

Extended description and taxonomic notes on two recently rediscovered *Myrcia* (Myrtaceae) in the Brazilian Atlantic Forest

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- *Aulomyrcia*
- Endangered species
- Neotropics
- Rare species
- Rio de Janeiro

Palavras-chave:

- *Aulomyrcia*
- Espécies ameaçadas
- Neotrópico
- Espécies raras
- Rio de Janeiro

Abstract

In this paper, we present comprehensive data on two endemic and threatened species of *Myrcia* (Myrtaceae) from the Brazilian Atlantic Forest. Both belong to *Myrcia* sect. *Aulomyrcia* and were previously known only from a few collections made in the state of Rio de Janeiro. Apart from the type specimens and our recent collections, each species has been recollected on only three occasions. Considering the last collections of each species, *Myrcia colpodes* was rediscovered by our team after a collection gap of 64 years, while *M. rubiginosa* was found after 16 years. *Myrcia colpodes* can be recognized by vinaceous, exfoliating bark on the trunk, strongly bullate leaves and relatively long, glabrous panicles. *Myrcia rubiginosa* is characterized by fissured, greyish-brown bark on the trunk, conspicuous brownish and tomentose indumentum on young leaves and inflorescences, and pendular panicles with relatively small flowers. Data provided here include updated morphological descriptions for the taxa, along with notes on their morphological affinities and geographic distribution. Their fruits are here described and illustrated for the first time.

Resumen

Neste artigo, apresentamos dados taxonômicos abrangentes para duas espécies endêmicas e ameaçadas de *Myrcia* (Myrtaceae) da Mata Atlântica brasileira. Ambas pertencem a *Myrcia* sect. *Aulomyrcia* e eram previamente conhecidas apenas por poucas coletas feitas no estado do Rio de Janeiro. Além dos espécimes-tipo e nossas coletas recentes, cada espécie foi coletada apenas em três ocasiões. Considerando a última coleta de cada espécie, *Myrcia colpodes* foi redescoberta por nossa equipe após um intervalo de 64 anos, enquanto *M. rubiginosa* foi encontrada após 16 anos. *Myrcia colpodes* pode ser reconhecida pelo tronco com casca vinácea e esfoliante, folhas fortemente buladas e paniculas relativamente longas e glabras. *Myrcia rubiginosa* se caracteriza pelo tronco com casca fissurada e marrom-acinzentada, indumento marrom conspicuo e tomentoso nas folhas jovens e inflorescências, e paniculas pendulares com flores relativamente pequenas. Os dados fornecidos aqui incluem descrições morfológicas atualizadas para os táxons, juntamente com notas sobre suas afinidades morfológicas e distribuição geográfica. Seus frutos são aqui descritos pela primeira vez.

Original Papers

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Introduction

Myrcia De Candolle (1827: 401) is among the most species-rich Angiosperm genera with 790 species (POWO 2023). Phylogenetic hypotheses based on molecular data support its infrageneric division into nine sections (see Lucas *et al.* 2011, 2018). With 124 species, *Myrcia* sect. *Aulomyrcia* (O.Berg) Griseb. (1864: 234) is the most species-rich section, and is still far from being revised entirely, despite advances in reconstructing phylogenetic relationships (Staggemeier *et al.* 2015) and clarifying its taxonomy, including proposal of informal groups of species within it (Lucas *et al.* 2016). An identification key to the Brazilian species of *Myrcia* sect. *Aulomyrcia* is available in the Flora e Funga do Brasil (Santos *et al.* 2020).

Myrcia colpodes Kiaerskov (1893: 80) and *M. rubiginosa* Cambessèdes (1832: 300) belong to *M.* sect. *Aulomyrcia* and, due to extreme unavailability of specimens, are among the species of *Myrcia* with least available data. Until now, these species were known only by their original descriptions and type collections from the 19th century. In the taxonomic conspectus of Lucas *et al.* (2016), relationships of these species with others could not be suggested, and no distribution or ecological data was noted due to the lack of available information. Our recent collections were therefore crucial for enhancing the understanding of the taxonomy and distribution of these taxa. Establishing varied distribution points is a primary step for accurately assessing species conservation status and may ultimately contribute to managing the threatened environments in which they occur. The conservation implications of these rediscoveries, along with updated risk assessments of the taxa, are discussed elsewhere (Fernandes *et al.* unpublished). Apart from the types and our recent collections made between 2021–2024, *Myrcia colpodes* is known from three additional collections (from 1867, 1880 and 1958). *Myrcia rubiginosa* was known only from the type collection, but its rediscovery led to identification of additional collections among misidentified material collected in three occasions: once in 1982, again in 2001, and finally in 2005. Considering this, *Myrcia colpodes* was rediscovered by our team after a collection gap of 64 years, while *M. rubiginosa* was found after 16 years.

Many other *Myrcia* species remain in similar “obscurity” for science. Ongoing analyses using a taxonomically verified dataset reveal that among 247 species of *Myrcia* occurring in the Atlantic Forest, 84 are represented in herbaria by less than 15 accurately determined specimens (Fernandes *et al.* unpublished). This number is considered a threshold by Goodwin *et al.* (2020) for minimally understanding fundamental aspects of

a given taxon (*e.g.*, circumscription, ecology, and conservation status).

