



A new species of *Ormosia* (Leguminosae, Papilionoideae, Sophoreae) from the Brazilian Atlantic Rain Forest

JOSE EDUARDO MEIRELES¹ & HAROLDO CAVALCANTE DE LIMA²

¹ Department of Biology, Duke University, Box 90338, Durham, North Carolina 27708, USA. jemeireles@gmail.com

² Instituto de Pesquisas Jardim Botânico do Rio de Janeiro. Rua Pacheco Leão 915, Jardim Botânico, Rio de Janeiro, 22460-030, Brazil. hlima@jbrj.gov.br

Abstract

A new legume species from the Brazilian Atlantic Rain Forest, *Ormosia altimontana*, is described and illustrated. The new species belongs to the section *Ormosia*, series *Excelsae*, and shows morphological affinities with *O. friburgensis* and *O. ruddiana*, from which it is distinguished by having fewer leaflets (5-7) with prominent secondary veins, a tomentose abaxial surface, and longer pulvinules, and slightly longer flowers. A Principal Component Analysis of vegetative morphometric data supports *O. altimontana* as morphologically distinct from *O. friburgensis* and *O. ruddiana*.

Introduction

The woody papilionoid legume genus *Ormosia* Jackson (1811: 360) comprises around 130 species, of which about 80 are neotropical and 50 are spread from eastern Asia to northeastern Australia (Pennington *et al.* 2005). *Ormosia* is traditionally assigned to the tribe Sophoreae Spreng. ex Candolle (1825: 94) (see Bentham 1862, Ducke 1939, Rudd 1965, Polhill 1981, 1994) because of its free keel petals and staminal filaments. Phylogenetic studies have shown, however, that the tribe Sophoreae is polyphyletic and that *Ormosia* is actually sister to the genistoid clade (Doyle *et al.* 2000, Pennington *et al.* 2001, Wojciechowski *et al.* 2004, Lavin *et al.* 2005). *Ormosia* can be diagnosed by the combination of its well-formed, clearly imbricate calyx lobes; ten free stamens, incurved style, with a terminal or oblique (usually bilobed) stigma, and seed with a hard testa, often red, black or bicolored (Rudd 1965, Polhill 1981).

During a floristic inventory in the Macaé de Cima region (Lima *et al.* 1994), several specimens of *Ormosia* morphologically distinct from the co-occurring *O. friburgensis* were discovered. Further analysis indicated that those specimens did not fit the description of any *Ormosia*, although their morphology resembles *O. friburgensis* and *O. ruddiana*.

In this study we conducted both a taxonomic and a multivariate analysis of vegetative data from *O. friburgensis*, *O. ruddiana* and the newly discovered specimens. Both analyses indicated that the newly discovered specimens can be clearly distinguished from the similar taxa, and therefore they are described here as a new species.

Methods

To examine species boundaries and to infer putative clusters of morphologically similar specimens, a Principal Component Analysis (PCA) was performed with the R statistical Package (R Core Team, 2013). The morphometric dataset is given in appendix 1. For each of the three species we selected four distinct herbarium collections and measured three fully mature leaves on each specimen. We always measured one of the distal

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