



## Synopsis of *Melochia* L. (Byttnerioideae, Malvaceae) in southeastern Brazil

VICTOR MARTINS GONÇALEZ<sup>1</sup> & GERLENI LOPES ESTEVES<sup>1</sup>

<sup>1</sup>Instituto de Botânica, São Paulo, SP, Brazil; email:vmgoncalez@hotmail.com

### Abstract

*Melochia* occurs in the Southeast Region of Brazil, comprising ten species and two varieties, which corresponds to about 50% of the Brazilian species. The genus is mainly distributed in the Cerrado. This study provides a taxonomic treatment including an identification key, illustrations, comments on morphology, habitat, geographical data and conservation status. Some species cited for the region, but not found in the present research are referenced with additional notes. Also, a new status (*Melochia regnellii*), a lectotypification, five new records for the Southeast Region, and a Scanning Electron Microscopy study (unpublished for the genus) are here presented.

**Key words:** new status, new records, lectotypification, taxonomy, Cerrado

### Introduction

Byttnerioideae Burnett is one the nine subfamilies of Malvaceae Juss., and includes about 26 genera and 650 species distributed throughout the tropical regions of the world (Kubitzki & Bayer 2003). In Brazil, Byttnerioideae is widely distributed and represented by eight genera and about 135 species (Esteves 2012).

The genus *Melochia* L. comprises approximately 54 species worldwide. These species occur mainly in the Neotropics from the United States to Uruguay, mostly in South America (39 species). Twenty four species are reported for Brazil, of which four are endemic: *M. betonicifolia* A. St.-Hil., *M. lanata* A. St.-Hil., *M. gardneri* Sprague and *M. sergipana* Mont. The Southeast and Midwest regions harbor 50% of the known Brazilian species. Yet, for the other regions this number decreases: Northeast (ten species), North (nine species) and South (seven species). The species inhabit all phytogeographic domains (Esteves 2012).

*Melochia* is characterized by the presence of a pentacarpelar ovary, carpels uni or biovulate with five papillate styles in the apical portion (Goldberg 1967).

Studies on *Melochia* in Brazil are restricted to inventories and floras by state. Among these contributions, the most important works are from Schumann (1886) in *Flora Brasiliensis*, Cristóbal (1983), Cruz & Esteves (2009), and Esteves (2012) in *Lista das Espécies da Flora do Brasil*. Some other relevant studies consist of only one species, such as Esteves (1986), Cristóbal *et al.* (1995) and Cristóbal & Saunders (2006). However, the most complete and significant work concerning the taxonomy of the genus was provided by Goldberg (1967), which includes 68 species divided into five sections, and provides species and sections keys, detailed morphological descriptions and geographical data.

Regarding the economic importance, some species such as *M. pyramidata* L. and *M. villosa* (Mill.) Fawc. & Rendle produce fibers used as a natural resource by the broom and rope industry. Other species are used in folk medicine because of their anti-inflammatory and antibacterial properties. *Melochia corchorifolia* L. is used in Asia as green vegetable. Species such as *M. tomentosa* L. and *M. umbellata* (Houtt.) Stapf are highlighted as ornamentals. The latter species features rapid growth, and it is commonly raised as a shade tree in many parts of the world. *Melochia* also includes ruderal and weed species, especially in rice and soybean crops (Baillon 1875; Goldberg 1967; Cristóbal 1983; Kissman & Groth 1995; Lorenzi 2000).

This paper aims to present a taxonomic study of *Melochia* species from Southeast Region of Brazil, based on an extensive program of sampling, and on an examination of herbarium collections. A proposal to elevate the rank of a variety to specific status, and one lectotypification were made. Sections and species identification keys from the Southeast Region, commentaries on taxonomic relationships and morphology, new records, geographical data, and conservation status are also provided. Additionally, illustrations of morphological structures, and scanning electron microscopy images were obtained, revealing new diagnostic characters for more accurate species delimitation.