

Melastomataceae: Global Diversity, Distribution, and Endemism



Carmen Ulloa Ulloa, Frank Almeda, Renato Goldenberg, Gudrun Kadereit, Fabián A. Michelangeli, Darin S. Penneys, R. Douglas Stone, and Marie Claire Veranso-Libalah

Introduction

The Melastomataceae are among the 10 largest families of flowering plants with an estimated 173 genera and some 5858 species. The family has a long history of classification (Almeda, chapter “Classification History of the Melastomataceae: Early Beginnings Through the Pre-molecular Era”) and is divided into three major clades, the Kibessioideae (Renner, chapter “The Subfamily Kibessioideae, its Tribe Pternandreae, and its Sole Genus, *Pternandra*”), the Melastomatoideae (see individual tribe chapters) and the Olisbeoideae (Stone, chapter “Phylogeny and Circumscription of the Subfamily Olisbeoideae”). The majority of genera have a tribal placement confirmed by molecular analysis and supported by morphological characters (Michelangeli et al. 2020; Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”), including

C. Ulloa Ulloa (✉)

Missouri Botanical Garden, St. Louis, MO, USA

e-mail: carmen.ulloa@mobot.org

F. Almeda

Department of Botany, Institute for Biodiversity Science and Sustainability, California

Academy of Sciences, San Francisco, CA, USA

e-mail: falmeda@calacademy.org

R. Goldenberg

Departamento de Botânica, Centro Politécnico, Universidade Federal do Paraná, Curitiba, PR, Brazil

e-mail: rgolden@ufpr.br

G. Kadereit

Systematik, Biodiversität & Evolution der Pflanzen, Ludwig-Maximilians Universität München, München, Germany

Botanische Staatssammlung München, Staatliche Naturwissenschaftlichen Sammlungen

Bayerns (SNSB), Botanischer Garten München-Nymphenburg, München, Germany

e-mail: G.Kadereit@biologie.uni-muenchen.de

six genera placed in three newly described tribes (Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”). While the Kibessioideae are paleotropical, the Melastomatoideae and Olisbeoideae are pantropical, as are three tribes (the Astronieae, Melastomateae, and Sonerileae) within the Melastomatoideae. About 64% (3741) of the species of the Melastomataceae occur in the Americas, 25% (1472) in Asia and Oceania, 5.5% (349) in Madagascar, and 5.5% in continental Africa (326). The family is subcosmopolitan, mainly distributed in tropical and subtropical regions, but some species reach temperate latitudes. Melastomes range in elevation from sea level to about 4500 m in the tropical Andes of South America. Although some species occur in seasonally dry habitats in Africa, Madagascar, Sri Lanka, Thailand, and Brazil, there are no Melastomataceae in true desert environments. No genera are native to both the New and Old Worlds, but a few genera are disjunctly distributed between Africa, Madagascar, and Asia, e.g., *Lijndenia*, *Medinilla*, and *Memecylon*.

Studies have heavily focused on the New World Melastomataceae with recent treatments, revisions, or monographs (see Michelangeli et al. 2020). Africa, with fewer species, mostly in the Melastomateae and Olisbeoideae, has also been the subject of recent phylogenetic and monographic publications (Stone 2012, 2014; Veranso-Libalah et al. 2017a, 2021). In contrast, the Asian tropics are poorly studied, with large genera like *Astronia*, *Astronidium*, *Medinilla*, *Melastoma*, *Oxyspora*, *Phyllagathis*, and *Sonerila* in need of modern revisions. Since 2000, 674 new species of Melastomataceae have been published: 446 for the Americas, 166 for Asia, 31 for continental Africa, and 31 for Madagascar and the Mascarenes.

In the following, we present a summary of the number of species and distribution of all genera of the Melastomataceae following the recent tribal classification by Michelangeli et al. (2020) and Penneys et al. (chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”).

