



Hysterionica matzenbacherii, a new species of Astereae (Asteraceae) from Brazil

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Abstract

A new species endemic to rocky cliffs in southern Brazil, *Hysterionica matzenbacherii*, is described. This species is characterized by leaves that are distally irregularly incised to parted. It is morphologically similar to the Brazilian *H. pinnatiloba* and *H. pinnatisecta* in its habit, capitula and florets, but differs from them by its leaf features. A description of *H. matzenbacherii*, together with illustrations, a distribution map, habitat description, conservation assessment and diagnostic comparison with the other Brazilian species of *Hysterionica* is presented.

Resumo. Uma nova espécie endêmica dos penhascos rochosos do Sul do Brasil, *Hysterionica matzenbacherii*, é aqui descrita. A nova espécie é caracterizada pelas folhas de margem incisa a partida, as margens incisadas da porção mediana ao ápice. A nova espécie é morfológicamente similar às espécies brasileiras *H. pinnatiloba* e *H. pinnatisecta* pelo hábito, capítulos e flores, mas difere pelas características das folhas. É fornecida uma descrição de *H. matzenbacherii*, junto com a ilustração, mapa de distribuição, habitat, avaliação do estado de conservação e comparação com as outras espécies brasileiras de *Hysterionica*.

Key words. Atlantic rainforest, Astereae, Compositae, endemic species, rocky outcrops

Introduction

The genus *Hysterionica* Willdenow (1807: 140) belongs to tribe Astereae (Asteraceae), subtribe Conyzinae and is closely related to the genus *Neja* Don in Sweet (1830: 299). *Hysterionica* contains approximately 10 species, which grow in southern Brazil, Uruguay and northern and central Argentina (Cabrera 1946, Nesom 2008). Recently, three species from Brazil have been described: *H. pinnatiloba* Matzenbacher & Sobral (1996: 17), *H. pinnatisecta* Matzenbacher & Sobral (1996: 16) and *H. nebularis* Deble *et al.* (2004: 9).

Cabrera (1946), in his overview of the genus *Hysterionica* for Uruguay and Argentina, cites nine species, some of which are currently included in *Neja*. Other studies of the genus were carried out by Ariza Espinar (1980), Nesom (1994a, 1994b) and Sancho & Ariza Espinar (2003). Recent molecular phylogenetic studies (e.g., Noyes 2000, Nesom 2008) indicated that *Hysterionica* and *Neja* are closely related and that the delimitation of these genera is in need of revision.

Hysterionica is characterized by annual or perennial herbs to subshrubs with a simple caudex; plants glandular or otherwise glabrous to hirsute or hispid; stems sometimes branched at the base; leaves mostly oblanceolate, entire to pinnatisect; heads 1-several; corolla of radiate florets yellow or white; cypselae 1–2 mm long, 2-nerved; pappus of scabrid bristles in two series, the outer series shorter than the inner one (Nesom 2008). The new species described here displays these features and is therefore included in *Hysterionica*.

Hysterionica matzenbacherii A.A.Schneid., sp. nov. (Fig. 1)

Hysterionica pinnatiloba Matzenb. & Sobral affinis sed follis incisus ad partitis, limbo irregulariter dentato ex medio ad apice differt.



FIGURE 1. *Hysterionica matzenbacherii*. A. Habit. B. Detail of adaxial leaf indument. C. Outermost to innermost phyllaries. D. Pistillate radiate floret. E. Bisexual disk floret. F. Detail of anthers. G. Style apex of radiate floret. H. Style apex of disk floret. I. Mature cypsela. J. Detail of pappus bristle. Illustration by Anelise Scherer based on *Matzenbacher 2218* (ICN).

Type:—BRAZIL. Santa Catarina: Lauro Müller, Serra do Rio do Rastro, rodovia SC-438, 12 December 1996, *N.I. Matzenbacher 2218* (holotype ICN!, isotype MO!).

Annual herbs, 10–22 cm tall, branched at the base or unbranched; roots fasciculate; stems herbaceous, erect or ascending, terete to subterete, striate, sparsely pilose, leafy from the base. Leaves crowded at the base of the stem, alternate, internodes 1–5 mm, sessile, blades chartaceous, obovate to obtrullate, $5.0\text{--}10.5 \times 0.8\text{--}2.5$ cm, margins irregularly incised to lobate (except at base), segments acute, denticulate $2\text{--}12 \times 1\text{--}3$ mm, base long-attenuate, nearly half of the blade, clasping, apex acuminate, strigose adaxially, sparsely strigose abaxially. Capitula solitary (2), heterogamous, radiate, terminal, pedunculate, peduncles 3.5–5 cm long, pilose; involucre hemispheric, $4.0\text{--}5.0 \times 9.0\text{--}12$ mm; phyllaries 2–3 seriate, subequal, lanceolate, $4.1\text{--}4.6 \times 0.5\text{--}0.6$ mm, dorsally glandular and sparsely pilose, acute; receptacle convex, alveolate, epaleate. Radiate florets pistillate, 1-seriate; corolla white, limb $2.3\text{--}2.7 \times 0.5\text{--}0.8$ mm, truncate to slightly 3 lobed, tube 1.8–2 mm long, style 3–4 mm (including branches). Disk florets bisexual, corolla yellow, tubular, tube $3.5\text{--}4 \times 0.5\text{--}0.8$ mm, 5-lobed at the apex, lobes 0.2–0.5 mm long; style 4–4.5 mm (including branches), branches linear, acute, dorsally pilose. Cypselae 1–1.2 mm long, slightly compressed, obconic, marginally 2-nerved, pilose, eglandular; pappus whitish, 2.8–4 mm long, of two series of bristles, the outer series 0.2–1 mm long, the inner series 2–3.2 mm long.