Species with little or no available data beyond the protologue and type collections, have serious implications for biodiversity management. This issue is common to many other mega-species diverse groups of flowering plants and together contribute disproportionately to the “taxonomic impediment” (Ebach *et al.* 2011). Natural history collections are never completely representative of a species, however, when species are unknown to such extremes, morphological circumscription is seriously limited and intraspecific variation, so recurrent in *Myrcia*, cannot be assessed. Extreme data scarcity also increases the risk of supposedly new species being described when they are in fact already validly published but poorly known for various reasons such as lost, destroyed, or barely accessible type collections. It is also expected that these poorly known species are also more likely to be mistakenly relegated to synonym, especially in cases where they are completely unknown in the field. This highlights the importance of documenting and illustrating fresh material in taxonomic studies whenever possible.

This study presents the first comprehensive datasets and taxonomic accounts of two endemic species of *Myrcia* from the Brazilian Atlantic Forest in the state of Rio de Janeiro. Updated morphological description for each species is presented, along with notes on their taxonomy and distribution, including a map with the updated occurrence records. Duplicates of newly collected specimens have been distributed to some of the most representative herbaria worldwide and are recorded here. Fruits of both species are here described for the first time. Finally, we present morphological plates with the first photographic documentation of the live plants, and of herbarium specimens.

Material and Methods

This study was based on bibliographic revision of studies treating *Myrcia* sect. *Aulomyrcia* species from the Brazilian Atlantic Forest (*e.g.*, Berg 1855, 1857; Sobral 2007; Lucas *et al.* 2016; Gaem *et al.* 2021), as well as examination of herbarium specimens deposited at BHCB, CAP, CEPEC, HB, HUENF, R, RFFP, RB, RBR, NIT, SP, SPF (acronyms following Thiers, continuously updated). High-resolution images of specimens from herbaria worldwide were examined through CRIA (2023), JSTOR (2023) and REFLOA (2023).

Field work was undertaken between 2020–2024 in forest remnants in the Brazilian state of Rio de Janeiro in the context of a taxonomic conspectus of *Myrcia* species occurring in the state

(Fernandes *et al.* unpublished). Some of this field work was focused on finding the taxa being treated here, using specific information available on the protologue and specimen labels.

Measurements presented in the morphological descriptions were obtained from dried material. The morphological terminology follows Hickey (1973), Radford *et al.* (1974), and Beentje (2010). Inflorescence descriptive terminology follows Briggs & Johnson (1979) with some adaptations. The distribution map was made with software QGIS 2.16.3 (QGIS Development Team 2023).

Results and Discussion

1. *Myrcia colpododes* Kiaersk., Enum. Myrt. Bras. 80. 1893. Type: BRAZIL. RIO DE JANEIRO: “Praia Grande, au Morro da Viracão” [Municipality of Niterói, Morro da Viracão, currently Parque Natural Municipal de Niterói], 12.III.1862, fl. and fr., A.F.M. Glaziou 832 (lectotype C10015833!, designated by Lucas *et al.* (2016); isolectotypes BR0000005238972!, BR0000005239917, C10015834!, P00161301!). Figs. 1; 2

Treelets 2–4 m, usually scarcely ramified, with pendent branches. Trunk bark vinaceous, exfoliating. Apical bud light-brown, sericeous, young leaves purplish, tomentose abaxially, young twigs tomentose, the trichomes simple, light-brown, 1–1.2 mm long. Petioles 4.6–6.5 × ca. 3 mm, most visible abaxially, adaxially sulcate, pulvinate, when young pilose like the young twigs, when mature corky and transversally fissured; blades 14.7–28.3 × 3.4–7 cm, lanceolate or spatulate, chartaceous, strongly bullate, discolorous, drying usually dark-brown adaxially and light-brown abaxially, apex acuminate, base obtuse or cordate; both surfaces when young sericeous to puberulent with appressed, light-brown, simple trichomes up to 0.5 mm long, visibly concentrated on the midvein, when mature glabrous or nearly so, midvein raised on both surfaces; secondary veins 10–18 mm apart, leaving the midvein at angles 55–70°, marginal veins three, the inner one 5–8 mm from the margin, the middle one 1.5–3 mm, the outer one 0.8–1 mm; glands 0.1–0.2 mm in diameter, homogeneous, hyaline, slightly raised, visible only through lens on mature leaves but visible with the naked eye, vinaceous and raised on the abaxial surface of the young ones. Conflorescence terminal, comprising a single pair, or two decussate pairs of uniflorescences, the axis from which the paired panicles develop 3–12 mm long, tomentose, subtended by sessile bracts. Uniflorescence a pendulous, pyramidal panicle, main axis 15.3–22.3 cm long, secondary branches alternate, the basal one 8.8–18 cm, pendule 27–65 × 1–1.5 mm, swollen at the point of insertion on

