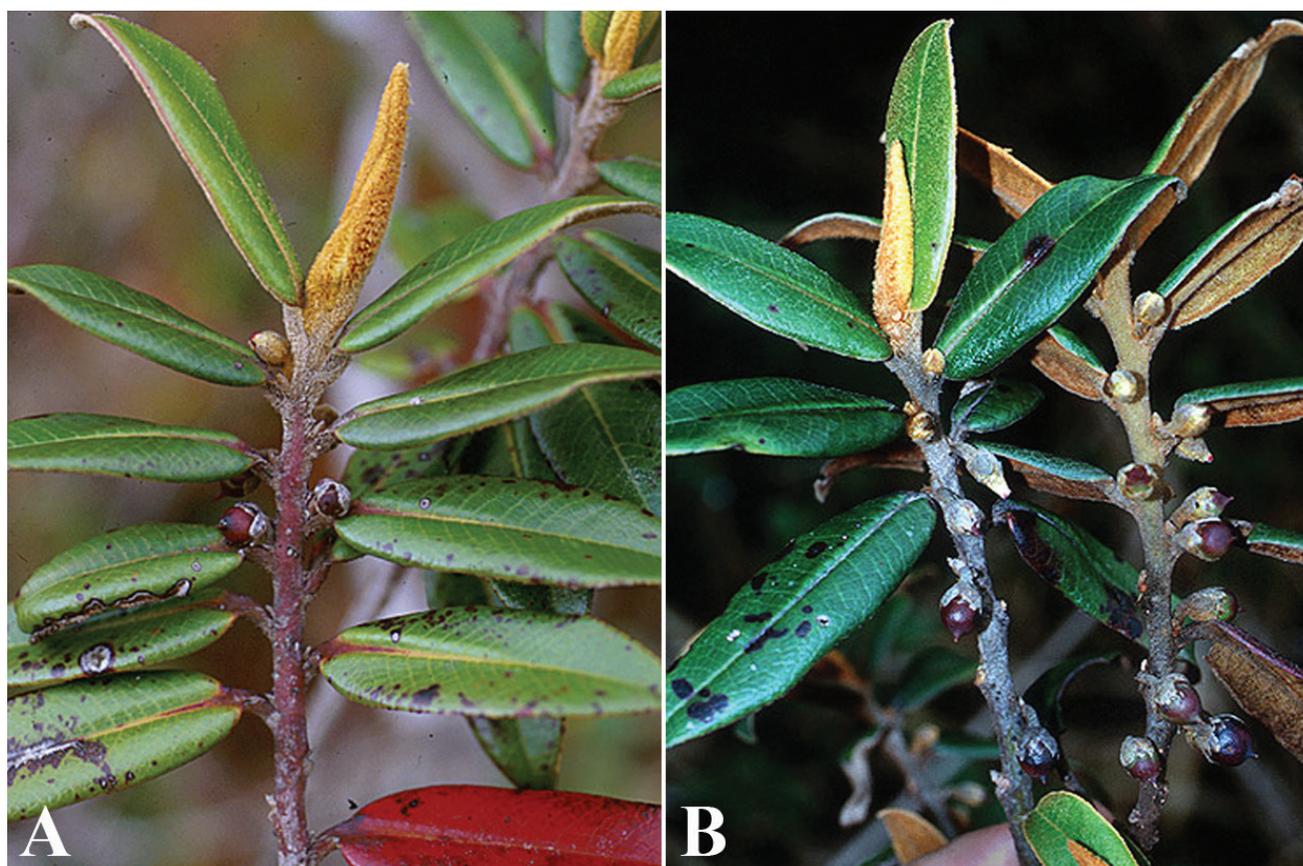


FIGURE 2. *Freziera cyanocantha* A. L. Weitzman ex D. Santam. **A**, branch showing lamina on adaxial surface, terminal bud, and fruits; **B**, branch showing lamina on abaxial surface, flower bud, and mature fruits. Photographs by R. Foster of the isotype at F.

