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RESEARCH ARTICLE

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Taxonomic novelties in *Mikania* (*Asteraceae*: *Eupatorieae*) from Atlantic Forest, Brazil

R.A.X. Borges[1], R.C. Forzza[1,2], C.N. Fraga[1]

Key words

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Abstract During studies of Brazilian Atlantic Forest *Asteraceae*, a new species and a replacement name were determined: *Mikania amorimii* from Bahia State and *Mikania capixaba* from Espírito Santo State. The former is a new species related to *M. ternata* but distinct by its leaves, involucral bracts and cypsela morphology. The latter is proposed as a replacement name for *Mikania dentata* G.M.Barroso, a later homonym of *M. dentata* Spreng. Line drawings and comments about conservation status are made for both species.

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INTRODUCTION

The pantropical genus *Mikania* Willd. is the largest of the tribe *Eupatorieae*, comprising c. 720 described names and 400 to 450 recognized species (King & Robinson 1987, Holmes 1995, 1996). Of these, nearly 170 species occur in Brazil, 150 being endemic (King & Robinson 1987, Holmes 1995). Since Barroso's revision to the present, c. 35 new Brazilian species were described (Barroso 1959, King & Robinson 1987, Holmes 1991, Hind 1993, Holmes & Hind 2000, Ritter & Miotto 2002). Despite the widespread distribution and the great species richness, the regular presence of subinvolucral bracts (bracteola), four involucral bracts, four florets and 5(–10) angled prismatic cypsela, in the majority of the species, provides a clear generic delimitation among other *Asteraceae* genera (King & Robinson 1987, Holmes 1995).

The Atlantic Forest is one of the major hotspots, harbouring almost 4 % of the world's flora – c. 20 000 of 420 000 estimated plant species (Myers et al. 2000, Govaerts 2001, 2003). Of these, nearly 40 % are endemic to this biome – c. 8 000 (Myers et al. 2000, Da Fonseca et al. 2005). In the same way, the Atlantic Forest is home to 910 *Asteraceae* and 122 *Mikania* species (Stehmann et al. 2009) representing an important centre of diversity and endemism of the genus (Holmes 1995).

In this paper, we present two taxonomic novelties in *Mikania*: a new species found during floristic work in Bahia State and a replacement name for *Mikania dentata* G.M. Barroso, confirmed by revision of collections from Espírito Santo State.

DESCRIPTIONS

Mikania amorimii Borges & Forzza, *sp. nov.* — Fig. 1

Liana. Rami glabri, teretes, striati. Folia tripartita; petiolus c. 4 cm longus; segmenta lanceolata, glabra, laeviter discolores, papyracei, nervatio penniformis, 2–11 cm longa, 0.5–1.5 cm lata. Sinflorescentia corymbo-thyrsoidea, terminalis. Capitula pedunculata, pedunculi 0.5–1 cm longi; bracteola membranacea, lanceolata, glabra, c. 2.5 cm longa, apex acuminatus. Involucrum cylindricum, c. 3 cm altum; bractae involucrorum membranaceae, lanceolatae, glabrae, aequales, 2.7–3 cm longae, 0.3–0.5 cm latae. Corolla infundibuliformis, laeviter glandulosa; tubus c. 2 mm longus; limbus 5-lobatus, c. 4 mm longus, lobi c. 1 mm longi. Styli glabri, c. 1 cm longi. Pappus ruber, barbellatus, c. 5 mm longus. Cypsela prismatica, c.10-angulosa, breviter hirsuta, c. 3 mm longa. — Typus: *A.M. Amorim et al. 5000* (holo CEPEC), Brazil, Bahia, Arataca, Serra do Peito-de-Moça, R.P.P.N. 'Caminho das Pedras', elev. 1 000 m, 15°10'25"S, 39°20'30"W, 14 May 2005.

Vines with glabrous and striate stems. *Leaves* opposite, blades deeply tripartite; petioles glabrous, c. 4 cm long, pseudostipules present. *Leaf segments* obovate outline, lobes lanceolate, glabrous, chartaceous, pinnatenervate, 2–11 by 0.5–1.5 cm. *Synflorescence* corymbo-thyrsiform, terminal, axes glabrous, ultimate branches 2–5 cm long with capitula pedunculate, peduncles glabrous, 0.5–1 cm long. *Capitula* discoid, cylindrical, c. 3 cm tall at anthesis, subtended by a bracteole, the bracteole lanceolate, glabrous, herbaceous, c. 2.5 cm long; involucral bracts 4, lanceolate, glabrous, herbaceous, eximbricate, equal, 2.7–3 by 0.3–0.5 cm. *Florets* bisexual, 4; corolla white, sparsely glandular, funnelform, c. 7 mm long, the tube c. 2 mm long, the throat c. 4 mm long; lobes 5, deltate, c. 1 mm long. *Anthers* c. 2.5 mm long, cream-coloured. *Styles* c. 1 cm long; branches glabrous, c. 4 mm long. *Pappus* light reddish, bristles c. 5 mm long. *Cypselae* immature prismatic, sparsely hirsute, c. 10 angled, the angles densely papillose above the carpopodium, c. 3 mm long.

