



Original Paper

Melastomataceae of the Parque Natural Municipal de São Lourenço, Espírito Santo, Brazil

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Abstract

The Atlantic Forest is one of the diversity centers of Melastomataceae in the world, and studies have been showing the great richness of its species in Espírito Santo, a state that once was entirely covered by this phytogeographic domain. We present here a floristic survey of the species of Melastomataceae in a protected area in this state, the Municipal Natural Park of São Lourenço, located at the municipality of Santa Teresa. We also present an identification key for the species, detailed descriptions, comments on distribution, habitat and phenology, photographs and illustrations. A thorough sampling was based on several expeditions during 2019 and 2020; in addition, we analyzed all specimens collected in the area and deposited in the herbaria FLOR, HUEFS, MBM, MBML, NY, RB, UPCB, US and VIES. The family has 10 genera and 56 species in the area, with *Miconia* having 42 species, *Pleroma* six and the genera *Aciotis*, *Acisanthera*, *Bertolonia*, *Chaetogastra*, *Henriettea*, *Meriania*, *Microlicia* and *Mouriri* represented by only one species each.

Key words: Atlantic Forest, floristics, Melastomataceae, Santa Teresa, taxonomy.

Resumo

A Mata Atlântica é um dos centros de diversidade de Melastomataceae no mundo, e estudos têm mostrado uma grande riqueza de espécies no Espírito Santo, estado que já foi inteiramente coberto por esse domínio fitogeográfico. Este trabalho apresenta um levantamento florístico das espécies de Melastomataceae no Parque Natural Municipal de São Lourenço, localizado no município de Santa Teresa, assim como uma chave de identificação para as espécies, descrições detalhadas, comentários sobre distribuição, habitat e fenologia, além de fotografias e ilustrações. Foram realizadas expedições durante os anos de 2019 e 2020 para a coleta de espécimes botânicos, além da consulta de amostras previamente depositadas nos herbários FLOR, HUEFS, MBM, MBML, NY, RB, UPCB, US e VIES. A família é representada por 10 gêneros e 56 espécies na região, com *Miconia* possuindo 42 espécies, *Pleroma* seis e os gêneros *Aciotis*, *Acisanthera*, *Bertolonia*, *Chaetogastra*, *Henriettea*, *Meriania*, *Microlicia* e *Mouriri* representados por apenas uma espécie cada.

Palavras-chave: Mata Atlântica, florística, Melastomataceae, Santa Teresa, taxonomia.

Introduction

Melastomataceae A.Juss. is a pantropical family with about 5,750 species distributed in 177 genera and 18 tribes (Michelangeli *et al.* 2020). The plants occur across the tropical and subtropical regions of the globe, with most species concentrated in the new world (Renner 1993). In Brazil it is the fifth richest family, with

about 1,436 species, and 69 genera, with species in all states and biomes, but more diverse in the Amazon, Atlantic Forest and Cerrado (Goldenberg *et al.* 2020a).

Besides the wide distribution, the plants also vary in habit, ranging from herbs, shrubs, subshrubs to trees, and rarely climbers (Goldenberg *et al.* 2012). With the exception of some taxa

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that belong to the subfamily Olisbeoideae, the species of the family are easily recognized by the decussate simple leaves with acrodromous venation (Clausing & Renner 2001). Other characters that are useful for its recognition are the leaves lacking stipules and the flowers with poricidal anthers and prolonged connectives (pedoconnective) (Clausing & Renner 2001). The family has an important ecological role, providing food and housing for several species of animals (Messeder *et al.* 2020), and also some economic importance as ornamentals (Judd *et al.* 2009).

Melastomataceae is the seventh richest family in Espírito Santo (Dutra *et al.* 2015), with about 21 genera and 200 species, from which 51 are endemic (Goldenberg *et al.* 2020a). For the state, besides the floras for the genera *Miconia* Ruiz & Pav. (Bacci *et al.* 2016a) and *Bertolonia* Raddi (Bacci *et al.* 2017), and the tribes Cambessedesieae (Bochorny & Goldenberg 2017) and Microlicieae (Versiane *et al.* 2022), floristic studies were carried out in the “Área de Proteção Ambiental de Mestre Álvaro” (APAMA) (Iglesias & Dutra 2017), in the “Parque Estadual do Forno Grande” (PEFG) (Meirelles & Goldenberg 2012) and in the “Estação Biológica de Santa Lúcia” (EBSL) (Goldenberg & Reginato 2006), respectively with 26, 39 and 57 species. The study area of this work is located in the same municipality of EBSL, Santa Teresa, and is called “Parque Natural Municipal de São Lourenço” (PNMSL).

The state of Espírito Santo is entirely located inside the Atlantic Forest biome (Veloso *et al.* 1991). Within it, approximately 57% of the forest is covered with Ombrophilous Dense Forest and 29% with Semideciduous Seasonal Forest, with pioneer formations, grasslands and campinaranas covering the remaining area (Fraga *et al.* 2019). As in the other Brazilian states covered with Atlantic forest, in Espírito Santo this biome has also been devastated, with only about 10,9% of its initial coverage remaining (SOS Mata Atlântica & INPE 2019).

The forest inside PNMSL is in a good conservation state, and the specimens previously sampled in the area show a high richness of Melastomataceae species (Mota 2009). A previous list of species carried out for the PNMSL management plan found 37 species, of which nine were undetermined and several of them had uncertain identification (Mota 2009). The goal of this study is to present a taxonomic treatment for Melastomataceae from PNMSL, with an

identification key, descriptions, illustrations, pictures, comments on phenology and ecology, to help recognize the species and improve the knowledge about them in the area.

Material and Methods

Study area

The study was carried on the PNMSL, a conservation unit located within the municipality of Santa Teresa, in the central region of Espírito Santo. Created in 2004 by the Municipal Decree N°. 297/2004, the PNMSL is situated in the municipality of Santa Teresa at the coordinates 40°35'28"W, 19°56'12"S with 312,67 ha. (Fig. 1). The PNMSL is divided into two main areas: a larger eastern area, adjacent to the city and where sits the “Reserva Biológica da Caixa d'Água”, and another to the west, where sits the “Country Club de Santa Teresa” and private-owned lands that are still under negotiation to be officially included in the park (Mota 2009).

Following the classification of Köppen (1948), the climate of the municipality is Cwa, *i.e.* subtropical, humid, with a dry winter (Thomaz & Monteiro 1997). The average annual temperature is 19.5 °C and the average annual rainfall is 1,491.6 mm with a strong decrease during the winter season (INCAPER 2020). The region is mountainous, with an elevation ranging from 100 to 1,150 m, while in PNMSL it varies from 700 to 921 m (Mota 2009).

The PNMSL is predominantly covered by Montane Ombrophilous Dense Forest (Veloso *et al.* 1991) in good state of conservation, with the canopy ranging approximately from 10 to 30 m, but it also has areas covered with secondary vegetation (“capoeira”), rocky outcrops, and still some areas with Eucalyptus-planted forests and cultivation (Mota 2009). There is also an area on sandy soil, with an open canopy and with heliophile species.

Expeditions and specimens analysis

For specimen collections, field expeditions were carried out from May 2019 to March 2020, aiming to cover the largest area possible of the PNMSL and its buffer zone. We took notes about the specimens and the habitat in which they occur. In addition to the material collected during this period, specimens from earlier collections, mostly deposited at the herbaria MBML and RB (herbarium acronyms follow Thiers, continuously updated) were consulted in loco; specimens from other collections (FLOR, HUEFS, MBM,

NY, UPCB, US, VIES) were consulted through the virtual herbaria Re flora (2021) and INCT - Herbário Virtual da Flora e Fungos (2021).

Cultivated individuals of *Pleroma raddianum* (DC) Gardner (formerly *Tibouchina pulchra* Cogn.) were found in some residences within the study area, but this species does not occur spontaneously in the park and, therefore, it was not included in this work. *Miconia tristis* Spring and *Mouriri chamissoana* Cogn. have not been recorded inside the PNMSL, however were collected in nearby areas and, therefore, were included as possible occurrences.

Descriptions and commentaries

The names of species, authors and publications, as well as their abbreviations, were confirmed through the online database International Plant Name Index (IPNI 2022). Synonyms were listed only in the case of recent transfers from *Tibouchina* Aubl. to *Pleroma* (Guimarães *et al.* 2019), *Trembleya* DC. to *Microlicia* D.Don (Versiane *et al.* 2021) and from *Clidemia* D.Don, *Leandra* Raddi and *Ossaea* DC. to *Miconia* Ruiz & Pav. (Michelangeli *et al.* 2019). Endangered species were consulted through the “Livro das

Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019) and through the “Lista vermelha da flora brasileira” (CNCFlora 2021).

Measures were taken from leaves, inflorescences and flowers when mature. The morphological terminology was based on Radford *et al.* (1974), but the trichomes were described based on Wurdack (1986). For the leaf veins, we counted the most prominent longitudinal veins, but added a “+2” when there was an additional external pair of tenuous veins that do not reach the leaf apex. For the calyx, only external sepals (or lobes) have been described. Bracteoles were described only for the genus *Pleroma* D.Don and interpetiolar ridges were described only for the species *Miconia cinnamomifolia* (DC.) Naudin and *Miconia cristata* (Reginato & R.Goldenb.) R.Goldenb.

Information on distribution was based on records from virtual herbaria and data from Flora do Brasil 2020 (continuously updated). For the description of structures that could not be evaluated in exsiccates from the PNMSL, specimens from nearby locations were used as additional material. Plant height, comments on habitat and phenological data were described based on the information found in specimen labels and observations made in field.



Figure 1 – Area of the "Parque Natural Municipal de São Lourenço", including the buffer zone.

Results and Discussion

We found 56 species of Melastomataceae in the PNMSL and adjacent areas, distributed in 10 genera: *Aciotis* D.Don (1 sp.), *Acisanthera* P.Browne (1 sp.), *Bertolonia* Raddi (1 sp.), *Chaetogastra* DC. (1 sp.), *Henriettea* DC. (1 sp.), *Meriania* Sw. (1 sp.) *Miconia* Ruiz & Pav. (42 spp.), *Microlicia* D.Don (1 sp.), *Mouriri* Aubl. (1 sp.), and *Pleroma* D.Don (6 spp.).

Among the species occurring there, *Miconia leamarginata* R.Goldenb., *Miconia corcovadensis* R.Goldenb., *Miconia crenata* (Vahl) Michelang., *Miconia debilis* (Crueg.) Michelang., *Miconia fallacissima* (Markgr.) R.Goldenb., *Miconia latecrenata* (DC.) Naudin, *Miconia leafallax* R.Goldenb., *Miconia paniculata* (Mart. & Schrank ex DC.) Naudin, *Miconia pubistyla* (Wurdack) R.Goldenb. and *Pleroma fissinervium* (Schrank & Mart. ex DC.) Gardner are widely distributed in all vegetation types in PNMSL, with *M. leamarginata*, *M. crenata*, *M. debilis*, *M. latecrenata* and *P. fissinervium* occurring mainly in open and degraded areas. In degraded areas and clearings, it is also possible to find *Acisanthera variabilis* (DC.) Triana, *Chaetogastra sebastianopolitana* (Raddi) P.J.F.Guim. & Michelang., *Miconia albicans* (Sw.) Steud. and *Pleroma heteromallum* (D.Don) D.Don, the latter also found as cultivated in local properties. *Miconia sellowiana* Cogn. and *Pleroma boudetii* (P.J.F.Guim. & R.Goldenb.) P.J.F.Guim. & Michelang. were found only in areas on sandy soil and open canopy, where individuals of *Miconia capixaba* R.Goldenb. are also easily found. *Aciotis paludosa* (Mart. ex DC.) Triana and *Bertolonia ruschiana* Bacci & R.Goldenb. occur exclusively in areas close to streams, habitats in which *Miconia dasytricha* (A.Gray) R.Goldenb. and *Miconia robusta* Cogn. are also more common. *Pleroma radula* (Markgr.) P.J.F.Guim. & Michelang. and *Microlicia parviflora* (D.Don) Versiane & R.Romero are found on rocky outcrops. The remaining species are mainly found in well preserved Montane Ombrophilous Dense Forest.

Six species that occur in the PNMSL are subject to some threat according to the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019), with *Bertolonia ruschiana* Bacci & R.Goldenb., *Miconia cristata* (Reginato & R.Goldenb.) R.Goldenb., *Miconia setosociliata* Cogn. and *Pleroma boudetii* (P.J.F.Guim. & R.Goldenb.) classified as Vulnerable (VU), and *Miconia capixaba* R.Goldenb. and *Miconia labiakiana* R.Goldenb. & C.V.Martin as Endangered

(EN). According to the “Lista Vermelha da flora brasileira” (CNCFlora 2021) the species *Meriania tetramera* Wurdack, *Miconia fasciculata* Gardner, *Miconia octopetala* Cogn., *Miconia polyandra* Gardner and *Miconia robusta* Cogn. are classified as Least Concern (LC), and the only threatened species according to this list are *Miconia setosociliata*, *Pleroma boudetii*, both classified as Vulnerable (VU) and *Miconia capixaba*, classified as Critically Endangered (CR) in this source.

Thirty-three species found in the PNMSL also occur in the other area in Santa Teresa for which there is a list of Melastomataceae, the “Estação Biológica de Santa Lúcia” (Goldenberg & Reginato 2006), while 14 species also occur in “Parque Estadual de Forno Grande” (Meirelles & Goldenberg 2012), and 17 occur in “Área de Proteção Ambiental de Mestre Álvaro” (Iglesias & Dutra 2017). Regarding the species listed in the park’s management plan, we found additional 29 species, of which 17 were collected for the first time in the region, and the other were new identifications on older specimens. During the collections carried out for this work, *Miconia cuneatissima* R.Goldenb. & Michelang. was registered for the first time in the state, with only one individual found in the area.

Taxonomy

Melastomataceae Juss.

Herbs, subshrubs, shrubs and trees. Stem branches quadrangular, sub-cylindrical or cylindrical, sometimes decorticant. Leaves opposite, simple, petiolate, subsessile or sessile, membranaceous, chartaceous or coriaceous, margins ciliate or eciliate, with 3–9 acrodromous veins, basal or suprabasal, seldom brochidromous, sometimes with marsupiform domatia on the abaxial surface, glabrous or pilose. Inflorescences as panicles with dichasial, glomerulate or scorpioid branching, botryoid or seldom solitary, terminal or axillary. Flowers 4–8-merous, sessile or pedicellate. Hypanthium campanulate, tubular or urceolate. Petals white, pinkish or purple, apex acute, rounded or truncate. Stamens 8, 10, 12 or 16, isomorphic or heteromorphic; filaments glabrous or pilose; anthers white, pink, purple or violet, poricidal, seldom rimose; connective prolonged below the thecae or not, with or without appendages. Ovary inferior, semi-inferior or superior, apex glabrous or pilose; style filiform, straight or sigmoid, glabrous or pilose. Fruits fleshy or dry, in this case regular capsules or seldom obtriquetrous. Calyx persistent or caducous.

**Key of the species of Melastomataceae from Parque Natural Municipal de São Lourenço,
Espírito Santo, Brasil**

1. Leaves with brochidodromous venation50. *Mouriri chamissoana*
- 1'. Leaves with acrodromous venation..... 2
 2. Fruits dry 3
 - 2'. Fruits fleshy..... 14
 3. Herbs; mature plants up to 30 cm tall 4
 - 3'. Subshrubs, shrubs or trees; mature plants more than 50 cm tall 5
 4. Inflorescences with scorpioid branching; flowers pentamerous; anthers yellow
..... 3. *Bertolonia ruschiana*
 - 4'. Inflorescences dichasial; flowers tetramerous; anthers white 1. *Aciotis paludosa*
 5. Flowers tetramerous 6
 - 5'. Flowers pentamerous..... 7
 6. Subshrubs; mature plants equal to or less than 1,5 m tall
..... 4. *Chaetogastra sebastianopolitana*
 - 6'. Trees; mature plants up to 13 m tall 6. *Meriania tetramera*
 7. Inflorescences axillary 49. *Microlicia parviflora*
 - 7'. Inflorescences terminal..... 8
 8. Ovary apex glabrous..... 2. *Acisanthera variabilis*
 - 8'. Ovary apex pilose 9
 9. Shrubs; mature plants up to 3 m tall 10
 - 9'. Trees; mature plants equal to or more than 4 m tall 12
 10. Anthers connective glabrous
..... 53. *Pleroma clidemioides*
 - 10'. Anthers connective with glandular trichomes (at least on the antessepals) 11
 11. Leaf blades $10.2\text{--}16.8 \times 4.1\text{--}9.3$ cm.....
..... 55. *Pleroma heteromallum*
 - 11'. Leaf blades $1.7\text{--}9.1 \times 1.4\text{--}4.3$ cm.....
..... 56. *Pleroma radula*
 12. Bracteoles cucullate, forming a calyptra
..... 51. *Pleroma arboreum*
 - 12'. Bracteoles not cucullate and not forming a calyptra 13
 13. Stamens with filaments covered with glandular trichomes
..... 52. *Pleroma boudetii*
 - 13'. Stamens with filaments covered with glandular trichomes.....
..... 54. *Pleroma estrellense*
 14. Inflorescences axillary in leafless or leaf nodes 15
 - 14'. Inflorescences terminal, sometimes terminal and axillary 24
 15. Trees; mature plants equal to or up to 6 m tall
..... 5. *Henriettea glabra*
 - 15'. Shrubs; mature plants less than 6 m tall 16

| | |
|---|----------------------------------|
| 16. Flowers tetramerous..... | 17 |
| 16'. Flowers pentamerous or hexamerous..... | 19 |
| 17. Inflorescences with glomerulate branching..... | 20. <i>Miconia debilis</i> |
| 17'. Inflorescence regular branching (non-scorpoid, non-glomerulate)..... | 18 |
| 18. Petals with rounded apex | 11. <i>Miconia capilliflora</i> |
| 18'. Petals with acute apex | 47. <i>Miconia suprabasalis</i> |
| 19. Leaves glabrous or with sparse sessile glands | 47. <i>Miconia suprabasalis</i> |
| 19'. Leaves densely or moderately covered with other types of trichomes | 20 |
| 20. Inflorescences with glomerulate branching..... | 14. <i>Miconia corcovadensis</i> |
| 20'. Inflorescences with regular branching (non-scorpoid, non-glomerulate) or solitary | 21 |
| 21. Petals with rounded apex..... | 15. <i>Miconia crenata</i> |
| 21'. Petals with acute apex | 22 |
| 22. Anthers white | 21. <i>Miconia diffusa</i> |
| 22'. Anthers yellow | 23 |
| 23. Ovary apex covered with stellate trichomes..... | 33. <i>Miconia leamarginata</i> |
| 23'. Ovary apex covered with unbranched trichomes | 8. <i>Miconia amygdaloides</i> |
| 24. Petals with rounded, truncate or obtuse apex | 25 |
| 24'. Petals with acute apex | 46 |
| 25. Leaf abaxial surface densely covered with trichomes, so that the actual surface is not visible..... | 26 |
| 25'. Leaf abaxial surface glabrous or sparsely or moderately covered with trichomes, so that the actual surface is always visible | 36 |
| 26. Flower octamerous | 36. <i>Miconia octopetala</i> |
| 26'. Flower tetramerous, pentamerous and/or hexamerous | 27 |
| 27. Anthers yellow..... | 22. <i>Miconia dodecandra</i> |
| 27'. Anthers white..... | 28 |
| 28. Leaf margins ciliate; abaxial surface with the inner pair of acrodromous veins joining the midrib with domatia..... | 45. <i>Miconia setosociliata</i> |
| 28'. Leaf margins eciliate; abaxial surface without domatia | 29 |
| 29. Inflorescences equal to or less than 3.5 cm long | 12. <i>Miconia capixaba</i> |
| 29'. Inflorescences more than 4 cm long | 30 |
| 30. Inflorescences with scorpoid branching | 31 |
| 30'. Inflorescences with glomerulate or regular branching (non-scorpoid, non-glomerulate)..... | 32 |
| 31. Leaf abaxial surface covered with lepidostellate trichomes..... | 17. <i>Miconia cubatanensis</i> |

- 31'. Leaf abaxial surface covered with arachnoid trichomes..... 7. *Miconia albicans*
32. Inflorescences with regular branching (non-scorpoid, non-glomerulate).....
..... 23. *Miconia dorsaliporosa*
- 32'. Inflorescences with glomerulate branching..... 33
33. Mature leaves over 28 cm long, with the inner pair of acrodromous veins diverging more than 3.1 cm above the base43. *Miconia robusta*
- 33'. Mature leaves less than 28 cm long, with the inner pair of acrodromous veins never diverging more than 3 cm above the base 34
34. Ovary apex covered with stellate trichomes 10. *Miconia buddlejoides*
- 34'. Ovary apex glabrous 35
35. Acrodromous veins 5+2; anthers connective with a ventral biauriculate appendage28. *Miconia formosa*
- 35'. Acrodromous veins 3+2; anthers connective without a ventral biauriculate appendage..... 27. *Miconia flammea*
36. Stem nodes with conspicuous interpetiolar ridges
..... 13. *Miconia cinnamomifolia*
- 36'. Stem nodes without interpetiolar ridges..... 37
37. Anthers yellow 38
- 37'. Anthers white 39
38. Flowers pentamerous; hypanthium with glandular trichomes.....
.....30. *Miconia labiakiana*
- 38'. Flowers tetramerous; hypanthium glabrous
..... 34. *Miconia lucenae*
39. Inflorescences with scorpoid branching
..... 39. *Miconia polyandra*
- 39'. Inflorescences with glomerulate or dichasial branching 40
40. Inflorescences with glomerulate branches..... 41
- 40'. Inflorescence with dichasial branching..... 42
41. Calyx caducous.....9. *Miconia atlantica*
- 41'. Calyx persistent 26. *Miconia fasciculata*
42. Leaf abaxial surface with the inner pair of acrodromous veins joining the midrib without domatia; inflorescence terminal and axillary...
..... 43
- 42'. Leaf abaxial surface with the inner pair of acrodromous veins joining the midrib with domatia; inflorescence only terminal..... 44
43. Leaves with the inner pair of veins basal.
.....31. *Miconia latecrenata*
- 43'. Leaves with the inner pair of veins suprabasal48. *Miconia tristis*
44. Anthers dehiscing through an apical pore37. *Miconia paniculata*
- 44'. Anthers dehiscing through a ventral slit covering the whole thecae or a large apical pore covering 1/3 of the thecae 45
45. Stem branches not decorticate when mature; anthers dehiscing through a ventral longitudinal slit, covering the whole thecae.
..... 41. *Miconia pusilliflora*

- 45'. Stem branches decorticate when mature; anthers dehiscing through a large ventral apical pore, covering 1/3 of the thecae 44. *Miconia sellowiana*
46. Leaf base amplexicaul..... 38. *Miconia pectinata*
- 46'. Leaf base not amplexicaul..... 47
47. Nodes with conspicuous interpetiolar ridges 16. *Miconia cristata*
- 47'. Stem nodes without interpetiolar ridges..... 48
48. Flowers hexamerous..... 49
- 48'. Flowers pentamerous or tetramerous 50
49. Stamens with the antesealous anthers 0.5–0.6 cm long, with a conspicuous dorsal caudate appendage..... 40. *Miconia pubistyla*
- 49'. Stamens with the antesealous anthers up to 0.4 cm long, without or with an inconspicuous dorsal appendage 35. *Miconia melastomoides*
50. Flowers tetramerous 34. *Miconia lucenae*
- 50'. Flowers pentamerous..... 51
51. Anthers yellow 52
- 51'. Anthers white and/or pink 53
52. Acrodromous veins 3+2 18. *Miconia cuneatissima*
- 52'. Acrodromous veins 5(7)+2..... 29. *Miconia ionopogon*
53. Acrodromous veins 3+2 54
- 53'. Acrodromous veins 5+2 55
54. Leaf abaxial surface sparsely covered with trichomes; hypanthium 0.2–0.3 cm long 24. *Miconia dubia*
- 54'. Leaf abaxial surface densely covered with trichomes; hypanthium 0.4–0.6 cm long ... 25. *Miconia fallacissima*
55. Ovary apex pilose 56
- 55'. Ovary apex glabrous..... 57
56. Leaf abaxial surface covered with dendritic, elongated roughened and short-stalked glandular trichomes..... 19. *Miconia dasytricha*
- 56'. Leaf abaxial surface covered with unbranched and stellate trichomes 32. *Miconia leafallax*
57. Leaves covered with patent trichomes.....
..... 42. *Miconia refracta*
- 57'. Leaves covered with appressed trichomes
..... 46. *Miconia strigilliflora*

1. *Aciotis paludosa* (Mart. ex DC.) Triana, Trans. Linn. Soc. London 28(1): 51. 1871 [1872].