Distribution:— Southern Brazil. Known only from 900–1,400 m in elevation. Serra do Rio do Rastro ($28^{\circ}23'45.15''$ S, $49^{\circ}32'37.14''$ W), part of the eastern edge of the Serra Geral plateau, municipality of Lauro Müller, Santa Catarina (Fig. 2).

Phenology:— Flowering and fruiting specimens have been collected in January.

Habitat: — *Hysterionica matzenbacherii* is known from a single site growing directly attached to bare rock at the edges of outcrops and cliffs on steep slopes subject to constant fog and high humidity. These outcrops occur in the transitional zone of cloud forests and dense forests of the Atlantic Rainforest.

Conservation status:— The new species, according to *IUCN Red list category* (IUCN 2010), is considered Endangered (EN subcriteria D1- very small or restricted population).

Etymology: — The new species honours Nelson Ivo Matzenbacher, collector of the type specimen. Matzenbacher contributed enormously to our knowledge of the Asteraceae from Rio Grande do Sul and Santa Catarina states in southern Brazil.

The new species is morphologically most similar to *H. pinnatiloba* and *H. pinnatisecta* with which it shares an herbaceous habit and capitula with white radiate florets. It is different from them in having leaves with irregularly incised to lobed margins (except in the basal part of the leaf), whereas the leaves of *H. pinnatiloba* are pinnatilobed and those of *H. pinnatisecta* are pinnatisect throughout the length of their leaf margins.

Another important difference is the length of the limb of radiate florets. *Hysterionica matzenbacherii* has shorter limbs (2.3–2.7 mm) than *H. pinnatiloba* (4–5 mm) and *H. pinnatisecta* (8–8.5 mm).

Hysterionica matzenbacherii, just like *H. pinnatisecta*, grows in crevices in the basalt cliffs of the formation of Rio do Rastro, ranging from 900–1,400 m in elevation.

Additional collecting trips to the area failed to recover this population of *H. matzenbacherii* or other populations of this species.

Key to the species of *Hysterionica* from Brazil (terminology following Matzenbacher & Sobral 1996)

1. Leaf margin entire..... *H. nidorelloides*
- Leaf margin incised, leaves pinnatilobed or pinnatisect 2
2. Leaf margin irregularly incised to lobed (except at the basal part of the leaves), limb of radiate corollas 2.3–2.7 mm long *H. matzenbacherii*
- Leaves pinnatilobed or pinnatisect, limb of radiate corollas 4–11.5 mm long 3
3. Leaves pinnatilobed, limb of radiate corollas 4–5 mm long..... *H. pinnatiloba*
- Leaves pinnatisect, limb of radiate corollas 8–11.5 mm long 4

4. Leaves 15–30 mm long, limb of radiate corollas 10.5–11.5mm long *H. nebularis*
 - Leaves 30–35 mm long, limb of radiate corollas 8–8.5 mm long *H. pinnatisecta*



FIGURE 2. Habitat of *Hysterionica matzenbacherii* at Serra do Rio do Rastro (28°23'45.15" S, 49°32'37.14" W), municipality of Lauro Müller, Santa Catarina. Photographs by A.A. Schneider.

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References

- Ariza Espinar, L. (1980) Las especies centro argentinas de *Hysterionica* (Compositae). *Darwiniana* 22: 537–549.
- Cabrera, A.L. (1946) El género *Hysterionica* en el Uruguay y en la Republica Argentina. *Notas del Museo de la Plata, Botánica* 11: 349–358.
- Deble, L.P., Oliveira, A.S. de & Marchiori, J.C.N. (2004) *Hysterionica nebularis*, espécie nova de Astereae – Asteraceae para o Estado do Rio Grande do Sul (Brasil). *Ciência Florestal Santa Maria* 14: 9–11.
- IUCN (2010) The IUCN red list of threatened species, version 2010.4. IUCN Red List Unit, Cambridge U.K. Available from: <http://www.iucnredlist.org/> (accessed: 20 Jan 2012).
- Matzenbacher, N.I. & Sobral, M. (1996) Duas novas espécies de *Hysterionica* Willd. (Asteraceae-Astereae) no sul do Brasil. *Comunicações do Museu de Ciências e Tecnologia da PUCRS, Série Botânica* 2: 15–21.
- Nesom, G.L. (1994a) Subtribal classification of the Astereae (Asteraceae). *Phytologia* 76: 193–274.
- Nesom, G.L. (1994b) Separation of *Neja* (Asteraceae: Astereae) from *Hysterionica*. *Phytologia* 76: 168–175.
- Nesom, G. (2008) Classification of subtribe Conyzinae (Asteraceae: Astereae). *Lundellia* 11: 8–38.
- Noyes, R. D. (2000) Biogeographical and evolutionary insights on *Erigeron* and allies (Asteraceae) from ITS sequence data. *Plant Systematics and Evolution* 220: 93–114.
- Sancho, G. & Ariza Espinar, L. (2003) Asteraceae, parte 16: Tribu III. Astereae. *Flora Fanerogâmica Argentina* 81: 1–102.
- Sweet, R. (1830) *Sweet's Hortus Britannicus: or, a catalogue of all the plants indigenous or cultivated in the gardens of Great Britain*. 2d ed. London. 623 pp.
- Willdenow, C.L. (1807) Einige Bemerkungen über die Pflanzen der Klasse Syngenesia. *Magazin für die neuesten Entdeckungen in der gesammten Naturkunde* 1: 132–141.