VERBENACEAE IN THE RESERVA BIOLÓGICA DA REPRESA DO GRAMA, DESCOBERTO, MINAS GERAIS, BRAZIL
VERBENACEAE NA RESERVA BIOLÓGICA DA REPRESA DO GRAMA, DESCOBERTO, MINAS GERAIS, BRASIL

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ABSTRACT

A taxonomic study of Verbenaceae is presented in the Reserva Biológica da Represa do Grama, Descoberto, in the Zona da Mata of Minas Gerais. This family is represented in the region by four species distributed in three genera: *Lantana camara, L. fucata, Lippia brasiliensis* and *Stachytarpheta cayennensis.* Descriptions and biogeographic comments of the taxa are provided.
Keywords: Atlantic Forest. Floristics. Taxonomy.

RESUMO

Apresenta-se um estudo taxonômico de Verbenaceae na Reserva Biológica da Represa do Grama, Descoberto, na Zona da Mata de Minas Gerais. A família está representada na região por quatro espécies distribuídas em três gêneros: *Lantana camara, L. fucata, Lippia brasiliensis* e *Stachytarpheta cayennensis*. São fornecidas descrições e comentários biogeográficos dos táxons.

Palavras-chave: Floresta Atlântica. Florística. Taxonomia.

Verbenaceae J.St.-Hil. currently comprises 34 genera and about 1.200 species distributed mainly in the Neotropics, with few representatives in Europe, Asia and Africa (ATKINS, 2004). Brazil is a center of diversity for this family, where 16 genera and 289 species are known, 181 of which are endemic, with restricted distribution pattern and greater richness in the Cerrado and *Campos Rupestres* of the Central Plateau and Espinhaço Range (BFG, 2015).

Atlantic Forest has outstanding biodiversity, a large number of endemic species and due to its state of degradation, is among the five main biomes in the ranking of hotspots for conservation of the planet (MYERS et al., 2000). The uncontrolled increase in the conversion rate of tropical forests to forest fragments resulted in loss of species and change in floristic composition over time (CIELO FILHO & SANTIN, 2002). Thus, the anthropic occupation in the Zona da Mata of Minas Gerais resulted in an extremely devastated and fragmented region (OLIVEIRA-FILHO et al., 1994)(VALVERDE, 1958).

In this context, the knowledge of the biodiversity of a region is an important step for future actions of protection. Therefore the present study aims to contribute to the knowledge of the Verbenaceae family in the state of Minas Gerais, inventoring the species occurring in the Reserva Biológica da Represa do Grama (RBRG), elaborating descriptions, data on habitats, geographical, ecological and taxonomic comments. The study region of high biological importance (DRUMMOND et al., 2005), which covers an area of 263.8 hectares of Montane Semideciduous Seasonal Forest located in Descoberto (21º25'S; 42º56'W), in the Zona da Mata (MENINI-NETO et al., 2004)(FORZZA et al., 2014).

The samples deposited at the Herbarium Leopoldo Krieger of the Universidade Federal de Juiz de Fora (CESJ) (THIERS, 2017) from monthly collections conducted between 2000 and 2002, were analysed. The identification of species, was based on specialized literature (ATKINS 2005)(SALIMENA-PIRES & GIULIETTI, 1998)(SALIMENA et al., 2016)(SILVA, 1999), and the specimens already determined by specialist F.R.G. Salimena (CESJ) were analyzed by comparison.

The morphological descriptions are based the terminologies proposed by Gonçalves & Lorenzi (2007), Harris & Harris (2003) and Radford (1986). In the studied area, Verbenaceae is represented by four species distributed in three genera: *Lantana* L. with two species, and *Lippia* L. and *Stachytarpheta* Vahl with only one.

The family comprises herbs, shrubs, sub-shrubs, trees or lianas, dioecious or monoecious, usually aromatic. Leaves opposite, simple, with margin entire, serrate or crenate, sessile or petiolate, without stipules. Inflorescences terminal or axillary, usually many-flowered racemes or spikes; flowers zygomorphic; calyx synsepalous, tubular, campanulate or cylindrical; corolla synpetalous, tubular, narrow tube, stamens 4, occasionally only these 2 fertile, alternating with the corolla lobes, free filaments, bitthecal anthers, longitudinal dehiscence; gynecium with 2–4 carpel, one of the carpels usually abortive; superior ovary, anatropous ovules. Fruit drupaceous or schizocarpic, seeds without endosperm.