the axil, all axes green or sometimes vinaceous in fresh state, flattened, glabrous, blackish when dry, flowers sessile; bracts subtending uniflorescences 2.3–5.4 × 2–3.4 mm, navicular, narrowly elliptic, deltoid or triangular, base truncate, apex acute, sessile, pilose as the apical bud, subtending the whole inflorescence, persisting after anthesis; bracteoles (and bracts subtending the lateral axes) 1–1.5 × ca. 0.2 mm, sessile, navicular, filiform or triangular, base truncate, apex acute, glabrous, persisting after anthesis. Flower buds 2–3 × 1.2–2.8 mm, obconic, homogeneously glabrous, with the ovary occasionally slightly darker than the calyx, petal globe partially superposed by the calyx. Flowers after anthesis with hypanthial cup ca. 0.5 mm deep, internally glabrous, not tearing at anthesis; calyx lobes five, 0.7–1.6 × 0.9–1.8 mm, slightly unequal in size (usually two larger and petaloid or deltoid, 1–2 of median size and triangular, and 1–2 smaller and cucullate with mucronate apices, of which one may be displaced downwards, resembling a displaced bracteole), reflexed, not tearing but sometimes splitting irregularly at base at anthesis, externally glabrous, internally pubescent, with whitish to amber trichomes 0.1–0.3 mm long; petals five, 1.3–1.6 × 1.4–1.8 mm, rounded or narrowly elliptic, base truncate, apex obtuse or rounded, membranaceous, glands conspicuous, externally and internally glabrous; floral disk ca. 2.5 mm in diameter; staminal ring 0.4–0.7 mm thick, often tearing in a transversal slit, whitish, pubescent as the internal surface of the calyx, the trichomes hyaline ca. 0.2 mm long; stamens 60–65, filaments 4–5 mm long, anthers basifixed, bilocular, longitudinally dehiscent with thecal margins inrolled so that the pollen is only visible through a thin slit, pseudosepta not seen but possibly hidden by thecal margins, the connective eglandular; style 7.8–8.2 mm long (around twice the stamen filaments length), stigma punctiform to slightly capitate, minutely papillose, ovary with two locules, each with two ovules. Fruits (immature) 2.8–3.5 × 2.8–3.5 mm, globose to subglobose, surface smooth, glabrous; seeds not seen.

Examined material: Rio de Janeiro, estrada das furnas da Tijuca, 24.VI.1958, fr., “Liene” [L.T. Eiten] *et al.* 3914 (RB). Maricá, Ponta Negra, Sacristia, à beira da praia da Sacristia, 22°56′57.1″S, 42°41′1.1″W, 64 m elev., 18.III.2022, fl., T. Fernandes *et al.* 1006 (NIT, NY, K, RB, US); 2.V.2022, fl., T. Fernandes *et al.* 1013 (NIT, NY, RB); 5.VII.2022, fl., T. Fernandes *et al.* 1060 (NIT, K, RB); 23.VIII.2023, fr., T. Fernandes & R. Benvenuti 1484 (NIT, RB); divisa dos municípios de Maricá e Tanguá, Espiraído, Refúgio da Vida Silvestre de Maricá, trilha para o Pico da Lagoinha, 22°51′26″S, 42°40′1″W, 700 m elev., 22.IX.2024, D.N.S. Machado 3571 (RFFP, RB).

Myrcia colpododes is endemic to the Brazilian state of Rio de Janeiro, with records restricted to

