






Original article

Conspectus of the Melastomataceae Juss. in the Distrito Federal, Brazil

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ABSTRACT: Melastomataceae is one of the most representative families of the Cerrado biome, with 33 genera and 513 species. The last published checklist of Melastomataceae for the Distrito Federal (DF) recorded 19 genera and 87 species as part of the *Flora do Distrito Federal* project in 2001. Since then, new molecular studies have brought many changes in generic and tribal circumscriptions, hence the importance of updating the taxonomic treatment of the family for the DF. The present *Conspectus* presents a dichotomous key covering the 18 genera and 89 species of Melastomataceae with confirmed occurrence in the DF. The habit, flower color, number of records in the DF, and most commonly recorded habitats are furnished, as well as images of 20 species.

Keywords: Myrtales, Cerrado, floristics, savanna, flora, checklist.

RESUMO (*Conspectus de Melastomataceae Juss. no Distrito Federal, Brasil*): Melastomataceae é uma das famílias mais representativas do Cerrado, apresentando 33 gêneros e 513 espécies no bioma. A última listagem publicada de Melastomataceae para o Distrito Federal (DF) apontava 19 gêneros e 87 espécies, e foi elaborada para nortear o projeto Flora do Distrito Federal em 2001. Desde então, novos estudos moleculares trouxeram muitas mudanças de circunscrição genérica e tribal, por isso a importância de atualizar o tratamento taxonômico da família para o DF. O presente *Conspectus* apresenta uma chave dicotômica abrangendo 18 gêneros e 89 espécies de Melastomataceae com ocorrência confirmada no DF. É fornecida uma listagem com o habitat, cor da corola, número de registros no DF e habitats mais comumente registrados para cada espécie, além de imagens de 20 espécies.

Palavras-chave: Myrtales, Cerrado, florística, savana, flora, checklist.

INTRODUCTION

The Melastomataceae family includes 173 genera and ca. 5,750 species (Michelangeli *et al.* 2020). It has a Pantropical distribution and is especially diverse in the New World (Michelangeli *et al.* 2020). In Brazil, 61 genera and 1,436 species have been recorded; in the Cerrado, it is among the most diverse families with 25 genera and 513 species (Goldenberg *et al.* 2020b). For the Distrito Federal (DF), 27 genera and 90 species were recently listed in the Flora e funga do Brasil (Goldenberg *et al.* 2020b). The Melastomataceae have varied habits: they can be large trees, treelets, shrubs or herbs, rarely lianas or epiphytes; the branches are hairy, or glabrous, glutinous or not (Clausing & Renner 2001). The

leaves are one of the main characters for quick identification of the family; they are simple, opposite, usually decussate and with characteristic venation, basal or suprabasal acrodromous unless leaves are very narrow (Clausing & Renner 2001). Its inflorescences are axillary or terminal, sometimes reduced to a single flower, with bracts and bracteoles usually present (Clausing & Renner 2001). The flowers are dichlamydeous, hermaphrodite, with 4–6 free, white, cream, magenta, purple, lavender, violet, lilac, rarely red, yellow or bicolor petals, and are perigynous to epigynous (Martinet *et al.* 2009; Romero 2000). The fruits are capsule-like or fleshy (Baumgratz 1983).

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Starting with the pioneer molecular systematics publication by Clausen & Renner (2001), several new phylogenetic analyses brought updates to the family configuration, as well as a better understanding of its internal evolutionary relationships (Bacci *et al.* 2019, Bochorny *et al.* 2019, Goldenberg *et al.* 2012, 2015; Meyer *et al.* 2019; Michelangeli *et al.* 2013; Almeda *et al.* 2016; Rocha *et al.* 2016a; Guimarães *et al.* 2019; Versiane *et al.* 2021).

The last published list of Melastomataceae for the DF recorded 19 genera and 87 species; it was prepared to guide the *Flora do Distrito Federal* project (Proença *et al.* 2001) and no identification key was presented. A key to the DF genera of Melastomataceae was produced by Munhoz (1996, unpubl. M.Sc. thesis). Since then, some generic and species circumscriptions have changed somewhat due to molecular phylogenetics; also, previously unrecorded species have come to light.

Therefore, in this publication, we provide a updated checklist and produce a key of the genera of Melastomataceae in the DF following its current generic circumscription (see Michelangeli *et al.* 2020; Goldenberg *et al.* 2020b; Versiane *et al.* 2021). Also, commentaries and images to facilitate the species identification in this important DF family.

MATERIAL AND METHODS

The Distrito Federal (15° 46' 48" S, 47° 55' 45" W) is located in Western Central Brazil, in the core region of the Cerrado biome (Brazilian savanna) (CODEPLAN 2013). It covers an area of 5,790 km² and consists predominantly of savannas (cerrado *sensu stricto*), and other vegetation types such as forests and grasslands. The climate in the region is predominantly Aw according to the Köppen system, with rainfall seasonality, with high temperatures and

rains concentrated between October and April, followed by drier and colder conditions between May and September (Alvares *et al.* 2013).

A survey of the morphological data of the 27 genera and 90 species listed for the Distrito Federal (DF) was carried out using as a starting point the Flora do Brasil website (2020) (Goldenberg *et al.* 2020b), through images and data provided at *speciesLink* network (CRIA 2021) and articles found in databases such as the CAPES Portal (CAPES 2021), SciELO (2021) and Google Scholar (2021) duly referenced in the text and cited in the References. For some genera, this information was complemented with studies of physical specimens from the CEN, HEPH, IBGE, and UB herbaria (acronyms according to Thiers 2022). For the construction of the identification key, the circumscription synthesized by Michelangeli *et al.* (2020) was adopted (that does not recognize *Clidemia*, *Leandra*, *Ossaea* or *Tococa* as separate genera from *Miconia*), as well as the new circumscription of the tribe Microlicieae, with the genus *Microlicia* now including the genera *Chaetostoma*, *Lavoisiera*, *Trembleya* and *Stenodon*. A short diagnosis was elaborated for each genus including habit, presence of petiole, type of venation, type of inflorescence, flower characteristics (including number and color of petals, number of stamens and prolongation and pendoconnective and appendage characteristics, number of ovary locules) and type of fruit.

