UNIVERSIDADE FEDERAL DE UBERLÂNDIA

PROGRAMA DE PÓS-GRADUAÇÃO EM BIOLOGIA VEGETAL

INSTITUTO DE BIOLOGIA

A TRIBO LAVOISIEREAE (MELASTOMATACEAE) NO PARQUE NACIONAL DA SERRA DA CANASTRA, MINAS GERAIS, BRASIL

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Instituto de Biologia

Uberlândia – MG

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ATA DE DEFESA - PÓS-GRADUAÇÃO

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Reuniu-se na Sala 14A do Bloco 2D, Campus Umuarama, da Universidade Federal de Uberlândia, a Banca Examinadora, designada pelo Colegiado do Programa de Pós-graduação em Biologia Vegetal, assim composta: Professores Doutores: Gustavo Hiroaki Shimizu (UNICAMP); Ana Flávia Alves Versiane (PPD/PPGBV/INBIO/UFU) e Rosana Romero (INBIO/UFU) orientador(a) do(a) candidato(a).

Ressalta-se que o Prof. Gustavo Hiroaki Shimizu participou da defesa por meio de Webconferência na cidade de Campinas - SP, os demais membros da banca, o(a) candidato(a) participaram *in loco.*

Iniciando os trabalhos o(a) presidente da mesa, Dr(a). Rosana Romero, apresentou a Comissão Examinadora e o(a) candidato(a), agradeceu a presença do público, e concedeu ao Discente a palavra para a exposição do seu trabalho. A duração da apresentação do(a) Discente e o tempo de arguição e resposta foram conforme as normas do Programa.

A seguir o senhor(a) presidente concedeu a palavra, pela ordem sucessivamente, aos(às) examinadores(as), que passaram a arguir o(a) candidato(a). Ultimada a arguição, que se desenvolveu dentro dos termos regimentais, a Banca, em sessão secreta, atribuiu o resultado final, considerando o(a) candidato(a):

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O competente diploma será expedido após cumprimento dos demais requisitos, conforme as normas do Programa, a legislação pertinente e a regulamentação interna da UFU.

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SUMÁRIO

Lavoisiereae (Melastomataceae) in the Serra da Canastra National Park, Minas Gerais, Brazil, with two new species*

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Abstract

The current study catologed 26 species of the Lavoisiereae tribe in the Serra da Canastra National Park (SCNP), Minas Gerais, Brazil. *Microlicia*, with 24 species, is the most representative genus, followed by *Rhynchanthera*, with two species. An identification key for the species, morphological descriptions, taxonomic comments, geographical distribution, habitat, flowering, and fruiting data are provided. Also, *Microlicia* sp. 1 and *Microlicia* sp. 2, endemic to SCNP, are described here and compared with similar morphologically species.

Keywords: *campo rupestre*, endemism, *Microlicia*, *Rhynchanthera*, taxonomic treatment

Resumo

O presente estudo catalogou 26 espécies da tribo Lavoisiereae no Parque Nacional da Serra da Canastra (PNSC), Minas Gerais, Brazil. *Microlicia*, com 24 espécies, é o gênero mais representativo, seguido de *Rhynchanthera*, com duas espécies. Chave de identificação para as espécies, descrições morfológicas, comentários taxonômicos, dados de distribuição geográfica, habitat, floração e frutificação são fornecidos. Também, *Microlicia* sp. 1 e *Microlicia* sp. 2, endêmicas do PNSC, são aqui descritas e comparadas com espécies morfologicamente similares.

Palavra-chave: campo rupestre, endemismo, *Microlicia*, *Rhynchanthera*, tratamento taxonômico

Introduction

The Serra da Canastra National Park (SCNP) is located in the southwest of the state of Minas Gerais, which includes the mountains of Sacramento, Delfinópolis, São João Batista do Glória, Capitólio, Vargem Bonita, and São Roque de Minas municipalities (IBAMA 2005) (Fig. 1). With almost 200,000 ha, this national park is considered the second largest conservation unit in Minas Gerais (Romero & Martins 2002; Machado & Romero 2014; Romero & Versiane 2014). The SCNPis divided into Chapadão da Canastra, which covers an area of 90,560 ha with consolidated environmental protection and regulated by Brazilian environmental legislation, and Chapadão da Babilônia, with ca. 130,000 ha, which is still not fully regularized (IBAMA 2005).

In the last 20 years, the SCNP has been the object of study for several works involving fauna, flora, geomorphology, tourism, and socio-environmental issues, among others (ICMBio 2021). According to Romero & Nakajima (1999), the SCNP has 101 families of Angiosperms, making this area very significant in terms of the number of endemic species. Since the authors identified at least 17 areas of endemism and 45 endemic species (see Romero & Nakajima 1999). These species occur in different phytophysiognomies and have different degrees of rarity, many appearing in only one location, therefore, considered microendemic (Romero & Nakajima 1999). However, these numbers should be higher since this study was carried out more than 20 years ago.

Among the families of Angiosperms, Melastomataceae Jussieu (1789: 328) has an expressive number of species in the SCNP. Romero & Martins (2002) recorded 95 species in 17 genera in the regularized part of the park (Chapadão da Canastra). The family also stands out in the unregulated portion (Chapadão da Babilônia), located in the municipalities of Delfinópolis with 52 species in 17 genera (Silva & Romero 2008), and Capitólio with 51 species in 16 genera (Romero & Versiane 2014).

Melastomataceae is a monophyletic family comprising 21 tribes (Renner 1993; Clausing & Renner 2001; Fritsch *et al*. 2004; Penneys *et al.* 2010; Goldenberg *et al.* 2012; Rocha *et al.* 2016, 2018; Veranso-Libalah *et al*. 2017; Bacci *et al*. 2019; Bochorny *et al.* 2019; Penneys *et al.* 2022). In the

SCNP, Lavoisiereae Candolle (1828: 100) is one of the most diverse tribes of Melastomataceae with 27 species (Romero & Martins 2002; Silva & Romero 2008; Romero & Versiane 2014). The species of this tribe often have seeds with a foveolate testa, glabrous ovary apex, dimorphic stamens, anthers with elongated pedoconnective, and capsular fruits (Almeda & Martins 2001; Romero 2003; Fritsch *et al.* 2004; Versiane *et al.* 2021).

The list of species of Melastomataceae from Chapadão da Canastra (Romero & Martins 2002) and Capitólio mountains (Romero & Versiane 2014) was published. While the taxonomic treatment was published only for the mountains of Delfinópolis (see Silva & Romero 2008). Thus, the present study encompasses the entire SCNP area and presents the treatment taxonomic for all species of Lavoisiereae, following the tribe's circumscription proposed by Versiane *et al.* (2021). We provide an identification key to the species, morphological descriptions, taxonomic comments, flowering, fruiting, habitat, and geographic distribution data for all species from SCNP. Also, two new species of *Microlicia*, proposed by Romero (2000), are described here.

Material and methods

The SCNP is located between coordinates 46º35'56"W and 20º18'16"S (IBAMA 2005). It presents different Cerrado phytophysiognomies, encompassing forest, savannah, and grassland formations (IBAMA 2005). Most of the SCNP has phytophysiognomies of grassland formations, represented by *campo sujo* (scrubby savanna grassland), *campo rupestre* (rupestrian grassland), *campo limpo* (open savanna grassland), and *campo úmido* (wet grassland). The savanna formations are represented by the *cerrado* (savanna), and *cerrado rupestre* (rupestrian cerrado). Whereas *mata de galeria* (gallery forest), *capão* (capon forest), and *mata mesófila semidecídua* (semideciduous mesophyll forest) represent forest formations related to the wet regions, such as watercourses (IBAMA 2005; Silva & Romero 2008; Romero & Versiane 2014) (Fig. 2).

Descriptions were based on ca. 720 collections from the SCNP deposited at HUFU with duplicates at B, BHCB, C, CAS, ESA, F, HCF, HEPH, HPL, IAC, IBGE, K, M, MBM, NY, R, RB, SP, SPF,

UB, UEC, UPCB, US, VIC [(acronyms according to Thiers (2022)], and on field observations. Species identification was based on the literature (Cogniaux 1883; Renner 1990; Martins 1997; Romero 2000a; Romero & Martins 2002; Koschnitzke & Martins 2006; Silva & Romero 2008; Romero & Versiane 2014; Martins & Almeda 2017). We used the MonographaR package (Reginato 2016) performed in R (R Core Team, 2022) to build the descriptions. The terminology of vegetative and reproductive structures followed Radford *et al.* (1986). The characterization of the indumentum also followed Cogniaux (1883). The terminology used is as follows: glandular: formed by gland-tipped trichomes with a peduncle seen with a typical stereomicroscope; glandular-punctate: gland-tipped trichomes with a very short stalk not visible with a typical stereomicroscope; hirsute: pale, stiff, long, and erect trichomes; setose: pale trichomes that are stiff, adpressed; bristles; velutinous: pale trichomes that are straight, soft and short, velvety-like; and villous: pale trichomes that are adpressed and slightly rolled. The descriptions of the new species are more detailed than the remaining species. Distribution data of two new species were plotted on a map using Google Earth Pro (2022). The area of occupancy and extent of occurrence of the two new species were calculated using GeoCAT from the georeferenced data from cited collections (Bachman *et al.* 2011). We also provide flowering and fruiting data from specimen labels for all species. Due to the sample volume, we chose to cite only one specimen per municipality that borders the SCNP, except for the two new species in which we list all material examined.

Results

Lavoisiereae is represented in the SCNP by 26 species in two genera (Figs. 3–4). *Microlicia* Don (1823: 301) is the largest genus, with 24 species, followed by *Rhynchanthera* Candolle (1828: 106) with two species.

Romero (2000a), Romero & Martins (2002), Silva & Romero (2008), and Romero & Versiane (2014) listed 26 taxa of *Microlicia* in the SCNP (including *Chaetostoma* Candolle (1828: 112), *Lavoisiera* Candolle (1828: 102), and *Trembleya* Candolle (1828: 125); see Versiane *et al.* 2021). Of

this total, one was indicated as *Microlicia* sp. and was recently published as *Microlicia capitata* by Pacifico *et al.* (2020). All specimens cited as *Microlicia acuminata* Cogniaux (1891: 55) correspond to *M. hirticalyx* R.Romero & Woodgyer (2011: 163). All specimens cited as *M. loricata* Naudin (1845: 188) correspond to *M. viminalis* (Candolle 1828: 103) Triana (1871: 28), since *M. loricata* is a synonym (Romero 2003).

The names *Microlicia pseudoscoparia* Cogniaux (1883: 60) and *M. scoparia* (Saint-Hilaire *ex* Humboldt & Bonpland 1823: 154) Candolle (1828: 120), listed by Romero (2000a) and Romero & Martins (2002), were excluded from our list as the specimens cited under these names were misidentified. These collections deal with a new species described here as *Microlicia* sp. 2 R.Romero & Ferreira-Alves.

Microlicia fulva (Sprengel 1820: 301) Chamisso (1834: 391) listed by Romero (2000a), Romero & Martins (2002), and Silva & Romero (2008) correspond to *M. serpyllifolia* Don (1823: 302) as listed by Romero & Versiane (2014) since this name is older (Romero *et al.* 2022). The names *M. cardiophora* Naudin (1849: 247) and *Microlicia* aff. *cinerea* Cogniaux (1883: 86), cited by Romero (2000a) and Romero & Martins (2002), were excluded from our list because these collections also correspond to *M. serpyllifolia* as they cover the morphological variation of this species in the SCNP (see fig. 7A–B).

Chaetostoma canastrense Romero & Martins (1999: 449) corresponds to *Microlicia fastigiata* (Naudin 1845: 191) Versiane & R.Romero (2021: 19). *Chaetostoma pungens* De Candolle (1828: 3) and *C. armatum* (Sprengel 1825: 308) Cogniaux (1883: 31) correspond to *Microlicia armata* (Sprengel 1825: 308) Versiane & R.Romero (2021: 53) since *C. pungens* and *C. armatum* are synonyms (Koschnitzke & Martins 2006).

All specimens cited as *Lavoisiera insignis* De Candolle (1828: 103) correspond to *Microlicia cataphracta* (Martius & Schrank *ex* De Candolle) Versiane & R.Romero (2021: 52), a synonym proposed by Martins & Almeda (2017). All specimens cited by Romero (2000a) and Romero & Martins (2002) as *Lavoisiera pulchella* Chamisso (1834: 370) and *Lavoisiera* sp. were described as

Lavoisiera canastrensis Martins & Almeda (2017: 60) currently named as *Microlicia minensis* Versiane & R.Romero (2021: 53). All specimens as *Trembleya* sp. correspond to *Microlicia parviflora* (Don 1823: 323) Versiane & R.Romero (2021: 54). We list collections of *Rhynchanthera dichotoma* Candolle (1828: 107) for the first time in the SCNP.

Lavoisiereae Candolle (1828: 100)

Subshrub or shrub, erect. Branch dichotomous and/or trichotomous. Branch, leaf, hypanthium, and sepal glandular, glandular-punctate, hirsute, setose, velutinous, villous, or sometimes glabrous. Leaf sessile or petiolate, imbricate or not, patent or ascending. Flower solitary, or in dichasium, glomerulus or reduced to a solitary flower, (4-)5–6-merous, sessile or pedicellate; hypanthium sometimes with a bristles crown at the apex; petal entirely cream, magenta, purplish, yellow, pink or pink with cream or white base, or cream with pink stains at the apex; stamens (8-)10–12, dimorphic or subisomorphic, bicolor or concolor; anther tetrasporangiate or polysporangiate; pedoconnective prolonged with a ventral appendage; ovary 3–5(-6)-locular, superior, inferior or partly inferior. Capsule dehiscing from the base to the apex, or from the apex to the base, columella deciduous or persistent.

Key to the species

1. Haplostemonous androecium, staminodium present 2
- Diplostemonous androecium 3
2. Five subisomorphic stamens ..... 25. *Rhynhanthera dichotoma*
- Five dimorphic stamens, with one strikingly longer than the other four ..... 26. *Rhynchanthera grandiflora*
3. Capsule dehiscent from the base to the apex 4
- Capsule dehiscent from the apex to the base 5
4. Habit sparingly branched; leaf blade 1-nerved; hypanthium glabrous or sparsely setose at the

apex; sepal triangular ..... 15. *Microlicia minensis*

- Habit much branched; leaf blade 3-nerved; hypanthium glandular in the middle region; sepal oblong ..... 4. *Microlicia cataphracta*

5. Ovary 3–4-locular 6

- Ovary 5-locular 24

6. Hypanthium with a bristles crown at the apex 7

- Hypanthium without a bristles crown at the apex 8

7. Branch node, leaf blade, and hypanthium glabrous ..... 1. *Microlicia armata*

- Branch node, leaf blade, and hypanthium setose ..... 8. *Microlicia fastigiata*

8. Petal yellow ..... 9. *Microlicia flava*

- Petal pink, purplish, magenta or cream 9

9. Leaf blade with callose margin ..... 22. *Microlicia viminalis*

- Leaf blade without callose margin 10

10. Inflorescence in glomerulus, dichasium, or dichasium reduced to a solitary flower 11

- Flower always solitary 13

11. Leaf blade slightly cordate at the base; petal with glandular-ciliate margin ..... 3. *Microlicia capitata*

- Leaf blade rounded at the base; petal with glabrous margin 12

12. Hypanthium cylindrical with triangular-subulate sepal; mature capsule with apex not exceeding the hypanthium torus ..... 23. *Microlicia* sp. 1

- Hypanthium campanulate with triangular or oblong sepal; mature capsule with apex exceeding the hypanthium torus ..... 12. *Microlicia inquinans*

13. Anther polysporangiate 14

- Anther tetrasporangiate 16

14. Stamens bicolor ..... 7. *Microlicia fasciculata*

- Stamens concolor 15

15. Leaf blade 1-nerved ..... 18. *Microlicia polystemma*

- Leaf blade 3–5-nerved ..... 6. *Microlicia euphorbioides*

16. Leaf blade only glandular-punctate 17

- Leaf blade glandular, glandular-punctate and hirsute-villous, setose, or velutinous 19

17. Leaf petiolate, petiole 0.4–0.6 mm long ..... 14. *Microlicia martiana*

- Leaf sessile 18

18. Leaf blade with the same internode length ..... 13. *Microlicia isophylla*

- Leaf blade longer than the internode length ..... 24. *Microlicia* sp. 2

19. Petal cream with pink stains at the apex; stamens concolor with yellow anther ..... 10. *Microlicia furnensis*

- Petal purplish, magenta or pink; stamens bicolor with vinaceous and yellow anther 20

20. Leaf blade discolor ..... 21. *Microlicia trembleyiformis*

- Leaf blade concolor 21

21. Leaf blade cordate at the base ..... 5. *Microlicia cordata*

- Leaf blade rounded or attenuate at the base 22

22. Leaf blade with sparsely glandular and glandular-punctate indumentum ..... 2 *Microlicia canastrensis*

- Leaf blade with glandular-punctate and velutinous or hirsute indumentum 23

23. Leaf blade velutinous and glandular-punctate ..... 19. *Microlicia serpyllifolia*

- Leaf blade hirsute and glandular-punctate ..... 11. *Microlicia hirticalyx*

24. Leaf blade discolor, adaxial surface darker ..... 16. *Microlicia parviflora*

- Leaf blade concolor 25

25. Leaf blade 3.5–6 × 1–2.5 mm, both surfaces glandular; petal 7–9.5 × 3–7 mm, purplish or white, acute or acuminate at the apex ..... 17. *Microlicia phlogiformis*

- Leaf blade 10–20 × 3–5 mm, both surfaces glandular-punctate; petal 10.5–12.5 × 6.5–7.5 mm, pink, truncate at the apex ..... 20. *Microlicia speciosa*

1. *Microlicia armata* (Sprengel 1825: 308) Versiane & R.Romero in Versiane *et al.* (2021: 52). (Fig. 3A)

Subshrub, 0.2–0.5 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger and older terete, glabrous, leafless with age, xylopodium present. Leaf sessile, ascending, not imbricate; blade 3–12 × 0.5–2 mm, longer than the internode length, concolor, green, triangular-lanceolate, apex acute-acuminate, pungent, base semi-amplexicaul, margin entire or serrulate-ciliate, callose, both surfaces glabrous, 5–7-nerved, basal. Flower solitary, axillary or terminal, (4–)5-merous, sessile or pedicel 0.2–1 mm long; bract and bracteole absent; hypanthium 3–4 × 2–2.5 mm, vinaceous or cream with vinaceous stains, oblong-campanulate, multi-striate, callose, with a bristles crown at the apex, glabrous; sepal 2.5–5 × 0.5–1 mm, green or vinaceous, triangular-lanceolate, glabrous, apex acuminate and apiculate, margin serrulate-ciliate, callose; petal 6–13 × 4–6 mm, magenta or pink, obovate, asymmetrical, apex slightly apiculate , margin entire, glabrous; stamens 10, dimorphic, concolor, yellow, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 4.5–5.5 mm long, pedoconnective 0.5–1.2 mm long, ventral appendage ca. 0.5 mm long, bilobed at the apex, anther ca. 5 × 1 mm long, beak 0.4–0.5 mm long; antepetalous stamens 5, filament 3–4 mm long, pedoconnective ca. 1 mm long, ventral appendage ca. 0.3 mm long, slightly bilobed at the apex, anther 2.5–4 × ca. 0.5 mm, beak 0.3–0.4 mm long; ovary 3-locular, superior; style 5–8 mm long, magenta. Capsule 3–5 × 2–4 mm, ovate-oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed 0.5–1 × ca. 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada atrás do Paraíso Perdido, ca. de 5 km da rodovia MG 050, 12 July 2006 (fl., fr.), *R. Romero et al. 7787* (CAS; HUFU). Delfinópolis, estrada para Guarita, beira da estrada, 09 March 2003 (fl., fr.), *R. Romero et al. 6676* (ESA; HUFU; VIC; UB). Sacramento, Serra Branca, estrada Quenta Sol – Sete Voltas, 18 February 1997 (fl., fr.), *J.N. Nakajima et al. 2151* (HUFU). São Roque de Minas, base do morro

próximo a sede administrativa, 27 May 1996 (fl., fr.), *R. Romero et al. 3537* (HUFU; MBM; SP; SPF).