arachnoid-villous or glabrous to the sides, internal surface glabrous; *petals* 5, 5.5–7.0 × 1.5–2.9 mm, white with blue around the margin or cream, free at the base, ovate, margin chartaceous and entire, apex acute or acuminate, glabrous. *Flower bud* 3.0–5.0 mm wide. *Staminate flowers* not observed. *Pistillate flowers*: 14–16 staminodes, 1.0–1.5 mm long, attached to the base of the petals, linear, flat, apex acute; gynoecium 5.0 × 2.0 mm, pyriform, glabrous, 2 or 3-locular; style not separated apically; stigma 2-lobulate. *Fruits* 5.0–8.0 × 3.0–5.0 mm, rounded, green, red or blackish-purple, glabrous; fruit walls ca. 1.0 mm thick; *seeds* 26–46 per fruit, reddish-brown, shiny, ca. 0.7–1.0 mm long, more or less reniform to rounded, foveolate.

Etymology: The specific epithet likely refers to the blue coloration sometimes on the petals. The name was coined by Weitzman (1990: in herbarium), but never validly published.

Distribution and Habitat: *Freziera cyanocantha* is endemic to Peru and is known only in the district of Oxapampa in the Pasco department. It has been collected in primary forest on sandstone soil at ca. 1900 and 2800 m in elevation.

Phenology: Pistillate flowers and fruits were collected in May and October. Staminate flowers unknown.

Additional specimens examined: PERU. Pasco: Oxapampa, from Antenna past Chacos to the Laguna, 10°37'11"S, 075°17'16"W, 2700–2800 m, 05 May 2005

(♀ fl, fr), *H. van der Werff* 19647 (GH, MO); Zona de Amortiguamiento del Parque Nacional Yanachaga-Chemillén, sector Chacos, 10°36'44"S, 075°22'29"W, 1902 m, 13 October 2008 (♀ fl, fr), *R. Vásquez* 34510 (GH-2 sheets, MO, USM).

Freziera cyanocantha is very distinct species in the genus. It is characterized by ferruginous or ferruginous-grayish trichomes; densely arachnoid-villous indument on young branches, abaxial leaf surface and inflorescences; small leaves with lateral and tertiary veins that are conspicuous above and inconspicuous below; and fruits with thick walls. Additionally, it is a small shrub with vegetative parts covered in densely arachnoid-villous pubescence.

The new species is probably related to *F. ferruginea* Wawra, from Peru and *F. canescens* Humb. & Bonpl. f. *rufescens* Kobuski from Ecuador. These three species share small leaves and densely and ferruginous trichomes covering young braches, abaxial leaf surfaces, and inflorescences. The new species differs from both by the lateral and tertiary veins that are abaxially inconspicuous (vs. conspicuous). According to measurements of *F. ferruginea* in Kobuski (1941: 479), *F. ferruginea* differs from *F. cyanocantha* by pedicels to 2.0–4.0 mm long (vs. 3.0–6.0 mm in *F. cyanocantha*), bracteoles ca. 1.0–1.5 mm long (vs. 4.0–5.5 mm), and petals 3.5–4.0 mm long (vs. 5.5–7.0 mm). The new species is further distinguished from *F. canescens*

f. rufescens by the laminae base conspicuously revolute (vs. not revolute in *F. cyanocantha*), external sepals ca. 7.0×5.0 mm (vs. $4.0\text{--}4.5 \times 3.0\text{--}3.5$ mm), and fruits $10\text{--}12 \times 7.0\text{--}9.0$ mm (vs. $6.0\text{--}8.0 \times 5.0\text{--}6.0$ mm). Other species that are densely pubescent with ferruginous trichomes are *F. guatemalensis* (Donn. Sm.) Kobuski, *F. inaequilatera* Britton, and *F. incana* (described here), but all these species have large leaves (between $9.2\text{--}22 \times 3.0\text{--}7.7$ cm) and lateral veins that are generally visible on the abaxial surface.

Freziera incana A. L. Weitzman ex D. Santam., *sp. nov.* TYPE. PERU. Pasco: Oxapampa, Parque Nacional Yanachaga Chemillén, Abra La Esperanza, $10^{\circ}31'S$, $075^{\circ}20'W$, 2800 m, 23 March 2003 (σ bud fl), A. Monteagudo, G. Ortiz, C. Mateo & R. Francis 4770 (Holotype: GH; Isotypes: MO, USM [195866]). Fig. 3.