Images from *speciesLink* database were used to confirm the localities of the specimens by their labels and to compose (in part) the plates. The plants illustrated in the plates had their identifications confirmed by the first author; all images were captured in the DF except that of *Marcetia taxifolia* (A.St.-Hil.) DC. that was captured in Diamantina, Minas Gerais (voucher material Proença & Harris

3953, UB). A list of accepted names for the DF and habit, corolla color, number of records in *speciesLink* in the DF and most frequently cited phytophysiognomies is provide to each genus. We use the term records to refer to the counts in *Species Link* for each species and this may include duplicates of the same collection; they are included as a rough guide to how commonly collected the species is within the Distrito Federal. The terms used for Cerrado phytophysiognomies are those established by Ribeiro & Walter (2008) and translated as the following: dry grasslands = *campo limpo seco*; rocky field = *campo rupestre*; palm swamp = *vereda*; grasslands = *campo limpo*; wet grasslands = *campo limpo úmido*; dry grasslands = *campo limpo seco*; shrub grasslands = *campo sujo*; gallery forest = *mata de galeria*; riparian forest = *mata ciliar*.

RESULTS

The list of genera and species for the Distrito Federal provided in Flora do Brasil (2020) has changed. With these changes, we recognized 18 genera and 89 species of Melastomataceae as pertaining to the DF flora. The genus *Aciotis* was excluded from the DF flora, since the only specimen listed refers to the old DF (1891-1960), corresponding to the current municipality of Rio de Janeiro. The species *Pleroma martiale* (Cham.) Triana was also excluded, since we did not find any material collected in the DF of this species. There is in fact a collection by F. Sellow the label of which states "Brasília", but Sellow collected it in Brazil in the early 19th century. Brasília as the capital of Brazil was only founded in 1960, and the note he made merely indicates the country of collection (*Brasília* is Brazil in Latin). Furthermore, the single collection previously recorded as *Siphanthera dawsonii* Wurdack (C.R. Martins 2094, HUFU) has had its

identification revised, and has been re-identified as *Pterolepis perpusilla* (Naudin) Cogn., hence *S. dawsonii* is also excluded from the DF flora. *Chaetogastra herbacea* (DC.) P.J.F.Guim. & Michelang. and *C. sebastianopolitana* (Raddi) P.J.F.Guim. & Michelang. were included since records were found for the DF in *Species Link* (under the synonyms *Tibouchina herbacea* DC. and *Tibouchina sebastianopolitana* Raddi), respectively, identified by a specialist in this group (P.J.F. Guimarães, from RB). Finally, it was not possible to find a voucher for *Miconia neourceolata* Michelang. in the DF, the only collection for the DF is that of Edmundo Pereira number 4124, from 1958, before the transfer of the capital from Rio de Janeiro to its current location. The locality of that collected is cited as "Mesa do Superador, Distrito Federal", a location unknown to us, but we believe it may possibly refer to "Mesa do Imperador", in Rio de Janeiro.

KEY TO THE GENERA OF MELASTOMATACEAE OF THE DISTRITO FEDERAL

1. Fruits dry, capsular; ovary usually at least partially free from the hypanthium (technically superior), rarely inferior or semi-inferior (Tribes Cambessedesieae, Marcetieae, Melastomateae, Merianieae and Microlicieae) 2
1. Fruits berries; ovary adnate to the hypanthium, inferior or semi-inferior (tribe Miconieae and subfamily Olinbeoideae) 21
2. Hypanthium with penicillate emergences between sepals ***Pterolepis***
2. Hypanthium without penicillate emergences between the sepals 3
3. Stamens with a dorsal, basal, appendage ***Graffenrieda***
3. Stamens without a dorsal, basal, appendage 4

4. Stamens fertile alternating with staminodes	5	reduced to a single flower or in simple dichasia that
4. Stamens all fertile	7	can form a head of clustered dichasia, leaves with
5. Herbs, leaves with a single leaf vein	6	entire margin, serrated or crenulate
5. Shrubs or sub-shrubs, leaves with 5, 7 or 9 veins		<i>Microlicia</i>
.....		12. Petals cream, purple, lilac, white or pink
.....		12. Petals yellow or with combinations of orange or
6. Branches quadrangular, often with a set of		red and yellow
expanded leaves at the base, flowers always 5-merous,		<i>Cambessedesia</i>
ovary always 2-locular		13. Petals always 4, when young white on the basal
.....		half and pink to lilac on the apical half
6. Branches slender, without set of expanded leaves		<i>Macaireia</i>
at the base, flowers 4-5 merous, ovary 2-3 locular		13. Petals monocolored 4, 5 or 6
.....		14
.....		14. Plant covered with scales on the leaves,
.....		hypanthus and branches
.....		<i>Tibouchina</i>
7. Ovary glabrous	8	14. Plant densely covered by long, albo-setose
7. Ovary with trichomes	12	trichomes (leaves, hypanthium and branches)
8. Petals 4	9
8. Petals 5, 9 or 10	11
8. Petals 5, 9 or 10	11	14. Plant without dense covering of albo-setose
9. Ovary 1-4 locular	10	trichomes, if these are present, sparse
9. Ovary 2-locular		15
.....		15. Stamens pink or lilac
.....		<i>Pleroma</i>
10. Leaves with ciliate margins, paniculate		15. Stamens at least partially yellow or cream
inflorescence
.....		<i>Chaetogastra</i>
10. Leaves with entire margin, flowers usually		21. Leaves with brochidodromous venation;
isolated		connective appendix with dorsal, elliptical, concave
.....		gland
.....		<i>Mouriri</i>
11. Branches winged, inflorescences paniculate or		21. Leaves with acrodromous venation; connective
isolated flowers, leaves always with 5 ribs and		appendix without dorsal, elliptical, concave dorsal
serrated margin		gland
.....		<i>Miconia</i>
11. Branches quadrangular or cylindrical,		
inflorescences with flowers isolated, in pairs or		

1. *Acisanthera* P.Browne

Herbs or subshrubs. **Leaves** with acrodromous venation, sessile or short-petiolate. **Flowers** can be solitary or arranged in dichasium or in terminal or axillary capitate cymes or panicles. Flower are 5-merous, petals of light pink or lilac color. Stamens 10, dimorphic or subisomorphic, connectives usually prolonged, ventral appendage present (species

occurring in the DF), ovary 3-locular (Guimarães *et al.* 2020a). **Fruits** capsular velatidea (Baumgratz 1985).

