A new species of Behuria Cham. (Melastomataceae: Merianieae) from Brazil

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Behuria comosa Tavares, Baumgratz & Goldenberg is a new species from Minas Gerais and Espírito Santo, Brazil. It can be recognized by the branch nodes, sinuses of the leaf margins and domatia comose, leaves and inflorescence axes frequently three-whorled, flowers five(–six)-merous, calyx lobes broadly triangular and with the apex laterally flattened, and petals glabrous, thickly apiculate. © 2008 The Linnean Society of London, Botanical Journal of the Linnean Society, 2008, 158, 489–492.

ADDITIONAL KEYWORDS: Brazilian flora – Espírito Santo – Minas Gerais – taxonomy.

INTRODUCTION

The genus Behuria Cham. is endemic to the south-eastern and southern regions of Brazil, with 14 species occurring mostly in forested areas on mountains near the Atlantic coast and sometimes in high-altitude grasslands (‘campo rupestre’). It has a typical glandulose-dotted indument, terminal frondose-bracteose inflorescences (seldom reduced to monads), (five–)six-merous flowers, a persistent and non-toothed calyx, anthers with a dorsal, linear-subulate appendage, (three–)four-locular ovary, capsular fruits and obtriangular, laterally flattened, and narrowly winged seeds (Tavares, 2005).

The genus was revised by Tavares (2005), and these studies revealed a new species, endemic to the south-eastern region of Brazil, in the states of Minas Gerais and Espírito Santo. This is the first record of the genus Behuria from the state of Espírito Santo.

RESULTS

Behuria comosa Tavares, Baumgratz & Goldenberg, sp. nov.

Diagnosis: Species nova B. parvifoliae affinis, sed praecipue ramis cum nodis, margine foliis et domatiiis comosis, foliis et ramis inflorescentiarum demum 3-verticillatis, plerumque oppositis, laciniae calycis late triangularibus, latere aplanatis versus apicem, floribus 5(–6)-meris, petalis glabris et apiculo crasso differt.

Type: Brazil, Minas Gerais, Araponga, Parque Estadual da Serra do Brigadeiro, Serra das Três Cabeças, Totem Deitado, ‘platô da serra, c. 1722 m, crescendo em meio de vegetação graminóide, sobre afloramento rochoso-granítóide’, 17.x.2003, G. E. Valente 1297 (holotype RB; isotypes UPCB!, VIC!) (Fig. 1).

Description: Herbs to subshrubs 15–50 cm tall. Indument glandulose-dotted and branch and inflorescence nodes, domatia and leaf margins also comose-glandulose, the heads of the trichomes caducous.
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Figure 1. Behuria comosa Tavares, Baumgratz & Goldenberg: A, flowering and fruiting branch; B, trigonous branch with comose nodes; C, foliar base with comose domatia; D, foliar margin with comose sinuses; E, floral bud; F, flower; G, calyx lobe; H, I, antepetalous and antesepalous stamens, respectively; J, stigma; K, longitudinal section of the ovary, showing the partial adnation to the hypostylum and the lobed apex; L, M, young and mature velatidium-type fruit, respectively; N, seeds (G. E. Brave 1361; branch – G. E. Brave 1298). Scale bars: A, 2 cm; B, E, F, L, 3 mm; C, M, 2 mm; D, J, 0.5 mm; G, H, I, K, N, 1 mm.