F. A. Michelangeli

Institute of Systematic Botany, The New York Botanical Garden, Bronx, NY, USA

e-mail: fabian@nybg.org

D. S. Penneys

Department of Biology and Marine Biology, University of North Carolina Wilmington, Wilmington, NC, USA

e-mail: penneysd@uncw.edu

R. D. Stone

School of Life Sciences, University of KwaZulu-Natal, Pietermaritzburg, South Africa

School of Life Sciences, University of KwaZulu-Natal, Durban, South Africa

e-mail: Stonerd@ukzn.ac.za

M. C. Veranso-Libalah

Systematik, Biodiversität und Evolution der Pflanzen, Ludwig-Maximilians-Universität München, München, Germany

e-mail: M.Veranso@biologie.uni-muenchen.de

Results

This section provides separate accounts of melastome diversity and distribution in the Americas, Africa and Madagascar, and Asia and Oceania (Fig. 1), followed by a detailed summary (see Annotated Checklist) of species numbers and distributions of all genera sorted by taxonomic rank (subfamily, tribe) and geography (Fig. 2). For the Americas, the current distributions are found in the Vascular Plants of the Americas' website (Ulloa Ulloa et al. 2018): www.tropicos.org/project/VPA. Information on the nomenclature of the family is available at www.melastomataceae.net.



Fig. 1 Melastomataceae from various continents. Clockwise from top left: *Blakea maurofernan-deziana*, Central America (photograph by F. Almeda, Costa Rica); *Meriania aurata*, South America (photograph by L. Jost, Ecuador); *Tristemma mauritianum*, Africa (photograph by F. Almeda, Madagascar); *Melastoma malabathricum*, South Pacific Islands (photograph by D.S. Penneys); *Osbeckia octandra*, Southeast Asia (photograph by F. Almeda, Sri Lanka); *Melastomastrum capitatum*, continental Africa (Photograph by R. E. Gereau, Democratic Republic of Congo)

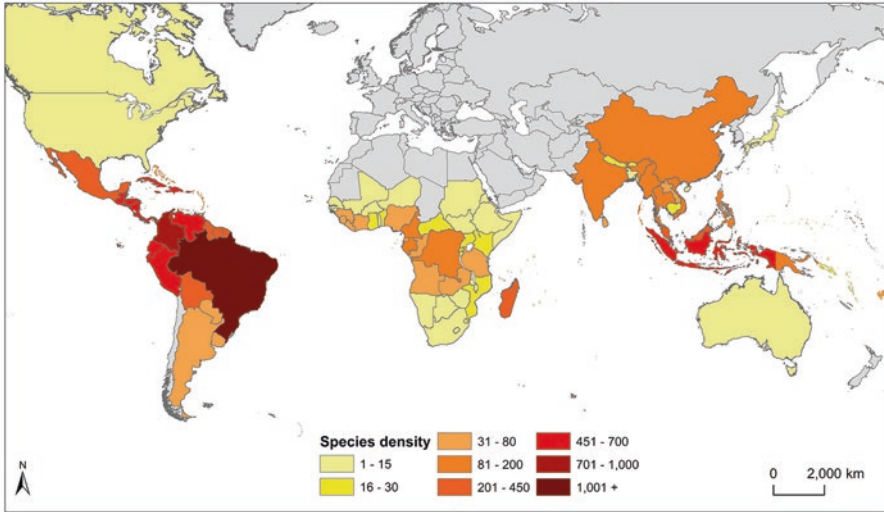


Fig. 2 Melastomataceae species density by country or areas. For the Americas, the geographical areas include North America (Canada and the United States), Central America, West Indies, Guianas, and the Southern Cone, following the arrangement of Ulloa Ulloa et al. (2017)

Currently, there are 3 recognized subfamilies, the largest (the Melastomatoideae) with 21 tribes. All genera are now placed in tribes, but some have not been sampled in a molecular phylogenetic context (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”).