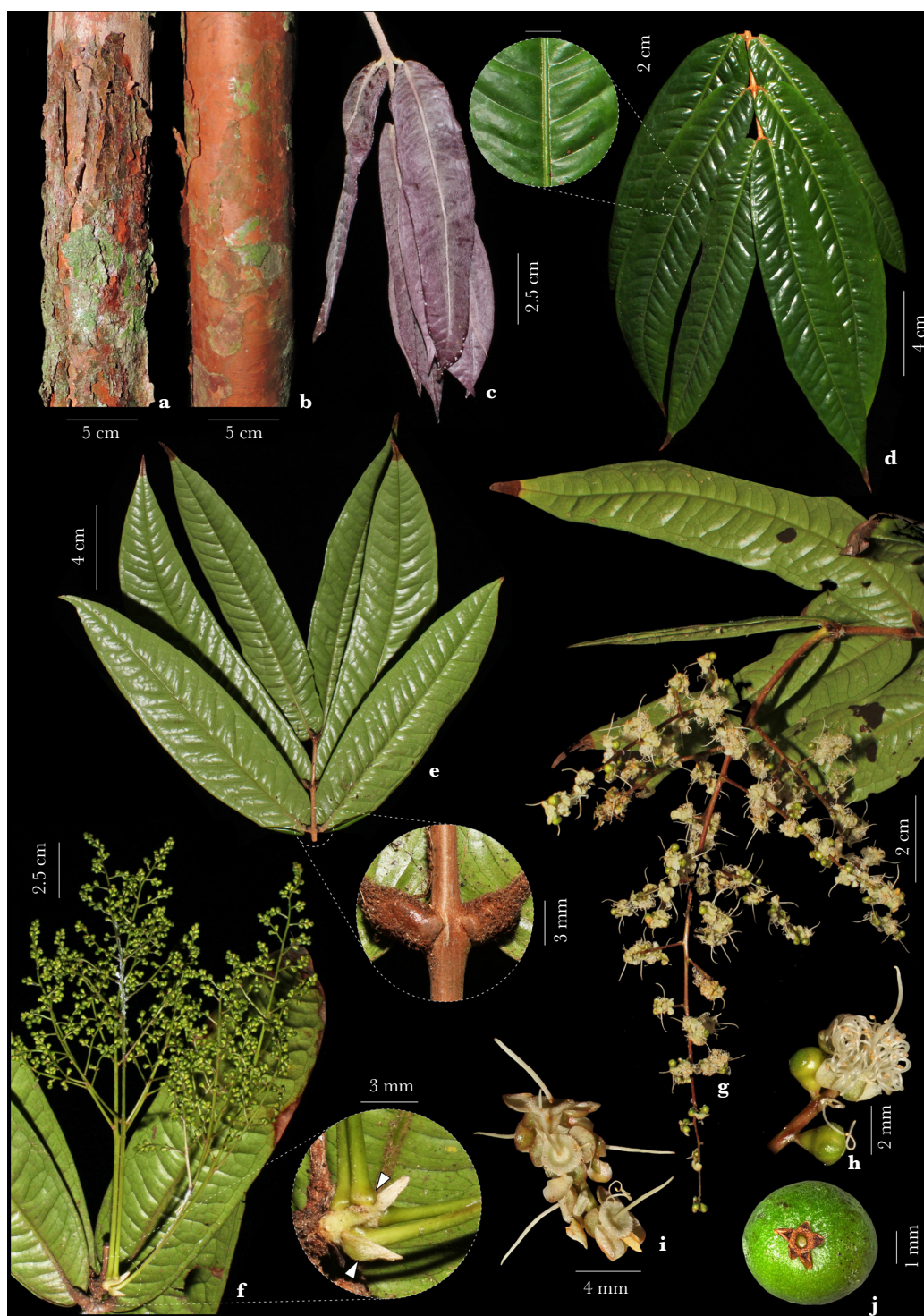


Figure 1 – a–j. *Myrcia colpodes* in fresh state – a. trunk with papery plates attached; b. trunk after bark peeling; c. young leaves; d. adaxial surface of leaves, detail: midvein raised; e. abaxial surface of leaves, detail: petioles slightly pulvinate and tomentose; f. flowering branch with flower buds (detail: uniflorescences swollen at base in upper arrowhead, and bracts subtending uniflorescences in lower arrowhead); g. pendular inflorescence; h. detail of a typical terminal portion of uniflorescences axes, flower buds and a terminal post-anthetic flower; i. post-anthetic flowers after stamen fall, showing the sericeous staminal ring and the long style; j. immature fruit. (a–f. Fernandes 1006; g–i. Fernandes 1060; j. Fernandes 1484). Photos: a–b. Thiago Fernandes; c–i. Carlos Ferreira.



Figure 2 – a-e. *Myrcia colpodes* in dry state – a. leaf adaxial surface (detail: raised midvein); b. leaf abaxial surface (detail: corky petiole and tomentose indumentum); c. detail of a typical terminal portion of uniflorescences axes with flower buds; d. post-anthetic flowers showing the pubescent staminal ring; e. lateral view of an immature fruit. (a-c. Fernandes 1006; d. Fernandes 1060; e. Fernandes 1484).

the municipalities of Maricá (from the rediscovered populations), Niterói (from the type collection) and Rio de Janeiro capital city (from a collection from 1958) (Fig. 3). This species inhabits inselberg forests near the sea at ca. 64 m elev. and montane rainforests at ca. 700 m elev. Flowers can be found from mid-March to August, fruits (immature) were collected only once in June.

Myrcia colpodes can be recognized in the field by its vinaceous and exfoliating trunk, young purplish and pendular leaves, lanceolate and strongly bullate mature leaves, pendulous, glabrous uniflorescences, in well-developed panicles, and externally glabrous flowers. This

overall aspect fits the morphological concept of *Myrcia* sect. *Aulomyrcia*. Within this section, the characteristic long leaves with adaxially raised midveins, the terminal conflorescences with well-developed and whorled uniflorescences, combined with flower buds with free calyx lobes, suggests its placement in “species group A” as circumscribed in Lucas *et al.* (2016: 652). *Myrcia colpodes* is remarkable within this group due to its pubescent staminal ring, which contrasts with the internally glabrous flowers present in all other species of this group occurring in the Atlantic Forest.

Within the “species group A” of *Myrcia* sect. *Aulomyrcia*, bullate leaves also occur in the