Small trees 2–7 or trees 10–35 m tall; external bark undescribed; possible internal bark in one instance described as pink. Mature branches cylindrical, the outer bark

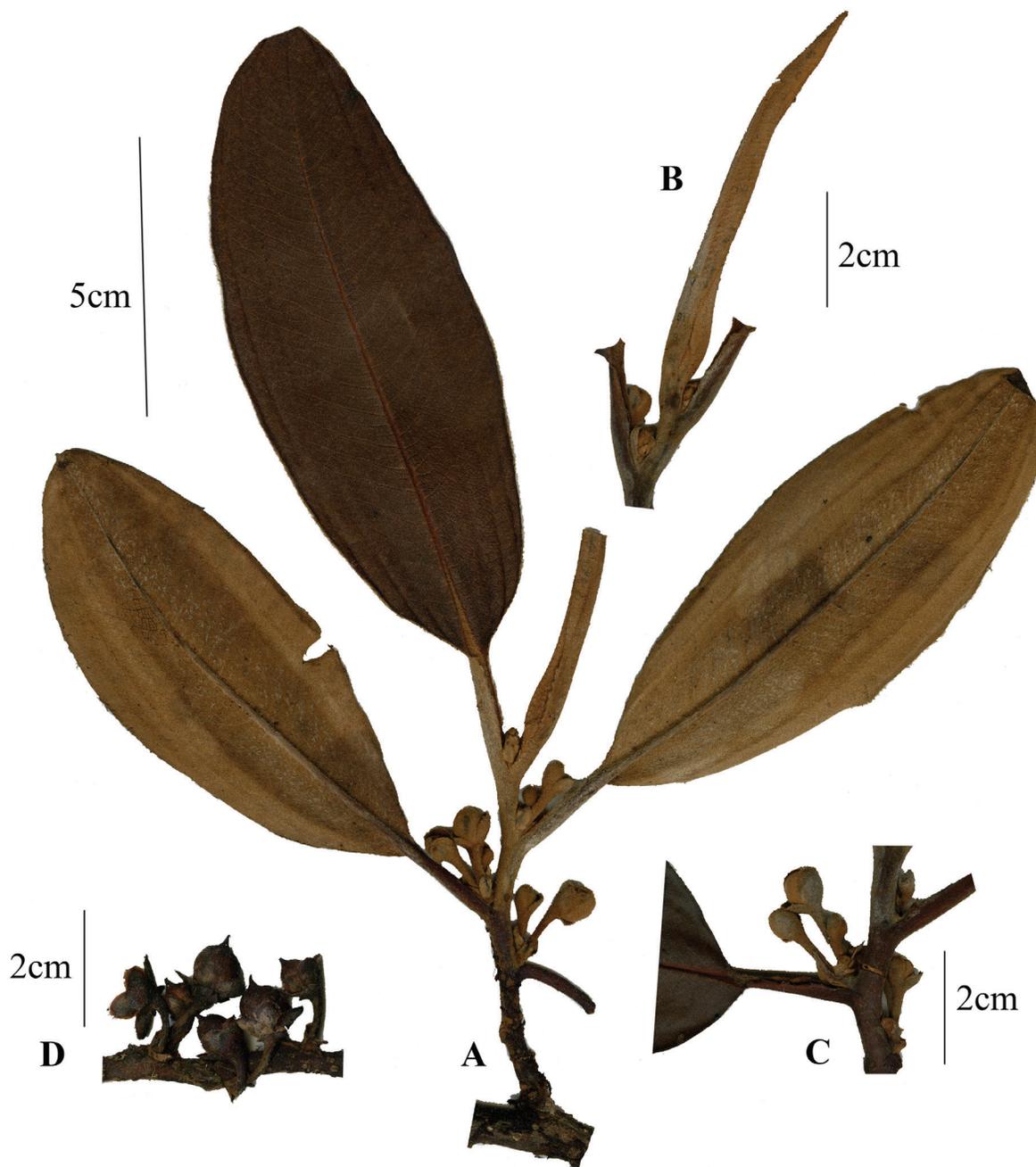


FIGURE 3. *Freziera incana* A. L. Weitzman ex D. Santam. A, branch showing lamina on adaxial and abaxial surface; B, terminal bud; C, lamina base and flower bud; D, fruits. A, based on the holotype; B and C based on Monteagudo *et al.* 12845 (GH); D, based on Vásquez 32017 (GH).