Microlicia armata has a wide distribution, occurring from the south of Bahia to the north of Paraná (Koschnitzke 2006; Silva *et al.* 2022, as *Chaetostoma armatum*). In the SCNP occurs in *campo rupestre*, *campo limpo* and *campo úmido*. Collected with flowers throughout the year and with fruits from January to November. *Microlicia armata* resembles *M. fastigiata* in having a bristles crown at the apex of hypanthium and leaf callose at the margin. However, *M. armata* has a glabrous leaf, branch, and hypanthium (*vs.* setose in *M. fastigiata*).

2. *Microlicia canastrensis* Naudin (1845: 174). (Fig. 3B).

Subshrub, 0.2–1 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, glandular and glandular-punctate, older branch subterete to terete, glabrescent, leafless with age, xylopodium not seen. Leaf sessile or petiolate, petiole ca. 0.5 mm long, ascending, not imbricate; blade 3–15 × 2–9 mm, longer than the internode length, concolor, green, ovate or ovate-elliptic, slightly conduplicate, apex acute and apiculate, base attenuate or rounded, margin entire, both surfaces glandular-punctate and sparsely glandular, glutinous aspect (when fresh), 3-nerved, basal. Flower solitary, axillary or terminal, 5-merous, pedicel 1.5–2(–3.5) mm long; bract and bracteole absent; hypanthium 2.5–3.5 × 1.5–2.5 mm, vinaceous or green, often with vinaceous stains, oblong or cylindrical, inconspicuous 10-striate or smooth, bristles crown at the apex absent, glandular-punctate and glandular; sepal 3–5.5 × ca. 1 mm, vinaceous or green, often with vinaceous stains, triangular to subulate, glandular-punctate and glandular, apex acute and apiculate, margin entire; petal 8–13 × 4–9 mm, magenta, obovate-oblong, apex acute to acuminate, margin entire, glabrous; stamens 10, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 2–4 mm long, vinaceous, pedoconnective 2–3 mm long, vinaceous, ventral appendage 1–2 mm long, yellow, rounded or truncate at the apex, anther 2.6–3.7 × 0.4–0.9 mm long, vinaceous, beak

0.5–0.7 mm long; antepetalous stamens with filament 3.4–5 mm long, vinaceous, pedoconnective ca. 1 mm long, yellow or vinaceous, ventral appendage 0.5–1 mm long, yellow, rounded at the apex, anther 1.8–3.2 × 0.7–0.8 mm, yellow, beak ca. 0.5 mm long; ovary 3-locular, superior; style 5–6.5 mm long, vinaceous. Capsule 4–5 × 3–3.5 mm, ovate or oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.7 × 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada atrás do Paraíso Perdido; ca. de 5 km da rodovia MG 050, 12 July 2006 (fl., fr.), *R. Romero et al. 7793* (HUFU). Delfinópolis, estrada para Casa Branca, Fazenda Paraíso, "Sete Cidades", 10 April 2002 (fl., fr.), *R. Romero et al. 6234* (HUFU; UB). Sacramento, Guarita de Sacramento, próximo a captação de água, 08 July 1996 (fl., fr.), *J.N. Nakajima et al. 1855* (HUFU). São Roque de Minas, estrada para Sacramento, 3 km da sede administrativa, 17 March 1995 (fl., fr.), *R. Romero et al. 1968* (HUFU; MBM; SP; SPF; US).

Microlicia canastrensis is endemic to Minas Gerais (Romero *et al*. 2022). In the SCNP occurs in *campo rupestre* and *campo limpo*. Collected with flower and fruit throughout the year. It is easily recognized in having ascending and slightly conduplicate leaf and a glutinous appearance when fresh due to glandular and glandular-punctate indumentum.

3. *Microlicia capitata* Pacifico *et al.* (2020: 277). (Fig. 3C).

Shrub, 0.5–1 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger and older quadrangular, glandular and glandular-punctate, leafless with age, xylopodium not seen. Leaf sessile, patent to ascending, not imbricate; blade 10–23 × 4–15 mm, longer than the internode length, concolor, green, lanceolate, apex acute to acuminate, base slightly cordate, margin serrulate-ciliate, both surfaces glandular-punctate and glandular, 3–7-nerved, basal. Flower disposed in glomerulus, terminal, 5–6-merous, pedicel 0.3–0.5 mm long; bract 7–10 × 3.5–4.5 mm, bracteole ca.

6 × 2.5 mm.; hypanthium 3.5–4 × 2.5–3 mm, green, campanulate, 10–12-striate, bristles crown at the apex absent, glandular-punctate and glandular; sepal 4,5–6 × ca. 1 mm, green or vinaceous, narrowly triangular to linear, glandular-punctate and glandular, apex acuminate and glandular-apiculate , margin slightly serrulate-ciliate; petal 11.5–13 × 5–9 mm, magenta, obovate, apex acuminate , margin entire, glandular-ciliate; stamens 10–12, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 5–5.5 mm long, pink or yellow at the base and pink at the apex, pedoconnective 5–6 mm long, pink, ventral appendage 1.7–2 mm long, truncate, yellow at the apex, anther 2–3 × ca. 1 mm long, pink, beak ca. 0.5 mm long; antepetalous stamens 5, filament 4.5–5 mm long, magenta, pedoconnective ca. 2 mm long, yellow, ventral appendage ca. 1 mm long, yellow, truncate at the apex, anther 1.5–2 × ca. 1 mm, yellow, beak 0.5–0.7 mm long; ovary 3-locular, superior; style ca. 8 mm long, pink. Capsule 3.5–5 × 2.5–3.5 mm, globose or ovate, dehiscent from the apex, hypanthium covering the entire capsule, the apex not exceding the torus, and peeling off as the fruit matures, columella deciduous; seed ca. 0.7 × 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Paraíso Perdido, Região de Furnas, 22 March 2007 (fl., fr.), *P.H.N. Bernardes et al. 88* (HUFU). São Roque de Minas, base do morro próximo a sede administrativa, 27 May 1996 (fl.), *R. Romero et al. 3530* (HUFU).

Microlicia capitata is endemic to Minas Gerais (Pacifico *et al.* 2020). In the SCNP occurs in *campo rupestre*. Collected with flower from March to July and with fruit from March to July, and September. It resembles *M. inquinans* Naudin (1845: 171) in having glomerulus inflorescence. However, it differs in having a glandular indumentum (*vs.* glandular-punctate, sometimes hirsute and glandular-hirsute in *M. inquinans*), not vernicous appearance (*vs.* vernicous), and petal ciliate-glandular at the margin (*vs.* glabrous). The differences between *M. capitata* and *M.* sp. 1 R.Romero & Ferreira-Alves will be discussed under the latter.

4. *Microlicia cataphracta* (Martius & Schrank *ex* De Candolle 1828: 103) Versiane & R.Romero in Versiane *et al.* (2021: 52). (Fig. 3D).

Subshrub or shrub, 0.3–0.8 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger and older terete, glabrous or sparsely glandular, leafless with age, xylopodium not seen. Leaf sessile, patent to ascending, imbricate or not; blade 3–11 × 2–7 mm, longer than the internode length, concolor, green, ovate to ovate-oblong, apex acute and apiculate, base semi-amplexicaul to amplexicaul, margin serrulate-ciliate or glandular-ciliate, callose, abaxial surface glabrous, adaxial surface often glandular or setose along the midvein, sometimes glabrous, 3-nerved, basal. Flower solitary, terminal, 6-merous, sessile; bract 5–8.2 × 3.6–4.7, bracteole absent; hypanthium 3–5 × 3–4 mm, green, campanulate, inconspicuous multi-striate or smooth, bristles crown at the apex absent, glandular in the middle region; sepal 5–13 × 2–4 mm, green, vinaceous or cream, oblong, glabrous, apex acute and sometimes apiculate , margin glandular-ciliate; petal 15–25 × 9–16 mm, magenta, rarely cream at the base, obovate or obovate-oblong, apex rounded or asymmetrically acuminate, margin entire, glandular-ciliate at the apex; stamens 12, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 5–7 mm long, yellow, pedoconnective 3–4.5 mm long, yellow, ventral appendage 1–1.5 mm long, yellow, rounded at the apex, anther 2–3 × ca. 1 mm long, yellow, turning vinaceous, beak ca. 0.8 mm long; antepetalous stamens 5, filament ca. 5 mm long, yellow, pedoconnective 1–1.2 mm long, yellow, ventral appendage 0.4–0.5 mm long, yellow, rounded at the apex, anther 2–3 × ca. 1 mm, yellow, beak ca. 0.7 mm long; ovary 6-locular, inferior to partly inferior; style 5.5–7 mm long, yellow. Capsule 2–4 × 3–3.5 mm, globose to oblong, dehiscing from the base to the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella persistent; seed 0.7–1 × ca. 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada depois do Paraíso Perdido, 25 October 2006 (fl., fr.), *J.N. Nakajima et al. 4241* (HUFU). Delfinópolis, Casinha Branca, 25 October 2003 (fl., fr.), *J.N. Nakajima et al. 3658* (HUFU). São Roque de Minas, base do morro do córrego dos Peixes, 24 March 1996 (fl., fr.), *J.N. Nakajima et al. 1733* (HUFU).

Microlicia cataphracta has a wide distribution, occurring in Bahia, São Paulo, Minas Gerais,

Espírito Santo, Rio de Janeiro, Goiás, Paraná, and Distrito Federal (Martins & Almeda 2017, as *Lavoisiera imbricata*). In the SCNP occurs in *campo rupestre*, *campo limpo* and *campo úmido*. Collected with flower from February to December and with fruit from February to November. *Microlicia cataphracta* resembles *M. minensis* in having leaf blade callose at the margin, dehiscent fruit from base to apex. However, *M. cataphracta* has a patent to ascending leaf (*vs.* only ascending in *M. minensis*), much branched habit (*vs.* sparingly branched), 3-nerved leaf blade (*vs.* 1-nerved), glandular hypanthium in the middle region (*vs.* glabrous or sparsely setose at the apex), and oblong sepal (*vs.* triangular).

5. *Microlicia cordata* (Sprengel 1820: 301) Chamisso (1834: 390). (Fig. 3E).

Subshrub, 0.5–1 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, glandular-punctate, hirsute or sometimes setose, older branch subterete, hirsute and glandular-punctate, glabrescent at the base, leafless with age, xylopodium not seen. Leaf sessile, patent, not imbricate; blade 4–9 × 3–8 mm, longer than the internode length, concolor, green, ovate, apex rounded, base cordate, margin serrulate-ciliate or ciliate, both surfaces setose and glandular-punctate, 3–5-nerved, basal. Flower solitary, axillary or terminal, 5-merous, pedicel 1–2.5 mm long; bract and bracteole absent; hypanthium 1.5–2 × 1.5–2 mm, green, vinaceous or green with vinaceous stains, campanulate, 10-striate, bristles crown at the apex absent, glandular-punctate and setose; sepal 1–1.5 × 0.4–0.7 mm, green, triangular, glandular-punctate and setose, apex acute, margin entire; petal 3–4 × 2–2.5 mm, pink, oblong, apex acute , margin entire, glabrous; stamens 10, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 3–3.5 mm long, pink, pedoconnective ca. 1.7 mm long, pink, ventral appendage ca. 1 mm long, truncate, yellow at the apex, anther 1.3–1.5 × 0.3–0.4 mm long, vinaceous, beak ca. 0.3 mm long; antepetalous stamens 5, filament 2–3 mm long, vinaceous, pedoconnective ca. 0.5 mm long, yellow, ventral appendage ca. 0.2 mm long, yellow, rounded at the apex, anther ca. 1 × 0.4 mm, yellow, beak ca. 0.2

mm long; ovary 3-locular, superior; style ca. 3.5 mm long, pink. Capsule ca. 2.5 × 2.3 mm, globose, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed 0.3–0.4 × ca. 0.2 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, Cachoeira Feixo da Serra, Rio Turvo, 28 September 2005 (fl., fr.), *R. Romero et al. 7201* (HUFU). Sacramento, "Cânion do Azulinho", 05 June 2010 (fl.), *A. Campos-Rocha et al. 454* (HPL; HUFU). São João Batista do Glória, 07 September 2018 (fl., fr.), *M.L. Brotto et al. 2738* (HUFU; MBM). São Roque de Minas, base do morro próximo a sede administrativa, 19 April 1997 (fl., fr.), *R. Romero et al. 4156* (HUFU; NY).

Microlicia cordata occurs in Bahia, Rio de Janeiro, Espírito Santo, and Minas Gerais states (Romero *et al.* 2022). In the SCNP occurs in *campo úmido*, *campo limpo* and *campo rupestre*. Collected with flower and fruit from February to November. *Microlicia cordata* is readily recognized in having a glandular-punctate and hirsute indumentum on the branch, and ovate leaf blade, cordate at the base.

6. *Microlicia euphorbioides* Martius (1831: 107).

Subshrub, 0.3–1 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, hirsute and glandular-punctate, older branch subterete, hirsute, glabrescent, leafless with age, xylopodium not seen. Leaf sessile or petiolate, petiole 0.5–1 mm long, patent, not imbricate; blade 3–22 × 2–8 mm, longer than the internode length, concolor, green, elliptic or narrowly ovate, apex rounded or acute and apiculate, base attenuate to rounded, margin serrulate-ciliate or crenulate and ciliate, both surfaces hirsute and glandular-punctate, 3-nerved, suprabasal, rarely basal. Flower solitary, axillary or terminal, 5-merous, pedicel 1.5–2.5 mm long; bract and bracteole absent; hypanthium 3–4 × 1.5–2 mm, vinaceous or green, sometimes with vinaceous stains, oblong, campanulate, sometimes slightly urceolate, smooth, bristles crown at the apex absent, hirsute

and glandular-punctate; sepal 1.7–3 × 0.5–1 mm, vinaceous or green, sometimes with vinaceous stains, triangular, triangular-lanceolate or oblong, hirsute and glandular-punctate, apex acute or rounded, apiculate, margin entire, sometimes glandular-punctate; petal 4–6.5 × 2–4 mm, pink, sometimes cream at the base or white, obovate or obovate-oblong, apex acute to slightly apiculate , margin entire, glabrous; stamens 10, dimorphic, concolor, yellow, anther oblong, polysporangiate; antesepalous stamens 5, filament 3–4 mm long, pedoconnective 1.7–2 mm long, ventral appendage 0.6–1.3 mm long, truncate, anther ca. 1.5 × 0.5 mm long, beak 0.3–0.5 mm long; antepetalous stamens 5, filament 2–3 mm long, pedoconnective 0.5–1.5 mm long, ventral appendage 0.2–0.5 mm long, rounded, inconspicuous at the apex, anther 1–1.5 × ca. 0.5 mm, beak 0.3–0.5 mm long; ovary 3-locular, superior; style 4–8 mm long, yellow. Capsule 3–3.5 × 1.5–2.5 mm, ovate, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.5 × 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada para Cachoeira Feixo da Serra, 13 July 2006 (fl., fr.), *R. Romero et al. 7807* (HUFU). Delfinópolis, Cachoeira Águas Claras, trilha da cachoeira, 23 June 2010 (fl., fr.), *P.O. Rosa et al. 1325* (HUFU). Sacramento, próximo à guarita de Sacramento, 16 March 1995 (fl., fr.), *R. Romero et al. 1879* (HUFU; US). São Roque de Minas, estrada para o Vale do Cândido, Garagem das Pedras, 22 August 1997 (fl., fr.), *J.N. Nakajima et al. 2704* (HUFU; IAC; SP).

Microlicia euphorbioides occurs in São Paulo, Minas Gerais, Goiás, and Distrito Federal (Romero *et al.* 2022). Collected with flower and fruit from February to August, and in November and December. In the SCNP occurs in *campo rupestre* and *cerrado*. *Microlicia euphorbioides* is readily recognized in having patent and not imbricate leaf, sessile or petiolate. In addition, it has polysporangiate and yellow anther. *Microlicia euphorbioides* resembles *M. serpyllifolia* Don (1823: 301) in having non-imbricate, sessile, or petiolate leaf, sometimes elliptic leaf blade, rounded or acute apex, and ciliate margin. However, *M. euphorbioides* has polysporangiate anther (*vs.* tetrasporangiate in *M. serpyllifolia*).

7. *Microlicia fasciculata* Martius *ex* Naudin (1845: 180). (Fig. 3F).

Subshrub, 0.3–0.6 m tall, erect, multi-branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, densely villous and glandular-punctate, older branch subterete, villous and glandular-punctate, leafless with age, xylopodium not seen. Leaf sessile or petiolate, petiole 0.1–0.3 mm long, ascending, imbricate or not; blade 3–10 × 1–7 mm, longer than the internode length, concolor, green, elliptic or ovate, apex acute, apiculate, base rounded, margin entire, both surfaces densely villous and glandular-punctate, 3-nerved, basal. Flower solitary, axillary or terminal, 5-merous, pedicel 1.5–2 mm long; bract and bracteole absent; hypanthium ca. 4 × 2–2 mm, vinaceous or green, often with vinaceous stains, campanulate or suburceolate, 10-striate, bristles crown at the apex absent, villous and glandular-punctate; sepal 2–3 × 1–1.5 mm, vinaceous or green, often with vinaceous stains, triangular, hirsute and glandular-punctate, apex acute and apiculate , margin entire; petal 7–11 × 6–8 mm, light pink, obovate, apex asymmetrically acute or rounded and apiculate, margin entire, glandular-ciliate; stamens 10, dimorphic, bicolor, anther oblong, polysporangiate; antesepalous stamens 5, filament 4–5 mm long, pink, pedoconnective 2–3.5 mm mm long, pink, ventral appendage 1.5–2 mm long, yellow at the apex and pink at the base, truncate at the apex, anther 3–3.5 mm long, vinaceous, beak ca. 0.8 mm long; antepetalous stamens 5, filament 3–4 mm long, pink, pedoconnective 1–2 mm long, yellow, ventral appendage inconspicuous, yellow, anther 2.5–3 mm, yellow, beak 0.5–0.8 mm long; ovary 3-locular, superior; style 5–9 mm long, vinaceous or yellow, light pink at the apex. Capsule 2.5–4 × 2–3 mm, ovate or oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.5 × 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada depois do Paraíso Perdido, 20°36'44" S, 46°19'53" W, 967 m, 25 October 2006 (fl., fr.), *Nakajima et al. 4206* (HUFU). Delfinópolis, Casinha Branca, 20°26'04"S, 46°38'72"W, 841 m, 25 October 2003 (fl.), *J.N.*

Nakajima et al. 3650 (HUFU). Sacramento, Guarita de Sacramento, Retiro de captação de água, 20 September 1996 (fl.), *R. Romero et al. 3553* (HUFU). São Roque de Minas, base do morro próximo a sede administrativa, 19 November 1995 (fl., fr.), *J.N. Nakajima et al. 1462* (F; HUFU).

Microlicia fasciculata occurs in Bahia, São Paulo, Minas Gerais, Goiás, and Distrito Federal (Romero *et al.* 2022). Collected with flower in January, from March to May, and from July to December, and with fruit in January, April, July, and from September to December. In the SCNP occurs in *campo rupestre*, *campo limpo* and *campo úmido*. *Microlicia fasciculata* is readily recognized in having a densely villous indumentum, with bicolored stamens, and polysporangiate anther.

8. *Microlicia fastigiata* (Naudin 1845: 191) Versiane & R.Romero in Versiane *et al.* (2021: 53).