Eight species are recognized (Guimarães *et al.* 2017), with three species being recorded in Brazil and only one in the DF (Guimarães *et al.* 2020a; Michelangeli *et al.* 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Acisanthera variabilis</i> (DC.) Triana	Herbs or subshrubs; petals lilac; 5 records; rocky field, wet grasslands	E.C.O. Lourenço 4 (UB)

2. *Cambessedesia* DC.

Herbs or subshrubs with xylopodium. **Leaves** with acrodromous venation, sessile or short-petiolate. **Flowers** solitary or in dichasia, terminal or axillary, 5(6)-merous, petals yellow, or bicolored in combinations of yellow with orange/red. Stamens usually 10, subisomorphic, dorsally thickened connective and eventually with a small calcar at the

base, appendage absent, ovary usually 3-4-locular (Bochorny *et al.* 2019). **Fruits** capsular velatidea (Baumgratz 1985; Bochorny *et al.* 2019).

Cambessedesia, with 30 species (Bochorny *et al.* 2019) is endemic to Brazil, in the DF there are only two species (Pacífico & Findanza 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Cambessedesia espora</i> (A.St.-Hil. ex Bonpl.) DC. (Fig. 1, image 1)	Herbs or subshrubs; petals yellow; 242 records; rocky field, shrub grassland, cerrado s. s.	A.G. Amaral 1385 (UB)
<i>Cambessedesia hilariana</i> (Kunth) DC. (Fig. 1, image 2)	Shrubs, subshrubs or herbs; petals with yellow base and orange/red apex; 54 records; rocky field	T.E.C. Meneguzzo 55 (UB)

3. *Chaetogastra* DC.

Subshrubs, more rarely herbs or shrubs. **Leaves** with acrodromous venation, petiolate with margins often crenulate, rarely serrated. Inflorescences terminal, usually multiflorous, forming dichasia, thyrus or paniculate. **Flowers** 5-merous, petals lilac or purple, stamens usually isomorphic, yellow or cream, connectives short, ventrally elongated and briefly bilobed, ovary 4-5-locular (Goldenberg *et al.*

2020d). **Fruits** ruptured capsula (Baumgratz 1985; Goldenberg *et al.* 2020d).

Chaetogastra has 120 species (Guimarães *et al.* 2019) 25 of which occur in Brazil, 17 of which are endemic to the country. In the DF, it is represented by four species (Goldenberg *et al.* 2020d; Michelangeli *et al.* 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Chaetogastra gracilis</i> (Bonpl.) DC. (Fig. 1, image 3)	Subshrubs; petals lilac; 26 records; grasslands, shrub grasslands	M.A. Alves 237A (HEPH)
<i>Chaetogastra herbacea</i> (DC.) P.J.F.Guim. & Michelang.	Subshrubs; petals purple or lilac; 9 records; wet grassland, dry grasslands	E.C.O. Lourenço 5 (UB)
<i>Chaetogastra parviflora</i> (Cogn.) P.J.F.Guim. & Michelang.	Subshrubs; petals lilac or purple; 31 records; gallery forest or riparian forest	A.E. Ramos 543 (HEPH)
<i>Chaetogastra sebastianopolitana</i> (Raddi) P.J.F.Guim. & Michelang.	Subshrubs; petals purple or lilac; 12 records; gallery forest or riparian forest	E.P. Heringer 6957 (UB)

4. *Desmoscelis* Naudin

Herbs, shrubs or subshrubs; branches with hirsute-villous indumentum. **Leaves** with acrodromous venation, sessile or short petiolate, elliptical or oval,

entire margin intensely covered by setose-villous indumentum. **Flowers** 5-merous, petals lilac or pink. Stamens 10, dimorphic, connectives prolonged, ventral appendix bifid, with filiform lobes, ovary 5-

locular (Rosa 2020). **Fruits** capsular velatidea (Michelangeli *et al.* 2020; Rosa 2020) and it is a (Baumgratz 1985; Rosa 2020). common species in the DF.

Desmoscelis harbors two species (Guimarães *et al.* 2019), in Brazil only *Desmoscelis villosa* is found

Taxon	Notes	Voucher (Herbarium acronym)
<i>Desmoscelis villosa</i> (Aubl.) Naudin (Fig. 1, image 4)	Herbs, shrubs, or subshrubs; petals lilac or pink; 104 records; wet and dry grasslands and rocky field	C.B.R. Munhoz 4029 (UB)

5. *Fritzschia* Cham.

Herbs, shrubs or subshrubs. **Leaves** with auriculate, ovary 4-locular. **Fruits** capsular velatidea (Baumgratz 1985; Rocha *et al.* 2018).

Fritzschia occurs only in Brazil with 12 species (Rocha *et al.* 2018), in the DF there is only one species (Silva *et al.* 2020a).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Fritzschia lanceiflora</i> (Mart. & Schrank ex DC.) M.J.R.Rocha & P.J.F.Guim. (Fig. 1, image 5)	Subshrubs; petals lilac to pink; 24 records; wet and dry grasslands, palm swamp and rocky field	T. Nogales 121 (UB)

6. *Graffenrieda* DC.

Trees or shrubs, rarely lianas (out of the DF), often (Renner 1993). **Fruits** capsular velatidea (Renner 1993).

showing powdery indumentum on leaves, pedicels, hypanthium, and sepals. **Leaves** with acrodromous venation, peciolate. **Flowers** 4-5-merous with white petals. Stamens 8 ou 10, isomorphic, connectives with entire dorsal appendages, ovary 3-5-locular *Graffenrieda* is a Neotropical genus with 44 species and occurs from Mexico to southeastern Brazil (Renner 1993) 20 species are found in Brazil, two of which are endemic, and in the DF only one species is found (Lima *et al.* 2017).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Graffenrieda weddellii</i> Naudin	Trees or shrubs; petals white; 1 record; riparian forest or gallery forest	I.L.M. Resende 4231 (UB)