The Dinophoreae, Dissochaeteae, Feliciadamieae, and Kibessioideae are exclusively distributed in the Old World; the Melastomateae, Ollisbeoideae, and Sonerileae are pantropical; the Astronieae are amphi-Pacific; and the remaining 15 tribes are New World endemics (i.e., the Bertolonieae, Cyphostyleae, Eriocnemeae, Henrietteae, Lavoisierae, Lithobieae, Marcetiae, Merianieae, Miconieae, Pyramieae, Pyxidanthae, Rhexieae, Rupestreeae, Stanmarkieae, and Trioleneae) (Fig. 3).

The total number of Melastomataceae genera is 173 with ca. 5858 species (see Annotated Checklist). There are 84 genera currently recognized in the New World with ca. 3742 accepted species. In the Old World, there are ca. 89 genera comprising ca. 2117 species (see Annotated Checklist). Generic delimitation problems, especially within the Sonerileae, prevent us from having a clear picture of the number of genera and species, and the lack of monographs, large regional floras, and phylogenetic analyses hinders our estimates of species numbers in Asia.

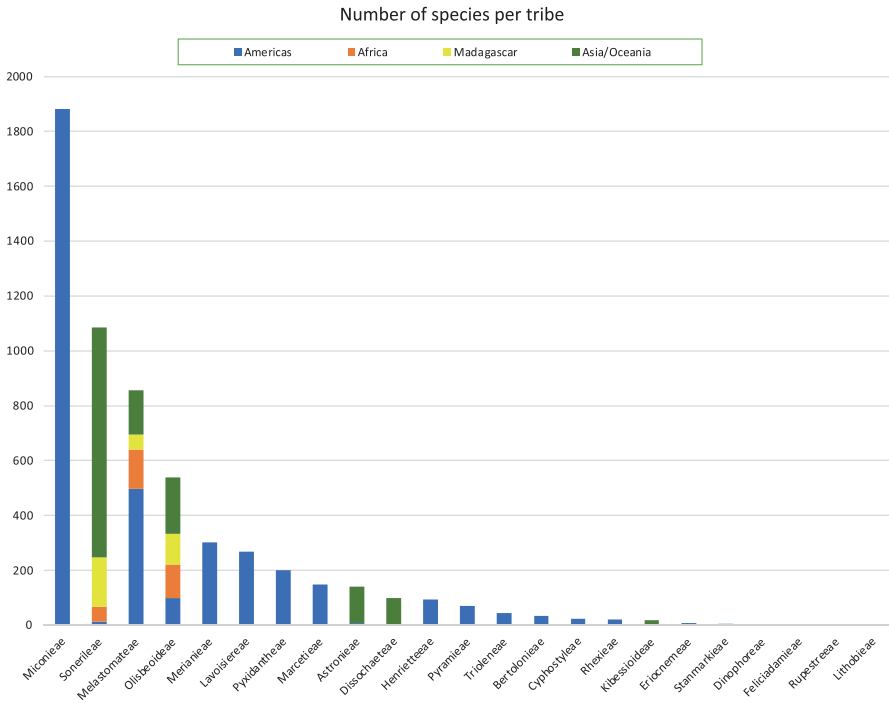


Fig. 3 Number of species of Melastomataceae by tribe/subfamily and geographical area

Americas

The New World harbors 3741 species of Melastomataceae in 84 genera and in two subfamilies: the Olisbeoideae (2 gen./99 spp.) and the Melastomatoideae with 18 tribes: Astroniaceae (1 gen./7 spp.), Bertolonieae (1/35), Cyphostyleae (4/25), Eriocnemeae (3/7), Henrietteae (3/95), Lavoisieriae (3/~269), Lithobieae (1/1), Marcetieae (20/~149), Melastomateae (17/~496), Merianieae (8/~301), Miconieae (1/1901), Pyramieae (4/70), Pyxidanthaeae (2/204); Rhexieae (3/21), Rupestreae (1/2), Sonerileae (6/12), Stannarkieae (2/4), and Trioleneae (2/43). They occur across North and South America, but most of the species (3689) are found in the tropics from western and southern Mexico throughout Central America to Bolivia and Brazil and the Caribbean. The most diverse genus by far is *Miconia* with 1901 currently known species, followed by five genera with more than 100 species, *Microlicia* (258), *Blakea* (192), *Pleroma* (161), *Meriania* (120), and *Chaetogastra* (117); 48 genera are represented by less than 10 species and, of these, 17 are mono-specific (*Bisglaziovia*, *Brasilianthus*, *Dicrananthera*, *Eriocnema*, *Leiostegia*, *Lithobium*, *Maguireanthus*, *Mallophyton*, *Neblinantha*, *Nepsera*, *Ochtheophilus*, *Opisthocentra*, *Quipuanthus*, *Rostranthera*, *Sandemania*, *Schwackaea*, and *Tateanthus*).

