UNIVERSIDADE FEDERAL DO PARANÁ

MANUELLA APARECIDA COSMO GALAN YAMAMOTO

REVISÃO DOS NOMES DE MELASTOMATACEAE PUBLICADOS NA *FLORÆ FLUMINENSIS*

CURITIBA

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MANUELLA APARECIDA COSMO GALAN YAMAMOTO

REVISÃO DOS NOMES DE MELASTOMATACEAE PUBLICADOS NA *FLORÆ FLUMINENSIS*

Dissertação apresentada como requisito parcial à obtenção do título de Mestre pelo Programa de Pós-Graduação em Botânica, Setor de Ciências Biológicas, Universidade Federal do Paraná.

Orientador: Prof. Dr. José Floriano Barêa Pastore
Coorientador: Dr. Renato Goldenberg

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TERMO DE APROVAÇÃO

Os membros da Banca Examinadora designada pelo Colegiado do Programa de Pós-Graduação BOTÂNICA da Universidade Federal do Paraná foram convocados para realizar a arguição da dissertação de Mestrado de **MANUELLA APARECIDA COSMO GALAN YAMAMOTO** intitulada: **Revisão dos nomes de Melastomataceae publicados na Florae Fluminensis**, sob orientação do Prof. Dr. JOSE FLORIANO BAREA PASTORE, que após terem inquirido a aluna e realizada a avaliação do trabalho, são de parecer pela sua APROVAÇÃO no rito de defesa.

A outorga do título de mestra está sujeita à homologação pelo colegiado, ao atendimento de todas as indicações e correções solicitadas pela banca e ao pleno atendimento das demandas regimentais do Programa de Pós-Graduação.

Curitiba, 27 de Fevereiro de 2023.

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À Jeanne Baret e à todas as mulheres na botânica.

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“A Biologia ensinou-me coisas fundamentais. Uma delas foi a humildade. Esta nossa ciência me ajudou a entender outras linguagens, a fala das árvores, a fala dos que não falam. A Biologia me serviu de ponte para outros saberes. Com ela entendi a Vida como uma história, uma narrativa perpétua que se escreve não em letras, mas em vidas.”

Mia Couto.

RESUMO

A *Floræ Fluminensis* (*FF*) foi uma obra monumental pioneira na botânica brasileira, com seus manuscritos finalizados ainda no final do século XVIII por José Mariano da Conceição Vellozo, ou, como mais conhecido, frei Vellozo. Entretanto, a publicação desta obra aconteceu apenas postumamente, e de forma incompleta em 1829, com as pranchas publicadas em 1831 e, por fim, a publicação da versão completa desta obra apenas em 1881. Apesar de ter quase dois séculos desde a sua primeira publicação, a *Floræ Fluminensis* foi amplamente negligenciada, sendo relativamente escassos os estudos revisionais sobre esta obra. Dentre os fatores que dificultam a interpretação dos nomes publicados na *Floræ Fluminensis* está: 1) a ausência dos espécimes originais, 2) dificuldade em compreender os topônimos mencionados por Vellozo, e por fim 3) a heterogeneidade na qualidade das pranchas da *Floræ Fluminensis*. Recentemente, Pastore e colaboradores interpretaram parte dos topônimos e termos da *Flora Fluminensis,* indicando que uma porção significativa dos nomes nesta obra têm provável origem nas proximidades de Cunha (estado de São Paulo), nos arredores da "Estrada Real", em um trecho que inclui Mata Atlântica (Floresta Ombrófila Densa e Mista) e Cerrado. Estes esforços são de grande importância para a preservação e documentação destes biomas, também para futuros trabalhos históricos e taxonômicos. Desta forma, aqui incluímos a revisão nomenclatural dos 29 nomes de Melastomataceae da *Floræ Fluminensis*, resultando em 2 novas combinações, 6 novos sinônimos atribuídos, 22 lectotipificações a partir das pranchas publicadas na Biblioteca Nacional do Rio de Janeiro e 2 epítipos designados a partir de coleta na localidade tipo. Notas sobre distribuição e estudo de espécimes coletados nos prováveis sítios históricos da *FF* depositados em herbários também foram realizados.

Palavras-chave: Vellozo, Topônimos, Estrada Real.

ABSTRACT

Florae Fluminensis was a monumental pioneering work in Brazilian botany, with manuscripts completed at the end of the 18th century by José Mariano da Conceição Vellozo, or, as he is better known, Friar Vellozo. The publication of this work only happened posthumously, and incompletely, in 1829, with the plates published in 1831 and, finally, the complete publication only in 1881. Despite having almost two centuries since its first publication, *Floræ Fluminensis* has been largely neglected, and revisional studies on this work are relatively scarce. In this way, revision studies of the names of *Florae Fluminensis* are still relevant for taxonomy and botanical nomenclature, mainly for Brazil. Among the factors that make it difficult to interpret the names of *Floræ Fluminensis* are: 1) the absence of original specimens, 2) difficulty in understanding the toponyms mentioned by Vellozo, and 3) the heterogeneity in the quality of the plates of *Floræ Fluminensis*. Recently, Pastore and collaborators reinterpreted part of the toponyms and terms of *Floræ Fluminensis*, indicating that a significant portion of the names in this work has probable origin in the vicinity of Cunha (state of São Paulo), in the area of the "Estrada Real", in a stretch that includes Atlantic Forest (humid and mixed rain forest) and Cerrado, these efforts are of great importance for the preservation and documentation of these biomes, as well as for future historical and taxonomic work. Thus, in this study, we present a taxonomic revision of the 29 names of Melastomataceae from *Floræ Fluminensis,* including 2 new combinations, 6 new synonyms assigned, 22 lectotypifications based on plates published in the National Library of Rio de Janeiro, and two epitypes designated from a collection in the type locality. Additionally, we provide notes on distribution and analyze specimens collected from probable historical sites in *Floræ Fluminensis*, which are deposited in herbaria.

Keywords: Vellozo, Toponyms, Estrada Real.

SUMÁRIO

INTRODUÇÃO GERAL

José Xavier Veloso (1741-1811), comumente conhecido como José Mariano da Conceição Vellozo, ou ainda, Frei Vellozo, finalizou os manuscritos da sua obra monumental, a *Floræ Fluminensis,* em 1790 (BEDIAGA & LIMA, 2015). Esta obra é considerada precursora do levantamento de plantas da então Capitania do Rio de Janeiro e do Brasil. Entretanto, a *Floræ Fluminensis* foi publicada apenas postumamente (e parcialmente) em 1829, com as pranchas contendo suas ilustrações em 1831, e apenas em 1881 houve a sua publicação completa (CARAUTA, 1969; CARAUTA, 1973). Esta demora na publicação levou à perda da prioridade de vários nomes descritos por Vellozo na *Flora Fluminensis* (BEDIAGA & LIMA, 2015), como por exemplo, pela obra "*Prodromus Systematis Naturalis Regni Vegetabilis*" de De Candolle (1828). As ilustrações, publicadas em 1831, em alguns casos, possuem baixa capacidade em representar a espécie que foi ilustrada e juntamente com as descrições pouco informativas, dificultam a interpretação destas (AONA-PINHEIRO, 2014; PASTORE, 2013). Além disso, as pranchas publicadas são por vezes de qualidade inferior aos originais mantidos na Biblioteca Nacional (Rio de Janeiro) e Arquivo Nacional da Torre do Tombo (Lisboa). Estas ilustrações representam os últimos materiais originais da *Floræ Fluminensis* e têm sido, via de regra, escolhidas como lectótipos (PASTORE ET AL. 2022).

A *Floræ Fluminensis* destaca-se pela utilização do sistema de classificação e nomenclatura botânica de Linnaeus na identificação e descrição dos materiais de Vellozo (BEDIAGA & LIMA, 2015), apresentando importância para a flora e taxonomia de espécies ocorrentes no estado do Rio de Janeiro e São Paulo (LIMA, 1995). A *Floræ Fluminensis* contemplou 1.639 descrições de espécies de plantas em latim com ilustrações botânicas correspondentes, que foram divididas em 11 volumes. Os originais das ilustrações estão atualmente depositados na Biblioteca Nacional do Rio de Janeiro (BEDIAGA & LIMA, 2015), com cópia parcial das pranchas na Torre do Tombo (Lisboa).

Apesar da importância desta obra, são vários entraves para revisar os nomes descritos na *Floræ Fluminensis*. Talvez o mais desafiador seja o desaparecimento dos espécimes originais (LIMA, 1995), fazendo com que as identificações sejam feitas com base nas descrições e ilustrações originais (PASTORE, 2013), frequentemente imprecisas ou pouco informativas. Além disso, a interpretação dos topônimos mencionados também tem sido motivo de disputa, pois além dos topônimos serem ainda do final do século XVIII, os mesmos foram latinizados por Vellozo (1829, 1881). Por fim, as coletas destinadas à formação da obra não se

restringiram à capitania do Rio de Janeiro, com parte significativa feita na capitania de São Paulo (LIMA, 1995, PASTORE, ET AL. 2021).

A expedição histórica liderada por Frei Vellozo percorreu áreas ao longo da Estrada Real, no itinerário entre Paraty e Cunha (LIMA, 1995). A interpretação dos ambientes e localidades mencionadas nos protológos dos nomes da *Floræ Fluminensis* foram já apresentadas por Stellfeld (1946) e Lima (1995), recentemente revisadas por Pastore *et al.* (2021). Neste contexto, o termo '*maritimis*', diversas vezes aplicado na *Floræ Fluminensis* para descrever ambiente e região, está associado ao bioma Mata Atlântica, relacionado à vegetação ocorrente no Estado do Rio de Janeiro (PASTORE *et al.*, 2021), enquanto que '*mediterraneis*' foi associado à vegetação ao longo da Estrada Real na região do município de Cunha (estado de São Paulo), onde ocorrem várias fitofisionomias, incluindo vegetação do bioma Cerrado. Além disso, o termo '*mediterraneis*' foi fortemente associado ao termo '*transalpinis*' na *Floræ Fluminensis*, sendo usado para descrever a região de divisa entre os estados de São Paulo e Rio de Janeiro, na estrada real entre municípios de Paraty e Cunha (PASTORE *et al.*, 2021).

A Estrada Real, instituída (e autorizada) pela Coroa Portuguesa no final do século XVII (Caminho Velho) e início do século XVIII (Caminho Novo) (CALES & OLIVEIRA, 2009), ligava as principais reservas de ouro, diamantes e metais preciosos ao litoral, como também garantia a fiscalização do fluxo de mercadorias (TRAVASSOS *et al*., 2008). Esta estrada possui cerca de 1.630 km de extensão, passando pelas então capitanias de Minas Gerais, Rio de Janeiro e São Paulo. A estrada em si é dividida em três partes: Caminho Velho (de Paraty a Ouro Preto), Caminho Novo (do Rio de Janeiro a Ouro Preto) e o Caminho dos Diamantes (de Ouro Preto a Diamantina) (IER 2023).

Na capitania do Rio de Janeiro, os dois principais sítios de coleta estão inseridos no atual município de Paraty (através do termo '*pharmacopolitanis*' que faz uma referência latinizada ao antigo nome de Paraty, Vila de Nossa Senhora dos Remédios de Paraty) e na Fazenda Santa Cruz, a qual contemplava total ou parcialmente alguns municípios da região sudoeste do estado (PASTORE *et al.*, 2021). Paraty é atualmente considerada patrimônio Mundial Misto pela UNESCO (2019) e dispõe de uma área territorial de 924.296 km², abrangendo o Parque Nacional da Serra da Bocaina, a APA do Cairuçú, a Reserva da Joatinga e parte do Parque Estadual da Serra do Mar, todos dentro do bioma Mata Atlântica (PARATY, 2023). Um dos 25 *hotsposts* mundiais de biodiversidade, a Mata Atlântica é a 2ª maior floresta pluvial tropical do continente americano, cobrindo originalmente uma porção significativa do território brasileiro. No entanto, dela restam cerca de 7% da sua cobertura original

(TABARELLI *et al*., 2005) e, apesar disso, ainda abriga mais de 8.000 espécies endêmicas de plantas vasculares, anfíbios, répteis, aves e mamíferos (MYERS *et al*., 2000).

Ligado aos topônimos de Boa Vista e Parição, o município de Cunha, no estado de São Paulo, possuía em 2021 uma população de 21.373 habitantes e está localizado na região do Alto Paraíba, ocupando 1.407 km² de colinas e montanhas entre as serras da Quebra-Cangalha, Bocaina e do Mar (IBGE, 2021), predominando a presença de Cerrado. Este bioma é um dos mais importantes e diversos *hotspots* do mundo (SILVA & BATES, 2002) onde 44% da flora é endêmica (KLINK & MACHADO, 2005). Porém, mesmo ocupando quase 25% do território brasileiro, sua biodiversidade ainda é pouco conhecida (SCARIOT, SOUSA-SILVA & FELFILI, 2005).

As espécies citadas por Vellozo (1829, 1881) vêm sendo revisadas e seus resultados publicados, como é o caso das famílias Bignoniaceae (GENTRY, 1975), Maranthaceae (BRAGA, 2005), Passifloraceae (CERVI & RODRIGUES, 2010; MILWARD-DE-AZEVEDO, 2017), Orchidaceae (BUZATTO *et al*., 2013), Polygalaceae (PASTORE, 2013), Commelinaceae (AONA-PINHEIRO *et al*., 2014; PELLEGRINI *et al*., 2015), Pontederiaceae (PELLEGRINI, 2015), Solanaceae (KNAPP, 2015), Eriocaulaceae (CHAGAS *et al*., 2018) e Bromeliaceae (KESSOUS *et al*., 2018). O restante das famílias que compõem a obra possui estudos parcialmente revisados, como é o caso de Fabaceae (LIMA, 1995), ou não possuem estudos realizados na revisão dos nomes, como é o caso da família Melastomataceae.

A família Melastomataceae

Melastomataceae é uma das maiores famílias botânicas do Brasil e do mundo, com cerca de 5.750 espécies distribuídas em 177 gêneros (MICHELANGELI *et al*., 2020). A família está atualmente dividida em três subfamílias, Kibessioideae (Velho Mundo), Melastomatoideae e Olisbeoideae (Pantropicais), das quais as duas últimas ocorrem no continente americano. Melastomatoideae é a maior subfamília, com 18 tribos (ULLOA ULLOA *et al*., 2022; PENNEYS *et al*., 2022). No Brasil, Melastomataceae inclui 69 gêneros e aproximadamente 1.440 espécies. distribuídas em todos os domínios fitogeográficos, com destaque para Mata Atlântica, Cerrado e Amazônia (GOLDENBERG *et al*., 2023).

Antoine-Laurent de Jussieu (1748-1836) foi o pioneiro a estabelecer o conceito de família no estudo da botânica. Em sua obra "*Genera Plantarum*" (de Jussieu 1789), alguns nomes de famílias ainda são reconhecidos, como é o caso de Melastomataceae. Em sua obra, designou nove gêneros: *Blakea*, *Mayeta*, *Melastoma*, *Osbeckia*, *Rhexia*, *Tibouchina*, *Tococa*,

Topobea, *Tristemma* e incluiu os gêneros *Memecylon* e *Mouriri* na família Onagraceae (ALMEDA, 2022).

Em 1823 David Don (1799–1841) publicou um dos primeiros trabalhos sobre a família Melastomataceae, destacando características importantes para o seu reconhecimento. Em seus trabalhos, dos 19 gêneros descritos, 12 gêneros são utilizados até hoje e assim como de Jussieu (1789), excluiu os gêneros *Memecylon* e *Mouriri* da família Melastomataceae.

Augustin Pyramus de Candolle (1778-1841), dedicou-se a descrever e classificar as mais populares e conhecidas espécies com sementes em sua obra "*Prodromus Systematis Naturalis Regni Vegetal"*. Neste grandioso estudo, produziu algumas monografias importantes, como aquela sobre a família Melastomataceae (de Candolle 1828). Dos 68 gêneros reconhecidos por de Candolle em suas obras, cerca de 36 permanecem em uso. Na mesma obra, a família também foi organizada em quatro tribos: Lavoisiereae, Rhexieae, Osbeckiae e Miconiae. Assim como de Jussieu (1789) e Don (1823), de Candolle (1828) excluiu os gêneros *Mouriri* e *Memecylon* das Melastomataceae, porém os agrupou em uma nova família (Memecylaceae).

Charles Victor Naudin (1815–1899) contribuiu grandemente com a coleção da família Melastomataceae no Herbário de Paris e com estudos futuros a partir de importantes registros e publicações realizadas. Reconheceu cinco subfamílias dentro de Melastomataceae: Melastomatoideae, Astronioideae, Kibessioideae, Memecyloideae e Mouririoideae, incluindo o gênero *Memecylon* em Memecyloideae e *Mouriri* em Mouririoideae. Naudin também dividiu a subfamília Melastomatoideae em quatro tribos: Microlicieae, Lasiandreae, "Pyramidales" e "Miconieae" (ALMEDA, 2022).

Com base nos estudos de Naudin (1849-1853), Triana (1872) desenvolveu uma importante classificação abrangente da família Melastomataceae, seguido, duas décadas depois, por Alfred Cogniaux (1891), o qual propôs uma nova classificação para a família, dividindo-a em três subfamílias: Melastomatoideae, Astronioideae e Memecyloideae. A monografia de Cogniaux (1891) para a Flora Brasiliensis ainda é a revisão mais completa para Melastomataceae no Brasil, e amplamente utilizada para tratamentos de revisão, bem como trabalhos florísticos, tratando-se de um importante suporte à futuros estudos taxonômicos (GOLDENBERG *et al*., 2012). Com base na classificação de Cogniaux (1891), Renner (1993) realizou a primeira análise filogenética sobre a família, promovendo algumas mudanças no seu sistema de classificação (MICHELANGELI *et al.*, 2020).

As Melastomataceae compreendem diversas formas de vida (liana, epífita, arbustiva, herbácea ou arbórea). Podem ser identificadas por suas folhas com nervuras acródomas,

nervuras laterais primárias constituindo arcos convergentes da base ao ápice. As flores são bissexuais, radialmente simétricas e diplostêmicas, e os estames costumam apresentar conectivos amplos e apendiculados. O fruto pode variar podendo ser bacáceo ou capsular (CLAUSING & RENNER, 2001).

A família Melastomataceae não teve todos os seus nomes publicados na *Floræ Fluminensis* meticulosamente revisados. A revisão dos nomes da *Floræ Fluminensis* é relevante, não apenas pelo seu contexto histórico, mas também por, eventualmente, apresentar nomes mais antigos disponíveis para algumas espécies, que teriam prioridade sobre outros nomes atualmente em uso.

Contexto taxonômico das Melastomataceae na *Floræ Fluminensis*

A partir das publicações das obras de Linnaeus "Systema naturae" (1735) e "Species plantarum" (1753), uma nova fase no estudo de plantas e no sistema de classificação foi iniciada, baseando-se principalmente em caracteres reprodutivos e sem a utilização de polinômios, promovendo uma universalização nomenclatural (BEDIAGA & LIMA, 2015). A Floræ Fluminensis foi publicada neste contexto e foi marcada pelo caráter científico, principalmente com a identificação e descrição dos espécimes em campo e com a utilização da nomenclatura binomial de Linnaeus, acompanhados de descrições e diagnoses que incluíam localidade, nomes populares, época de florescimento e características morfológicas importantes (BEDIAGA & LIMA, 2015).

