A New Species in *Elaphoglossum* sect. *Elaphoglossum* subsect. *Pachyglossa* (Dryopteridaceae) from Costa Rica and Panama

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ABSTRACT. A new species of *Elaphoglossum* Schott in section *Elaphoglossum* subsect. *Pachyglossa* Christ is described and illustrated here. *Elaphoglossum skutchianum* A. Rojas is recognized from Costa Rica and Panama, and occurs at middle elevations in the Cordillera de Tilarán, Cordillera Central, and Cordillera de Talamanca. It is distinguished from the closely related *E. brevissimum* Mickel by its longer fronds. It is here proposed that *E. lankesteri* Mickel is a synonym of *E. cismense* Rosenst.

RESUMEN. Una nueva especie de *Elaphoglossum* Schott de la sección *Elaphoglossum* subsect. *Pachyglossa* Christ es descrita e ilustrada aquí. *Elaphoglossum skutchianum* A. Rojas es conocida para Costa Rica y Panamá, y ocurre a elevaciones medias en la Cordillera de Tilarán, Cordillera Central y Cordillera de Talamanca. Esta es distinguible de la muy relacionada *E. brevissimum* Mickel por sus frondas más largas. Se propone que *E. lankesteri* Mickel es un sinónimo de *E. cismense* Rosenst.

Key words: Costa Rica, Dryopteridaceae, *Elaphoglossum*, IUCN Red List, subsect. *Pachyglossa*, Panama.

Based on my research on ferns of Costa Rica, the following species is described as new.

Elaphoglossum skutchianum A. Rojas, sp. nov. TYPE: Costa Rica. Alajuela: Cantón de Alajuela, Distr. Sarapiquí, Colonia Virgen del Socorro, orillas del Río Sarapiquí, ca. de la nueva represa, 10°15′30″N, 84°10′20″W, 720 m, 27 Dec. 2004, *A. Rojas & C. Frias 6311* (holotype, CR; isotypes, K, MO). Figures 1, 2.

Haec species ab *Elaphoglosso brevissimo* Mickel frondibus longioribus, stipite pro ratione longiore et lamina latiore basi cuneata differt.

Epiphytic; rhizome 4–8 mm diam., short-creeping; rhizome scales 4–8 × 0.8–1.5 mm, linear-lanceolate, dark yellowish brown to dark brown, occasionally with fimbriate margin; fronds (40–)55–90(–105) cm, to 12 mm apart; phyllopodia 20–35 mm; stipes 1/4–2/5 of the frond length; stipe scales 2–6 × 0.5–1.5 mm, lanceolate to linear-lanceolate, brown, patent, present only on base of stipe, margin occasionally long ciliate; blades 31–66 × 7–11.5 cm, elliptic, chartaceous to subcoriaceous, apex acuminate, base narrowly to broadly cuneate; hydathodes absent; blade scales 0.2–0.5 mm diam., fimbriate, brown to black, margin long ciliate to fimbriate; fertile fronds (27–)40–58 cm, shorter than the sterile fronds; stipe 2/5–3/5 of the frond length; fertile blade (12–)19–33 × 3–5.4 cm, lanceolate to elliptic, apex acute to acuminate, base cuneate; intersporangial scales absent.

Distribution. *Elaphoglossum skutchianum* is known from Costa Rica and Panamá, in the Cordillera de Tilarán, Cordillera Central, and the Caribbean slope of the Cordillera de Talamanca at 400–1200 (–1600) m elevation.

IUCN Red List category. The new species should be considered Data Deficient (DD) according to IUCN Red List criteria (IUCN, 2001) because the size of the population has not been assessed. However, the species is found in several national parks and other protected areas in Costa Rica and Panama and is most likely not at risk.

Etymology. This species is dedicated to the naturalist Alexander Frank Skutch (1904–2004), son-in-law of Charles Lankester.

Discussion. *Elaphoglossum skutchianum* resembles *E. brevissimum* Mickel in its rhizome scales and evident leaf veins; however, *E. skutchianum* differs in its longer fronds ([40–]55–90[–105] cm vs. 24–37 cm long), stipe 1/4–2/5 of the frond length (vs. 1/20–1/15), and broader lamina (7–11.5 cm vs. 3.5–6.2 cm wide) with a cuneate (vs. attenuate) base.