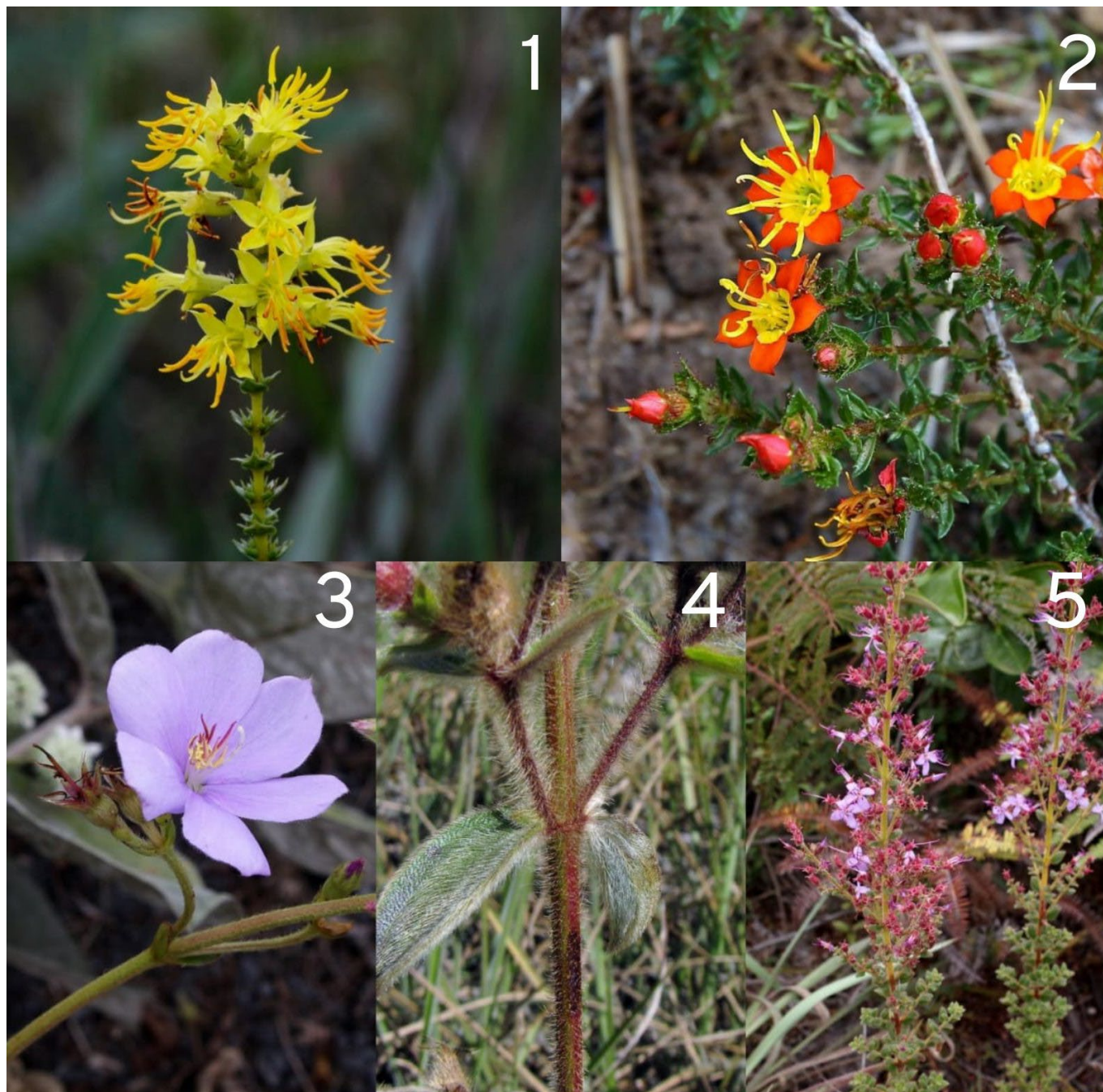


Figure 1. 1. *Cambessedesia espora*. 2. *Cambessedesia hilariana*. 3. *Chaetogastra gracilis*. 4. *Desmoscelis villosa*. 5. *Fritzschia lanceiflora*. Photos by Mauricio Mercadante.

7. *Macairea* DC.

Shrubs or subshrubs, rarely herbs or trees. Leaves with acrodromous venation, petiolate. Inflorescence in terminal panicle, rarely in axillary cyme. Flowers 4-merous, rarely 5-merous. Stamens 8, rarely 10, filaments covered with glandular trichomes on the ventral surface, connective with ventral appendages, ovary (2–3–)4-locular (Rocha *et al.* 2018). Fruits

capsular velatidea (Baumgratz 1985; Rocha *et al.* 2018).

Macairea has 22 species, with 12 species occurring in Brazil, 2 of which are endemic to the country (Renner 1989; Rocha *et al.* 2019). In the DF, only one species is found (Michelangeli *et al.* 2020; Silva *et al.* 2020b)

Taxon	Notes	Voucher (Herbarium acronym)
<i>Macairea radula</i> (Bonpl.) DC. (Fig. 2, images 1, 2)	Tree, shrubs, or subshrubs; petals with white bases and pink, purple or lilac apical portions; 198 records; wet grasslands, palm swamp, rocky field, riparian forest and gallery forest	<i>G. Damasco 820 (UB)</i>

8. *Marcetia* DC.

Shrubs or subshrubs. **Leaves** often with the abaxial face showing a complex indumentum with more than one type of trichome, with acrodromous venation, peciolate. Flower may be terminal or axillary, solitary or in inflorescences. **Flowers** always 4-merous, petals white or lilac, connectives thickened, with no

appendages, ovary 1-4 locular (Rocha *et al.* 2016a; Rocha *et al.* 2018; Santos 2020). **Fruits** capsular, loculicidal (Baumgratz 1985).

Marcetia includes 30 species, most of which are exclusively Brazilian (Rocha *et al.* 2018) *Marcetia taxifolia* (A. St.-Hil.) DC. is the only species present in the DF (Santos 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Marcetia taxifolia</i> (A.St.-Hil.) DC. (Fig. 2, image 3)	Shrubs or subshrubs; petals purple or white; 4 records; rocky field	<i>W.B. Anderson 36149 (UB)</i>

9. *Miconia* Ruiz & Pav.

