

Stomatanthes reticulatus (Asteraceae), a new species from Brazil

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Stomatanthes reticulatus M.A. Grossi & J.N. Nakaj., an endemic to Serra da Canastra (Minas Gerais, Brazil), is described and illustrated. It resembles in appearance *S. subcapitatus* but differs by the coriaceous leaves and 7-ribbed achenes.

Key words: Asteraceae, Eupatorieae, Eupatoriinae, new species, taxonomy

The Serra da Canastra National Park is located in the southwest of the State of Minas Gerais, Brazil. The Park occupies an area of 71.525 ha. The average altitude of Serra da Canastra is 1200 m with a maximum of 1496 m for the Serra Brava (Romero & Nakajima 1999). The Park is located in the Cerrado phytogeographic province (Cabrera & Willink 1980), the most extensive, richest, and possibly most threatened tropical savanna in the world and considered a biodiversity hotspot (Cardoso da Silva & Bates 2002, Myers *et al.* 2000). The region is home to ca. 7000 plant species, of which about 3080 are endemic (Klink & Machado 2005). Many of those species occur in one specific formation known as *campos rupestres*, or highland formations. The Serra da Canastra National Park is mainly formed by such *campos rupestres*, and due to the large number (45) of endemic species (Romero & Nakajima 1999), this park is considered a diversity nucleus of the Cerrado.

The Asteraceae has the largest number of species in the Park. During a floristic survey of the

Park from 1994 to 1998, 27 new species of Asteraceae were detected, 19 of which are endemic to Serra da Canastra (Nakajima & Semir 2001). One of these species belongs to the genus *Stomatanthes* (Eupatorieae, Asteraceae), which has 17 species mostly concentrated in Brazil (13 species), but with a disjunct distribution in Africa (King & Robinson 1987). In the Serra da Canastra National Park, there are three other species of the genus. A new endemic species of *Stomatanthes* that was collected in Serra da Canastra (Minas Gerais) during the expedition of 1994–1998 is described here.

Stomatanthes reticulatus M.A. Grossi & J.N. Nakaj., *sp. nova* (Figs. 1 and 2)

A congeneribus foliis coriaceis, inflorescentiis laxis pedunculis 1–9 cm, antherarum connectivo truncato ac emarginato et pilis simplicibus conicis granulato-sulcatis in caulibus, foliis, corollis et phyllariis differt.