Subshrub, 0.2–0.4 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger and older terete, often glabrous, sometimes sparsely setose, leafless with age, xylopodium present. Leaf sessile, ascending, not imbricate; blade 6–12 × 1–4 mm, longer than the internode length, concolor, green, ovate-lanceolate, acute-acuminate, apex pungent, base semi-amplexicaul, margin serrulate-ciliate, callose, both surfaces glabrous or sparsely setose, 5–7-nerved, basal. Flower solitary, terminal, 5-merous, pedicel 1–1.5 mm long; bract and bracteole absent; hypanthium ca. 3.5 × 2–2.6 mm, green, oblong-campanulate, multi-striate or not, whit a bristles crown at the apex, setose; sepal 2.8–3.2 mm, vinaceous, triangular, setose, apex acuminate and apiculate , margin serrulate-ciliate, callose; petal 11–11.5 × 6.5–7 mm, magenta, obovate, apex asymmetrically acute and apiculate , margin entire, glabrous; stamens 10, vinaceous, concolor, yellow, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 5–5.8 mm long, pedoconnective 0.8–1.2 mm long, ventral appendage 0.5–0.6 mm long, tuberculate at the apex, anther ca. 5 × 0.8–1 mm long, beak 0.5–1 mm long; antepetalous stamens 5, filament 4.8–5 mm long, pedoconnective 0.5–0.6 mm long, ventral appendage inconspicuous, 0.2–0.3 mm long, anther 3.7–3 × 0.7–0.8 mm, beak 0.4–0.5 mm

long; ovary 3-locular, superior; style 7–8 mm long, magenta. Capsule 5–6 × 4–5 mm, oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed 0.8–0.9 × 0.4–0.5 mm.

Specimen examined:—BRAZIL. Minas Gerais: São Roque de Minas, base do morro próximo a sede administrativa, 27 May 1996 (fl., fr.), *R. Romero et al. 3536* (HUFU; UEC; US).

Microlicia fastigiata occurs in Bahia, São Paulo, Minas Gerais, and Paraná (Silva *et al.* 2022, as *Chaetostoma fastigiatum*). In the SCNP occurs in *campo rupestre* and *campo limpo*. Collected with flower from February to July and with fruit from February to May, and July. The differences between *M. armata* and *M. fastigiata* were noted under *M. armata*.

9. *Microlicia flava* Romero (2000b: 142) (Fig. 3G).

Subshrub, ca. 0.2 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, 4-winged, glandular-punctate, older branch terete at the base, glabrescent, leafless with age, xylopodium present. Leaf sessile, patent to slightly ascending, not imbricate; blade 5–8 × 1–8 mm, longer than the internode length, concolor, green, elliptic, apex rounded, base attenuate, margin crenulate, both surfaces glandular-punctate, 1-nerved. Flower solitary, terminal, 5-merous; pedicel 0.5–1.2 mm long; bract and bracteole absent; hypanthium 2.5–3 × 1.5–1.7 mm, green, cylindrical or campanulate, 10-striate, bristles crown at the apex absent, glandular-punctate; sepal ca. 1.7 × 0.3 mm, green, subulate or lanceolate, glandular-punctate, apex acute, margin entire; petal 5–7 × ca. 3 mm, yellow, oblong, apex acuminate , margin entire and slightly undulate, glabrous; stamens 10, dimorphic, concolor, yellow, anther ovate-oblong, polysporangiate; antesepalous stamens 5, filament 1.5–2.5 mm long, pedoconnective ca. 1.5 mm long, ventral appendage ca. 1 mm long, slightly acute at the apex, anther 1–1.5 × 0.3–0.7 mm long, beak ca. 0.2 mm long; antepetalous stamens 5, filament 1.3–2 mm long, pedoconnective ca. 0.5 mm long, ventral appendage 0.1–0.2 mm long, rounded at the apex, anther ca. 1 × 0.5 mm, beak ca. 0,3 mm

long; ovary 3–4-locular, superior; style 3–5 mm long, yellow. Capsule ca. 5.5 × 4 mm, globose or ovate-oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.6 × 0.4 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Cachoeira Feixo da Serra, Rio Turvo, Represa de Furnas, 20°36'16"S, 46°13'51"W, 786 m, 28 October 2005 (fl., fr.), *R. Romero et al. 7185* (HUFU). São Roque de Minas, trilha do paredão da Serra da Canastra, topo do morro, 17 April 1997 (fl.), *R. Romero et al. 4136* (HUFU).

Microlicia flava is endemic to SCNP, occurring in *campo rupestre* (Romero 2000b). Collected with flower and fruit in January, February, April, May, July, October, and November. *Microlicia flava* is readily recognized in having yellow petal, a feature not found in any other species of *Microlicia* from SCNP. It resembles *M. martiana* O.Berg *ex* Triana (1872: 28) in having a glandular-punctate indumentum, elliptic leaf blade, acute and not apiculate sepal, and petal acuminate at the apex (Romero 2000b). However, *M. flava* has 4-winged branch (*vs.* not 4-winged in *M. martiana*), sessile and patent leaf blade (*vs.* petiolate and ascending), polysporangiate anther (*vs.* tetrasporangiate), and yellow petal (*vs.* magenta). *Microlicia flava* also resembles *M. furnensis* Romero & Versiane (2014: 119) in having a subshrubby habit, 4-winged branch and yellow anther (Romero & Versiane 2014). However, *M. flava* has yellow petal (*vs*. cream with pink apex in *M. furnensis*) and only glandular-punctate indumentum (*vs.* glandular-punctate and setose, sometimes glandular).

10. *Microlicia furnensis* Romero in Romero & Versiane (2014: 119).

Shrub, 0.5–0.7 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, 4-winged, glandular-punctate and setose, sometimes glandular, older branch terete, glabrescent, leafless with age, xylopodium not seen. Leaf sessile or petiolate, petiole 0.1–0.5 mm long, ascending or patent, not imbricate; blade 3–5 × 1–1.5 mm, longer than the internode length,

concolor, green, elliptic-lanceolate to ovate-lanceolate, apex acute or rounded, base attenuate, rarely rounded, margin entire, ciliate or rarely crenulate, both surfaces glandular-punctate, sometimes sparsely setose, 3-nerved, basal or suprabasal. Flower solitary, axillary or terminal, 5-merous, pedicel 1–1.5 mm long; bract and bracteole absent; hypanthium 1.7–2.3 × 1–1.5 mm, green, oblong to oblong-triangular, 10-striate, bristles crown at the apex absent, sparsely glandular-punctate and setose; sepal 2.5–3 × ca. 1 mm, green, oblong to oblong-triangular, glandular-punctate and sparse setose, apex acute, margin entire; petal 5–5.5 × 2.5–3 mm, cream with pink stains at the apex, oblong, apex acute to acute-acuminate, margin entire, glabrous; stamens 10, dimorphic, concolor, yellow, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 2.7–3.2 mm long, pedoconnective 2–2.5 mm long, ventral appendage 0.9–1.2 mm long, truncate at the apex, anther ca. 1.5 × 0.6 mm long, beak 0.2–0.4 mm long; antepetalous stamens 5, filament 2.7–3.2 mm long, pedoconnective 0.7–1 mm long, ventral appendage 0.2–0.3 mm long, rounded at the apex, anther ca. 1.2 × 0.4 mm, beak 0.2–0.3 mm long; ovary 3-locular, superior; style 3.5–5 mm long, yellow. Capsule 3–3.5 × 2–2.5 mm, subglobose, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed 0.3–0.4 × 0.2–0.3 mm.

Specimen selected:—BRAZIL. Minas Gerais: Capitólio, Chapadão de Furnas, 20°37'12"S, 46°16'33"W, 1175 m, 24 January 2002 (fl., fr.), *R. Romero 6199* (HUFU; SP).

Microlicia furnensis is endemic to the SCNP and found only in the southern portion, close to Capitólio, occurring in *campo rupestre* (Romero & Versiane 2014). Collected with flower and fruit in July, and from September to February. The differences between *M. flava* and *M. furnensis* were noted under *M. flava*.

11. *Microlicia hirticalyx* Romero & Woodgyer (2011: 163). (Fig. 3H).

Subshrub or shrub, 0.3–0.4 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, hirsute, older branch subterete, hirsute, glabrescent, leafless

with age, xylopodium not seen. Leaf sessile, ascending, not imbricate; blade 3–8 × 1–4 mm, longer than the internode length, concolor, green, ovate-oblong, elliptic to lanceolate, apex acute and apiculate, base rounded, margin ciliate, both surfaces glandular-punctate and hirsute-villous, 1-nerved. Flower solitary, axillary or terminal, 5-merous, pedicel 1–1.5 mm long; bract and bracteole absent; hypanthium 2.5–3 × ca. 2 mm, green, often with vinaceous stains, campanulate to suburceolate, smooth, bristles crown at the apex absent, glandular-punctate and sparsely villous; sepal 2–3 × 1.3–1.5 mm, green or vinaceous, triangular, glandular-punctate and sparsely villous, apex acute and apiculate, margin entire; petal 5–6 × 3–4 mm, purplish, obovate, apex acute , margin entire, glabrous; stamens 10, dimorphic, bicolor, anther ovate to ovate-oblong, tetrasporangiate; antesepalous stamens 5, filament 3.5–4 mm long, pink, pedoconnective 1.5–2.5 mm long, pink, ventral appendage ca. 1 mm long, yellow, truncate at the apex, anther ca. 2 × 0.5 mm long, vinaceous, beak 0.6–0.7 mm long; antepetalous stamens 5, filament 3.4–4 mm long, pink, pedoconnective 0.7–1 mm long, yellow, ventral appendage inconspicuous, ca. 0.2 mm long, yellow, rounded at the apex, anther 1.4–1.7 × ca. 0.5 mm, yellow, beak 0.2–0.3 mm long; ovary 3-locular, superior; style 3.5–4 mm long, pink. Capsule 2.5–4 × ca. 2.5 mm, ovate, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.5 × 0.3–0.4 mm.

Specimen selected:—BRAZIL. Minas Gerais: São Roque de Minas, base do morro próximo à sede administrativa, 19 November 1995 (fl., fr.), *J.N. Nakajima et al. 1478* (CAS; HUFU).

Until now, *M. hirticalyx* was known only from the southern region of Serra do Espinhaço, in Minas Gerais state (Romero & Woodgyer 2011), and here we expand its distribution. In the SCNP occurs in *campo rupestre*. Collected with flower and fruit in May, July, September, and November. *Microlicia hirticalyx* is an erect subshrub or shrub with leaf blade ciliate at the margin, and glandular-punctate and hirsute-villous on both surfaces. In addition, it has magenta and obovate petal, and bicolor stamens with tetrasporangiate anther. *Microlicia hirticalyx* resembles *M. polystemma* Naudin (1845: 179) in having a leaf blade ciliate at the margin and obovate petal. However, *M. hirticalyx* has

a denser indumentum (*vs.* sparser in *M. polystemma*), magenta petal (*vs.* pink), and bicolor stamens with vinaceous and yellow anther (*vs.* concolor, yellow).

12. *Microlicia inquinans* Naudin (1845: 171). (Fig. 4A).

Subshrub or shrub, 0.4–1.5 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, glandular-punctate, sometimes hirsute and sparsely glandular-hirsute, often with vernicous aspect, older branch subterete, glabrescent or not, leafless with age, xylopodium not seen. Leaf sessile, ascending, not imbricate; blade 9–25 × 2–8 mm, longer than the internode length, concolor, green, ovate-oblong to ovate-lanceolate, acute and apiculate at the apex, base rounded, margin crenulate, rarely glandular-ciliate, both surfaces glandular-punctate, rarely setose and glandular, often with vernicous aspect, 3–7-nerved, basal. Flower disposed in glomerulus, terminal, 5-merous; sessile or pedicel 0.5–1 mm long; bract 8–10 × 2–3.5 mm, bracteole 4–5.5 × 1–3 mm; hypanthium 3–4 × 3–3.5 mm, green or cream with vinaceous stains, campanulate, slightly 10-striate, bristles crown at the apex absent, glandular-punctate, apex sparsely glandular and setose , sometimes completely glandular and setose; sepal 3.5–6 × 1.5–2.5 mm, green or vinaceous, triangular or oblong, glandular-punctate, sometimes glandular and setose, apex acute and apiculate , margin glandular-ciliate or glandular-punctate; petal 11–18 × 5–11.5 mm, magenta, obovate, rarely oblong, apex acuminate and acute-acuminate , margin entire, glabrous; stamens 10, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 5.5–7 mm long, yellow at the base and purplish at the apex, pedoconnective 3–5 mm long, purplish, ventral appendage 1.5–2 mm long, truncate, yellow at the apex, anther 2.5–3 × 0.8–1 mm, purplish, beak ca. 0.8 mm long; antepetalous stamens 5, filament 4.5–6.5 mm long, yellow at the base and purplish at the apex, pedoconnective 1–1.75 mm long, yellow, ventral appendage 0.5–0.75 mm long, yellow, rounded at the apex, anther 2.5–3 × ca. 0.7 mm, yellow, beak 0.5–0.7 mm long; ovary 3-locular, superior; style 5–7.5 mm long, purplish. Capsule 3–4.5 × 3–4 mm, ovate, dehiscent from the apex, hypanthium covering the entire

capsule and peeling off as the fruit matures, mature capsule with apex exceeding the hypanthium torus, columella deciduous; seed 0.5–1 × 0.3–0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, represa de Furnas, Paraíso Perdido, ca. 5 km da rodovia MG 050, 12 July 2006 (fl., fr.), *R. Romero et al. 7726* (HUFU). Delfinópolis, Paraíso Selvagem, trilha para Cachoeira Salto Solitário, 20°26'04"S, 46°38'73"W, 845 m, 11 March 2003 (fl.), *R. Romero et al. 6706* (CEN; HEPH; HUFU). São Roque de Minas, Cachoeira Casca D'Anta, Parte de cima da cachoeira, 25 May 1996 (fl., fr.), *R. Romero et al. 3485* (NY; MBM; HUFU; SP).

Microlicia inquinans is endemic to Minas Gerais (Romero *et al.* 2022). In the SCNP occurs in *campo rupestre* and *campo limpo* with rocky soil, near to the water streams. Collected with flower in February to May, July, and October and with fruit in February to July, and October. The differences between *M. capitata* and *M. inquinans* were noted under *M. capitata.*

13. *Microlicia isophylla* De Candolle (1828: 120). (Fig. 4B).

Subshrub, 0.3–0.5 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, glandular-punctate, older branch subterete, glabrescent, leafless with age, xylopodium not seen. Leaf sessile, ascending, not imbricate; blade 2–7 × 0.5–4 mm, with the same internode length, concolor, green, elliptic, elliptic-lanceolate or oblong-lanceolate, acute or acuminate, apex apiculate, base attenuate, margin entire or slightly crenulate, both surfaces glandular-punctate, 1-nerved. Flower solitary, axillary or terminal, 5-merous, pedicel 1.5–2 mm long; bract and bracteole absent; hypanthium ca. 2.5 × 1–1.5 mm, green, suburceolate or campanulate, 10-striate, bristles crown at the apex absent, glandular-punctate; sepal 1.5–2.5 × ca. 0.5 mm, green, narrow-triangular or triangular-subulate, glandular-punctate, apex acute and apiculate, margin entire and glandular-punctate; petal 6.5–8 × 3.5–5 mm, magenta, obovate or oblong, apex acute-acuminate, margin entire, glabrous; stamens 10, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament ca. 4 mm long, purplish, pedoconnective 2–2.5 mm long, purplish

or vinaceous, ventral appendage ca. 1.5 mm long, truncate, yellow at the apex, anther ca. 1.5 × 0.5 mm long, purplish or vinaceous, beak 0.1–0.4 mm long; antepetalous stamens 5, filament 3–3.5 mm long, purplish, pedoconnective 0.8–1 mm long, yellow, ventral appendage 0.2–0.3 mm long, yellow, rounded at the apex, anther ca. 1 × 0.5 mm, yellow, beak 0.1–0.4 mm long; ovary 3-locular, superior; style 3.5–4 mm long, purplish, sometimes light pink at the apex. Capsule 3–3.5 × 2–2.5 mm, globose, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.5 × 0.3 mm.

Specimens selected:—BRAZIL. Minas Gerais: BRAZIL. Minas Gerais: Delfinópolis, estrada para Casinha Branca, muro de pedras, 12 March 2003 (fl.), *R.L. Volpi et al. 588* (ESA; HUFU). Sacramento, morro próximo a sede administrativa, 17 March 1995 (fl., fr.), *R. Romero et al. 1902* (CAS; HUFU; MBM; UEC). São Roque de Minas, 20 May 1994 (fl., fr.), *R. Romero et al. 601* (HUFU; UPCB).

Microlicia isophylla occurs in Minas Gerais, São Paulo, Espírito Santo, and Rio de Janeiro (Romero *et al.* 2022). In the SCNP occurs in *campo rupestre*. Collected with flower in February, March, and May and with fruit in February, March, May, and June. *Microlicia isophylla* is readily recognized in having ascending and not imbricate leaf, with the same internode length, and glandular-punctate indumentum.

14. *Microlicia martiana* O.Berg *ex* Triana (1873: 28). (Fig. 4C).

Subshrub or shrub, 0.3–0.5 m tall, erect, much branched. Branch dichotomous or trichotomous, slender, younger branch quadrangular, glandular-punctate, older branch subterete, glabrescent, leafless with age, xylopodium present. Leaf petiolate, petiole 0.4–0.6 mm long, ascending, not imbricate; blade 5–12 × 0.5–2 mm, longer than the internode length, concolor, green, linear-lanceolate, apex acute, base attenuate, margin entire or slightly crenulate, both surfaces glandular-punctate, 1–3-nerved, basal. Flower solitary, axillary or terminal, 5-merous, pedicel ca. 1.5 mm long;

bract and bracteole absent; hypanthium 2–2.5 × ca. 1.5 mm, vinaceous or green, often with vinaceous stains, campanulate, 10-striate, bristles crown at the apex absent, glandular-punctate; sepal 3–3,5 × 0.5–1 mm, vinaceous or green, often with vinaceous stains, triangular-subulate, glandular-punctate, apex acute, margin entire; petal 6–8 × 4–5 mm, magenta, obovate, apex acute or acuminate, margin entire, glabrous; stamens 10, dimorphic, bicolor, anther oblong or slighly ovate-oblong, tetrasporangiate; antesepalous stamens 5, filament 2.5–4 mm long, purplish, pedoconnective ca. 1.5 mm long, purplish, ventral appendage ca. 1 mm long, truncate, yellow at the apex, anther ca. 1.5 × 0.5 mm, vinaceous, beak ca. 0.5 mm long; antepetalous stamens 5, filament 2.5–3 mm long, purplish, pedoconnective ca. 0.4 mm long, yellow, ventral appendage ca. 0.1 mm long, yellow, rounded at the apex, anther ca. 1 × 0.5 mm, yellow, beak ca. 0.2 mm long; ovary 3-locular, superior; style 2.5–3.5 mm long, vinaceous. Capsule 3–4.5 × 2–3 mm, oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.4 × 0.2 mm.

Specimen selected:—BRAZIL. Minas Gerais: São Roque de Minas, Cachoeira Casca D'Anta, trilha para a parte de baixo, 13 January 1996 (fl., fr.), *R. Romero et al. 3298* (HUFU; NY; US).

Microlicia martiana is endemic to Minas Gerais (Romero *et al.* 2022). In the SCNP occurs in *campo rupestre.* Collected with flower from January to April, and September, and with fruit from January to May, and September. *Microlicia martiana* is a subshrub or shrub, with a glandular-punctate indumentum, magenta petal, and bicolor stamens with tetrasporangiate anther. The differences between *M. flava* and *M. martiana* were noted under *M. flava* and the differences between *M. martiana* and *Microlicia* sp. 2 R.Romero & Ferreira-Alves was discussed under the latter.

15. *Microlicia minensis* Versiane & R.Romero in Versiane *et al.* (2021: 53). (Fig. 4D).