reddish-brown or grayish, longitudinally striate, generally lenticellate; leaf-bearing branches weakly angulate and flattened, generally densely arachnoid-villous, trichomes ferruginous or grayish-white, to 1.2 mm long, papillate, lenticels sparsely or absent, the lenticels, if present, reddish-brown or grayish-white, rounded or elliptical. *Terminal bud* conduplicate-involute 41–77 mm long, densely arachnoid-villous, trichomes ferruginous or whitish-brown, to 1.0 mm long. *Leaves* petiolate; petiole 1.2–2.9 cm long, adaxially caniculate, abaxially more or less rounded, generally densely arachnoid-villous, sometimes glabrescent, trichomes ferruginous or whitish-brown, to 1.0 mm long, weakly winged, the wings erect or involute, with or without setae in their margin, if setae present, black and curved; colleters 1–4 in petiole base or absent. *Laminae* (7.3–) 9.2–18.2 × (3.0–) 3.7–7.7 cm, ovate to elliptic; base cuneate, obtuse, subtruncate or decurrent on the petiole, not revolute, both sides equal or one weakly unequal; apex acuminate, bearing a single and curved black seta, caducous; margin inconspicuously denticulate, with ca. 70–140 teeth per side, each tooth with a black, conical seta, caducous, the seta usually ringed by trichomes or not; adaxial surface glabrous (except in young leaves), pustulate; abaxial surface densely arachnoid-villous, trichomes ferruginous or whitish-brown to 1.5 mm long, not papillate; midrib on adaxial surface caniculate or flat, glabrous or pubescent, pustulate, on abaxial surface rounded to more or less rectangular, densely arachnoid-villous, pustulate; lateral veins 20–45 for side (including some intermediate), flat and impressed on the adaxial surface, elevated on the abaxial surface; tertiary veins reticulate, distinct on both surfaces, generally more conspicuous on the adaxial surface. *Inflorescences* fasciculate, bearing 1–3 (–8; *Sánchez-Vega 6350*) flowers per axil. *Flowers* pedicellate, pedicel 8.0–17 mm long, curved or erect, cylindrical, densely arachnoid-villous; *bracts* 4.0–7.0 (–10–25) × 1.4–2.5 (–5.0–9.0) mm, at the base of pedicel, persistent or caducous, lanceolate or narrowly triangular, carinate or not carinate, external surface densely arachnoid-villous, internal surface glabrous or densely arachnoid-villous, margin entire or with small setae, apex acute with black, curved and caducous seta at apex; *bracteoles* 2, 3.0–7.0 × 5.0–7.0 mm, persistent, opposite or subopposite, at apex of pedicel, unequal, very widely ovate to depressed ovate, carinate or not carinate, external surface generally densely arachnoid-villous, internal surface glabrous, margin entire, apex rounded and without seta; *sepals* 5, imbricate; outer sepals 5.0–9.0 × 5.0–8.0 mm, widely ovate, apex acute or rounded, margin entire and chartaceous, ciliate, external surface generally densely arachnoid-villous or sometimes glabrous towards the margins, internal surface glabrous; inner sepals 5.0–7.0 × 4.0–6.0 mm, similar in shape to the external sepals, apex acute or rounded, margin entire, chartaceous or membranaceous, ciliate, external surface densely arachnoid-villous, sometimes glabrous towards the margins, internal surface glabrous; *petals* 5, 4.0–8.0 × 3.0–5.3 mm, white or cream, free at the base, ovate, margin chartaceous and entire, apex acute or acuminate, glabrous. *Flower bud* 5.0–9.0 mm wide. *Staminate flowers*: 22–26 stamens, free, weakly unequal (sometimes with trichomes