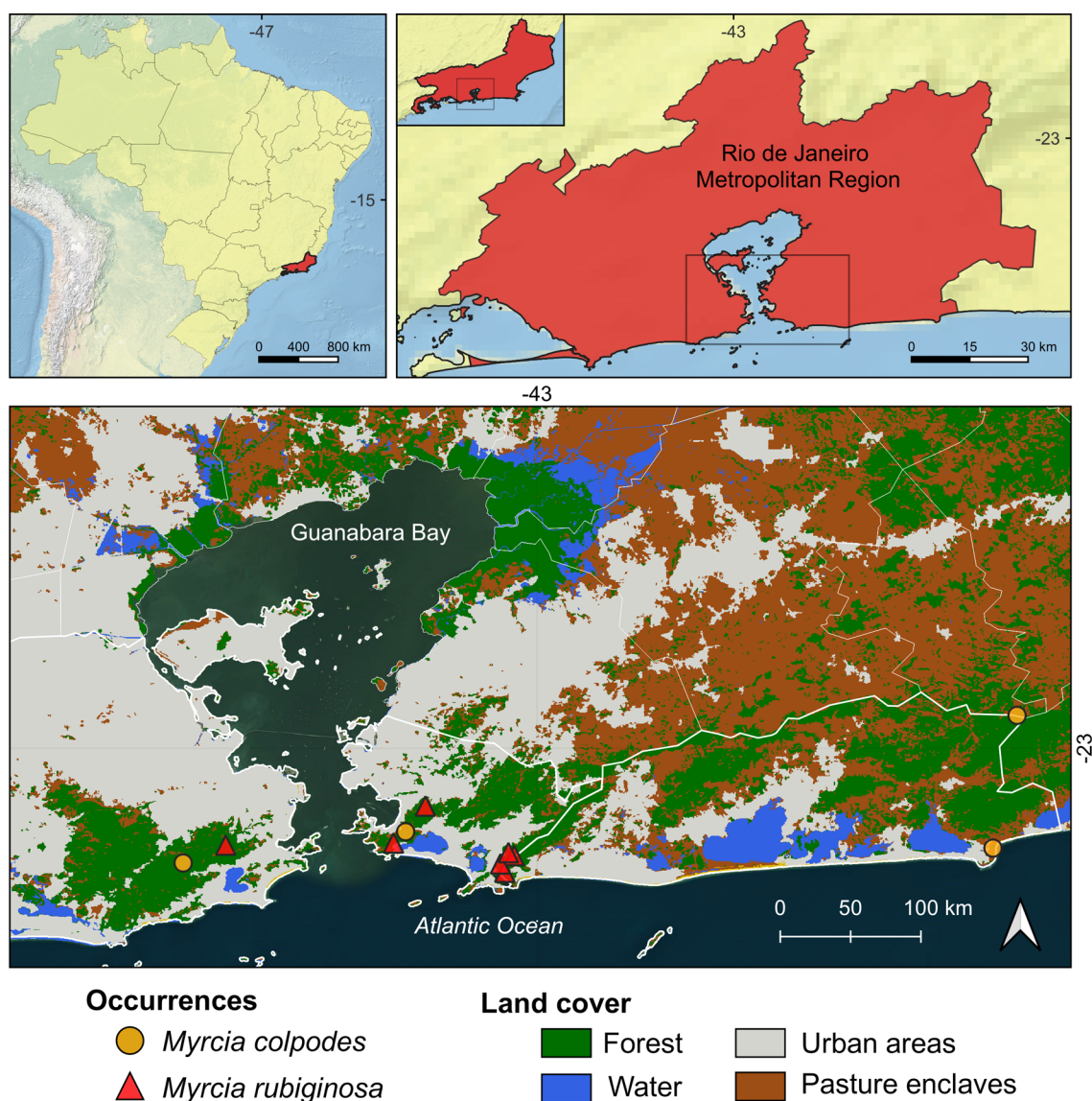


Figure 3 – Map with the current known occurrence records of *Myrcia colpodes* and *M. rubiginosa*. White lines represent limits between municipalities in the state Rio de Janeiro.

Table 1 – Comparison of morphological characters between species of *Myrcia* sect. *Aulomyrcia*, “species group A”, *sensu* Lucas *et al.* (2016) with subsessile, bullate leaves.

	<i>Myrcia colpodes</i>	<i>Myrcia gigantea</i>	<i>Myrcia integra</i>	<i>Myrcia maraana</i>
Leaf shape and dimensions	Lanceolate or spatulate, 14.7–28.3 × 3.4–7 cm	Widely elliptic, 30–40 × 10–18 cm	Lanceolate or ovate, 12.5–20.5 × 3.8–8 cm	Oblong, 28.5–32 × 7.5–9.5 cm
Petioles	Corky	Corky	Corky	Smooth
Inflorescence’s pilosity	Entirely glabrous	Moderately to densely pubescent with rufescent trichomes	Moderately pubescent with white or brown trichomes	Sparsely pilose with rufescent trichomes
Flower’s pilosity	Entirely glabrous	Pubescent at the ovaries	Pubescent at the ovaries	Unknown
Calyx	5-merous	5-merous	4-merous	4-merous
Staminal ring’s pilosity	Pubescent	Glabrous	Glabrous or with scattered trichomes	Glabrous

Amazonian species *M. integra* M.A.D. Souza & Sobral (in Sobral *et al.* 2015: 212) and *M. maraana* Sobral & M.A.D. Souza (in Sobral *et al.* 2015: 222), as well as in *M. gigantea* (O.Berg) Niedenzu (1895: 76) an Atlantic Forest species endemic from the Brazilian state of Bahia (Santos *et al.* 2020). These species also share subsessile leaves with barely visible petioles, but they can be distinguished by the characters given in Table 1.

2. *Myrcia rubiginosa* Cambess., Fl. Bras. Merid. (quarto ed.): 300. 1832. Type: BRAZIL. RIO DE JANEIRO: “*Inter rupes ad rivulum vulgo Carioca prope Rio de Janeiro*” (“Bois du ruisseau de la Carioca parmi les rochees” on the label). [Rio de Janeiro, Tijuca Massif, at the banks of the Carioca River], 1816–1821, fl., A. Saint-Hilaire A1-670 (lectotype P00161371, designated by Lucas *et al.* 2016). = *Myrcia pyramidata* O.Berg, Fl. bras. 14(1): 193. 1857. Type: BRAZIL. RIO DE JANEIRO: “*Habitat in prov. Rio de Janeiro*”, s.d., fl., F. Sellow s.n. (holotype B, probably destroyed; lectotype K000262404!, designated by Lucas *et al.* (2016); isoelectotypes BR0000005238545!, P00161139!, W0037074!).

Figs. 4; 5

Trees 4–6 m, usually with multiple trunks, sometimes with pendent branches. Trunk bark greyish light-brown, longitudinally fissured, sometimes detaching in slightly thick, more or less rectangular strips. Apical bud golden to brownish, sericeous, sometimes pruinose, young leaves pinkish, glabrous, young twigs tomentose, sometimes pruinose, the trichomes simple, brownish to ochraceous, ca. 1 mm long. Petioles 6.6–12 × 1.5–1.8 mm, visible on both surfaces, adaxially sulcate, smooth, often resupinate, when young and mature pilose like the young twigs, occasionally glabrescent; blades 8.5–14 × 3.8–5.6 cm, elliptic, sometimes slightly obovate, rarely narrowly