Fig. 2a

Herbs, 10–30 cm tall. Stem branches quadrangular, winged, with adventitious roots, densely covered with red unbranched trichomes, nodes without interpetiolar ridges. Petioles 0.7–2 cm long. Leaf blades 3–10 × 1.4–4 cm, membranaceous, ovate, concolorous, base attenuate, not amplexicaul, apex acute to cuneate, margins serrate, ciliate, acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface sparsely covered with elongate unbranched trichomes, abaxial surface glabrescent with sparse unbranched

trichomes, surface visible. Inflorescence 3.5–6 cm long, dichasial, terminal. Flowers tetramerous, pedicellate. Hypanthium 0.2–0.3 cm long, urceolate, covered with unbranched glandular trichomes. Petals white to pink, apex acute. Stamens 8, isomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through an apical pore; connective shortly prolonged below the thecae, without appendage. Ovary semi-inferior, apex glabrous; style filiform, glabrous. Fruits capsular. Calyx persistent.

Specimens analyzed: PNMSL, Circuito Caravaggio, trilha à margem direita da estrada, próxima a pista de motocross, 799 m, 19°55'20.81"S, 40°37'17.06"W, fl. and fr., 4.XII.2019, P.M.L.A. Santos 163 (RB); Estação



Figure 2 – a-g. Melastomataceae species from "Parque Natural Municipal de São Lourenço", Santa Teresa, Espírito Santo, Brazil – a. *Aciotis paludosa* – flowering branches; b. *Acisanthera variabilis* – flowering branches; c-d. *Bertolonia ruschiana* – c. fruiting branches; d. flowering branches; e. *Chaetogastra sebastianopolitana* – flowering branches; f. *Henriettea glabra* – flowering branches; g. *Meriania tetramera* – flowering branches. Photos: a, b, c, e, f, g. Claudio Nicoletti de Fraga; d. Pedro Martin Lischinsky Alves dos Santos.

Biológica Caixa D'Água, 19°55'53"S, 40°36'27"W, 30.X.1985, fl. and fr., *W. Boone 496* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Nova Lombardia, 7.II.2011, fl. and fr., *F.A. Michelangeli et al. 1603* (UPCB); Estação Biológica de Santa Lúcia, 20.XI.1985, fl. and fr., *J.M. Vimercat 300* (UPCB); Mata Fria, 21.XI.1985, fl. and fr., *W. Pizziolo 234* (MBML).

In PNMSL *Aciotis paludosa* occurs on river banks or flooded areas. It can be recognized by the herbaceous habit, quadrangular and winged stems, tetramerous flowers and capsular fruits.

This species occurs in Brazil in the states of Maranhão, Pernambuco, Bahia, Mato Grosso, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo and Paraná (Rosa & Freire-Fierro 2020). In PNMSL it was sampled with flowers and with fruits in October and December.

2. *Acisanthera variabilis* (DC.) Triana, Trans. Linn. Soc. London 28(1): 34. 1871 [1872]. Fig. 2b

Subshrubs, ca. 60 cm tall. Stem branches quadrangular, subwinged, sparsely covered with long-stalked glandular trichomes. Petioles 0.1–0.2 cm long. Leaf blades 0.8–1.3 × 0.7–1.3 cm, membranaceous; ovate, elliptic or large elliptic, concolorous or slightly discolored when dried, base rounded to cordate, apex rounded to obtuse; margins serrate, eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface glabrous, abaxial surface sparsely covered with long-stalked glandular trichomes more concentrated on veins, surface visible. Inflorescence 4–5.3 cm long, dichasial or occasionally solitary, terminal. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, covered with long-stalked glandular trichomes. Petals pink, apex rounded. Stamens 10, heteromorphic; filaments glabrous; anthers purple or pinkish, antepetalous 0.3–0.4 cm, antepetalous 0.2–0.3 cm long, dehiscing through an apical pore; connective prolonged below the thecae with a white conspicuous ventral bilobate appendage. Ovary superior, apex glabrous; style filiform, glabrous. Fruits capsular. Calyx persistent.

Specimens analyzed: PNMSL, Country Club, 850 m, 19°55'32.0"S, 40°38'08.0"W, 15.XII.1998, fl., *L. Kollmann et al. 1311* (UPCB); Circuito Caravaggio, beira de estrada, 700 m, 19°55'28.01"S, 40°37'17.6"W 2.V.2019, fl. and fr., *P.M.L.A. Santos & C.N. Fraga 3* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Várzea Alegre, fl. and fr., *V. Demuner et al. 1524* (MBML).

In PNMSL *Acisanthera variabilis* occurs in open areas. This species can be recognized by the subshrub habit, pentamerous flowers, heteromorphic stamens with a conspicuous ventral bilobate appendage in the connective and capsular fruits. It is quite similar to the species of the genus *Pleroma*, which can be distinguished by the glabrous ovary apex.

This species occurs in Brazil in the states of Amazonas, Piauí, Paraíba, Bahia, Mato Grosso, Goiás, Distrito Federal, Mato Grosso do Sul, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Guimarães 2020). In PNMSL it was sampled with flowers in May and December and with fruits in May.

3. *Bertolonia ruschiana* Bacci & R. Goldenb., PeerJ: 4. (2016b). Fig. 2c-d

Herbs, ca. 30 cm tall. Stem branches cylindrical, non-winged or subwinged, with adventitious roots, covered with short-stalked glandular trichomes. Petioles 1.4–6.9 cm long. Leaf blades 10.9–17.9 × 7.7–12.9 cm, chartaceous, bullate; ovate, elliptic or large-elliptic, concolorous or slightly discolored when dried, base cordate, apex rounded; margins crenate, ciliate; acrodromous veins 5+2, basal, joining the midrib without domatia on the abaxial surface; both surfaces covered with short-stalked glandular trichomes, surface visible. Inflorescence 5.5–10 cm long, panicles with scorpioid branching, terminal. Flowers pentamerous, pedicellate. Hypanthium 0.1–0.3 cm long, campanulate, covered with short-stalked glandular trichomes. Petals albo-roseus, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers yellow, ca. 0.2 cm long, dehiscing through a ventral pore; connective prolonged below the thecae with a dorsal acute appendage. Ovary partially superior, with the base adhered to hypanthium, apex glabrous; style filiform, glabrous, stigma slightly widened. Fruits angular, obtriquetrous capsules. Calyx persistent.

Specimens analyzed: PNMSL, Trilha Boa, 19°55'26.0"S, 40°37'13.0"W, 29.III.2003, fr., *A.P. Fontana et al. 545* (MBML); Estação Biológica Caixa D'Água, 19°55'53.0"S, 40°36'27.0"W, 23.XII.1993, fl. and fr. *E. Bausen, 53* (MBML); 19°55'53.0"S, 40°36'27.0"W, 07.I.1994, fl. and fr., *E. Bausen 54* (MBML); 19°55'53.0"S, 40°36'27.0"W, 11.IV.1985, fl. and fr., *L. Kollmann et al. 2039* (MBML); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32.0"S, 40°38'48.94"W, 26.XI.2019, fr., *P.M.L.A. Santos 148* (RB); 19°55'53.0"S, 40°36'27.0"W, 11.IV.1985, fr., *W. Boone 333* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Santo Henrique, 26.I.2005, fl., *L. Kollmann* & *A.P. Fontana* 7328 (MBML).

In PNMSL *Bertolonia ruschiana* occurs near rivers banks, in Montane Ombrophilous Dense Forest. It can be recognized by the herbaceous habit, scorpioid inflorescences and obtriquetrous fruits.

According to the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019), this species is threatened, classified as Vulnerable (VU). It is endemic to Espírito Santo (Baumgratz 2020a) with most specimens occurring in Santa Teresa. In PNMSL it was sampled with flowers in April and December, and with fruits in March, April, November and December.

4. *Chaetogastra sebastianopolitana* (Raddi) P.J.F.Guim. & Michelang., *Taxon* 68(5): 968. 2019. Figs. 2e; 3a

Subshrubs, 0.8–1.5 m tall. Stem branches quadrangular, subwinged, densely covered with long-stalked glandular and eglandular trichomes mixed. Petioles 0.3–1 cm long. Leaf blades 2–4.5 × 1.1–2.4 cm, membranaceous, ovate or elliptic, discolorous when dried, base acute to obtuse, apex acute; margins crenulate or serrate, ciliate; acrodromous veins 5+2, the external pair joining the inner pair above the base, inner pair basal, joining the midrib without domatia on the abaxial surface; both surfaces covered with appressed unbranched eglandular trichomes, these denser on abaxial surface, surface visible. Inflorescence 7.9–20.5 cm long, dichasial, terminal and axillary. Flowers tetramerous, pedicellate. Hypanthium 0.3–0.4 cm long, urceolate, covered with long-stalked glandular and eglandular trichomes. Petals purple, apex rounded. Stamens 8, heteromorphic; filaments glabrous; anthers yellow, antepetalous 0.3–0.5 long, antepetalous 0.2–0.4 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a ventral bilobate appendage. Ovary superior, apex covered with unbranched eglandular trichomes; style filiform, glabrous. Fruits capsular. Calyx persistent.

Specimens analyzed: PNMSL, Circuito Caravaggio, beira de estrada, 700 m, 19°55'S, 40°37'W, 2.V.2019, fl. and fr., *P.M.L.A. Santos* 2 (RB); área de brejo, 858, 19°54'58.97"S, 40°37'36.56"W, 25.VIII.2019, fr., *P.M.L.A. Santos et al.* 104 (RB); Vargem Alta (acima do Country Club), 19°54'56"S, 40°39'W, 19.IV.2000, fl. and fr., *V. Demuner* 915 *et al.* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia,

19.V.1995, fl., *C.C. Chamas* 73 (MBML); 4.IV.1984, fl., *W. Pizziolo* 17 (MBML).

In PNMSL *Chaetogastra sebastianopolitana* occurs in open areas. It can be recognized by the subshrub habit, tetramerous flowers with purple petals, heteromorphic stamens, yellow anthers and capsular fruits.

This species occurs in Brazil in the states of Minas Gerais, Espírito Santo and Rio de Janeiro. In PNMSL it was sampled with flowers in April and May and fruits April, May and August (Goldenberg *et al.* 2020b).

5. *Henriettea glabra* (Vell.) Penneys, Michelang., Judd & Almeda, *Syst. Bot.* 35(4): 797. 2010.

Fig. 2f

Trees, 6–14 m tall. Stem branches cylindrical, non-winged, glabrous. Petioles 1.8–3.5 cm long. Leaf blades 10.6–17.3 × 4.7–8.6 cm, coriaceous, ovate, concolorous, base acute to attenuate, apex acute; margins entire or serrate, ciliate or eciliate; acrodromous veins 3+2, the inner pair 0.6–2.2 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces glabrous, surface visible. Inflorescence fasciculate, axillary in leafless nodes. Flowers tetramerous, pedicellate. Hypanthium 0.5–0.6 cm long, campanulate, glabrous. Petals white, apex acute. Stamens 8, isomorphic; filaments glabrous; anthers yellow, 0.3–0.4 cm long, dehiscing through an apical pore; connective dorsally thickened, not prolonged below the thecae, with an acute dorsal appendage. Ovary inferior, apex glabrous; style filiform, glabrous. Fruits fleshy. Calyx inconspicuous.

Specimens analyzed: PNMSL, Estação Biológica Caixa D'Água, 19°55'53.0"S, 40°36'27.0"W, 30.VII.1998, fr., *E. Bausen* & *W. Pizziolo* 134 (MBML); mata próxima a estrada do circuito Caravaggio, 19°55'24.57"S, 40°37'17.43"W, 30.VII.2019, fr., *P.M.L.A. Santos* & *J. Kulkamp* 55 (RB); 19°55'24.57"S, 40°37'17.43"W, 9.III.2020, fl., *P.M.L.A. Santos* & *J.P.F. Zorzanelli* 197 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, São Lourenço, 25.VI.1998, fr., *L. Kollmann et al.* 137 (MBML); 27.I.1999, fl. and fr., *L. Kollmann et al.* 1713 (MBML); 7.IV.1999, fr., *L. Kollmann et al.* 2435 (MBML); Reserva Biológica Augusto Ruschi, 20.II.2002, fl., *L. Kollmann* 5595 *et al.* (MBML).

In PNMSL *Henriettea glabra* occurs in Montane Ombrophilous Dense Forest. It can be recognized by the tree habit, glabrous leaves, inflorescence axillary in leafless nodes and fleshy fruits.

This species occurs in Brazil in the states of Bahia, Espírito Santo, Rio de Janeiro, São Paulo and Santa Catarina. In PNMSL it was collected with flowers in March and with fruits in July (Brito 2020).

6. *Meriania tetramera* Wurdack, *Phytologia* 45(4): 324. 1980. Fig. 2g

Trees, up to 13 m tall. Stem branches sub-cylindrical, non-winged, glabrous or covered with caducous amorphous trichomes. Petioles 1.2–3.5 cm long, canaliculate. Leaf blades 9–13.6 × 2.8–4.9 cm, chartaceous, elliptic, lanceolate or oblanceolate, concolorous, base acute to attenuate, apex acute to acuminate; margins entire to dentate, eciliate; acrodromous veins 3+2, the inner pair 0.6–1.8 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface glabrous, abaxial surface moderately with furfuraceous amorphous trichomes, surface visible. Inflorescence 2.1–3.7 cm long, umbel, terminal. Flowers tetramerous, pedicellate. Hypanthium 0.3–0.5 cm long, campanulate, covered with amorphous trichomes. Petals white or pink, apex rounded, slightly acuminate. Stamens 8, isomorphic; filaments glabrous; anthers white, ca. 0.3 cm long, yellowish or pinkish, dorsally arched, dehiscing through an apical pore; connective prolonged below the thecae, with an acute dorsal appendage. Ovary superior, apex glabrous; style undulate, glabrous. Fruits capsular. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica Caixa D'Água, 19°55'53.0"S, 40°36'27.0"W, 10.VIII.1995, fl., *E. Bausen* 80 (MBML); 19°55'53.0"S, 40°36'27.0"W, 30.VII.1998, fl. and fr., *E. Bausen & W. Piziollo* 121 (MBML); 19°55'52.0"S, 40°37'14.0"W, 25.VII.1998, fl., *L. Kollmann et al.* 140 (MBML); 19°55'53.0"S, 40°36'27.0"W, 18.V.1999, fl., *W. P. Lopes* 709 (MBML); Trilha do Caravaggio, 21.VIII.2001, fr., *L. Kollmann & E. Bausen* 4379 (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Castelo, Parque Estadual do Forno Grande, 18.VII.2008, fl., *R. Goldenberg et al.* 1185 (MBM).

In PNMSL *Meriania tetramera* is unfrequent and has not been collected since 2001. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the tree habit, umbellate inflorescences, anthers with dorsal appendage and dry fruits.

According to the “Lista Vermelha da flora brasileira” (CNCFlora 2021), this species is classified as Least Concern (LC). It occurs in Brazil in the states of Bahia and Espírito Santo. In PNMSL it was sampled with flowers in and fruits July and August (Baumgratz 2020b).

7. *Miconia albicans* (Sw.) Steud., *Nomencl. Bot.* (ed. 2): 139. 1841. Fig. 3b

Shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, moderately covered with arachnoid trichomes. Petioles 0.2–0.9 cm long. Leaf blades 4.3–9.8 × 2.7–4.5 cm, coriaceous, elliptic to obovate, discolorous, base rounded, apex rounded, obtuse or slightly acuminate; margins entire to crenulate, revolute, eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface covered with arachnoid trichomes when young, then glabrescent, abaxial surface densely covered with arachnoid trichomes, surface not visible. Inflorescence 8.6–11.5 cm long, panicles with scorpioid branching, terminal. Flowers pentamerous, sessile. Hypanthium ca. 0.2 cm long, campanulate, densely covered with arachnoid trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.2–0.3 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a ventral biauriculate and a dorsal acute appendage. Ovary inferior, apex glabrous; style straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, mata próxima a estrada do circuito Caravaggio, 749 m, 19°55'24.57"S, 40°37'17.51"W, 20.VII.2019, fl., *P.M.L.A. Santos & J. Kulkamp* 63 (RB); Circuito Caravaggio, à margem esquerda da estrada principal, após a entrada da Cachoeira do Country Club, 837 m, 19°55'37.14"S, 40°38'39.93"W, 5.XII.2019, fr., *P.M.L.A. Santos* 170 (RB).

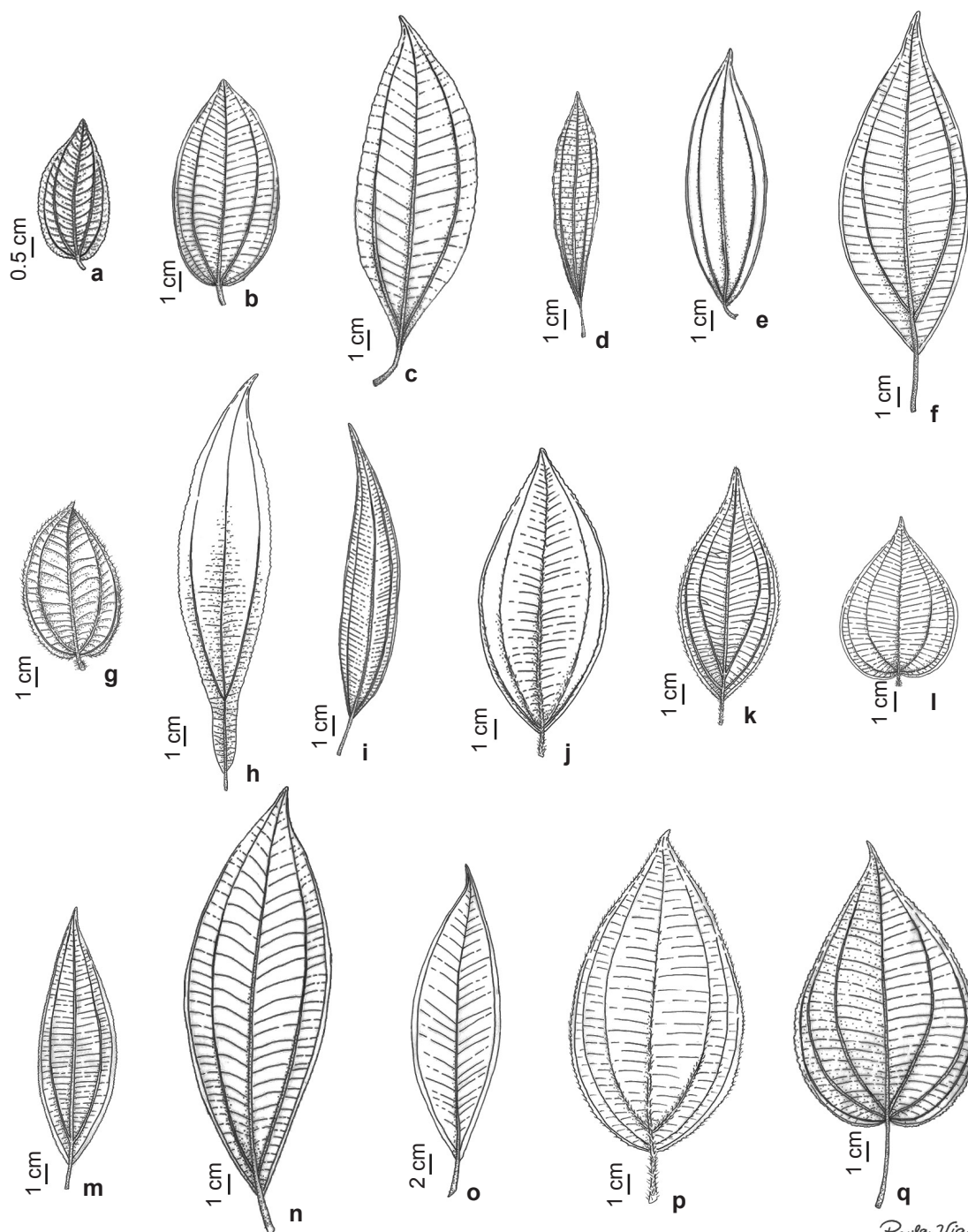
Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, 21.VII.1978, fl., *Cézio* 890 (UPCB). Fundão, Timbuí, 11.IX.1984, fl., *R.M. Piziollo* 231 (MBML). Cariacica, Reserva Biológica Duas Bocas, fl., 21.X.2008, *L. Kollmann et al.* 11242 (MBML).