The new species also resembles *Elaphoglossum cismense* Rosenst. in frond length and size, but differs by its longer rhizome scales (4–8 mm vs. 1–3[–5] mm long), evident veins (vs. mostly obscure), fertile fronds shorter than the sterile fronds (vs. subequal or longer), lower altitudinal distribution ([100–]400–1200[–1600] m vs. 1600–2800[–3000] m), and epiphytic habitat (vs. epiphytic or more commonly terrestrial) (Fig. 2).

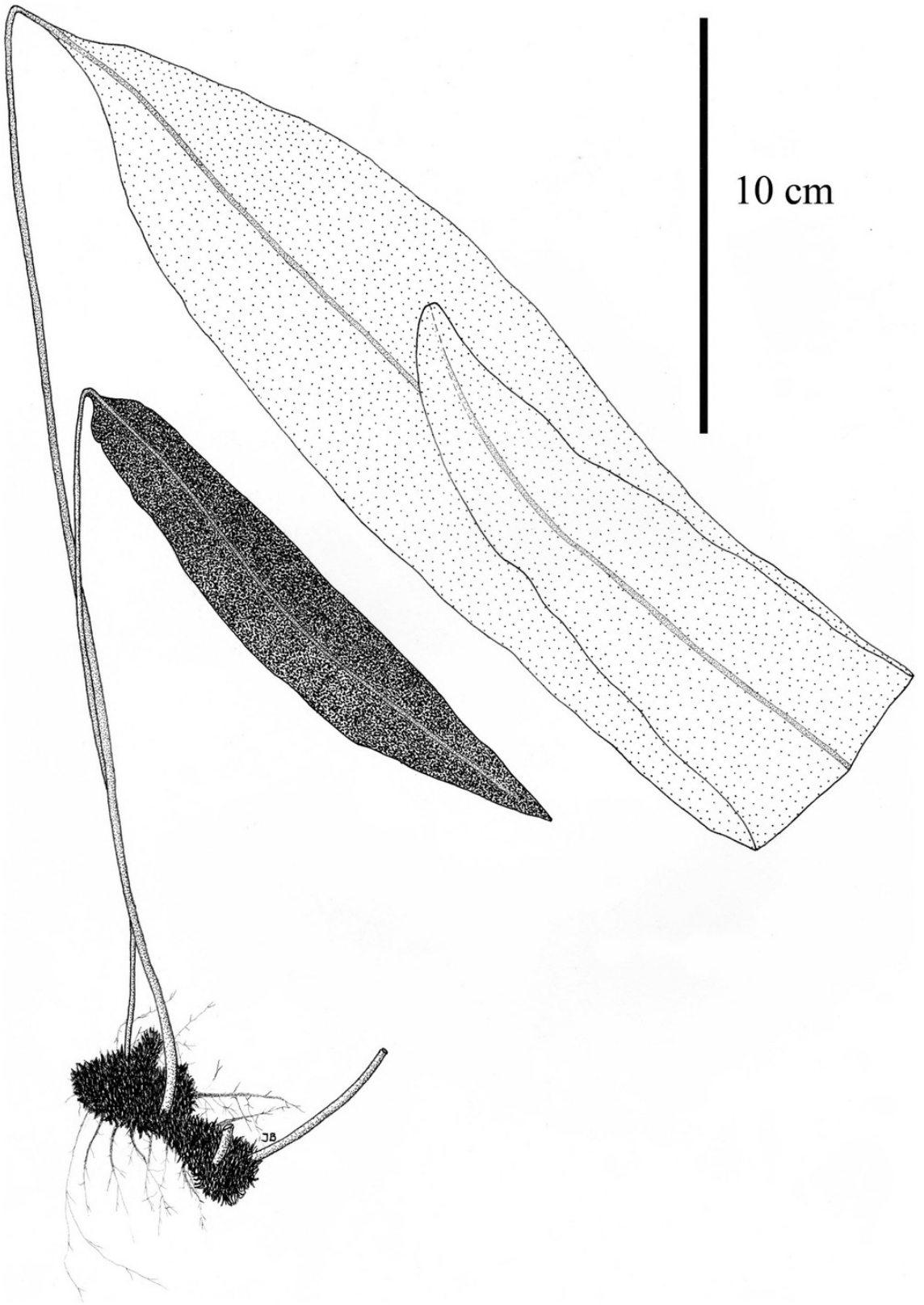

Figure 1. Habit of the type specimen of *Elaphoglossum skutchianum* A. Rojas (*Rojas & Frias 6311*, CR).

