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A new species of *Microlicia* (Melastomataceae) from the Espinhaço Range, Minas Gerais, Brazil

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Abstract

A new endemic species of *Microlicia* from campos rupestres of the Espinhaço Range is described and illustrated. The new species is characterized by having leaves of different sizes distributed along the branches, petioles 1–2 mm long, leaf blade that are attenuate at the base, with an entire margins, prominent and thickened nerves mainly on the abaxial surface, and an indumentum of short pale, glandular trichomes and sessile golden glands covering the whole plant. It resembles *M. avicularis*, *M. tomentella* and *M. elegans*, which also occur in the Espinhaço Range, in Minas Gerais state.

Resumo

Uma nova espécie endêmica dos campos rupestres da Serra do Espinhaço, Minas Gerais, é descrita e ilustrada. A nova espécie caracteriza-se por apresentar folhas de diferentes tamanhos distribuídas ao longo dos ramos, com pecíolos de 1–2 mm de comprimento, lâmina foliar de base atenuata, margem inteira e nervuras bastante proeminentes e espessadas, principalmente na face abaxial da lâmina e indumento constituído de tricomas glandulares curtos e glândulas sésseis recobrindo toda a planta. Assemelha-se a *M. avicularis*, *M. tomentella* and *M. elegans*, as quais também ocorrem na Serra do Espinhaço, estado de Minas Gerais.

Key words: *campos rupestres*, Diamantina, endemic, Microlicieae, Serra do Cipó

Introduction

The Espinhaço Range is the center of diversity for several plant groups (Giulietti *et al*. 1997, Rapini *et al.* 2008) with Melastomataceae being considered one of the main families in *campo rupestre* vegetation (Giulietti *et al.* 1987; Stannard 1995; Munhoz & Proença 1998; Romero & Martins 2002; Zappi *et al.* 2003). Most of the species of *Microlicia* occur in *campos rupestres* (Romero & Martins 2002) and is most diverse in Bahia and Minas Gerais, with a large concentration of endemism in both states (Romero & Woodgyer 2012).

Morphological studies of collections deposited in more than 15 herbaria and fieldwork carried out since 2002 around municipality of Diamantina, in the state of Minas Gerais, revealed up to the present time the occurrence of 36 species of *Microlicia* in the area, of which at least six are taxonomic novelties. In this paper a new species is described and illustrated and affinities with others species presented.

Microlicia nervosa R. Romero, *spec. nov.* (Figs. 1–2)

Type:—BRAZIL. Minas Gerais: Estadual do Biribiri, Alto da Jacuba, 1382 m, 18°'32" S, 43°36'32" W, 14 March 2012, *I.M. Araújo, D. Marques & I.M. Franco 252*(holotype HUFU!; isotypes BHCB!, DIAM!, K!, P!, RB!)**.**

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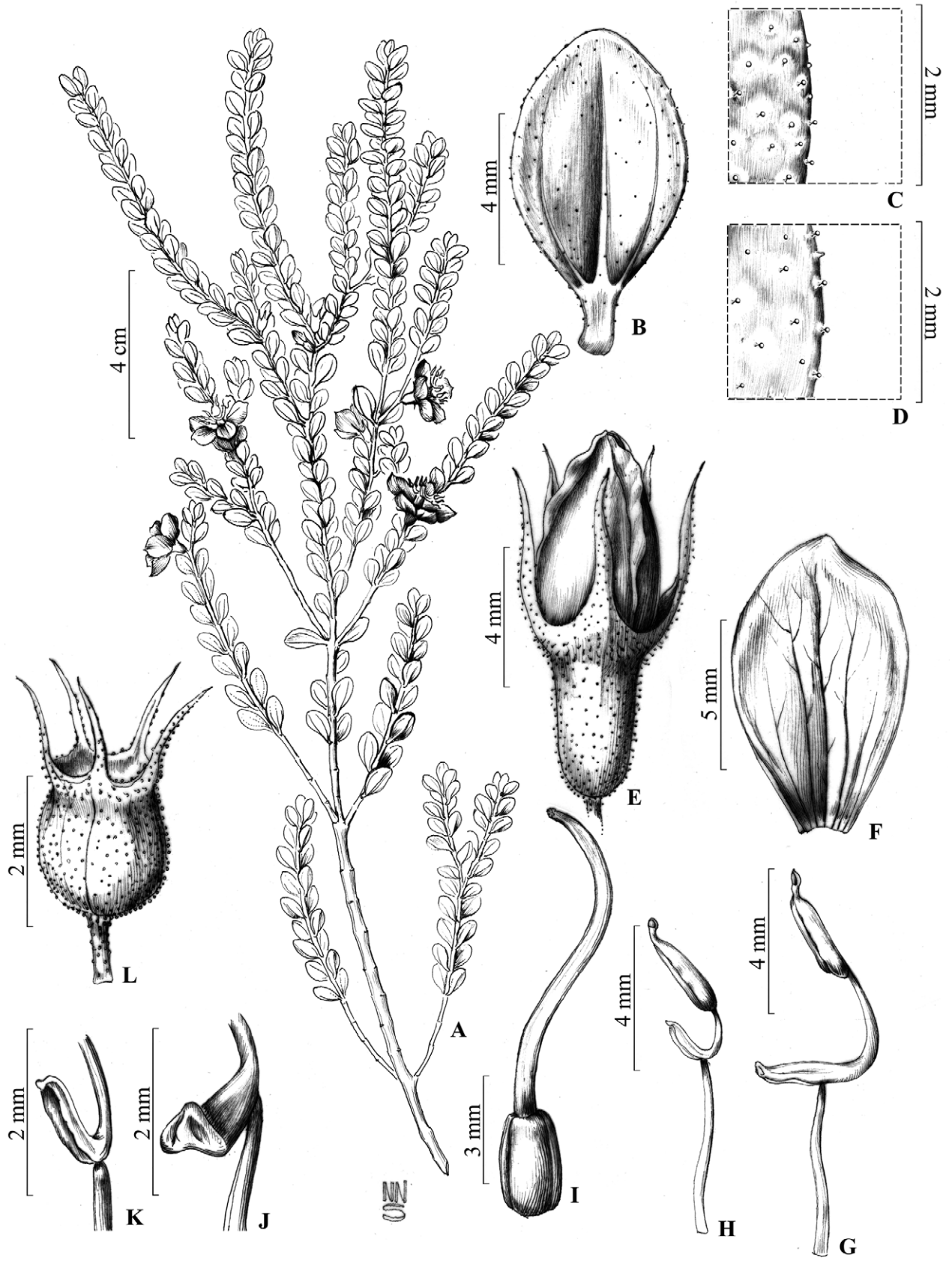