The majority of species (2632) are restricted to a single country or area (following the Vascular Plant of the Americas arrangement), and fewer than 100 species are

widespread. A few species have escaped cultivation to become noxious weeds elsewhere (e.g., *Miconia calvescens* DC., with beautiful purple-colored abaxial leaf surfaces is called the Purple Plague in Hawaii). The most invasive species is Koster's Curse ((*Clidemia hirta* (L.) D. Don, now *Miconia crenata* (Vahl) Michelang.), which is naturalized in tropical Africa, Indian Ocean islands, Asia, Oceania, Australia, and Hawaii (see DeWalt et al., chapter "Ecology and Control of Naturalized Melastomataceae").

With some 1453 species, Brazil is by far the country with the highest melastome diversity in the Americas and globally (Fig. 2). Nearly two-thirds (929) of the species are endemic (Baumgratz et al. 2010; Goldenberg et al. 2020a). These species are centered in the Cerrado and the campo rupestre, the Atlantic Forest (see Bacci et al., chapter "Colonization and Diversification of Melastomataceae in the Atlantic Forest of South America"), and also in and around the Amazon basin, mostly near the wetter areas closer to the Andes to the west, the Guiana Shield to the north, and the transition to the Cerrado to the south. In all, 11 genera are endemic to Brazil: *Bertolonia* (near-endemic), *Bisglaziovia*, *Brasilianthus*, *Cambessedesia*, *Eriocnema*, *Fritzschia*, *Lithobium*, *Merianthera*, *Microlicia* (nearly endemic), *Physeterostemon*, and *Rupestrea*. Another six genera are largely centered in or have their greatest diversity in Brazil: *Huberia*, *Marcetia*, *Pleroma*, *Pterolepis*, *Rhynchanthera*, and *Siphanthera*. The uniquely Brazilian vegetation known as campo rupestre at higher elevations (mostly from about 800 to 2000 m), on the Cadeia do Espinhaço in Minas Gerais and Bahia states, is noted for its high incidence of generic and species-level endemism in a number of angiosperm families. In virtually all campo rupestre areas that have been studied to date, the Melastomataceae are typically one of the 10 or 12 families represented by the greatest number of species (Harley 1995; Giulietti and Pirani 1997; Pacifico and Almeda, chapter "Lavoisieraeae, a Neotropical Tribe with Remarkable Endemism on Eastern Brazilian Mountaintops").

The tropical Andes with 1964 species is another hotspot on the South American continent with most species in the montane cloud forests. Colombia has 991 spp., Peru 663 spp., Venezuela 636 spp., Ecuador 602 spp., and Bolivia 331 spp. The endemic and near-endemic genera of the tropical Andes are *Allomaieta*, *Alloneuron*, *Andesanthus* (nearly endemic), *Brachyotum*, *Bucquetia*, *Castratella*, *Centradeniastrum*, *Chaetolepis* (nearly endemic), *Chalybea*, *Kirkbridea*, *Quipuanthus*, and *Wurdastom*.

Amazonia (as defined by Cardoso et al. 2017, i.e., land below 1000 m elevation) harbors around 690 species, many of them widely distributed or found in more than one country. The most species-rich areas in western and northern Amazonia are near the foothills of the Andes or the Guiana Highlands. Amazonian-centered genera are *Acanthella*, *Bellucia*, *Henriettea*, *Opisthocentra*, and *Pachyloma*.