Elaphoglossum lankesteri Mickel has been considered distinct from *E. cismense* (Mickel, 1992, 1995); however, I find no appreciable differences between the two species. Accordingly, I consider the former name a synonym of the latter. Three paratypes of *E. lankesteri* (*Hammel et al. 17576*, NY; *Smith et al. 2272*, NY; and *Werff & Hardeveld 6617*, NY), however, represent the new species described in this paper, not *E. cismense*.

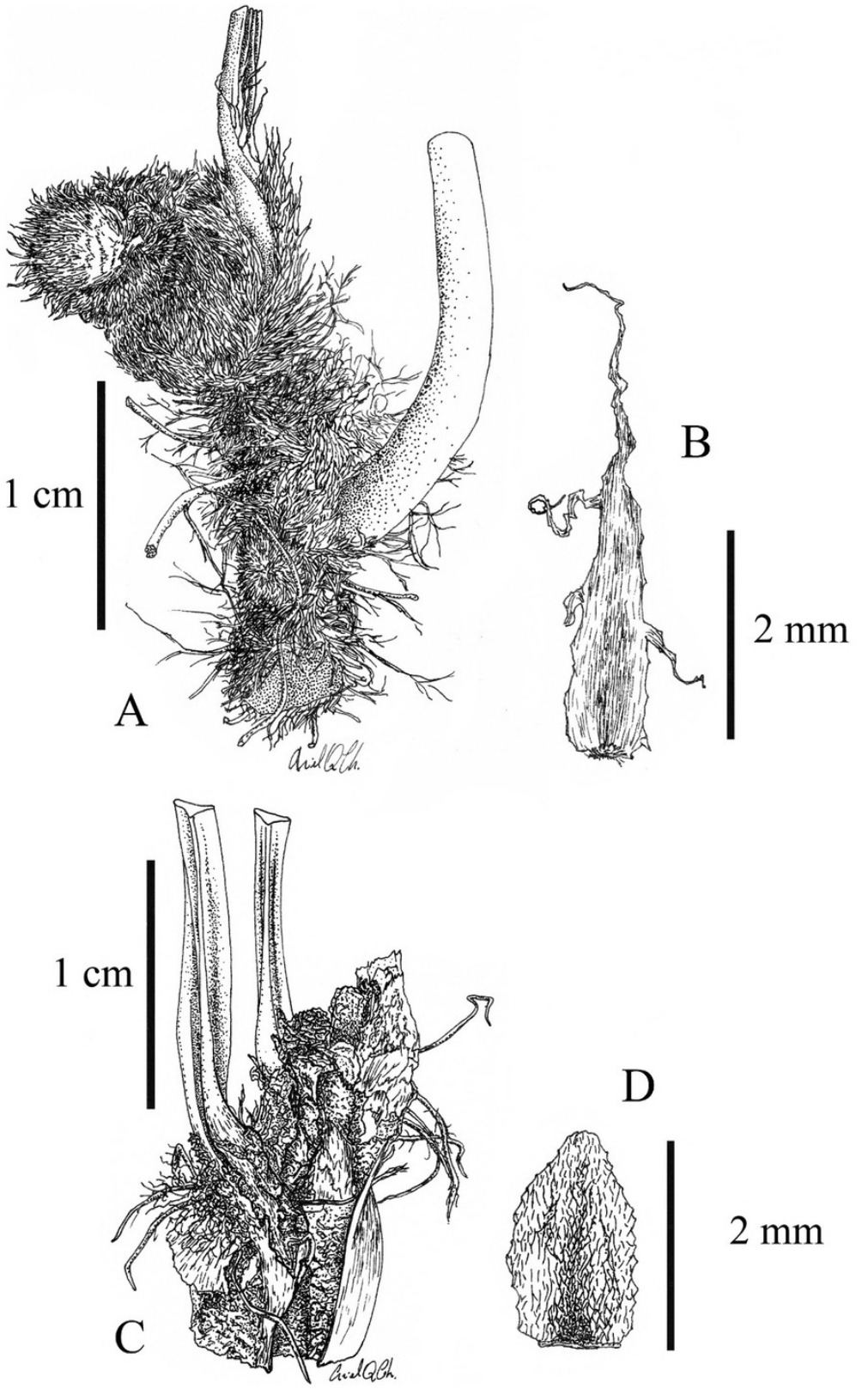

Figure 2. A, B. *Elaphoglossum skutchianum* A. Rojas, drawn from the type *Rojas & Frias 6311* (CR). —A. Rhizome detail. —B. Rhizome scale. C, D. *Elaphoglossum cismense* Rosenst., drawn from the representative specimen *Umaña & Chacón 565* (CR). —C. Rhizome detail. —D. Rhizome scale.