FIGURE 1. A–L *Microlicia nervosa* (*I.M. Araújo et al. 252*). **A.** Branch. **B.** Leaf adaxial surface, showing prominent nerves. **C.** Leaf abaxial surface, showing indumentum of glandular trichomes and sessile glands. **D.** Leaf adaxial surface, showing indumentum of sessile glands and glandular trichomes. **E.** Floral bud. **F.** Petal. **G.** Lateral view of large stamen. **H.** Lateral view of small stamen. **I.** Gynoecium. **J.** Detail of ventral appendage (large stamen). **K.** Detail of ventral appendage (small stamen). **L.** Capsule enclosed by the persistent hypanthium.

FIGURE 2. A–F. *Microlicia nervosa* (*R. Romero et al. 8326*). **A.** Branch with floral bud. **B.** Vegetative branch showing ascending leaves of different sizes. **C.** Flower. **D.** Two stages of immature fruit. **E.** Mature fruit. **F.** Habit (Photos: R. Romero).

Erect subshrub or shrub, 0.5–1.5 m tall, much branched. Young branches fastigiate, quadrangular, indumentum of young branches, adaxial and abaxial surface of the leaves, pedicel, hypanthium and calyx lobes with pale, glandular trichomes 0.1–0.3 mm long and sessile golden glands, older branches brown, furfuraceous, becoming slightly terete with age, without leaves at the base, nodes thickened. Leaves ascending, imbricate or not, coriaceous, discolorous, adaxial surface dark green, abaxial surface pale green (assessed when dry), petiole 1–2 × 0.8–1 mm, flattened, smooth, clearer, greenish-cream, sometimes tinged with pink; blade broadly elliptical to obovate, large leaves 8–11.5 × 4–8 mm, small leaves 4–8 × 2–4 mm, apex rounded to slightly acute, base attenuate, rarely rounded, margin entire, 3-nerved from the base, the nerves conspicuously visible on both surfaces, central nerve thickened and prominent on abaxial surface, ca. 0.5 mm wide at the middle of the lamina, adaxial surface with sparse indumentum. Flowers solitary, terminal or lateral, 5-merous, zygomorphic resulting from the position of the stamens and style; pedicel 1.3–2.3 mm long. Hypanthium terete, oblong, 4–4.5 × 2–2.5 mm, green or green and dark pink; calyx tube 0.5–0.8 mm long; calyx lobes linear, 3.5–5 × ca. 0.5 mm, distant 0.7–1.5 mm long from each other, apex acute, with a thickened tip, ca. 0.5 mm long, sometimes with a glandular trichome ca. 0.7 mm long. Petals 7.5–9.5 × 4–5.5 mm, oblong to obovate, pink to pink-magenta, glabrous, apex acute, often asymmetrically so. Stamens 10, dimorphic in size: large stamens 5, filaments 5–6 mm long, pink, anthers 3.5–4 mm long (including beak), oblong, tetrasporangiate, pink or red, beak 0.7–1 mm long, white or pale pink, connective prolonged 3.5–4 mm, pink, with ventral appendage 1.5–2 mm long, truncate, bicoloured with a part pink and the apex yellow;

small stamens 5, filaments 4.5–5.5 mm long, pink, anthers 3–3.5 mm long (including the beak), yellow, oblong, tetrasporangiate, beak 0.7–9 mm long, yellow, connective 1.5–1.7 mm prolonged, ventral appendage 1.3–1.7 mm long, truncate, yellow. Ovary ca. 3 × 2 mm, superior, 3-locular, glabrous; style 9–10 mm long, pink, terete, slightly curved, glabrous; stigma punctiform. Capsule 3.5–5 × 2.5–4 mm, brown, subglobose, dehiscing into 3 valves from the apex, hypanthium covering the entire ovary and peeling off as the fruit matures. Seeds 0.6–0.7 × ca. 0.3 mm, pale brown, testa foveolate.