Branches trigonous with three longitudinal obtuse angles and three lobed faces, sometimes obtusely four-angled, node to the base, internodes longitudinally 3(−4)-sulcate. Leaves mostly three-whorled, but sometimes opposite; petiole 0.1–0.2 cm, slightly flattened, sulcate on adaxial surface; blade 1.6–2 × 0.9–1.4 cm, green, papyraceous, elliptic to narrowly ovate, acute, base obtuse, margin entire at the base and serrate at the distal two-thirds, teeth acute and membranaceous, ciliolate; nerves 3(−5) acrodromous, suprabasal, the inner pair 1–2 mm from the base, marginal secondary veins sometimes forming brochidromous venation to the apex; domatia on abaxial surface, located at the insertion of the inner pair to the main vein, marsupiform, shallow. Cymoids with single and compound dichasia, sometimes corymbiform, with 7–64 flowers, seldom monads, 2.5–4 cm, terminal, primary branches usually three-whorled, seldom opposite, peduncle 0.8–1.4 cm; leafy bracts 2–3, c. 7 × 2 mm, petiolate, opposite or whorled; bracts not leafy, thick, c. 1.2 × 0.5 mm, bracteoles c. 1 × 0.5 mm, both persistent, whorled or opposite, oblong, c. 0.1 mm acute-apiculate, apiculum caducous or persistent, margin entire. Flowers 5(−6)-merous; pedicels 1–1.5 mm; hypanthium 2.5–3 × c. 3.5 mm, campanulate; torus glabrous; calyx persis-
tent, tube c. 0.3 mm, lobes c. 1 × 2 mm, erect but reflexed in the fruits, broadly triangular, upper half abruptly laterally flattened, thick, oblong, apiculate or not, margin glandulose-ciliolate; petals 0.9–1 × c. 5.5 mm, white and slightly rosy or yellowish, obovate, acute-apiculate, glabrous; stamens with slightly unequal size, anthers yellow, oblong-attenuate, base bilobed, pore terminal, connective slightly dorsally gibbose, not prolonged below the thecae, appendage 1–1.2 mm, dorsal, linear-subulate, the antepetalous with filaments 4–5 mm, anthers 2.5–3 mm, the antepetalous with filaments 3–3.5 mm, anthers c. 2.5 mm; ovary three-quarters to four-fifths free, 2–2.5 × c. 1.5 mm, with an apical cone c. 0.5 mm and four short, rounded lobes, three-locular, glabrous; style 6.5–8.5 mm, stigma capitate. Fruits capsular (velatidium-type), 3.5–4 × c. 3.5 mm, brown to brown-red, three-valved, subglobose; seeds 1.2–1.5 × c. 0.5 mm, triangular and laterally flattened, testa granulose, wings narrow, spongy.


DISCUSSION

Behuria comosa is found between 1600 and 1840 m above sea level in Minas Gerais and between 850 and 1380 m in Espírito Santo. In both states, the plants are found in grassland on granitic outcrops. This species was collected with flowers from February to June and with fruits from March to June. Behuria comosa has remarkable vegetative characters: the leaves and inflorescence axes are frequently three-whorled, sometimes opposite, and the branch nodes, leaf margins, and domatia are comose. It also has flowers with laterally flattened, broadly triangular calyx lobes and glabrous, thick, apiculate petals. Behuria parvifolia Cogn. is the most closely related species, mainly with regard to the phyllotaxis and indument type on the leaves, but it differs from B. comosa by the absence of the comose indument on the branch nodes, domatia, and leaf margins, the triangular-subulate calyx lobes (where the apex is not flattened), and petals that are sparsely glandular-pubescent at the margins on the abaxial surface.

The inflorescences of B. comosa are condensed, with short internodes, and sometimes reduced to monads. In some cases, leafy bracts associated with uniflorous basal secondary branches suggest that solitary axillary flowers may occur. Nevertheless, these uniflorous branches apparently result from the abortion of lateral flower buds from dichasia during the development of the inflorescence. Multiflorous inflorescences from compound dichasia may bear up to 64 flowers. The corymbiform aspect of some inflorescences may be a result of the long basal internodes of the proximal secondary branches. No distal nodes from the inflorescences produce vegetative buds and these buds arise from the basal leafless portions of the branches.
The flowers are zygomorphic as a result of the position of the stamens and style: both are placed on the same side of the flower, probably acting as a platform for pollinators. The ventral part of the anthers usually faces upwards, whereas the appendages of the connectives point downwards but are slightly ascending at the apex. The style is sigmoidal, positioned in front of the stamens at anthesis; later, in mature flowers, it migrates to the side opposite the stamens.

The fruits are capsular, of the velatidium-type (Baumgratz, 1985), with the mature ovary completely surrounded and concealed by the hypanthium. The seeds are obtriangular, and the narrow wing may be folded, covering the hilum.

This species has been collected recently in two states in south-eastern Brazil, in four different localities (Fig. 2), one inside a conservation unit (Parque Estadual da Serra do Brigadeiro). All specimens were collected in high mountainous areas, on granitic outcrops that are unsuitable for any economic activity, except for stone mining. Thus, this species cannot be considered as threatened or endangered following the International Union for the Conservation of Nature (IUCN) criteria.

The epithet 'comosa' is related to the indument on the branch nodes, sinuses of the leaf margins, and domatia, which are very distinctive in this new species.

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