In PNMSL *Miconia albicans* occurs mostly in degraded areas. It can be recognized by the adaxial surface of the leaves densely covered with arachnoid trichomes, and panicles with scorpioid branching.

This species occurs in all states of Brazil with exception of Santa Catarina and Rio Grande do Sul (Goldenberg *et al.* 2020a). In PNMSL it was sampled with buds in July and with flowers in December.

8. *Miconia amygdaloides* (DC.) R. Goldenb., *Brittonia* 71(1): 86. 2019 [2018]. = *Ossaea amygdaloides* (DC.) Triana, *Trans. Linn. Soc. London* 28(1): 147. 1871 [1872].

Subshrubs to shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, covered with stellate and unbranched trichomes. Petioles 0.5–1.6 cm long. Leaf blades 6.8–10.6 × 1–2.9 cm, membranaceous,



Paula Viana

Figure 3 – a-q. Leaf abaxial surfaces of Melastomataceae species from "Parque Natural Municipal de São Lourenço", Santa Teresa, Espírito Santo, Brazil – a. *Chaetogastra sebastianopolitana*; b. *Miconia albicans*; c. *Miconia atlantica*; d. *Miconia capixaba*; e. *Miconia cinnamomifolia*; f. *Miconia corcovadensis*; g. *Miconia crenata*; h. *Miconia cristata*; i. *Miconia cubatanensis*; j. *Miconia dasytricha*; k. *Miconia debilis*; l. *Miconia diffusa*; m. *Miconia fallacissima*; n. *Miconia fasciculata*; o. *Miconia flammea*; p. *Miconia ionopogon*; q. *Miconia labiakiana*. (a. P.M.L.A. Santos 2; b. P.M.L.A. Santos & J. Küllkamp 63; c. P.M.L.A. Santos et al. 86; d. P.M.L.A. Santos 90; e. T.A. Cruz et al. 60; f. P.M.L.A. Santos 159; g. P.M.L.A. Santos & J. Küllkamp 65; h. R. Goldenberg et al. 2643; i. T.A. Cruz et al. 69; j. P.M.L.A. Santos 140; k. P.M.L.A. Santos 106; l. P.M.L.A. Santos 130; m. P.M.L.A. Santos 146; n. P.M.L.A. Santos & J. Küllkamp 70; o. R. Goldenberg et al. 893; p. P.L.M.A Santos 150; q. P.M.L.A. Santos 206).

elliptic, ovate or lanceolate, slightly discolored, base cuneate, obtuse or rounded, apex acute to acuminate; margins entire to crenate, ciliate; acrodromous veins 5, the inner pair 0.1–0.7 above the base, joining the midrib without domatia on the abaxial surface; adaxial surface moderately covered with unbranched and stellate trichomes, abaxial surface moderately covered with appressed unbranched trichomes, more concentrated on veins, surface visible. Inflorescence 2.1–7.7 cm long, dichasial or solitary, axillary. Flowers pentamerous, pedicellate. Hypanthium ca. 0.2 cm long, campanulate, densely covered with stellate and unbranched trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers yellow, 0.1–0.2 cm long, dehiscing through an apical pore; connective not prolonged below the thecae, without appendage. Ovary inferior, apex covered with unbranched trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent. **Specimens analyzed:** PNMSL, 19°55'26.0"S 40°37'13.0"W, 24.V.1984, fl., *W.A. Hoffmann 121* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa: Estação Biológica de Santa Lúcia, 7.XI.1985, fl., *H.Q. Boudet Fernandes 1591* (MBML); Santo Henrique, 2.XII.2005, fl., *L. Kollmann & A.P. Fontana 8497* (MBML); loteamento Jardim da Montanha, 23.X.1985, fl., *W. Boone 836* (MBML).

In PNMSL *Miconia amygdaloides* is infrequent and was collected only once in 1984. It occurs in open or degraded areas and can be recognized by the axillary inflorescences, petals with acute apex and yellow anthers. It is similar to *Miconia leamarginata*, and they can be distinguished by the ovary apex covered with unbranched trichomes in *Miconia amygdaloides* and covered with stellate trichomes in *Miconia leamarginata*.

This species occurs in Brazil in the states of Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in May.

9. *Miconia atlantica* Caddah & R.Goldenb., *Brittonia* 65(3): 352. 2013. Fig. 3c

Shrubs to trees, 2–10 m tall. Young stem branches flat, then cylindrical, non-winged, densely covered with stellate trichomes; nodes without interpetiolar ridges. Petioles 0.7–2.5 cm long, canaliculate. Leaf blades 11.5–25.3 × 3.8–9.2 cm, membranaceous, elliptic, concolorous, base acute to attenuate, apex acute to acuminate; margins

entire to crenate, eciliate; acrodromous veins 3+2, the inner pair 0.3–1.1 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface glabrous, abaxial surface sparsely covered with stellate trichomes, surface visible. Inflorescence 5.4–11.1 cm long, panicles with glomerulate branching, terminal. Flowers pentamerous, sessile. Hypanthium ca. 0.2 cm long, campanulate, densely covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.2 cm long, dehiscing through an apical pore; connective not or slightly prolonged below the thecae, without appendage. Ovary inferior, apex covered with stellate trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, Estação Biológica da Caixa D'Água, 850 m, 19°55'53.0"S, 40°36'27.0"W, 18.IX.1998, fl., *L. Kollmann 1046 et al.* (MBML); 750 m, 19°55'53.0"S, 40°36'27.0"W, 17.VI.1999, fr., *L. Kollmann 2730* (MBML); mata próxima a estrada do circuito Caravaggio, 750 m, 19°55'24.57"S, 40°37'17.53"W, 20.VII.2019, fl., *P.M.L.A. Santos & J. Külkamp 60* (RB); 750 m, 19°55'24.57"S, 40°37'17.53"W, 20.VII.2019, fl., *P.M.L.A. Santos & J. Külkamp 61* (RB); trilha da caixa d'água, adjacente ao PNM São Lourenço, 651 m, 19°55'49.6"S, 40°35'50.12"W, 24.VII.2019, fl., *P.M.L.A. Santos et al. 86* (RB); Circuito Caravaggio, mata à margem direita da estrada principal, próximo a rampa do voo livre, 858 m, 19°54'59.97"S, 40°37'36.56"W, 25.VIII.2019, fl., *P.M.L.A. Santos 112* (RB); mata do Country Club, 858 m, 19°55'25.20"S, 40°38'15"W, 11.X.2019, fl., *P.M.L.A. Santos 129* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 730 m, 19°55'39.19"S, 40°36'13.47"W, 13.X.2019, fl., *P.M.L.A. Santos 134* (RB); Circuito Caravaggio, trilha à margem direita da estrada, próxima a pista de motocross, 799 m, 19°55'20.81"S, 40°37'36.56"W, 25.XI.2019, fl., *P.M.L.A. Santos 137* (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 142* (RB); 26.XI.2019, fl., *P.M.L.A. Santos 154* (RB); Circuito Caravaggio, trilha à margem direita da estrada, próxima a pista de motocross, 799 m, 19°55'20.81"S, 40°37'17.06"W, 4.XII.2019, fl., *P.M.L.A. Santos 166* (RB); trilha à margem esquerda da estrada principal, após a entrada da cachoeira do Country Club, 837 m, 19°55'37.14"S, 40°38'39.93"W, 5.XII.2019, fl., *P.M.L.A. Santos 168* (RB); 19.V.1999, *W.P. Lopes 734* (MBML).

In PNMSL *Miconia atlantica* occurs in Montane Ombrophilous Dense Forest. It can be recognized by the plinerved leaves, with sparse stellate trichomes and panicles with glomerulate branching.

This species occurs in Brazil in the states of Espírito Santo, Rio de Janeiro and São Paulo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in July, August, October, November and December and with fruits in May and June.

10. *Miconia buddlejoides* Triana, Trans. Linn. Soc. London 28(1): 118. 1871.

Trees, up to 12 m tall. Stem branches flat when young, then cylindrical, non-winged, moderately covered with stellate trichomes. Petioles 1.2–2.5 cm long, canaliculate. Leaf blades 11.8–19 × 4.1–6.8 cm, chartaceous, elliptic, ovate or lanceolate, discolorous, base acute to attenuate, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, the inner pair 0.4–1.2 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface sparsely covered with stellate trichomes, glabrescent; abaxial surface densely covered with dendritic trichomes, surface not visible. Inflorescence 6.1–12.4 cm long, panicles with glomerulate branching, terminal. Flowers pentamerous, sessile. Hypanthium ca. 0.2 cm long, campanulate, densely covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; antepetalous anthers ca. 0.2 cm long, antepetalous ca. 0.1 cm long, white, dehiscing through an apical pore; connective prolonged below the thecae, without appendage. Ovary inferior, apex covered with stellate trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, Mata Fria, 19°55'52.0"S, 40°41'01.0"W, 9.IX.1998, fl., *L. Kollmann et al.* 500 (MBML); Estrada do Caravage, 19°55'52.0"S, 40°37'14.0"W, 850 m, 12.X.1998, fr., *L. Kollmann et al.* 787 (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Reserva Biológica Augusto Ruschi, 800 m, 23.X.2001, fl., *L. Kollmann et al.* 4881 (MBML).

In PNMSL *Miconia buddlejoides* is unfrequent and has not been collected since 1998. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the plinerved leaves with abaxial surface not visible, panicles with glomerulate branching, anthers without appendage and ovary covered with stellate trichomes.

This species occurs in Paraguay and Brazil (Caddah *et al.* 2020), in the states of Bahia, Minas Gerais, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in September and with fruits in October.

11. *Miconia capilliflora* (Naudin) R. Goldenb., Brittonia 71(1): 89. 2019 [2018].

= *Leandra capilliflora* (Naudin) Reginato, Phytotaxa 262(1): 33. 2016.

= *Clidemia capilliflora* (Naudin) Cogn. in Mart., *Fl. bras.* 14(4): 508. 1888. Fig. 4a

Shrubs, ca. 1 m tall. Stem branches cylindrical, non-winged, glabrous. Petioles 0.2–0.4 cm long. Leaf blades 6.1–9.9 × 2–3.1 cm, membranaceous, lanceolate or elliptic, concolorous, base cuneate to obtuse, apex acute to acuminate; margins entire, ciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with short-stalked glandular trichomes, surface visible. Inflorescence 0.8–2.2 cm long, dichasial, axillary. Flowers tetramerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, sparsely covered with short-stalked glandular trichomes. Petals white, apex rounded. Stamens 8, subisomorphic; filaments glabrous; anthers white, antepetalous ca. 0.2 cm long, antepetalous 0.1–0.2 cm long, dehiscing through an apical pore; connective shortly prolonged below the thecae, with a dorsal acute appendage in the antepetalous. Ovary inferior, apex densely covered with short stalked trichomes; style filiform. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica da Caixa D'Água, Valão de São Lourenço, 19°55'53.0"S, 40°36'27.0"W, 16.XII.1993, fl., *E. Bausen* 45 (MBML); 19°55'53.0"S, 40°36'27.0"W, 23.XII.1993, fr., *E. Bausen* 52 (MBML); 19°55'53.0"S, 40°36'27.0"W, 19.V.1994, fl., *E. Bausen* 62 (MBML); 19°55'53.0"S, 40°36'27.0"W, 10.VIII.1995, fr., *E. Bausen* 79 (MBML); 700 m, 19°55'53.0"S, 40°36'27.0"W, 14.IV.1999, fl. and fr., *L. Kollmann* 2470 (MBML); Country Club, trilha à direita da cachoeira do Country, 859 m, 19°55'23.72"S, 40°38'16.62"W, 3.II.2020, fl., *P.M.L.A. Santos* 189 (RB).

In PNMSL *Miconia capilliflora* occurs in Montane Ombrophilous Dense Forest. It can be recognized by the almost glabrous leaves, axillary inflorescences with long peduncles, tetramerous flowers and subisomorphic white anthers.

This species occurs in Brazil in the states of Bahia, Espírito Santo, and Rio de Janeiro (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February, April, May and December and with fruits in April, August and December.

12. *Miconia capixaba* R. Goldenb., Novon 9(4): 514, F. 1a-f. 1999. Fig. 3d

Shrubs to trees, 0.5–16 m tall. Stem branches cylindrical, non-winged, covered with stellate trichomes. Petioles 0.4–0.9 cm long, canaliculate.

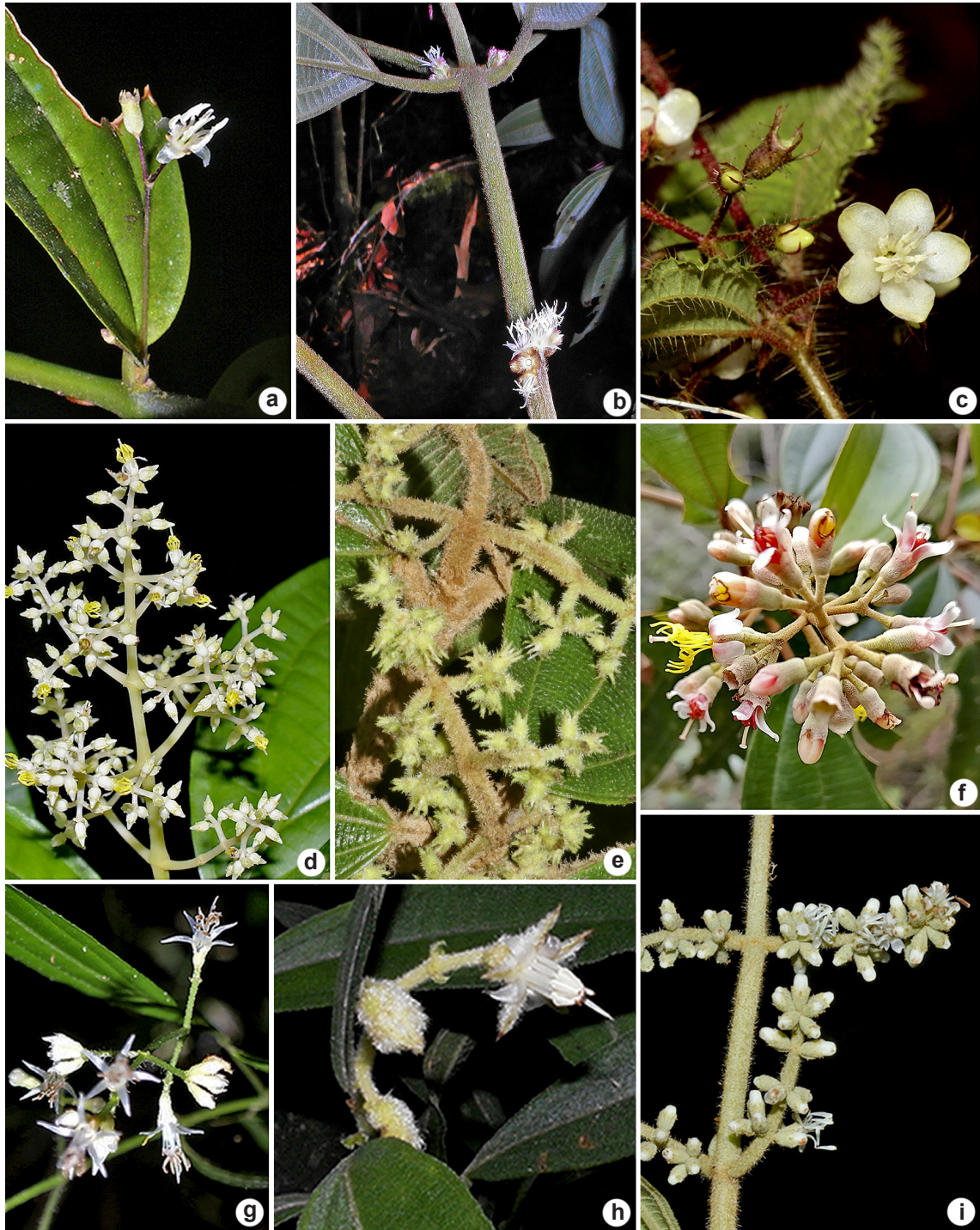


Figure 4 – a-i. Melastomataceae species from "Parque Natural Municipal de São Lourenço", Santa Teresa, Espírito Santo, Brazil – a. *Miconia capilliflora* – flowering branches; b. *Miconia corcovadensis* – flowering branches; c. *Miconia crenata* – flowering branches; d. *Miconia cuneatissima* – flowering branches; e. *Miconia dasytricha* – flowering branches; f. *Miconia dodecandra* – flowering branches; g. *Miconia dubia* – flowering branches; h. *Miconia fallacissima* – flowering branches; i. *Miconia fasciculata* – flowering branches. Photos: e, i. Claudio Nicoletti de Fraga; c. Josimar Külkamp; a, b, d, f, g, h. Pedro Martin Lischinsky Alves dos Santos.

Leaf blades 6.5–10.2 × 1.6–2.7 cm, chartaceous, lanceolate, discolorous, base acute, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, basal or with the inner pair slightly suprabasal (0.2 cm above the base), joining the midrib without domatia on the abaxial surface; adaxial surface covered with stellate furfuraceous trichomes, glabrescent; abaxial surface densely covered with stellate trichomes, surface not visible. Inflorescence 1.3–3.5 cm long, panicles with branching slightly scorpioid, terminal. Flowers pentamerous. Hypanthium ca. 0.1 cm long, campanulate, densely covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through an apical pore; connective prolonged below the thecae, without appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, 19°55'26.0"S, 40°37'13.0"W, 24.V.2003, fl., *T.A. Cruz et al.* 57 (MBML); mata do Country Club, 559 m, 19°55'25.11"S, 40°38'15.08"W, 21.VII.2019, fl., *P.M.L.A. Santos* 77 (RB); 660 m, 19°55'25.12"S, 40°38'15.08"W, 21.VII.2019, fl., *P.M.L.A. Santos* 78 (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°37'4.50"W, 22.VIII.2019, fl., *P.M.L.A. Santos* 90 (RB); 705 m, 19°55'49.05"S, 40°37'4.50"W, 9.X.2019, fr., *P.M.L.A. Santos* 121 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia, 21.VII.1993, fl., *L.D. Thomaz* (MBML 9300); 11.VII.2007, fl., *R. Goldenberg et al.* 907 (MBML); Alto de Santo Antônio, 12.VII.2007, fl., *R. Goldenberg et al.* 909 (MBML).

In PNMSL *Miconia capixaba* occurs in Montane Ombrophilous Dense Forest. It can be recognized by the leaf abaxial surface not visible, and terminal short (up to 3.5 cm long) inflorescences with scorpioid branching.

This species is threatened, classified as Endangered (EN) in the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019), and Critically Endangered (CR) in the “Lista Vermelha da flora brasileira” (CNCFlora 2021). It is endemic to the state of Espírito Santo (Goldenberg *et al.* 2020c) and in PNMSL it was sampled with flowers in May, July and August and with fruits in October.

13. *Miconia cinnamomifolia* (DC.) Naudin, Ann. Sci. Nat., Bot., sér. 3, 16: 68. 1851. Fig. 3e

Trees, up to 19 m tall. Stem branches sub quadrangular, non-winged, covered with stellate furfuraceous trichomes when young, then glabrous. Nodes with conspicuous interpetiolar ridges. Petioles 0.4–1.3 cm long. Leaf blades 6.5–11.1 × 2.3–4.1 cm, coriaceous, ovate to elliptic, concolorous, base acute, cuneate, or slightly attenuate, apex acute to acuminate; margins entire, revolute, eciliate; acrodromous veins 3+2, basal or the inner pair slightly suprabasal (0.2 cm above the base), joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with stellate furfuraceous trichomes when young, then glabrous, surface visible. Inflorescence 6–10.1 cm long, panicles with regular branching (non-scorpioid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium ca. 0.2 cm long, campanulate, glabrous. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, antepetalous 0.2–0.3 cm long, antepetalous 0.1–0.2 cm long, dehiscing through an apical pore; connective with a ventral biauriculate and a dorsal acute appendage. Ovary inferior, apex glabrous; style straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, 19°55'26.0"S, 40°37'13.0"W, 9.VIII.2003, fr., *T.A. Cruz et al.* 60 (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia, 650 to 800 m, 18.I.1995, fr., *L.D. Thomaz* 1623 (MBML); Reserva Biológica Augusto Ruschi, 19.XII.2002, fl., *R.R. Vervloet et al.* 1578 (MBML); 9.I.2003, fl., *R.R. Vervloet et al.* 1669 (MBML).

In PNMSL *Miconia cinnamomifolia* is common despite having only one record in 2003. It occurs in Montane Ombrophilous Dense Forest and can be easily recognized by glabrous leaves and conspicuous interpetiolar ridges.

This species occurs in Brazil in the states of Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers fruits in August.

14. *Miconia corcovadensis* (Raddi) R. Goldenb., Brittonia 71(1): 92. 2019 [2018].
= *Leandra angustifolia* DC., Prodr. 3: 154. 1828.
= *Ossaesa angustifolia* (DC.) Triana., Trans. Linn. Soc. London 28(1): 147. 1871 [1872].