Trees, shrubs, subshrubs or herbs. **Leaves** decussate, with acrodromous venation. Inflorescences cymes or dichasia, terminal or axillary. **Flowers** pedicellate or sessile in the same plant, 4–5-merous, petals usually reflexed, ranging from white, translucent white, or white with translucent shades of green or pink, ovary with the number of locules generally equal to the number of petals (Gamba & Almeida 2014). **Fruits** berries, indehiscent (Baumgratz 1985; Gamba & Almeida 2014).

Miconia, within the circumscription synthesized by Michelangeli *et al.* (2020), includes *Miconia* s.s. and *Anaectocalyx* Triana, *Calycogonium* DC., *Catocoryne* Hook. f., *Charianthus* D. Don, *Clidemia* D. Don, *Conostegia* D. Don, *Leandra* Raddi, *Killipia* Gleason, *Maieta* Aubl., *Mecranium* Hook. f., *Necramium* Britton, *Ossaea* DC., *Pachyanthus* A. Rich., *Pleiochiton* Naudin ex A. Gray, *Sagraea* DC., *Tetrazygia* Rich. ex DC. and *Tococa* Aubl., ca. 1900 species; in Brazil there are ca. 540 species (Gamba & Almeida 2014). In the DF, 41 species (Goldenberg *et al.* 2020a).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Miconia adenothrix</i> (Cogn.) R.Goldenb	Shrubs; petals white; 25 records; riparian forest and gallery forest	<i>J.H. Kirkbride Junior 5062 (INPA)</i>
<i>Miconia affinis</i> DC.	Trees or shrubs; petals white; 8 records; riparian forest and gallery forest	<i>E.K.O. Hattori 63 (UB)</i>
<i>Miconia albicans</i> (Sw.) Triana (Fig. 2, image 4)	Trees or shrubs; petals white; 323 records; cerrado s. s.; shrub grassland, rocky field	<i>C.F.R. Cardoso 47 (UB)</i>
<i>Miconia auricoma</i> (Spring. ex Mart.) R. Goldenb.	Trees to subshrubs; pink, green or white, translucent petals; 31 records; rocky field	<i>C.E.B. Proença 2726 (UB)</i>

<i>Miconia biserrata</i> (DC.) Michelang.	Shrubs; petals white; 2 records; gallery forest and riparian forest	P. Bezerra 28 (UPCB)
<i>Miconia burchellii</i> Triana	Shrubs; petals white; 210 records; cerrado s.s., shrub grassland.	M.A.G. Barros 2332 (UB)
<i>Miconia calvescens</i> DC.	Trees or shrubs; petals white; 25 records; riparian forest and gallery forest.	J.H. Kirkbride Jr. 4337 (UB)
<i>Miconia chamissois</i> Naudin (Fig. 2, image 5)	Trees or shrubs; petals white; 293 records; palm swamp, riparian forest and gallery forest	S.G. Fonsêca 892 (UB)
<i>Miconia chartacea</i> Triana	Trees or treelets; cream petals; 51 records; riparian forest and gallery forest.	C.B.R. Munhoz 21 (UB)
<i>Miconia crenata</i> (Vahl) Michelang	Shrubs; petals white; 30 records; gallery forest and riparian forest	C.B.R. Munhoz 312 (UB)
<i>Miconia cubatanensis</i> Hoehne	Trees; petals white; 80 records; riparian forest and gallery forest	J.S. Silva 529 (UB)
<i>Miconia cuspidata</i> Naudin	Trees; petals white; 90 records; gallery forest and riparian forest	C.B.R. Munhoz 174 (UB)
<i>Miconia cyathanthera</i> Triana	Shrubs or subshrubs; petals white; 15 records; riparian forest and gallery forest	C.B.R. Munhoz 301 (UB)
<i>Miconia dependens</i> (Pav. ex D.Don) Judd & Majure	Shrubs; white petals sometimes greenish; 9 records; gallery forest	D. Villarroel 3650 (UB)
<i>Miconia dodecandra</i> Cogn.	Trees or shrubs; petals white; 70 records; riparian forest and gallery forest.	C.E.B. Proença 270 (UB)
<i>Miconia elegans</i> Cogn.	Trees or shrubs; petals white; 230 records; riparian forest and gallery forest	C.B.R. Munhoz 246 (UB)
<i>Miconia fallax</i> DC.	Shrubs or subshrubs; petals white; 272 records; grasslands, shrub, grasslands and cerrado s.s.	E.B.A. Dias 25 (UB)
<i>Miconia ferruginata</i> DC.	Trees or shrubs; petals white; 279 records; cerrado s.s., shrub grassland, rocky field	C.E.B. Proença 1667 (UB)
<i>Miconia flammea</i> Casar.	Trees; petals white; 5 records; riparian forest and gallery forest	C.B.R. Munhoz 21 (UB)
<i>Miconia hirtella</i> Cogn.	Trees or shrubs; petals white or cream, sometimes translucent; 107 records; riparian forest and gallery forest	C.E.B. Proença 2735 (UB)
<i>Miconia holosericea</i> (L.) DC.	Trees or shrubs; petals white; 7 records; riparian forest and gallery forest.	E.P. Heringer 3178 (UB)
<i>Miconia ibaguensis</i> (Bonpl.) Triana	Trees or shrubs; petals white; 3 records; riparian forest and gallery forest.	C.E.B. Proença 5489 (UB)
<i>Miconia leabiswarmingiana</i> R.Goldenb.	Shrubs or subshrubs; petals white; 4 records; wet grassland, riparian forest	M. Reginato 1385 (UFPR)
<i>Miconia leacongestiflora</i> R.Goldenb.	Shrubs or subshrubs; petals white; 93 records; wet grassland, palm swamp, rocky field	C.B.R. Munhoz 3605 (UB)