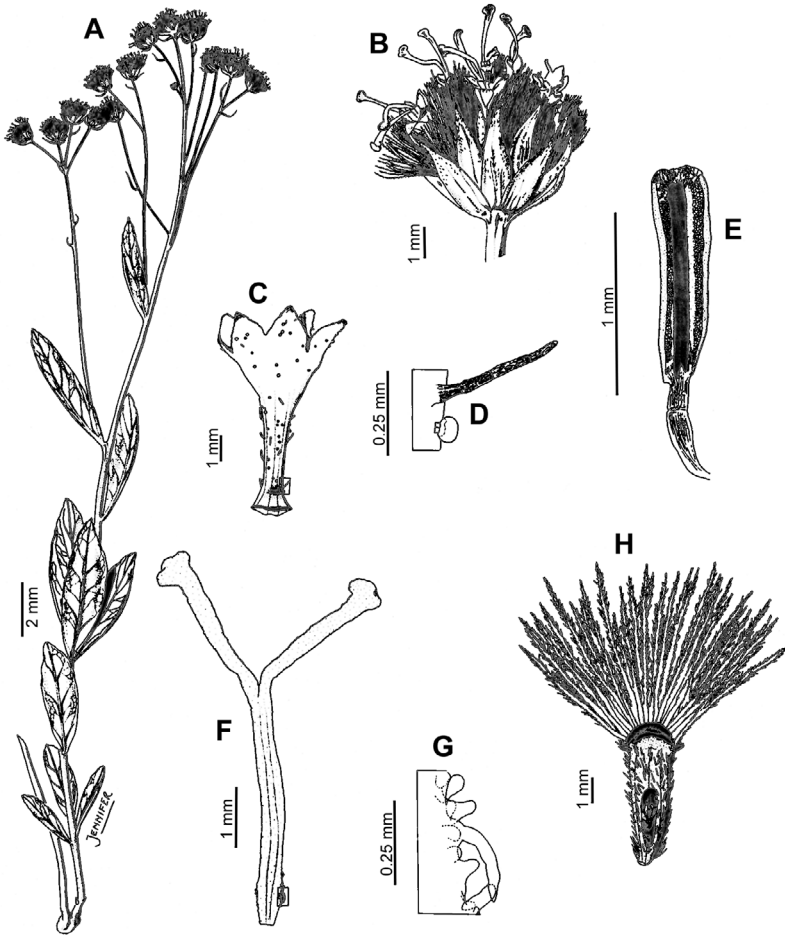


Fig. 1. *Stomatanthes reticulatus* (from the holotype). — **A:** Habit. — **B:** Capitulum. — **C:** Corolla. — **D:** Simple conical granulate-ridged hairs and biseriate vesicular glandular hairs on corolla. — **E:** Stamen. — **F:** Style. — **G:** One-celled simple hairs of style base. — **H:** Achene and pappus.

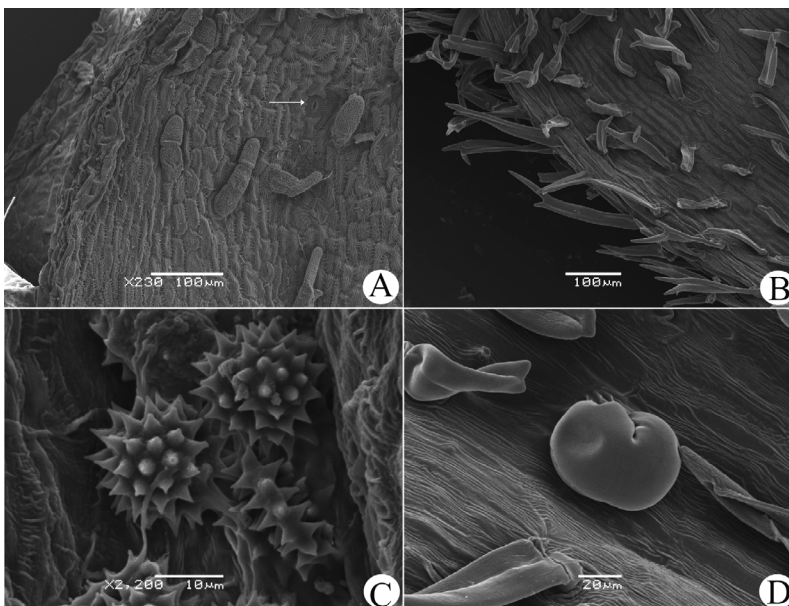


Fig. 2. *Stomatanthes reticulatus*. Scanning electron micrographs (SEM; from the holotype). — **A:** Simple conical granulate-ridged hairs and stomata on corolla. — **B:** Twin-hairs on achene — **C:** Pollen grains. — **D:** Biseriate vesicular glandular hairs on achene.

TYPE: Brazil. Minas Gerais, São Roque de Minas, Parque Nacional da Serra da Canastra, estrada São Roque de Minas–Sacramento, 3 km da sede administrativa, 5.X.1994 J. N. Nakajima et al. 513 (holotype HUFU!; isotypes LP!, SPF!, UEC!, US!). — PARATYPES: Brazil. Minas Gerais: São Roque de Minas, Parque Nacional da Serra da Canastra, 3 km da sede administrativa, 20.XI.1996 R. Romero et al. 3787 (HUFU!); Vale do Rio São Francisco, 7.XII.1994 J. N. Nakajima & R. Romero 686 (HUFU!); Base do morro após o Curral de Pedras, 8.XII.1994 R. Romero & J. N. Nakajima 1495 (HUFU!, LP!); Estrada São Roque–Sacramento, após a Torre de observação, 18.X.1997 R. Romero et al. 4781 (HUFU!); Estrada para a Serra da Chapada, 14.X.1997 R. Romero et al. 4592 (HUFU!); morro após o córrego dos Passageiros, 10.I.1998 R. Romero et al. 4936 (HUFU!, LP!).