at the base); filaments 1.0–3.0 mm long, more or less flat; anthers 1.0–2.5 mm long, not moniliform, elliptic to oblong, base subcordate, apex acute or apiculate; gynoecium 4.5–6.0 × 2.0–4.0 mm, glabrous or sometimes pubescent, conical, 5-locular; style not separated apically; stigma 2–5-lobulate. *Pistillate flowers*: staminodes absent, sometimes with trichomes at the base; gynoecium 7.0 × 4.0 mm, conical or globose, glabrous or with sparsely trichomes, 5-locular; style not separated apically; stigma 5-lobulate. *Hermaphroditic flowers*: 21–23 stamens, free, weakly unequal; filaments 0.5–2.5 mm long, more or less flat; anthers 0.5–1.0 mm long, not moniliform, elliptic to oblong, base cordate or subcordate, apex acute; gynoecium 3.0–6.0 × 1.2–2.0 mm, glabrous, conical or lanceolate, 3-locular; style not separated apically; stigma 2 or 3-lobulate. *Fruits* 9.0–13 × 6.0–9.0 mm, rounded, green or black, glabrous or pubescent; fruit walls ca. 0.5–1.0 mm thick; *seeds* (3–) 18–47 per fruit, sometimes the seeds absent (*Humán 25*; *Valenzuela 6937*), reddish-brown, pale brown or beige, shiny, ca. 1.0–2.0 mm long, more or less rounded or ovoid, foveolate.

Etymology: The specific epithet possibly refers to the white trichomes on branches, leaves and sepals of the first collection annotated with this name (at least as seen by me in herbaria), *F. Woytkowski, 8004*. The name was coined by Weitzman (1990: in herbarium), but never validly published.

Distribution and Habitat: *Freziera incana* it has been collected in the departments of Cajamarca, Cusco, Huánuco, and Pasco in Peru. The species grows mainly in primary forest and areas cleared by landslides in cloud forest habitats at 1950–3000 m elevation.

Phenology: *Freziera incana* was collected with staminate flowers (bud) in March, August and October, pistillate flowers (bud) in February and June, and in fruit in February, April to June, and October to December.

Additional specimens examined: PERU. **Cajamarca:** Cutervo, Parque Nacional de San Andrés, entre San Andrés y la Pucarilla, siguiendo el camino de herradura, 2250 m, 26 June 1992 (♀ fl?), *I. Sánchez-Vega & A. Miranda 6350* (F, MO, NY); San Ignacio, Cerro Picorana, 04°59'30"S, 078°52'56"W, 2580 m, 14 October 2000 (bud fl, fr), *M. Huamán 25* (GH, MO). **Cusco:** La Convención, Distrito Quellouno, Lacco, 12°37'31"S, 072°14'03"W, 2770 m, 17 June 2006 (♀ bud fl, fr), *L. Valenzuela et al. 6937* (GH, MO); La Convención, Distrito Quellouno, Punta Lacco, 12°36'43"S, 072°13'15"W, 2368 m, 21 August 2007 (♂ fl), *L. Valenzuela et al. 10095* (GH, MO); Paucartambo, Kosñipata, trocha Unión km 4, 3000 m, 06 October 2003 (bud fl), *W. Farfán 1239* (USM). **Huánuco:** Distrito Chinchao San Pedro de Carpath, arriba del túnel, 09°43'14"S, 076°06'53"W, 2770–2820 m, 01 May 2005 (fr), *I. Salinas & H. Beltrán 1043* (USM); Tumanga, 2400 m, 29 April 1963 (fr), *F. Woytkowski 8004* (GH). **Pasco:** Oxapampa, Distrito Huancabamba, Parque Nacional Yanachaga-Chemillén, parte alta de la trocha Yanachaga-Palcazú, 10°22'42"S, 075°27'00"W, 2650 m, 01 December 2007 (fr), *A. Monteagudo et al. 16073* (GH, MO, USM); Distrito Oxapampa, Parque Nacional Yanachaga-Chemillén, camino del Refugio al Abra La Esperanza, 10°32'S, 075°21'W, 2490–2610, 22 November 2002 (bud fl, fr), *A. Monteagudo et al. 4409* (GH, MO, MOL, USM);