Figs. 3f; 4b

Shrubs, 1–4 m tall. Stem branches cylindrical, non-winged, densely covered with appressed unbranched trichomes. Petioles 1.6–2.8 cm

long. Leaf blades 9.3–14.2 × 2.8–4.7 cm, membranaceous, lanceolate, slightly discolored when dried, base cuneate, apex acute; margins entire, ciliate; acrodromous veins 3+2, the inner pair 0.5–1.1 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces covered with appressed unbranched trichomes, these denser on abaxial surface, most concentrated on veins, surface visible. Inflorescence sessile, glomerulate or solitary, axillary. Flowers pentamerous or hexamerous, sessile. Hypanthium 0.2–0.3 cm long, campanulate, densely covered with appressed unbranched trichomes, sometimes with glands in the apex. Petals white, apex acute. Stamens 10–12, subsisomorphic; filaments glabrous; anthers white, antepetalous ca. 0.3 cm long, antepetalous ca. 0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a ventral biauriculate appendage in the antepetalous. Ovary apex covered with unbranched trichomes; style filiform. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica Caixa D'Água, trilha principal, 19°55'53"S, 40°36'27"W, 23.XII.2002, fl., *A.P. Fontana & F.C. Sarmiento* 425 (MBML); 19°55'53"S, 40°36'27"W, 30.V.1984, fl., *J.M. Vimercat* 157 (MBML); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos* 159 (RB); Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 866 m, 19°55'5.11"S, 40°38'36.38"W, 25.VIII.2019, fl., *P.M.L.A. Santos* 187 (RB); trilha margeando o Rio de São Lourenço, 729 m, 19°55'51.73"S, 40°36'27.39"W, 4.II.2020, fl., *P.M.L.A. Santos & J.P.F. Zorzanelli* 193 (RB); Country Club, trilha a direita da entrada, 931 m, 19°55'18.35"S, 40°37'52.59"W, 9.III.2020, fl. and fr., *P.M.L.A. Santos* 204 (RB).

In PNMSL *Miconia corcovadensis* is common in Montane Ombrophilous Dense Forest. It can be recognized by the axillary inflorescences, sessile flowers with white petals with an acute apex, and white anthers.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL was sampled with flowers in February, March, May, August, November and December and with fruits in March.

15. *Miconia crenata* (Vahl) Michelang., Pl.-Book (ed. 4) 1102. 2017.

= *Clidemia hirta* (L.) D. Don, Mem. Wern. Nat. Hist. Soc. 4: 309. 1823. Figs. 3g; 4c

Shrubs, 0.3–2 m tall. Stem branches cylindrical, non-winged, covered with stellate, erect unbranched and long-stalked glandular trichomes. Petioles 0.4–2.1 cm long. Leaf blades 5.1–12.4 × 2.8–8.7 cm, membranaceous, ovate, bullate, concolorous or slightly discolored when dried, base cordate, apex acute to acuminate; margins crenate, ciliate; acrodromous veins 5+2, basal, joining the midrib without domatia on the abaxial surface; both surfaces moderately covered with stellate, erect unbranched and long-stalked glandular trichomes. Inflorescence 1.3–2.8 cm long, dichasial, axillary. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.4 cm long, campanulate, moderately covered with stellate trichomes with sparse long-stalked trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.2–0.3 cm long, dehiscing through an apical pore; connective prolonged below the thecae with a dorsal acute appendage. Ovary inferior, apex glabrous; style straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica Caixa D'Água, Valão de São Lourenço, 19°55'53.0"S, 40°36'27.0"W, 19.XI.1993, fl. and fr., *E. Bausen* 50 (MBML); mata próxima a estrada do Circuito Caravaggio, 740 m, 19°55'24.57"S, 40°37'17.53"W, 20.VII.2019, fl. and fr., *P.M.L.A. Santos & J. Külkamp* 65 (RB); trilha do Caravaggio, 858 m, 19°54'58.97"S, 40°37'36.56"W, 25.VIII.2019, fl. and fr., *P.M.L.A. Santos* 107 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Nova Lombardia, 26.I.2005, fr., *L. Kollmann & A.P. Fontana* 7346 (MBML); 11.V.2006, *L. Kollmann & S. Krauser* 9081 (MBML).

Miconia crenata is very common in PNMSL and occurs mostly in anthropic and open areas. It can be recognized by the branches, leaves and flowers with long, erect, unbranched trichomes, cordate leaf base, and white flowers with white anthers.

This species occurs in all states of Brazil except Rio Grande do Norte (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers and fruits in July, August and November.

16. *Miconia cristata* (Reginato & R. Goldenb.) R. Goldenb., Brittonia 71(1): 92. 2019 [2018].

= *Leandra cristata* Reginato & R. Goldenb., Blumea 57: 210, f. 1a, 2a-d, 3. 2013. Fig. 3h

Shrubs, 1–3 m tall. Stem branches cylindrical, non-winged, glabrous. Nodes with conspicuous interpetiolar ridges that extend to the base of the

petioles. Petioles 0.3–0.7 cm long. Leaf blades 6–15.1 × 0.9–3.5 cm, chartaceous, lanceolate, discolorous when dried, base decurrent, not amplexicaul, apex acute to acuminate; margins slightly serrulate, ciliate; acrodromous veins 3+2, the inner pair 0.4–2.5 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with short-stalked glandular trichomes, surface visible. Inflorescence 7.4–13.4 cm long, panicles with regular branching (non-scorpoid, non-dichasial), terminal. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, glabrous. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through an apical pore; connective not prolonged below the thecae, without appendage. Ovary inferior, apex glabrous; style filiform, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica da Caixa D'Água, 700 m, 19°55'53.0"S, 40°36'27.0"W, 14.IV.1999, fr., *L. Kollmann et al. 2494* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Santo Henrique, 19.I.2006, fr., *L. Kollmann & A.P. Fontana 8156* (MBML); Rebio A. Ruschi, 12.I.2011, fl., *L. Kollmann 12138* (MBML); 11.I.2019, fl., *R. Goldenberg et al. 2643* (RB); 20.III.2003, fr., *R.R. Vervloet & E. Bausen 2024* (MBML).

In PNMSL *Miconia cristata* is unfrequent and was collected only once in 1999. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the presence of nodes with conspicuous interpetiolar ridges that extend to the base of the petioles, leaves sparsely covered with short-stalked glandular trichomes, and the inner pair of acrodromous veins suprabaasal.

According to the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019), this species is threatened, classified as Vulnerable (VU). It is endemic to Espírito Santo (Goldenberg *et al.* 2020c) and in PNMSL it was sampled with fruits in May.

17. *Miconia cubatanensis* Hoehne, *Anexos Mem. Inst. Butantan, Secc. Bot.* 1(5): 139-140. 1922.

Fig. 3i

Trees, up to 17 m tall. Stem branches flat when young, then cylindrical, non-winged, covered with lepidote-stellate trichomes. Petioles 0.9–1.5 cm long, canaliculate. Leaf blades 6.6–9.1 × 1.9–2.7 cm, chartaceous, ovate to lanceolate, discolorous, base acute to attenuate, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, basal, joining the midrib without

domatia on the abaxial surface; adaxial surface covered with stellate trichomes when young, then glabrous, abaxial surface densely covered with lepidote-stellate trichomes, surface not visible. Inflorescence 4.7–8 cm long, panicles with scorpioid branching, terminal. Flowers pentamerous, sessile. Hypanthium ca. 0.2 cm long, campanulate, densely covered with lepidote-stellate trichomes. Petals white, apex rounded. Stamens 10, subsomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through an apical pore; connective shortly prolonged below the thecae, with a dorsal acute appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, Country Club, 19°55'32.0"S, 40°38'08.0"W, 11.IX.1985, fl., *H.Q. Boudet Fernandes 1480* (MBML); 19°55'26.0"S, 40°37'13.0"W, 30.VIII.2003, fl., *T.A. Cruz et al. 69* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, 28.VI.1884, *L.D. Thomaz 830* (MBML).

In PNMSL *Miconia cubatanensis* is unfrequent and has not been collected since 2003. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the adaxial leaf surface glabrous or almost glabrous when mature, the abaxial surface not visible, and panicles with scorpioid branching.

This species occurs in Brazil in the states of Bahia, Goiás, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in and with fruits in August, September.

18. *Miconia cuneatissima* R. Goldenb. & Michelang., *Brittonia* 71(1): 92. 2019 [2018].

= *Leandra cuneata* (Mart.) Cogn. in Mart., *Fl. bras.* 14(4): 161 (1886). Fig. 4d

Shrubs, 1–4 m tall. Stem branches cylindrical, non-winged, covered with stellate trichomes when young. Petioles 0.4–2.6 cm long. Leaf blades 7.9–21.6 × 2.9–9.2 cm, membranaceous, ovate, discolorous when dried, base cuneate to attenuate, not amplexicaul, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, the inner pair 0.6–2.19 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with stellate trichomes, surface visible. Inflorescence 9.2–16.1 cm long, panicles with regular branching (non-scorpoid, non-dichasial), terminal. Flowers pentamerous, pedicellate. Hypanthium ca. 0.2 cm

long, campanulate, covered with stellate trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers yellow, ca. 0.15 cm long, dehiscing through an apical pore; connective shortly prolonged below the thecae, with a dorsal acute appendage. Ovary inferior, apex covered with stellate trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx inconspicuous.

Specimens analyzed: PNMSL, Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da cachoeira do Country, 866 m, 19°55'5.11"S, 40°38'36.38"W, 3.II.2020, fl., *P.M.L.A. Santos 184* (RB).

Additional material: BRAZIL. BAHIA: Arataca, Serra do Peito-de-Moça, fl., *A.M. Amorim et al. 5240* (UPCB). Barro Preto, Serra da Pedra Lascada, 2.XI.2003, fl. and fr., *P. Fiaschi et al. 1760* (UPCB). Camacã, RPPN Serra Bonita, 29.XI.2005, fl., *A.M. Amorim et al. 5421* (UPCB); RPPN Serra Bonita, Fazenda Uiraçu, 13.VIII.2009, *L. Daneu et al. 86* (UPCB).

This is the first record of *M. cuneatissima* in PNMSL and also for Espírito Santo. In PNMSL we found only a few individuals in Montane Ombrophilous Dense Forest. It can be recognized by the plinerved leaves with sparse stellate trichomes, flowers with white petals with an acute apex, and yellow anthers.

This species occurs in Brazil in the states of Bahia, Minas Gerais and Espírito Santo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February.

19. *Miconia dasytricha* (A.Gray) R.Goldenb., *Brittonia* 71(1): 93. 2019 [2018].

= *Leandra variabilis* Raddi, *Melast. Bras.*: 42: t. V, fig. 2 also in *Mem. Mat. Fis. Soc. Ital. Sci. Modena, Pt. Mem. Fis.* 20(1): 150. 1829 (1828).

Figs. 3j; 4e

Shrubs, 1–2 m tall. Stem branches quadrangular, densely covered with dendritic, elongated roughened and short-stalked glandular trichomes, more concentrated in younger branches, nodes without interpetiolar ridges. Petioles 0.7–1.9 cm long. Leaf blades 10.9–18.4 × 4.6–11.2 cm, membranaceous, elliptic to ovate, discoloured when dried, base acute to rounded, not amplexicaul, apex acute to acuminate; margins entire to crenulate, ciliate; acrodromous veins 5+2, basal or inconspicuously suprabasal, joining the midrib without domatia on the abaxial surface; adaxial surface sparsely covered with appressed unbranched trichomes, abaxial surface moderately covered with dendritic, elongated roughened and short-stalked glandular trichomes, more concentrated on veins, surface visible. Inflorescence 4.1–9.9 cm long,

panicles with glomerulate branching, terminal. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, densely covered with dendritic, elongated roughened and short-stalked glandular trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through an apical pore; connective not prolonged, without appendage. Ovary inferior, apex covered with stellate trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica Caixa D'Água, 700 m, 19°55'53.0"S, 40°36'27.0"W, 24.XI.1998, fl., *L. Kollmann et al. 1081* (MBML); trilha margeando o Rio de São Lourenço, 19°55'53.0"S, 40°36'27.0"W, 26.XI.2019, fl., *P.M.L.A. Santos 140* (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'53.0"S, 40°36'27.0"W, 26.XI.2019, fl., *P.M.L.A. Santos 160* (RB); Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 837 m, 19°55'37.14"S, 40°38'39.93"W, 5.XII.2019, fl., *P.M.L.A. Santos 171* (RB); Country Club, trilha à direita da entrada, 931 m, 19°55'18.35"S, 40°37'52.59"W, 9.III.2020, fr., *P.M.L.A. Santos 207* (RB).

In PNMSL *Miconia dasytricha* occurs in Montane Ombrophilous Dense Forest, mostly near river banks. It can be recognized by the abaxial leaf surface (mostly on the veins) and inflorescences covered with long, dendritic trichomes.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in November and December and with fruits in March.

20. *Miconia debilis* (Crueg.) Michelang., *Brittonia* 71(1): 93 2019 [2018].

= *Clidemia debilis* Crueger, *Linnaea* 20:104. 1847.

Fig. 3k

Shrubs, 0.5–2 m tall. Stem branches cylindrical, non-winged, densely covered with red unbranched trichomes. Petioles 0.5–2.3 cm long. Leaf blades 7–13.1 × 2.9–6 cm, membranaceous, ovate, concolorous or slightly discoloured when dried, base rounded or obtuse, apex acute to acuminate; margins crenulate, ciliate; acrodromous veins 5+2, the inner pair 0.1–0.8 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces densely covered with unbranched trichomes, surface visible. Inflorescence sessile, glomerulate, axillary. Flowers tetramerous, sessile. Hypanthium 0.2–0.3

cm long, campanulate, densely covered with red unbranched trichomes. Petals white, apex rounded. Stamens 8, isomorphic; filaments glabrous; anthers purple, 0.1–0.2 cm long, dehiscing through an apical pore; connective shortly prolonged below the thecae, without appendage. Ovary inferior, apex glabrous; style straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, mata próxima a estrada do circuito Caravaggio, 650 m, 19°55'22.2"S, 40°38'15.08"W, 21.VII.2019, fl. and fr., *P.M.L.A. Santos & J. Külkamp 67* (RB); 858 m, 19°55'26.0"S, 40°37'13.0"W, 25.VIII.2019, fl., *P.M.L.A. Santos 106* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°38'04.5"W, 30.I.2020, fl., *P.M.L.A. Santos 177* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Papaçú, 12.VII.2007, 23.IX.2006, fl., *L. Kollmann et al. 9317* (MBML); Alto de Santo Antônio, 12.VII.2007, fl., *R. Goldenberg et al. 908* (MBML); Reserva Biológica Augusto Ruschi, 17.X.2002, fl., *R. R. Vervloet et al. 1247* (MBML).

Miconia debilis is common in PNMSL and occurs mostly in anthropic and open areas. It can be recognized by the sessile, axillary inflorescences, tetramerous flowers and purple anthers.

This species occurs in Brazil in the states of Amazonas, Ceará, Pernambuco, Alagoas, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro and probably in Rondônia (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in January, July and August and with fruits in July.

21. *Miconia diffusa* (Cogn.) R. Goldenb., *Brittonia* 71(1): 93. 2019 [2018].

= *Leandra diffusa* Cogn. in Mart., *Fl. bras.* 14 (4): 146: pl. 33, fig. 1 (1886). Fig. 31

Reptant shrubs, 0.5–2 m tall. Stem branches cylindrical, non-winged, moderately covered with erect unbranched trichomes. Petioles 0.4–1.5 cm long. Leaf blades 3.6–8.3 × 1.6–3.5 cm, membranaceous, ovate, concolorous, base cordate, apex acuminate; margins entire, ciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface covered with appressed unbranched trichomes, abaxial surface moderately covered with elongated unbranched trichomes, most concentrated in the basal portion of the veins, surface visible. Inflorescence 3.8–5.6 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), axillary. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long,

campanulate, covered with erect unbranched trichomes and stellate trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through an apical pore; connective not prolonged. Ovary inferior, apex covered with stellate trichomes. Style filiform, glabrous. Fruits fleshy. Calyx persistent. **Specimens analyzed:** PNMSL, Country Club, 850 m, 19°55'32.0"S, 40°38'08.0"W, 15.XII.1998, fl., *L. Kollmann et al. 1277* (MBML); Circuito Caravaggio, trilha à margem direita da estrada, próxima a pista de motocross, 799 m, 19°55'28.81"S, 40°37'17.06"W, 10.X.2019, fl., *P.M.L.A. Santos 125* (RB); 858 m, 19°55'25.20"S, 40°38'15.0"W, 11.X.2019, fl., *P.M.L.A. Santos 130* (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 156* (RB); Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 866 m, 19°55'5.11"S, 40°38'36.8"W, 3.II.2020, fl., *P.M.L.A. Santos 188* (RB); Country Club, trilha à direita da estrada, 882 m, 19°55'25.96"S, 40°37'46.52"W, 9.III.2020, fl., *P.M.L.A. Santos 208* (RB).

In PNMSL *Miconia diffusa* occurs in Montane Ombrophilous Dense Forest areas. It can be recognized by the reptant habit and abaxial leaf surface with long trichomes, mostly concentrated on the basal portion of the veins.

This species occurs in Brazil in the states of Minas Gerais, Espírito Santo and Rio de Janeiro (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February, March, October, November and December.

22. *Miconia dodecandra* Cogn. in Mart., *Fl. bras.* 14(4): 243. 1887. Fig. 4f

Trees, up to 10 m tall. Stem branches cylindrical, non-winged, covered with dendritic trichomes. Petioles 0.7–3.4 cm long. Leaf blades 8.8–15.6 × 3–7 cm, ovate, elliptic or lanceolate, discolorous, base rounded to obtuse, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface glabrous, abaxial surface densely covered with dendritic trichomes, surface not visible. Inflorescence 8–11.3 cm long, panicles with glomerulate branching (non-scorpoid, non-dichasial), terminal. Flowers pentamerous or hexamerous, pedicellate. Hypanthium 0.4–0.5 cm long, campanulate, densely covered with stellate trichomes. Petals white to pink, apex rounded. Stamens 10–12, subsomorphic; filaments glabrous; anthers yellow, dehiscing through an apical pore, antesealous

0.3–0.7 cm long, antepetalous 0.2–0.6 cm long; connective prolonged below the thecae, dorsally thickened with a biauriculate ventral appendage. Ovary inferior, apex covered with dendritic trichomes; style straight, covered with dendritic trichomes in the basal half. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, trilha principal, 19°55'52.0"S, 40°37'14.0"W, 30.III.2002, fl., *A.P. Fontana & R.R. Vervloet 310* (MBML); VIII.2006, fr., *J.M.L. Gomes* (VIES 16814); antiga cachoeira do Country Club, 19°55'30"S, 40°38'11"W, 23.II.2014, fl., *L.C. Marinho et al. 758* (HUEFS); Country Club, 640 m, 19°55'S, 40°37'W 2.V.2019, fl., *P.M.L.A. Santos & C.N. Fraga 8* (RB); mata próxima a estrada do Circuito Caravaggio, 740 m, 19°55'24.57"S, 40°37'17.46"W, 20.VII.2019, fr., *P.M.L.A. Santos & J. Kulkamp 58* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°38'4.5"W, 22.VIII.2019, fl., *P.M.L.A. Santos 92* (RB); 19°55'26.0"S, 40°37'13.0"W, 22.III.2003, fr., *T.A. Cruz et al. 54* (MBML).

Miconia dodecandra is very common in PNMSL, and occurs mostly in open and degraded areas. It can be recognized by the tree habit, leaf abaxial surface not visible, flowers with yellow anthers and style with a capitate stigma.

This species occurs in Brazil in the states of Roraima, Amazonas, Pará, Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo and Paraná (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February, March, May and August and with fruits in March, July and August.

23. *Miconia dorsaliporosa* R. Goldenb. & Reginato, *J. Torrey Bot. Soc.* 136: 294, f. 2. 2009.

Trees, up to 14 m tall. Stem branches flat and covered with stellate trichomes when young, then cylindrical and glabrescent, non-winged. Petioles 0.8–3.2 cm long, canaliculate. Leaf blades 4.8–20.7 × 1.1–6.9 cm, chartaceous, elliptic to lanceolate, discolorous when dried, base cuneate, apex acute to obtuse; margins entire, eciliate; acrodromous veins 5+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface covered with furfuraceous dendritic trichomes when young, then glabrous; abaxial surface densely covered with dendritic trichomes, surface not visible. Inflorescence ca. 5.9–11.2 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, sessile or short petiolate. Hypanthium ca. 0.2 cm long, campanulate, densely covered with stellate

trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.15 cm, dehiscent through a dorsal pore; connective prolonged below the thecae, without appendage. Ovary inferior, apex covered with dendritic trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, 19°55'26.0"S, 40°37'13.0"W, 5.VII.2003, fr., *T.A. Cruz et al. 67* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Mata Fria, 8.VII.1998, fr., *L. Kollmann et al. 178* (MBML); Santo Antônio, 9.III.1999, fl., *L. Kollmann et al. 2049* (MBML); 31.V.2001, fr., *L. Kollmann et al. 3799* (MBML); Reserva Biológica Augusto Ruschi, 25.IX.2001, fr., *L. Kollmann & E. Bausen 4722* (MBML).

In PNMSL *Miconia dorsaliporosa* is infrequent and was collected only once in 2003. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the leaf abaxial surface not visible, panicles with glomerulate branching and anthers dehiscent through a dorsal pore.

This species occurs in Brazil in the states of Bahia, Minas Gerais and Espírito Santo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with fruits in July.

24. *Miconia dubia* (DC.) R. Goldenb., *Brittonia* 71(1): 94. 2019 [2018].

= *Leandra hirta* Raddi, *Quar. Piant. Nuov. Bras.:* 8. 1820. Fig. 4g

Shrubs or treelets, 0.5–4 m tall. Stem branches cylindrical, non-winged, moderately covered with unbranched trichomes, nodes without interpetiolar ridges. Petioles 0.2–1.1 cm long. Leaf blades 5.5–8.5 × 1.9–2.4 cm, membranaceous, lanceolate, discolorous when dried, base acute to cuneate, not amplexicaul, apex acute to acuminate; margins entire or crenulate, ciliate; acrodromous veins 3+2, the inner pair 0.2–1.3 cm above the base joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with unbranched trichomes, more concentrated on veins, surface visible. Inflorescence 4.8–8 cm long, panicles with glomerulate branching, terminal. Flower pentamerous, sessile. Hypanthium 0.2–0.3 cm long, tubular, moderately covered with unbranched trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers white, antepetalous anthers 0.3–0.4 cm long, antepetalous anthers 0.2 cm long, dehiscent through an apical pore; connective not prolonged, dorsally thickened with a bilobate appendage

in antesealous stamens. Ovary inferior, apex glabrous; style filiform, sigmoid, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 866 m, 19°55'5.11"S, 40°38'36.38"W, 3.II.2020, fl., *P.M.L.A. Santos 186* (RB); Country Club, trilha à direita da entrada, 882 m, 19°55'25.96"S, 40°37'46.52"W, 9.III.2020, fr., *P.M.L.A. Santos 210* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO; Ibitirama, Serra do Caparaó, fr., *L. Bacci & J.P.F. Zorzanelli 45* (UPCB). Santa Maria de Jetibá, Belém, 14.I.2003, fl., *L. Kollmann et al. 5909* (MBML); estrada de Garrafão, 15.IV.2003, fr., *L. Kollmann & M.V.S. Berger 6106* (MBML). Venda Nova do Imigrante, Alto Caxixe, fl., *A.D. Mattedi et al. 23* (MBML).