Subshrub, 0.2–0.5 m tall, erect, sparingly branched. Branch dichotomous, slender, younger and older quadrangular, glandular in the nodes, leafless with age or not, xylopodium not seen. Leaf sessile or

petiolate, petiole ca. 1 mm long, ascending, imbricate or not; blade 6–22 × 3–10 mm, longer than the internode length, concolor, greenish-gray to yellowish-green, oblong-elliptic, ovate-oblong to ovate, acute-acuminate, apex pungent, base subrounded to broadly cuneate, margin serrulate-ciliate, callose or not, both surfaces glabrous or sparsely setose along the midvein on abaxial surface, 1-nerved. Flower in simple or compound dichasium or reduced to solitary flowers, axillary or terminal, 5–6-merous, sessile; bract 8–9 × ca. 4, bracteole 6–9 × 1.5–2; hypanthium 4–6 × 2–4.5 mm, green-reddish, campanulate, multi-striate, bristles crown at the apex absent, glabrous or sparsely setose at the apex; sepal 4–5 × 1.5–2 mm, green, triangular, adaxial surface glabrous and abaxial surface sparsely glandular, apex acute and apiculate, margin glandular-ciliate; petal 10–18 × 5–6 mm, pink and white at the base, obovate, apex rounded to obtuse, apiculate, margin entire, glabrous; stamens 10–12, dimorphic, bicolor, anther ovate-oblong, tetrasporangiate; antesepalous stamens 5–6, filament 7–8 mm long, yellow, pedoconnective 4–6 mm long, yellow, ventral appendage 1–2 mm long, yellow, bilobed at the apex, anther 2.5–3 × 1–1.5 mm long, vinaceous, beak ca. 0.4 mm long; antepetalous stamens 5–6, filament 5–6 mm long, yellow, pedoconnective 1.5–2 mm long, yellow, ventral appendage ca. 0.3 mm long, yellow, rounded at the apex, anther 2–3 × 0.8–1 mm, yellow, beak ca. 0.3 mm long; ovary 5–6-locular, partly inferior; style ca. 7 mm long, cream. Capsule 5–7 × 2.5–4 mm, globose, dehiscing from the base to the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella not seen; seed 0.8–1 × 0.4–0.5 mm.

Specimen examined:—BRAZIL. Minas Gerais: São Roque de Minas, nascente do rio São Francisco, 27 May 1996 (fl., fr.), *R. Romero et al. 3512* (CAS; HUFU).

Microlicia minensis is endemic to Minas Gerais, occurring only in *campo rupestre* from SCNP (Martins & Almeda 2017, as *Lavoisiera canastrensis*). Collected with flower in January to July, and November and fruit in January, March, and from May to July. *Microlicia minensis* is a subshrub, sparingly branched, pink petal and white at the base, and bicolor stamens with tetrasporangiate anther. The differences between *M. cataphracta* and *M. minensis* were noted under *M. cataphracta*.

16. *Microlicia parviflora* (Don 1823: 323) Versiane & R.Romero in Versiane *et al.* (2021: 54). (Figs. 4E–F).

Shrub or small tree, 0.4–3 m tall, erect, much branched. Branch trichotomous, slender, younger branch quadrangular, glandular-punctate and glandular, densely glandular in the nodes, older branch quadrangular, glabrescent, leafless with age, xylopodium not seen. Leaf petiolate, petiole 0.5–20 mm long, patent to slightly ascending, not imbricate; blade 2–8.5 × 0.5–3 mm, longer than the internode length, discolor, adaxial surface darker, elliptic or obovate, apex acute, base attenuate, margin entire and revolute, both surfaces glandular-punctate, abaxial surface sparsely glandular, 3-nerved, basal. Flower in dichasium, axillary or terminal, 5-merous, pedicel 1–2.5 mm long; bract 7–15 × 1–4 mm, bracteole 3.5–9 × 1–2 mm; hypanthium 2–3 × ca. 2 mm, green, campanulate or slightly urceolate, 10-striate, bristles crown at the apex absent, glandular-punctate; sepal 0.7–3 × 1–1.5 mm, green, triangular-subulate, glandular-punctate, apex acute, margin entire and glandular-punctate; petal 6–7.5 × 3.5–5 mm, white petal with pink nuances at the base or entirely pink, obovate, apex rounded or retuse, margin entire, glandular-ciliate; stamens 10, dimorphic, bicolor, anther ovate or oblong, tetrasporangiate; antesepalous stamens 5, filament 3.5–4.5 mm long, pink, pedoconnective 2–4.5 mm long, pink, ventral appendage ca. 1.3 mm long, bilobed, yellow at the apex, anther 1–1.5 × ca. 0.6 mm long, vinaceous, beak 0.3–0.5 mm long; antepetalous stamens 5, filament 2.5–3.5 mm long, pink, pedoconnective 0.5–1 mm long, yellow or pink, ventral appendage ca. 0.1 mm long, yellow, slightly bilobed at the apex, anther ca. 1.5 × 0.5 mm, yellow, beak ca. 0.3 mm long; ovary 5-locular, superior; style 3.5–4 mm long, pink. Capsule 3–4 × 2,5–4 mm, globose, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.5 × 0.2 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada para Cachoeira Feixo da Serra, 13 July 2006 (fl., fr.), *R. Romero et al. 7812* (HUFU; UB). Delfinópolis, estrada para a Babilônia, Barreiro, alto da serra, 24 May 1996 (fl., fr.), *R. Romero et al. 3442* (HUFU).

Sacramento, Guarita de Sacramento, 09 May 1995 (fl.), *R. Romero et al. 2155* (HUFU). São Roque de Minas, Cachoeira Casca D'Anta, morro ao lado, 28 June 1994 (fl., fr.), *R. Romero et al. 1078* (HUFU).

Microlicia parviflora has a wide distribution, occurring in Bahia, São Paulo, Minas Gerais, Espírito Santo, Rio de Janeiro, Goiás, Paraná, and Distrito Federal (Pacifico & Fidanza 2022, as *Trembleya parviflora*). In the SCNP occurs in *campo rupestre*, *campo limpo* and *campo úmido*. Collected with flower from February to July, and September to November, and fruit from March to July, and September to October. *Microlicia parviflora* has a shrubby or arboreal habit, discolor leaf, branch with glandular-punctate and glandular indumentum, densely glandular at the node. In addition, it has leaf blade with entire and revolute margin, glandular-punctate on both surfaces, sparsely glandular only at the abaxial surface. Most populations of *M. parviflora* have white petal with pink nuances at the base. However, some populations from Garagem das Pedras, Guarita de Sacramento, and Cachoeira Casca D'Anta have entirely pink petal.

17. *Microlicia phlogiformis* (De Candolle 1828: 126) Versiane & R.Romero in Versiane *et al.* (2021: 54). (Fig. 4G)

Subshrub, 0.4–0.8 m tall, erect, much branched. Branch trichotomous, slender, younger and older quadrangular, glandular, leafy to the base, xylopodium not seen. Leaf sessile or petiolate, petiole 2–3 mm long, patent to slightly ascending, not imbricate; blade 3.5–6 × 1–2.5 mm, longer than the internode length, concolor, green, elliptic or obovate-oblong, apex acute or rarely slightly rounded, base attenuate to rounded, margin serrulate-ciliate, both surfaces glandular, 3-nerved, basal. Flower solitary or in dichasium, axillary or terminal, 5-merous; pedicel 2–8 mm long; bract 8–11 × ca. 2.5, bracteole 5–4.5 × 1–2; hypanthium 3.5–4 × 2–2.5 mm, vinaceous or green, sometimes with vinaceous stains, oblong or urceolate, 10-striate or smooth, bristles crown at the apex absent, glandular; sepal 2–5 × 0.5–1 mm, vinaceous or green, triangular-lanceolate, triangular-subulate or linear, glandular,

apex acute and apiculate, margin entire and glandular-ciliate; petal 7–9.5 × 3–7 mm, purplish or white, obovate-oblong, apex acute or acuminate, sometimes glandular-apiculate, margin entire, sometimes glandular-ciliate at the apex; stamens 10, dimorphic, concolor or bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 3–3.5 mm long, purplish or yellow, pedoconnective 2–3 mm long, purplish or yellow, ventral appendage ca. 1–1.5 mm long, slightly bilobed or sometimes rounded, yellow at the apex, anther ca. 2 × 0,5 mm long, purplish or yellow, beak ca. 0.3 mm long; antepetalous stamens 5, filament 2.5–3 mm long, purplish or yellow, pedoconnective ca. 1 mm long, yellow, ventral appendage 0.3–0.5 mm long, yellow, rounded at the apex, anther 1.5–2 × ca. 0.5 mm, yellow, beak ca. 0.3 mm long; ovary 5-locular, superior; style 3–4.5 mm long, cream. Capsule 3–8 × 2–4 mm, ovate-oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.5 × 0.2 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, entrada depois do Paraíso Perdido em direção ao paredão, Represa de Furnas, 16 February 2006 (fl., fr.), *E.K.O. Hattori et al. 489* (HUFU). Delfinópolis, Fazenda Zé Antunes, trilha casinha branca, 11 April 2002 (fl., fr.), *R.A. Pacheco et al. 138* (HUFU; SPF). Sacramento, próximo à guarita de Sacramento, 16 March 1995 (fl., fr.), *R. Romero et al. 1853* (HUFU). São Roque de Minas, estrada para cachoeira dos Rolinhos, 26 May 1996 (fl., fr.), *J.N. Nakajima et al. 1788* (HUFU).

Microlicia phlogiformis has a wide distribution, occurring in Bahia, São Paulo, Minas Gerais, Espírito Santo, Rio de Janeiro, Goiás, Mato Grosso, Mato Grosso do Sul, Paraná, and Distrito Federal (Pacifico & Fidanza 2022, as *Trembleya phlogiformis*). In the SCNP occurs in *campo limpo*, *campo úmido*, *campo cerrado*, and *campo sujo*. Collected with flower and fruit from January to May, and September. *Microlicia phlogiformis* is readily recognized in having a subshrubby habit, concolor leaf, glandular indumentum and purplish or white petal.

18. *Microlicia polystemma* Naudin (1845: 179). (Fig. 4H).

Subshrub, 0.2–0.5 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular, hirsute, older branch quadrangular to subterete, glabrescent, leafless with age, xylopodium present. Leaf sessile, ascending, not imbricate; blade 4–12 × 1–6 mm, longer than the internode length, concolor, green, ovate to ovate-oblong, rarely oblong, apex acute and apiculate, base rounded, margin ciliate, entire or slightly serrulate, both surfaces glandular-punctate and hirsute or not, 1-nerved. Flower solitary, axillary or terminal, 5-merous, pedicel 1–2 mm long; bract and bracteole absent; hypanthium 3.5–4.5 × ca. 2 mm, green or vinaceous, suburceolate, 10-striate, bristles crown at the apex absent, glandular-punctate and dense or sparsely hirsute; sepal 2–3.5 × 0.5–1.5 mm, green or vinaceous, triangular, glandular-punctate and hirsute or not, apex acute and apiculate, margin entire, often ciliate; petal 9–13 × 6–11 mm, pink, obovate, apex rounded, sometimes apiculate, margin entire, glabrous; stamens 10, dimorphic, concolor, yellow, anther ovate-oblong, polysporangiate; antesepalous stamens 5, filament 3.5–4.5 mm long, yellow or rarely pink, pedoconnective 1.5–2 mm long, yellow or rarely pink, ventral appendage ca. 0.5 mm long, yellow, truncate at the apex, anther 2.5–3.5 × 0.5–1 mm long, yellow, sometimes with pink stains at the pedoconnective insertion, beak 0.5–0.7 mm long; antepetalous stamens 5, filament 3–4 mm long, yellow, rarely pink, pedoconnective 0.7–1 mm long, yellow, ventral appendage inconspicuous, ca. 0.2 mm long, yellow, rounded at the apex, anther 2–3 × 0.5–0.7 mm, yellow, beak 0.3–0.6 mm long; ovary 3-locular, superior; style 6–8.5 mm long, pink. Capsule 4–5 × 2.5–3 mm, ovate, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed 0.7–1 × ca. 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, Paraíso Perdido, 16 February 2006 (fl., fr.), *R. Romero et al. 7623* (HUFU). Delfinópolis, estrada para Guarita, 20°16'52"S, 46°52'16"W, 816 m, 14 May 2003 (fl., fr.), *R. Romero et al. 6826* (HCF; HUFU). São Roque de Minas, base do morro próximo à sede administrativa, 19 February 1995 (fl., fr.), *J.N. Nakajima et al. 1477* (HUFU).

Microlicia polystemma occurs in Minas Gerais, Goiás, São Paulo, and Distrito Federal (Romero *et al.* 2022). In the SCNP occurs in *campo rupestre*, *campo limpo* and *campo úmido*. Collected with flower from January to May, and September to December and fruit from January to May, July, and October to December. *Microlicia polystemma* has a much branched, subshrub habit, 1-nerved leaf blade, ciliate at the margin, pink and obovate petal, yellow stamens, and polysporangiate anther. The differences between *M. polystemma* and *M. hirticalyx* were noted under *M. hirticalyx*.

19. *Microlicia serpyllifolia* Don (1823: 302). (Fig. 7A–B).

Subshrub or shrub, 0.3–0.8 m tall, erect, much branched. Branch dichotomous and trichotomous, slender, younger branch quadrangular to slighlty terete, velutinous and glandular-punctate, older branch quadrangular or subterete, glabrescent, often leafless with age, xylopodium not seen. Leaf sessile or petiolate, petiole 0.2–0.5 mm long, patent or slightly ascending, not imbricate; blade 2.5–15 × 1.5–10 mm, longer than the internode length, concolor, green, elliptic, ovate-oblong or obovate-oblong to oblong, apex acute or rounded, sometimes apiculate, base rounded to attenuate, margin entire or crenulate, ciliate, both surfaces velutinous and glandular-punctate, 3–5-nerved, basal. Flower solitary, axillary or terminal, 5-merous, pedicel 1–4.5 mm long; bract and bracteole absent; hypanthium 2–3 × 1.5–2.5 mm, vinaceous or green, often with vinaceous stains, cylindrical or oblong-campanulate, 10-striate, bristles crown at the apex absent, velutinous and glandular-punctate; sepal 2–4 × 0.7–1 mm, green or vinaceous, triangular to triangular-subulate, velutinous and glandular-punctate, apex apiculate and acuminate or acute, margin entire and glandular-punctate; petal 5–13.5 × 4–6.5 mm, magenta or pink, sometimes cream at the base, oblong to obovate, apex acuminate, often asymmetrically acuminate and apiculate, margin entire, glabrous; stamens 10, dimorphic, bicolor or rarely concolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 3–4 mm long, vinaceous, rarely cream, pedoconnective 2–4 mm long, vinaceous, rarely cream, ventral appendage 1–1.5 mm long, truncate, yellow at the apex, anther 2–2.5 × ca. 0.5 mm long, vinaceous or rarely

yellow, sometimes with yellow or red stains, beak 0.5–0.8 mm long; antepetalous stamens 5, filament 2.5–3.5 mm long, vinaceous, rarely cream, pedoconnective 0.6–1.5 mm long, yellow, ventral appendage ca. 0.5 mm long, yellow, rounded at the apex, anther 1.5–2 × ca. 0.3 mm, yellow, beak 0.3–0.5 mm long; ovary 3-locular, superior; style 4–7 mm long, vinaceous or cream. Capsule 2.5–4 × 2–3 mm, globose, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 1.5 × 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, morro em frente a Pousada, 09 December 2005 (fl., fr.), *R. Romero et al. 7485* (HUFU; US). Delfinópolis, Condomínio de Pedra, 17 May 2003 (fl., fr.), *R.L. Volpi et al. 721* (HUFU). Sacramento, próximo a guarita de Sacramento, 16 March 1995 (fl., fr.), *R. Romero et al. 1880* (CAS; HUFU). São Roque de Minas, estrada para Guarita de Sacramento, 20°08'30"S, 46°45'53"W, 1362 m, 10 November 2021 (fl., fr.), *R.F. Alves et al. 32* (HUFU).

Microlicia serpyllifolia occurs in Bahia, Goiás, Minas Gerais, Rio de Janeiro, and Distrito Federal (Romero *et al.* 2022). In the SCNP occurs in *campo rupestre*, *campo limpo*, and rarely in *campo úmido.* Collected with flower and fruit throughout the year. *Microlicia serpyllifolia* is readily recognized in having a velutinous indumentum, flower with a long pedicel (1–4.5 mm long), magenta or pink petal, and bicolor, rarely concolor stamens with tetrasporangiate anther. The differences between *M. euphorbioides* and *M. serpyllifolia* were noted under *M. euphorbioides*.

20. *Microlicia speciosa* Versiane & R.Romero in Versiane *et al.* (2021: 54).

Shrub, ca. 1.5 m tall, erect, much branched. Branch trichotomous, slender, younger branch quadrangular, sparsely setose and glandular-punctate, older branch subterete, glabrescent, leafless with age, xylopodium not seen. Leaf sessile, ascending, not imbricate; blade 10–20 × 3–5 mm, longer than the internode length, concolor, green, elliptic, acute at the apex, base attenuate, margin strigose-ciliate, both surfaces glandular-punctate and abaxial surface strigose in the midrib, 3-nerved, basal.

Flower solitary or in dichasium, axillary or terminal, 5–6-merous, pedicel ca. 1 mm long; bract ca. 12 × 4 mm, bracteole 6–8 × 1–2 mm; hypanthium ca. 3.5 × 2–2.5 mm, green, oblong-campanulate or slightly urceolate, 10-striate, bristles crown at the apex absent, glandular, setose and glandular-punctate; sepal 3–8 × 0.5–1 mm, green, linear-oblong, glandular punctate and setose at the base, apex acute and apiculate, margin entire and sparsely glandular-punctate; petal 10.5–12.5 × 6.5–7.5 mm, pink, obovate-oblong, apex truncate, margin entire, slightly glandular-ciliate; stamens 10–12, dimorphic, concolor or bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5–6, filament 3.5–4.5 mm long, cream, pedoconnective 2–2.5 mm long, cream, ventral appendage ca. 1 mm long, rounded, yellow at the apex, anther 2–2.5 × ca. 0.7 mm long, yellow or reddish, beak 0.4–0.5 mm long; antepetalous stamens 5–6, filament 3–3.5 mm long, cream, pedoconnective ca. 0.8 mm long, yellow, ventral appendage ca. 0.2 mm long, yellow, rounded at the apex, anther 2–2.5 × ca. 0.5 mm, yellow, beak ca. 0.4 mm long; ovary 5-locular, partly inferior; style ca. 5 mm long, cream. Capsule ca. 3.5 × 2.5 mm, globose, dehiscent from the apex, hypanthium covering the entire capsule, columella deciduous; seed 1–1.2 × 0.8–1 mm.

Specimen selected:—BRAZIL. Minas Gerais: São Roque de Minas, base do morro do córrego dos Peixes, 24 March 1996 (fl., fr.), *J.N. Nakajima et al. 1729* (CAS; HUFU).

Microlicia speciosa occurs in Minas Gerais, Goiás, and Distrito Federal (Fidanza *et al.* 2022, as *Trembleya elegans*). In the SCNP occurs in *campo úmido*. Collected with flower in March and April and fruit in March. *Microlicia speciosa* has a 3-nerved leaf blade, strigose-ciliate at the margin, glandular-punctate on both surfaces, and a strigose midrib on the abaxial surface. In addition, the flower is 5–6-merous, with petal truncate at the apex, and slightly glandular-ciliate at the margin.

21. *Microlicia trembleyiformis* Naudin (1845: 172). (Fig. 7C).

Shrub, 0.3–1 m tall, erect, much branched. Branch trichotomous, slender, hirsute, younger branch quadrangular, older branch subterete to terete, glabrescent, leafless with age, xylopodium not seen.

Leaf petiolate, petiole 0.5–2 mm long, slightly ascending, not imbricate; blade 7–25 × 2–12 mm, longer than the internode length, discolor, adaxial surface darker, elliptic to narrowly elliptic or ovate, apex acute, base rounded to attenuate, margin serrulate-ciliate, both surfaces glandular-punctate, abaxial surface sparsely setose, 3–5-nerved, basal. Flower solitary, axillary or terminal, 5-merous, pedicel ca. 2 mm long; bract and bracteole absent; hypanthium ca. 2.5 × 1.5–2 mm, green, cylindrical, 10-striate, bristles crown at the apex absent, glandular-punctate and sparsely setose; sepal 1.5–2 × ca. 1 mm, green or vinaceous, triangular, glandular-punctate and setose, apex acute and apiculate, margin entire; petal 5–7 × 3–3.5 mm, pink, oblong, apex asymmetrically acute, margin entire, sometimes sparsely glandular-punctate; stamens 10, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 3–3.5 mm long, pink, pedoconnective ca. 3 mm long, vinaceous, ventral appendage ca. 1.5 mm long, bilobed, yellow at the apex, anther ca. 1.5 × 0.5 mm long, vinaceous, beak 0.1–0.2 mm long; antepetalous stamens 5, filament 2.5–3 mm long, pink, pedoconnective ca. 1 mm long, yellow, ventral appendage ca. 0.2 mm long, yellow, rounded at the apex, anther ca. 1.3 × 0.3 mm, yellow, beak 0.2–0.3 mm long; ovary 3-locular, superior; style 4–5 mm long, pink. Capsule 2.5–3 × 2–2.5 mm, globose, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 0.4 × 0.2 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, estrada para Cachoeira Feixo da Serra, rio Turvo, próximo a trecho de asfalto, 20°36'16"S, 46°13'51"W, 786 m, 15 February 2006 (fl., fr.), *R. Romero et al. 7550* (HUFU). São Roque de Minas, base do morro próximo a sede administrativa, 19 November 1995 (fl., fr.), *J.N. Nakajima et al. 1476* (HUFU; US).