Following the infrageneric classification of *Elaphoglossum* Schott published by Mickel and Atehortúa (1980), the new species is included in section *Elaphoglossum* based on its linear to lanceolate rhizome scales, lack of hydathodes, and the leaf blades with minute stellate scales. It is more precisely placed in subsection *Pachyglossa* Christ based on its chartaceous to subcoriaceous leaf blades and distinct phyllopodia.

Paratypes. COSTA RICA. 23 May 1986, *I. Chacón 1892* (CR); Parque Nacional Braulio Carrillo, Quebrada Molinete, 13 Feb. 1984, *L. Gómez et al. 21091* (CR). **Alajuela:** Cantón de Alajuela, Cordillera Central, Sarapiquí, entre Cariblanco y Virgen del Socorro, y orillas del Río Sarapiquí, 10°15′25″N, 84°10′20″W, 21 Aug. 1994, *A. Rojas 1387* (CR, INB); Cantón de Alajuela, Cordillera Central, Cariblanco, camino a Virgen del Socorro y orillas del Río Sarapiquí, 10°15′25″N, 84°10′20″W, 22 Feb. 1995, *A. Rojas 1679* (CR, INB, MO); N slope of ridge along quebrada draining E to Río Cataratitas, ca. 20 km NW of San Ramón, 10°13′N, 84°32′W, 3 Feb. 1986, *A. Smith et al. 2272* (CR, MO, UC); Cantón de San Ramón, Dist. Ángeles Norte, Cordillera de Tilarán, Sendero el Polígono, 10°13′10″N, 84°35′20″W, 8 May 1996, *A. Soto et al. 8* (CR, INB). **Cartago:** Cantón de Turrialba, Tayutic, Jicotea, Finca La Pradera, subiendo la fila hacia San Antonio, 9°47′15″N, 83°33′15″W, 14 June 1995, *G. Herrera 7881* (CR, F, MO); Cantón de Turrialba, Cordillera Central, Tayutic, Jicotea, 9°47′15″N, 83°32′50″W, 22 June 1995, *A. Rojas et al. 2051* (CR, INB). **Limón:** Pococí, Guápiles, Parque Nac. Braulio Carrillo, Est. Quebrada González, Sendero Las Palmas, 10°09′44″N, 83°56′17″W, 14 May 2006, *A. Cascante & J. Sánchez 1567* (CR); Cantón de Talamanca, Bratsi, Sukut, desembocadura del Río Sukut en el Río Urén, camino al SE, hacia Purisqui, 9°23′30″N, 83°58′00″W, 7 July 1989, *B. Hammel et al. 17576* (CR, MO); Cantón de Pococí, Llanura de Santa Clara, Teleférico, de la calle a la estación, 10°10′22″N, 83°54′32″W, 21 July 1995, *A. Rojas & G. Rivera 2080* (CR, INB, MO); Cantón de Pococí, Parque Nac. Braulio Carrillo, Cordillera Central, Est. Quebrada González, Río Sucio, Sendero Botarrama, 10°09′58″N, 83°56′30″W, 9 May 1995, *A. Rojas et al. 1791* (CR, INB); Cantón de Limón, R. I. Chirripó, Fila Matama, Almirante, 09°46′12″N 083°19′48″W, 10 Aug. 1995, *A. Rojas et al. 2266* (INB, MO); Cantón de Pococí, Parque Nac. Braulio Carrillo, Est. Quebrada González, Sendero Palmas, 10°09′50″N, 83°56′20″W, 21 Nov. 1997, *A. Rojas et al. 3994* (CR, INB, MO); Pococí, Parque Nac. Braulio Carrillo, Sendero Botarrama, 0.5 km después del Río Sucio en la carretera en dirección a Guápiles, 10°09′00″N, 83°56′45″W, 12 Aug. 2001, *A. Rojas 5464* (CR, INB). PANAMA. **Chiriquí:** Dam site, 7 Feb. 1985, *H. van der Werff & C. Hardeveld 6617* (MO). **Veraguas:** vic. Escuela Agrícola Alto Piedra, near Santa Fe, along trail to top of Cerro Tute, 6 Oct. 1979, *T. Antonio 1978* (MO); vic. of Santa Fe, along road betw. Alto Piedra & Calovébora, 0.5 mi. N of Alto Piedra, on slopes of Cerro Tute, Parque Nac. Cerro Tute, 15 July 1994, *T. Croat & G. Zhu 76912* (MO).

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