In PNMSL *Miconia dubia* occurs in Montane Ombrophilous Dense Forest. It can be recognized by the leaves with sparse, appressed trichomes, terminal inflorescences and pentamerous flowers with white petals with acute apex, and white anthers.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in January.

25. *Miconia fallacissima* (Markgr.) R. Goldenb., Brittonia 71(1): 95. 2019 [2018].

= *Leandra fallacissima* Markgr., Notizbl. Bot. Gart. Berlin-Dahlem 10: 53 (1927). Figs. 3m; 4h

Shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, densely covered with unbranched trichomes, nodes without interpetiolar ridges. Petioles 0.15–1.1 cm long. Leaf blades 7.6–10.8 × 2.1–4.8 cm, membranaceous, lanceolate, slightly discoloured when dried, base acute, not amplexicaul, apex acute; margins crenulate to denticulate, ciliate; acrodromous veins 3+2, the inner pair 0.2–0.8 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface covered with sericeous unbranched trichomes, abaxial surface densely covered with unbranched trichomes, more concentrated on veins, surface visible. Inflorescence 6.5–9.2 cm long, panicles with regular branching (non-scorpoid, non-dichasial), terminal. Flowers pentamerous, pedicellate. Hypanthium 0.4–0.6 cm long, campanulate, densely covered with elongated unbranched trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.2–0.3 cm long, dehiscing through

an apical pore; connective not prolonged, dorsally thickened. Ovary inferior, apex covered with unbranched trichomes; style filiform, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Valão de São Lourenço, Estação Biológica da Caixa D'Água, 740 m, 19°55'52.0"S, 40°37'14.0"W, 16.I.1989, fl., *D. Lorenzoni 12* (MBML); 750 m, 19°55'53.0"S, 40°36'27.0"W, 3.II.1999, fl., *L. Kollmann et al. 1788* (MBML); 19°55'53.0"S, 40°36'27.0"W, 11.IV.1985, fr., *H.Q. Boudet Fernandes 1078* (MBML); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 146* (RB); Country Club, trilha à direita da cachoeira do Country, 859 m, 19°55'23.72"S, 40°38'26.62"W, 3.II.2020, fl., *P.M.L.A. Santos 192* (RB); trilha margeando o Rio de São Lourenço, 729 m, 19°55'51.73"S, 40°36'27.39"W, 4.II.2020, fl., *P.M.L.A. Santos & J.P.F. Zorzanelli 194* (RB); 19°55'53.0"S, 40°36'27.0"W, 30.V.1985, fr., *W. Boone 495* (MBML).

Miconia fallacissima is common in PNMSL and occurs in Montane Ombrophilous Dense Forest, mostly in open areas. It can be recognized by the branches and leaves densely covered with unbranched trichomes, white flowers with a tomentose hypanthium and isomorphic stamens.

This species occurs in Brazil in the states of Espírito Santo and Rio de Janeiro (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in January, February and November and with fruits in April and May.

26. *Miconia fasciculata* Gardner, London J. Bot. 1: 533. 1842. Figs. 3n; 4i

Shrubs to trees, 1–6 m tall. Stem branches flat when young, then cylindrical, non-winged, covered with dendritic trichomes, nodes without interpetiolar ridges. Petioles 0.5–1.7 cm long. Leaf blades 9–21.2 × 4–10.1 cm, chartaceous, ovate, elliptic or lanceolate, discoloured when dried, base acute, apex acute to acuminate; margins entire to denticulate, ciliate; acrodromous veins 3+2, the inner pair 0.5–0.7 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface moderately or sparsely covered with dendritic trichomes, more concentrated on veins, abaxial surface moderately covered with dendritic trichomes, more concentrated on veins, surface visible. Inflorescence 10.7–14.7 cm long, panicles with glomerulate branching, terminal. Flowers pentamerous, sessile. Hypanthium 0.2 cm long, campanulate, densely covered dendritic trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.2 cm long, dehiscing through an apical pore;

connective not prolonged, dorsally thickened. Ovary inferior, apex covered with dendritic trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica de São Lourenço, 750 m, 19°55'53.0"S, 40°36'27.0"W, 3.II.1999, fr., *L. Kollmann et al. 1776* (MBML); 19°55'53.0"S, 40°36'27.0"W, 21.VIII.2001, fr., *L. Kollmann & E. Bausen 4389* (MBML); mata próxima a estrada do circuito Caravaggio, 740 m, 19°55'24.57"S, 40°37'17.14"W, 20.VII.2019, fl., *P.M.L.A. Santos & J. Külkamp 54* (RB); 740 m, 19°55'24.57"S, 40°37'17.14"W, 20.VII.2019, fl., *P.M.L.A. Santos & J. Külkamp 59* (RB); 650 m, 19°55'22.2"S, 40°38'15.08"W, 21.VII.2019, fl., *P.M.L.A. Santos & J. Külkamp 70* (RB); Circuito Caravaggio, mata à margem direita da estrada principal, próximo a rampa do voo livre, 858 m, 19°54'58.97"S, 40°37'36.56.0"W, 25.VIII.2019, fl., *P.M.L.A. Santos 108* (RB); 799 m, 19°55'20.81"S, 40°37'17.06"W, 25.XI.2019, fl., *P.M.L.A. Santos 137* (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 141* (RB); 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 155* (RB); Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da cachoeira do Country Club, 740 m, 19°55'37.14"S, 40°38'39.93"W, 5.XII.2019, fl., *P.M.L.A. Santos 169* (RB); trilha margeando o Rio de São Lourenço, 786 m, 19°55'41.93"S, 40°36'29"W, 4.II.2020, fr., *P.M.L.A. Santos & J.P.F. Zorzanelli 196* (RB).

Miconia fasciculata is common in PNMSL and occurs mostly in Montane Ombrophilous Dense Forest, but is also common in degraded areas. It can be recognized by the adaxial leaf surface sparsely covered with dendritic trichomes, terminal panicles with glomerulate branching and flowers with petals with a rounded apex, and white anthers.

According to the "Lista Vermelha da flora brasileira" (CNCFlora 2021), this species is classified as Least Concern (LC). It occurs in Brazil in the states of Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in July, August, November and December and with fruits in February and August.

27. *Miconia flammea* Casar., Nov. Stirp. Bras. 10: 85. 1845. Fig. 30

Trees, up to 14 m tall. Stem branches flat when young, then cylindrical, non-winged, covered with stellate trichomes. Petioles 0.8–2.6 cm long, canaliculate. Leaf blades 5.4–18.2 × 1.9–6 cm,

chartaceous, elliptic to lanceolate, discolorous when dried, base acute to cuneate, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, the inner pair 0.3–1.1 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface glabrous, abaxial surface densely covered with stellate trichomes, surface not visible. Inflorescence 11.4–18.5 cm long, panicles with glomerulate branching, terminal. Flowers pentamerous, sessile. Hypanthium ca. 0.2 cm long, campanulate, densely covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a dorsal appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, Valão de São Lourenço, Estação Biológica da Caixa D'Água, 19°55'53.0"S, 40°36'27.0"W, 19.V.1988, fr., *H.Q. Boudet Fernandes et al. 2500* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Alto Misterioso, 6.II.2011, fl., *M.K. Caddah et al. 832* (MBML); Estação Biológica de Santa Lúcia, 19.I.2006, fr., *L. Kollmann & R. Goldenberg 8571* (MBML); Nova Lombardia, fr., *R. Goldenberg et al. 893* (MBML).

In PNMSL *Miconia flammea* is infrequent and was collected only once in 1988. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the leaf abaxial surface not visible, terminal panicles with glomerulate branching, flowers with petals with a rounded apex, stamens connective lacking ventral appendages and glabrous ovary apex.

This species occurs in Brazil in the states of Bahia, Goiás, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with fruits in May.

28. *Miconia formosa* Cogn., in A.DC. & C.DC., Monogr. Phan.7: 842. 1891.

Trees, up to 14 m tall. Stem branches flat when young, then cylindrical, non-winged, covered with lepidote-stellate trichomes. Petioles 2.9–5.2 cm long, grooved. Leaf blades 13.6–26.2 × 5.1–11.7 cm, chartaceous, elliptic to obovate, discolorous when dried, base acute, obtuse or rounded, apex acute to acuminate; margins entire, eciliate; acrodromous veins 5+2, the inner pair 0.4–0.7 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial

surface glabrous, abaxial surface densely covered with lepidote-stellate trichomes, surface not visible. Inflorescence 6.6–9.7 cm long, panicles with glomerulate branching, terminal. Flowers pentamerous or hexamerous, sessile. Hypanthium 0.3 cm long, campanulate, densely covered with lepidote stellate-trichomes. Petals white, apex rounded. Stamens 10–12, isomorphic; filaments glabrous; anthers white, 0.2–0.3 cm long, dehiscing through an apical pore; connective not prolonged, with a ventral biauriculate and a dorsal acute appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, Circuito Caravaggio, trilha à direita da entrada do Country Club, 894 m, 19°55'14.52"S, 40°37'40.69"W, 15.III.2020, *P.L.M.A. Santos 224* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Castelo, Parque Estadual do Forno Grande, 18.VII.2008, fl., *R. Goldenberg et al. 1180* (MBML). Santa Teresa, cabeceira do Rio Bonito, 15.VIII.2001, fr., *L. Kollmann et al. 4353* (MBML); Estação Biológica de Santa Lúcia, 19.I.2006, *L. Kollmann & R. Goldenberg 8555* (MBML); Rebio Augusto Ruschi, 26.XI.2013, fr., *L.F. Bacci & D.F. Lima 110* (UPCB).

This is the first record of *Miconia formosa* in PNMSL, where it is unfrequent. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the abaxial leaf surface with prominent veins and densely covered with stellate-lepidote trichomes, which makes it not visible, panicles with glomerulate branching and flowers with stamens lacking a prolonged connective, but this with a ventral biauriculate appendage.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled only with sterile material.

29. *Miconia ionopogon* (Mart.) R. Goldenb., *Brittonia* 71(1): 98. 2019 [2018].

= *Leandra ionopogon* (Mart.) Cogn. in Mart., *Fl. bras.* 14(4): 129 (1886). Fig. 3p

Shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, densely covered with stellate and reddish unbranched elongated trichomes, nodes without interpetiolar ridges. Petioles 1.6–4.6 cm long. Leaf blades (6.1)9–19.6 × (1.9)3–9.9 cm, membranaceous, ovate, discolorous when dried, base rounded, not amplexicaul, apex acute to acuminate; margins entire to repand, ciliate; 5(7)+2 acrodromous veins, the inner pair 0.5–1.3 cm above

the base, joining the midrib without domatia on the abaxial surface; both surfaces moderately covered with stellate and unbranched trichomes, more concentrated on veins, surface visible. Inflorescence 3.8–8.7 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium 0.3–0.4 cm long, campanulate, densely covered with unbranched trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers yellow, 0.2–0.3 cm long, dehiscing through an apical pore; connective not prolonged, dorsally thickened, unnapendaged. Ovary inferior, apex covered with unbranched trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.L.M.A. Santos 150* (RB); 799 m, 19°55'39.32"S, 40°38'48.94"W, 4.II.2020, fr., *P.L.M.A. Santos & J.P.F. Zorzanelli 201* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Mata Fria, 2.XII.1998, fl., *L. Kollmann et al. 1147* (MBML); Reserva Biológica Augusto Ruschi, 10.I.2002, fl., *L. Kollmann & E. Bausen 5287* (MBML); 30.I.2002, fl., *L. Kollmann & E. Bausen 5396* (MBML).

This is the first record of *Miconia ionopogon* in PNMSL, where it is unfrequent. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the branches densely covered with long reddish trichomes, terminal inflorescences, and pentamerous flowers with yellow anthers.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in November and with fruits in February.

30. *Miconia labiakiana* R. Goldenb. & C.V. Martin, *Harvard Pap. Bot.* 13(2): 225. 2008.

= *Miconia plumosa* Markgr., *Notizbl. Bot. Gart. Berlin-Dahlem* 9: 54. 1927. Figs. 3q; 5a

Shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, covered with unbranched and long-stalked glandular trichomes, nodes without interpetiolar ridges. Petioles 1.7–6.1 cm long. Leaf blades 10.6–15.9 × 5.4–8.9 cm, membranaceous, ovate, slightly discolorous when dried, base cordate, apex acute to acuminate; margins dentate, ciliate; acrodromous veins 7+2, basal, joining the midrib without domatia on the abaxial surface; both surfaces moderately covered with unbranched and long-stalked glandular trichomes, surface visible. Inflorescence 7.5–14.1

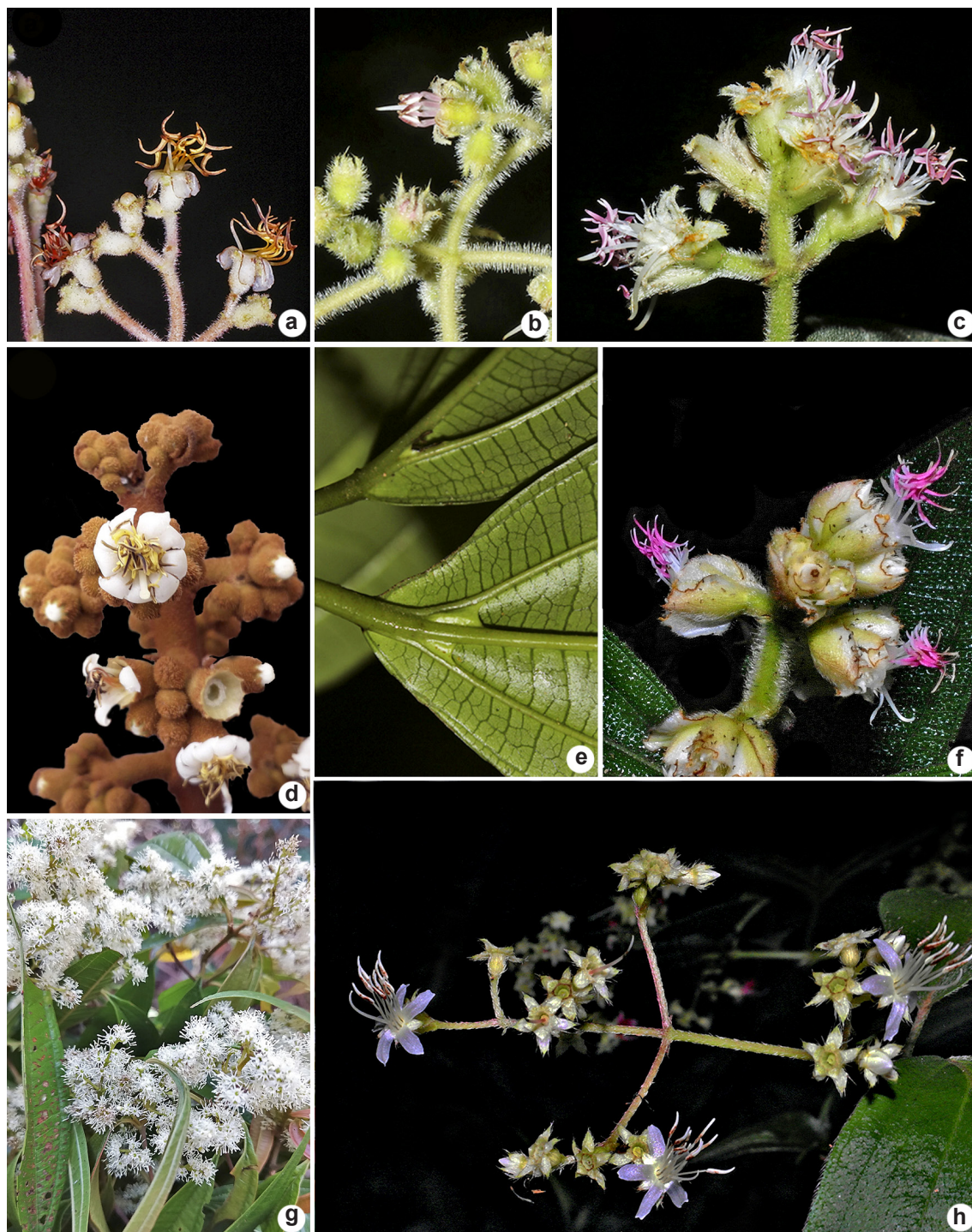


Figure 5 – a-h. Melastomataceae species from "Parque Natural Municipal de São Lourenço", Santa Teresa, Espírito Santo, Brazil – a. *Miconia labiakiana* – flowering branches; b. *Miconia leafallax* – flowering branches; c. *Miconia melastomoides* – flowering branches; d. *Miconia octopetala* – flowering branches; e. *Miconia paniculata* – domatia detail on the abaxial surface; f. *Miconia pubistyla* – flowering branches; g. *Miconia sellowiana* – flowering branches; h. *Miconia strigilliflora* – flowering branches. Photos: a, b. Claudio Nicoletti de Fraga; c, e. Josimar Kulkamp; d, f, g, h. Pedro Martin Lischinsky Alves dos Santos.

cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium 0.4–0.5 cm long, campanulate, covered with unbranched and long-stalked glandular trichomes. Petals white, apex rounded. Stamens 10, subisomorphic; filaments glabrous; anthers yellow, 0.5–0.6 cm long, dehiscing through an apical pore; connective not prolonged, dorsally thickened, unnapendaged. Ovary inferior, apex covered with unbranched and long-stalked glandular and eglandular trichomes; style filiform, sigmoid, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Country Club, trilha à direita da entrada, 931 m, 19°55'18.35"S, 40°37'52.59"W, 9.III.2020, fl., *P.M.L.A. Santos 206* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, 25 de Julho, 29.IV.2005, fr., *L. Kollmann et al. 7690* (MBML); Estação Biológica de Santa Lúcia, 7.IV.2006, fl., *L. Kollmann & S. Krause 8846* (MBML), 8.II.2011, fl., *R. Goldenberg et al. 1529* (UPCB).

This is the first record of *Miconia labiakiana* in PNSML, where it is unfrequent. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the long-stalked glandular trichomes, mostly on the inflorescences, leaf blades with a cordate base, and yellow anthers.

According to the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019), this species is threatened, classified as Endangered (EN). It is endemic to the state of Espírito Santo (Goldenberg *et al.* 2020c) and in PNMSL it was sampled with flowers in March.

31. *Miconia latecrenata* (DC.) Naudin, Ann. Sci. Nat., Bot., sér. 3, 16: 239. 1851. Fig. 6a

Shrubs to trees, 2–15 m tall. Stem branches cylindrical, non-winged, sparsely covered with stellate trichomes, stem nodes without interpetiolar ridges. Petioles 0.4–1.2 cm long. Leaf blades 10.4–19.3 × 3.5–5.8 cm, chartaceous, elliptic, lanceolate or ovate, concolorous when dried, base acute to attenuate, apex acute to acuminate; margins crenate, eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; both surfaces glabrous or with sparse stellate trichomes, surface visible. Inflorescence 6.6–16.4 cm long, regular panicles (non-scorpoid, non-glomerulate), terminal and axillary. Flowers pentamerous, pedicellate. Hypanthium 0.1–0.2 cm long, campanulate, moderately covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous;

anthers white, ca. 0.1 cm long, dehiscing through a large ventral pore; connective shortly prolonged below the thecae, with a ventral biariculate and a dorsal acute appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, mata acima do Country Club, 19°55'28.0"S, 40°38'52.0"W, 19.XI.1985, fr., *H.Q. Boudet Fernandes 1648* (MBML); 800 m, 19°55'26.0"S 40°37'13.0"W, 24.V.1984, fr., *J. M. Vimercat 154* (MBML); antiga Cachoeira do Country Club, trilha ao lado esquerdo da cachoeira, 19°55'30.0"S, 40°38'11.0"W, 23.II.2014, fl., *L.C. Marinho et al. 756* (HUEFS); trilha do Caravage, 800 m, 19°55'52.0"S, 40°37'14.0"W, 26.VIII.1998, fr., *L. Kollmann 431* (MBML); Country Club, 680 m, 19°55'0"S, 40°37'0"W, 2.V.2019, fl., *P.M.L.A. Santos & C.N. Fraga 7* (RB); mata próxima a estrada do circuito Caravaggio, 740 m, 19°55'24.57"S, 40°37'0"W, 30.VII.2019, fl., *P.M.L.A. Santos & J. Kulkamp 56* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°37'4.5"W, 22.VIII.2019, fr., *P.M.L.A. Santos 91* (RB); Circuito Caravaggio, 858 m, 19°55'58.97"S, 40°37'36.56"W, 25.VIII.2019, fl., *P.M.L.A. Santos 103* (RB); 858 m, 19°55'58.97"S, 40°37'36.56"W, 25.VIII.2019, fl., *P.M.L.A. Santos 113* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, próximo ao antigo matadouro, 730 m, 19°55'39.19"S, 40°36'13.47"W, 13.X.2019, fr., *P.M.L.A. Santos 132* (RB); trilha margeando o Rio de São Lourenço, 792 m, 19°55'35.17"S, 40°36'57.37"W, 4.II.2020, fl., *P.M.L.A. Santos & J.P.F. Zorzanelli 203* (RB).

Miconia latecrenata is common in PNMSL and occurs mostly in open and degraded areas. It can be recognized by the glabrous leaves with basal veins, terminal and axillary panicles with regular branching, and white anthers dehiscing through a large ventral pore.