A influência das obras de Linnaeus na Floræ Fluminensis também é percebida na ampla delimitação do gênero Melastoma L., no qual foram incluídas todas as 29 espécies da Floræ Fluminensis da família Melastomataceae. Este gênero, como atualmente reconhecido, ocorre nos trópicos asiáticos e foi descrito por Linnaeus (Sp. Pl. 1: 389. 1 mai. 1753), em sua obra "Species plantarum", baseado em *Melastoma malabathricum* (espécie tipo do gênero, designado por Hitchcock & Green (1929)). Outras obras contemporâneas foram referências explícitas da Floræ Fluminensis como "Selectarum stirpium Americanarum historia" (Jacquin 1758) e "Histoire de plantes de La Guiane Française", de Aublet (1775) (BEDIAGA & LIMA, 2015).

Impacto da *Floræ Fluminensis* no estudo das Melastomataceae

As primeiras revisões de nomes de Melastomataceae publicados na *Floræ Fluminensis* foram apresentados na obra "Les Mélastomacées" de Triana (1872). Em seguida, alguns foram tratados na monografia de Cogniaux (1891), baseando-se no levantamento de Triana. Além destes, vale a pena mencionar listas abrangentes de sinônimos, como a apresentada por Sampaio & Peckolt (1943) e Hooker and Jackson (1895). Trabalhos mais recentes incluem tratamento taxonômico para alguns nomes da *Floræ Fluminensis*: *Rhynchanthera* (RENNER, 1990), *Bertolonia* (BAUMGRATZ, 1990), *Trembleya* (MARTINS, 1997), *Aciotis* (FREIRE-FIERRO, 2002), *Henriettea* (SILVA & BAUMGRATZ, 2008; YAMAMOTO et al., 2022), *Pleiochiton* (REGINATO et al., 2010; REGINATO et al., 2013), *Miconia* (GOLDENBERG et al., 2013; YAMAMOTO et al. in press), *Leandra* (REGINATO, 2016), *Pleroma* (GUIMARÃES et al., 2019) e *Comolia* (SILVA et al., 2021).

Revisão completa das Melastomataceae da *Floræ Fluminensis*

A lacuna de revisões de alguns grupos botânicos e a reinterpretação dos topônimos da *Floræ Fluminensis* proposta por Pastore *et al*. (2021), tornam atrativo o desenvolvimento de um estudo revisional sobre as Melastomataceae da *Floræ Fluminensis*.

Apresentação desta dissertação

Esta dissertação é apresentada em três capítulos. Os capítulos são formatados de acordo com as revistas em que foram ou serão submetidos para publicação.

Capítulo 1. Vellozo's Melastomataceae in the *Floræ Fluminensis* - Manuscrito formatado para submissão à revista Systematic Botany (ISSN 0363-6445).

Capítulo 2. A new combination in *Henriettea* (Melastomataceae, Henrietteeae). - Artigo publicado na revista Phytotaxa (ISSN 1179-3163). DOI: https://doi.org/10.11646/phytotaxa.539.2.10

Capítulo 3. *Miconia anhanga* (MELASTOMATACEAE, MICONIEAE), a new combination from a species described by Friar Vellozo (1829), and the synonymization of *Miconia neourceolata* under it - Manuscrito submetido à revista Brittonia (ISSN1938-436X).

CAPÍTULO 1: VELLOZO'S MELASTOMATACEAE IN THE *FLORÆ FLUMINENSIS*

Vellozo's Melastomataceae in the *Florœ Fluminensis* *

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Abstract— All names of Melastomataceae published in *Florœ Fluminensis* by Friar Vellozo were revisited. Field expeditions to likely original localities of the *Florœ Fluminensis* were made. All names were typified, eventually lectotypes were designated, also epitypes were eventually designated in order to help interpreting the lectotypes, i.e. the illustrated species from the original plates deposited at the Biblioteca Nacional do Rio de Janeiro. Six new heterotypic synonyms were proposed.

Keywords— Cunha, Friar Vellozo, *Melastoma*, *Miconia*, Paraty, Rio de Janeiro.

José Xavier Veloso (1741-1811), commonly known as José Mariano da Conceição Vellozo, or even Friar Vellozo, completed the manuscripts of his monumental work, *Florœ Fluminensis*, in 1790. This work is widely regarded as the precursor to plant species surveys in what was then the Captaincy of Rio de Janeiro, Brazil. Vellozo's *Florœ Fluminensis* is a

significant contribution to the study of Brazilian botany and remains a valuable resource for researchers and enthusiasts of Brazilian history and botany. Although *Floræ Fluminensis* is a highly significant work, it was not published in its entirety during Veloso's lifetime. The work was only partially published in 1829, and the plates containing illustrations were not released until 1831. The complete publication of *Floræ Fluminensis* did not occur until much later, in 1881 (Carauta 1969, 1973). His work stands out for the use of Linnaeus' botanical classification and nomenclature system in the identification and description of his taxa (Bediaga and Lima 2015). However, it is important to recognize that, by the time of its publication, parts of the Linnaean system had already become outdated (Bediaga and Lima 2015). Despite this limitation, the *Floræ Fluminensis* included 1,639 descriptions of plant species in Latin with corresponding botanical illustrations, which were divided into eleven volumes. The originals of the *Floræ Fluminensis* illustrations are currently deposited at the Biblioteca Nacional do Rio de Janeiro (Bediaga and Lima 2015). The images are available through http://bndigital.bn.br/acervodigital, with a partial copy of the plates at Torre do Tombo (Lisbon) (https://digitarq.arquivos.pt/results?t=Flora+Fluminensis). Despite the importance of this work, there are several obstacles when revising the names described in Floræ Fluminensis. Perhaps the most challenging is the disappearance of the original specimens (Lima 1995, Bediaga and Lima 2015), so the species are identified based on the original descriptions and illustrations (Pastore 2013). In addition, the interpretation of the toponyms mentioned by Vellozo has also been a matter of dispute. This is due in part to the antiquity of the toponyms, which date back to the late 18th century, and also because Vellozo latinized them, adding complexity to their interpretation.

The specimens collected for *Floræ Fluminensis*, during Vellozo's historic expeditions, were not limited to the Captaincy of Rio de Janeiro, but also included specimens gathered in the Captaincy of São Paulo. These expeditions covered areas along the *Estrada Real*, an historical road which includes the route between Paraty (Rio de Janeiro) and Cunha (São Paulo) municipalities (Lima 1995). On the recent revision on toponyms and habitats of the *Floræ Fluminensis* (Pastore et al. 2021), several terms were revisited, and the most significant terms were '*maritimis*' which is associated with the Atlantic Forest in the state of Rio de Janeiro, and '*mediterraneis*' which is associated with the vegetation along the *Estrada Real,* in the region of the municipality of Cunha in the state of São Paulo. The '*mediterraneis*' region, i.e., the stretch of *Estrada Real* in São Paulo, includes different vegetation, as savannic vegetation (Cerrado) described in *Floræ Fluminensis* as "*campis apricis*". This type of vegetation was often associated with the term 'transalpinis', which is a border region situated on the *Estrada Real*

between the municipalities of Paraty and Cunha, at the boundary of São Paulo and Rio de Janeiro states. In accordance with Pastore et al. (2021), this region is currently known as "Virada da Serra".

Even with the complexities surrounding the dates of publication of the complete work, lack of original specimens, and Vellozo's itinerary, there are several efforts in order to revise the names published in *Floræ Fluminensis* (see Gentry 1975; Lima 1995; Braga 2005; Cervi and Rodrigues 2010; Milward-de-Azevedo 2017; Buzatto et al. 2013; Pastore 2013; Aona-Pinheiro et al. 2014; Pellegrini et al. 2015; Pellegrini 2015; Knapp 2015; Chagas et al. 2018; Kessous et al. 2018; Yamamoto et al. 2022; Remor et al. 2022; Sitowski et al. 2022). The family Melastomataceae, is widely distributed, comprising 5,570 species distributed in 177 genera (Michelangeli et al. 2020). In Brazil, this family includes 69 genera and about 1,440 species (Goldenberg et al. 2023). The Brazilian species occur in all its phytogeographic domains, but are more diverse in the Atlantic Forest, Cerrado, and Amazon (Goldenberg et al. 2023).

The monograph 'Les Mélastomacées', Triana (1872) was the first attempted to review the 29 names of Melastomataceae included in the *Floræ Fluminensis*. This work was followed by Cogniaux in Flora Brasiliensis (1883–1885, 1886–1888), and ‘Mélastomacées’ in Monographiæ Phanerogamarum (1891), in which review critically several names of *Floræ Fluminensis*. The both mentioned works resume the historical efforts in review the Vellozo’s names in Melatomataceae. Although Sampaio and Peckolt (1943) published a complete review of names from *Floræ Fluminensis*, the names of Melastomataceae completely follow Triana (1872) and Cogniaux (1891), without any taxonomic or nomenclatural novelties.

Recently, Vellozo’s names in Melastomataceae were revised (see Wurdack 1962; Wurdack 1973; Baumgratz 1990; Renner 1990; Martins 1997, Freire-Fierro, 2002), and currently incorporated in the taxonomic studies in the family (Reginato et al. 2010; Reginato et al. 2013; Goldenberg et al. 2013; de Fraga et al. 2015; Reginato 2016; Guimarães et al. 2019; Silva et al. 2021; Yamamoto et al. 2022). Until the present study, 11 names of Melastomataceae from *Floræ Fluminensis* were mentioned as heterotypic synonyms (Wurdack 1962; Baumgratz 1990; Martins, 1997; Goldenberg et al. 2013; Reginato et al. 2010; Reginato et al. 2013). Other 2 names were treated as new combinations (Yamamoto et al. 2022; Yamamoto et al. in press), 1 name is used as a basionym (Guimarães et al. 2019), and 2 names are later isonyms (Reginato 2016).

The novelties on the toponyms interpretation (Pastore et al. 2021) made attractive pursue a revisionary study on the names of Melastomataceae in the *Floræ Fluminensis*. Therefore, this review includes a complete taxonomic review of the Melastomataceae names of

Floræ Fluminensis, including notes on distribution, field work in likely historical sites of *Floræ Fluminensis*, as well as nomenclatural notes with typification of all names involved.

MATERIALS AND METHODS

Field expeditions and toponyms—The fieldwork was made between 2018 and 2022, in the municipalities of Paraty (Rio de Janeiro state) and Cunha (São Paulo state). The collections focused on the historical sites where Vellozo's specimens were probably collected. Our collections focused on the vegetation nearby the *Estrada Real*, a historic road from the 18th century. The expeditions included distinct vegetation types, such as the steep stretch in the Paraty municipality, covered with a typical Atlantic Forest, moist and dense, and which is now part of the Serra da Bocaina National Park. Also, along the same road, the region past the mountaintop, i.e., crossing the border to the municipality of Cunha (SP), and referred by Vellozo (1829) as "*transalpinis*", this region is a mosaic of vegetation types, including open savannas (cerrado), shrubby rocky fields, grassy wet fields, montane ombrophilous forests, and mixed ombrophilous forests with *Araucaria angustifolia* (Bertol.) Kuntze. On this region, is included the Chapel of São José da Boa Vista is often cited as '*Boa vista'* and a historic farm called Parição as *'Parição';* both are linked to the term *'mediterraneis',* associated with the typical savanna (cerrado) vegetation along the Royal Road in the region of Cunha. Back to Rio de Janeiro state, the toponym of '*Sanctae Crucis*' refers to the Royal Santa Cruz farm in the southwest of the state, and '*Pharmacopolitanis*' is related to Paraty's ancient name (Stellfeld 1946). Both toponyms are linked to the term '*maritimis*' and are associated with the entries from Rio de Janeiro state and Atlantic Forest vegetation (Pastore et al. 2021).

Herbarium collection—The species collected during the expeditions were added to the special collection "Projeto Frei Vellozo", which is kept separately in the Herbarium of Curitibanos (CTBS) and duplicates deposited in the Herbarium of the Department of Botany of the Federal University of Paraná (UPCB). A search for original materials was carried out at the Biblioteca Nacional (Rio de Janeiro) and principally at the Muséum National d'Histoire Naturelle (P).

Maps—Geographic distribution maps for newly assigned synonyms were created using QGIS 3.16.3 software (QGIS Development Team) based on the occurrence of each species as found in the *SpeciesLink* database (2023), limited by the specimens which were verified by specialists from the group.

Morphological studies—The Melastomataceae species described in *Floræ Fluminensis* were identified by comparing the original iconographies available at the Biblioteca Nacional do Rio de Janeiro website and their diagnoses with specimens collected in the expeditions mentioned above. These, in turn, were determined through the monographs available at "Flora & Funga do Brasil" for Melastomataceae (Goldenberg et al. 2020). For species that were not found in the field, we based our determinations on specimens collected and verified by specialists in the possible Vellozo's historical collecting sites, and which are deposited in the *SpeciesLink* database.

Typification—All names involved were typified, when necessary. Eventually, names from *Floræ Fluminensis* were formerly (and incorrectly) lectotypified based on the plates published in 1831. However, for all Melastomataceae in *Floræ Fluminensis*, the plates from 1831 were published after the names, which were effectively published in 1829. Therefore, in these cases, the published plates should be considered neotypes instead of lectotypes, following Art.9.11 of the ICN (Turland et al. 2018). The lectotypes were here designated based on the manuscript plates kept in the Biblioteca Nacional (Rio de Janeiro), following the recommendations of Pastore et al. (2022). When the lectotype does not clearly represent the illustrated species, an epitype was designated to help interpreting the plate and species recognition, following Art.9.9 of the ICN (Turland et al. 2018). For the species originally collected by Saint-Hilaire, with their lectotypes designated here, we used the Virtual Herbarium of Saint-Hilaire (http://hvsh.cria.org.br/works), associated with the methodology provided by Pastore (2014) in review Saint-Hilaire's collection. The names follow the sequence which were published in *Floræ Fluminensis*.

RESULTS AND DISCUSSION

In this work, the 29 names described in *Floræ Fluminensis* were taxonomically revised and typified following the ICN code (International Code of Nomenclature for algae, fungi, and plants, Turland et al. 2018).

Vellozo's attempt to cite other names (Art. 6 Note 2 and Art. 14.14)	'Melastoma grandiflorum Vell.', 'Melastoma holosericium Vell.', 'Melastoma hirsutum Vell.' and 'Melastoma quiquenerve Vell.'

Later homonyms (Art. 53.1)	*Melastoma glabrum* Vell., *Melastoma macrophyllum* Vell., *Melastoma brachiatum* Vell. and *Melastoma coccineum* Vell.
Lectotypes designated from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Art. 9.3)	*Melastoma reticulatum* Vell., *Melastoma pulchrum* Vell., *Melastoma subrepandum* Vell., *Melastoma trineurum* Vell., *Melastoma trinervium* Vell., *Melastoma cordatum* Vell., *Melastoma sericeum* Vell., *Melastoma pumillum* Vell., *Melastoma enanum* Vell., *Melastoma macrophyllum* Vell., *Melastoma procumbens* Vell., *Melastoma brachiatum* Vell., *Melastoma arvense* Vell., *Melastoma confertum* Vell., *Melastoma pentandra* Vell., *Melastoma saxatilis* Vell., *Melastoma mutabile* Vell., *Melastoma arboreum* Vell., *Melastoma taquari* Vell., *Melastoma pexiricum* Vell., *Melastoma flavum* Vell. and *Melastoma coccineum* Vell.
Lectotypes (Art. 9.11 and 9.12)	*Miconia pusilliflora* (DC.) Naudin, *Miconia ligustroides* (DC.) Naudin, *Bertolonia leuzeana* (Bonpl.) DC., *Chaetogastra gracilis* (Bonpl.) DC. and *Cambessedesia espora* (A.St.-Hil. in Bonpl.) DC.
Epitype (Art. 9.9)	*Melastoma confertum* Vell.
Heterotypic synonyms (taxonomic synonyms) (Art. 14.4)	*Miconia staminea* (Desr.) DC., *Miconia prasina* (Sw.) DC, *Miconia pusilliflora* (DC.) Naudin, *Miconia ligustroides* (DC.) Naudin, *Miconia paniculata* (DC.) Naudin, *Microlicia phlogiformis* (DC.) Versiane & R.Romero, *Bertolonia leuzeana* (Bonpl.) DC., *Miconia serrulata* (DC.) Naudin, *Miconia calvescens* Schrank & Mart. ex DC., *Miconia latecrenata* (DC.) Naudin, *Miconia blepharodes* (DC.) R. Goldenb.
New synonyms	*Miconia cordigera* (Triana) R.Goldenb., *Miconia acutiflora* (Naudin) R.Goldenb., *Chaetogastra gracilis* (Bonpl.) DC., *Pleroma frigidulum* (Schrank & Mart. ex DC.), *Cambessedesia espora* (A.St.-Hil. in Bonpl.) DC. and *Miconia dentata* Michelang.
Basionyms of names that are in use (Art. 14.4)	*Pleroma mutabile* (Vell.) Triana and *Miconia anhanga* (Vell.) M.A.Yamam., J.F.B.Pastore & R.Goldenb.

TAXONOMIC TREATMENT

1. *Melastoma reticulatum* Vell.

Miconia staminea (Desr.) DC., Prod. 3: 187. 1828. *Melastoma stamineum* Desr., Lam. Encycl. Méth. Bot. 4: 53. 1797. *Leandra staminea* (Desr.) Raddi, Mem. Soc. Ital. Modena 20: 154. 1829. *Acinodendron stamineum* (Desr.) Kuntze, Revis. Gen. Pl. 2: 952. 1891. Protologue: "*Cette plante croît naturellement au Brésil, s'où elle a été rapportée par M.*

Dombey. (v.s. In Herb. D. de Jussieu.)". TYPE: BRAZIL. [Rio de Janeiro], s.d., *Dombey s.n.* (holotype: P-JU [P00678336]!).

Melastoma reticulatum [*reticulata*] Vell. Fl. Flumin.178: 1829 [1825]. Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *reticulata* [Tab.] 108" (original parchment plate of Fl. Flumin. in the Manuscript section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_106). Published plate in Fl. Flumin. Icones, v. 4, tab. 108. 1831 [1827].

Miconia staminea (Desr.) DC. can be recognized by being shrubs with elliptic to lanceolate leaves with acute to acuminate apex, eciliate margins and 5+2 longitudinal veins without membranes (domatia). Also, can be recognized by the terminal and dichasial panicles with 5-merous flowers, with 10 stamens (Goldenberg 2004; Goldenberg 2009; Bacci et al. 2016). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma reticulatum* Vell. are detailed to recognize this name as a synonym of *Miconia staminea* and this taxonomic position has already been supported by Triana (1872) [as *Miconia lhotzkyana* Triana], Cogniaux (1887; 1891) and Goldenberg et al. (2013).

Miconia staminea occurs in Brazil, from Pará to Santa Catarina (Goldenberg et al. 2023), but it is not endemic to the country. Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma reticulatum* was not provided in the protologue.

We designated a lectotype for *Melastoma reticulatum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro, in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has details that allow the recognition of this species, and it is not necessary to designate an epitype.

2. 'Melastoma grandiflorum Vell.'

'Melastoma grandiflorum [grandiflora] Vell.' Fl. Flumin. 178: 1829 [1825], *non Melastoma grandiflorum* Aubl. Hist. Pl. Guiane 1: 414–416, tab. 160. 1775. Reference material: [icon ined.]: "Decand. Monog. MELASTOMA *grandiflora* [Tab.] 109" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (I-17, 02, 002; mss1198653_107). Published plate in Fl. Flumin. Icones, v. 4, tab. 109. 1831 [1827].