Etymology — The species is named after André M. Amorim, our friend, curator of CEPEC herbarium and collector of the type material.

Distribution — Brazil, Bahia State, Arataca municipality; known only from the type locality (Serra do Peito-de-Moça).

Habitat & Ecology — *Mikania amorimii* occurs in Atlantic montane forests. Flowering and fruiting: May.

Morphological affinities — The new species is closely allied to *M. ternata* (Vell.) B.L.Rob., but is quite distinct by its leaves with narrow segments (0.5–1.5 cm wide vs 2–4 cm wide); cypselae c. 3 mm long, sparsely hirsute vs cypselae c. 5 mm long, 5-angled, glabrous; and capitula c. 3 cm tall vs capitula 8–11 mm tall, respectively. Furthermore, *M. amorimii* has huge

[1] Jardim Botânico do Rio de Janeiro, Rua Pacheco Leão 915, 22460-030, Rio de Janeiro, RJ, Brasil;
corresponding author e-mail: rafaelxborges@yahoo.com.br.
[2] CNPq fellowship.

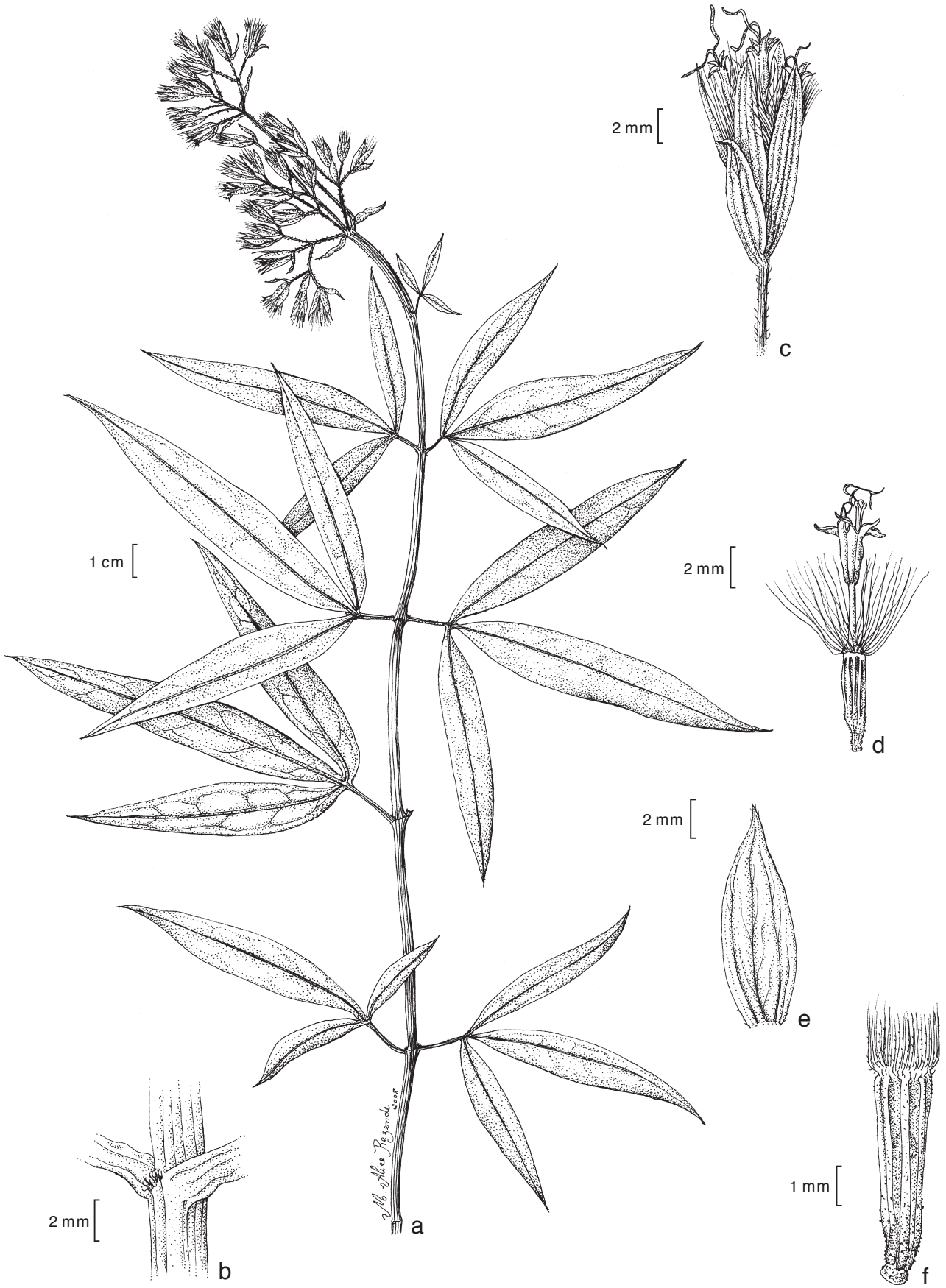

Fig. 1 *Mikania amorimii* Borges & Forzza. a. Habit; b. node with pseudostipules; c. capitulum; d. floret and cypsela; e. subinvolucral bract; f. detail showing cypsela surface and carpopodium (all: *Amorim et al. 5000*).