This species occurs in Brazil in the states of Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February, May, July and August and with fruits in May, August, October and November.

32. *Miconia leafallax* R. Goldenb., Brittonia 71(1): 100. 2019 [2018].

= *Leandra fallax* (Cham.) Cogn. in Mart., *Fl. bras.* 14 (4): 125 (1886). Figs. 5b; 6b

Shrubs, 1–4 m tall. Stem branches cylindrical, non-winged, densely covered with unbranched and stellate trichomes, stem nodes without

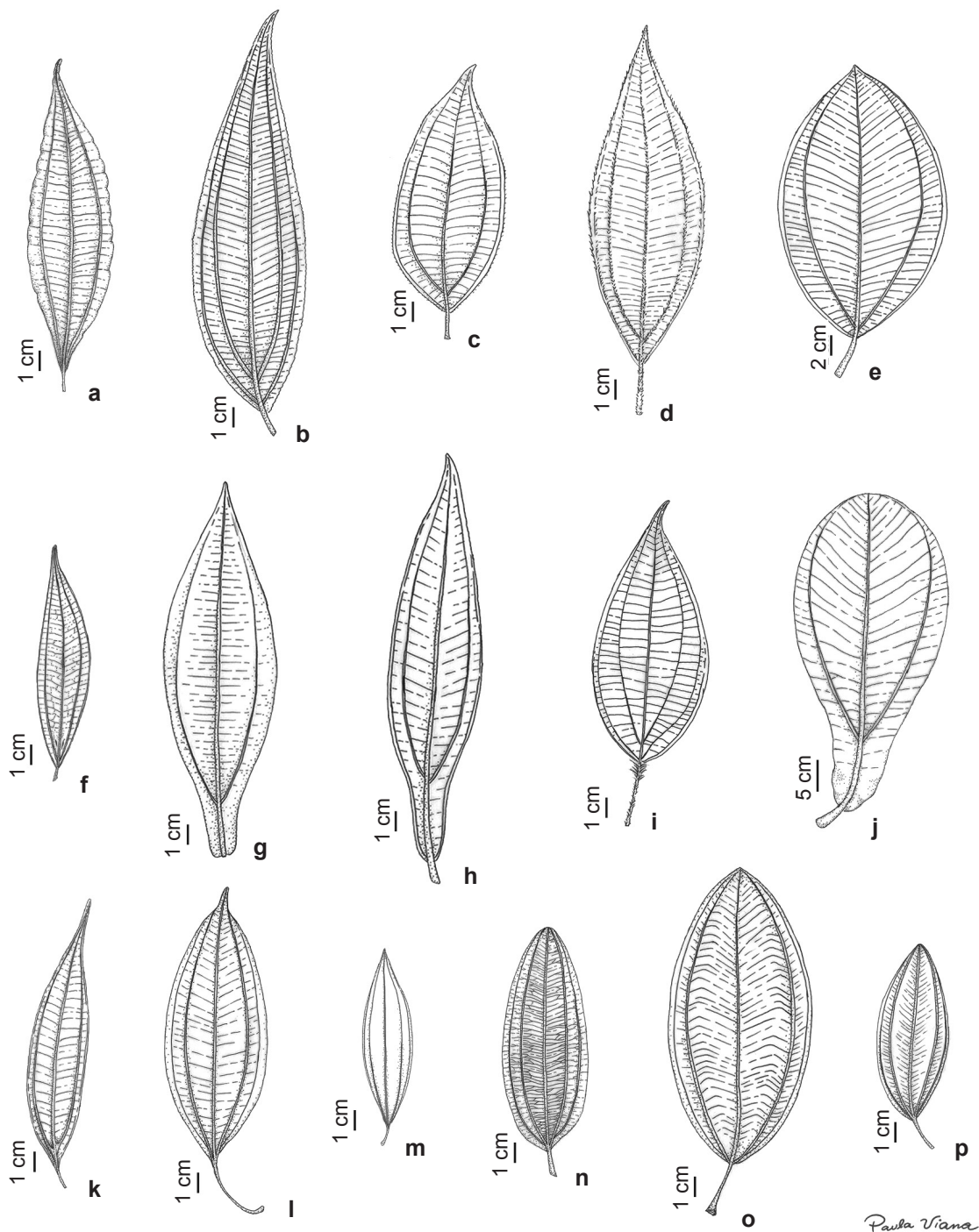


Figure 6 – a-p. Leaf abaxial surfaces of Melastomataceae species from "Parque Natural Municipal de São Lourenço", Santa Teresa, Espírito Santo, Brazil – a. *Miconia latecrenata*; b. *Miconia leafallax*; c. *Miconia leamarginata*; d. *Miconia melastomoides*; e. *Miconia octopetala*; f. *Miconia paniculata*; g. *Miconia pectinata*; h. *Miconia pubistyla*; i. *Miconia refracta*; j. *Miconia robusta*; k. *Miconia sellowiana*; l. *Pleroma arboreum*; m. *Pleroma boudetii*; n. *Pleroma estrellense*; o. *Pleroma heteromallum*; p. *Pleroma radula*. (a. P.M.L.A. Santos 91; b. P.M.L.A. Santos & J. Külkamp 74; c. P.M.L.A. Santos 109; d. P.M.L.A. Santos & J. Külkamp 64; e. P.M.L.A. Santos et al. 100; f. P.M.L.A. Santos 214; g. P.M.L.A. Santos 180; h. P.M.L.A. Santos 145; i. P.M.L.A. Santos 157; j. P.M.L.A. Santos 110; k. P.M.L.A. Santos 111; l. P.M.L.A. Santos 191; m. P.M.L.A. Santos 122; n. P.M.L.A. Santos & C.N. Fraga 4; P.M.L.A. Santos 167; P.M.L.A. Santos 101).

interpetiolar ridges. Petioles 0.7–1.5 cm long. Leaf blades 8.1–15–9 × 2–4.2 cm, membranaceous, lanceolate, slightly discoloured when dried, base acute to obtuse, not amplexicaul, apex acute to acuminate; margins crenulate, ciliate; acrodromous veins 5+2, the inner pair 0.3–1.2 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface covered with appressed unbranched trichomes, abaxial surface densely covered with unbranched and stellate trichomes, more concentrated on veins, surface visible. Inflorescence (2.5)7.6–24.9 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, densely covered with unbranched trichomes. Petals white, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers pink, ca. 0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, unappendaged. Ovary inferior, apex covered with unbranched and stellate trichomes; style filiform (straight), glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Estação Biológica da Caixa D'Água, 850 m, 19°55'53.0"S, 40°36'27.0"W, 18.XI.1998, fl. and fr., *L. Kollmann et al. 1064* (MBML); trilha do Caravagem, 19°55'24.0"S, 40°37'13.0"W, 4.XI.2000, fl., *L. Kollmann 3417* (MBML); mata próxima a estrada do circuito Caravaggio, 740 m, 19°55'24.57"S, 40°37'17.45"W, 20.VII.2019, fl., *P.M.L.A. Santos & J. Kulkamp 57* (RB); 650 m, 19°55'25.2"S, 40°38'15.8"W, 21.VII.2019, fl., *P.M.L.A. Santos & J. Kulkamp 74* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05.0"S, 40°38'4.5"W, 22.VIII.2019, fl., *P.M.L.A. Santos 93* (RB); Circuito Caravaggio, 799 m, 19°55'20.81"S, 40°37'17.06"W, 10.X.2019, fl., *P.M.L.A. Santos 127* (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 147* (RB); 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 153* (RB); trilha à direita da entrada do Country Club, 931 m, 19°55'18.35"S, 40°37'52.59"W, 9.III.2020, fr., *P.M.L.A. Santos 205*; mata acima do Country Club, 19°55'28.0"S, 40°38'52.0"W, 19.XI.1985, fl., *W. Pizziole 225* (MBML).

Miconia leafallax is common in PNMSL and occurs in Montane Ombrophilous Dense Forest and degraded areas. It can be recognized by tomentose branches, leaves and inflorescences, flowers with white petals with acute apex, and pink anthers.

This species occurs in Brazil in the states of Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and possibly in Bahia (Goldenberg *et al.* 2020c). In PNMSL it was

sampled with flowers in July, August, October and November and with fruits in March and November.

33. *Miconia leamarginata* R. Goldenb., Brittonia 71(1): 101. 2019 [2018].

= *Ossaea marginata* (Desr.) Triana, Trans. Linn. Soc. London 28(1): 147. 1871 [1872]. Fig. 6c

Subshrubs to shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, covered with unbranched and caducous stellate trichomes. Petioles 0.7–2.2 cm long. Leaf blades 8.5–13.5 × 3–4.1 cm, chartaceous, elliptic or ovate, discoloured when dried, base acute to obtuse, apex acuminate; margins entire to crenate, ciliate; acrodromous veins 3+2, the inner pair 0.2–0.8 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface moderately covered with appressed unbranched trichomes, more concentrated in a strip in the marginal region, abaxial surface moderately covered with unbranched and stellate trichomes, surface visible. Inflorescence 1.4–2.2 cm long, dichasial, axillary. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, moderately covered with unbranched and stellate trichomes. Petals white to pink, apex acute. Stamens 10, isomorphic; filaments glabrous; anthers yellow, ca. 0.2 cm long, dehiscing through an apical pore; connective not prolonged below the thecae, without appendage. Ovary inferior, apex covered with stellate trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Circuito Caravaggio, mata a beira da estrada, 858 m, 19°54'58.97"S, 40°37'36.56"W, 25.VIII.2019, fl. and fr., *P.M.L.A. Santos 109* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 730 m, 19°55'39.19"S, 40°36'13.47"W, 13.X.2019, fr., *P.M.L.A. Santos 133* (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fr., *P.M.L.A. Santos 152* (RB); 709 m, 19°55'51.73"S, 40°36'27.39"W, 4.II.2020, fr., *P.M.L.A. Santos & J.P.F. Zorzanelli 195* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Parque do MBML, 24.VII.1995, fl., *G.C. Vallandro 168* (MBML); Reserva Biológica Augusto Ruschi, 28.XI.2001, fl., *L. Kollmann et al. 5070* (MBML); Loteamento Jardim da Montanha, 23.X.1985, fl. and fr., *H.Q. Boudet Fernandes 1574* (MBML).

This is the first record of *Miconia leamarginata* in PNMSL, despite being common in the area. It occurs mostly in anthropized and open areas and can be recognized by a strip of trichomes on the adaxial leaf surface, axillary inflorescences, petals

with acute apex, and yellow anthers. *Miconia leamarginata* is similar to *Miconia amygdaloides* and its distinction needs attention (see comments under *M. amygdaloides*).

This species occurs in Brazil in the states of Mato Grosso do Sul, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in August and with fruits in August, October and November.

34. *Miconia lucenae* R. Goldenb. & Michelang., PeerJ: 8: e8752. 2020d.

Shrubs, 0.5–1.5 m tall. Stem branches cylindrical, non-winged, sparsely covered with stellate trichomes when young, then glabrous, nodes without interpetiolar ridges. Petioles 0.8–5.5 cm long. Leaf blades 4.5–13.9 × 2.8–6 cm, membranaceous, elliptic or ovate, discolorous when dried, base cordate, not amplexicaul, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, the inner pair 0.3–0.9 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces glabrous, surface visible. Inflorescence 3.6–6.5 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers tetramerous, pedicellate. Hypanthium ca. 0.2 cm long, campanulate, glabrous. Petals white, apex acute or closely rounded. Stamens 8, isomorphic; filaments glabrous; anthers yellow, 0.1–0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with an inconspicuous dorsal appendage. Ovary inferior, apex glabrous; style filiform, curved, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, Country Club, 750 m, 19°55'32.0"S, 40°38'08.0"W, 22.II.1999, fr., *L. Kollmann et al.* 1973 (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Reserva Biológica Augusto Ruschi, 5.II.2002, fr., *L. Kollmann et al.* 5484 (MBML), 20.II.2002, fr., *L. Kollmann et al.* 5594 (MBML); terreno do Furlani, 7.II.2011, fr., *R. Goldenberg et al.* 1525 (UPCB).

In PNMSL *Miconia lucenae* is infrequent and was collected only once in 1999. It occurs in Montane Ombrophilous Dense Forest and can be recognized by glabrous leaves with cordate base and tetramerous flowers with yellow anthers.

This species was recently described (Goldenberg *et al.* 2020d) and is endemic to the state of Espírito Santo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with fruits in February.

35. *Miconia melastomoides* (Raddi) R. Goldenb., Brittonia 71(1): 104. 2019 [2018].

= *Leandra melastomoides* Raddi, Quar. Piant. Nuov. Bras.: 386. 1820. Figs. 5c; 6d

Shrubs, 0.5–2.5 m tall. Stem branches cylindrical, non-winged, moderately to densely covered with unbranched trichomes, stem nodes without interpetiolar ridges. Petioles 0.7–2.7 cm long. Leaf blades 8.9–17.1 × 2.7–6.1 cm, chartaceous, lanceolate, discolorous when dried, base acute, cuneate or attenuate, apex acute; margins crenulate, ciliate; acrodromous veins 3+2, the inner pair 0.5–1.6 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface sparsely covered with appressed mainly unbranched trichomes more concentrated on veins, abaxial surface densely covered with unbranched trichomes more concentrated on veins, surface visible. Inflorescence 4.5–7.3, panicles with glomerulate branching, terminal. Flowers hexamerous, sessile. Hypanthium 0.4–0.5 cm long, tubular, densely covered with unbranched trichomes. Petals white, apex acute. Stamens 12, subisomorphic; filaments glabrous; anthers pink, antesealous ca. 0.4 cm long, antepetalous 0.3–0.4 cm long, dehiscing through an apical pore; connective dorsally prolonged below the thecae, unnapendaged or with an inconspicuous dorsal acute appendage. Ovary inferior, apex densely covered with unbranched trichomes; style filiform, sigmoid, glabrous. Fruits fleshy. Calyx persistent.

Specimens analyzed: PNMSL, estrada Santa Teresa/Itarana, entrada para Circuito Caravaggio, 771-992 m, 19°55'30.0"S, 40°37'26.4"W, 9.XII.2012, fl., *J.A. Lombardi et al.* 9748 (UPCB); mata próxima a estrada do circuito Caravaggio, trilha a aproximadamente 1 quilômetro depois do início do circuito, 740 m, 19°55'24.57"S, 40°37'15.52"W, 20.VII.2019, fr., *P.M.L.A. Santos & J. Külkamp* 64 (RB); Circuito Caravaggio, trilha à direita da entrada do Country Club, 894 m, 19°55'14.52"S, 40°37'40.69"W, 12.III.2020, fr., *P.M.L.A. Santos* 213 (RB); 894 m, 19°55'14.52"S, 40°37'40.69"W, 12.III.2020, fl., *P.M.L.A. Santos* 218 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, 30.V.2000, fr., *M. Alves et al.* 1933 (NY); Reserva Biológica de Santa Lúcia, 15.II.2011, fr., *M. Reginato et al.* 1205 (UPCB, NY).

Miconia melastomoides is common in PNMSL and occurs mainly in Montane Ombrophilous Dense Forest, but also can be found in degraded areas. It can be recognized by the hexamerous sessile flowers with bracteoles,

petals and sepals red when fruiting, and pink anthers. *Miconia melastomoides* is very similar to *Miconia pubistyla*, and in this work was adopted the distinction proposed by Reginato (2016), with *M. pubistyla* presenting larger anthers, trichomes, flowers and fruits, and a conspicuous, dorsal caudate appendage in the connectives.

This species occurs in Brazil in the states of Ceará, Pernambuco, Bahia, Goiás, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in March and December and with fruits in March and August.

36. *Miconia octopetala* Cogn. in A.DC. & C.DC., Monogr. Phan. 7: 754. 1891. Figs. 5d; 6e

Trees, up to 16 m tall. Stem branches flat when young, then cylindrical, non-winged, covered with dendritic trichomes. Petioles 2.4–4.7 cm long, canaliculate. Leaf blades 9.5–22.9 × 2.1–16.3 cm, coriaceous, lanceolate elliptic or large elliptic, discolourous when dried, base acute to cuneate, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface moderately covered with dendritic trichomes, abaxial surface densely covered with dendritic trichomes, surface not visible. Inflorescence 7.5–12.1 cm long, panicles with glomerulate branching, terminal. Flowers octamerous, sessile. Hypanthium 0.3–0.5 cm long, campanulate, densely covered with dendritic trichomes. Petals white, apex truncate. Stamens 16, isomorphic; filaments glabrous; anthers yellow, 0.3–0.4 cm long, dehiscing through an apical pore; connective not prolonged below the thecae, with a ventral bilobate appendage. Ovary inferior, apex glabrous; style straight, glabrous; stigma capitate. Fruits fleshy. Calyx caducous.

Specimens analyzed: PNMSL, mata adjacente ao parque Natural Municipal de São Lourenço, próximo a área urbana do município, dentro de condomínio residencial, 796 m, 19°55'24.9"S, 40°36'20.4"W, 24.VIII.2019, fl., *P.M.L.A. Santos et al.* 100 (RB); 19°55'26.0"S, 40°37'13.0"W, 11.VIII.2003, fl., *T.A. Cruz et al.* 68 (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, São Lourenço, 9.IX.1998, fr., *L. Kollmann et al.* 488 (MBML), 30.IX.1998, fr., *L. Kollmann et al.* 649 (MBML); Santo Antônio, 31.V.2001, fl., *L. Kollmann et al.* 3800 (MBML); Reserva Biológica Augusto Ruschi, 19.IX.2002, fl., *R.R. Vervloet et al.* 1013 (MBML).

In PNMSL *Miconia octopetala* occurs in Montane Ombrophilous Dense Forest and can be recognized by the large, coriaceous leaves with basal veins, the abaxial surface densely covered with dendritic trichomes and octamerous flowers.

According to the “Lista Vermelha da flora brasileira” (CNCFlora 2021), this species was classified as Least Concern (LC). It occurs in Brazil in the states of Bahia, Espírito Santo and Rio de Janeiro (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in August.

37. *Miconia paniculata* (Mart. & Schrank ex DC.) Naudin, Ann. Sci. Nat., Bot., sér. 3, 16: 245. 1851. Figs. 5e; 6f

Shrubs to trees, 2–9 m tall. Stem branches cylindrical, non-winged, sparsely covered with stellate trichomes, stem nodes without interpetiolar ridges. Petioles 0.3–1.9 cm long. Leaf blades 6.2–10.6 × 1.4–4.1 cm, membranaceous, elliptic, slightly discolourous when dried, base acute to attenuate, apex acuminate; margins entire to repand, eciliate; acrodromous veins 3+2, the inner pair 0.2–0.7 cm above the base, seldom basal, joining the midrib with marsupiform domatia on the abaxial surface; both surfaces glabrous, sometimes with sparse stellate trichomes, surface visible. Inflorescence 3.8–7.4 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium ca. 0.2 cm long, campanulate, covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with an acute dorsal appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analysed: PNMSL, divisa com terreno do Cortelleti, 19°55'52.0"S, 40°37'14.0"W, 10.V.2003, fr., *A.P. Fontana & R.R. Vervloet* 591 (MBML); Estação Biológica Caixa D'Água, trilha do Caravagem, 750 m, 19°55'53.0"S, 40°36'27.0"W, 29.XII.1998, fl., *L. Kollmann & E. Bausen* 1383 (MBML); Country Club, 750 m, 19°55'32.0"S, 40°38'08.0"W, 22.II.1999, fr., *L. Kollmann et al.* 1969 (MBML); 750 m, 19°55'32.0"S, 40°38'08.0"W, 22.II.1999, fl., *L. Kollmann* 1974 (MBML); trilha margeando o Rio de São Lourenço, 767 m, 19°55'44.82"S, 40°36'33.99"W, 4.II.2020, fr., *P.M.L.A. Santos & J.P.F. Zorzanelli* 199 (RB); trilha à direita da entrada do Country Club, 882 m, 19°55'25.96.0"S, 40°37'46.52"W, 9.III.2020, fr., *P.M.L.A. Santos* 209 (RB); 894 m, 19°55'14.52"S, 40°37'40.69"W, 12.III.2020, fr., *P.M.L.A. Santos* 214

(RB); Estação Biológica Caixa D'Água, 19°55'53.0"S, 40°36'27.0"W, 3.II.2000, fr., *V. Demuner et al.* 708 (MBML).

In PNMSL *Miconia paniculata* is common and occurs in Montane Ombrophilous Dense Forest. It can be recognized by the glabrous leaves with marsupiform domatia and anthers dehiscing through a small apical pore.

Miconia paniculata occurs in Brazil in the states of Bahia, Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February and December and with fruits in February, March and May.

38. *Miconia pectinata* (Cogn.) R. Goldenb., Brittonia 71(1): 108. 2019[2018].

= *Leandra amplexicaulis* DC., Prodr. 3: 153 (1828). Fig. 6g

Shrubs, 0.5–2 m tall. Stem branches cylindrical, non-winged, densely covered with appressed unbranched trichomes, stem nodes without interpetiolar ridges. Petioles absent or up to 0.2 cm long. Leaf blades 15–3–29.8 × 4.3–8.4 cm, chartaceous, lanceolate, slightly discolored when dried, base amplexicaulous, apex acute to acuminate; margins entire or crenate, ciliate; acrodromous veins 3+2, the inner pair 2.2–4 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with appressed unbranched trichomes, surface visible. Inflorescence 7–10.5 cm long, panicles with glomerulate branching, terminal. Flowers hexamerous, sessile. Hypanthium 0.2–0.4 cm long, tubular, densely covered with unbranched trichomes, eglandular or glandular. Petals white, apex acute. Stamens 12, subisomorphic; filaments glabrous; anthers pink, antesealous ca. 0.3 cm long, antepetalous ca. 0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a dorsal bilobate appendage in the antesealous and unappendaged in the antepetals. Ovary inferior, apex covered with unbranched trichomes; style filiform, glabrous. Fruits fleshy. Calyx persistent.