Microlicia trembleyiformis is endemic to Minas Gerais (Romero *et al.* 2022). In the SCNP occurs in *campo úmido* and *campo rupestre*. Collected with flower and fruit in February, April, June, September, and November. *Microlicia trembleyiformis* is readily recognized in having a discolor leaf blade, serrulate-ciliate at the margin, and the abaxial surface with setose and glandular-punctate, sparsely distributed.

22. *Microlicia viminalis* Triana (1872: 28). (Fig. 7D).

Subshrub, 0.2–0.4 m tall, erect, slightly to much branched. Branch dichotomous and trichotomous, slender, younger and older quadrangular, glabrous, often sparsely glandular at the apex, older branch leafless with age, xylopodium not seen. Leaf sessile, ascending, apex imbricate, not imbricate at the middle; blade 3–12 × 1–3 mm, longer than the internode length, concolor, green, elliptic or narrowly ovate, apex acute and apiculate, base attenuate-truncate, margin ciliate or entire, callose, both surfaces glabrous or glandular, 7–9-nerved, basal. Flower solitary or grouped at the apex, terminal, 5-merous, pedicel ca. 1 mm long; bract and bracteole absent; hypanthium 3–3.5 × 2–2.5 mm, vinaceous or green, slightly urceolate, smooth, bristles crown at the apex absent, glandular; sepal ca. 5 mm, vinaceous or green, triangular, glandular, apex acute and glandular-apiculate, margin glandular-ciliate and callose; petal 13–14 × 8–9 mm, magenta, rarely white, obovate-oblong or oblong, apex acute-acuminate, glandular-apiculate , margin entire, glabrous; stamens 10, dimorphic, bicolor, anther oblong, tetrasporangiate; antesepalous stamens 5, filament 5–6 mm long, pink, pedoconnective 5.5–6.5 mm long, pink, ventral appendage 1–1.5 mm long, truncate, yellow at the apex, anther 2–4 × 0.7–1 mm long, vinaceous, beak ca. 0.6 mm long; antepetalous stamens 5, filament 3–6 mm long, pink, pedoconnective ca. 1 mm long, yellow, ventral appendage ca. 0.3 mm long, yellow, rounded at the apex, anther 2.2–3 × 0.6–0.7 mm, yellow, beak ca. 0.5 mm long; ovary 3-locular, superior; style ca. 11 mm long, vinaceous. Capsule ca. 5 × 3.5 mm, oblong, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella deciduous; seed ca. 1 × 0.8 mm.

Specimens selected:—BRAZIL. Minas Gerais: Sacramento, retiro de captação de água, Guarita de Sacramento, 20 September 1996 (fl., fr.), *R. Romero et al. 3573* (HUFU; NY; SPF). São Roque de Minas, Nascente do Rio São Francisco, 25 September 1995 (fl., fr.), *J.N. Nakajima et al. 1300* (BHCB; HUFU).

Microlicia viminalis has a wide distribution, occurring in Bahia, Minas Gerais, Goiás, Tocantins,

and Distrito Federal (Romero *et al.* 2022). In the SCNP occurs often in *campo rupestre* and *campo úmido*. Collected with flower from June to October, and fruit June to September, and November. *Microlicia viminalis* has glabrous branches, leaf blade callose at the margin, 7–9-nerved, and bicolor stamens. *Microlicia viminalis* resembles *M. armata* and *M. fastigiata* in having a glabrous branch and leaf blade callose at the margin. However, in *M. viminalis*, the apex of the hypanthium does not have a bristle crown, and the stamens are bicolor (*vs*. crown of bristles present and stamens with yellow anther in *M. armata* and *M. fastiagiata*.

23. ***Microlicia* sp. 1** R.Romero & Ferreira-Alves, *spec. nov.* (Figs. 5–6).

Diagnosis:—A species recognized in having younger branch with glandular-punctate and sparse or densely hirsute, and hirsute-glandular indumentum, sessile and chartaceous leaf, elliptical or narrowly ovate blade, flower in glomerulus, dichasium, or in dichasium reduced to a solitary flower, and dimorphic stamens with tetrasporangiate anther.

Type:—BRAZIL. Minas Gerais: São Roque de Minas, Parque Nacional da Serra da Canastra, estrada para Sacramento, 3 km da sede administrativa, 17 March 1995 (fl., fr.), *R. Romero et al. 1979* (holotype: HUFU!; isotypes: BHCB!; RB!; US!).

Subshrub or shrub, 0.5–1.5 m tall, erect, branch dichotomous and trichotomous, slender; xylopodium absent. Stem slender, slightly terete, brownish; younger branch quadrangular, slightly winged, green, glandular-punctate, often sparse or densely hirsute and hirsute-glandular, older branch subterete, brown-yellowish, glabrescent, without leaf at the base; internode 3–10 mm long. Leaf sessile, ascending, not imbricate, chartaceous, concolor, green; blade 7–17 × 2–5 mm, longer than the internode length, elliptic or narrowly ovate, apex acute, rarely apiculate, base rounded, margin crenulate or rarely sparse-ciliate, both surfaces glandular-punctate, abaxial surface sometimes setose in the midrib, 3–5-nerved, basal, midrib prominent on the abaxial surface. Inflorescence in

glomerulus, or dichasium, or dichasium reduced to a solitary flower, axillary or terminal, bract 7–13 × 4–6.5 mm, sessile or petiolate, petiole ca. 0.2 mm long, ovate, apex acuminate, bracteole 3–6 × 2–3 mm, sessile, ovate, apex acuminate, both surfaces glandular-punctate, sometimes sparsely setose. Flower 5-merous, sessile or pedicel ca. 0.3 mm long; hypanthium 3.5–3.7 × 2.2–2.7 mm, cylindrical, smooth or slightly 10-striate, green or brown-yellowish (when dry), glandular-punctate, densely setose, sometimes glandular; calyx tube ca. 0.4 mm long, sepal 3–4 × 0.3–0.5 mm, triangular-subulate, acute, apiculate or not, apiculum 0.1–0.2 mm long, shorter than the hypanthium length , smooth, ascending, vinaceous or green-yellowish (when dry), glandular-punctate, often setose and glandular, not veined; petal 8.5–10.5 × 4.8–6 mm, magenta, obovate, apex slightly acuminate, not apiculate, margin entire, glabrous. Stamens 10, dimorphic, bicolor, anther ovate-oblong, tetrasporangiate; larger (antesepalous) stamens 5, filaments 3–4 mm long, vinaceous, anther 1–2 × ca. 0.5 mm, vinaceous, beak 0.3–0.5 mm long, white, pedoconnective ca. 2 mm long, vinaceous, ventral appendage 1–1.2 mm long, yellow, apex rounded; smaller (antepetalous) stamens 5, filaments ca. 3.5 mm long, vinaceous, anther ca. 1.5 × 0.5 mm, yellow, beak 0.3–0.5 mm long, white-yellowish, pedoconnective ca. 1 mm long, yellow, ventral appendage ca. 0.5 mm long, yellow, apex rounded and curved; ovary 2–2.5 × 1.5–2 mm, 3-locular, globose, superior, glabrous; style 4.5–8 mm long, pink, curved at apex, stigma punctiform. Capsule ca. 5.5 × 4 mm, ovate-oblong, brownish, dehiscing into 3 valves from the apex, hypanthium covering the entire ovary and peeling off from top to bottom as the fruit matures, mature capsule with apex not exceeding the hypanthium torus, sepal persistent, columella deciduous. Seeds ca. 0.6 × 0.4 mm, numerous, pale brown, half slightly curved to one side, testa foveolate.

Paratypes:—BRAZIL. Minas Gerais: São Roque de Minas, Parque Nacional da Serra da Canastra, estrada para Sacramento, 21 July 1994 (fl., fr.), *J.N. Nakajima et al. 176* (HUFU!; RB!; SP!; US!); idem, estrada para Casca D'Anta, 22 March 1994 (fl., fr.), *R. Romero et al. 717* (BHCB!; HUFU!; US!); idem, estrada para Sacramento, 2 km da sede, 21 February 1994 (fl.), *J.N. Nakajima et al. 175* (BHCB!; HUFU!; RB!); idem, lado esquerdo da colina próxima à sede, 24 February 1994

(fl., fr.), *R. Romero et al. 706* (BHCB!; HUFU!; RB!); idem, morro próximo à nascente do Rio São Francisco, 20 February 1997 (fl., fr.), *R. Romero et al. 2160* (HUFU!; RB!; SP!); *J.N. Nakajima et al. 2160* (BHCB!; HUFU!; SPF!); idem, 09 January 1998 (fl., fr.), *R. Romero et al. 4848* (HUFU!; SP!); idem, morro próximo à sede administrativa, 17 March 1995 (fl.), *R. Romero et al. 1911* (HUFU!; RB!; US!); *R. Romero et al. 1938* (BHCB!; HUFU!); idem, 27 May 1996 (fl., fr.), *R. Romero et al. 3529* (BHCB!; HUFU!; RB!; SP!); idem, 22 September 1996 (fl., fr.), *R. Romero et al. 3596* (HUFU!); idem, 19 February 1997 (fl., fr.), *R. Romero et al. 3826* (BHCB!; HUFU!; RB!); idem, nascente do Rio São Francisco, 15 July 1995 (fl., fr.), *R. Romero et al. 2412* (HUFU!; RB!); idem, próximo à sede, beira da estrada, 20 February 1994 (fl.), *R. Romero et al. 610* (BHCB!; HUFU!); idem, Serra Brava, 20 February 1997 (fl., fr.), *J.N. Nakajima et al. 2175* (BHCB!; HUFU!; RB!; SP!); idem, topo da colina próximo ao alojamento, 21 February 1994 (fl., fr.), *J.N. Nakajima et al. 169* (HUFU!; SP!); idem, trilha do Chapadão do Diamante, 20 March 1996 (fl., fr.), *R. Romero et al. 3375* (HUFU!; SP!; US!); idem, 18 April 1997 (fl., fr.), *J.N. Nakajima et al. 2336* (BHCB!; HUFU!; RB!); idem, trilha para o Sítio João Domingos, 20 March 1996 (fl.), *R. Romero et al. 3335* (BHCB!; HUFU!; RB!; SP!; US!); idem, 26 May 1996 (fl., fr.), *J.N. Nakajima et al. 1815* (BHCB!; HUFU!; RB!; SP!).

Distribution, Habitat, and Conservation:—*Microlicia* sp. 1 is endemic to SCNP, occurring in the eastern portion of the park, in the area covered by the municipality of São Roque de Minas (Fig. 1), in *campo rupestre* and *campo limpo* at about 1300 m. We hypothesize that if a formal assessment were performed, it would probably be classified as Endangered (EN) following IUCN criteria (IUCN 2001, 2022) since it has a restricted area of occupancy (AOO = 8 km²). Most populations of *M.* sp. 1 occurs inside the SCNP, where the species is expected to be protected. Although a national conservation unit protects this species, the area where it occurs is impacted by periodic fires that can occur in dry periods. In addition, some populations occur along the road that crosses the park used by residents and tourists, which can threaten these populations.

Etymology:—The specific epithet is a tribute to the Brazilian botanist Jimi Naoki Nakajima, who coordinated the floristic inventory carried out in the SCNP from 1994 to 2006. He also collected the

holotype and several paratypes of the new species.

Phenology:—It was collected with flower and fruit from January to May, and July and September.

Taxonomic Notes:—*Microlicia* sp. 1 resembles *M. inquinans* in having sessile, ascending, and not imbricate leaf, blade often crenulate at the margin, and flower in glomerulus. *Microlicia* sp. 1 also has flowers in dichasium or dichasium reduced to a solitary flower (*vs.* only in glomerulus in *M. inquinans*), cylindrical hypanthium (*vs.* campanulate) with triangular-subulate sepal (*vs.* triangular or oblong), smaller petal 8.5–10.5 × 4.8–6 mm (*vs.* larger, 11–18 × 5–11.5 mm), smaller antesepalous stamens with filaments 3–4 mm long, anther 1–2 × ca. 0.5 mm long, beak 0.3–0.5 mm long (*vs.* larger, filaments 5.5–7 mm long; anther 2.5–3 × 0.8–1 mm; beak ca. 0.8 mm long), and smaller antepetalous stamens with filaments ca. 3.5 mm long, anther ca. 1.5 × 0.5 mm long (*vs.* filaments 4.5–6.5 mm long; anther 2.5–3 × ca. 0.7 mm long). In *M. nakajimae,* the apex of the mature capsule does not exceed the torus, while in *M. inquinans*, the apex exceeds the torus, keeping it exposed. *Microlicia* sp. 1 also resembles *M. capitata* in having sessile and ascending leaf, and glomerulus inflorescence. However, it differs in having a sparser indumentum (*vs.* denser in *M. capitata*), and flower also in dichasium, or dichasium reduced in a solitary flower (*vs.* only in glomerulus), cylindrical hypanthium (*vs.* campanulate), elliptic or narrowly ovate leaf blade (*vs.* lanceolate) and petal with glabrous margin (*vs.* ciliate-glandular).

24. ***Microlicia* sp. 2** R.Romero & Ferreira-Alves, *spec. nov.* (Figs. 8–9).

Diagnosis:—A species recognized in having a subshrubby habit, sessile and membranous leaf, linear to linear-lanceolate or elliptic blade, branch, leaf, hypanthium, and sepal with glandular-punctate indumentum, dimorphic stamens with tetrasporangiate anther.

Type:—BRAZIL. Minas Gerais: São Roque de Minas, estrada para parte de cima da Cachoeira Casca D'Anta, 20°14'55,5" S, 46°22'04,6" W, 1324 m, 09 September 2021 (fl., fr.), *R.F. Alves et al. 22* (holotype: HUFU!; isotypes: BHCB!, RB!, SP!).

Subshrub, 0.1–0.5 m tall, erect, cespitose, branch dichotomous and trichotomous, slender. Branch slender, quadrangular, brownish or greenish, glandular-punctate, leafy or sometimes leafless at the base, xylopodium present; internode 3–9 mm long. Leaf sessile, ascending, not imbricate, membranous, concolor, green; blade 3–7(–13) × 0.5–1.5(–4) mm, longer than the internode length, linear to linear-lanceolate or elliptic, apex acute and sometimes apiculate, base attenuate, margin entire, both surfaces with indumentum glandular-punctate, 1-nerved, basal, sometimes inconspicuous. Flowers solitary, axillary or terminal, 4–5-merous, perianth actinomorphic, pedicel 1–3.5 mm long; bract and bracteole absent; hypanthium 2–4 × 1–2 mm, cylindrical, smooth or slightly 10-striate, green or vinaceous, glandular-punctate; calyx tube inconspicuous, sepal 3–4 × 1–2 mm, triangular to triangular-subulate, acute, longer or the same length as the hypanthium, smooth, ascending, green or vinaceous, glandular-punctate, not veined; petal 7–16 × 4–12 mm, pink, sometimes cream at the base, obovate-oblong, apex acuminate, not apiculate, margin entire, glabrous. Stamens 8–10, dimorphic, bicolor, anther oblong to ovate-oblong, tetrasporangiate; larger (antesepalous) stamens 4–5, filaments 3–5.5 mm long, pink, anther 2–3 × ca. 0.5 mm (including beak), vinaceous, sometimes cream, beak ca. 0.5 mm long, pink or white, pedoconnective 1.5–2.5 mm long, pink, ventral appendage 1.3–1.5 mm long, yellow, apex truncate; smaller (antepetalous) stamens 4–5, filaments 2.5–4.5 mm long, pink, anther 1.5–2.5 × 0.5–0.7 mm (including beak), yellow, beak 0.3–0.5 mm long, yellow or white, pedoconnective 0.2–0.5 mm long, yellow, ventral appendage 0.1–0.3 mm long, yellow, apex rounded; ovary 2.5–4 × 1.5–2 mm, 3-locular, globose-oblong, superior, glabrous; style 2–3.5 mm long, pink, terete, curved at apex, stigma punctiform. Capsule 3–5 × ca. 3 mm, globose or oblong, brownish, dehiscing into 3 valves from the apex, hypanthium covering the entire ovary and peeling off from top to bottom as the fruit matures, columella deciduous. Seeds ca. 0.4 × 0.2 mm, numerous, pale brown, half slightly curved to one side, testa foveolate.

Paratypes:—**BRAZIL.** Minas Gerais: São Roque de Minas, 2 km da sede administrativa, 15 October 1994 (fl., fr.), *J.N. Nakajima et al. 509* (HUFU!); 17 April 1994 (fr.), *J.N. Nakajima et al.*

284 (HUFU!); 19 November 2002 (fl., fr.), *R.A. Pacheco et al. 302* (BHCB!; HUFU!; RB!; SP!; SPF!); idem, Cachoeira Casca D'Anta, 10 December 1994 (fl., fr.), *R. Romero et al. 1560* (HUFU!; RB!; SPF!; US!); idem, 12 January 1995 (fl., fr.), *R. Romero et al. 1780* (HUFU!; K!; MBM!; NY!); idem, *R. Romero et al. 1781* (HUFU!; MBM!; UEC!; US!); idem, 12 May 1995 (fl., fr.), *J.N. Nakajima et al. 1053* (CAS!; HUFU!; RB!; SP!); idem, 19 November 2002 (fl.), *P.C. Duarte et al. 39* (HUFU!); idem, 08 February 2012 (fr.), *A.F.A. Versiane et al. 64* (HUFU!); idem, Chapadão do Diamante, 11 May 1995 (fl., fr.), *R. Romero et al. 2185* (BHCB!; HUFU!; RB!; US!); idem, 20 November 1995 (fl.), *R. Romero et al. 3173* (HUFU!; NY!; SP!; US!); idem, 15 October 1997 (fl., fr.), *J.N. Nakajima et al. 2840* (HUFU!; RB!; SP!; SPF!); idem, estrada da Serra Brava, 23 November 1995 (fl.), *J.N. Nakajima et al. 1589* (BHCB!; HUFU!; RB!; SP!; SPF!; US!); idem, estrada para o sítio João Domingos, 15 October 1997 (fl., fr.), *J.N. Nakajima et al. 2875* (BHCB!; F!; HUFU!; RB!; SP!; SPF!; UEC!); idem, 20 August 1997 (fl., fr.), *J.N. Nakajima et al. 2639* (BHCB!; HUFU!; RB!; SP!); idem, estrada para Cachoeira Casca D'Anta, 28 September 1995 (fl.), *R. Romero et al. 2978* (BHCB!, HUFU!, RB!); idem, 20°14'55,5"S, 46°22'04,6"W, 1324 m, 09 November 2021 (fl., fr.), *R.F. Alves et al. 18* (HUFU!; RB!); idem, *R.F. Alves et al. 19* (BHCB; HUFU!; RB!); idem, *R.F. Alves et al. 20* (HUFU!; RB!; SP!; SPF!); idem, (fl.), *R.F. Alves et al. 21* (BHCB!; HUFU!; RB!); idem, estrada para Sacramento, morro próximo ao Córrego dos Passageiros, 28 April 1995 (fl.), *R. Romero et al. 3003* (HUFU!; NY!; RB!; SP!); idem, estrada São Roque de Minas - Sacramento, 3km da sede administrativa, 10 January 1995 (fl., fr.), *R. Romero et al. 1688* (HUFU!; RB!; SP!; SPF!); idem, Morro após a nascente do rio São Francisco, 11 January 1995 (fl., fr.), *R. Romero et al. 1705* (BHCB!; HUFU!; NY!; R!); idem, 08 December 1994 (fl., fr.), *R. Romero et al. 1478* (HUFU!; MBM!; NY!); idem, 16 October 1994 (fl., fr.), *R. Romero et al. 1294* (HUFU!); idem, 19 November 1995 (fl., fr.), *J.N. Nakajima et al. 1505* (HUFU!; CAS!); idem, *J.N. Nakajima et al. 1506* (BHCB!; HUFU!; RB!; SP!; SPF!; US!); idem, 20 November 1996 (fl., fr.), *R. Romero et al. 3781* (HUFU!; US!); idem, *R. Romero et al. 3782* (BHCB!; F!; HUFU!; K!; RB!; SP!; SPF!); idem, morro após o córrego dos passageiros, 21 November 1996 (fl.), *J.N. Nakajima 2129* (BHCB!; HUFU!; K!; NY!;