<i>Miconia leucocarpa</i> DC.	Trees or shrubs; petals white; 80 records; cerrado s.s.	J. Sonsin-Oliveira 352 (UB)
<i>Miconia ligustroides</i> (DC.) Naudin	Trees or shrubs; petals white; 45 records; shrub grassland, rocky field	C.B.R. Munhoz 302 (UB)
<i>Miconia macrothyrsa</i> Benth.	Shrubs; petals white; 55 records; dry forest and cerrado s.s.	M.R.V. Zanatta 112 (UB)
<i>Miconia matthaei</i> Naudin	Trees or shrubs; petals white; 8 records; riparian forest and gallery forest	A.B. Sampaio 48 (UB)
<i>Miconia melastomoides</i> (Raddi) R.Goldenb.	Trees or shrubs; petals white; 63 records; riparian forest and gallery forest	M.L. Brotto 878 (UB)
<i>Miconia minutiflora</i> (Bonpl.) DC.	Trees or shrubs; petals white; 34 records; riparian forest and gallery forest	E.P. Heringer 3444 (UB)
<i>Miconia nervosa</i> (Sm.) Triana	Trees or shrubs; petals white; 153 records; gallery forest	C.E.B. Proença 905 (UB)
<i>Miconia paulina</i> (DC.) R.Goldenb.	Shrubs or subshrubs; petals white; 4 records; wet grasslands	B. A. S. Pereira 686 (US)
<i>Miconia pepericarpa</i> DC.	Trees or shrubs; petals white; 80 records; cerrado s.s., rocky field	B.M.T. Walter 2336a (UB)
<i>Miconia polystachya</i> (Naudin) R.Goldenb.	Shrubs or subshrubs; petals white; 27 records; wet grassland, rocky field, riparian forest or gallery forest	C.B.R. Munhoz 4987a (UB)
<i>Miconia rubiginosa</i> (Bonpl.) DC.	Trees or shrubs; petals white; 130 records; cerrado s.s..	C.B.R. Munhoz 4963 (UB)
<i>Miconia salicina</i> (Ser. ex DC.) Mabb	Shrubs or subshrubs; petals white; 11 records; gallery forest and riparian forest	M.P. Kuhlmann 94 (UB)
<i>Miconia sellowiana</i> Naudin	Shrubs or subshrubs; petals cream; 86 records; gallery forest and riparian forest	C.B.R. Munhoz 304 (UB)
<i>Miconia stenostachya</i> DC.	Shrubs; petals white; 91 records; cerrado s.s..	J.M. Pires 9618 (UB)
<i>Miconia theaezans</i> (Bonpl.) Cogn.	Trees or shrubs; petals white; 21 records; gallery forest and riparian forest	C.B.R. Munhoz 3466a (UB)
<i>Miconia tocosa</i> (Desr.) Michelang. (Fig. 3, image 1)	Trees to subshrubs; petals pinkish or cream; 43 records; gallery forest and riparian forest	M.H. Fernandes 124 (UB)

10. *Microlicia* D. Don

Shrubs or subshrubs, often densely branched. **Leaves** with acrodromous venation, sessile or petiolate, imbricate or not. Isolated flowers or in dichasia, terminal or lateral. **Flowers** 5(-9)-merous; calyx tube reduced. Stamens 10(-18), connectives may be prolonged into appendages, ovary, 3-5-locular (Versiane *et al.* 2021).

Fruits capsular, ruptured capsule or loculidial (Baumgratz 1985; Versiane *et al.* 2021).

Microlicia includes ca. 245 species (Versiane *et al.* 2021), ca. 198 of which occur in Brazil and 20 species in the DF (Romero *et al.* 2020; Versiane *et al.* 2021).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Microlicia acuminata</i> Naudin	Subshrubs; petals pink; 3 records; wet field, grasslands and shrub grassland	<i>J.A. Ratter 3172 (CEN)</i>
<i>Microlicia arachnoidea</i> (Almeda & A.B.Martins) Versiane & R.Romero	Subshrub; petals purple; 102 records in <i>Species Link</i> , duplicates of the type although det. as <i>L. aff. quinquenervis</i> ; grasslands.	<i>M.B. Ferreira 586 (HEPH)</i>
<i>Microlicia cataphracta</i> (Mart. & Schrank ex DC.) Versiane & R.Romero (Fig. 3, image 2)	Shrubs or subshrubs; petals pink, white, or reddish white or yellowish, sometimes with pink spots at the base; 74 records; high altitude grassland, wet and dry grasslands	<i>C.B.R. Munhoz 4991 (HUFU)</i>
<i>Microlicia consimilis</i> Wurdack	Shrubs or subshrubs; petals pink; 17 records; grasslands, shrub grasslands and rocky field	<i>E.B.A. Dias 450 (UB)</i>
<i>Microlicia euphorbioides</i> Mart.	Shrubs; petals pink; 97 records; wet grasslands, palm swamp, rocky field	<i>M.R.V. Zanatta 898 (UB)</i>
<i>Microlicia fasciculata</i> Mart. ex Naudin	Shrubs or subshrubs; petals pink; 132 records; grasslands, wet grasslands, palm swamp, rocky field	<i>C.A. Faria 252 (UB)</i>
<i>Microlicia helvola</i> (Spreng.) Triana	Shrubs or subshrubs; petals pink; 17 records; grasslands	<i>A.F.A. Versiane 184 (UB)</i>
<i>Microlicia macrantha</i> Versiane & R.Romero	Treelets or shrubs; petals pink or fuchsia, with a demarcated yellow spot at the base; 100 records; wet grasslands, palm swamp, rocky field, riparian forest and gallery forestd	<i>J.M. Rezende 864 (UB)</i>
<i>Microlicia melanostagma</i> Pilg.	Subshrubs; petals dark pink; 6 records; wet grasslands, palm swamp, rocky field (<i>campo rupestre</i>)	<i>C.F.S. Silva 489b (UB)</i>
<i>Microlicia parviflora</i> (D.Don) Versiane & R.Romero(Fig. 3, image 3)	Trees or shrubs; petals white or pink; 224 records; wet grasslands, palm swamp, riparian or gallery forest	<i>H.S. Irwin 8149 (UB)</i>
<i>Microlicia phlogiformis</i> (DC.) Versiane & R.Romero	Shrubs or subshrubs; petals white or light pink; 208 records; wet grasslands, palm swamp, gallery or riparian forest	<i>C.B.R., Munhoz 3609a (UB)</i>
<i>Microlicia polystemma</i> Naudin	Subshrubs; petals pink or magenta; 19 records; wet grasslands, palm swamp, rocky field	<i>E.B.A. Dias 146 (UB)</i>
<i>Microlicia quinquenervis</i> (Wurdack) Versiane & R.Romero	Subshrubs; petals purple or pink with a yellow base; 9 records; rocky field	<i>F.B.A. Amaral-Santos 200 (UB)</i>
<i>Microlicia ramosa</i> Pilg.	Shrubs; petals purple or magenta; 24 records; grasslands	<i>J.M. Pires 9646 9646 (UB)</i>
<i>Microlicia serpyllifolia</i> D.Don	Shrubs; petals pink to purple; 86 records; rocky field	<i>C.B.R. Munhoz 5088 (UB)</i>