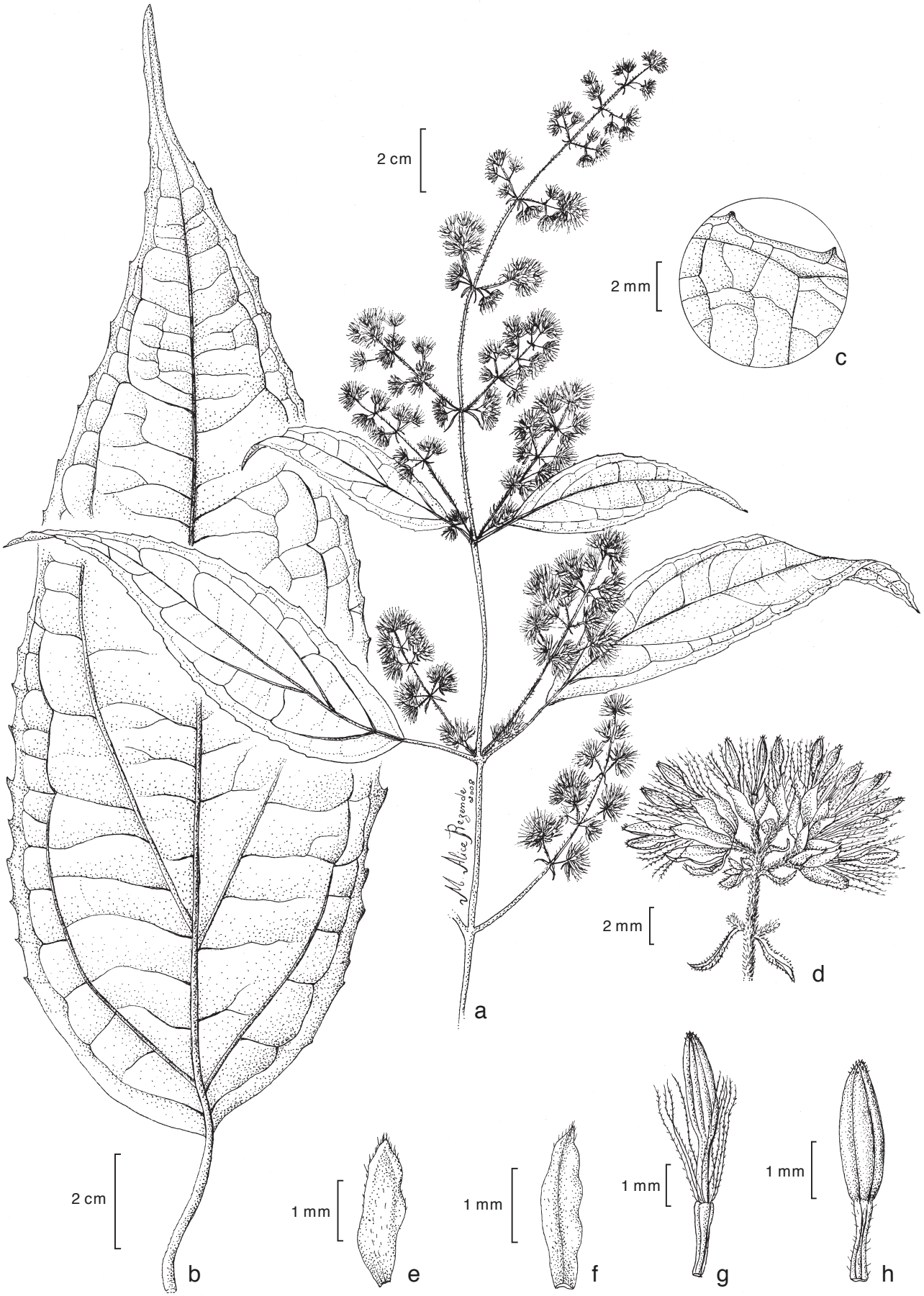

Fig. 2 *Mikania capixaba* Borges & Fraga. a. Habit; b. leaf; c. leaf margin detail; d. capitula on lateral florescence; e. involucral bract; f. bracteole (subinvolucral bract); g. floret with undeveloped cypsela; h. floral bud (all: *A.C. Brade 12219*).

bracteoles (c. 2.5 cm long) and cypselae densely papillose above the carpopodium, two distinct characteristics rarely found within other species. The presence of subinvolucral bracts at the summit of the peduncles and the corymbiform synflorescences place *M. amorimii* in the section *Mikania* (Holmes 1996). The new species is the tenth compound-leaved species present in South America and the sixth found in Brazil (Barroso 1959, Holmes & Pruski 2000). This is an uncommon leaf morphology shared with another 14 species, as *M. clematidifolia* Dusén, *M. anethifolia* (DC.) Matzenb. and *M. ulei* Hieron. (Holmes & Pruski 2000).

Conservation — *Mikania amorimii* is represented only by the holotype, collected in one of three Atlantic Forest fragments in southern Bahia, place where 15 species of *Mikania* are presently registered (A. Amorim pers. comm.). Although these places present high levels of species richness and endemism (Amorim et al. 2005, Thomas et al. 1998), more information is needed to evaluate the true conservation status of the new species. According to previous recommendations of IUCN (2001), the new species is categorized under DD category.

Mikania capixaba Borges & Fraga, *nom. nov.* — Fig. 2

Mikania dentata G.M.Barroso, Arch. Jard. Bot. Rio de Janeiro 16 (1959) 275, f. V-m, non *Mikania dentata* Spreng. (1826) 422. — Type: *A.C. Brade 12219* (holo RB; iso K, US), Brazil, Espírito Santo, Castelo, Braço do Sul, 9 Aug. 1948.