RB!; SP!; SPF!); idem, 10 January 1998 (fl., fr.), *R. Romero et al. 4949* (BHCB!; HUFU!; RB!); idem, morro próximo à sede administrativa, 26 June 1994 (fl., fr.), *R. Romero et al. 1051* (HUFU!; UPCB!); idem, 22 September 1996 (fl.), *R. Romero et al. 3592* (HUFU!; K!; NY!); idem, morro próximo ao centro de visitantes, 25 September 1995 (fl.), *J.N. Nakajima et al. 1292* (HUFU!; SPF!); idem, Nascente do Rio São Francisco, 16 October 1994 (fl.), *R. Romero et al. 1283* (HUFU!; RB!); idem, 25 September 1995 (fl.), *J.N. Nakajima et al. 1301* (HUFU!); idem, 07 December 1994 (fl., fr.), *J.N. Nakajima et al. 679* (BHCB!; HUFU!; RB!); idem, 27 November 2008 (fl., fr.), *R. Romero et al. 8197* (BHCB!; HUFU!; RB!; SP!); idem, 27 November 2008 (fl., fr.), *R. Romero et al. 8198* (HUFU!); idem, Serra Brava, próximo ao Mirante, 28 September 1995 (fl., fr.), *R. Romero et al. 2985* (BHCB!; HUFU! RB!; SP!; SPF!; US!); idem, trilha da cachoeira Casca D'Anta, 19 November 2002 (fl.), *P.C. Duarte et al. 47* (HUFU!); idem, Guarita 3, 19 November 2002 (fl., fr.), *H.R. Fleury-Silva et al. 209* (BHCB!; HUFU!); idem, 22 November 1995 (fl., fr.), *R. Romero et al. 3194* (BHCB!; F!; HUFU!; RB!; SPF!; US!); idem, *R. Romero et al. 3208* (BHCB!; HUFU!; RB!); idem, trilha da nascente São Francisco, 21 February 1994 (fl.), *J.N. Nakajima et al. 165* (HUFU!; MBM!; UPCB!); idem, trilha para a parte de baixo da Cachoeira da Casca D'Anta, 29 September 1995 (fl., fr.), *J.N. Nakajima et al. 1391* (HUFU!; SP!; SPF!; US!); idem, *J.N. Nakajima et al. 1403* (BHCB!; HUFU!; US!); idem, *J.N. Nakajima et al. 1416* (HUFU!; US!); idem, 21 February 1997 (fl., fr.), *R. Romero et al. 3892* (HUFU!; MBM!; SP!; SPF!).

Distribution, Habitat, and Conservation:—*Microlicia* sp. 2 is endemic to SCNP, Minas Gerais, Brazil, occurring in the eastern portion of the park, in the area covered by the municipality of São Roque de Minas (Fig. 1), in *campo limpo* on sandy and wet soil associated with rock outcroups, between 1200 and 1400 m (Fig. 8A). We hypothesize that if a formal assessment were performed, it would probably be classified as Endangered (EN) following IUCN criteria (IUCN 2001, 2022) since it has a restricted area of occupancy (AOO = 8 km²). Although a national conservation unit protects this species, the area in which it occurs suffers impacts due to intense tourism to visit the sources of the São Francisco River.

Etymology:—The specific epithet is a tribute to São Francisco River, one of the most important in Brazil and known as the "river of national integration" for connecting Brazil's Northeast and Southeast regions (Srdjevic *et al.* 2022). Its source is located in the Serra da Canastra and a large population of *M.* sp. 2 is found near it.

Phenology:—It was collected with flower in April, May and from August to February, and with fruit in April, May and from August to January.

Taxonomic Notes:—Due to the expressive polymorphism of this new species, for more than 25 years, the collections from SCNP were mistakenly identified as two distinct species: *Microlicia scoparia* and *M. pseudoscoparia*. The specimens identified as *M. pseudoscoparia* have larger size and leaf (*e.g.*, *J.N. Nakajima et al. 1403*, and *R. Romero et al. 1781*, *3194*, *3782*), while those identified as *M. scoparia* have smaller leaf (*e.g.*, *J.N. Nakajima et al. 1005*, *1053*, and *R. Romero et al. 2185*, *3781*) (see Romero 2000a). Currently, *M. pseudoscoparia* is considered a synonym of *M. multicaulis* Martius *ex* Naudin (1845: 184) (see Romero 2013), and, like *M. scoparia*, it occurs in *campo rupestre* from Espinhaço Range, in Minas Gerais. *Microlicia* sp. 2 bears some resemblance to *M. scoparia* in having sessile leaf, often a linear-lanceolate leaf blade, acute at the apex, attenuate at the base, and with a glandular-punctate indumentum. However, it differs in having not imbricate leaf (*vs.* slightly imbricate in *M. scoparia*), triangular to triangular-subulate sepal (*vs.* triangular-linear), oblong to ovate-oblong anther (*vs.* ovate), and obovate-oblong petal (*vs.* obovate). *Microlicia* sp. 2 also resembles *M. multicaulis* in having often a linear-lanceolate leaf blade, acute at the apex, attenuate at the base, and glandular-punctate indumentum. However, it differs in being a subshrub with few branches compared to *M. multicaulis*). In addition, it has sessile leaf (*vs.* petiolate in *M. multicaulis*) and petal not apiculate at the apex (*vs.* apiculate). *Microlicia* sp. 2 resembles also *Microlicia martiana* in having often a linear-lanceolate leaf blade, acute at the apex, attenuate at the base, and glandular-punctate indumentum. However, it differs in having sessile leaf (*vs.* petiolate in *M. martiana*), 1-nerved (*vs*. 1–3-nerved), pink petal, eventually cream at the base (*vs.* entirely magenta). *Microlicia* sp. 2 and *Microlicia rugosa* R.Romero & Versiane (2019: 37) share subshrubby

habits, ascending and not imbricate leaf with glandular-punctate indumentum. However, it differs in having smooth or slightly 10-striate hypanthium (*vs.* wrinkled), linear to linear-lanceolate or elliptic leaf blade (*vs.* lanceolate or oblanceolate), acute and sometimes apiculate at the apex (*vs.* obtuse at apex), triangular to triangular-subulate sepal, 3–4 × 1–2 mm (*vs.* triangular to oblong-triangular, 1–3 × 0.8–1 mm), pink petal, sometimes with a cream base (*vs.* entirely magenta) (Romero *et al.* 2019).

25. *Rhynchanthera dichotoma* De Candolle (1828: 107).

Shrub, ca. 2 m tall, erect, much branched. Branch trichotomous and dichotomous, slender, younger and older quadrangular, glandular, xylopodium not seen. Leaf petiolate, petiole 2–15 mm long, patent, not imbricate; blade 18–60 × 9–35 mm, longer than the internode length, concolor, green, ovate, apex acute, base cordate, margin slightly serrulate-ciliate, both surfaces densely glandular and setose, 5–10-nerved, basal. Flower in dichasium, axillary or terminal, 5-merous, pedicel ca. 1.5 mm long; bract ca. 12 × 4 mm, bracteole ca. 5 × 1.5 mm; hypanthium 4.5–5 × 2.5–3 mm, green, oblong, 10-striate, glandular; sepal ca. 2.5 × 0.5 mm, green, linear-subulate, glandular, apex acute, margin entire and glandular-ciliate; petal ca. 10 × 8.5 mm, purplish, obovate, apex acuminate , margin entire; 5 fertile antesepalous stamens, subisomorphic, concolor, cream-purplish, anther oblong, tetrasporangiate, filament 3.5–5 mm long, purplish, pedoconnective ca. 2.5 mm long, purplish, ventral appendage ca. 0.2 mm long, slightly truncate, purplish, anther ca. 5 × 2 mm, beak 1.5–2 mm long, 5 antepetalous staminodia, filiform, ca. 2 mm long; ovary 4-locular, superior; style ca. 12 mm long, purplish. Capsule 5–7 × 4–6.5 mm, ovate, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella not seen; seed 0.7–0.9 × ca. 0.5 mm.

Specimen selected:—BRAZIL. Minas Gerais: São Roque de Minas, estrada para a fazenda do Antônio Lopes, 23 May 1996 (fl., fr.), *J.N. Nakajima et al. 1748* (F; HUFU; UEC).

Rhynchanthera dichotoma has a wide distribution, occurring in Venezuela, French Guiana, Guyana, Brazil, and Peru (Renner 1990). In Brazil occurs in Acre, Amazonas, Roraima, Bahia, Goiás,

Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Paraná, and Santa Catarina, and Distrito Federal (Versiane & Silva-Gonçalves 2022). In the SCNP occurs in *campo úmido*. Collected with flower and fruit in May. *Rhynchanthera dichotoma* differs from *R. grandiflora* Candolle (1828: 107) mainly in having five subisomorphic fertile stamens, while *R. grandiflora* has strongly dimorphic stamens with one larger than the others.

26. *Rhynchanthera grandiflora* De Candolle (1828: 107). (Fig. 7E).

Shrub, 2–3 m tall, erect, much branched. Branch trichotomous and dichotomous, slender, younger and older subterete, glandular and setose, xylopodium not seen. Leaf petiolate, petiole 2–5 mm long, patent to slightly ascending, not imbricate; blade 40–90 × 13–30 mm, longer than the internode length, discolor, green, adaxial surface darker, ovate-oblong or ovate-lanceolate, apex acute or acuminate, base rounded or cordate, margin slightly serrulate-ciliate, both surfaces densely glandular and setose, 5–7-nerved, basal. Flower in dichasium, axillary or terminal, 5-merous, pedicel 1–1.5 mm long; bract ca. 17 × 5 mm, bracteole ca. 8 × 2 mm; hypanthium 4–5 × 3–4 mm, green, suburceolate, 10-striate, glandular; sepal 6–9 × ca. 0.5 mm, green, linear-subulate, glandular and setose, apex acute and apiculate, margin entire and glandular-ciliate; petal 15–20 × ca. 15 mm, purplish, obovate, apex acuminate, glandular-apiculate, margin entire; 5 fertile antesepalous stamens, concolor, purplish to cream-purplish, anther oblong, tetrasporangiate, strongly dimorphic with one longer than the others, filament ca. 9 mm long, purplish, pedoconnective 9–12 mm long, purplish, ventral appendage ca. 0.1 mm long, slightly truncate, purplish, anther 5–9 × ca. 1.5 mm, beak 3–4 mm long, the other 4 with filament 4.5–6.5 mm long, purplish, pedoconnective 3–4 mm long, purplish, ventral appendage ca. 0.1 mm long, slightly truncate, purplish, anther ca. 8 × 1–2 mm, beak ca. 3 mm long; 5 antepetalous staminodia, filiform, 2.5–5.5 mm long; ovary 4–5-locular, superior; style 15–20 mm long, purplish. Capsule 5–8 × 4–5 mm, ovate, dehiscent from the apex, hypanthium covering the entire capsule and peeling off as the fruit matures, columella not seen; seed ca. 0.8 × 0.5 mm.

Specimens selected:—BRAZIL. Minas Gerais: Capitólio, Represa de Furnas, Cachoeira Feixo da Serra, Rio Turvo, 28 September 2005 (fl., fr.), *R. Romero et al. 7194* (HUFU). Delfinópolis, Cachoeira Águas Claras, trilha da cachoeira, 23 June 2010 (fl., fr.), *P.O. Rosa et al. 1321* (HUFU). São Roque de Minas, Chapadão da Zagaia da frente para a Serra das Sete Voltas, após a torre de observação, 18 October 1997 (fl., fr.), *R. Romero et al. 4763* (HUFU).

Rhynchanthera grandiflora has a wide distribution, occurring in Mexico, Panama, Colombia, Venezuela, the Guianas, Peru, Bolivia, and Brazil (Renner 1990). In the SCNP occurs in *campo úmido*. Collected with flower and fruit in March, June, July, September, and October. The most remarkable feature of R. *grandiflora* is the presence of five stamens, with one of them much larger than the others.

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References

Almeda, F. & Martins, A.B. (2001) New combinations and new names in some Brazilian Microlicieae (Melastomataceae), with notes on the delimitation of *Lavoisiera*, *Microlicia*, and *Trembleya*. *Novon* 11: 1–7. http://dx.doi.org/10.2307/339319

Bacci, L., Michelangeli, F. & Goldenberg, R. (2019) Revisiting the classification of Melastomataceae: implications for habit and fruit evolution. *Botanical Journal of the Linnean Society* 190: 1–24. https://doi.org/10.1093/botlinnean/boz006

Bachman, S., Moat, J., Hill, A.W., de la Torre, J. & Scott, B. (2011) Supporting Red List threat assessments with GeoCAT: geospatial conservation assessment tool. *ZooKeys* 150: 117−126. https://doi.org/10.3897/zookeys.150.2109

Bochorny, T., Michelangeli, F.A., Almeda, F. & Goldenberg, R. (2019) Phylogenetics, morphology and circumscription of Cambessedesieae: a new Netropical tribe of Melastomataceae. *Botanical Journal of the Linnean Society* 190: 281–302. https://doi.org/10.1093/botlinnean/boz018

Chamisso, L.A. von (1834) De plantis in expeditione speculatoria Romanzoffiana et in herbariis regiis berolinensibus observatis. (Melastomaceae Americanae). *Linnaea* 9 (3): 368–460.

Clausing, G. & Renner, S.S. (2001) Molecular Phylogenetics of Melastomataceae and Memecylaceae: implications for character evolution. *American Journal of Botany* 88: 486–498. http://dx.doi.org/10.2307/2657114

Cogniaux, A.C. (1883) Microlicieae & Tibouchinieae. *In:* Martius, C.F.P., Eichler, A.W. & Urban, I. (eds.) *Flora Brasiliensis* 14 (3). Fleischer, Leipzig, pp. 6–510.

Cogniaux, C.A. (1891). *Monographiae Phanerogamarum Prodromi nunc Continuato, nunc Revisio Auctoribus Alphonso et Casimir de Candolle Aliisque Botanicis Ultra Memoratis*. Paris, 1256 pp.

CRIA (Centro de Referência e Informação Ambiental) (2022) *species*Link. Available from: specieslink.net (accessed 20 July 2022).

De Candolle, A.P. (1828) Melastomataceae. *In:* De Candolle, A.L.P.P. (Ed.) *Prodromus Systematis Naturalis Regni Vegetabilis 3*. Treuttel et Würtz, Paris, pp. 99–202

Don, D. (1823) An Illustration of the Natural Family of Plants called Melastomaceae. *Memoirs of the Wernerian Natural History Society* 4: 276–329.

Fritsch, P.W., Almeda, F., Renner, S.S., Martins, A.B. & Cuz, B.C (2004) Phylogeny and circumscription of the near–endemic Brazilian tribe Microlicieae (Melastomataceae). *American Journal of Botany* 91: 1105–1114. http://dx.doi.org/10.3732/ajb.91.7.1105

Google Earth Pro. (2022) *Digital Globe*. Available from: http://www.google.com/earth/index.html (accessed 22 July 2022)

Humboldt, A. & Bonpland, A. (1823) Monographie des Mélastomacées. *In*: Humboldt, A. & Bonpland, A. (Eds.) *Monographia Melastomacearum, Vol. 2 - Rhexies*. Chez Gide Fils, Paris, pp. 1–158

IBAMA (2005) Plano de Manejo do Parque Nacional da Serra da Canastra. Instituto Brasileiro do Meio Ambiente, Brasília. 799 pp.

ICMBio (2022) Instituto Chico Mendes de Conservação da Biodiversidade. Parna da Serra da Canastra. Lista de publicações científicas no parque. Available from: https://www.gov.br/icmbio/pt-br/assuntos/biodiversidade/unidade-de-conservacao/unidades-de-biomas/cerrado/lista-de-ucs/parna-da-serra-da-canastra/arquivos/listagem_publicacoes_cientificas_do_parque_nacional_da_serra_da_canastra_out2020.pdf/view (acessed 20 July 2022).

IUCN (2001) IUCN Red List Categories and Criteria. Version 3.1. IUCN, Gland, Switzerland, Cambridge, UK, 33 pp.

IUCN (2022) Guidelines for using the IUCN Red List categories and criteria. Version 15.1. Prepared by the Standards and Petitions Committee of the IUCN Species Survival Commission. Available from: https://www.iucnredlist.org/resources/redlistguidelines (accessed 20 July 2022)

Jussieu, A.L. (1789) *Genera Plantarum secundum ordines naturales disposita, juxta methodum in horto region parisiensi exaratam*. Herissant et Barrois, Paris, 498 pp. https://doi.org/10.5962/bhl.title.284

Koschnitzke, C. & Martins, A.B. (2006) Revisão taxonômica de *Chaetostoma* DC. (Melastomataceae, Microlicieae). *Arquivos do Museu Nacional, Rio de Janeiro* 64 (2): 95–119.

Machado, A.I.M.R. & Romero, R. (2014) Bignoniaceae das serras dos municípios de Capitólio e Delfinópolis, Minas Gerais. *Rodriguésia* 65(4): 1003–1021. https://doi.org/10.1590/2175-7860201465411

Martins, A.B. & Almeda, F. (2017) A monograph of the Brazilian endemic genus *Lavoisiera* (Melastomataceae: Microlicieae). *Phytotaxa* 315 (1): 1–194. https://doi.org/10.11646/phytotaxa.315.1.1

Martins, E. (1997) Revisão taxonômica do gênero *Trembleya* DC. (Melastomataceae). PhD thesis – *Universidade Estadual de Campinas*, Campinas, 162 pp.

Martius, C. von (1831) *Nova genera et species plantarum*. Impensis Auctoris, Munchen, 3(2): 107.

Naudin, C. (1845) Melastomacearum monographicae descriptionis. *Annales des Sciences Naturelles Botanique*, série 3, 3: 162–192. http://dx.doi.org/10.5962/bhl.title.12248

Naudin, C. (1849) Melastomatacearum monographieae descriptiones. *Annales des Sciences Naturelles Botanique*, série 3, 3: 196–270.

Pacifico, R., Almeda, A. & Fidanza, K. (2020) Seven new species of *Microlicia* (Melastomataceae: Microlicieae) from Minas Gerais, Brazil. *Systematic Botany* 45 (2): 277–293. https://doi.org/10.1600/036364420X15862837791348

Pacifico, R. & Fidanza, K. (2022) *Trembleya* in Flora e Funga do Brasil. Jardim Botânico do Rio de Janeiro. Available from: https://floradobrasil.jbrj.gov.br/FB9979 (accessed 20 July 2022).

Penneys, D.S., Michelangeli, F.A., Judd, W.S. & Almeda, F. (2010) Henrietteeae (Melastomataceae): a new neotropical berry-fruited tribe. *Systematic Botany* 35: 783–800. https://doi.org/10.1600/036364410X539862

Penneys, D. S., Almeda, F., Reginato, M., Michelangeli, F. A., Goldenberg, R., Fritsch, P. W., & Stone, R. D. (2022) A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology. In *Systematics, Evolution, and Ecology of Melastomataceae*, *Springer*, Cham: 109–165. https://doi.org/10.1007/978-3-030-99742-7_5

R Core Team (2022) R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. Available from: https://www.R-project.org/ (accessed 16 July 2022).

Radford, A.E., Dickison, W.C., Massey, J.R. & Bell, C.R. (1986) *Vascular Plant Systematics*. New York: Harper and Row Publishers, 891 pp

Reflora (2022) Virtual Herbarium. Jardim Botânico do Rio de Janeiro. Available from: http://reflora.jbrj.gov.br/reflora/herbarioVirtual/ (accessed 16 July 2022).