<i>Microlicia speciosa</i> Versiane & R.Romero	Shrubs or subshrubs; petals pink; 3 records; wet grasslands, palm swamp	
<i>Microlicia stenocladon</i> Naudin	Shrubs or subshrubs; petals pink or white; 7 records; dry grasslands and rocky field	<i>C.A.F. Neiva 240 (UB)</i>
<i>Microlicia suberosa</i> (Naudin) Versiane & R.Romero (Fig. 3, image 4)	Shrubs or subshrubs; petals pink or fuchsia; 23 records; grasslands and rocky field	<i>E.C.O. Lourenço 2 (UB)</i>
<i>Microlicia vestita</i> DC.	Subshrubs; petals pink; 17 records; wet grasslands, palm swamp, rocky field	<i>C.B.R. Munhoz 36 (UB)</i>
<i>Microlicia viminalis</i> (DC.) Triana	Subshrubs; petals white or pink; 89 records; grasslands, wet grasslands, palm swamp and rocky field	<i>A.F.A. Versiane 270 (UB)</i>



Figure 2. 1. *Macairea radula*. 2. Galls in *Macairea radula*. 3. *Marcetia taxifolia*. 4. *Miconia albicans*. 5. *Miconia chamissois*. Photos: 1, 4 by Mauricio Mercadante; 2, 5 by Cássia Munhoz; 3 by Stephen Harris.

11. *Mouriri* Aubl.

Trees or shrubs, usually glabrous. **Leaves** short petiolate or sessile. **Leaves** with venation brochidrodromous or camptodromous. Inflorescences cymose, isolated or in bundles, axillary or terminal. **Flowers** usually 5-merous, with yellow, white or pink petals (in DF populations). Stamens usually with dorsal or apical elaiophores (Völtz & Goldenberg 2020). **Fruits** berries indehiscent (Baumgratz 1985; Völtz & Goldenberg 2020). *Mouriri* includes ca. 85 species, 53 of which occur in Brazil and 26 of which are endemic to the country (Stone 2006). In the DF, only one species is recorded (Völtz & Goldenberg 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Mouriri glazioviana</i> Cogn.	Trees; petals white or pinkish; 23 records; gallery or riparian forest	<i>J.A., Ratter 3855 (UB)</i>

12. *Noterophila* Mart.

Annual **herbs**; stem usually inflated at the base. **Leaves** with acrodromous venation, sessile. Inflorescence solitary, terminal or axillary. **Flowers** solitary, petals obovate. Stamens 10, dimorphic, pendoconnectives prolonged or inconspicuous, appendage ventrally bilobed, ovary 2-locular (Guimarães *et al.* 2020b; Rocha *et al.* 2018). **Fruits** capsular velatidea (Guimarães *et al.* 2020b; Rocha *et al.* 2018; Baumgratz 1985). The genus encompasses six species, all with records in Brazil (Guimarães *et al.* 2020b; Rocha *et al.* 2018), in the DF, the genus is monotypic (Guimarães *et al.* 2020b).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Noterophila genliseoides</i> (Hoehne) Kriebel & M.J.R.Rocha (Fig. 3, image 5)	Herbs; petals pink or white; 1 record; wet grasslands palm swamp and rocky field	<i>C.M.L. Viana 2 (HEPH)</i>

13. *Pleroma* D.Don

Trees, shrubs, or subshrubs covered with smooth to dendritic trichomes. **Leaves** with acrodromous venation, cartaceous to coriaceous. **Inflorescence** in thyrsus or botryoid or isolated flowers, terminal. **Flowers** with purple or lilac petals. Stamens (8-)10, connectives with a pair of appendages, ovary 5(-4)-locular (Guimarães *et al.* 2019). **Fruits** capsular vetalidium (Baumgratz 1985, Guimarães *et al.* 2019). *Pleroma* has 161 species, of which 159 occur in Brazilian territory, 157 of which are endemic (Guimarães *et al.* 2019), three species are recorded in the DF (Guimarães 2020a; Michelangeli *et al.* 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Pleroma candolleianum</i> (Mart. ex DC.) Triana (Fig. 4, image 1)	Trees or shrubs; petals purple to pink; 149 records; palm swamp, gallery forest and riparian forest	<i>R.C. Mendonça 5040 (UB)</i>
<i>Pleroma laevicaule</i> (Cogn. ex Wurdack) P.J.F.Guim. & Michelang.	Shrubs; petals purple; 75 records; rocky field	<i>M.B. Alvim 19 (UB)</i>
<i>Pleroma stenocarpum</i> (Schrank et Mart. ex DC.) Triana (Fig. 4, image 2)	Trees; petals purple or lilac; 276 records; wet grasslands, palm swamp, gallery forest and riparian forest	<i>A.M. Teles 86 (UB)</i>



Figure 3. *Miconia tococa*. 2. *Microlicia cataphracta*. 3. *Microlicia parviflora*. 4. *Microlicia suberosa*. 5. *Noterophila genliseoides*. Photos: 3 by Cássia Munhoz; the others by Mauricio Mercadante.

14. *Poteranthera* Bong.

Herbs up to 0.4 m alt.; stems slender. **Leaves** with acrodromous venation, sessile, with prominent glandular trichomes at the margins. **Flowers** solitary, apical, sometimes lateral due to elongation of lateral branches, 4-5-merous. Stamens 4-5, connectives prolonged, with appendage, ovary 2-3-locular (Almeda & Pacifico 2018; Kriebel 2012, Rocha *et al.*

2016b). **Fruits** capsula, loculicidal (Almeda & Pacifico 2018; Kriebel 2012, Rocha *et al.* 2016b).