elliptic, chartaceous to subcoriaceous, discolorous, drying greyish-green or olive-green adaxially and light-brown abaxially, apex acuminate, base acute; adaxial surface when young puberulent with appressed, whitish to light-brown, simple trichomes up to 1 mm long, visibly concentrated on the midvein, glabrous when mature or nearly so, midvein finely canaliculate; abaxial surface when young pilose, when mature glabrous or nearly so, the trichomes equal to those on adaxial surface, midvein strongly raised; secondary veins 5–9.5 mm apart, leaving the midvein at angles of 60–65°, marginal veins two, the inner one 1.8–3 mm from the margin, the outer one 0.4–1 mm; glands 0.1–0.2 mm in diameter, homogeneous, hyaline, visible only through a lens on both surfaces, even in young leaves. Conflorescence mostly terminal or axillary, sometimes ramiflorous, comprising a single pair of uniflorescences. Uniflorescence a pendulous, pyramidal panicle, main axis 9.5–15 cm long, secondary branches alternate, the basal one 3.5–10 cm long, peduncle 50–90 × 1–2 mm, all axes slightly flattened, brownish and tomentose (in fresh and dry state), with trichomes like the young twigs, peduncle 51–90 × 1–2 mm, flowers sessile; bracts not examined, deciduous before anthesis; bracteoles 0.5–1 × ca. 0.5 mm, sessile, navicular, ovate, base truncate, apex acute, puberulent to glabrous on both surfaces, deciduous before or occasionally persisting after anthesis. Flower buds 2–2.5 × 1.8–2 mm, obconic, ovary tomentose, the trichomes light-brown, yellowish or amber, in two layers, the lower one papillose, markedly distinct from the calyx, the upper one adpressed, calyx shorter than the petal globe which it is conspicuous at the bud apex. Flower after anthesis with hypanthial cup ca. 0.5 mm deep, internally glabrous except for scattered, yellowish, simple trichomes on the bottom (*i.e.*, top of the ovary), not

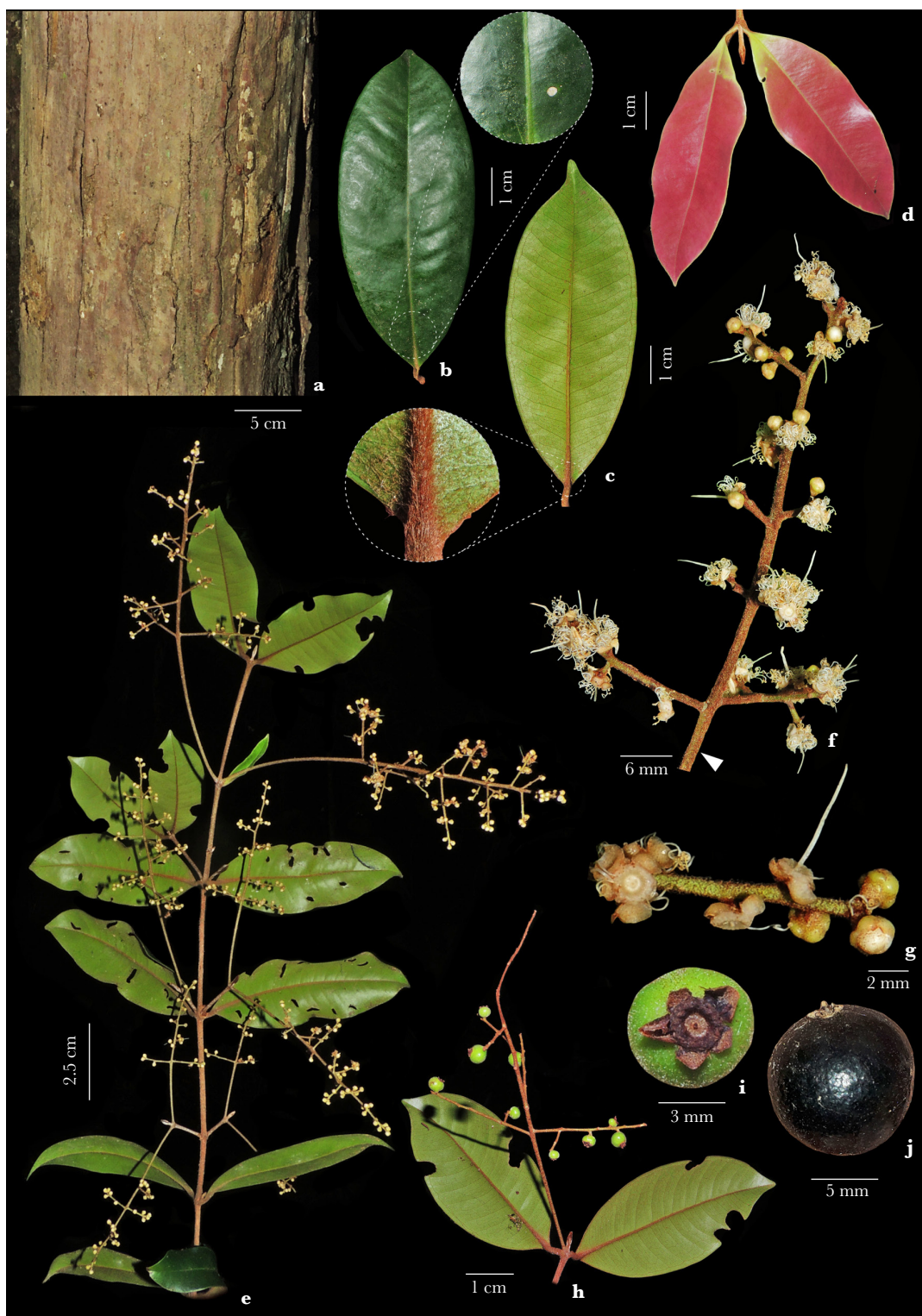


Figure 4 – a–j. *Myrcia rubiginosa* in fresh state – a. trunk with rectangular strips; b. leaf adaxial surface (detail: raised midvein); c. leaf abaxial surface (detail: indumentum); d. young leaves; e. flowering branch with pendular inflorescences; f. uniflorescence (point of insertion is omitted, arrowhead points to the peduncle, *i.e.*, first internode); g. lateral axis with flower buds and post-anthetic flowers; h. fruiting branch; i. topside detail of a fruit showing marcescent calyx lobes; j. mature fruit with dry calyx lobes. (a–g. Fernandes 934; h–i. Fernandes 1007; j. Fernandes 1088). Photos: Thiago Fernandes.