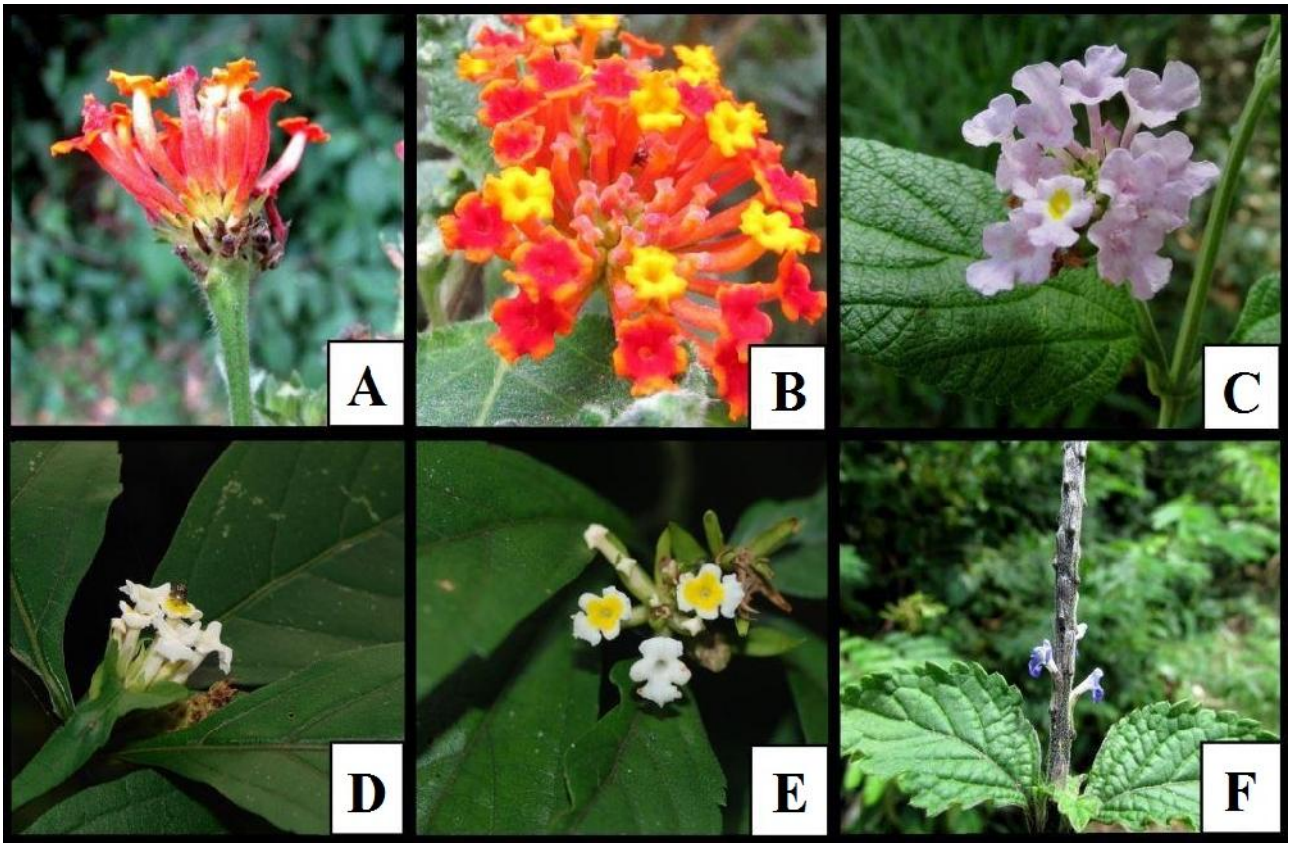

Figure 1. A-B. *Lantana camara*, C. *L. fucata*, D-E. *Lippia brasiliensis*, F. *Stachytarpheta cayennensis.* Photos: Andressa Cabral and Pedro Henrique Cardoso, except D and E (Luiz Menini Neto).

Lantana has approximately 150 species distributed in the Neotropics, with some representatives in Africa and Asia (ATKINS, 2004)(BFG, 2015). In Brazil 20 species occur, being ten of them endemics (BFG, 2015). In the RBRG there are two species: *Lantana camara* L. and *Lantana fucata* Lindl.

Lantana camara L., Sp. pl. 2:627. 1753. Figure 1A-B.

Shrubs to 1 m tall, tetragonal branchs, aculeate. Leaves opposite, petiolate, blade 30–41.88 × 13.6–31.57 mm, ovate, adaxial surface hirsute, abaxial surface densely hirsute-glandular. Inflorescence capituliform; equal bracts, oblong-lanceolate; calix ca. 2.2 mm length, tubulose; corolla ca. 10.2 mm long., zygomorphic, red to yellow, yellow fauces; stamens 4, perfect, didinamous, ovoid ovary. Drupe, ovoid, green when immature, black when mature.