Specimens analysed: PNMSL, 800 m, 19°55'26.0"S, 40°37'13.0"W, 24.IV.1984, fr., *J.M. Vimercat* 153 (MBML); Estação Biológica Caixa D'Água, 750 m, 19°55'53.0"S, 40°36'27.0"W, fl., 3.II.1999, *L. Kollmann et al.* 1774 (MBML); Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 845 m, 19°55'17.86"S, 40°37'35.97"W, 3.II.2020, fr., *P.M.L.A. Santos* 180 (RB); trilha margeando o Rio de São Lourenço, 779 m,

19°55'42.24"S, 40°36'40.68"W, 4.II.2020, fl., *P.M.L.A. Santos* 202 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, São Lourenço, Mata Fria, 25.VI.1998, fl., *L. Kollmann et al.* 141 (MBML).

In PNMSL *Miconia pectinata* occurs in Montane Ombrophilous Dense Forest and is easily recognized by the amplexicaulous leaves, flowers with petals with an acute apex, and fleshy fruits.

This species occurs in Brazil in the states of Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February and with fruits in April.

39. *Miconia polyandra* Gardner, London J. Bot. 2: 346–347. 1843.

Shrubs to trees, 2–11 m tall. Stem branches cylindrical, non-winged, covered with stellate trichomes, stem nodes without interpetiolar ridges. Petioles 0.4–1.1 cm long. Leaf blades 4.6–17.6 × 2.4–4.6 cm, membranaceous, elliptic, slightly discolored when dried, base cuneate to obtuse, apex acute to acuminate; margins entire, eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface covered with stellate trichomes when young, then glabrescent, abaxial surface glabrous or sparsely covered with stellate trichomes, surface visible. Inflorescence 4.9–8.4 cm long, panicles with scorpioid branching, terminal. Flowers pentamerous, sessile. Hypanthium 0.2–0.3 cm long, campanulate, covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.2–0.3 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a biauriculate ventral appendage. Ovary inferior, apex glabrous; style straight, glabrous; stigma capitate. Fruits fleshy. Calyx persistent.

Specimens analysed: PNMSL, Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 865 m, 19°54'58.88"S, 40°37'39.85"W, 3.II.2020, fl., *P.M.L.A. Santos* 181 (RB); 866 m, 19°55'5.11"S, 40°38'36.38"W, 3.II.2020, fl., *P.M.L.A. Santos* 185 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa: Estação Biológica de Santa Lúcia, 28.I.1997, fr., *G. Hupp et al.* 67 (MBML); São Lourenço, Mata Fria, 13.II.2001, fl., *L. Kollmann* 3560 (MBML); 23.II.1999, fr., *L. Kollmann et al.* 2022 (MBML); 850 m, 17.VI.1999, fr., *L. Kollmann et al.* 2622 (MBML).

Miconia polyandra, despite being common in PNMSL, was collected for the first time in this

work. It occurs mostly in open and degraded areas. It can be recognized by the glabrescent leaves with basal veins and panicles with scorpioid branching.

According to the “Lista Vermelha da flora brasileira” (CNCFlora 2021), this species is classified as Least Concern (LC). It occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in February.

40. *Miconia pubistyla* (Wurdack) R. Goldenb., Brittonia 71(1): 110. 2019 [2018].

= *Leandra glazioviana* Cogn. in Mart., *Fl. bras.* 14(4): 86. 1886. Figs. 5f; 6h

Shrubs, 0.9–2 m tall. Stem branches cylindrical, densely covered with unbranched erect trichomes, stem nodes without interpetiolar ridges. Petioles 0.1–1.3 cm long. Leaf blades 8.8–15.1 × 2.9–4.2 cm, chartaceous, lanceolate, discolorous when dried, base acute, cuneate or attenuate, not amplexicaul, apex acute; margins crenulate, ciliate; acrodromous veins 3+2, the inner pair 0–4–1.6 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface sparsely covered with appressed unbranched trichomes more concentrated on veins, abaxial surface densely covered with unbranched trichomes more concentrated on veins, surface visible. Inflorescence 5,6–10.4 cm long, panicles with glomerulate branching, terminal. Flowers hexamerous, sessile. Hypanthium 0.5–0.6 cm long, tubular, densely covered with unbranched trichomes. Petals white, apex acute. Stamens 12, subisomorphic; filaments glabrous; anthers pink, antesealous 0.5–0.6 cm long, antepetalous 0.4–0.5 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with dorsal caudate appendage. Ovary inferior, apex densely covered with unbranched trichomes; style sigmoid, glabrous. Fruits fleshy. Calyx persistent.

Specimens analysed: PNMSL, trilha principal, 19°55'52.0"S, 40°37'14.0"W, 20.III.2002, fr., *A.P. Fontana & R.R. Vervloet 308* (MBML); Country Club, 850 m, 19°55'32.0"S, 40°38'08.0"W, 15.XII.1998, fl., *L. Kollmann et al. 1307* (MBML); Country Clube, na trilha atrás da cachoeira, 12.IV.2003, fl., *M.J.G. Andrade et al. 231* (HUEFS); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 144* (RB); 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 145* (RB); trilha à direita da entrada do Country Club, 882 m, 19°55'25.96"S, 40°37'46.52"W, 9.III.2020, fr., *P.M.L.A. Santos 212* (RB); afloramento

rochoso próximo à estrada do Circuito Caravaggio, 894 m, 19°55'14.52"S, 40°37'40.69"W, 12.III.2020, fl., *P.M.L.A. Santos 217* (RB); 894 m, 19°55'14.52"S, 40°37'40.69"W, 12.III.2020, fl., *P.M.L.A. Santos 219* (RB); 800 m, 19°55'26.0"S, 40°37'13.0"W, 24.V.1984, fl., *W.A. Hoffmann 120* (MBML).

Miconia pubistyla is common in PNMSL and occurs mainly in Montane Ombrophilous Dense Forest. It can be recognized by the hexamerous, sessile flowers with bracteoles, petals and sepals turning to red when fruiting, and pink anthers. It is very similar to *Miconia melastomoides* and the distinction between them needs attention (see comments under *M. melastomoides*).

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in March, May, November and December and with fruits in March.

41. *Miconia pusilliflora* (DC.) Naudin, Ann. Sci. Nat., Bot., sér. 3, 16(2): 171–172. 1851.

Shrubs to trees, 2–19 m tall. Stem branches cylindrical, non-winged, not decorticate, covered with stellate trichomes, stem nodes without interpetiolar ridges. Petioles 0.5–1.7 cm long. Leaf blades 6.6–10.4 × 2–3.6 cm, chartaceous, elliptic or lanceolate, discolorous when dried, base acute, attenuate or decurrent, apex caudate; margins entire to repand, eciliate; acrodromous veins 3+2, the inner pair 0.3–0.8 above the base, joining the midrib with marsupiform domatia on the abaxial surface; adaxial surface sparsely covered with stellate trichomes, abaxial surface moderately covered with stellate trichomes, surface visible. Inflorescence 3.5–7.2 cm long, panicles with regular branching (non-scorpioid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium ca. 0.1 cm long, campanulate, covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.1–0.2 cm long, dehiscing through a longitudinal ventral slit, covering the whole thecae; connective prolonged below the thecae, without appendage. Ovary inferior, apex covered with stellate trichomes; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analysed: PNMSL, 19°55'26.0"S, 40°37'13.0"W, 5.IV.2003, fl., *T.A. Cruz et al. 55* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa: Estação Biológica de Santa Lúcia, 14.IV.1994, fl., *L.D. Thomaz 820* (MBML), 25.VII.1991,

fl., *W. Pizziolo et al.* 376 (MBML); Rio Salinho, 31.V.1984, fr., *W.A. Hoffmann* 126 (MBML).

Despite being common in the municipality, *Miconia pusilliflora* is unfrequent in PNMSL and was collected only once in 2003. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the leaves with the inner pair of veins suprabasal, joining the midrib with marsupiform domatia on the abaxial surface, and white anthers dehiscing through a ventral slit.

This species occurs in Brazil in the states of Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in April.

42. *Miconia refracta* (Cogn.) R. Goldenb., Brittonia 71(1): 111 2019 [2018].

= *Leandra refracta* Cogn. in Mart., *Fl. bras.* 14(4): 186. 1886. Fig. 6i

Shrubs, 0.5–1 m tall. Stem branches cylindrical, non-winged, moderately covered with unbranched trichomes in young branches and glabrescent in the olders, stem node without interpetiolar ridges. Petioles 0.3–0.4 cm long. Leaf blades 3.8–9.3 × 1.6–3.3 cm, membranaceous, ovate, concolorous or slightly discolorous when dried, base rounded, not amplexicaulous, apex acuminate; margins entire to crenate, ciliate; acrodromous veins 5+2, the inner pair 0.4–0.5 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces covered with whitish unbranched patent trichomes, more concentrated on abaxial surface veins, surface visible. Inflorescence 7.4–10.4 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium ca. 0.3 cm long, tubular, sparsely covered with unbranched trichomes. Petals white, apex acute. Stamens 10, isomorphic; anthers white, ca. 0.2 cm long, dehiscing through an apical pore; filaments glabrous; connective not prolonged, unnapendaged. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analysed: PNMSL, trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°37'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos* 149 (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos* 157 (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia, 7.XI.1985, fl., *H.Q. Boudet Fernandes* 1600 (MBML, UPCB).

Miconia refracta is unfrequent in PNMSL and was collected for the first time in this work. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the leaves with unbranched trichomes, mostly concentrated on the petiole and midrib, pentamerous flowers and white anthers.

This species occurs in Brazil in the states of Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in November.

43. *Miconia robusta* Cogn. in Mart., *Fl. bras.* 14(4): 270, 611. 1887. Fig. 6j

Shrubs, 2–3 m tall. Stem branches sub-cylindrical, non-winged, covered with stellate and dendritic trichomes. Petioles absent or up to 0.5 cm long. Leaf blades 28.3–41.7 × 11.5–18.9 cm, coriaceous, obovate, discolorous when dried, base attenuate, apex rounded, obtuse or acute; margins entire, eciliate; acrodromous veins 3+2, the inner pair 3.1–6.5 cm above the base, joining the midrib without domatia on the abaxial surface; adaxial surface glabrescent with stellate trichomes on veins, abaxial surface densely covered with stellate trichomes, surface not visible. Inflorescence 18.1–21.6 cm long, panicles with glomerulate branching, terminal. Flowers pentamerous, sessile. Hypanthium 0.2–0.3 cm long, campanulate, covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae with an inconspicuous dorsal appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analysed: PNMSL, 19°55'52.0"S, 40°37'14.0"W, 24.V.1984, fr., *J.M. Vimercat* 152 (MBML); Estação Biológica Caixa D'Água, estrada do Caravagem, 850 m, 19°55'53.0"S, 40°36'27.0"W, 18.XI.1998, fl., *L. Kollmann et al.* 1062 (MBML); 750 m, 19°55'53.0"S, 40°36'27.0"W, 29.XII.1998, fr., *L. Kollmann & E. Bausen* 1388 (MBML); mata próxima a estrada do circuito Caravaggio, 740 m, 19°55'24.57"S, 40°37'17.5"W, 20.VII.2019, fr., *P.M.L.A. Santos & J. Külkamp* 62 (RB); 858 m, 19°54'58.97"S, 40°37'36.56"W, 25.VIII.2019, fl., *P.M.L.A. Santos* 110 (RB); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos* 158 (RB); 799 m, 19°55'39.32"S, 40°38'48.94"W, 4.II.2019, fr., *P.M.L.A. Santos & J.P.F. Zorzanelli* 200 (RB).

In PNMSL, *Miconia robusta* occurs in Montane Ombrophilous Dense Forest near river banks. It can be recognized by large leaves (more

than 25 cm when mature) with inner pair of veins joining the midrib more than 2.5 cm above the base and glomerulate inflorescences.

According to the “Lista Vermelha da flora brasileira” (CNCFlora 2021), this species is classified as Least Concern. It occurs in Brazil in the states of Minas Gerais, Espírito Santo, Rio de Janeiro and São Paulo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in November, with buds in August and with fruits in February, May, August and December.

44. *Miconia sellowiana* Naudin, Ann. Sci. Nat., Bot., sér. 3, 16: 206. 1851. Figs. 5g; 6k

Trees, 6–11 m tall. Stem branches cylindrical, non-winged, decorticate when mature, covered with stellate trichomes, stem nodes without interpetiolar ridges. Petioles 0.6–1.1 cm long. Leaf blades 8.3–13.8 × 2.5–3.5 cm, membranaceous, elliptic to lanceolate, concolorous when dried, base acute to attenuate, apex acuminate to caudate; margins entire or slightly dentate, eciliate; acrodromous veins 3+2, the inner pair 0.1–1 cm above the base, joining the midrib with marsupiform domatia on the abaxial surface; both surfaces sparsely covered with stellate trichomes when young, then glabrous, surface visible. Inflorescence 2.5–6.6 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium ca. 0.1 cm long, campanulate, covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, ca. 0.1 cm long, dehiscing through a large ventral apical pore, covering 1/3 of the thecae; connective prolonged below the thecae, with an inconspicuous ventral biauriculate appendage. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analysed: PNMSL, Circuito Caravaggio, mata à margem direita da estrada principal, próximo a rampa do voo livre, 19°54'58.97"S, 40°36'27.0"W, 25.VIII.2019, fl., *P.M.L.A. Santos 111* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°38'04.5"W, 9.X.2019, fl., *P.M.L.A. Santos 123* (RB); 730 m, 19°55'39.19"S, 40°36'13.47"W, 13.X.2019, fl., *P.M.L.A. Santos 131* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia, 14.X.1994, fl., *L.D. Thomaz 850* (MBML); São Lourenço, Mata Fria, 25.VII.1998, fr., *L. Kollmann et al. 131* (MBML); Santo Antônio, 29.X.1988, fl., *L. Kollmann et al. 852* (MBML).

In PNMSL *Miconia sellowiana* occurs in Montane Ombrophilous Dense Forest and can be recognized by the glabrous or glabrescent leaves with the inner pair of veins joining the midrib with marsupiform domatia on the abaxial surface, and white anthers dehiscing through a large ventral apical pore.

This species occurs in Brazil in the states of Goiás, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in August and October.

45. *Miconia setosociliata* Cogn. in A.DC. & C.DC., Monogr. Phan. 7: 843. 1891.

Trees, 3–6 m tall. Stem branches flat when young, then cylindrical, non-winged, densely covered with stellate trichomes. Petioles 0.5–1.2 cm long. Leaf blades 7.1–11.4 × 2–3.4 cm, membranaceous, lanceolate, discolorous, base acute, apex acuminate; margins dentate, ciliate; acrodromous veins 3+2, the inner pair 0.3–0.5 cm above the base, joining the midrib with marsupiform domatia on the abaxial surface; adaxial surface glabrous, abaxial surface densely covered with stellate trichomes, surface not visible. Inflorescence 7.8–9 cm long, panicles with scorpioid branching, terminal. Flowers pentamerous, sessile. Hypanthium 0.1–0.2 cm long, campanulate, densely covered with stellate and short-stalked glandular trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.1–0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a ventral biauriculate and a dorsal acute appendage. Ovary inferior, apex glabrous; style straight, glabrous; stigma capitate. Fruits fleshy. Calyx caducous.

Specimens analysed: PNMSL, VIII.2006, fr., *J.M.L. Gomes 3105* (UPCB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia, 2.IX.2005, fr., *L. Kollmann 8288* (MBML); 20.VIII.1986, *R. Goldenberg et al. 377* (UPCB); Nova Lombardia, 15.V.1985, fl., *W. Boone 446* (MBML).

In PNMSL, *Miconia setosociliata* is known by only one specimen with an inaccurate location, collected in 2006. It can be recognized by the leaves with marsupiform domatia on the abaxial surface, ciliate margins and inflorescences with scorpioid branching.

According to the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019)

and with the “Lista Vermelha da flora brasileira” (CNCFlora 2021), this species is threatened, and classified as Vulnerable (VU). It occurs in Brazil in the states of Minas Gerais, Espírito Santo, Rio de Janeiro and São Paulo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with fruits in August.

46. *Miconia strigilliflora* (Naudin) R. Goldenb., Brittonia 71(1): 114. 2019 [2018].

= *Leandra strigilliflora* (Naudin) Cogn. in Mart., Fl. bras. 14 (4): 126 (1886). Fig. 5h

Shrubs, 1–2 m tall. Stem branches cylindrical, non-winged, sparsely covered with appressed unbranched trichomes, stem nodes without interpetiolar ridges. Petioles 0.7–8 cm long. Leaf blades 6.5–14.9 × 2.9–8.8 cm, membranaceous, ovate, concolorous, base cuneate to obtuse, not amplexicaul, apex acuminate; margins entire, ciliate; acrodromous veins 5+2, the inner pair 0.5–1.7 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces sparsely covered with appressed unbranched trichomes, more concentrated on veins, surface visible. Inflorescence 7.4–9.3 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, moderately covered with appressed unbranched trichomes. Petals white at anthesis, then pink, apex rounded, slightly acuminate. Stamens 10, subisomorphic; filaments glabrous; anthers pink or white at anthesis, antepetalous ca. 0.4 cm long, antepetalous 0.2–0.3 cm long, dehiscing through an apical pore; connective not prolonged below the thecae, unnapendaged. Ovary inferior, apex glabrous; style filiform, sigmoid, glabrous. Fruits fleshy. Calyx persistent.

Specimens analysed: PNMSL, trilha velutina, 19°55'52.0"S, 40°37'14.0"W, 1.III.2003, fr., *A.P. Fontana 510* (MBML); Country Club, 19°55'32.0"S, 40°38'08.0"W, 26.I.2006, fl., *L. Kollmann 8624* (MBML); trilha margeando o Rio de São Lourenço, 802 m, 19°55'39.32"S, 40°38'48.94"W, 26.XI.2019, fl., *P.M.L.A. Santos 151* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Vale do Canaã, 4.XII.1985, fl., *J.M. Vimerat 325* (MBML).

In PNMSL *Miconia strigilliflora* occurs in Montane Ombrophilous Dense Forest. It can be recognized by the leaves with suprabasal lateral veins, moderately covered with appressed trichomes, and flowers with white petals with acute apex.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro and São Paulo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in January and November and with fruits in March.

47. *Miconia suprabasalis* (R. Goldenb. & Reginato) R. Goldenb., Brittonia 71(1): 115. 2019 [2018].

= *Ossaea suprabasalis* R. Goldenb. & Reginato, Brittonia 59(4): 339–342. 2007.

Shrubs, 1–3 m tall. Stem branches cylindrical, non-winged, glabrous or sparsely covered with sessile glands. Petioles 0.9–2.7 cm long. Leaf blades 6.2–14.1 × 2.9–5.9 cm, membranaceous, elliptic to oboval, discolorous when dried, base attenuate to decurrent, apex acuminate; margins entire, ciliate; acrodromous veins 3+2, the inner pair 0.6–2.0 cm above the base, joining the midrib without domatia on the abaxial surface, both surfaces glabrous or with sparse sessile glandular trichomes, surface visible. Inflorescence 2.2–6.3 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), axillary. Flowers tetramerous or pentamerous, pedicellate. Hypanthium ca. 0.2 cm long, campanulate, densely covered with unbranched inconspicuous trichomes. Petals white, apex acute. Stamens 8–10, isomorphic; filaments glabrous; anthers white, 0.1–0.2 cm long, dehiscing through an apical pore; connective not prolonged below the thecae, unnapendaged. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx persistent.

Specimens analysed: PNMSL, estrada do Caravage, 750 m, 19°55'53.0"S, 40°36'27.0"W, 27.X.1998, fl., *L. Kollmann et al. 806* (MBML, UPCB); Estação Biológica Caixa D'Água, 850 m, 19°55'53.0"S, 40°36'27.0"W, 18.XI.1998, fl., *L. Kollmann et al. 1065* (MBML); 750 m, 19°55'53.0"S, 40°36'27.0"W, 29.XII.1998, fr., *L. Kollmann & E. Bausen 1376* (MBML); 750 m, 19°55'53.0"S, 40°36'27.0"W, 3.II.1999, fr., *L. Kollmann et al. 1784* (MBML); 19°55'53.0"S, 40°36'27.0"W, 8.XII.1999, fl., *V. Demuner & E. Bausen 290* (MBML).

In PNMSL *Miconia suprabasalis* is infrequent and has not been collected since 1999. It occurs in Montane Ombrophilous Dense Forest and can be recognized by the leaves glabrous or sparsely covered with sessile glands, axillary inflorescences, petals with acute apex, and white anthers.

This species occurs in Brazil in the states of Minas Gerais and Espírito Santo (Goldenberg *et al.* 2020c). In PNMSL it was sampled with flowers in October, November and December and with fruits in December and February.

48. *Miconia tristis* Spring, Flora 20(2, Beibl.): 76. 1837.

Shrubs to trees, 1–8 m tall. Stem branches cylindrical, non-winged, glabrous, stem nodes without interpetiolar ridges. Petioles 0.6–1.3 cm long. Leaf blades 7–11.5 × 2.7–4 cm, membranaceous, elliptic, concolorous when dried, base acute to attenuate, apex acuminate; margins entire, repand or slightly dentate, eciliate; acrodromous veins 3+2, the inner pair 0.2–1 cm above the base, joining the midrib without domatia on the abaxial surface; both surfaces glabrous, surface visible. Inflorescence 2.6–7.7 cm long, panicles with regular branching (non-scorpoid, non-glomerulate), terminal and axillary. Flowers pentamerous, pedicellate. Hypanthium 0.1–0.2 cm long, campanulate, covered with stellate trichomes. Petals white, apex rounded. Stamens 10, isomorphic; filaments glabrous; anthers white, 0.1–0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a ventral biauriculate and a dorsal acute appendages. Ovary inferior, apex glabrous; style filiform, straight, glabrous. Fruits fleshy. Calyx caducous.

Specimens analysed: São Lourenço, mata fria, terreno de C. Loss, 850 m, 7.IV.1999, fl., *L. Kollmann et al. 2416* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Reserva Biológica Augusto Ruschi, 9.V.2002, fl., *R.R. Vervloet et al. 251* (MBML); 22.IV.2003, fl., *R.R. Vervloet et al. 2269* (MBML); Valsugana Velha, 8.VIII.2000, fr., *V. Demuner et al. 1346* (MBML); 22.IV.2003, fr., *R.M. Pizziolo 98* (MBML).

Miconia tristis have not been collected inside the PNMSL, but it occurs in adjoining areas and is common in the municipality. It can be recognized by the glabrous leaves with basal veins, terminal and axillary regular panicles, and white anthers dehiscing through a small apical pore.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Goldenberg *et al.* 2020c).

