



Two new *Eugenia* species (Myrtaceae) from the Brazilian Atlantic forest

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Abstract

Two new species of *Eugenia* (Myrtaceae), endemic to the Atlantic forest in the state of Espírito Santo, Brazil, are described. *Eugenia amorimii* has fruits with brown mealy indumentum and is similar to *E. multicostata*, while *Eugenia sobraliana* has a characteristic pedicels exfoliating longitudinally after anthesis and is similar to *E. sessiliflora*. The new species are restricted to single localities in the central and northwestern regions of Espírito Santo. According to the criteria of the IUCN Red List of endangered plant species both species should be considered as “Vulnerable”.

Key words: Brazil, endemism, Espírito Santo, new species, taxonomy

Introduction

One of the original centers of diversification of the Myrtaceae is the Atlantic forest of the tropical to temperate southeastern South America (Wilson *et al.* 2001), one of the largest rainforests in the Americas. Most of its original cover is found in Brazil, with 684 species, around 75% of which endemic to this domain (Sobral *et al.* 2013). *Eugenia* Linnaeus (1753: 470) is one of the largest genera of the Brazilian Myrtaceae (Landrum & Kawasaki 1997) and is well-represented in the floristic inventories of Espírito Santo (Jesus & Rolim 2005, Saiter *et al.* 2011, Giaretta *et al.* 2013).

The remaining forest cover in Espírito Santo is about 8% of the original Atlantic forest and only 3% of its state territory is found in protected areas (Lani *et al.* 2008). They comprise about 48,000 ha, with the Protected Environmental Area of Pedra do Elefante and the Biological Reserve of Duas Bocas of particular importance. Scarce botanical collections in these protected areas called for the intensification of survey efforts by the team working on the project “Vascular plant diversity and the conservation status of endemic species of three protected areas of the montane Atlantic forest in Espírito Santo”, where both of the new species were collected.

Material and Methods

Morphological data were obtained through the study of herbarium specimens, as well as material collected during field work, with the descriptions, key and illustrations based on both fresh and dried fertile material. Voucher specimens were dried and pressed according to Fidalgo & Bononi (1984) and deposited at RB, with duplicates distributed to BHCB, CEPEC, MBML, RB and UPCB.

Data on the distribution of the new species is presented mapped with elevations, state limits, and vegetation remnants taken from satellite images. The map was made using DIVA-GIS program, version 5.2 (Hijmans *et al.* 2005); satellite images were downloaded from Google Earth.

Distribution and habitat:—*Eugenia sobraliana* is known so far from only two collections in the Environmental Protection Area of Pedra do Elefante, in the municipality of Nova Venécia, Espírito Santo (Fig. 3) and is seemingly restricted to inselbergs covered in dry seasonal forests, at elevations of c. 150 to 360 m elev. The region is characterized by granitic and gneissic inselbergs that are frequently dome-shaped and rise more or less abruptly above the surrounding landscape and delimited by the border of the tropical semideciduous forest. The inselbergs of southeastern Brazil have been recognized as one of the three top hotspots of the inselberg plant diversity, by their species richness and the high level of endemism (Porembski 2007). Several endemic species of other plant families have been recently described for these dry seasonal forest remnants (Versieux & Wanderley 2010; Leme et al. 2010; Goldenberg et al. 2012).

Conservation:—This species is endemic to just one locality, with populations of few and scattered individuals in an area of less than 20 km². It is thus prone to the effects of stochastic events, and its continued existence can't be assured. Although this locality lies in a protected area, it has open boundaries with livestock farms and their frequently undisciplined use of natural resources. We therefore include this species under the category VU D2 of the IUCN Red List (IUCN 2013) of endangered plant species.

Paratype:—BRAZIL. Espírito Santo: Nova Venécia, Área de Proteção Ambiental da Pedra do Elefante, Trilha Principal na Mata da Fazenda Santa Rita, Floresta Estacional Semidecidual, Elev. 154 m, 16 Jul. 2008 (fl.), A.M. Amorim et al. 7522 (BHCB, CEPEC, MBML, RB!, UPCB).

Affinities:—*Eugenia sobraliana* is close to *Eugenia sessilifolia* de Candolle (1828: 263), from which it differs by the morphological characters presented in the following key:

1. Leaves elliptic, base truncate or subcordate; inflorescence terminal on an auxotelic axis producing vegetative shoots with adult leaves after anthesis, flowers 2–6; pedicels not exfoliating *Eugenia sessilifolia*
- 1'. Leaves ovate, base cordate to subcordate; inflorescence axillary, fasciculiform, with 2–4 flowers; pedicels exfoliating after anthesis *Eugenia sobraliana*

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