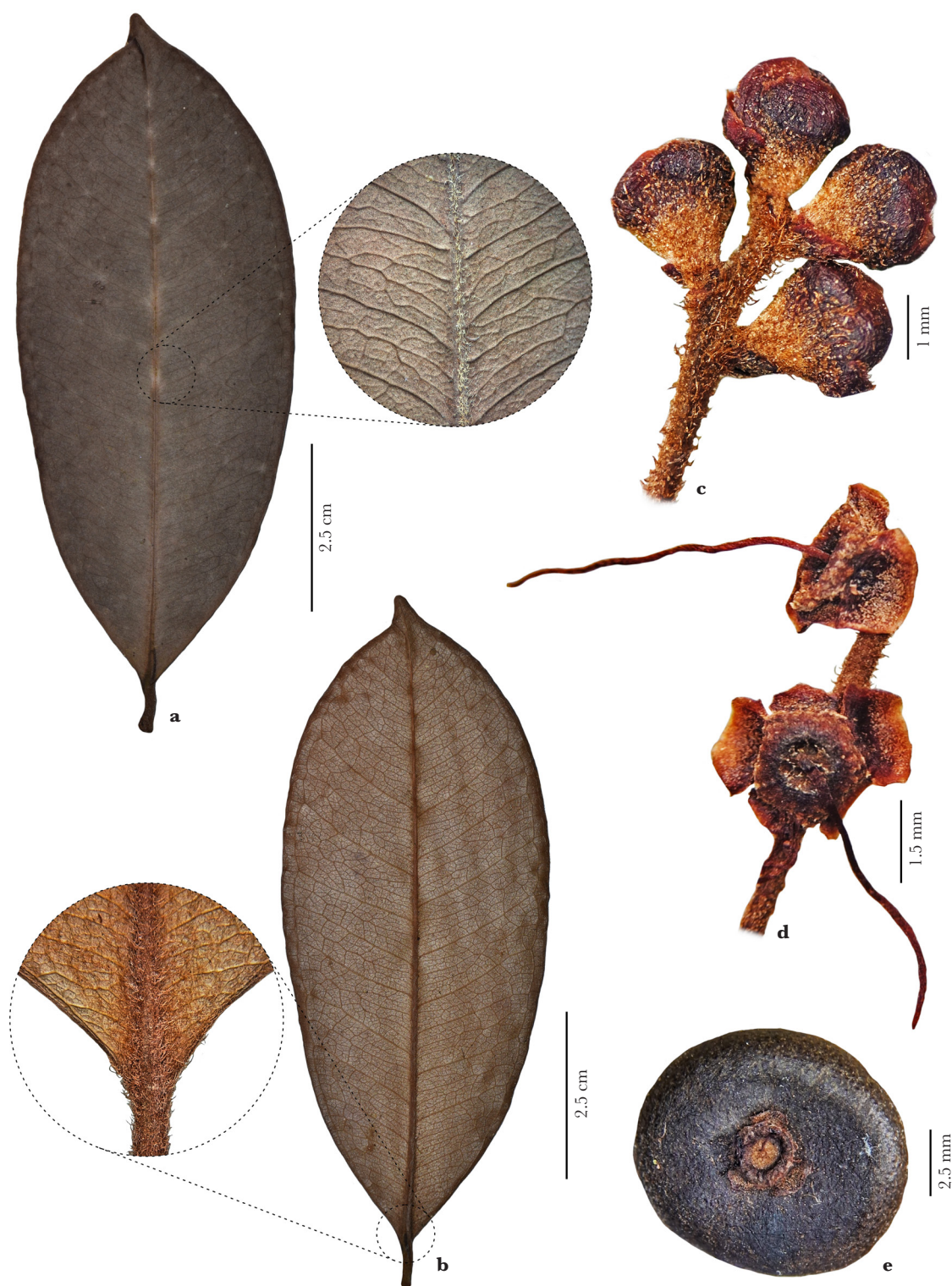


Figure 5 – a-e. *Myrcia rubiginosa* in dry state – a. leaf adaxial surface; b. leaf abaxial surface; c. detail of a typical terminal portion of uniflorescence axes with flower buds; d. open flowers showing the horizontal tearing between the calyx lobes; e. frontal view of an immature fruit. (a-d. Fernandes 934; e. Fernandes 1007).

tearing at anthesis; calyx lobes five, $1\text{--}1.2 \times 1.5\text{--}2$ mm, parallel to the disk or reflexed, anthesis by regular opening of the calyx lobes accompanied by some horizontal tearing between the lobes, remaining attached to staminal ring only by the central portion, especially the larger ones, papillose on both surfaces, with trichomes sparse to moderate, yellowish to golden, but internally glabrous at the base at the tearing region, base truncate or trullate (as result of the tearing margins), slightly unequal in size, usually the larger three membranaceous, with rounded apices, the smaller two coriaceous, cucullate in bud, often with acute to apiculate apices, sometimes at least one of these much reduced and slightly displaced below the level of the other lobes; petals five, $1.3\text{--}1.5 \times 1.2\text{--}2.2$ mm, rounded or narrowly elliptic, base truncate, apex obtuse or rounded, membranaceous, glands conspicuous, externally puberulent, internally glabrous; floral disk $1.8\text{--}2$ mm in diameter; staminal ring ca. 0.5 mm in diameter, glabrous; stamens $50\text{--}60$, filaments $3.3\text{--}5$ mm long, anthers basifixed, bilocular, with longitudinally dehiscent thecal margins reflexed exposing the pollen and the entire internal surface of the thecal halves, pseudoseptum visible, the connective eglandular; style $4.5\text{--}6$ mm long, stigma punctiform, ovary with two locules, each with two ovules. Fruits $6\text{--}9.5 \times 7\text{--}12$ mm, globose to subglobose, sometimes with two swellings where the single reniform seed is lodged, green when immature, dark-purple when ripe, surface smooth, glabrous or with scattered trichomes, the pulp white and pleasant to taste; seeds $1\text{--}2$, reniform, cotyledons green.