Poteranthera harbors five species (Almeda & Pacifico 2018; Kriebel 2012, Rocha *et al.* 2016) of which four are found in Brazil, and three of which are endemic to the country; in the DF there is one species (Michelangeli *et al.* 2020; Rosa & Pacifico 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Poteranthera pusilla</i> Bong.	Herbs; petals white or pink; 2 records; wet grasslands, palm swamp	<i>G. Pereira-Silva 15296</i> (CEN)

15. *Pterolepis* (DC.) Miq.

Shrubs or herbs; branches with simple trichomes. (Goldenberg *et al.* 2020e; Renner 1994). **Fruits** capsular velatidea (Baumgratz 1985).

Leaves with acrodromous venation. Inflorescence in glomeruli or dichasia, or isolated flowers, axillary or terminal. **Flowers** 4-5-merous white to pink. Stamens 8 or 10, connective usually short-extended below theca, but sometimes not prolonged or long-extended, ventrally bilobed, ovary (3-)4-5-locular

Pterolepis has 16 species (Renner 1994) with 15 of them occurring in Brazil, which 11 are endemic to the country; in the DF there are three species (Goldenberg *et al.* 2020e; Michelangeli *et al.* 2020; Renner 1994).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Pterolepis glomerata</i> (Rottb.) Miq. (Fig. 4, image 3)	Herbs; petals pink; 22 records; wet grasslands, palm swamp and rocky field	<i>C.A.F. Neiva 174</i> (CEN)
<i>Pterolepis perpusilla</i> (Naudin) Cogn.	Herbs; petals white or pink; 6 records; wet grasslands, palm swamp, gallery forest and riparian forest	<i>H.S. Irwin, HS 14147</i> (UB)
<i>Pterolepis repanda</i> (DC.) Triana (Fig. 4, image 4)	Herbs; petals lilac with purple lines; 112 records; wet grasslands, palm swamp, gallery forest and riparian forest	<i>M.A. Silva 7582</i> (UB)

16. *Rhynchanthera* DC.

Subshrubs or shrubs; branches with trichomes of different types. **Leaves** with acrodromous venation, peciolate. Inflorescences in dichasia, with the elongation of the branches, the flowers become solitary. **Flowers** 5-merous. Stamens 5, one larger than the other 4, staminodes present, 5, ovary 3-4-locular (Renner 1990; Versiane & Silva-Gonçalves 2020). **Fruits** capsular, capsula rompen

1990; Versiane & Silva-Gonçalves 2020; Baumgratz 1985).

Rhynchanthera is represented by 20 species (Renner 1990) in Brazil 11 species are recorded, three of which endemic to the country, and there are two species in the DF (Renner 1990; Versiane & Silva-Gonçalves 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Rhynchanthera dichotoma</i> (Desr.) DC.	Shrubs or subshrubs; petals pink; 1 record; wet grasslands, palm swamp, gallery forest or riparian forest	<i>A.E. Ramos 1727</i> (HEPH)
<i>Rhynchanthera grandiflora</i> (Aubl.) DC. (Fig. 4, image 5)	Shrubs or subshrubs; petals purple; 296 records; wet grasslands, palm swamp, rocky field, riparian or gallery forest	<i>C.B.R. Munhoz 4026</i> (UB)

17. *Siphanthera* Pohl ex DC.

Subshrubs or herbs. Inflorescences in simple or compound dichasia. **Leaves** with acrodromous venation, sessile. **Flowers** 4-merous. Stamens 4–8, connectives shortly prolonged below the anthers, ventrally bituberculate or bilobulate, ovary 2-locular

(Almeda & Robison 2011; Goldenberg *et al.* 2020c). **Fruits** capsular velatidea (Baumgratz 1985).

The genus encompasses 15 species in South America (Almeda & Robison 2011), 12 of which occur in Brazil, in the DF two species are recorded (Goldenberg *et al.* 2020c).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Siphanthera cordata</i> Pohl ex DC. (Fig. 4, image 6)	Herbs; petals pink or fuchsia; 105 records; rocky field	C.B.R. Munhoz 272 (UB)
<i>Siphanthera foliosa</i> (Naudin) Wurdack	Herbs; petals white, lilac or pink; 3 records; wet and dry grasslands	D.R. Hunt 6060 (UB)

18. *Tibouchina* Aubl.

Treelets, shrubs or subshrubs, the plants covered in a stiff indumentum of trichomes that are compressed into flattened scales. **Leaves** decussate or whorled, coriaceous, with acrodromous venation, peciolate. Inflorescence in thyrsos or with some modification due to reduction of branches and agglomeration of dichasia in glomeruli, terminal. **Flowers** 5-merous, sepals usually covered with adpressed scales, petals lilac or purple, connective with a pair of appendages,

glabrous or with filamentous trichomes, ovary 5-locular (Guimarães *et al.* 2019). **Fruits** capsular rompente (Guimarães *et al.* 2019; Baumgratz 1985).

Tibouchina comprises 39 species (Guimarães *et al.* 2019) with 22 recorded in Brazil, 14 of which are endemic to the country; in the DF four species are recorded (Guimarães 2020b; Michelangeli *et al.* 2020).

Taxon	Notes	Voucher (Herbarium acronym)
<i>Tibouchina aegopogon</i> (Naudin) Cogn.	Subshrubs; petals purple; 104 records; shrub grassland, cerrado s. s.	M.L. Fonseca 2233 (HEPH)
<i>Tibouchina barbiger</i> (Naudin) Baill.	Shrubs; petals pink; 11 records; wet and dry grassland	B.M. Gomes 12 (UB)
<i>Tibouchina melastomoides</i> (Naudin) Cogn.	Subshrubs; petals purple; 4 records; rocky field and shrub grasslands	E.C.O. Lourenço 1 (UB)
<i>Tibouchina nigricans</i> P.J.F. Guim., A.L.F. Oliveira & R.Romero	Subshrubs; petals purple; 13 records; rocky field and grasslands	J.H. Kirkbride Jr. 4560 (UB)



Figura 4. 1. *Pleroma candolleianum*. 2. *Pleroma stenocarpum*. 3. *Pterolepis glomerata*. 4. *Pterolepis repanda*. 5. *Rhynchanthera grandiflora*. 6. *Siphanthera cordata*. Photos: 5 by Cássia Munhoz; the others by Mauricio Mercadante.

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