‘Melastoma grandiflorum Vell.’ is considered here a citation of *Melastoma grandiflorum* Aubl. (1775), but it clearly does not have the same taxonomic identity. The name *Melastoma grandiflora* Aubl. is the basionym of the species *Rhynchanthera grandiflora* (Aubl.) DC. (de Candolle 1828; Renner 1990), while the species illustrated as ‘Melastoma grandiflora’ Vell. (1829; 1831) can be identified as *Pleroma estrellense* (Raddi) P.J.F.Guim. & Michelang. This identification has already been supported by Triana (1872) and Cogniaux (1885; 1891).

3. *Melastoma pulchrum* Vell.

Miconia prasina (Sw.) DC., Prodr. 3: 188. 1828. *Melastoma prasinum* Sw., Prodr. 69. 1788. *Acinodendron prasinum* (Sw.) Kuntze, Revis. Gen. Pl. 1: 245. 1891. Protologue: “*M. laevigata Aubl. guian. c. fig. * Jamaica, Hispaniola etc ħ*”. TYPE: JAMAICA. s.d., *Swartz s.n*. (lectotype, designated by Howard & Kellogg (1986, p. 248), S [S-R-3476]!).

Melastoma pulchrum [*pulchra*] Vell. Fl. Flumin. 178: 1829 [1825]. Lectotype, here designated: [icon. ined.]: “Decand. Monog. MELASTOMA *pulchra* [Tab.] 110” (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_108). Published plate in Fl. Flumin. Icones, v. 4, tab. 110. 1831 [1827].

Miconia prasina (Sw.) DC. can be recognized by being shrubs to trees, with elliptic to oblong or ovate-elliptic leaves, attenuate base, acute to acuminate apex, eciliate margins, and 3+2 longitudinal veins without membranes (domatia). Also by the terminal and dichasial panicles, and 5-merous flowers, with 10 stamens (Goldenberg 2009; Bacci et al. 2016). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma pulchrum* Vell. are detailed to recognize this name as a synonym of *Miconia prasina.* This taxonomic position has already been supported by Triana (1872), Cogniaux (1887; 1891) and Goldenberg et al. (2013).

Miconia prasina is widely distributed in Brazil, but it is not endemic to that country. It occurs in most states, predominantly in Amazon, Caatinga, Cerrado and Atlantic Forest biomes (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The exact original locality of *Melastoma pulchrum* type was not provided in the protologue.

We designated a lectotype for *Melastoma pulchrum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations from Pastore et al. (2022).

This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

4. *Melastoma subrepandum* Vell.

Miconia pusilliflora (DC.) Naudin, Ann. Sci. Nat., Bot., Ser. 3, 16: 171. 1850. *Cremanium pusilliflorum* DC., Prodr. 3: 194. 1828. *Melastoma pusilliflorum* Mart. & Schrank ex DC., Prodr. 3: 194. 1828. *Acinodendron pusilliflorum* (DC.) Kuntze, Revis. Gen. Pl. 2: 952. 1891. Protologue: "*in sylvis et sylvestribus Brasiliæ* […] *(v. s. h. Mart.*" TYPE: BRAZIL. Minas Gerais or Pará, *Martius s.n*. [#1171] (Lectotype, here designated: M [M0171287]!).

Melastoma subrepandum [*subrepanda*] Vell. Fl. Flumin. 178: 1829 [1825]. Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *subrepanda* [Tab.] 111" (original parchment plate of Fl. Flumin. in the Manuscript section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_109). Published plate in Fl. Flumin. Icones, v. 4, tab. 111. 1831 [1827].

Miconia pusilliflora (DC.) Naudin can be recognized by being shrubs to trees with elliptic to oblong leaves with a caudate apex, attenuate to decurrent or rounded base, eciliate margins, and 3+2 longitudinal veins with membranes (domatia). Also, can be recognized by the terminal and dichasial panicles and 4–5-merous flowers, with 8-10 stamens (Goldenberg 2009; Bacci et al. 2016). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma subrepandum* Vell. are detailed to recognize this name as a synonym of *Miconia pusilliflora.* This taxonomic position has already been suggested by Triana (1872), Cogniaux (1888; 1891) and Goldenberg et al. (2013). Although Goldenberg et al. (2013) designated a specimen at M as a holotype, there are other original materials in M [no barcode] (two specimens), BR (0000005217168) the latter also house part of the original Martius herbarium, and also G-DC (G00311260 [fragm.]), the latter specimen is a fragment kept in de Candolle's herbarium. Once the original reference "*v. s. h. Mart.*" is not precise enough to define a holotype, lectotype was chosen.

Miconia pusilliflora occurs in Brazil, from Pernambuco to Rio Grande do Sul, but it is not endemic (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma subrepandum* was not provided in the protologue.

We designated a lectototype for *Melastoma subrepandum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 1A) in

conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations from Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

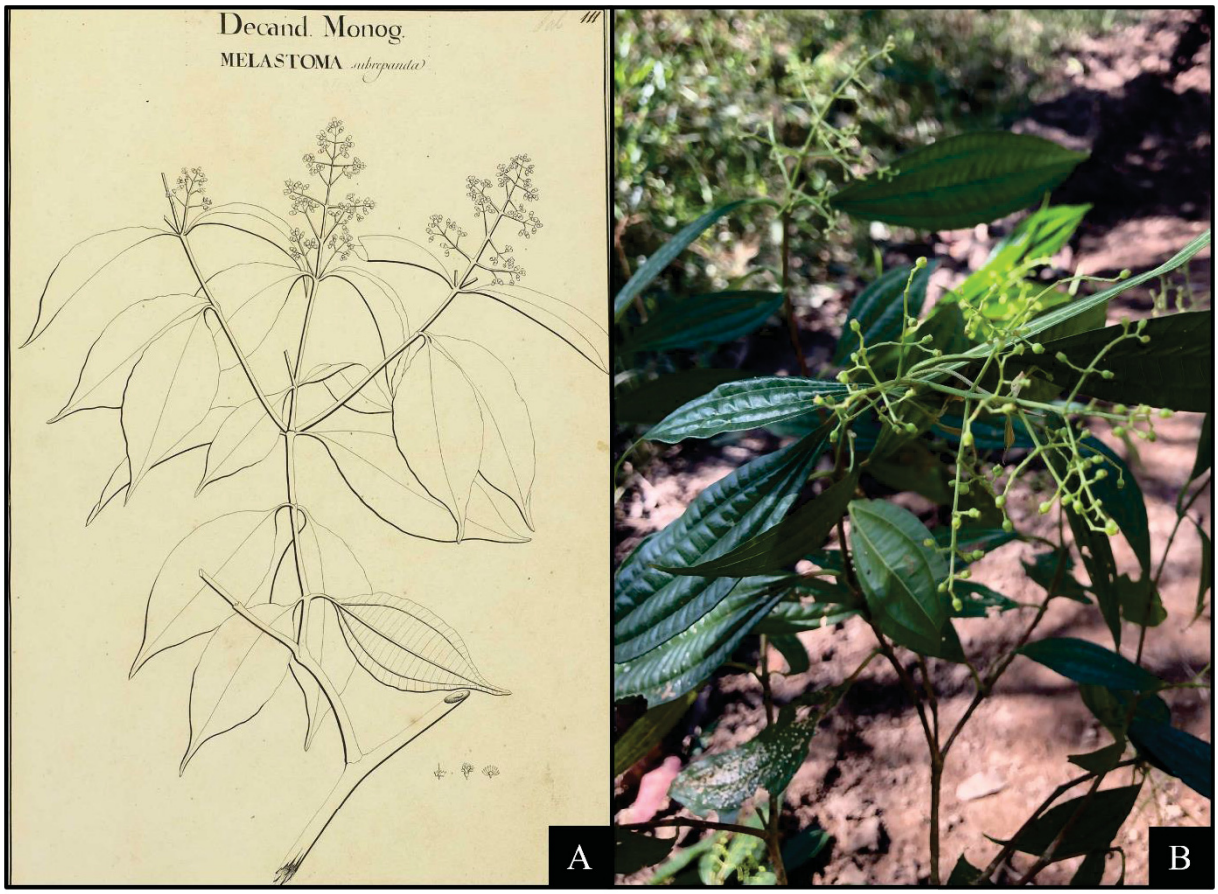

FIG. 1. Comparison of the morphological details depicted in the original illustration and field photographs. A. Lectotype of *Melastoma subrepandum* Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B. *Miconia pusilliflora* (DC.) Naudin. *Yamamoto, M. 111* [CTBS; RB; UPCB] (Photo by Yamamoto, M.).

5. *Melastoma trineurum* Vell.

Miconia ligustroides (DC.) Naudin, Ann. Sci. Nat., Bot., Ser. 3, 16: 167. 1850. *Cremanium ligustroides* DC., Prodr. 3: 194. 1828. *Melastoma ligustrinum* Mart. & Schrank ex DC., Prod. 3: 194. 1828. *Acinodendron ligustroid*es (DC.) Kuntze, Revis. Gen. Pl. 2: 951. 1891. *Tamonea ligustroides* (DC.) Krasser in Engler & Prantl, Nat. Pflanzenfam. 3 (7): 188. 1893. Protologue: "*in virgultosis prov. Bahiensis Brasiliæ. Melast. densifrons, nitens, ligustrinum et repandulum Schrank et Mart! hic conjugo.*" Type: BRAZIL. Bahia. Dec. [1818], *Martius s.n* (lectotype, designated here: M [M0165607]!).

Melastoma trineurum [*trineura*] Vell. Fl. Flumin. 178: 1829 [1825]. Lectotype, here designated: [icon. ined.]: “Decand. Monog. MELASTOMA *trineura* [Tab.] 112” (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_110). Published plate in Fl. Flumin. Icones, v. 4, tab. 112. 1831 [1827].

Miconia ligustroides (DC.) Naudin DC can be recognized by being shrubs to trees with elliptic or oblong-lanceolate leaves with rounded base, obtuse to acute-acuminate apex, eciliate margins, and 3+2 longitudinal veins without membranes (domatia). Also by the terminal and dichasial panicles and 5-merous flowers with 10 stamens (Goldenberg 2009; Bacci et al. 2016). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma trineurum* Vell. are detailed to recognize this name as a synonym of *Miconia ligustroides.* This taxonomic position has already been supported by Goldenberg et al. (2013). The protologue refers to potential specimens in Martius Herbarium (de Candolle 1828) labeled as "bahiensis," which are believed to correspond to specimens M0165611 and M0165607, respectively, making them syntypes. Therefore, the specimen M0165607 has been selected as the lectotype.

Miconia ligustroides is widely distributed and endemic in Brazil, occurring in most states, predominantly in Caatinga, Cerrado and Atlantic Forest biomes (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma trineurum* was not provided in the protologue.

We designated a lectotype for *Melastoma trineurum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 2A) in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

FIG. 2. Comparison of the morphological details depicted in the original illustration and field photographs. A. Lectotype of *Melastoma trineurum*Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B. *Miconia ligustroides* (DC.) Naudin. *Yamamoto, M. 71* [CTBS; RB; UPCB] (Photo by Remor, D.).

6. *Melastoma trinervium* Vell.

Miconia paniculata (Mart. & Schrank ex DC.) Naudin, Ann. Sci. Nat., Bot., Ser. 3, 16: 245. 1850. *Cremanium paniculatum* DC., Prodr. 3: 194. 1828. *Melastoma paniculatum* Mart. & Schrank ex DC., Prodr. 3: 194. 1828. *Acinodendron paniculatum* (DC.) Kuntze, Revis. Gen. Pl. 2: 952. 1891. Protologue: "*in Brasilia propè Villam-riccam. Mel. paniculatum Mart. et Schr.!* [...] *(v. s. in h. Mart.)*". TYPE: BRAZIL. *Martius s.n.* (holotype: M [M016563]! isotype: G-DC-fragment [G00311259]!).

Melastoma trinervium [*trinervis*] Vell. Fl. Flumin. 178: 1829 [1825]. Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *trinervis* [Tab.] 113" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_111). Published plate in Fl. Flumin. Icones, v. 4, tab. 113. 1831 [1827].

Miconia paniculata (Mart. & Schrank ex DC.) Naudin. can be recognized by being shrubs to trees with oblong-lanceolate leaves with acuminate to caudate apex, acute base, eciliate margins, and 3+2 longitudinal veins with membranes (domatia). Also, can be recognized by the terminal and dichasial panicles and 5–6-merous flowers, with 10-24 stamens (Bacci et al. 2016; Goldenberg 2009; Goldenberg et al. 2023). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma trinervium* Vell. are detailed to recognize this name as a synonym of *Miconia paniculata.* This taxonomic position has already been supported by Triana (1872), Cogniaux (1887; 1891) and Goldenberg et al. (2013).

Miconia paniculata is endemic in Brazil, from Bahia to Santa Catarina (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma trinervium* was not provided in the protologue.

We designated a lectotype for *Melastoma trinervium* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 3A) in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

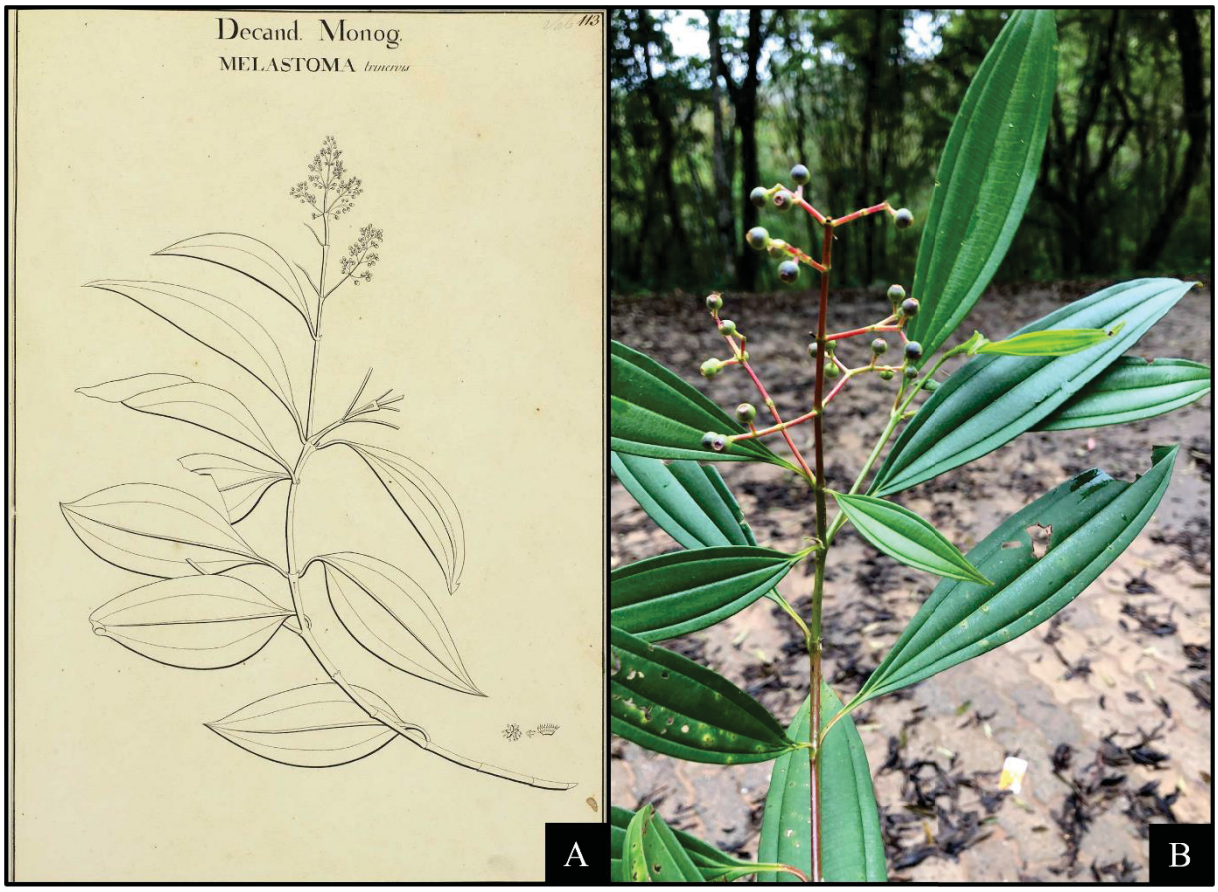

FIG. 3. Comparison of the morphological details depicted in the original illustration and field photographs. A. Lectotype of *Melastoma trinervium* Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B. *Miconia paniculata* (Mart. & Schrank ex DC.) Naudin. *Yamamoto, M. 10* [CTBS; JOI; RB; UPCB] (Photo by Yamamoto, M.).

7. *Melastoma cordatum* Vell.

Miconia cordigera (Triana) R. Goldenb. Brittonia 71(1): 92. 2018. *Oxymeris cordigera* Triana, Trans. Linn. Soc. London 28: 94. 1871. Protologue: "*in Brasilia meridionali (Sellow n. 4862)*." TYPE: BRAZIL: "in Brasilia meridionali", Sellow 4862 (lectotype, designated by Reginato and Goldenberg 2012, p. 203): US [US00120655]! isolectotype, B† photo F neg. by MacBride [16927]. *Leandra cordigera* (Triana) Cogn. In Mart. Eichler & Urb., Fl. Bras. 14(4): 166-1667. 1886.

Melastoma cordatum [*cordata*] Vell. Fl. Flumin. 178: 1829 [1825]. *Aciotis cordata* (Vell.) Macbr. Publ. Field Mus. Nat. Hist., Bot. Ser. 4: 175. 1929. Protologue: "*Habitat campis apricis*.". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *cordata* [Tab.] 114" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_112). Published plate in

Fl. Flumin. Icones, v. 4, tab. 114. 1831 [1827]. *non Miconia cordata* Triana (1872). **New synonym.**

The name *Aciotis cordata* (Vell.) Macbr., based on *Melastoma cordatum* Vell., was proposed by Macbride (1941). This name was eventually found to be correct and mentioned as an endemic species from Peru. Freire-Fierro (2002) argued that the plate of *Melastoma cordatum* from *Floræ Fluminense* has 10 stamens, 5 sepals and 6 petals, which differs from the morphological delimitation of the genus *Aciotis*, which is characterized by having 8 stamens, 4 sepals and 4 petals. Thus, Freire-Fierro (2002) concluded that *Melastoma cordatum* (*Aciotis cordata*) does not belong to the genus *Aciotis*.

*Miconia cordiger*a (Triana) R.Goldenb. can be recognized by being a subshrub to shrubs with ovate leaves, cordate base, acuminate apex, denticulate margin, and 3+2 basal acrodromous veins. Also, can be recognized by terminal and dichasial panicles, and 5-merous flowers with 10 stamens (Camargo et al. 2009). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma cordatum* are detailed to recognize this name as a synonym of *M. cordigera*, and consequently a new synonym is proposed here. Although the oldest name for this species is *Melastoma cordata*, the combination *Miconia cordata* is already in use for *M. cordata* Triana (1872).

Miconia cordigera is endemic in Brazil, occurring in Minas Gerais, São Paulo, Paraná and Santa Catarina (Baumgratz 2023) (Fig.4). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma cordatum* was provided in the protologue as "*Habitat campis apricis.*". These toponyms in *Floræ Fluminensis* can be interpreted as savannas (cerrado), a vegetation type found in the municipality of Cunha (Pastore et al. 2021).