Reginato, M. (2016) monographaR: an R package to facilitate the production of plant taxonomic monographs. Brittonia 68(2): 212–216. https://doi.org/10.1007/s12228-015-9407-z

Renner, S.S. (1990) A revision of *Rhynchanthera* (Melastomataceae). *Nordic Journal of Botany* 9: 601–630.
https://doi.org/10.1111/j.1756-1051.1990.tb00551.x

Renner, S.S. (1993) Phylogeny and classification of the Melastomataceae and Memecylaceae. *Nordic Journal of Botany* 13: 519–540. https://doi.org/10.1111/j.1756-1051.1993.tb00096.x

Rocha, M.J.R., Guimarães, P.J.F., Michelangeli, F.A. & Batista, J.A.N. (2018) Taxonomy of Marcetieae: a new Neotropical tribe of Melastomataceae. *International Journal of Plant Sciences* 179 (1): 50–74. https://doi.org/10.1086/694932

Romero, R., Caetano, A.P.S., Santos, K.F., Paula, O.C. & Versiane, A.F.A. (2019) Two new species of Microlicia D.Don (Melastomataceae) from campos rupestres in eastern Brazil. *Nordic Journal of Botany* 37. https://doi.org/10.1111/njb.02350

Romero, R. (2000a) *A família Melastomataceae no Parque Nacional da Serra da Canastra, Minas Gerais*. Tese de Doutorado, Universidade Estadual de Campinas, São Paulo. 326p.

Romero, R. (2000b) A new species of *Microlicia* (Melastomataceae) from Brazil. *Brittonia* 52: 142–144.
http://dx.doi.org/10.2307/2666504

Romero, R. (2003) Revisão taxonômica de *Microlicia* sect. *Chaetostomoides* (Melastomataceae). *Revista Brasileira de Botânica* 26 (4): 429–435. http://dx.doi.org/10.1590/s0100-84042003000400001

Romero, R., Fontelas, J.C., Moreira, K.V.C., Ferreira-Alves, R., Oliveira, L.F.A. & Versiane, A.F.A. (2022) *Microlicia* in Flora e Funga do Brasil. Jardim Botânico do Rio de Janeiro. Available from: https://floradobrasil.jbrj.gov.br/FB9782 (accessed 17 July 2022).

Romero, R. & Martins, A. B. (1999) A new species of *Chaetostoma* (Melastomataceae) from Minas Gerais, Brazil. *Candollea* 54: p. 449–452.

Romero, R. & Martins, A.B. (2002) Melastomataceae do Parque Nacional da Serra da Canastra, Minas Gerais, Brasil. *Revista Brasileira de Botânica* 25 (1): 19–24. https://doi.org/10.1590/s0100-84042002000100004

Romero, R. & Nakajima, J.N. (1999) Espécies endêmicas do Parque Nacional da Serra da Canastra, Minas Gerais. *Revista Brasileira de Botânica* 22: 259–265. https://doi.org/10.1590/s0100-84041999000500006

Romero, R. (2013) Taxonomic notes in Microlicia (Melastomataceae, Microlicieae). Phytotaxa 110 (1): 48–54. http://dx.doi.org/10.11646/phytotaxa.110.1.4

Romero, R. & Versiane, A.F.A. (2014) A new species of *Microlicia* and a checklist of Melastomataceae from the mountains of Capitólio municipality, Minas Gerais, Brazil. *Phytotaxa* 170 (2): 118–124. http://dx.doi.org/10.11646/phytotaxa.170.2.4

Romero, R. & Woodgyer, E. M. (2011) *Microlicia hirticalyx* (Melastomataceae): a new name for *Microlicia acuminata* Cogn. *Kew Bulletin* 66: 163–165. https://doi.org/10.1007/s12225-011-9264-1

Sprengel, K. (1820) *Neue Entdeckungen im ganzen Umfang der Pflanzenkunde*. *Leipzig* 1: 452 pp.

Sprengel, K. (1825) *Systema vegetabilium. Sumtibus Librariae Dieterichianae, Gotinga* 960 pp.

Silva, D.N., Koschnitzke, C., Jesus, J.C. & Guimarães, P.J.F. (2022) *Chaetostoma* in Flora e Funga do Brasil. Jardim Botânico do Rio de Janeiro. Available from: https://floradobrasil.jbrj.gov.br/FB9436 (accessed 20 july 2022)

Silva, M.A.O. & Romero, R. (2008) Melastomataceae das serras do Município de Delfinópolis, Minas Gerais Gerais, Brasil. *Rodriguésia* 59 (4): 609–647. https://doi.org/10.1590/2175-7860200859401

Srdjevic, B., Medeiros, Y. D. P. & Srdjevic, Z. (2022) Empowering small stakeholders groups in selecting a long-term water management plan. *Water Policy* 27: 1208–1222. https://doi.org/10.2166/wp.2022.075

Thiers, B. (2022 [continuously updated]) *Index Herbariorum: a global directory of public herbaria and associated staff.* New York Botanical Garden's Virtual Herbarium. Available from: http://sweetgum.nybg.org/science/ih/ (accessed 20 July 2022)

Triana, J. (1872) *Les Mélastomaceés. Transactions of the Linnean Society of London* 28 (1): 188 pp. http://dx.doi.org/10.1111/j.1096-3642.1871.tb00222.x

Veranso-Libalah, M. C., Stone, R. D. & Kadereit, G. (2017) *Argyrella richardsiae*, a new species of Melastomataceae from the wet miombo woodlands of south-central Africa. *PhytoKeys* 82: 113–121.
https://doi.org/10.3897/phytokeys.82.12914

Versiane, A.F.A., Romero, R., Reginato, M., Welker, C.A.D., Michelangeli, F.A. & Goldenberg, R. (2021) Phylogenetic analysis of Microlicieae (Melastomataceae), with emphasis on the re-circumscription of the large genus *Microlicia*. *Botanical Journal of the Linnean Society* 197: 35–60.
https://doi.org/10.1093/botlinnean/boab011

Versiane, A.F.A. & Silva-Gonçalves, K.C. (2022) *Rhynchanthera* in Flora e Funga do Brasil. Jardim Botânico do Rio de Janeiro. Available from: https://floradobrasil.jbrj.gov.br/FB9860 (accessed 20 July 2022).

FIGURE 1. Map with the boundaries of the Serra da Canastra National Park and the geographical distribution of *M.* sp. 1 and *M.* sp. 2.

FIGURE 2. Phytophysiognomies from Serra da Canastra National Park. **A–D.** *Campo rupestre*. **E–F.** *Cerrado rupestre*. (Photos: A, B, E, F: Rosana Romero; C, D: Rodolfo Ferreira-Alves).

FIGURE 3. Flowers of *Microlicia* species from Serra da Canastra National Park. **A.** *M. armata*. **B.** *M. canastrensis*. **C.** *M. capitata*. **D.** *M. cataphracta*. **E.** *M. cordata*. **F.** *M. fasciculata*. **G.** *M. flava*. **H.** *M. hirticalyx*. (Photos: A, C: Ana Flávia Alves Versiane; B: Rodolfo Ferreira-Alves; D–F, H: Rosana Romero; G: Maria José Reis da Rocha).

FIGURE 4. Flowers of *Microlicia* species from Serra da Canastra National Park. **A.** *M. inquinans*. **B.** *M. isophylla*. **C.** *M. martiana*. **D.** *M. minensis*. **E–F.** *M. parviflora*. **G.** *M. phlogiformis.* **H.** *M. polystemma*. (Photos: Rosana Romero).

FIGURE 5. *Microlicia* sp. 1 R.Romero & Ferreira-Alves. Photo of living specimen. **A.** Flower, frontal view. **B.** Fruiting branch. **C.** Vegetative branch. (Photos: A–B: Ana Flávia Alves Versiane; C: Rosana Romero).

FIGURE 6. *Microlicia* sp. 1 R.Romero & Ferreira-Alves. **A.** Detail of a flowering branch. **B.** Flowers in glomerulus inflorescence. **C.** Solitary flower with two bracteoles. **D.** Leaf adaxial surface. **E.** Leaf abaxial surface, with detail of indumentum. **F.** Petal. **G.** Antepetalous (large) stamen, lateral view. **H.** Antesepalous (small) stamen, lateral view. **I.** Gynoecium. **J.** Capsule. A–J: *R. Romero et al. 1979*. (Photos: Rodolfo Ferreira-Alves).

FIGURE 7. Flowers of *Microlicia* and *Rhynchanthera* species. **A–B.** *M. serpyllifolia*. **C.** *M. trembleyiformis*. **D.** *M. viminalis.* **E.** *R. grandiflora*. (Photos: A, C–E: Rosana Romero; B: Rodolfo Ferreira-Alves).

FIGURE 8. *Microlicia* sp. 2 R.Romero & Ferreira-Alves. Photos of living specimens. **A.** Habitat in *campo arenoso* (sandy field) near the source of the São Francisco River, Serra da Canastra National Park, Minas Gerais, Brazil, where there is a large population. **B.** Habit. **C.** Flowering branch. **D.** Flower, in frontal view. **E.** Flower in lateral view, showing the vinaceous hypanthium and sepals (left) and immature fruit (right) (Photos: A–C: Rosana Romero; D–E. Rodolfo Ferreira-Alves).

FIGURE 9. *Microlicia* sp. 2 R.Romero & Ferreira-Alves. **A.** Whole plant with a xylopodium. **B.** Leaf adaxial surface. **C.** Leaf abaxial surface. **D.** Branch with a solitary flower in lateral view, showing vinaceous hypanthium and sepals. **E.** Petal. **F.** Antepetalous (large) stamen, lateral view. **G.** Antesepalous (small) stamen, diagonal view. **H.** Capsule. **I.** Gynoecium. A–I: *R.F. Alves et al. 22*. (Photos: Rodolfo Ferreira-Alves).

FIGURE 1.

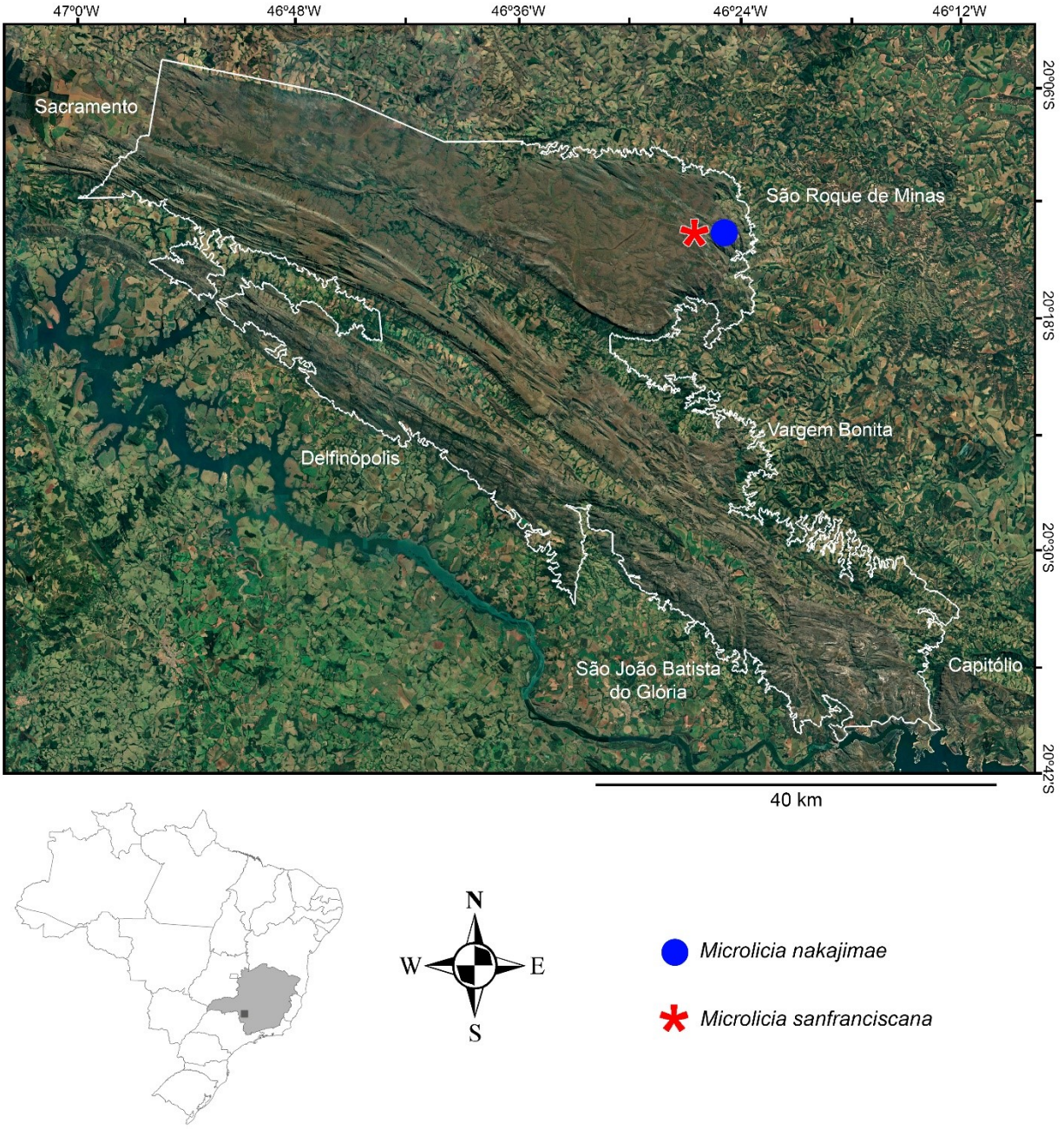
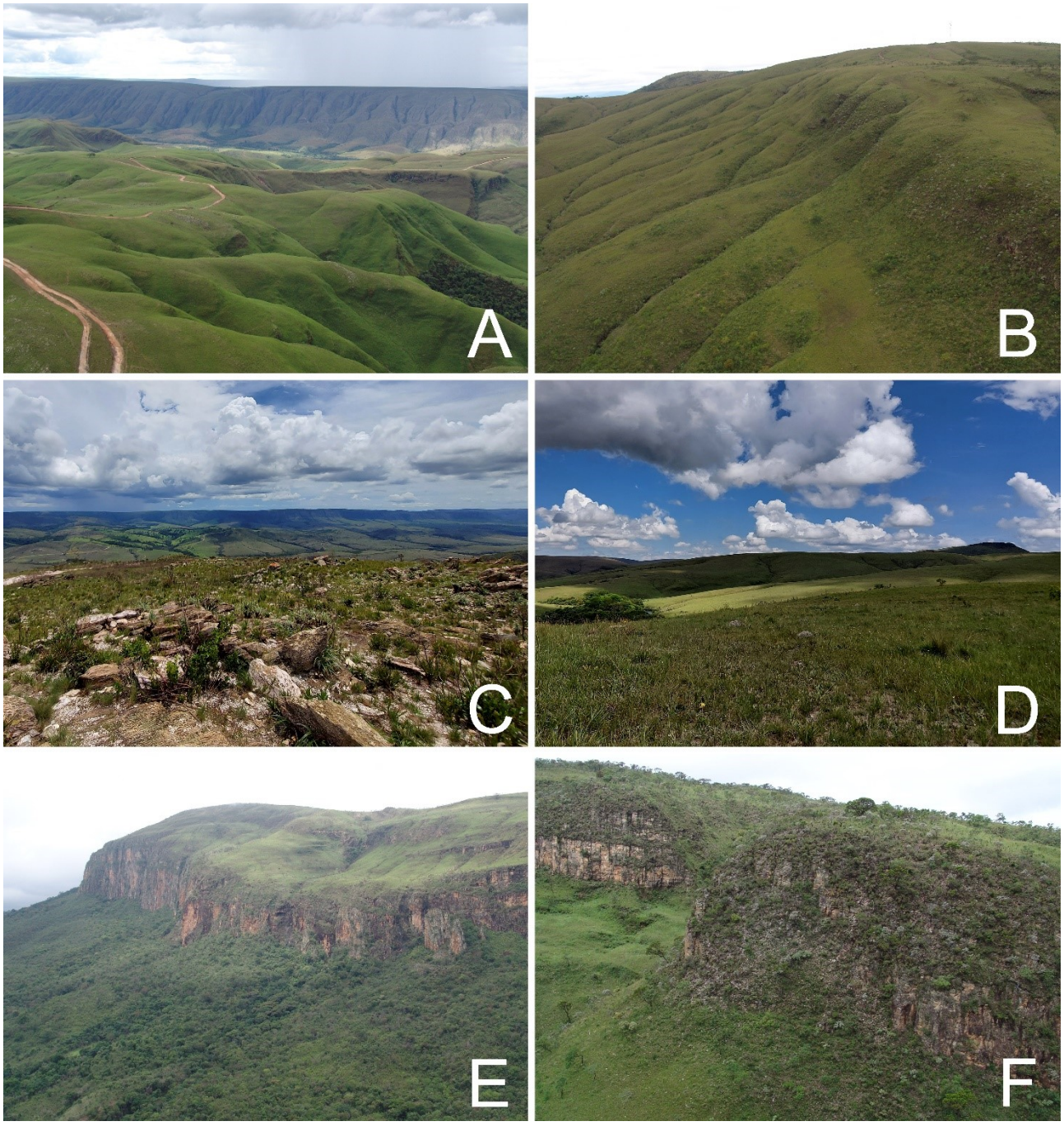

47°0'W
46°48'W
46°36'W
46°24'W
46°12'W
20°6'S
20°18'S
20°30'S
20°42'S
Sacramento
São Roque de Minas
Vargem Bonita
Delfinópolis
São João Batista do Glória
Capitólio
40 km
N
W
E
S
Microlicia nakajimae
Microlicia sanfranciscana

FIGURE 2.