ETYMOLOGY: The name *reticulatus* refers to the conspicuous reticulate leaf venation.

Subshrubs 0.3–0.4 m tall, erect, sparsely branched, with xylopodium. Plants strigose by simple conical granulate-ridged hairs and glandulose by biseriate vesicular glandular hairs. Stems simple, terete, striate, densely strigose-tomentulose and glandulose. Leaves alternate, sessile, blades 14–74 mm long \times 5–20 mm wide, coriaceous, oblanceolate to lanceolate, apex acute, margins ciliate, apically serrulate, basally entire, slightly revolute, base acute, strigose and glandulose above, strigose mainly at veins, glandulose below, camptodromous, prominent reticulate veins. Inflorescence a lax, corymbose panicle, bracts foliaceous, linear, strigose, densely punctulate. Capitula homogamous, 8–12 mm long \times 9–15 mm wide, peduncles 1–9 cm, tomentulose-hirsute, glandulose; involucre 5–9 mm long \times 6–14 mm wide, campanulate to hemispherical; phyllaries 12–19, distant, 2-seriate, membranaceous, margins ciliate, apex acute to acuminate, strigose and glandulose; outer phyllaries 4.5–6 mm long \times 0.5–1 mm wide, linear-lanceolate; inner phyllaries 5.5–7 mm long \times 1–1.25 mm wide, lanceolate; receptacle scarcely convex, naked, glabrous. Florets 13–15, bisexual, corolla white 4.5–4.75 mm long, funelform, shortly 5-lobed, tube 2–2.75 mm long \times 0.3–0.6 mm wide, with simple conical granulate-ridged hairs (Fig. 2A) and biseriate vesicular glandular hairs, throat setose, lobes 0.5–0.75 mm long \times 0.5–0.6 mm wide, papillose, triangular, with stomata (Fig. 2A); anther 1.2–1.5 mm long \times 25–30 μ m wide, anther appendages very reduced, 7.5–15 μ m long \times 27–40 μ m wide, truncate, emarginate, base sagittate,

tails 17–20 μ m long \times 7.5–15 μ m wide, anther collar cylindrical, 25–30 μ m long \times 15–18 μ m wide, with two layers of transversely banded cells; style base not enlarged, covered with one-celled simple hairs, shaft 3.5–4 mm long, style branches 3 mm long, with clavate tips, 25 μ m long \times 75 μ m wide, papillose. Achenes 2–3 mm long, prismatic, 7-ribbed, densely setuliferous with ascending twin-hairs located on body and ribs (with symmetrical and asymmetrical apices, apical cells separate, acute to obtuse) (Fig. 2B) and biseriate vesicular glandular hairs (Fig. 2D); carpodium indistinct, 25–30 μ m long \times 70–75 μ m wide, with cells subquadrate and not inflated; pappus 3–4 mm long, 2-seriate, white-yellowish, with ca. 30 scabrous, persistent bristles, with slender tips, apical cells acute. Pollen grains tricolporate, echinate, $P \times E = 17\text{--}20 \times 23\text{--}28 \mu\text{m}$. (Fig. 2C).

This species is endemic to Serra da Canastra (Brazil, Minas Gerais) (Fig. 3), where it occurs in *campo limpo* (clean grassland) and *campo sujo* (grassland with shrubs), flowering from October to January, generally after natural burning, a common feature in the Cerrado region.

Stomatanthes reticulatus resembles *S. subcapitatus* from the state of Paraná (Brazil), but differs by the coriaceous vs. herbaceous leaves, achenes 7-ribbed vs. 5-ribbed, corollas glandular vs. glabrous, anther appendages emarginate and truncate vs. ovate, and a lax corymbose-paniculate inflorescence vs. a dense corymbose-paniculate inflorescence.