Parque Nacional Yanachaga Chemillén, flanco Oriental hacia el Valle de Palcazu, 30 minutos del Refugio Abra Esperanza, 10°31'56"S, 075°20'54"W, 2720 m, 15 October 2006 (♂ bud fl), A. Monteagudo *et al.* 12845 (GH, MO, USM); Parque Nacional Yanachaga Chemillén, Abra la Esperanza, 10°31'54"S, 075°20'59"W, 2750 m, 16 October 2006 (bud fl, fr), A. Monteagudo *et al.* 12876 (GH, MO); Camino desde el Abra Esperanza hacia el refugio El Cedro-Sector San Alberto, Parque Nacional Yanachaga Chemillén, 10°32'22"S, 075°21'10"W, 2760 m, 12 March 2005 (ste), E. M. Ortiz 413 (GH); sector Quebrada San Alberto (Abra Esperanza), 10°32'22"S, 075°21'23"W, 2636 m, 24 October 2004 (fr), J. Perea & J. L. Mateo 1966 (GH, MO); Parque Nacional Yanachaga Chemillén, sector Abra Esperanza, 10°31'54"S, 075°20'59"W, 2650 m, 26 February 2007 (♀ bud fl), R. Vásquez 31992 (GH, MO); Parque Nacional Yanachaga Chemillén, sector Abra Esperanza, 10°31'54"S, 075°20'59"W, 2550 m, 28 February 2007 (♀ bud fl, fr), R. Vásquez 32017 (GH, MO).

Freziera incana can be recognized by its densely pubescent, arachnoid-villous and whitish-brown or ferruginous trichomes on the abaxial leaf surface. The same indument is also found covering young branches, petioles, and inflorescences. Additionally, tertiary veins are finely reticulate in the adaxial leaf surface and fruits have thick walls and relatively large seeds.

Among validly described species, this species is most superficially similar to *F. guatemalensis* from Mexico, Guatemala, Honduras and Nicaragua and *F. inaequilatera* from Bolivia. All these species have large leaves and dense ferruginous or brown indument on the abaxial leaf surfaces, young branches, and inflorescences. The new species differs from both by the wide floral bud 5.0–9.0 (vs. 2.0–6.0 mm wide). *F. incana* differs from *F. guatemalensis* by its longer pedicels (8.0–17 mm vs. 2.0–5.0 mm) and external sepals (5.0–9.0 mm vs. 3.1–4.2 mm). It further is distinguished from *F. inaequilatera* by its leaf bases with both sides equal or weakly unequal (vs. one side conspicuously unequal), trichomes on the young branches, petioles, and abaxial leaf surfaces 1.0–1.5 mm long (vs. 1.0–5.0 mm), and leaf margin inconspicuously denticulate (vs. serrulate). The collections *F. Woytkowski 8004* (GH) and *I. Salinas & H. Beltrán 1043* (USM), both from the Huánuco department, resemble *F. canescens* Bonpl., for their small leaves and abaxial leaf surface and other vegetative parts that are covered with grayish-white trichomes, but the leaves base in *F. canescens* are markedly revolute (vs. not revolute). Material from the Cusco department (e.g. *L. Valenzuela 6937, 10095*) sometimes has wider leaves, pubescence that is more densely ferruginous, and bracts longer and wider (10–25 × 5.0–9.0 mm) than most representatives of *F. incana* is tentatively included here. The flowers of *I. Sánchez-Vega & A. Miranda 6350*, are apparently hermaphroditic.

Freziera oxapampensis D. Santam., *sp. nov.* TYPE: PERU. Pasco: Provincia Oxapampa, Río San Alberto valley, E of Oxapampa, W slopes of Cordillera Yanachaga, High montane primary forest, on ridge, 10°34'S, 075°22'W, 2500 m, 24 July 1984 (fr), D. N. Smith & A. Pretel 8002

(Holotype: MO [3614305]; Isotypes: F [1993476], MOL, NY). Fig. 4.