Notes — Barroso (1959) described 17 new taxa in her revision. Of these, *Mikania barrosoana* G.M.Barroso, *M. hoffmaniana* G.M.Barroso, *M. pseudohoffmaniana* G.M.Barroso and *M. pseudohoffmaniana* var. *macrophylla* G.M.Barroso were invalidly published (Art. 7.11, 37.1, 37.2 and 37.5). All were later validated by Holmes (1993). In the same publication, the species *Mikania dentata* G.M.Barroso was described with an illustration of the leaf. However, the name is a later homonym (Art. 53.1) of *M. dentata* Spreng., which is a synonym of *Calea pinnatifida* (R.Br.) Less (Holmes 2001, Ritter & Miotto 2005). Barroso's use of the name *M. dentata* is therefore illegitimate (King & Robinson 1987). In preparing the Espírito Santo State List of Threatened Plant Species (Fraga et al. 2007), critical study of the type material of *M. dentata* G.M.Barroso confirmed that it represents a distinctive species, that needed to be validly published.

Etymology — The replacement name makes reference to the known geographic distribution of the species. The specific epithet is a name of indigenous origin meaning fertile land, and generally used in allusion of people born in Espírito Santo. The use of '*capixaba*' is supported by the Code's Article 23.2. (McNeill et al. 2006).

Morphological affinities — *Mikania capixaba* is similar in denticulate leaf margins; thyrsoid-paniculate capitulescence, with the ultimate branches glomerulate; and subinvolucral bracts lanceolate, c. 1.5 mm to *M. leptotricha* (Baker 1876). However, *M. capixaba* clearly differs from *M. leptotricha* in its lack of pubescence; longer leaf blade (20–25 cm vs 7–10 cm) with the apex acuminate and the base obtuse.

Conservation — The species was not mentioned in the Brazilian Red List of Endangered Plants (Mello-Filho et al. 1992). However, it was categorized by Kollmann et al. (2007) – under the name *M. dentata* G.M.Barroso – as a vulnerable species (VU) in the Threatened Plant Species Regional List of the Espírito Santo State. For the moment, following the Brazilian conservation context, the species is better classified under DD category.

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