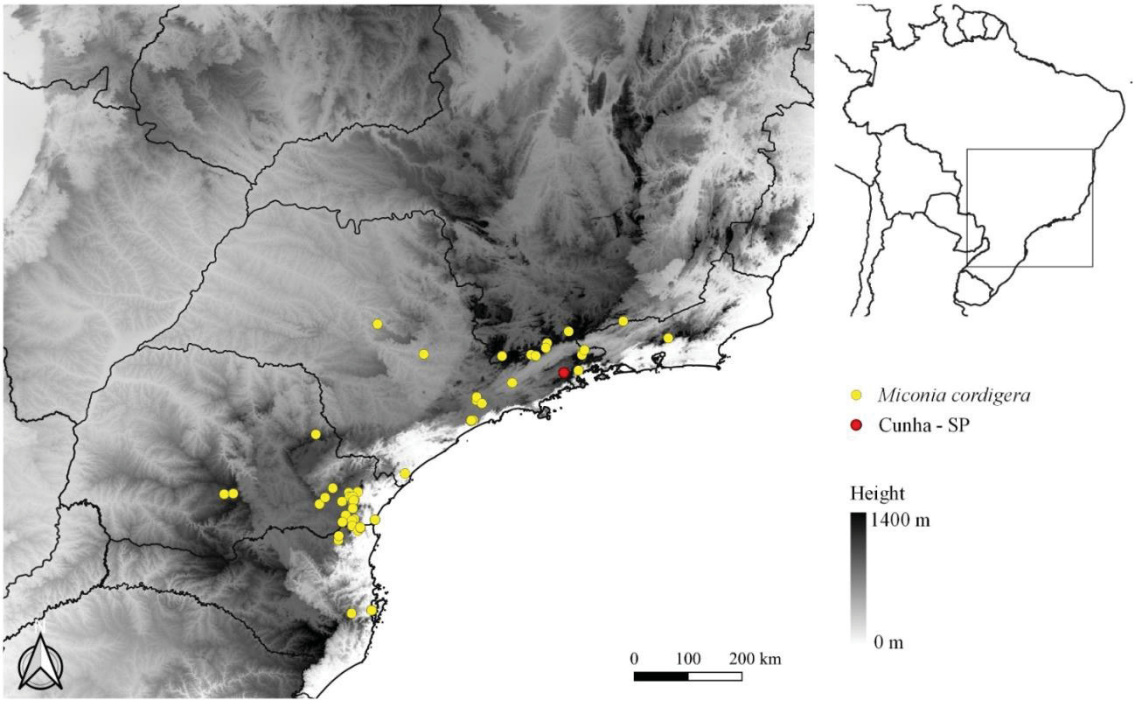

FIG. 4. Geographical distribution of *Miconia cordigera* (Triana) R. Goldenb. in Brazil.

We designated a lectotype for *Melastoma cordatum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has detail to allow recognition of this species, and it is not necessary to designate an epitype.

8. *Melastoma sericeum* Vell.

Miconia acutiflora (Naudin) R.Goldenb., Brittonia 71(1): 85. 2018. *Clidemia acutiflora* Naudin, Ann. Sci. Nat., Bot., sér. 3, 17(5): 371. 1852 [1851]. *Leandra acutiflora* (Naudin) Cogn. in Martius, Fl. Bras. 14(4): 162. 1886. Protologue: "*In montibus dictis Serra dos Orgâos, haud procul ab urbe Rio de Janeiro; Vauthier*.". TYPE: BRAZIL, Rio de Janeiro, Serra dos Órgãos, Jan. 1883, *Vauthier n. 42.* (lectotype, designated by Martin & Cremers (2007, p. 11), second step designated here: P [P00116858]! isolectotypes: G [G00316404, G00353590]! GH! [GH00338624, GH00338625]! MPU [MPU013626]!, P [P00116856, P00116857]!, W! [no barcode] W0002667.

Melastoma sericeum [*sericia*] Vell. Fl. Flumin. 179: 1829 [1825]. Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *sericea* [Tab.] 115" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-

17, 02, 002; mss1198653_113). Published plate in Fl. Flumin. Icones, v. 4, tab. 115. 1831 [1827]. **New synonym.**

This species was identified as *Miconia acutiflora* (Naudin) R.Goldenb. Although *Melastoma sericeum* Vell. is an older name for this species, the combination *Miconia sericea* (D.Don) Michelang. (2018) is already taken. *Miconia acutiflora* can be recognized by being shrubs to treelets with elliptic or obovate leaves, acute or atenuate-acuminate apex, acute to cuneate or obtuse base, eciliate margins and 3-5 acrodromous veins. Also, can be recognized by terminal and dichasial panicles and 5-merous flowers, with 10 stamens (D'El Rei Souza and Baumgratz 2009). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma sericeum* are detailed to recognize this name as a synonym of *Miconia acutiflora*, thus a new synonym is proposed here.

Miconia acutiflora is endemic in Brazil, from Minas Gerais to Santa Catrina (Baumgratz 2023) (Fig. 5). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro state and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma sericeum* was not provided in the protologue.

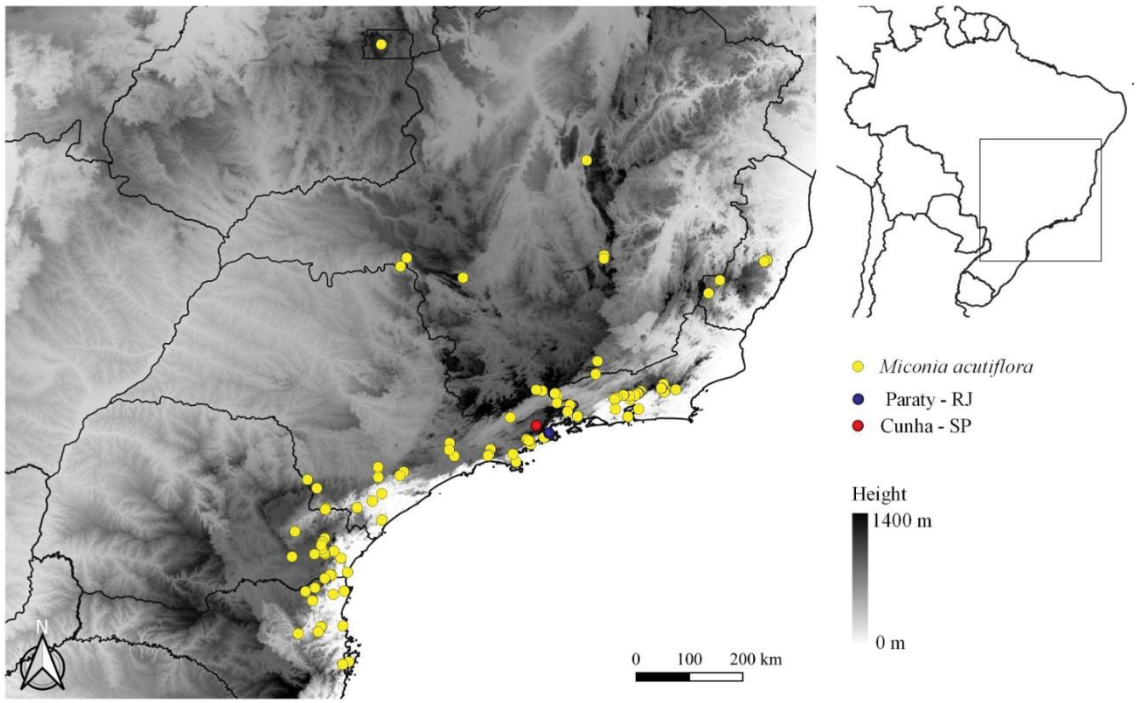

FIG. 5. Geographical distribution of *Miconia acutiflora* (Naudin) R.Goldenb. in Brazil.

Martin and Cremers (2007) indicated the three specimens in P as syntypes, and a isosyntypes in W. Therefore, a second step is designated here, P00116858. We also designated

a lectotype for *Melastoma sericeum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018), and following recommendations by Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

9. *Melastoma pumillum* Vell.

Microlicia phlogiformis (DC.) Versiane & R. Romero Bot. J. Linn. Sociedade 197(1): 54. 2021. *Trembleya phlogiformis* DC. Prodr. 3: 126. 1828. Protologue: "*in Brasiliæ campis prov. S. - Pauli. Rhexia phlogiformis Mart. et Schr! mss.* [...] *(v.s. in h. mart.)*". TYPE: BRAZIL, São Paulo: "in prov. S. Pauli." s.d., *Martius s.n* (holotype, designated by Martins (1997, p. 124): M [M0165885]! isotype: G-DC-fragment [G00310212]!).

Melastoma pumillum [*pumilla*] Vell. Fl. Flumin. 179: 1829 [1825]. Protologue: "*Habitat campis apricis mediterraneis prope Praedium Boavista inter gramina*.". Superseded lectotype, designated by Pacifico et al. (2022, p. 84): Original illustration published in Vellozo, Fl. Flumin. Icones 3: t. 151. 1831. Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *pumilla* [Tab.] 116" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_114). Published plate in Fl. Flumin. Icones, v. 4, tab. 116. 1831 [1827].

Microlicia phlogiformis (DC.) Versiane & R. Romero can be recognized by being subshrubs with lanceolate or ovate leaves, attenuate or rounded to cordiform base, acute apex, serrate margin and 3-5 veins. Also, can be recognized by the dichasial and terminal and/or axillary inflorescences and 5-merous flowers, with 10 stamens (Martins 2009; Pacifico and Fidanza 2020). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma pumillum* Vell. are detailed to recognize this name as a synonym of *Microlicia phlogiformis.* This taxonomic position has already been supported by Triana (1872), Cogniaux (1883; 1891) and Martins (1997).

Microlicia phlogiformis is widely distributed and endemic in Brazil, occurring in several states, predominantly in Cerrado and Atlantic Forest biomes (Pacifico and Fidanza 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma pumillum* was provided in the protologue as "*Habitat campis apricis mediterraneis prope Praedium Boavista inter gramina.*". The term "*mediterraneis*" is a reference to the municipality of Cunha (São Paulo State) and "*campis apricis*", describes a savanna (cerrado) vegetation,

according to Pastore et al. (2021). "*Boavista"* refers to the Chapel of São José da Boa Vista, in the municipality of Cunha.

Although Pacifico et al. (2022) recently designated the published plate in *Floræ Fluminensis* as a lectotype, this is not an original material. Therefore, we considered it as a neotype following the art. 9.12 of ICN (Turland et al. 2018). Therefore, the neotype chosen by Pacifico et al. (2022) (i.e. the published plate) is superseded here. We designate a lectotype for *Melastoma pumillum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 6A) in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

FIG. 6. Comparison of the morphological details depicted in the original illustration and field photographs. A. Lectotype of *Melastoma pumillum* Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B. *Microlicia phlogiformis* (DC.) Versiane & R. Romero. *Yamamoto, M. 66* [CTBS] (Photo by Remor, D.).

10. *Melastoma enanum* Vell.

Bertolonia leuzeana (Bonpl.) DC., Prodr. 3: 113. 1828. *Rhexia leuzeana* Bonpl. in Humb. & Bonpl., Mon. Melast. 2(2): 144, tab. 54, 55. 1823; Protologue: "*Crescit circa urbem Rio de Janeiro*". TYPE: BRAZIL, Rio de Janeiro, 1821, *Langsdorff s.n.* (Lectotype, here designated: P [P01818688]! possible isolectotype: P [P01818687]!).

Melastoma enanum [*enana*] Vell. Fl. Flumin. 179: 1829 [1825]. Protologue: "*Habitat ad declivia locis umbrosis. Floret Nov*". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *enana* [Tab.] 117" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_115). Published plate in Fl. Flumin. Icones, v. 4, tab. 117. 1831 [1827].

Bertolonia leuzeana (Bonpl.) DC. can be recognized by being herbaceous, rhizomatous plants, with elliptic to obovate leaves; acute to obtuse apex, serrate-ciliate margin, and 3 acrodromous veins. Also, can be recognized by the terminal or lateral inflorescences with scorpioid branches. The description and illustration presented by Vellozo (1829, 1831) for *Melastoma enanum* Vell. are detailed to recognize this name as a synonym of *Bertolonia leuzeana.* This taxonomic position has already been supported by Triana (1872), Cogniaux (1886; 1891) and Baumgratz (1990).

Bertolonia leuzeana is endemic in Brazil, occurring in São Paulo and Rio de Janeiro states (Baumgratz 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma enanum* was provided in the protologue as "*Habitat ad declivia Alpium locis umbrosis*.". The term "*Alpium*" is a reference to the Serra da Bocaina, before the São Paulo border (Pastore et al. 2021).

We designated a lectotype for *Melastoma enanum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

11. 'Melastoma holosericeum' Vell.

'Melastoma holosericeum [holosericia] Vell.' Fl. Flumin. 179: 1829 [1825], *non Melastoma holosericeum* L. Sp. Pl. 1:390. 1753. Reference material: [icon ined.]: "Decand. Monog. MELASTOMA *holosericia* [Tab.] 118" (original parchment plate of Fl. Flumin. in the

Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (I-17, 02, 002; mss1198653_116.). Published plate in Fl. Flumin. Icones, v. 4, tab. 118. 1831.

‘Melastoma holosericeum’ Vell. is considered here a citation of *Melastoma holosericeum* L. (1753), but it clearly does not have the same taxonomic identity. The name *Melastoma holosericeum* L. is the basionym of *Miconia holosericea* (L.) DC. (de Candolle 1828), while the species illustrated as ‘Melastoma holosericeum’ Vell. (1829; 1831) can be identified as *Miconia melastomoides* (Raddi) R.Goldenb. (Reginato, 2016). This identification has already been supported by Triana (1872) and Cogniaux (1886; 1891) (as *Leandra scabra*).

12. ‘Melastoma hirsutum’ Vell.

‘Melastoma hirsutum [hirsuta] Vell.’ Fl. Flumin. 179: 1829 [1825], *non Melastoma hirsutum* Sw. Prodr. 72. 1788. Reference material: [icon ined.]: “Decand. Monog. MELASTOMA *hirsuta* [Tab.] 119” (original parchment plate of Fl. Fluminensis in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (I-17, 02, 002; mss1198653_117). Published plate in Fl. Flumin. Icones, v. 4, tab. 119. 1831.

Although ‘Melastoma hirsutum’ Vell. is considered here a citation of *Melastoma hirsutum* Sw. (1788), these names do not have the same taxonomic identity. *Melastoma hirsutum* Sw. is the basionym of *Miconia hirsuta* (Sw.) Judd, Bécquer & Majure (Majure et al. 2015), while the species illustrated as ‘Melastoma hirsutum’ Vell. (1829; 1831) can be identified as *Miconia raddii* R.Goldenb. (Reginato, 2016, as *Leandra sericea*). This identification was treated by Triana (1872) and Cogniaux (1886; 1891) as *Miconia melastomoides* (Raddi) R.Goldenb., but the illustration of ‘Melastoma hirsutum’ differs from *Miconia melastomoides* mainly because of the absence of glandular trichomes, the shape of the bracteoles and the number of veins (Reginato 2016).

13. ‘Melastoma quinquenerve’ Vell.

‘Melastoma quinquenerve [quinquenervis] Vell.’ Fl. Flumin. 179-180: 1829 [1825], *non Melastoma quinquenervium* Mill., Gard. Dict. 8(15): 735. 1768. Reference material: [icon ined.]: “Decand. Monog. MELASTOMA *quinquenervis* [Tab.] 120” (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (I-17, 02, 002; mss1198653_118). Published plate in Fl. Flumin. Icones, v. 4, tab. 120. 1831.

According to the International Plant Names Index (IPNI) database, ‘Melastoma quinquenerve’ Vell. is just a variation of *Melastoma quinquenervium* Mill. Because of that, ‘M. quinquenerve’ Vell. is considered here a citation from *M. quinquenervium* Mill. (1768), but it clearly does not have the same taxonomic identity. The name *Melastoma quinquenervium* Mill. is the basionym of *Miconia quinquenervia* (Mill.) Gamba & Almeda that occurs in Central America to Colombia, Venezuela and Ecuador (Gamba and Almeda 2014), while the species illustrated as ‘Melastoma quinquenerve’ Vell. (1829; 1831) can be identified as *Henriettea saldanhaei* Cogn. This species was treated by Triana (1872) and Cogniaux (1888; 1891) as *Henriettea succosa* (Aubl.) DC., however the only species of *Henriettea* occurring in Rio de Janeiro are *H. saldanhaei* Cogn. and *H. umbelluliflora* (Triana) M.A.Yamam., J.F.B.Pastore & R.Goldenb. (Silva and Baumgratz 2008; Brito 2023). These two can be distinguished by the leaves with 5 acrodromous veins (*H. saldanhaei*) or only 3 veins (*H. umbelluliflora)* (Silva and Baumgratz 2008), the latter as can be seen in the illustration of 'M. quinquenerve' Vell.

14. *Melastoma glabrum* Vell.

Henriettea umbelluliflora (Triana) M.A.Yamam., J.F.B.Pastore & R.Goldenb. Phytotaxa 539(2): 220 (2022). *Henriettella umbelluliflora* Triana, Trans. Linn. Soc. London 28(1): 143. 1871. Protologue: “*In Brasilia meridionali (Pohl); necnon prope Rio de Janeiro (Schott n. 4117)*”. TYPE: BRAZIL. Rio de Janeiro, *Schott 4117* (D. n°1294) (lectotype, designated by Yamamoto et al. (2022, p. 220): W [W0069674]! isolectotype: NY [NY00228642]!).

Melastoma glabrum [*glabra*] Vell. Fl. Flumin. 180. 1829 [1825]; Fl. Flumin. Icon. 4 tab. 121. 1831 [1827]. *nom. illeg. non Melastoma glabrum* G. Forst. Fl. Ins. Austr. 34. 1786. TYPE: “Melastoma glabra, Tabula 121”, icon ined. (lectotype, designated by Yamamoto et al. (2022, p. 220): original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_119). Epitype, designated by Yamamoto et al. (2022, p. 221): BRAZIL. Rio de Janeiro, Nova Friburgo, Alto Macahé, 6 February 1889, *Glaziou 16960* P [P05254515]!)

Henriettea umbelluliflora (Triana) M.A.Yamam., J.F.B.Pastore & R.Goldenb. can be recognized by being glabrous trees with oblong or elliptic leaves, attenuate to acute base, obtuse to acuminate apex, ciliate margins, and 3 veins. The inflorescences are lateral pauciflorous fascicles and the flowers are 5-merous, with 10 stamens (Martins 2009).

Henriettea umbelluliflora is endemic in Brazil, occurring in Bahia, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Brito 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma glabrum* was not provided in the protologue.

Melastoma glabrum Vell (1829; 1831) is considered illegitimate (later homonym), following Art. 53.1 of the ICN (Turland et al. 2018), because of *Melastoma glabrum* G. Forst. (1786). This name has also been used as the basionym of "Henriettella glabra" (Vell.) Cogn. (Silva & Baumgratz 2008) and "Henriettea glabra" (Vell.) Penneys et al. (Penneys et al. 2010), but see Yamamoto et al (2022) for more details.

15. *Melastoma macrophyllum* Vell.

Miconia serrulata (DC.) Naudin, Ann. Sci. Nat., Bot., Ser. 3, 16: 118. 1850. *Diplochita serrulata* DC., Prodr. 3: 177. 1828. *Melastoma serrulatum* Rich. ex DC., Prodr. 3: 177. 1828. *Miconia macrophylla* var. *serrulata* (DC.) Cogn. in Martius, Fl. bras. 14 (4): 241. 1887. Protologue: "*in Brasiliæ sylvis æternis propè S.-Pedro de Alcantara. Mel. lasiopetalum Mart. et Schr.! [...] (v. s. in h. Mart.)".* TYPE: BRAZIL. Minas Gerais, *Martius s.n.* (holotype: M [M0165615]!).

Melastoma macrophyllum [*macrophylla*] Vell. Fl. Flumin. 179: 1829 [1825], *nom. illeg. non Melastoma macrophyllum* Desr. in Lam. & al. Encycl. 4(1): 44. 1797. Lectotype, here designated: [icon ined.]: "Decand. Monog. MELASTOMA *macrophylla* [Tab.] 122" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_120). Published plate in Fl. Flumin. Icones, v. 4, tab. 122. 1831 [1827].

