Article

A checklist of woody Leguminosae in the South American Corridor of Dry Vegetation

JACIRA R. LIMA[1*], ANA M.G.A. TOZZI[2] & VIDAL F. MANSANO[3]

[1]*Universidade Federal de Campina Grande, Pombal, PB, 58840-000, Brazil; jacirarabelo@gmail.com*
[2]*Universidade Estadual de Campinas, Campinas, SP, 13083-862, Brazil; anatozzi@unicamp.br*
[3]*Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, DIPEQ, Rio de Janeiro, RJ 22460-030, Brazil; vidalmansano@gmail.com*
* Corresponding author

Abstract

A checklist for woody Leguminosae in the South American Corridor of Dry Vegetation was based on published data (286 floristic lists) and collections from nine herbaria. A total of 781 species (117 genera and 16 tribes) were found. The Chaco showed highest species richness, despite having the lowest taxonomic distinctness index (Δ^*). Data from herbaria formed a large contribution to the evaluation of the diversity of the vegetation studied. Each vegetation type has a considerable number of endemic species, demonstrating the importance of conserving all types of seasonally dry vegetation present in South America.

Key words: conservation, endemics, Fabaceae, flora

Introduction

Leguminosae Jussieu (1789: 345), with about 751 genera and approximately 19,500 species (LPWG 2013a), is the third largest flowering plant family in the world (Lewis *et al.* 2005). It is monophyletic and has traditionally been understood to be comprised of the subfamilies Caesalpinioideae, Mimosoideae and Papilionoideae (Lewis *et al.* 2005). However, Caesalpinioideae as currently circumscribed is now known to be paraphyletic (Doyle *et al.* 2000, Bruneau *et al.* 2001, 2008, Herendeen *et al.* 2003, Wojciechowski *et al.* 2004, Lewis *et al.* 2005); the organization of the family into three subfamilies therefore does not correctly represent relationships within the family. In the future, a new classification of the Leguminosae family will be developed, which will comprise a greater number of subfamilies (LPWG 2013b).

The members of the Leguminosae are extremely diverse both in their ecology and morphology, ranging from large trees to small annual herbs (Lewis *et al.* 2005). Leguminosae has a cosmopolitan distribution and is one of the most species rich families in neotropical forests (Gentry 1995), with an even greater diversity, proportionally, in seasonally dry vegetation and temperate shrub vegetation with xeric climates (Wojciechowski *et al.* 2004). The largest areas of seasonally dry vegetation in the world are found in South America. These vegetation types are: Brazilian Savannas, Chaco, Seasonal Forest and Thorny Woodland.

The Brazilian savanna (known locally as Cerrado) occurs along the Paraguay and Parana Rivers in the states of Goiás, Mato Grosso and Mato Grosso do Sul, Brazil (Ratter *et al.* 1988). It covers an area of about two million km², occurring in areas with nutrient-poor, acidic soils, high levels of aluminum saturation and a seasonal climate with wet summers and dry winters (Gottsberger & Silberbauer-Gottsberger 2006).

The Chaco occurs in the south-central region of South America with an area of approximately one million km², extending from the northern and central regions of Argentina, eastern Paraguay, and southeastern Bolivia to the extreme western part of the state of Mato Grosso do Sul, Brazil (Prado & Gibbs 1993). Typically, the Chaco is open wooded vegetation characterized by spiny, deciduous species with small leaves and xerophytic traits (Hueck 1972).

The Seasonal Forests are found in tropical regions with strong seasonal precipitation (Mooney *et al.* 1995). It covers an area of about 700,000 km² in the Neotropics (Miles *et al.* 2006), occurring in areas with fertile soil with moderate to high pH and low aluminum content (Ratter *et al.* 1978). These forests are located in areas where rainfall ranges from 700 to 1600 mm/year with a period of at least five to six months with rainfall below 100 mm (Gentry 1995), and a strong seasonal climate (Holdridge 1967, Murphy & Lugo 1995).