Examined material: Maricá, Itaipuaçu, Pico Alto Moirão, 14.I.1982, fl., R.H.P. *Andreata* 387 (RB). Niterói, Charitas, Parque Natural Municipal de Niterói (PARNIT), Morro da Viração, trilha em direção ao cume da Pedra do Santo Inácio, $22^{\circ}55'12.6''\text{S}$, $43^{\circ}4'39.4''\text{W}$, 296 m elev., 1.XII.2022, fl., T. Fernandes & R. Benvenuti 1332 (NIT, RB); Itaipu, Parque Estadual da Serra da Tiririca, Córrego dos Colibris, 15.III.2001, fr., E.N. *Fontes* 1 (RB, RFFP); 14.I.2005, fl., A.A.M. de Barros 2361 (RB); trilha em direção ao cume do morro, $22^{\circ}57'16.4''\text{S}$, $43^{\circ}00'57.6''\text{W}$, 270 m elev., 10.VII.2022, fr., T. Fernandes 1088 (K, NIT, RB); Piratininga, Tibau, Parque Natural Municipal de Niterói (PARNIT), Morro da Viração, trecho final da travessia Tupinambá, próximo à saída da trilha, $22^{\circ}56'45''\text{S}$, $43^{\circ}5'59''\text{W}$, 60 m elev., 22.XII.2021, fl., T. Fernandes 918 (K, NIT, NY, MBML, RB, RBR); 4.I.2022, fl., T. Fernandes 925 (NIT, NY, R, RB, US); 13.I.2022, fl., T. Fernandes 934 (K, NIT, P, RB, RBR, RFFP); 20.I.2022, fl., T. Fernandes 943 (MBM, NIT, RB, SPF); 28.III.2022, fr., T. Fernandes et al. 1007 (K, NIT, MBM, RB, RBR, RFFP, US).

Myrcia rubiginosa is endemic to the Brazilian state of Rio de Janeiro, with records restricted to the municipalities of Rio de Janeiro (from the type collection) and Niterói (from the rediscovered populations) (Fig. 3). This species inhabits inselberg

forests near the sea at elevations ranging from $60\text{--}296$ m, in a similar environment of that of *Myrcia colpodes*, with which it may co-occur (Fig. 3). Flowers can be found from December to January, fruits from March to July.

Myrcia rubiginosa can be recognized in the field by its greyish light-brown trunk and longitudinally fissured bark, detaching as slightly thick, more or less rectangular strips, pinkish and pendular young leaves, pendular inflorescences (even when flower buds are only beginning to develop) with distinctively brownish and tomentose axes, and relatively small flowers. As previously highlighted by Lucas et al. (2016: 653), the morphology of *Myrcia rubiginosa* fits the morphological concept of *M. sect. Aulomyrcia*, specifically the “species group D”, proposed in the same study.

As mentioned earlier, apart from our recent collection effort, *Myrcia rubiginosa* was collected on three occasions: first in 1982, then in 2001, and finally in 2005. However, in all these instances, the collections were misidentified in herbaria. The 1982 collection (*Andreata* 387, RB) exemplifies the difficulty in accurately naming a specimen of *Myrcia sect. Aulomyrcia*. Initially, it was identified as *Myrcia macrocarpa* De Candolle (1828: 249), then as *M. insularis* Gardner (1842: 530), followed by *M. amazonica* De Candolle (1828: 250), and finally as *M. rubiginosa*. All these species belong to *Myrcia sect. Aulomyrcia*, although *M. insularis* and *M. macrocarpa* are assigned to the “species group A” (see Lucas et al. 2016), and can be distinguished from *Myrcia rubiginosa* as this species has tomentose inflorescences and flowers (*vs.* puberulent to glabrous in *M. insularis* and *M. macrocarpa*).

Myrcia rubiginosa is indeed morphologically closely related to *M. amazonica*, also placed in “species group D” of *M. sect. Aulomyrcia* (see Lucas et al. 2016). These species share elliptic leaves, well-developed panicles and small flowers. *Myrcia amazonica*, as currently circumscribed (see Santos et al. 2020), has a wide intraspecific variation and a relatively long list of synonyms. The presence and type of indumentum covering inflorescences and flowers, for instance, are considered polymorphic in this species. Specimens with tomentose inflorescences and ovaries may be more difficult to distinguish from *Myrcia rubiginosa*, but bark morphology on trunk and branches, along with the inflorescence display, are conclusive features to separate these species. In *Myrcia amazonica*, the bark on trunk and branches is reddish and exfoliating, and inflorescences are erect in display. In *Myrcia rubiginosa*, the bark is greyish-brown, longitudinally fissured and detaching as slightly thick, more or less rectangular strips, and inflorescences are pendular.

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Data Availability Statement

In accordance with Open Science communication practices, the authors inform that all data are available within the manuscript.

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