Miconia serrulata (DC.) Naudin can be recognized by the set of characters: shrubs with cordate leaves, acute apex, serrate margins, and 5+2 longitudinal veins, dichasial panicles, and 6-merous flowers with a 3-5 locular ovary (Goldenberg 2009; Goldenberg et al. 2023). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma macrophyllum* Vell. are detailed to recognize this name as a synonym of *Miconia serrulata.* Its taxonomic position has already been supported by Triana (1872), Cogniaux (1887; 1891) and Goldenberg et al. (2013) as *Miconia serrulata*. This is widely distributed in Brazil, but it is not endemic (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern

Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma macrophyllum* was not provided in the protologue.

Melastoma macrophyllum is considered illegitimate (later homonym), following Art. 53.1 of the ICN (Turland et al. 2018), because of *Melastoma macrophyllum* Desr. (1797). We designated a lectotype for *Melastoma macrophyllum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following recommendations by Pastore et al. (2022). This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

16. *Melastoma rhexioides* Vell.

[Tribe Marcetieae], *Comolia* sp. or *Fritzschia* sp.

Melastoma rhexioides Vell. Fl. Flumin.180: 1829 [1825]. Lectotype, designated by Silva et al. (2021, p. 258): [icon. ined.]: "Decand. Monog. MELASTOMA *rhexioides* [Tab.] 123" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_121). Published plate in Fl. Flumin. Icones, v. 4, tab. 123. 1831 [1827].

Melastoma rhexioides Vell. (1829; 1831) was synonymized under *Comolia ovalifolia* (DC.) Triana by Triana (1872), Cogniaux (1885; 1891) and Seco (2006). Silva et al. (2021) excluded this synonym due to characters described in the protologue and the illustration. Within the genera of Marcetieae, Silva et al. (2021) consider *Melastoma rhexioides* similar to species in *Fritzschia* Cham. However, we can not confirm this proposal because the illustration and protologue of *Melastoma rhexioides* are not precise enough so that we could assign this name either to *Comolia* DC. or *Fritzschia* Cham.

Fritzschia is morphologically close to *Comolia* and the distinction between both is mainly due to the number of locules in the ovary: 4-loucular in *Fritzschia* and 2-locular in *Comolia* (Silva et al. 2023). The geographic distribution also helps distinguishing them. *Comolia* is endemic in Brazil along the northern and northeast regions, and in Espírito Santo state (from southest region), mainly in Restinga or vegetation on sandy soils. *Fritzschia* is endemic in Brazil, occurring in Bahia, Minas Gerais, Goiás and Mato Grosso do Sul states, predominantly in grasslands and "campos rupestres" (Silva et al. 2023).

The original description of *Melastoma rhexioides* lacked information on its habitat or location. Based on the context of the *Floræ Fluminensis*, its possible original locality extends

from southern Rio de Janeiro to Cunha municipality in São Paulo (Pastore et al. 2021). Finally, it appears that neither *Comolia ovalifolia* nor any members of *Fritzschia* occur in the historical sites where Friar Vellozo collected. Therefore, the identity of *Melastoma rhexioides* still an open question.

17. *Melastoma procumbens* Vell.

Chaetogastra gracilis (Bonpl.) DC., Prodr. 3: 133. 1828. *Rhexia gracilis* Bonpl. in Humboldt & Bonpland, Monogr. Melast. 2: 138, tab. 52. 1823. *Lasiandra gracilis* (Bonpl.) Naudin in Ann. Sci. Nat., Bot., sér. 3, 13(3): 159. 1850. *Pleroma gracile* (Bonpl.) A.Gray, U.S. Expl. Exped., Phan. 15: 604. 1854. *Tibouchina gracilis* (Bonpl.) Cogn. in Martius, Fl. Bras. 14(3): 386–389. 1885. Protologue: "*Habitat in Brasilia, circa urbem Rio de Janeiro*". Superseded lectotype, designated by Guimarães et al. (2019, p. 25): Illustration "RHEXIA gracilis" in Humboldt & Bonpland, Monogr. Melast. 2: 138, pl. 52. 1823. Lectotype (perhaps the holotype), here designated: BRAZIL, Rio de Janeiro, 1821, *Langsdorff s.n.* P [P00136496]!)

Melastoma procumbens Vell. Fl. Flumin. 180: 1829 [1825]. Protologue: "*Habitat campis apricis mediterraneis. Floret Sept. Aug*.". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *procumbens* [Tab.] 124" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_122). Published plate in Fl. Flumin. Icones, v. 4, tab. 124. 1831 [1827]. **New synonym.**

Chaetogastra gracilis (Bonpl.) DC. can be recognized by being herbs or subshrubs with elliptic or lanceolate leaves, acute apex, obtuse base, crenulate margins. The inflorescences are terminal thyrsoids and the flowers are 5-merous, with 10 stamens (Meyer et al. 2010).

Chaetogastra gracilis occurs in Brazil in several states, predominantly in Cerrado, Atlantic Forest and Pampa biomes, but it is not endemic (Goldenberg et al. 2023) (Fig. 7). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma procumbens* Vell. was provided in the protologue as "*Habitat campis apricis mediterraneis*". The term "*mediterraneis*" is a reference to the municipality of Cunha (São Paulo State) and "*campis apricis*", describes a savanna (cerrado) vegetation (Pastore et al. 2021).

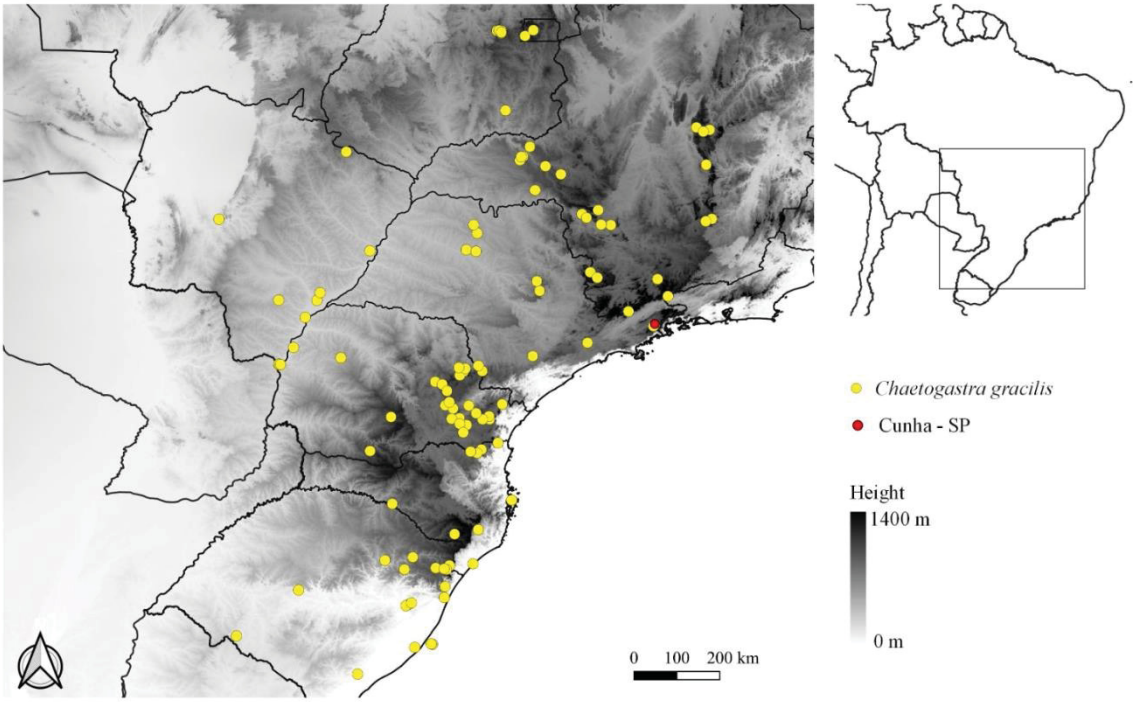

FIG. 7. Geographical distribution of *Chaetogastra gracilis* (Bonpl.) DC. in Brazil.

There is only one Langsdorff's specimen from 'Rio de Janeiro' in P (P00136496) which matches with the Bonpland's original observations for *Rhexia gracilis*: "Cette espèce a été découverte par M. Langsdorff dans les environs de Rio de Janeiro" (Bonpland 1823: 129). This specimen was chosen here as lectotype. However, as the lectotype specimen does not keep the original label of Monographia Melastomacearum, it was not possible to recognize it as the holotype. The former lectotype designated by Guimarães et al. (2019) was here superseded following the art. 9.12 of ICN (Turland et al. 2018).

We designated a lectotype for *Melastoma procumbens* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 8A) in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following Pastore et al. (2022) recommendations. This plate has details that allow the recognition of this species, and it is not necessary to designate an epitype.

FIG. 8. Comparison of the morphological details depicted in the original illustration and field photographs. A. Lectotype of *Melastoma procumbens* Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B. *Chaetogastra gracilis* (Bonpl.) DC. *Yamamoto, M. 80* [CTBS] (Photo by Remor, D.).

18. *Melastoma brachiatum* Vell.

Pleroma frigidulum (Schrank & Mart. ex DC.) Triana in Trans. Linn. Soc. London, Bot. 28(1): 42. 1872 [1871]. *Lasiandra frigidula* Schrank & Mart. ex DC., Prodr. 3: 127. 1828. *Tibouchina frigidula* (Schrank & Mart. ex DC.) Cogn. in Martius, Fl. Bras. 14(3): 328–329, tab. 76. 1885. Protologue: "*In Brasiliæ campis alpestribus Serro Frio. Rhexia frigidula Schr. et Mart! mss*.". Holotype: BRAZIL. Minas Gerais: Serro Frio, s.d., Martius C.F.P. von s.n. (M [M0005192]!; isotype: G-DC-fragment [G00310206]!)

Melastoma brachiatum [*brachiata*] Vell. Fl. Flumin. 180: 1829 [1825], *nom. illeg. non Melastoma brachiatum* Vahl. 1807. Protologue: "*Habitat campis apricis mediterraneis. Floret Febr. Mar*.". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *brachiata* [Tab.] 125" (original parchment plate of Fl. Flumin. in the

Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_123). Published plate in Fl. Flumin. Icones, v. 4, tab. 125. 1831 [1827]. **New synonym.**

Melastoma brachiatum Vell. (1829; 1831) is illegitimate (later homonym), because *M. brachiatum* Vahl, following Art. 53.1 of the ICN (Turland et al. 2018). Taxonomically, *Melastoma brachiatum* Vell. was treated as *Pleroma lhotskyanum* (or *Tibouchina lhotskyana* Triana) (Triana, 1872, Cogniaux, 1885; 1891). However, the original locality of *Melastoma brachiatum* was described as "*Habitat campis apricis mediterraneis*.", i.e. the savanna vegetation of Cunha municipality in São Paulo state (Pastore et al. 2021). Whereas, *Pleroma lhotskyanum* does not occurs in the São Paulo state, nor in the Rio de Janeiro state, in fact, this species occurs in the Atlantic Forest, from Espírito Santo to Paraíba states (Guimarães 2023).

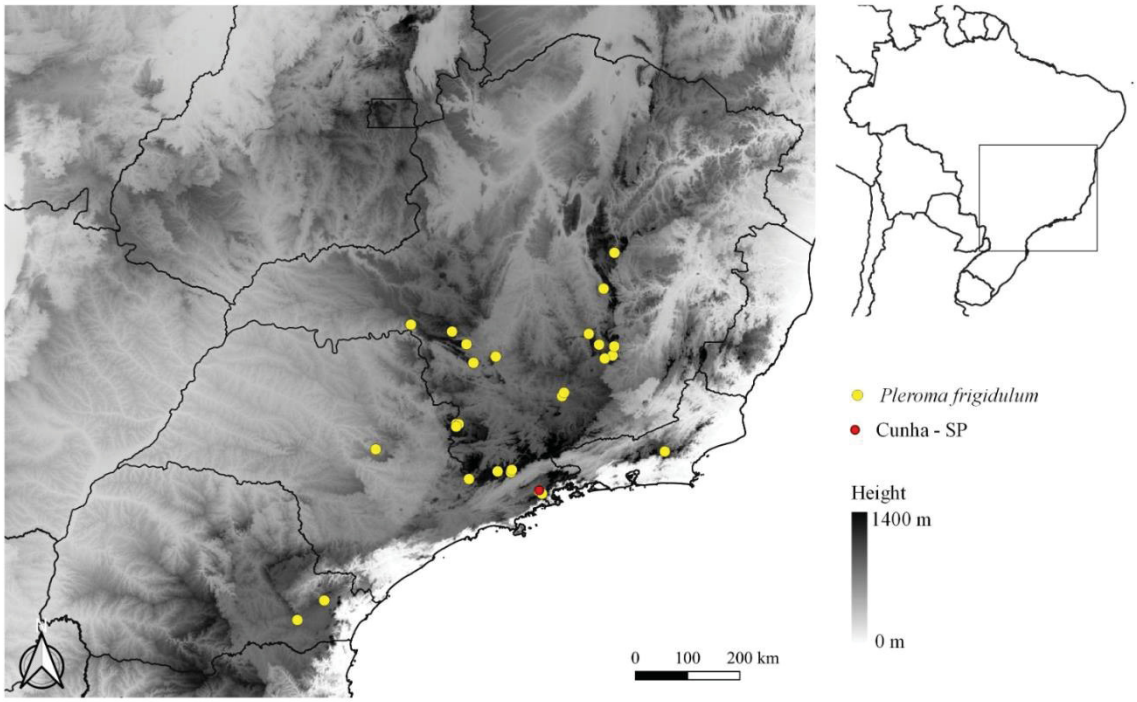

FIG. 9. Geographical distribution of *Pleroma frigidulum* (Schrank & Mart. ex DC.) Triana in Brazil.

Vellozo (1829) describes a plant with herbaceous stem, a long, terminal, solitary and branched peduncle. Leaves with 3-veins, and a purple corolla. Based on these characters and geographical distribution, the species illustrated as *Melastoma brachiatum* can be identified as *Pleroma frigidulum* (Schrank & Mart. ex DC.) Triana, and treated here as a new heterotypic synonym. *Pleroma frigidulum* is endemic in Brazil, from Minas Gerais to Paraná (Guimarães

2023) (Fig. 9). We designated a lectotype for *Melastoma brachiatum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 10A) in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following Pastore et al. (2022) recommendations. This plate has detail to allow the recognition of this species, and its not necessary to designate an epitype.

FIG. 10. Comparison of the morphological details depicted in the original illustration and field photographs. A. Lectotype of *Melastoma brachiatum* Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B-C. *Pleroma frigidulum* (Schrank & Mart. ex DC.) Triana. *Yamamoto, M. 115* [CTBS] (Photo by Remor, D.).

19. *Melastoma arvense* Vell.

Microlicia parviflora (D.Don) Versiane & R.Romero or *Microlicia trembleyiformis* Naudin.

Melastoma arvense [*arvensis*] Vell. Florae Fluminensis 180-181: 1829 [1825]. Lectotype, designated here: [icon. ined.]: “Decand. Monog. MELASTOMA *arvensis* [Tab.] 126” (original parchment plate of Florae Fluminensis in the Manuscript Section of the Bibliot. Nac., do Rio de Janeiro; No. 1-17, 02, 002; mss1198653_124). Published plate in Florae Fluminensis Icones, v. 4, tab. 126. 1831 [1827].

The identity of *Melastoma arvense* Vell. was historically treated as inconclusive, Triana (1872) put a question mark on this name (*Trembleya*?), while Cogniaux (1891) wrote about this name "*Species e genere certe excludendae, sed inextricabiles*".

Although *Melastoma arvense* was illustrated with elliptic leaves and the shape of the calyx lobes: wide at the base, narrowly triangular and apex acute, which corresponds to *Microlicia parviflora* (D.Don) Versiane & R.Romero. On the other hand, Vellozo (1829) describes terminal, solitary flowers (whereas the flowers in *M. parviflora* are in axillary dichasia), and leaves lacking a pair of leaf veins close to the margin (*vs*. pair of leaf veins close to the margin present in *Microlicia parviflora).* Furthermore, the indument in the inflorescence excessively pilose and the stamens which appear to be isomorphic (in *Melastoma arvense* illustration), are sufficient to rule out the possibility of *Melastoma arvense* being synonym of *Microlicia parviflora.* Another possibility, *Microlicia trembleyformis*, sister of *Microlicia parviflora*, differs from *Melastoma arvense* by the solitary flowers and the leaves without a pair of veins near the margin (Pacifico et al 2022).

Microlicia parviflora is endemic in Brazil, from Bahia to Paraná (Pacifico and Fidanza 2023), whereas *Microlicia trembleyiformis* is endemic to Minas Gerais (Romero et al. 2023). Although, the original locality of *Melastoma arvense* was not provided in the protologue. The occurrence of *Microlicia parviflora* and *Microlicia trembleyformis* overlap the *Floræ Fluminensis*, because both was collected in Rio de Janeiro. However, *Microlicia parviflora* is much more collected, whereas *Microlicia trembleyformis* is only known by one sample from Rio de Janeiro (Porto 2834 - Itatiaia, Serra Negra, in 1934), being frequently collected in Minas Gerais.

20. *Melastoma confertum* Vell.

Cambessedesia espora (A.St.-Hil. in Bonpl.) DC., Prod. 3: 111. 1828. *Rhexia espora* A.St.-Hil. in Bonpl. Mon. Melast. Rhex. 2: 152. tab. 58. 1823. Protologue: "*Habitat frequens in campis Provinciarum Brasiliensium Minas Geraes et Goyaz, et in parte septentrionali provinciæ S. Pauli*". Lectotype, here designated: BRAZIL, Minas Gerais, ['Faz. Gangoras', likely Faz. Gangorra in Olhos d'agua Municipality], s.d. [8-25 July 1817], *Saint-Hilaire Cat. B1 1682 bis*. P [P02274294]!

Melastoma confertum [*conferta*] Vell. Fl. Flumin. 181: 1829 [1825]. ≡ *Acanthella conferta* (Vell.) Cogn. Fl. Bras. (Martius) 14(4): 6, 1888. Lectotype, designated here: [icon. ined.]:

"Decand. Monog. MELASTOMA *conferta* [Tab.] 127" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_125). Published plate in Fl. Flumin. Icones, v. 4, tab. 127. 1831 [1827]. Epitype, here designated: BRAZIL, São Paulo, Cunha. Estrada Real, -23.137222°S, -44.904722°W, 25 May 2022, *M. Yamamoto 128* (CTBS [7146]). **New synonym.**

Rhexia espora A.St.-Hil. was described by Saint-Hilaire in Bonpland's *Monographia Melastomatacearum* (1823) including in the protologue reference to provinces (currently the states) of Minas Gerais, São Paulo and Goiás. We found 10 specimens of *Cambessedesia espora* (A.St.-Hil. in Bonpl.) DC. in P from Minas Gerais and São Paulo. The specimen *C1 646* [barcode P05317020] noted from Goyaz [Goiás state, Brazil] was not found in the field book C1, in which the entry '646' is a 'Mimosa'. On the other hand, the entry '646' in the B1 field book was noted as "melastomée". Therefore, this specimen, P05317020, is likely collected in Minas Gerais ['Itajuru', Rio Piracicaba municipality, Jan.-Feb. 1817], instead from Goiás. The specimen barcoded as P02274294 was chosen as the lectotype because it includes the original label, and also because it is somewhat similar to the original drawing presented in *Monographia Melastomatacearum*. Martins (1984), and later Fidanza (2009) referred "Saint-Hilaire 1682 B1" as the holotype of *Cambessedesia espora*. However, these dissertations were never published, so an eventual inadvertent lectotypification is not considered.