Distribution and habitat:—*Microlicia nervosa* is known only from two localities (around Diamantina and Serra do Cipó) in the Espinhaço mountain range, Minas Gerais state, Brazil, where it seems to be endemic. The populations are quite small and grow in *campo rupestre* on quartzite rock outcrops between 1172 m and 1350 m elevation.

Etymology:—The specific epithet refers to the characteristically prominent and thickened nerves, clearly visible on both surfaces of the leaves, but mainly on the abaxial surface.

Specimens Examined:—BRAZIL. Minas Gerais: Serra do Cipó, km 131, Palácio, 4 February 1938, *M. Barreto 8948*, (BHCB, HUFU). Idem, km 131, 22 April 1950, *A.P. Duarte 2610* (NY, US). Ibidem, entre os km 130 e 131, 5 April 1951, *G.A. Black & Magalhães 51-11888* (BHCB). Ibidem, Fazenda Palácio, 14 February 1972, *G. Hatschbach & A. Ahumada 31558* (MBM, NY, US). 2 km beyond Chapéu de Sol, 30 Jan 1980, *R.M. King & F. Almeda 8358* (UB, US). Ibidem, Rodovia Belo Horizonte-Conceição do Mato Dentro, ca. 4 km após córrego Chapéu do Sol, 12 January 1996, *V.C. Souza et al. 10192* (ESA). 16 km SW of Diamantina, 1370 m, 19 January 1969, *H.S. Irwin et al. 22239* (NY, UB, US). Ca. 20 km SW of Diamantina, 1300 m, 21 January 1969, *H.S. Irwin et al. 22406* (NY, US). Ca. 8 km N of Gouveia on road to Diamantina, 1220 m, 4 February 1972, *W.R. Anderson et al. 35355* (HUFU, NY, UB, US). Diamantina, Parque Estadual do Biribiri, 1172 m, 18°12'69"S-43°37'24"W, 21 September 2010, *R. Romero et al. 8326* (HUFU, SPF).

Discussion:—*Microlicia nervosa* can be easily recognized by its leaves of different sizes along the branches, attenuate base, the thickened and prominent nerves visible on both surfaces and the presence of a flattened petiole. These features make this species very distinctive within the genus, making it difficult to know who its closest relatives are within species of *Microlicia* (Table 1).

TABLE 1. Comparative features between *Microlicia nervosa* and its relatives.

	M. avicularis	*M. elegans*	*M. nervosa*	*M. tomentella*
Leaf shape	lanceolate to widely elliptic	widely elliptic, oval or orbicular	broadly elliptical to obovate	oval or broadly elliptical
Leaf margin	crenulated for the upper half	entire	entire	slightly crenulate
Leaf apex	obtuse to slightly acute	acute to cuspidate-acute, or short-apiculate	rounded to slightly acute	rounded
Lateral veins	less evident	sometimes invisible	conspicuously visible	visible
Petiole	0.5–2 mm long	absent or up to 0.5 mm long	1–2 mm long	absent

Among the species that occur in Minas Gerais state, *M. nervosa* resembles *M. avicularis* Mart. ex Naudin (1845: 176), which occurs in Pico do Itabirito, Serra do Ouro Branco, Serra do Caraça, Serra do Cipó, Diamantina, and Serro. Both have discolorous leaves, with a short petiole, leaf blades attenuate at the base, petals pink to pink-magenta and dimorphic stamens with bicolorous anthers. *Microlicia avicularis* differs in having lanceolate to widely elliptic leaves with obtuse to slightly acute apex, crenulate margin for the upper half and less evident nerves.

Microlicia nervosa also has some similarity with *M. tomentella* Naudin (1845: 174), which occurs sympatrically in Serra do Cipó and Diamantina, but also in Jaboticatubas, Curvelo, and São Gonçalo do Rio Preto. Both are subshrubs to shrubs 0.5–1.5 m tall, with a similar branching pattern, ascending leaves, of different sizes along the branches, petals pink to pink-magenta and dimorphic stamens with bicolorous anthers. However in *M. tomentella*, the leaves are sessile and like the branches, hypanthium and calyx lobes,

are covered by a dense indumentum of long, pale glandular trichomes with 0.2–0.5 mm long and sessile glands.

Microlicia elegans Naudin (1845: 187), which occurs in Ouro Preto, Serra do Cipó, and Diamantina, like *M. nervosa*, has leaves with an entire margin and a prominent and thickened central nerve. The pattern of nerves is however quite different since the lateral veins are inconspicuous and sometimes absent. The leaves also vary from elliptic to widely elliptic, oval or orbicular, and the apex is acute to cuspidate-acute, or short-apiculate, and cordate or rounded to attenuate at base. None of the species found in Bahia and Goiás have a similarity to the new species.

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