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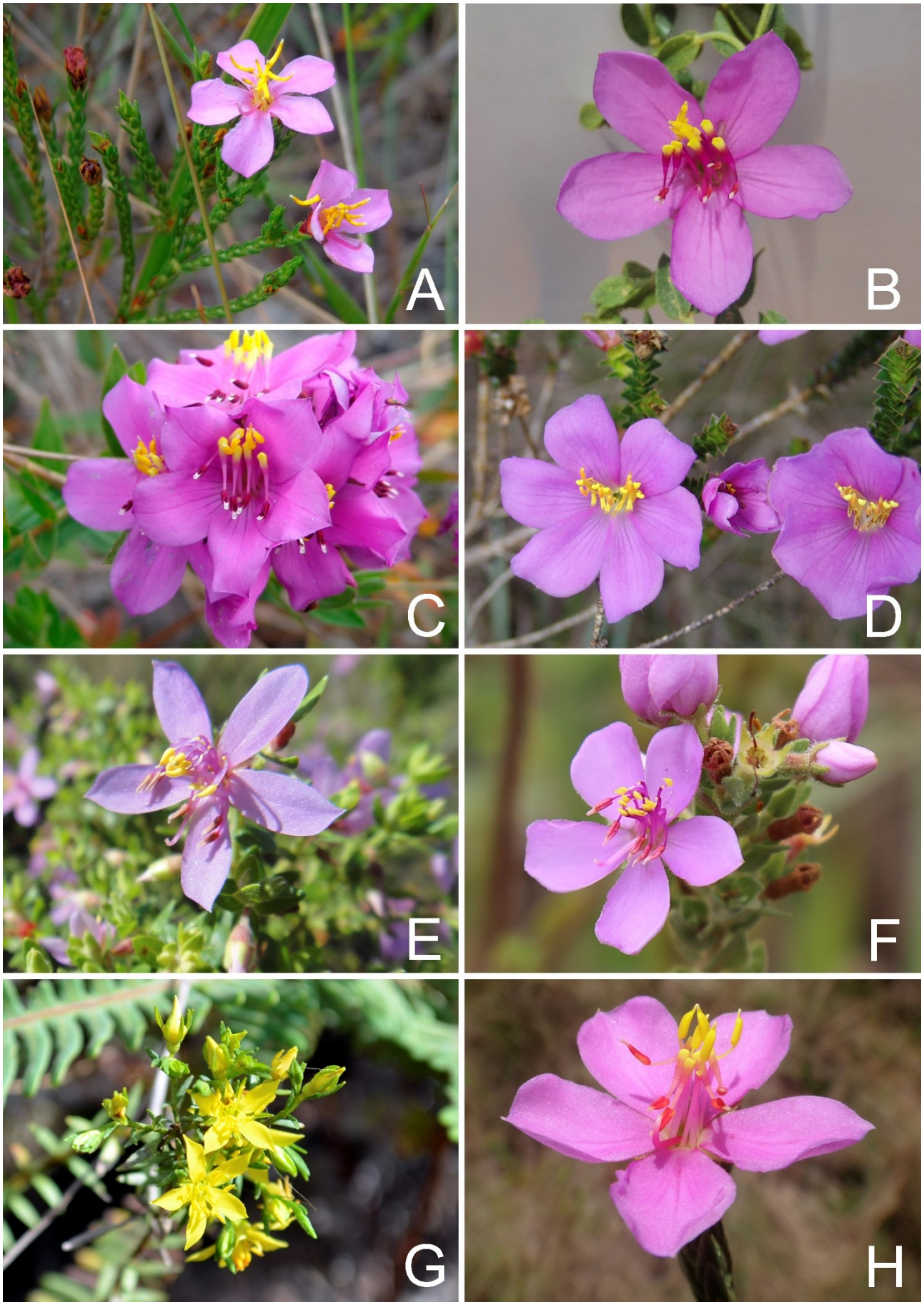

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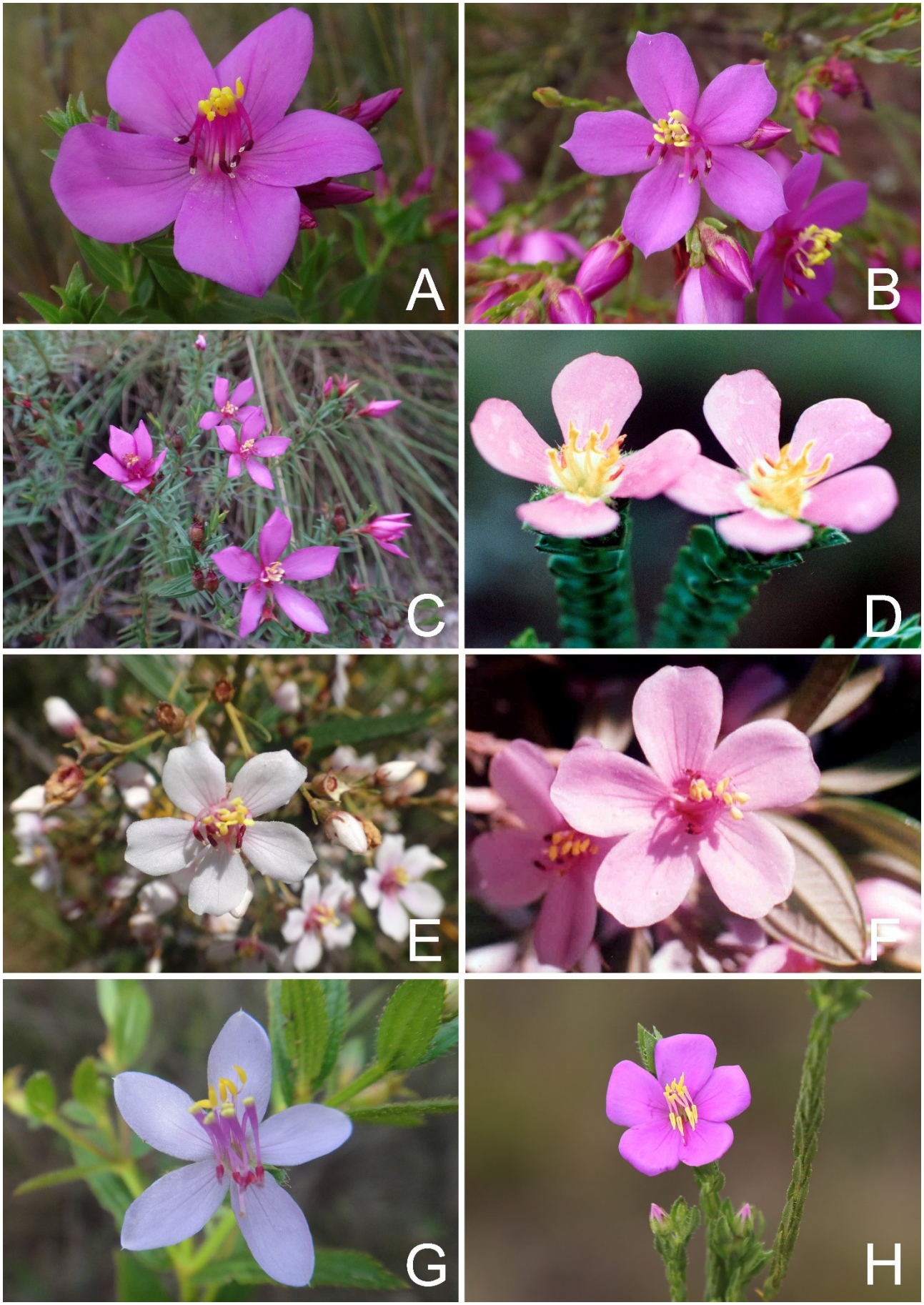

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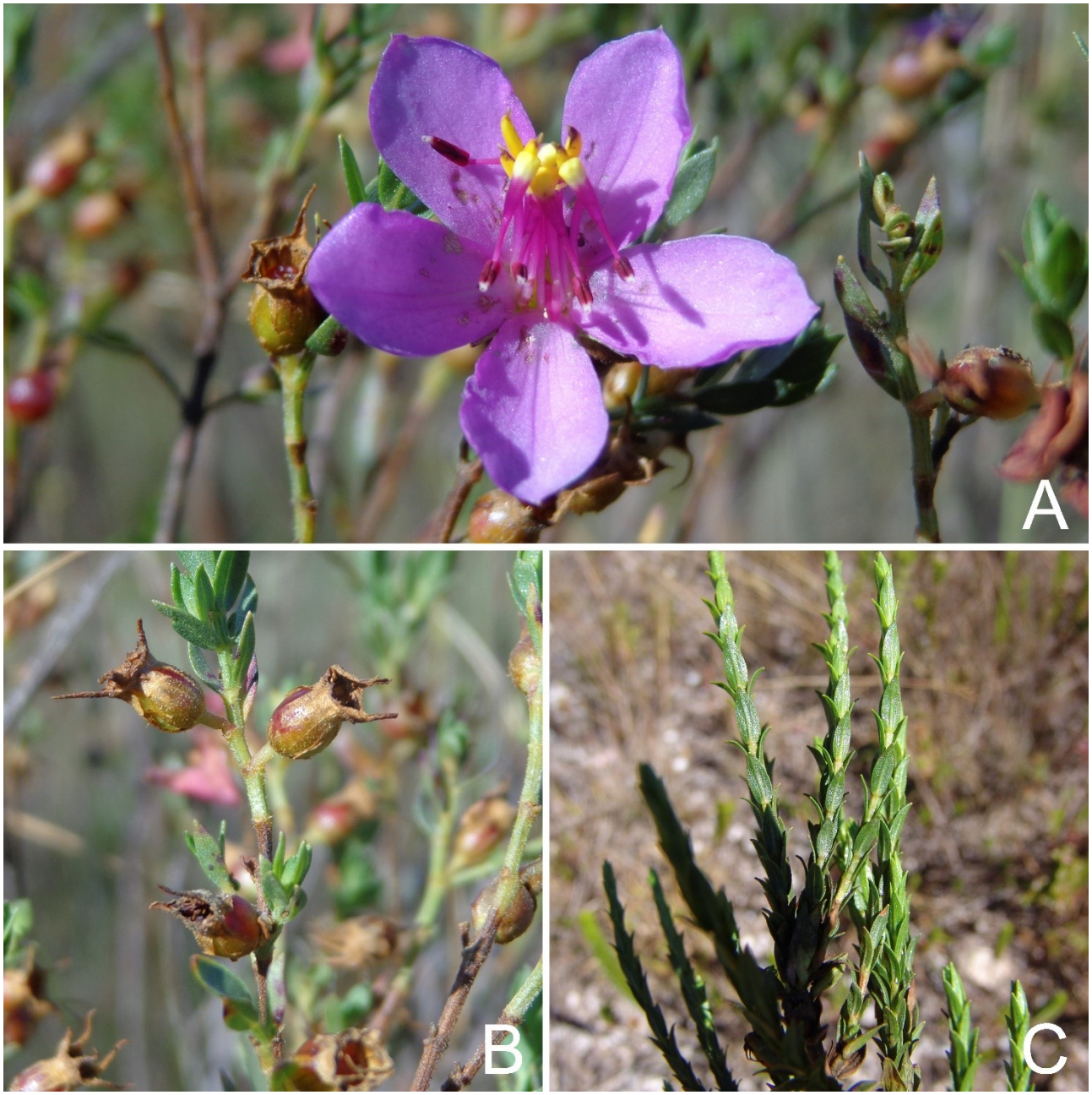

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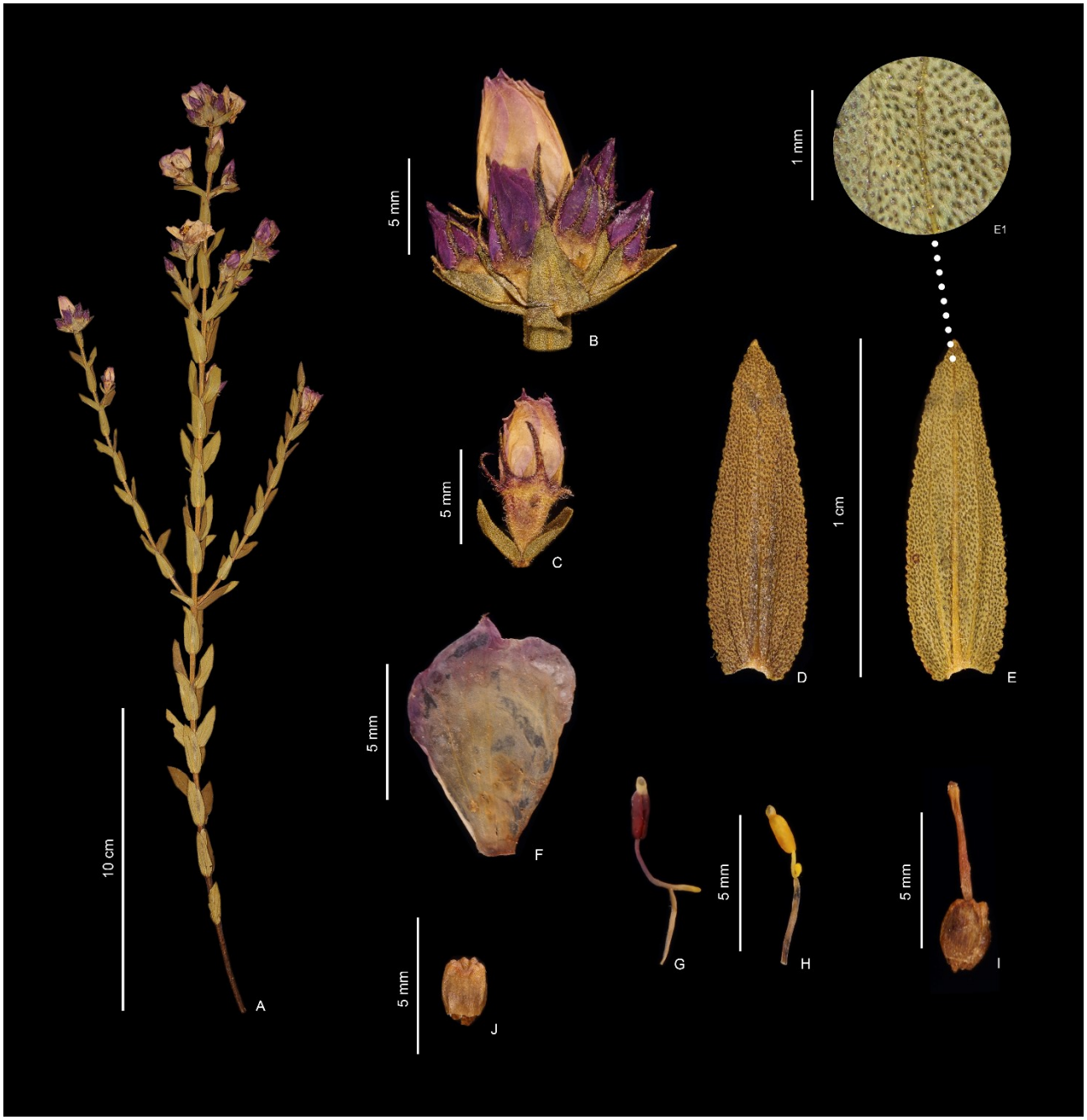

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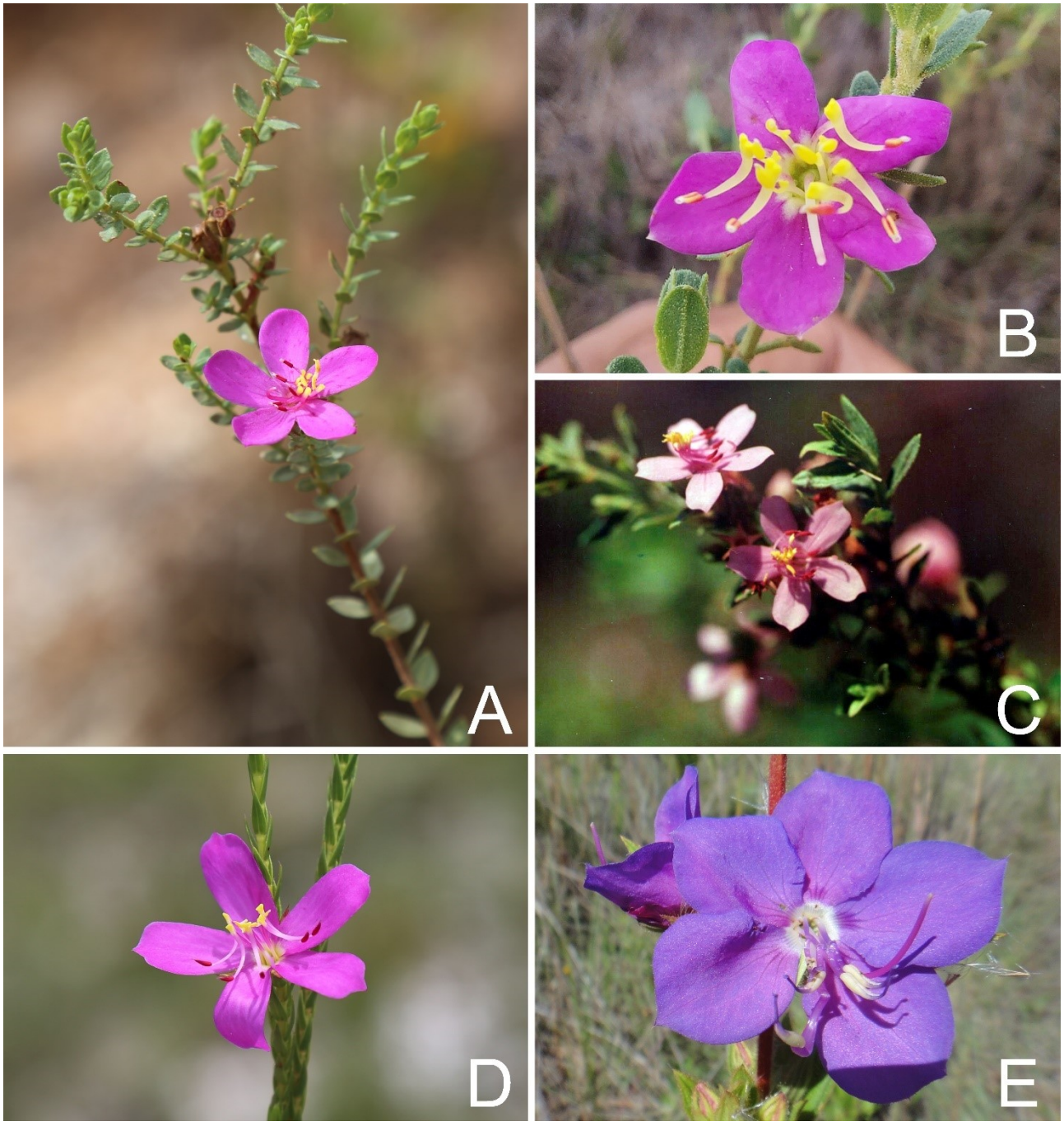

FIGURE 8.

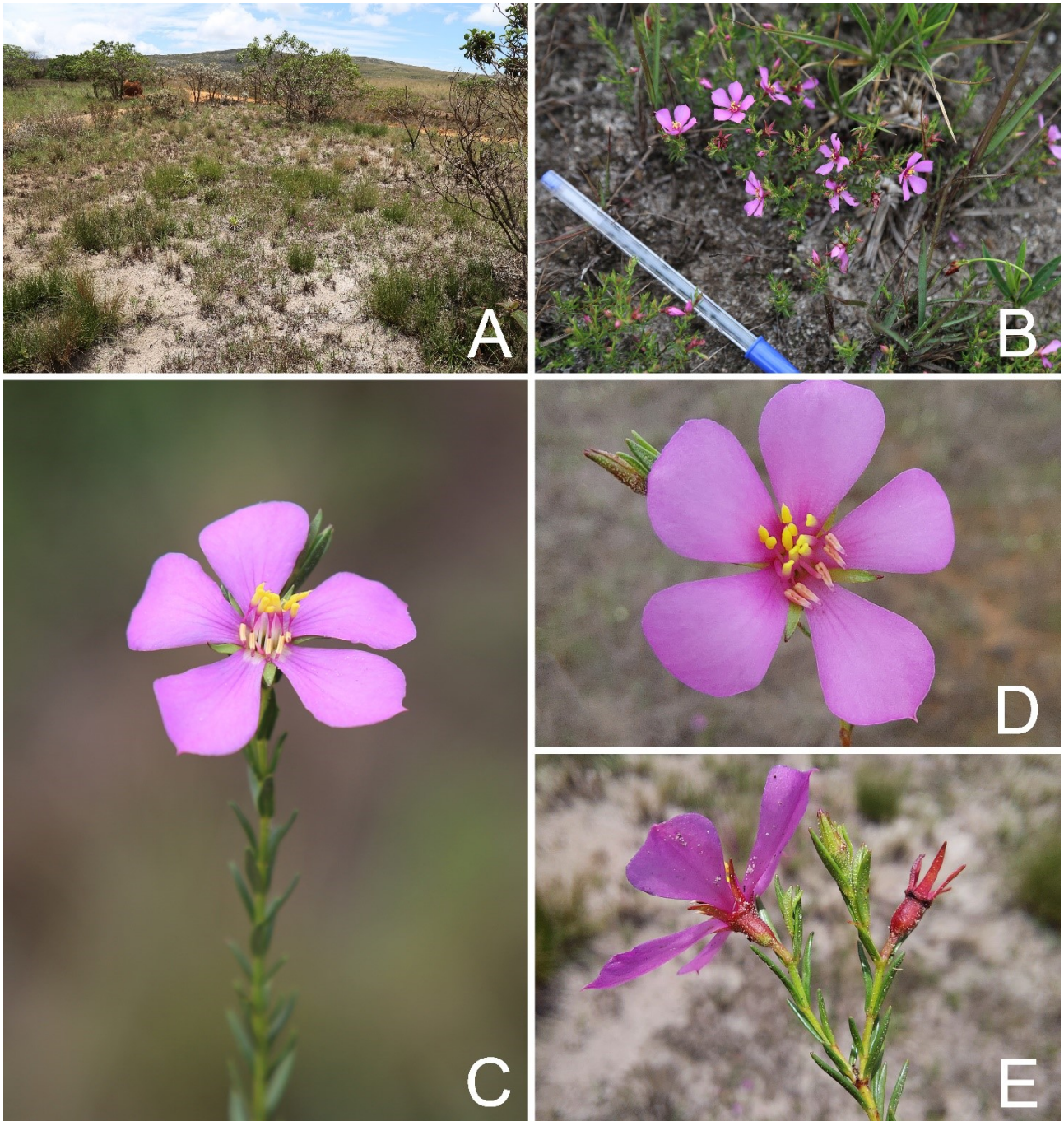

FIGURE 9.