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Three new species in Brazilian *Erythroxylum* (Erythroxylaceae)

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Abstract

Three new species of *Erythroxylum* (Erythroxylaceae) from the Atlantic Forest of Northeastern Brazil are described and illustrated: *Erythroxylum stenopetalum* from the states of Paraíba and Pernambuco, and *E. rhodappendiculatum* and *E. tapacuranum* from Pernambuco. Due to their restricted distribution, and in accordance with the IUCN criteria, the new species are provisionally considered as Critically Endangered (CR) or Data Deficient (DD).Geographical distribution, habitat, and comments on their morphological affinities are provided.

Resumo

Três novas espécies de *Erythroxylum* da Mata Atlântica do Nordeste do Brasil são descritas e ilustradas: *Erythroxylum stenopetalum* que ocorre nos estados da Paraíba e Pernambuco, e *E. rhodappendiculatum* e *E. tapacuranum* que ocorrem em Pernambuco. As novas espécies descritas são classificadas inicialmente na categoria Criticamente em Perigo (CR) ou como Deficiente de Dados (DD) de acordo com os critérios da União Internacional para Conservação da Natureza (IUCN), principalmente por apresentarem distribuição restrita e serem conhecidas de poucas localidades. Além disso, são apresentados dados de distribuição geográfica, hábitat e comentários sobre afinidades morfológicas com outras espécies.

Key words: Brazilian coca plants, conservation, Erythroxylaceae, Malpighiales, taxonomy

Introduction

Erythroxylaceae Kunth (1821: 175) includes about 240–250 pantropical species. Most of them [ca. 230–240] are assigned to *Erythroxylum* Browne (1756: 278), with its centers of diversification within forested environments of the Neotropical region (Plowman & Berry 1999, Plowman & Hensold 2004).

The current infrageneric classification had been proposed by Schulz (1907), who, on the basis of mainly such morphological characters as striated stipules and cataphylls, aestivation, calyx lobes, and style fusion, split *Erythroxylum* into 19 sections. A preliminary phylogenetic study, where 12 sections of the genus had been sampled, suggests that the infrageneric classification proposed by Schulz includes several unnatural groups, with many polyphyletic sections (Emche *et al.* 2011).

Neotropical species of *Erythroxylum* are usually shrubs or trees, easily recognized by the intrapetiolar stipules, usually forming branchlets by compression of cataphylls (brachyblasts), alternate, simple, and glabrous leaves, heterostylous flowers, often arranged in fascicles, and drupes with one pyrene (Plowman & Berry 1999).

For Brazil, Loiola & Costa-Lima (2014) recognized 123 species of *Erythroxylum*, with most of them occurring mainly within the Atlantic Forest Domain, a priority conservation area (Myers *et al.* 2000). According to "The Red Book of Brazilian Flora" (Loiola *et al.* 2013), ten species of *Erythroxylum* are regarded as endangered, with seven of them from the Atlantic Forest. The Atlantic Forest of Northeastern Brazil has the highest diversity of Erythroxylaceae, where 46 species have been recognized by Loiola & Costa-Lima (2014), with ten of them described on the last 30 years (Plowman 1983, 1986, 1987, Costa-Lima & Alves 2013).

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