Key to the species of *Stomatanthes* of Serra da Canastra

1. Leaves coriaceous, margins apically serrulate, basally entire; inflorescence lax, peduncles 1–9 cm long.; involucre 5–9 mm long, 6–14 mm wide ... *S. reticulatus*
1. Leaves herbaceous, margins serrate, crenate or lobate; inflorescence dense, peduncles 2–10 mm long.; involucre 3–6 mm long, 2–4 mm wide 2.
2. Leaves with margin crenate; style branches with acute tips *S. dyctiophyllus*
2. Leaves with margin lobate; style branches with clavate tips 3.
3. Leaves pinnatifid with slightly differentiated lobes, blades 2–2.5 cm long, 0.9–1.2 cm wide; peduncles 3–10 mm long *S. corumbensis*
3. Leaves pinnatifid with strongly differentiated lobes, blades 5–15 mm long, 3–9 mm wide; peduncles 2–7 mm long *S. pinnatifidus*

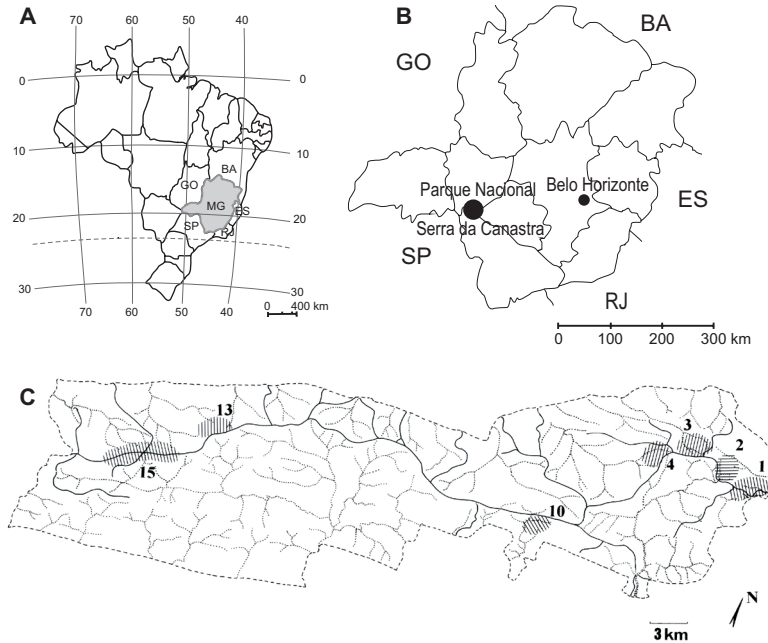


Fig. 3. Distribution map of *Stomatanthes reticulatus*. — **A:** Map of Brazil showing the location of the state of Minas Gerais. — **B:** Location of the Serra da Canastra National Park in the state of Minas Gerais. — **C:** Sites of collection of *S. reticulatus* in the Serra da Canastra National Park. MG: Minas Gerais, GO: Goiás, BA: Bahia, SP: São Paulo, ES: Espírito Santo, RJ: Rio de Janeiro, 1: Administration office, 2: Valley of São Francisco river, 3: Córrego do Quilombo, 4: Curral de Pedras, 10: Córrego dos Passageiros, 13: Observatory Tower, 15: Chapadão da Zagaia.

Stomatanthes reticulatus differs from typical *Stomatanthes* in the form and size of the apical anther appendages. This character is variable within the genus, ranging from 10 to 40 μm long and 15 to 45 μm wide; acute to obtuse at the apex; entire or truncate; sometimes emarginate. *Stomatanthes reticulatus* is characterized by the very reduced anther appendage (as in *S. pinnatipartitus*); in being truncate and emarginate the anther appendage resembles that of *S. meyeri*.

The description of new taxa from tropical areas, such as *Stomatanthes reticulatus*, becomes very important in the context of loss of biodiversity. Endemic species seem to be more exposed to threats and therefore the biological features of rare or endemic taxa have been subject of preferential attention of conservationists (Vischi *et al.* 2004).

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