Cogniaux (1886) made the first attempt to treat *Melastoma confertum* Vell., combining this name in *Acanthella*, as *A. conferta*. The latter author also included *Acanthella sprucei* Cogn. as synonym. Wurdack (1964) strongly argued against the impossibility of *Melastoma confertum* to be co-specific of *A. sprucei*, recognizing that *M. confertum* probably belonged to *Cambessedesia*. In fact, the quality of the plate is unsatisfactory, and it may weakly represent any known species in this genus. However, the original description matches *Cambessedesia espora,* since Vellozo (1829) describes a glabrous plant with erectlanceolate, verticillate, and fasciculate leaves. The flower is solitary and axillary with a yellow corolla. The stem is herbaceous, erect and branched. The diagnosis shows a 5-merous flower, with 10 stamens and a 3-locular ovary.

We designated a lectotype for *Melastoma confertum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro (Fig. 11A,C) in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following Pastore et al. (2022) recommendations.

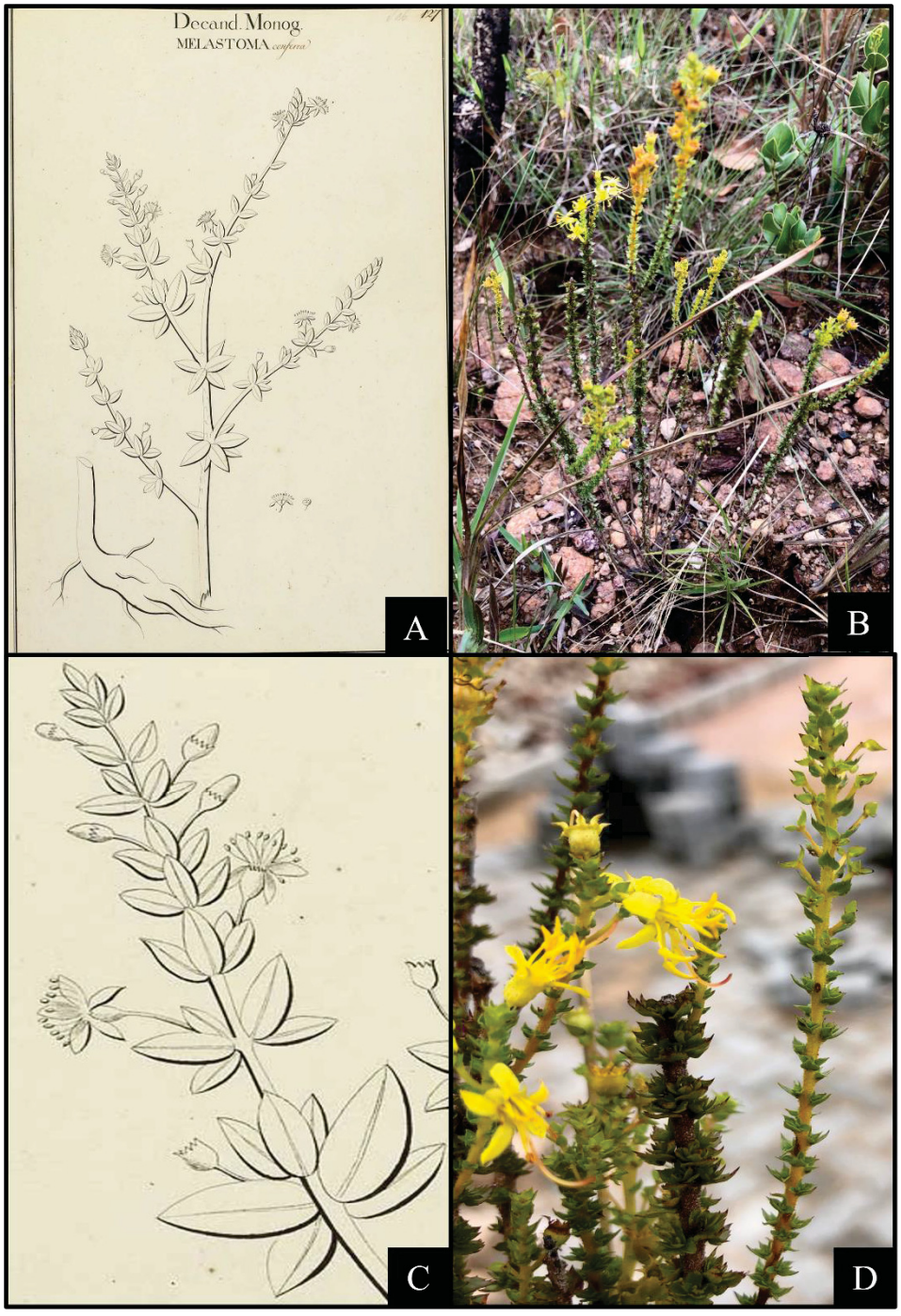

FIG. 11. Comparison of the morphological details depicted in the original illustration and field photographs. A, C. Lectotype of *Melastoma confertum* Vell. at the Manuscript Section, Biblioteca Nacional, Rio de Janeiro. B, D. *Cambessedesia espora* (A.St.-Hil. in Bonpl.) DC. *Yamamoto, M. 17* [CTBS] (Photo by Yamamoto, M.).

We suspect, considering the quality of illustration of *Melastoma confertum*, it may represent an example of *Floræ Fluminensis* cases, as discussed by Pastore (2013). According

to the latter author, eventually iconographies were possibly not based on an actual specimen, but only on the original description.

Therefore, an epitype is designated here in order to help interpret the species illustrated in the lectotype. The epitype was chosen based on the material collected in the municipality of Cunha, which matches the original locality described by Vellozo (1829), following Pastore et al. (2021). The original locality of *Melastoma confertum* was not provided in the protologue, but *Cambessedesia espora* occurs in Goiás, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, and Paraná (Pacifico and Fidanza 2023) (Fig. 12).

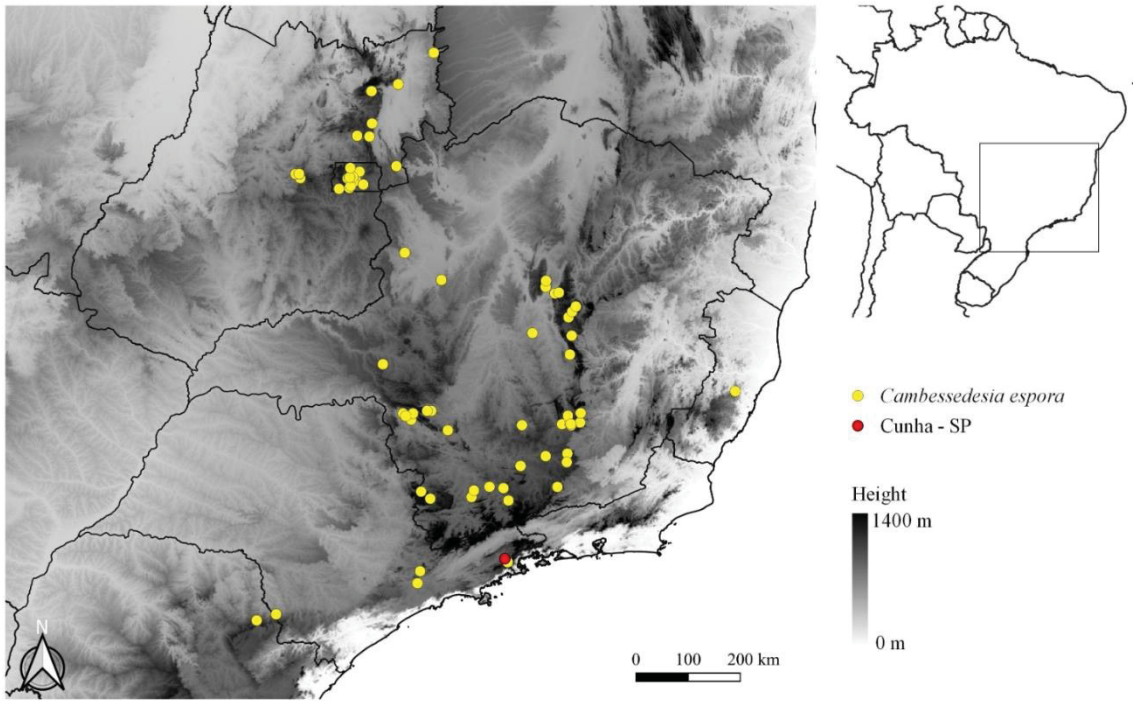

FIG. 12. Geographical distribution of *Cambessedesia espora* (A.St.-Hil. in Bonpl.) DC. in Brazil.

21. *Melastoma pentandrum* Vell.

Melastoma pentandrum [*pentandra*] Vell. Florae Fluminensis 181: 1829 [1825]. Protologue: "*Habitat fruticetis mediterraneis. Floret Oct. Nov.*". Lectotype, designated here: [icon. ined.]: "Decand. Monog. MELASTOMA *pentandra* [Tab.] 128" (original parchment plate of Florae Fluminensis in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro; No. 1-17, 02, 002; mss1198653_126.). Published plate in Florae Fluminensis Icones, v. 4, tab. 128. 1831 [1827].

Melastoma pentandrum Vell. (1829;1831) was treated by Triana as "*generis dubii"* and later by Cogniaux (1891) as *"Species e genere certe excludendae, sed inextricabiles".* As discussed in the previous species, the lack of precision in some of the *Floræ Fluminensis* plates was possibly due to the fact that they probably were not based on an actual specimen, but on the original description. Therefore, when resolved, this name will require the choice of an epitype to help interpret the species illustrated in the lectotype.

Vellozo (1829) describes a plant with 5 stamens, eciliate margins and 3 veins. The flowers are 5-merous, with terminal and solitary flowers. The corolla is white, radiating purple lines, and the stamens have a subsagittate anther and a purple filament. We believe that it may belong to *Pleroma,* and not *Clidemia,* as mentioned by Hooker and Jackson (1895).

Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma pentandrum* was provided in the protologue as "*Habitat fruticetis mediterraneis*". The term "*mediterraneis*" is a reference to the municipality of Cunha, São Paulo (Pastore et al. 2021).

22. *Melastoma saxatile* Vell.

Melastoma saxatile [*saxatilis*] Vell. Fl. Flumin. 181: 1829 [1825]. Protologue: "*Habitat maritimis ad saxa, supraque recumbit. Floret sept. oct*". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *saxatilis* [Tab.] 129" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_127). Published plate in Fl. Flumin. Icones, v. 4, tab. 129. 1831 [1827].

Although *Melastoma saxatile* Dennstedt, (1818: 30) (Schlüssel Hortus Malab.) is an entry in IPNI, is not a validly published (*nomen nudum*). Therefore *Melastoma saxatille* Vell. (1829) it's not an illegitimate name.

Melastoma saxatile was synonymized under *Rhynchanthera dichotoma* (Desr.) DC. by Triana (1872), Cogniaux (1891) and Wurdack (1962). Disagreeing with the synonymization, Renner (1990) excluded this taxon from its synonym claiming that the synonymization was incorrect and that *M. saxatile* probably corresponded to some species in *Tibouchina* Aubl. (now *Pleroma* D. Don).

Vellozo (1829) describes a plant with an ascending shrubby stem, and petiolate, decussate, glabrous, wide and cordate leaves with 7 veins. The inflorescences are terminal, branched racemes, the petals are wide and purple, and the stamens are dimorphic. From these

morphological characters, we can infer that a species of *Pleroma* may have been drawn and described, and never collected again in Rio de Janeiro.

Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma saxatile* was provided in the protologue as "*Habitat maritimis ad saxa, supraque recumbit*". The term "*maritimis*" is related to entries from the Rio de Janeiro state and the word "*saxa*" is associated with plants that occur on rocky outcrops (Pastore et al. 2021).

23. *Melastoma mutabile* Vell.

Pleroma mutabile (Vell.) Triana in Trans. Linn. Soc. London, Bot. 28(1): 40. 1872 [1871]. *Melastoma mutabile* [*mutabilis*] Vell. Fl. Flumin. 181: 1829 [1825]. ≡ *Lasiandra mutabilis* (Vell.) Riedel ex Naudin in Ann. Sci. Nat., Bot., sér. 3, 13(3): 145. 1850. *Tibouchina mutabilis* (Vell.) Cogn. in Martius, Fl. Bras. 14(3): 300–301. 1885. Protologue: "*Habitat Alpibus Pharmacopolitanis ad vertices. Floret Oct. Nov*.". Superseded lectotype, designated by Guimarães et al. (2019, p. 49): Illustration published in *Florae Fluminensis* Icones, v. 4, tab. 130. 1831 [1827]. Lectotype, here designated: "Decand. Monog. MELASTOMA *mutabilis* [Tab.] 130" original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_128). Published plate in Fl. Flumin. Icones, v. 4, tab. 130. 1831 [1827]."

Melastoma mutabile Vell. is the basionym of *Pleroma mutabile* (Vell.) Triana (1872), this name was accepted by Cogniaux (1885; 1891) and Guimarães et al. (2019).

Pleroma mutabile can be recognized by the trees with lanceolate leaves, obtuse base, acute to obtuse apex, and 5 basal veins. The isolate flowers are 5-merous and the petals are initially white or have only a lilac edge before becoming entirely lilac (Guimarães and Oliveira 2009).

Pleroma mutabilie is endemic in Brazil, occurring in Espírito Santo, Rio de Janeiro and São Paulo (Guimarães 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro state and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma mutabile* was provided in the protologue as "*Habitat Alpibus Pharmacopolitanis ad vertices.*". The term "*Pharmacopolitanis*" is related to Paraty, in Rio de Janeiro, predominantly covered with Atlantic Forest (Pastore et al. 2021).

The lectotype designated by Guimarães et al. (2019), "Illustration published in *Florae Fluminensis* Icones, v. 4, tab. 130. 1831 [1827]" is considered here as a neotype, because it can

not be considered an original material. The plate “Decand. Monog. MELASTOMA *mutabilis* [Tab.] 130”, here chosen as lectotype and housed in Biblioteca Nacional is the original material. Thus, the neotype designated by Guimarães et al. (2019) is here superseded, following the art. Art. 9.4 of the ICN (Turland et al. 2018).

24. *Melastoma arboreum* Vell.

Miconia calvescens Schrank & Mart. ex DC., Prodr. 3: 185. 1828. *Melastoma calvescens* Schrank & Mart. ex DC., Prodr. 3: 185 (1828). Protologue: “*in prov. Rio-Negro Brasiliæ. Melast. calvescens Schr. et Mart! mss. [...] (v. s. fol. et panic. in h. Mart.)*”. TYPE: BRAZIL. Rio Negro, *Martius s.n.* (holotype: M [M0165559]! isotype: G-DC [G00310953]!).

Melastoma arboreum [*arborea*] Vell. Fl. Flumin. 182: 1829 [1825]. *Acinodendron arboreum* (Vell.) Kuntze, Revis. Gen. Pl. 2: 950. 1891. Protologue: “*Habitat silvis maritimis Pharmacopolitanis*”. Lectotype, here designated: [icon. ined.]: “Decand. Monog. MELASTOMA *arborea* [Tab.] 131” (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_129). Published plate in Fl. Flumin. Icones, v. 4, tab. 131. 1831 [1827].

Miconia calvescens Schrank & Mart. ex DC. can be recognized by being shrubs to trees with elliptic to ovate leaves, acute to acuminate apex, eciliate margins, and 3+2 longitudinal veins without membranes (domatia). Also, can be recognized by the regular-glomerular and terminal panicles and 5-merous flowers, with 10 stamens (Goldenberg 2009; Bacci et al. 2016). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma arboreum* Vell. are detailed to recognize this name as a synonym of *Miconia calvescens* and this taxonomic position has already been supported by Triana (1872), Cogniaux (1887; 1891) and Goldenberg et al. (2013).

Miconia calvescens is widely distributed in Brazil. It occurs in most states, predominantly in the Amazon, Cerrado and Atlantic Forest biomes, but it is not endemic (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma arboreum* was provided in the protologue as “*Habitat silvis maritimis Pharmacopolitanis.*”. The term “*maritimis*” is related to entries from Rio de Janeiro and “*Pharmacopolitanis*” is related to Paraty, in Atlantic Forest (Pastore et al. 2021).

We designated a lectotype for *Melastoma arboreum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following Pastore et al. (2022) recommendations. This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

25. *Melastoma taquari* Vell.

Miconia latecrenata (DC.) Naudin, Ann. Sci. Nat., Bot., Ser. 3 16: 239. 1850. *Cremanium latecrenatum* DC., Prodr. 3: 194. 1828. Protologue: "*in Brasiliæ collibus udis prov. Pianhensis. Valdè accedit ad M. pyramidalem Bonpl. t. 21*. [...] *Mel. pyramidale Mart. et Schrank! mss. (v. s. in h. Mart.)*". TYPE: BRAZIL. Piauí, *Martius s.n*. (holotype: M [M0165604]! isotype: G-DC [G00311262]!).

Melastoma taquari Vell. Fl. Flumin. 182: 1829 [1825]. Protologo: "*Habitat silvis maritimis Pharmacopolitanis ad Ostium Fluvii dicti Taquari*". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *taquari* [Tab.] 132" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_130). Published plate in Fl. Flumin. Icones, v. 4, tab. 132. 1831 [1827].

Miconia latecrenata (DC.) Naudin can be recognized by being shrubs to trees with elliptic-lanceolate to ovate-lanceolate leaves, attenuate base, acute to acuminate apex, repand to crenate margins, and 3+2 acrodromous veins. Also, can be recognized by the terminal and dichasial panicles and 5-merous flowers (Goldenberg 2009; Goldenberg et al. 2023). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma taquari* Vell. are detailed to recognize this name as a synonym of *Miconia latecrenata*. This taxonomic position has already been supported by Triana (1872), Cogniaux (1888; 1891) and Goldenberg et al. (2013).

Miconia latecrenata is endemic in Brazil, from Pernambuco to Rio Grande do Sul (except in Alagoas and Sergipe) (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma taquari* was provided in the protologue as "*Habitat silvis maritimis Pharmacopolitanis ad Ostium Fluvii dicti Taquarí*.". The term "*maritimis*" is related to the entries of the Rio de Janeiro state and "*Pharmacopolitanis*" is

related to Paraty, in Atlantic Forest (Pastore et al. 2021). The habitat description also mentions that this plant was found at the mouth of the Taquari River, in Paraty.

We designated a lectotype for *Miconia taquari* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following Pastore et al. (2022) recommendations. This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

26. *Melastoma anhanga* Vell.

Miconia anhanga (Vell.) M.A. Yamam., J.F.B. Pastore & R. Goldenb. *Melastoma anhanga* Vell. Fl. Flumin. 182: 1829 [1825]. Protologue: "*Habitat fruticetis maritimis Pharmacopolitanis*". Lectotype, designated by Yamamoto et al. (in press). "Decand. Monog. MELASTOMA *anhanga* [Tab.] 133" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_131). Published plate in Fl. Flumin. Icones, v. 4, tab. 133. 1831 [1827].

Miconia anhanga (Vell.) M.A. Yamam., J.F.B. Pastore & R. Goldenb. can be recognized by being shrubs with ovate-oblong leaves, rounded to cordate base, acute to acuminate apex, ciliate margin, and 5-7 basal acrodromous veins. Also, can be recognized by the pseudo-axillary panicles and the 5-merous flowers, with 10 stamens (Matsumoto and Martins 2009).

