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# New species of *Myrcia* s.l. (Myrtaceae) from *Campo Rupestre*, Atlantic Forest and Amazon Forest

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## Abstract

The present study describes four new species of the exclusively Neotropical *Myrcia* s.l., which includes the genera *Calyptranthes*, *Marlierea* and *Myrcia*. The new species are named *Myrcia cataphyllata* (related to *Myrcia bicolor*), *Myrcia elevata* (related to *Marlierea velutina*), *Myrcia megaphylla* (very distinct from other species of *Myrcia*) and *Myrcia sessilissima* (related to *Myrcia tomentosa*). They are endemic to their respective biomes: one endemic to the Amazon forest (*M. elevata*); one from the *Campo Rupestre* ('Rocky Fields') vegetation (*M. sessilissima*); and two from the Atlantic Forest (*M. cataphyllata* and *M. megaphylla*). In addition to the descriptions, the study provides illustrations and comments about the distribution, habitat, phenology and taxonomic affinities of these species.

## Introduction

Myrtaceae comprises about 2,500 species in the Neotropical region (Murray-Smith *et al.* 2008); this diversity is concentrated in the eastern portion of South America, in the Guiana Highlands and in the Caribbean (McVaugh 1968, 1969). *Calyptranthes* Swartz (1788: 79), *Marlierea* Cambessèdes (1833: 373) and *Myrcia* De Candolle (1827: 401) comprise *Myrcia* s.l. (equivalent to the "*Myrcia* Group" of Lucas *et al.* 2007), which is the second most species rich clade of Myrtaceae in the Neotropics, with an estimated 700 species (Murray-Smith *et al.* 2008, Govaerts *et al.* 2015). Lucas *et al.* (2011) showed that existing classifications of the group do not reflect monophyletic groupings and instead defined nine informal monophyletic groups in *Myrcia* s.l., which will be the base for a future infrageneric classification.

This study describes four new species of *Myrcia* s.l., one endemic to the Amazon forest, one endemic to *Campo Rupestre* vegetation (sometimes translated as 'Rocky Fields') and two endemic to the Atlantic Forest. These three biomes are recognized for their immense species richness and high levels of endemism of plant groups (Giulietti & Pirani 1988, Giulietti *et al.* 1997, Myers *et al.* 2000, Hubell *et al.* 2008, Rapini *et al.* 2008, Sobral & Stehmann 2009, Hoorn & Wesselingh 2010). *Myrcia* s.l. is one of the most ecologically relevant groups in the Atlantic Forest domain (Murray-Smith *et al.* 2008, Stehmann *et al.* 2009), with exceptional levels of endemism (e.g., Sobral 2010, Sobral *et al.* 2012). In contrast, the *Campo Rupestre* and Amazon biomes contain lower levels of *Myrcia* s.l. endemism relative to that seen in other plant groups.

## Material & Methods

Herbaria visited for this study were: BHCB, G, INPA, K, M, MICH, NY, R, RB, S and SPF (acronyms according to Thiers *et al.* 2015). Flowers and fruits were rehydrated before dissection and all materials were analysed using an Olympus SZH10 stereomicroscope. Extensive field work and analysis of fresh material *ex situ* also provided data for this study.

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