This species is originary from tropical America, but is spread in several areas of the globe, presenting the broadest geographic distribution of the genus (SILVA, 1999). In the RBRG the specimen was collected by F.R.G. Salimena & P.H. Nobre 939, 21.X.2001 (CESJ) with flowers and fruits. The additional material collected in Rio Preto municipality (Funil, Fazenda Tiririca, Serra da Caveira D'Anta) by K. Antunes et al. 103, 24.IV.2004 (CESJ) with flowers, was used in this treatment.

Lantana fucata Lindl. Bot. Reg., 10: t. 798, 1824. Figure 1C.

Subshrubs to 1 m tall., tetragonal branchs, unarmed. Leaves opposite, petiolate, blade 21.82–66.02 × 12.31–47.73 mm, ovate, pubescent-glandular in adaxial surface, tomentose-glandular in abaxial surface. Inflorescence capituliform; unequal bracts, external bract widely-ovate, internal bract ovate; calix ca. 1.85 mm length, tubulose; corolla 10.89–12.55 mm length, zygomorphic, pink, yellow fauces; stamens 4, perfect, didinamous; globose ovary. Drupe, widely-ovoid, black.

The species is widely distributed in tropical and subtropical regions of the America (SILVA, 1999). In the RBRG the specimens were collected by F.R.G. Salimena & P.H. Nobre 939,

21.X.2001 (CESJ), F.R.G. Salimena & P.H. Nobre 940, 21.X.2001 (CESJ) and R.C. Forzza et al., 2043, 13.I.2002 (CESJ) with flowers and fruits.

Lippia currently encompasses about 200 taxa, distributed throughout the tropics and subtropics of the America and Africa (ATKINS, 2004). Brazil constitutes an important center of diversity for the genus, with 81 species, of which 59 is endemic (BFG, 2015). In the RBRG there is one species: *Lippia brasiliensis* (Link) T.R.S.Silva.

Lippia brasiliensis (Link) T. Silva, Darwiniana 40: 58. 2002. Figure 1D-E.

Treelet to 2 m tall., tetragonal branchs. Leaves opposite, petiolate, blade 57.93–137.22 × 26.71–57 mm, elliptic, strigose in both surfaces. Inflorescence capituliform; equal bracts, elliptics; calix ca. 1.96 mm., tubulose; corolla 12.08 mm zygomorphic, white, yellow fauces; stamens 4, perfect, didinamous, elliptic ovary. Schizocarp, elliptic, dark brown.

This species is distributed through Brazil, Paraguay and Argentina. In the RBRG the specimen was collected by P.C.L. Faria et al. 44, 02.II.2000 (CESJ) with flowers. The observation of the fruit was made through additional material collected in Divino - MG, by L.S. Leoni 737, 02.IV.1989 (CESJ).

Stachytarpheta currently encompasses 133 species widely distributed in tropical and subtropical America with few species in Australia, Asia, Africa and Oceania (ATKINS, 2005). In Brazil there are 79 species, being 73 of them endemics (BFG, 2015). In the RBRG there is only *S. cayennensis* (Rich.) Vahl.

Stachytarpheta cayennensis (Rich.) Vahl, Enum. Pl. 1: 208. 1804. Figure 1F.

Shrubs to 1 m tall., tetragonal branchs. Leaves opposite, sessile, blade 29.6–67.54 × 10.21–24.79 mm, oblong, adaxial surface hirsute with scattered sessile glands, pubescent in abaxial surface. Inflorescence cylindrical; equal bracts, lanceolate; calix ca. 4.7 mm length, tubulose; corolla ca. 9 mm length, zygomorphic, lilac; stamens 2 perfect, 2 staminodes, ovary oblong. Schizocarp, oblong, dark brown.

The species is widely distributed in Central and South America (BFG, 2015). In the study area, the specimen was collected by R.M. Castro & D.S. Pifano 728, 02.XII.2001 (CESJ) with flowers and fruits on edge of forest near the watercourse.

Currently, none of the species found in this area is classified as rare or threatened with extinction (SALIMENA et al., 2013). The knowledge about the diversity and geographic distribution of the species of Verbenaceae in the RBRG contributes to the knowledge of the flora of Minas Gerais and to Brazil, since some species are widely distributed in Brazilian territory.

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