Miconia anahanga is widely distributed in Brazil. It occurs in most states, predominantly in Caatinga, Cerrado and Atlantic Forest biomes, but it is not endemic (Michelangeli 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Miconia anhanga* was provided in the protologue as "*Habitat fruticetis maritimis Pharmacopolitanis*". The term "*maritimis*" is related to the entries in Rio de Janeiro and "*Pharmacopolitanis*" is related to Paraty, in Atlantic Forest (Pastore et al. 2021).

27. *Melastoma pexiricum* Vell.

Miconia dentata (D.Don) Michelang., Brittonia 71(1): 93. 2018. *Clidemia dentata* D.Don, Mem. Wern. Nat. Hist. Soc. 4(2): 308. 1823. Protologue: *"Hab. in Peruviâ. Pavon (v. s. in Herb. Lamb.)*". Holotype, does not seem presumably in BM [herbarium Lambert]; possible isotypes, B † as photo F neg. by MacBride (17223), MA [MA813783, MA813784, MA813785, MA813786, MA813787]!

Melastoma pexiricum [*pexirica*] Vell. Fl. Flumin. 182: 1829 [1825]. Protologue: "*Habitat silvis Pharmacopolitanis*". Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *pexirica* [Tab.] 134" (original parchment plate of Fl. Flumin. in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_132). Published plate in Fl. Flumin. Icones, v. 4, tab. 134. 1831 [1827]. **New synonym.**

Miconia dentata (D.Don.) Michelang. can be recognized by being shrubs with elliptical to narrowly ovate leaves, obtuse base, attenuated apex, crenulate-ciliate margins, and 5 acrodromous veins. Also, can be recognized by the pseudoaxillary inflorescence and the 5−6-merous flowers (Baumgratz et al. 2006). Vellozo (1829) also describes that the external calyx lobes are longer than the petals, which is an important character to recognize this species. The description and illustration presented by Vellozo (1829, 1831) for *Melastoma pexiricum* Vell. are detailed enough to recognize this name as a synonym of *Miconia dentata.* This interpretation differs from those in other studies, such as "*Sagrea rubra*" (Triana 1872)*, "?Clidemia rubra* Mart.*"* (Cogniaux 1883-1885, 1886-1888, 1891)

Miconia dentata is widely distributed in Brazil. It occurs in several states, predominantly in the Amazon and Atlantic Forest biomes, but it is not endemic (Michelangeli 2023) (Fig. 13). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma pexiricum* was provided in the protologue as "*Habitat silvis Pharmacopolitanis*". The term "*silvis*" is related to "*Pharmacopolitanis*" and both refer to Paraty, Rio de Janeiro, in Atlantic Forest (Pastore et al. 2021).

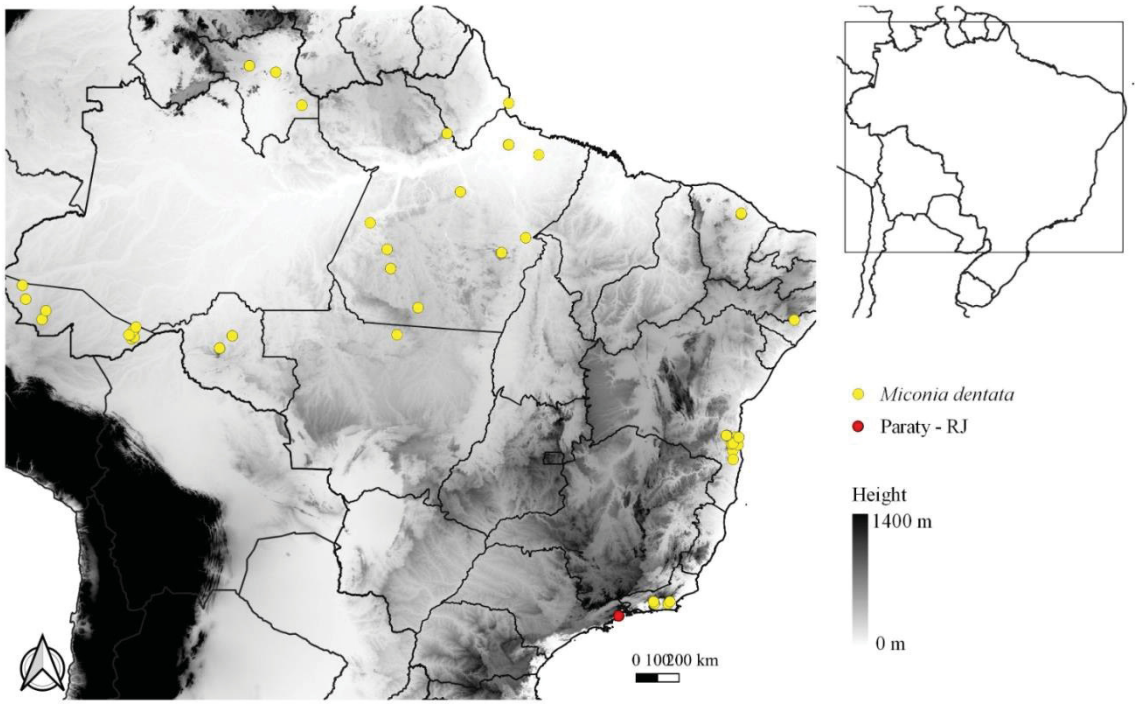

FIG. 13. Geographical distribution of *Miconia dentata* (D.Don) Michelang. in Brazil

The epithet ‘pexiricum’ refers to the common name “pixirica’ which is still being used for species of Melastomataceae in Brazil. We designated a lectotype for *Melastoma pexiricum* from original iconographies kept in the Manuscript Section of the Biblioteca Nacional do Rio de Janeiro in conformity with Art. 9.3 of the ICN (Turland et al. 2018) and following Pastore et al. (2022) recommendations. This plate has detail to allow the recognition of this species, and it is not necessary to designate an epitype.

The holotype of *M. dentata* is supposed to be at BM (Stafleu 1967), but it has not been located. There was at least an isotype at B, but it was destroyed during World War II, now only a photo (MacBride 17223) in F is available.

28. *Melastoma flavum* Vell.

Melastoma flavum [*flava*] Vell. Florae Fluminensis 182-183: 1829 [1825]. Protologue: “*Habitat silvis Pharmacopolitanis* Lectotype, designated here: [icon. Ined.]: “Decand. Monog. MELASTOMA *flava* [Tab.] 135” (original parchment plate of Florae Fluminensis in the Manuscript Section of the Bibliot. Nac., Rio de Janeiro; No. 1-17, 02, 002; mss1198653_133). Published plate in Florae Fluminensis Icones, v. 4, tab. 135. 1831 [1827].

Melastoma flavum Vell. (1829; 1831) was indicated uncertainly as a synonym under *Oxymeris longibarbis* (*Miconia longibarbis*) by Triana (1872). Later, Cogniaux (1891) considered as excluded. As already pointed out, the quality of the *Floræ Fluminensis* plates was already discussed by Pastore (2013), and the drawings were possibly based on the descriptions, instead of an actual specimen. Therefore, when resolved, this name will require the choice of an epitype to help interpret the species illustrated in the lectotype.

Vellozo (1829) describes a hirsute shrub with lanceolate leaves, these with entire margins and 3 veins, and also racemose, terminal flowers with subulate external calyx lobes, yellow anthers and petals. From the description and illustration, we believe that this species belongs to *Miconia*, more specifically to Carassanae clade (Reginato and Michelangeli 2016).

Miconia occurs in all states, but it is not endemic of Brazil (Goldenberg et al. 2023). Its occurrence overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro and Cunha municipality in São Paulo (Pastore et al. 2021). The original locality of *Melastoma flavum* was provided in the protologue as "*Habitat silvis Pharmacopolitanis*". The term "*silvis*" is related to "*Pharmacopolitanis*" and both refer to Paraty, Rio de Janeiro, in Atlantic Forest vegetation (Pastore et al. 2021).

29. *Melastoma coccineum* Vell.

Miconia blepharodes (DC.) R. Goldenb., Brittonia 71(1): 88. 2018. *Pleiochiton blepharodes* (DC.) Reginato, R. Goldenb. & Baumgratz, Rodriguésia 61(1): 116. 2010. *Clidemia blepharodes* DC., Prodr. 3: 158. 1828. *Staphidium blepharodes* (DC.) Wawra, Bot. Ergebn. 21, tab. 38. 1866. Protologue: "*in sylvis Brasiliæ propè Bananal et alibi. Melast. blepharodes Mart! her. M. Bananale Schrank! mss. [...] (v. s. in h. Mart.)*". TYPE: BRAZIL. São Paulo: "*In sylvis Brasiliæ propé Bananal et occí, Provinciae Sebastianopolitana et S. Pauli*", *C. F. P. Martius s.n.* (holotype: M [M0165380]! isotype: G-DC-fragment [G00310643]!).

Melastoma coccineum [*coccinea*] Vell. Fl. Flumin. 183: 1829 [1825]. *nom. illeg. non Melastoma coccineum* Rich. [*coccinea*], Act. Soc. Hist. Nat. Par. 1: 109. 1792., nec *non Melastoma coccineum* Vahl. [*coccinea*], Eclog. Am. 1: 48. 1797. Protologue: "*Habitat campis mediterraneis transalpinis ad fruticeta*". Superseded lectotype, designated by Reginato et al. (2010, p. 116): llustration published in *Florae Fluminensis* Icones, v. 4, tab. 134. 1831 [1827]. Lectotype, here designated: [icon. ined.]: "Decand. Monog. MELASTOMA *coccinea* [Tab.] 136" (original parchment plate of Fl. Flumin. in the

Manuscript Section of the Bibliot. Nac., Rio de Janeiro No. (1-17, 02, 002; mss1198653_134). Published plate in Fl. Flumin. Icones, v. 4, tab. 136. 1831 [1827].

Miconia blepharodes (DC.) R. Goldenb. can be recognized by being epiphytic or scandent shrubs with ovate, elliptic or lanceolate leaves, acuminate or shortly acuminate apex, obtuse or rounded base, slightly crenulate and flat or slightly revolute, ciliate margins. 3 or 3+2 acrodromous veins. Also, can be recognized by the lateral inflorescences and 5-merous flowers with white petals, and 10 stamens. (Matsumoto and Martins 2009; Reginato 2023). The description and illustration presented by Vellozo (1829, 1831) for *Melastoma coccineum* Vell. are detailed to recognize this name as a synonym of *Miconia blepharodes.* This taxonomic position has already been supported by Triana (1872), Cogniaux (1888; 1891), Wurdack (1961; 1962), Baumgratz (1990) and Reginato et al. (2010; 2013).

Miconia blepharodes is endemic in Brazil, from Pernambuco to São Paulo (except in Alagoas and Sergipe) (Reginato 2023), corroborating the habitat described in the protologue: "*Habitat campis mediterraneis transalpinis ad fruticeta*". The term "*transalpinis*" is a reference to the region past the mountaintop on the way from Paraty (Rio de Janeiro) to Cunha (São Paulo) (Pastore et al. 2021). Another detail confirming this identity is mentioned in the protologue: Vellozo (1829) called the plant "*Anhangapirí*", a popular name for *Miconia blepharodes* (DC.) R. Goldenb. (Michaelis 2023). *"Anhanga"* is a Tupi-Guarani word and was translated by the Jesuits as "devil" (Domene 2020).

Melastoma coccineum is considered illegitimate (later homonym), following Art. 53.1 of the ICN (Turland et al. 2018), because *Melastoma coccineum* Richard (1792). The lectotype, designated by Reginato et al. (2010) as "Illustration published in *Florae Fluminensis* Icones, v. 4, tab. 134. 1831 [1827]" is considered here as a neotype, because it can not be considered an original material. The plate "Decand. Monog. MELASTOMA *pexirica* [Tab.] 134" (housed in Biblioteca Nacional), is the original material, and it is chosen here as lectotype. Thus, the neotype designated by Reginato et al. (2010) is here superseded and substituted by a lectotype, following Art. 9.4 of the ICN (Turland et al. 2018).

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AUTHOR CONTRIBUTIONS

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CAPÍTULO 2: A NEW COMBINATION IN *HENRIETTEA* (MELASTOMATACEAE, HENRIETTEE)

A new combination in *Henriettea* (Melastomataceae, Henrietteeae) *

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The Florae Fluminensis of José Mariano da Conceição Vellozo (1741-1811) was completed in 1790, being a pioneering work in the survey of plants in the captaincy of Rio de Janeiro. His work was later and partially published: in 1829 the partial publication of the texts, in 1831 the plates containing his illustrations, and in 1881 the complete publication (Carauta 1969, Carauta 1973). This work includes 1,639 descriptions of plant species in Latin with corresponding botanical illustrations, divided into eleven volumes and currently deposited in Brazil's National Library (Bediaga & Lima 2015). One of the most relevant particularities of Vellozo's Florae Fluminensis is the absence of authorship in the scientific names, thus the original names and cited names might be confused. One of these cases is *Melastoma glabrum*. When Vellozo (1829) described *Melastoma glabrum*, without an explicit author of the name, it was unclear if it was a reference to *M. glabrum* G.Forster (1786: 34) [= *Astronidium glabrum* (G.Forst.) Markgraf (1934: 50), fide Melastomataceae.net (2021)], or whether he intended to describe a new species. Considering *Melastoma glabrum* Vellozo (1829: 180) a validly published name,

is illegitimate by being a posterior homonym, following the International Code of Nomenclature (Turland *et al*. 2018), articles 52.1 and 53.2, as already pointed out by Brito *et al*. (2019). The species in Florae fluminensis named *Melastoma glabrum* Vellozo (1829: 180) was combined by Cogniaux (1888), in the Flora brasiliensis treatment, into *Henriettella*, thus *H. glabra* (Vell.) Cogniaux (1888: 538). However, as the basionym itself was illegitimate, the Cogniaux's name is so considered a replacing name, *Henrietella glabra* Cogniaux (1888: 538), following article 58.1 of the Code (Turland *et al*. 2018), as already pointed out by Brito *et al*. (2019). Later, all species of *Henriettella* Naudin (1852:107) were transferred to *Henriettea* de Candolle (1828: 178) (Penneys *et al*. 2010), and the name *Melastoma glabrum* Vell. was again used in a new combination, *Henriettea glabra* (Vell.) Penneys *et al*. (2010: 797); it is also based in illegitimate Vellozo's name and thus it is also a replacing name, *Henriettea glabra* Penneys *et al*. (2010: 797), and not *Henriettea glabra* (Cogn.) Penneys *et al*., as suggested by Brito *et al*. (2019). In fact, the oldest name available for this species is *Henriettella umbelluliflora* Triana (1871: 143), based on O. Berg's unpublished "*Loreya umbelluliflora*". This name, *Henriettella umbelluliflora*, was cited as a synonym of *Henriettella glabra* by Cogniaux (1888), making *Henriettella glabra* Cogniaux (1888: 538), a superfluous name. Therefore, we propose here a new combination of *Henriettella umbelluliflora* Triana (1871: 143) into the genus *Henriettea*, with *Melastoma glabrum* Vellozo, *Henriettella glabra* Cogniaux and *Henriettea glabra* Penneys *et al*. as synonyms.

Taxonomic treatment

Henriettea umbelluliflora (Triana) M.A.Yamam., J.F.B.Pastore & R.Goldenb., *comb. nov*.

= *Henriettella umbelluliflora* Triana, Trans. Linn. Soc. London 28(1): 143. 1871. Protologue: "In Brasilia meridionali (Pohl); necnon prope Rio de Janeiro (Schott n. 4117)". **Type**:— BRAZIL. Rio de Janeiro, *Schott* 4117 (D. n°1294) (lectotype designated here, W 0069674!, isolectotype NY 00228642!.

= *Melastoma glabrum* Vellozo [as *Melastoma glabra*], Fl. Flumin. 180. 1829 ("1825"); Fl. Flumin. Icon. 4 t. 121. 1831 ("1827"). *nom. illeg*. *non Melastoma glabrum* G. Forster (1786).

= *Henriettella glabra* Cogniaux, Fl. Bras. 14 (4): 538 (1888), replacing name to *Melastoma glabrum* Vell. = *Henriettea glabra* Penneys *et al*. (2010: 797), replacing name to *Melastoma glabrum* Vell. **Type**:— *Melastoma glabra*, Tabula 121", icon ined. (lectotype, designated here, original parchment plate of Florae Fluminensis in the Manuscript Section of the Biblioteca Nacional, Rio de Janeiro [cat. no.: mss1198653_119]). Epitype, designated here, BRAZIL. Rio

de Janeiro, Nova Friburgo, Alto Macahé, 6 February 1889, *A.F.M Glaziou* 16960 [P 05254515]!)

= *Henriettella glazioviana* Cogniaux (1888: 539). = *Henriettea cogniauxiana* Penneys *et al*. (2010: 797) Type:—BRAZIL "Habitat in prov. Rio de Janeiro", 20 January 1877, *A.F.M. Glaziou* 8684 (lectotype: BR 0000006417802!, designated by Brito *et al*. (2019); isolectotypes BR 0000006417819!, BR 0000006417826!, BR 0000006417864!, BR 0000006417888!, C 10014580!, G 00074221!, K 000276122!, P 00545621!, P 00545622!, P 00545623!, R 000009785!, RB 00603868!, S 05-3812!).

Notes

The lectotype designated by Silva & Baumgratz (2008) for *Melastoma glabrum* is the published plate (Icon. 4 t. 121) of Florae Fluminensis (Vellozo 1831). However, the name itself, *Melastoma glabrum* Vell. was published about two years before in 1829, thus the published plate chosen as lecotype cannot be considered an original material. Therefore, the lectotype designated by Silva & Baumgratz (2008) is here considered superseded. The synonymizations of *Henriettella glazioviana* and, consequently, *Henriettea cogniauxiana* follow Silva & Baumgratz (2008) and Brito *et al*. (2019). Recent accounts on *Henriettea* nomenclature did not mention *Henriettella umbelluliflora* (Brito *et al*. 2019), nor have included further comments on *Melastoma glabrum* (Carmenate-Reyes & Michelangeli 2021).

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CAPÍTULO 3: *MICONIA ANHANGA* (MELASTOMATACEAE, MICONIEAE), A NEW COMBINATION FROM A SPECIES DESCRIBED BY FREI VELLOZO (1829), AND THE SYNONYMIZATION OF *MICONIA NEOURCEOLATA* UNDER IT

Miconia anhanga (Melastomataceae, Miconieae), a new combination from a species described by Friar Vellozo (1829), and the synonymization of Miconia neourceolata under it*

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Abstract. *Miconia neourceolata* was given as a replacement name to *Clidemia urcelata* when the genus *Clidemia* was synonymized under *Miconia*, because the resulted combination of *Clidemia urcelata* in *Miconia* was blocked by *Miconia urceolata*. However, an older available name proposed by Vellozo has been overlooked for this species: *Melastoma anhanga*. Therefore, a new combination is proposed here: ***Miconia anhanga***, to which *C. urceolata* and *Miconia neourceolata* are now synonyms.

Keywords: *Clidemia urceolata*, *Floræ Fluminensis*, *Melastoma anhanga*, Paraty, *Staphidium*, typification

Resumo. O nome *Miconia neourceolata* foi dado como nome substituto para *Clidemia urcelata*, quando o gênero *Clidemia* foi sinonimizado sob *Miconia*, pois a combinação resultante de *Clidemia urcelata* em *Miconia* já estava bloqueada por *Miconia urceolata*. Entretanto, um nome mais antigo disponível que foi proposto por Vellozo tem sido negligenciado para essa espécie: *Melastoma anhanga*. Desta forma, é proposta aqui uma nova

combinação, ***Miconia anhanga***, sob a qual ficam posicionadas como sinônimos *Clidemia urceolata* e *Miconia neourceolata*.