Trees 3–23 tall; external bark sometimes described as reddish-brown or grey, striate; internal bark undescribed. Mature branches rounded or weakly angulate, the outer bark blackish or reddish-brown, longitudinally striate and sparsely lenticellate, glabrous or minutely pubescent; leaf-bearing branches angulate and flattened, densely sericeous, the trichomes pale gold, ca. 0.5–0.7 mm long, papillate, sparsely lenticellate, the lenticels whitish-gray, elliptical. *Terminal bud* conduplicate-involute 21–70 mm long, densely sericeous, trichomes golden or whitish, ca. 0.5–1.0 mm long. *Leaves* petiolate; petiole 1.5–3.5 cm long, adaxially caniculate, abaxially rounded or sometimes more or less triangular, densely sericeous, the trichomes golden, 0.5–1.0 mm long, usually winged, when winged, the wings erect or involute, their margins entire; colleters 1–4 in the petiole base, or absent. *Laminae* 14.5–21.6 × 3.8–6.5 cm, narrowly elliptic to lanceolate; base cuneate, both sides equal or one side weakly unequal, weakly revolute or not revolute; apex acute, not bearing a seta; margin dimidately dentate or subentire, with ca. 95–116 teeth per side, each tooth bearing a terminal black or reddish-brown, conical setae, seta ringed by trichomes or not; adaxial surface glabrous, pustulate; abaxial surface densely sericeous, trichomes golden, 0.5–1.2 mm long, papillate; midrib on adaxial surface flat or weakly caniculate, glabrous, papillate, on abaxial surface rounded, densely sericeous, papillate; lateral veins 43–68 per side (including some intermediate), flat in the adaxial surface, prominent and raised on abaxial surface; tertiary veins reticulate, distinct in both surfaces, generally more conspicuous in the abaxial surface. *Inflorescences* fasciculate, generally bearing 5–13 flowers per axil. *Flowers* pedicellate, pedicel 3.0–4.3 mm long, erect, cylindrical, densely sericeous; *bracts* ca. 2.0–4.0 × 1.0–1.5 mm, at the base of pedicel, persistent, triangular or lanceolate, carinate or not carinate, external surface sericeous, internal surface glabrous, margin entire, apex acute, with black seta at apex; *bracteoles* 2, 2.5–4.0 × 2.0–2.3 mm, persistent, opposite or subopposite, at apex of pedicel, weakly unequal, widely ovate or more or less triangular, carinate or not carinate, external surface densely sericeous, internal surface glabrous, margin entire, apex rounded or acute and without seta; *sepals* 5, imbricate; outer sepals 3.7–5.0 × 2.8–3.5 mm, widely ovate, apex rounded or acute, margin entire and chartaceous, external surface sericeous, internal surface glabrous; inner sepals 3.5–4.0 × 2.0–3.0 mm, similar in shape to the external sepals, apex acute or rounded, sometimes brittle, margin entire, membranaceous, ciliate, external surface sericeous centrally, glabrescent towards the sides, internal surface glabrous; *petals* 5, 5.0–7.0 × 1.5–3.5 mm, white, free at the base, lanceolate or lanceolate-elliptic, margin chartaceous and entire, apex acute and weakly reflexed, glabrous. *Flower bud* 3.0–5.0 mm wide. *Staminate flowers*: 15–18 stamens, free or weakly united at the base; filaments 1.0–1.7 mm long, more or less flat; anthers 1.0–1.5 mm long, not moniliform, ovate or lanceolate, base subcordate or cuneate, apex acute, rounded or apiculate; gynoecium 3.0–4.0 × 2.0 mm, glabrous, pyriform or conical, 3-locular; style not separated apically; stigma 3-lobulate, sometimes



FIGURE 4. *Freziera oxapampensis* D. Santam. **A**, branch with fruits; **B**, flowers; **C**, fruits. A and C based on the holotype; B based on Vásquez *et al.* 28931 (GH).

inconspicuously lobulate. *Pistillate flowers*: unknown. *Fruits* 5.0–6.0 × 4.0–5.0 mm, rounded, green, glabrous; fruit walls ca. 0.2–0.5 (–1.0) mm thick; *seeds* 54–93 per fruit, reddish-brown or beige, shiny, ca. 0.4–1.0 mm long, more or less rounded or reniform, foveolate.