49. *Microlicia parviflora* (D.Don) Versiane & R.Romero, Bot. J. Linn. Soc., boab011: 20. 2021. = *Trembleya parviflora* (D.Don) Cogn. in Mart., *Fl. bras.* 14(3): 127. 1883. Fig 7a

Shrubs to trees, 2–4 m tall. Stem branches cylindrical, covered with sessile glands and elongated unbranched trichomes. Petioles 0.5–1.1 cm long. Leaf blades 2.4–5.6 × 0.7–1.9 cm, chartaceous, lanceolate, discoloured, base acute, apex acute, obtuse or rounded; margins entire,

eciliate; acrodromous veins 3+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface glabrous or sparsely covered with sessile glands, abaxial surface covered with sessile glands and elongated unbranched trichomes, surface visible. Inflorescence 1–1.9 cm long, dichasial, axillary. Flowers pentamerous, pedicellate. Hypanthium 0.2–0.3 cm long, campanulate, covered with sessile glands and elongated unbranched trichomes. Petals white to pink, apex rounded. Stamens 10, heteromorphic; filaments glabrous; antesealous anthers violet, ca. 0.8 cm long, antepetalous anthers yellow, ca. 0.3 cm long, dehiscing through an apical pore; connective prolonged below the thecae with a bilobate appendage in the antesealous, shortly prolonged with a inconspicuous bilobate appendage in the antepetalous. Ovary superior, apex glabrous; style filiform, sigmoid, glabrous. Fruits capsular. Calyx persistent.

Specimens analysed: PNMSL, mata próxima a estrada do circuito Caravaggio, 650 m, 19°55'22.2"S, 40°38'15.08"W, 21.VII.2019, fl., *P.M.L.A. Santos & J. Külkamp 72* (RB); mata do Country Club, 858 m, 19°55'25.2"S, 40°38'15.00"W, 11.X.2019, fl. and fr., *P.M.L.A. Santos 128* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Goiapaba-Açu, 4.V.2006, fl., *L. Kollmann & S. Krauser 9012* (MBML); Reserva Biológica Augusto Ruschi, 25.IV.2002, fl., *R.R. Vervloet & E. Bausen 212* (MBML); 24.IV.2002, fl., *R.R. Vervloet et al. 295* (MBML); 4.VI.1985, fl., *W. Boone 524* (MBML).

In PNMSL, *Microlicia parviflora* occurs on rocky outcrops. It can be recognized by the axillary inflorescences, violet antesealous anthers, yellow antepetalous anthers, and dry fruits.

This species occurs in Brazil in the states of Bahia, Goiás, Distrito Federal, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo and Paraná (Pacífico & Fidanza 2020). In PNMSL it was sampled with flowers in July and October and with fruits in October.

50. *Mouriri chamissoana* Cogn. in Mart., *Fl. bras.* 14(4): 573. 1888.

Trees, 4–10 m tall. Stem branches quadrangular, winged when young, glabrous, decorticant when mature. Petioles 0.1–0.2 cm long. Leaf blades 2.6–3.4 × 6.7–8.9 cm, coriaceous, elliptic to lanceolate, concolorous, base rounded to cordate, apex acute to acuminate; margins entire, eciliate; brochidodromous veins, without domatia on abaxial surface; both surfaces glabrous, surface visible. Inflorescence sessile, ramiflorous fascicles.



Figure 7 – a-f. Melastomataceae species from "Parque Natural Municipal de São Lourenço", Santa Teresa, Espírito Santo, Brazil – a. *Microlicia parviflora* – flowering branches; b. *Pleroma arboreum* – flowering branches; c. *Pleroma boudetii* – flowering branches; d. *Pleroma clidemioides* – flowering branches; e. *Pleroma estrelense* – flowering branches; f. *Pleroma radula* – flowering branches. Photos: e, f. Claudio Nicoletti de Fraga; a. Josimar Kulkamp; b, c, d. Pedro Martin Lischinsky Alves dos Santos.

Flowers pentamerous, pedicellate. Hypanthium ca. 0.2 cm long, campanulate, glabrous. Petals white, apex acute. Stamens 10, subisomorphic; filaments glabrous; anthers yellow, 0.1–0.2 cm long, dehiscing through an apical slit; connective prolonged below the thecae, with a dorsal rounded appendage. Ovary inferior, apex glabrous; style filiform, curved, glabrous. Fruits fleshy. Calyx persistent.

Specimens analysed: São Lourenço, Mata fria, terreno de C. Loss, 700 m, 14.X.1998, *L. Kollmann et al.* 748 (MBML).

Additional material: BRAZIL. BAHIA: Ilhéus, Mata da Fazenda Ipiranga, 15.X.1972, fl., *D.P. Lima 13087* (UPCB). PARANÁ: Morretes, PARNA Saint-Hilaire/Lange, 11.XII.2017, fl., *R.R. Voltz et al. 1967* (UPCB). SANTA CATARINA: Itapoá, Reserva Volta Velha, 14.XI.2019, fl., *M. Grings & A.S. Mello 1955* (FLOR).

Mouriri chamissoana has not been collected inside the PNMSL, but it occurs in an adjoining area and, therefore, has been included here as a possible occurrence. It can be recognized by the leaves with brochidodromous venation, ramiflorous inflorescences, anthers with dorsal glands, and fleshy fruits.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Völtz & Goldenberg 2020).

51. *Pleroma arboreum* Gardner, London J. Bot. 2: 351. 1843.

= *Tibouchina arborea* (Gardner) Cogn. in Mart., *Fl. bras.* 14(3): 299. 1885. Figs. 6l; 7b

Trees, 4–25 m tall. Stem branches quadrangular, covered with appressed estrigose trichomes. Petioles 1.2–4.5 cm long. Leaf blades 7.1–11.8 × 2.8–4.1 cm, coriaceous, lanceolate, concolorous, base acute to obtuse, apex acute; margins entire, eciliate; 5 acrodromous veins, external pair joining the inner pair above the base, inner pair basal, joining the midrib without domatia on the abaxial surface; both surfaces covered with short appressed estrigose trichomes, more concentrated on abaxial surface veins, surface visible. Inflorescence 7.5–8.7 cm long, botryoid, terminal. Bracteoles cucullate, forming a calyptra, apex rounded. Flowers pentamerous, pedicellate. Hypanthium 0.7–1.1 cm long, campanulate, densely covered with elongated unbranched trichomes. Petals purple, pink or white, apex truncate. Stamens 10, heteromorphic; filaments covered with unbranched trichomes; anthers lilac or white, antesealous 1.2–1.4 cm long, antepetalous

1–1.1 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a bilobate appendage covered with glandular trichomes. Ovary superior, partially adhered to hypanthium through the septa, apex covered with unbranched trichomes; style filiform, sigmoid, covered with unbranched trichomes on the basal half. Fruits capsular. Calyx caducous.

Specimens analysed: PNMSL, Country Club, trilha à direita da cachoeira do Country, 852 m, 19°55'23.72"S, 40°38'16.62"W, 3.II.2020, fl., *P.M.L.A. Santos 191* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, morro da antena da TELEST, 6.IV.1985, fl., *H.Q. Boudet Fernandes 1587* (MBML); Valsugana Velha, 24.X.1994, fl., *C. Chamas 55* (MBML); Estação Biológica de Santa Lúcia, 12.I.1995, fl., *C. Chamas et al. 363* (MBML); Reserva Biológica Augusto Ruschi, 4.XII.2001, fl., *L. Kollmann & E. Bausen 5125* (UPCB).

Despite being common in PNMSL, *Pleroma arboreum* was collected for the first time in this work. It occurs in Montane Ombrophilous Dense Forest, mainly in degraded areas, and can be recognized by the cucullate bracteoles, and stamens with filaments covered with long, unbranched trichomes.

This species occurs in Brazil in the states of Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro and São Paulo (Guimarães 2020). In PNMSL it was sampled with flowers in February.

52. *Pleroma boudetii* (P.J.F. Guim. & R. Goldenb.) P.J.F. Guim. & Michelang., *Taxon* 68(5): 975. 2019.

= *Tibouchina boudetii* P.J.F. Guim. & R. Goldenb., *Kew Bull.* 56(4): 989. 2001. Figs. 6m; 7c

Trees, 5–19 m tall. Stem branches sub-cylindrical, non-winged, covered with dendritic trichomes. Petioles 0.5–1.4 cm long. Leaf blades 4.3–8.2 × 1.1–2.2 cm, chartaceous, lanceolate, discolorous when dried, base acute to obtuse, apex acute; margins entire, eciliate; acrodromous veins 3+2, basal, without domatia on the abaxial surface; both surfaces covered with dendritic trichomes, these denser on abaxial surface, surface visible. Inflorescence 3.3–8.4 cm long, botryoid, terminal. Bracteoles ovate, apex acute, not forming a calyptra. Flowers pentamerous, pedicellate. Hypanthium 0.6–0.9 cm long, campanulate, densely covered with stellate trichomes. Petals purple, apex truncate. Stamens 10, subisomorphic; filaments covered with glandular trichomes; anthers purple, antesealous 0.9–1.1 cm long, antepetalous 0.5–0.7 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a bilobate ventral appendage, glabrous.

Ovary superior, basally adhered to hypanthium, apex covered with stellate trichomes; style filiform, sigmoid, glabrous. Fruits capsular. Calyx caducous.

Specimens analysed: PNMSL, mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°38'04.5"W, 9.X.2019, fl., *P.M.L.A. Santos 122* (RB); mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, 705 m, 19°55'49.05"S, 40°38'04.5"W, 30.I.2020, fl., *P.M.L.A. Santos 179* (RB); Circuito Caravaggio, trilha à direita da entrada do Country Club, 894 m, 19°55'14.52"S, 40°37'40.69"W, 12.III.2020, fl., *P.M.L.A. Santos 215* (RB); 19°55'26.0"S, 40°37'13.0"W, 9.VIII.2003, fl., *T.A. Cruz 59* (MBML).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Vargem Alta, 28.I.1986, fl., *H.Q. Boudet Fernandes 1809* (MBML); 12.XI.1985, fr., *W. Piziolo 195* (MBML); morro da estação receptora de TV, 13.I.1986, fl., *W. Boone 1013* (MBML); 24.I.1986, fl., *W. Boone 1049* (MBML).

In PNMSL, *Pleroma boudetii* occurs in Montane Ombrophilous Dense Forest with an open canopy, on sandy soil. It can be recognized by both leaf surfaces covered with dendritic trichomes, long sepals, and stamens with filaments covered with glandular trichomes.

According to the “Livro das Espécies Ameaçadas do Espírito Santo” (Fraga *et al.* 2019) and with the “Lista Vermelha da flora brasileira” (CNCFlora 2021), this species is threatened, and classified as Vulnerable (VU). It is endemic to the state of Espírito Santo (Guimarães 2020) and in PNMSL it was sampled with flowers in January, March, August and October .

53. *Pleroma clidemioides* O. Berg *ex* Triana, Trans. Linn. Soc. London 28(1): 43. 1871 [1872]. = *Tibouchina clidemioides* (O. Berg *ex* Triana) Cogn. in Mart., *Fl. bras.* 14(3): 398. 1885.

Fig. 7d

Shrubs, 1–2 m tall. Stem branches quadrangular, winged when mature, covered with unbranched elongated trichomes. Petioles 0.8–1.4 cm long. Leaf blades 4.4–9 × 1.9–5.6 cm, membranaceous, ovate to lanceolate, discolourous when dried, base rounded to cordate, apex acute; margins entire, ciliate; acrodromous veins 3+2, basal, without domatia on the abaxial surface; both surfaces covered with elongate unbranched trichomes, surface visible. Inflorescence 5.8–9.8 cm long, dichasial panicles, terminal. Bracteoles lanceolate, not cucullate, apex acute, not forming a calyptra. Flowers pentamerous, pedicellate. Hypanthium 0.5–0.6 cm long, tubular,

moderately covered with long-stalked glandular trichomes. Petals purple, apex truncate. Stamens 10, heteromorphic; filaments covered with glandular trichomes; anthers purple, antesealous 0.5–0.7 cm long, antepetalous 0.4–0.6 cm long, dehiscing through an apical pore; connective prolonged below the thecae with a bilobate ventral appendage, glabrous. Ovary superior, partially adhered to hypanthium through the septa, apex covered with unbranched trichomes; style filiform, sigmoid, glabrous. Fruits capsular. Calyx caducous.

Specimens analysed: Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da Cachoeira do Country, 866 m, 19°55'5.11"S, 40°38'36.38"W, 3.II.2020, fl., *P.M.L.A. Santos 183* (RB). **Additional material:** BRAZIL. ESPÍRITO SANTO: Santa Teresa, Estação Biológica de Santa Lúcia, 13.III.1990, fl., *H.Q. Boudet Fernandes et al. 2901* (US); encosta atrás do bairro Dois Pinheiros, 18.II.1986, fl., *W. Boone 1103* (US).

This is the first record of *Pleroma clidemioides* in PNMSL, where it is unfrequent. It occurs in open or degraded areas. It can be recognized by the shrub habit, and hypanthium and filaments covered with glandular trichomes.

This species occurs only in the states of Minas Gerais and Espírito Santo (Guimarães 2020). In PNMSL it was sampled with flowers in February.

54. *Pleroma estrellense* (Raddi) P.J.F.Guim. & Michelang., *Taxon* 68(5): 979. 2019.

= *Tibouchina estrellensis* (Raddi) Cogn. in Mart., *Fl. bras.* 14(3): 342. 1885. Fig. 6n; 7e

Trees, 4–20 m tall. Stem branches quadrangular, winged, covered with dendritic trichomes. Petioles 0.8–1.5 cm long. Leaf blades 4.3–10.3 × 0.9–3.8 cm, chartaceous, lanceolate, discolourous, base rounded to obtuse, apex acute; margins entire, eciliate; acrodromous veins 5, the external pair joining the inner pair above the base, inner pair basal, without domatia on the abaxial surface; adaxial surface covered with appressed estrigose trichomes, branched at the base or not, abaxial surface densely covered with elongated trichomes with stellate base, surface visible. Inflorescence 5.9–11.1 cm long, dichasial panicles, terminal. Bracteoles lanceolate, apex acute, not cucullate, not forming a calyptra. Flowers pentamerous, pedicellate. Hypanthium 0.6–0.8 cm long, tubular, densely covered with simple and dendritic trichomes. Petals purple, apex truncate. Stamens 10, heteromorphic; filaments densely covered with unbranched eglandular trichomes; anthers purple, antesealous 0.8–1.4 cm long,

antepetalous 0.5–1.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a bilobate ventral appendage, glabrous. Ovary superior, partially adhered to hypanthium through the septa, apex densely covered with unbranched trichomes; style filiform, sigmoid, covered with unbranched trichomes on the basal half. Fruits capsular. Calyx caducous.

Specimens analysed: PNMSL, Caravaggio, rampa de parapente, 19°54'31.0"S, 40°39'08.0"W, 21.V.2008, fl., *L. Kollmann et al. 11030* (MBML); Circuito Caravaggio, 680 m, 19°55'0.0"S, 40°37'0.0"W, 2.V.2019, fl., *P.M.L.A. Santos & C.N. Fraga 4* (RB); trilha margeando o Rio de São Lourenço, 680 m, 19°55'42.24"S, 40°37'40.68"W, 2.V.2019, fl., *P.M.L.A. Santos & J.P.F. Zorzanelli 198* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, Museu de Biologia Mello Leitão, 25.II.1997, fl., *E.C. Brito 22* (MBML); 16.IV.2016, fl., *F.S.Meyer 2222* (MBML); 9.IV.1986, fl., *W. Boone 1129* (MBML).

In PNMSL *Pleroma estrellense* occurs in Montane Ombrophilous Dense Forest and can be recognized by the tree habit, not cucullate bracteoles and stamens with the filaments covered with unbranched trichomes.

Pleroma estrellense is very similar to *P. fissinervium*. Guimarães (1997) distinguished both by the adaxial leaf surface covered with trichomes with a branched base in *P. estrellense*, and an unbranched base in *P. fissinervium*. Here we chose to recognize a single species, since the individuals found in the area have intermediate states for the character described above.

This species occurs in the states of Minas Gerais, Espírito Santo, Rio de Janeiro and São Paulo (Guimarães 2020). In PNMSL it was sampled with flowers in May.

55. *Pleroma heteromallum* (D.Don) D.Don, Mem. Wern. Nat. Hist. Soc. 4: 295. 1823.
= *Tibouchina heteromalla* (D. Don) Cogn. in Mart., *Fl. bras.* 14(3): 336. 1885. Fig. 60

Shrubs, 1–3 m tall. Stem branches quadrangular, winged, covered with unbranched trichomes. Petioles 1.2–1.9 cm long. Leaf blades 10.2–16.8 × 4.1–9.3 cm, chartaceous, ovate, slightly discoloured when dried, base rounded to cordate, apex rounded, obtuse or acute; margins entire, ciliate; acrodromous veins 5+2, basal, joining the midrib without domatia on the abaxial surface; adaxial surface densely covered with appressed elongated unbranched trichomes, abaxial surface densely covered with unbranched smooth trichomes, more concentrated on veins, surface

visible. Inflorescence 7.5–20.7 cm long, dichasial panicles, terminal. Bracteoles lanceolate, not cucullate, apex acute, not forming a calyptra. Flowers pentamerous, pedicellate. Hypanthium 0.3–0.5 cm long, tubular, densely covered with appressed unbranched trichomes. Petals purple or lilac, with the base white or reddish, or white with the base reddish, apex truncate. Stamens 10, subisomorphic; filaments covered with glandular trichomes; anthers white, antepetalous 0.2–0.3 cm long, antepetalous 0.1–0.2 cm long, dehiscing through an apical pore; connective prolonged below the thecae, with a ventral bilobate appendage, covered with glandular trichomes. Ovary superior, basally adhered to hypanthium, apex covered with unbranched trichomes; style filiform, sigmoid, with the basal half covered with unbranched trichomes. Fruits capsular. Calyx caducous.

Specimens analysed: PNMSL, Circuito Caravaggio, 680 m, 19°55'0.0"S, 40°37'0.0"W, 2.V.2019, fl., *P.M.L.A. Santos & C.N. Fraga 2* (RB); margem de estrada próxima ao circuito Caravaggio, 600 m, 19°55'22.12"S, 40°37'15.08"W, 21.VII.2019, fr., *P.M.L.A. Santos & J. Kulkamp 76* (RB); Circuito Caravaggio, trilha à margem esquerda da estrada principal, após a entrada da cachoeira do Country Club, 837 m, 19°55'37.14"S, 40°38'39.93"W, 5.XII.2019, fl., *P.M.L.A. Santos 167* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, 15.IV.2005, *A.P. Fontana 1318* (MBML); 4.V.1988, *H.Q. Boudet Fernandes 2468* (MBML); 19.III.1994, *C. Chamas 136* (MBML); 4.IV.2005, *A.P. Fontana 1255* (MBML).

In PNMSL, *Pleroma heteromallum* occurs mostly in open areas, but can also be found cultivated on local properties. It can be recognized by the abaxial leaf surface with evident reticulate venation, flowers usually with bicolored petals and stamens with the filaments covered with glandular trichomes.

This species occurs in Brazil in the states of Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro and São Paulo (Guimarães 2020). In PNMSL it was sampled with flowers in May and December and with fruits in July.

56. *Pleroma radula* (Markgr.) P.J.F.Guim. & Michelang., *Taxon* 68(5): 987. 2019.
= *Tibouchina radula* Markgr., *Notizbl. Bot. Gart. Berlin-Dahlem* 10(91): 49. 1927. Figs. 6p; 7f

Shrubs, 1–2 m tall. Stem branches quadrangular, moderately covered with appressed roughened conic trichomes. Petioles 0.6–2.1 cm long. Leaf blades 1.7–9.1 × 1.4–4.3 cm,

chartaceous, elliptic to lanceolate, concolorous or slightly discolorous when dried, base acute, apex rounded, obtuse or acute; margins entire, ciliate; acrodromous veins 3+2, the inner pair basal, joining the midrib without domatia on the abaxial surface; adaxial surface densely covered with appressed roughened unbranched trichomes, abaxial surface covered with stellate base appressed trichomes, these roughest on veins, surface visible. Inflorescence 20–27.6 cm long, dichasial panicles, terminal. Bracteoles lanceolate, apex acute, not forming a calyptra. Flowers pentamerous, pedicellate. Hypanthium 0.4–0.6 cm long, tubular, covered with appressed unbranched trichomes. Petals purple, apex truncate. Stamens 10, heteromorphic; filaments covered with glandular trichomes; anthers white, antesealous 0.3–0.5 cm long, antepetalous 0.2–0.3 cm long, dehiscing through an apical pore; connective prolonged below the thecae, unnapendaged, covered with glandular trichomes on the antesealous, glabrous in the antepetalous. Ovary superior basally adhered to hypanthium, apex covered with unbranched trichomes; style filiform, sigmoid, with the basal half covered with unbranched trichomes. Fruits capsular. Calyx caducous.

Specimens analysed: PNMSL, mata adjacente ao Parque Natural Municipal de São Lourenço, próximo a área urbana do município, dentro de condomínio residencial, 796 m, 19°55'24.9"S, 40°36'20.24"W, 24.VIII.2019, fr., *P.M.L.A. Santos 101* (RB); afloramento rochoso próximo à estrada do Circuito Caravaggio, 894 m, 19°55'14.52"S, 40°37'40.59"W, 12.III.2020, fl., *P.M.L.A. Santos 216* (RB).

Additional material: BRAZIL. ESPÍRITO SANTO: Santa Teresa, 11.IV.2008, *L. Kollmann 11028* (MBML); 22.III.2007, *L. Kollmann 9568* (MBML); 6.II.2002, *L. Kollmann 5531* (MBML).

In PNMSL, *Pleroma radula* is unfrequent and was collected for the first time in this work. It occurs on rocky outcrops and can be recognized by the abaxial leaf surface with appressed roughened unbranched trichomes, more concentrated on the veins, and stamens with filaments covered with glandular trichomes.

This species is endemic to the state of Espírito Santo (Guimarães 2020) and in PNMSL it was sampled with flowers in March and with fruits in August.

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