The genus *Clidemia* D.Don was originally segregated from *Melastoma* L. in order to allocate species with baccate fruits that concomitantly presented 5-merous flowers, an oblong calyx, stamens with anthers constricted at base and appendages ventrally biauriculate, and punctate and pruinose stigma (Don, 1823). At that time, 18 species were recognized under the genus, including *M. hirtum* L., until recently known as *Clidemia hirta* (L.) D.Don, and also a number of species collected and eventually noted by José Antonio Pavon (1754–1844) from herbarium Lambert (now housed at BM). Over time, the morphological concept and consequent delimitation of *Clidemia* has been modified and, until recently, the species recognized in the genus had baccate fruits and one pair of bracteoles combined with the presence of axillary or pseudoaxillary inflorescences and rounded petals (see Michelangeli et al., 2022). Currently, the former members of *Clidemia* are considered as part of the broadly delimited genus *Miconia* Ruiz & Pav. (Michelangeli et al., 2019, 2020, 2022). However, there are still some nomenclatural issues regarding the name transferring process of the species from *Clidemia* to *Miconia*, mainly because of the enormous number of names already described in both genera. For example, one of these issues regards *Clidemia urceolata* DC., which could not be combined in *Miconia* because the epithet was blocked by *Miconia urceolata* Urb.; Michelangeli et al. (2019) proposed a replacement name, *M. neourceolata* Michelang., in order to make the proper transfer of this species to *Miconia.* Nevertheless, an older name proposed by Friar Vellozo in his *Floræ Fluminensis* for this species was overlooked at that time.

The *Floræ Fluminensis* by Friar José Mariano da Conceição Vellozo (1741–1811) and collaborators was a pioneering work on the plants growing in the province of Rio de Janeiro, Brazil, but also included plants collected in neighboring areas, such as São Paulo (Pastore et al., 2021). This monumental work includes 1,639 descriptions of plant species, all in Latin and with corresponding botanical illustrations (Bediaga & Lima, 2015). It was completed in 1790, but partially published in 1829 (texts) and 1831 (illustrations); the complete publication dates from 1881 (Carauta, 1969, 1973). This delay in the publication resulted in the loss of priority for several names described by Vellozo. In Melastomataceae, most species described (but not published) by Vellozo were validly published by De Candolle (1828), finally, most Vellozo's names were later synonymized by Triana (1872) and Cogniaux (1883–1885, 1886–1888, 1891).

Divided into eleven volumes, the manuscript and the original plates of Vellozo (1829, 1831) are kept at the National Library of Brazil in Rio de Janeiro (Bediaga & Lima, 2015), also available at Digital Library of the National Library [http://bndigital.bn.br/acervodigital]. Melastomataceae is treated in volume IV, accounting for 29 names described in the genus *Melastoma*. Most of the Melastomataceae described by Vellozo were revised by Triana (1872) and Cogniaux (1883–1885, 1886–1888) and posteriorly some of these had their identity again studied (e.g., Goldenberg et al., 2013; Reginato, 2016; Silva et al., 2021; Yamamoto et al., 2022). Nonetheless, the revision of Melastomataceae names in *Floræ Fluminensis* is an ongoing project by the authors of this paper and one of these names is *Melastoma anhanga* Vell., which has been considered a synonym under *Miconia crenata* (Vahl) Michelang. (formerly *Clidemia hirta*), but here its identity is reevaluated and considered as owning priority over *M. neourceolata* (former *Clidemia urceolata* DC.). Therefore, a new combination is proposed in *Miconia* concomitantly with a discussion and the typification of names involved in this issue.

Materials and methods

The distribution map was prepared using the Quantum GIS version 3.22.1 (QGIS Development Team, 2021), based on herbaria records (former identified or revised by the RG) collected in Brazilian territory. For the comparison of morphological descriptions, the Flora e Funga do Brasil (Michelangeli, 2022) and Flora Fanerogâmica de São Paulo (Matsumoto & Martins, 2009) were consulted. The herbarium acronyms follow the Index Herbariorum (Thiers, 2022).

Taxonomic Treatment

Miconia anhanga (Vell.) M.A.Yamam., J.F.B.Pastore, R.Goldenb. **comb. nov.** *Melastoma anhanga* Vell., Fl. Flumin. 182: 1829[1825]. Protologue citation: "*Habitat fruticetis maritimis Pharmacopolitanis*". **Lectotype, designated here**: [icon. ined.]: "Decand Monog. MELASTOMA *anhanga* [Tab.] 133" (original parchment plate of *Florae Fluminensis* at Manuscript Section of the Biblioteca Nacional of Rio de Janeiro; No. 1-17, 02, 002; mss1198653_131). Available at http://bndigital.bn.br/acervodigital. Published plate in Florae Fluminensis Icones, v. 4, tab. 133. 1831[1827].

= *Clidemia urceolata* Schrank & Mart. ex DC., Prodr. 3: 158. 1828. *Staphidium urceolatum* (Schrank & Mart. ex DC.) Naudin, Ann. Sci. Nat., Bot., sér. 3, 17(5): 316. 1852[1851]. *Miconia neourceolata* Michelang., Brittonia 71(1): 107. 2019[2018], non *Miconia*

urceolata Urb., Symb. Antill. 9(1): 116. 1923. Protologue citation: “in montosis siccioribus circa Rio de Janeiro [...] (v. s. in h. Mart.)”. Type: [Brazil]. Rio de Janeiro, *C.F.P. von Martius* [#Obs.] 91 (holotype: M barcode M0165409 [!]; isotype: fragment at G-DC barcode G00310642 [!]).

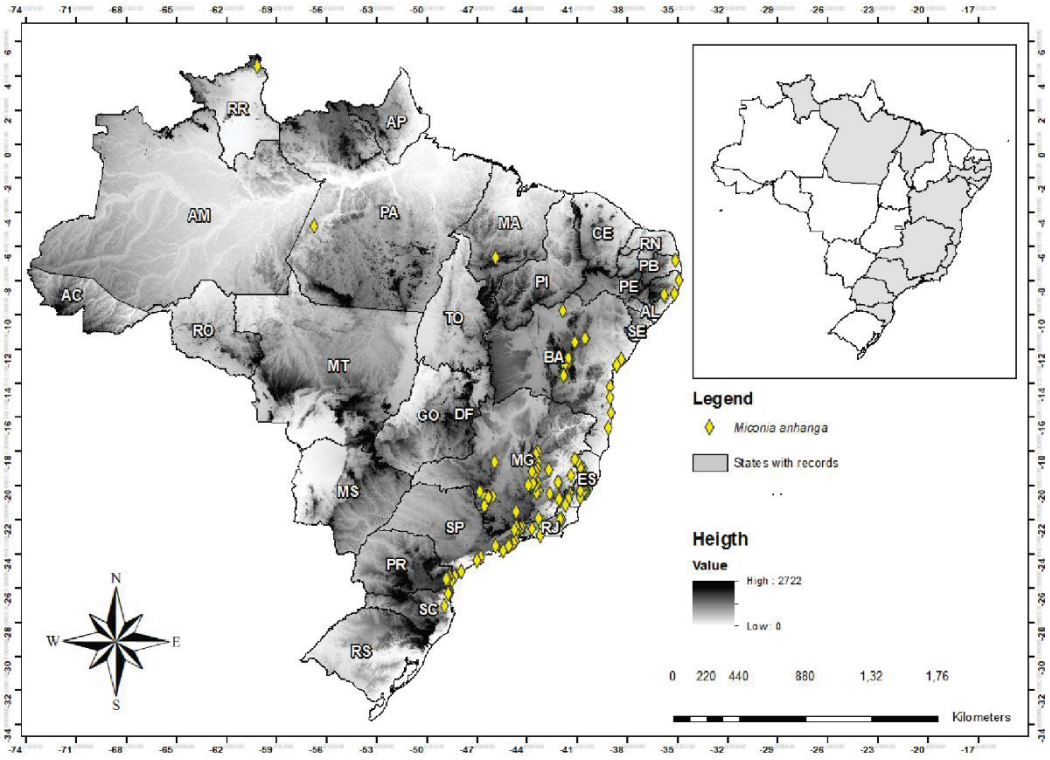

Fig. 1 Geographical distribution of *Miconia anhanga* (Vell.) M.A.Yamam., J.F.B.Pastore & R.Goldenb. in Brazil.

Habitat, distribution, and phenology—This species occurs from Southern Mexico (Almeda, 2009) to Southern Brazil (Michelangeli, 2022), flowering and fruiting throughout the year (Almeda, 2009; Matsumoto & Martins, 2009). In Brazil, it occurs in Roraima, Pará, Maranhão, Paraíba, Pernambuco, Alagoas, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná and Santa Catarina (Figure 1).

Etymology—The specific epithet coined by Vellozo is probably derived from the Tupi “añang” (= evil soul) which refers to an evil spirit that was feared by the Tupinambás (Métraux, 1950). This entity of the Tupi culture has been called as Aygnan, Agnen, Ingange or Anhangá in the literature (Métraux, 1950).

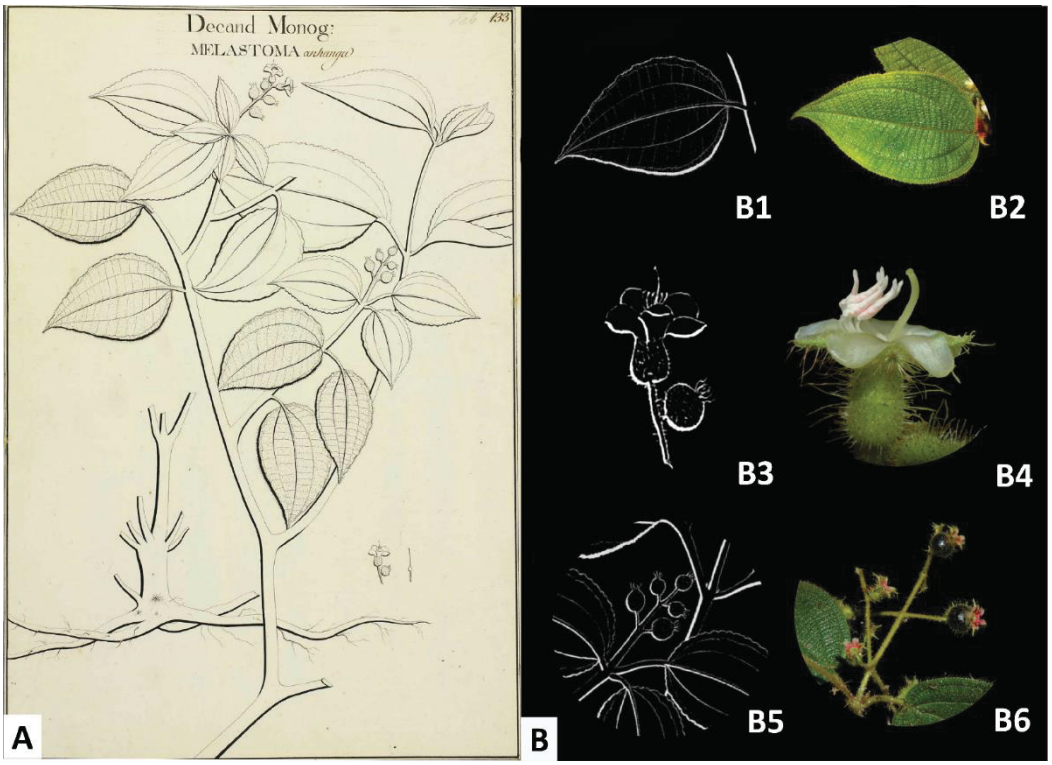

Fig 2. *Miconia anhanga*. **A.** Lectotype of *Melastoma anhanga* Vell. at Manuscript Sect., Bibliot. Nac., Rio de Janeiro. **B**. Comparison of morphological details present in the original illustration of *Florae Fluminensis* (left side) and field photographs (right side). **B1–B2.** Leaf, adaxial surface. **B3–B4.** Hypanthium and calyx. **B5–B6.** Fruits. (all photos by R. Goldenberg; B2 from *R. Goldenberg 2716* [RB, UPCB]; B4 from *R. Goldenberg 1089* [MBML, RB]; B6 from *J. Meirelles 310* [CEPEC, MBML, RB, UPCB].)

Notes—When reviewing the Melastomataceae proposed by Vellozo (1831), Triana (1872) treated *Melastoma anhanga* Vell. as a possible synonym for *Clidemia hirta* (L.) D.Don, writing: "*M. Anhanga*, Vell. t. 133 = *Clidemia hirta*, DC. ?". Later, Cogniaux (1886–1888, 1891) synonymized Vellozo's binomial under *C. hirta*, now *Miconia crenata* (Vahl) Michelang. (Mabberley, 2017). Despite being widely distributed throughout the Neotropics (Almeda, 2009), *M. crenata* is recognized for presenting both leaf surfaces covered with simple unbranched trichomes, the calyx with inconspicuous internal lobes and subulate external projections, and pseudoaxillary or terminal inflorescences, while *Miconia anhanga* has an abaxial surface covered with simple unbranched trichomes mixed with stellate trichomes, and the calyx with well-developed, oboval or rounded to quadrangular internal lobes and acute setulose external teeth projecting (Wurdack, 1962, 1973, 1993; Matsumoto & Martins, 2009; Goldenberg, et al. 2005). The illustration of *Melastoma anhanga* (Fig. 2A) shows an urceolate

hypanthium and a terminal inflorescence (Fig. 2B), and among the species previously allocated in *Clidemia* occurring in the Brazilian Atlantic Forest (see Michelangeli, 2022), *M. anhanga* can be clearly linked to *C. urceolata.* Since the name *Miconia urceolata* Urb. (see Urban, 1923) blocks the transfer of *C. urceolata* to *Miconia*, the binomial with the oldest epithet must be combined in the genus. Thus*, Melastoma anhanga* has priority over *Miconia neourceolata* Michelang., following article 11.4 of the International Code of Nomenclature for algae, fungi, and plants (Turland et al., 2018).

The occurrence of this species overlaps the *Floræ Fluminensis* toponyms in southern Rio de Janeiro state and the municipality of Cunha in São Paulo state (Pastore et al., 2021). The protologue of *Miconia anhanga* indicates the type locality as "*Habitat fruticetis maritimis Pharmacopolitanis*". The term "*maritimis*" is correlated, in the *Florae Fluminensis*, with entries from the Atlantic Forest vegetation in the state of Rio de Janeiro (Pastore et al., 2021). The term "*Pharmacopolitanis*" is a reference to Nossa Senhora dos Remédios, which has been interpreted as the municipality of Paraty, in the state of Rio de Janeiro (Stellfeld, 1946). Several specimens of this species have been recently collected in Paraty (*A.M. Amorim 3270* [CEPEC]; *D. Nunes 34* [FCAB, RB]; *F.M. Pinheiro 31* [RB], *33* [RB], and *59* [RB]; *G. Martinelli 13305* [K, RB]; *J.F.A. Baumgratz 1040* [RB]; *L.A.F. Santos Filho 03* [CEPEC, NY, RB, UPCB], *90* [R, RB, SPF], and *96* [FLOR, P, R, RB, RBR]; *R. Goldenberg 2666* [RB, UPCB]; *R. Marquete 387* [HRB, RB]).

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Conflict of Interest

We declare that this paper represents no conflicts or competing interests to anybody or any institution.

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CONSIDERAÇÕES FINAIS

Todos os 29 nomes da *Floræ Fluminensis* que pertencem a Melastomataceae, descritos dentro do gênero *Melastoma* L. foram revisitados, no contexto de novas coletas e considerando os topônimos descritos por Frei Vellozo e reinterpretados por Pastore *et al*., (2021). As expedições de coleta foram realizadas nos sítios históricos de Frei Vellozo, entre o município de Cunha (São Paulo) e Paraty (Rio de Janeiro) seguindo os itinerários reinterpretados por Pastore *et al*., (2021), resultando na coleta de 7 espécies da família Melastomataceae que fazem parte da *Floræ Fluminensis.*

As expedições realizadas nos topônimos descritos na *Floræ Fluminensis* são de extrema importância para o reconhecimento das espécies presentes na obra e sua atual ocorrência nesses locais. Além da comprovação da localidade tipo, estes espécimes foram, eventualmente, escolhidos com epítipos, auxiliando na identidade morfológica das ilustrações e localização destes sítios históricos onde Vellozo e sua expedição percorreram a região.

As ilustrações da *Floræ Fluminensis* são atualmente, com raras exceções, a melhor ferramenta para reconhecimento da identidade do nome descrito por Vellozo, além disso as *diagnosis* podem auxiliar de forma considerável nesse processo de reconhecimento. Em raros casos, como em *Melastoma confertum*, as descrições não são compatíveis com as ilustrações, para estes, Pastore (2013) sugere que eventualmente estes são esboços baseados parcialmente ou exclusivamente na descrição original, sem que um espécime estivesse presente no momento da ilustração. Além disso, alguns nomes da *Floræ Fluminensis*, segundo os dados aqui levantados, não possuem disponíveis elementos morfológicos suficientes disponíveis, tanto na diagnosis quanto na ilustração, para serem assertivamente identificados. Este é o caso de *Melastoma rhexioide*s e *Melastoma arvense*, onde por exemplo em *M. arvense*, a descrição da diagnose não é totalmente fiel a ilustração, pois são descritas flores solitárias e na prancha podemos observar a inflorescência em dicásio. Neste contexto, a escolha de epítipos teve um papel fundamental em alguns casos para auxiliar a interpretação e identificação do nome, como no caso de *M. confertum*, para este o epítipo, escolhido com base na descrição original e localidade típica, permite interpretar este nome como um sinônimo de *Cambessedesia espora*, uma vez que os estames e as lacíneas do cálice possuem contornos consideravelmente irreais na ilustração.

Apesar dos esforços históricos de Triana e Cogniaux em relação aos nomes de Melastomataceae da *Floræ Fluminensis*, além dos eventuais tratamentos recentes destes nomes, foi encontrada uma quantidade importante de novidades taxonômicas demonstrando que, de

maneira geral, a *Floræ Fluminensis* ainda demanda revisões meticulosas de seus nomes. Em grande parte, esta revisão foi possível pelos recentes avanços interpretativos de Pastore *et al.* (2021), como também facilitado pelas metodologias e recomendações de Pastore *et al.*, (2022), para tratamentos taxonômicos da *Floræ Fluminensis*. Neste contexto, foram designados 22 lectótipos, todos a partir das pranchas originais disponíveis na Biblioteca Nacional do Rio de Janeiro, 2 epítipos e 6 novos sinônimos taxonômicos foram atribuídos. Além disso, estudo resultou em 2 novas combinações (Yamamoto *et al*., 2022; Yamamoto *et al*., in press). Por fim, foi reconhecido que 4 nomes são apenas citações de nomes de outros autores, nomeadamente: Linnaeus (1753), Miller (1768), Aublet (1775) e Swartz (1788).

Finalmente, considero que estudos revisionais de nomes da *Floræ Fluminensis* não só têm uma relevância histórica, por se tratar da figura emblemática do Frei Vellozo, mas também têm impacto na taxonomia, uma vez que resultam em uma maior estabilidade taxonômica. Certamente, estudos revisionais complementares com outras famílias botânicas ainda são necessários (e desejados), e em conjunto, estes estudos futuramente devem revelar a grandiosidade da obra *Floræ Fluminensis*, com também servir de inspiração para botânicos brasileiros, e por último, que estes esforços sejam argumentos para preservação dos sítios históricos das expedições do Frei Vellozo.

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