Etymology: The specific epithet refers the locality of all known collections of this species in the Oxapampa province of Pasco, Peru.

Distribution and Habitat: *Freziera oxapampensis* is endemic to Peru and known only from the Oxapampa province. It has been collected in primary sclerophyllous and dwarf forests and *pajonal* (high elevation grassland) vegetation between 2136–2720 m in elevation.

Phenology: Collected with staminate flowers in January and in fruit in February and July. Pistillate flowers remain unknown.

Additional specimens examined: PERU. Pasco: Oxapampa, Distrito Huancabamba, Parque Nacional Yanacha-Chemillén, sector San Daniel, 10°26'13"S, 075°20'13"W, 2136 m, 12 July 2004 (bud fl), *J. Perea et al.* 1551 (GH, MO, USM); Parque Nacional Yanacha-Chemillén, sector San Daniel, 10°28'13"S, 075°27'33"W, 2363 m, 23 February 2008 (fr), *R. Vásquez et al.* 33690 (GH, MO, USM); Distrito Oxapampa, trail to summit of Cordillera Yanachaga via Río San Daniel, 10°23'S, 075°27'W, 2600 m, 18 July 1984 (bud fl), *D. N. Smith et al.* 7880 (MO, MOL); Parque Nacional Yanachaga-Chemillén, camino al Abra La Esperanza, 10°32'S, 075°21'W, 2720 m, 25 August 2002 (bud fl), *A. Monteagudo et al.* 3778 (GH, MO, USM); Parque Nacional Yanachaga-Chemillén, Sector chacos-Antena, 10°37'S, 075°17'W, 2600 m, 14 January 2004 (♂ fl), *R. Vásquez et al.* 28649 (GH, MO); Parque Nacional Yanachaga-Chemillén, Sector Chacos, 10°37'S, 075°17'W, 2471 m, 24 January 2004 (♂ fl), *R. Vásquez et al.* 28931 (GH, MO).

Freziera oxapampensis can be distinguished by its narrowly elliptic to lanceolate leaves with the abaxial surface densely sericeous; long petioles (1.5–3.5 cm long) that are usually winged; inflorescences frequently with many flowers; sericeous sepals; and small fruits. The species is also characterized by the young angulate and flattened

branches and lateral and tertiary veins that are conspicuous on the abaxial surface.

Freziera oxapampensis is morphologically similar to *F. tomentosa*. Both species have leaves that are similar in shape and size and are densely pubescent below (more conspicuously pubescent in *F. tomentosa*), petioles that are usually winged, and flowers with short pedicels. However, *F. oxapampensis* usually produces more flowers per inflorescence (5–13 vs. 1–4 in *F. tomentosa*) and has external sepals are sericeous and smaller (vs. glabrous or sparsely pubescent). Additionally, the petioles are longer, the lateral and tertiary veins are conspicuous on the abaxial leaf surface, and the adaxial surface of the leaf is inconspicuously pustulate (vs. densely pustulate in *F. tomentosa*, a feature also shared with *F. chrysophylla*). *Freziera oxapampensis* also has a degree of morphological affinity with *F. candicans* Tul. and *F. chrysophylla* Bonpl., especially in the sericeous indument on the leaves and inflorescence and fruit size. The main differences between two taxa are shorter in petioles (0.5–2.5 or sessile vs. 1.5–3.5 cm long in *F. oxapampensis*) that are inconspicuously winged (vs. conspicuously winged), fewer flowers per inflorescence (1–6 [–10] vs. 5–13), denser indument with gold, silver or whitish in *F. candicans* and orange-gold or gold in *F. chrysophylla* and shorter leaves (6.0–20 cm long vs. 14.5–21.6 cm in *F. oxapampensis*).

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