Among the tropical Andean countries, Colombia is a notable center of diversity. It has 991 species in 54 genera, 326 (ca. 33%) of which are endemic to the country. The distribution of melastome species among the 10 biogeographic regions of Colombia recognized by Bernal et al. (2016) is heavily concentrated in the Andes with 650 species (ca. 65%); some 261 (40%) species are endemic. *Miconia*, with 543 species, constitutes nearly 55% of melastome species in the country (Almeda

et al. 2016b; Michelangeli et al. 2020). The Sierra Nevada de Santa Marta (SNSM) in northern Colombia, the world's highest coastal mountain, is a displaced fault-bounded block that is isolated from the continuous ranges of the Andes by wide alluvial plains. This massif has long been recognized for its biological diversity and endemism, but much of the area remains insufficiently explored (Rangel and Garzón 1997). To date, some 17 genera and 86 species of Melastomataceae have been reported for the SNSM. In all, one genus, *Kirkbridea*, and 15 species are endemic to the SNSM (Alvear et al. 2015). Because of its large size (12,000 sq. km), elevation (5775 m), habitat diversity, and geographic position in northernmost Colombia, the SNSM could have played a stepping stone role in the migration of the Melastomataceae from the Andes to Central America, which is reflected in species distributions and affinities of these two regions (Alvear et al. 2015). At about 10.5° N, the range is actually farther from the equator than Panama and most of Costa Rica, which are to its southwest and west, respectively.

The Guiana Shield (Guyana, Suriname, French Guiana, Venezuelan Guayana, and neighboring Brazil) has a unique flora with some 450 species (Berry et al. 2002). Endemic genera to this region are *Appendicularia*, *Comoliopsis*, *Leiostegia*, *Maguireanthus*, *Mallophyton*, *Neblinantha*, *Ochthephilus*, *Rostranthera*, *Tateanthus*, and *Tryssophyton*. Two genera disjunct between the Andes and the Guiana Shield are *Boyania*, with one species in Caquetá (Colombia) and one in Guyana, and *Phainantha*, with one species on the sandstone table tops of the Cordillera del Cóndor in southeastern Ecuador and four in southeastern Venezuela and western Guyana. *Macrocentrum* is also mostly centered in the Guiana Shield with 25 species, but one species is endemic to the Coastal Cordillera of Venezuela and 2 to the Andes of Ecuador and Peru.

The Mexican and Central American region represents the northern center of diversity for the family in the western hemisphere. It has 546 species in 29 native genera (plus *Heterotis* and *Pleroma*, introduced adventives) representing 11 tribes of the Melastomatoideae plus the Olisbeoideae (Almeda 2009). Many species in several genera are shared with the tropical Andes and the adjacent areas of South America, but an impressive 317 species (58%) are endemic to the region. A heavy concentration of this diversity is centered in Costa Rica and Panama where 166 species (ca. 30%) are endemic. Species numbers decrease as one moves northward to Mexico where some 204 species occur (Villaseñor 2016; Zabalgoitia et al. 2020). Much of the diversity in Mexico is centered in the southern states of Oaxaca, Chiapas, and Veracruz with the 48 endemic Mexican species scattered throughout the southern and western states of the country. Two genera, *Heterocentron* and *Stanmarkia*, are restricted to the Mexican/Central American region and two others, *Centradenia* and *Pilocosta*, have all but one of their species restricted to the region, which makes them near-endemics.

In the Greater Antilles, some 452 species are found. There are no genera endemic to this region, although several radiations in the Miconieae and Merianieae have occurred. However, 392 species (87%) are endemic to the region, with most of them being single island endemics. In the Lesser Antilles, there are 66 species, and 13 of

them endemic (see Majure et al., chapter “Patterns of Diversification of *Miconia* (Miconieae) in the Greater and Lesser Antilles”).

The Melastomataceae are not particularly diverse in temperate regions. Two genera occur in continental United States. The West Indian species *Miconia bicolor* L. reaches southern Florida. *Rhexia*, with 13 species, is largely centered in the southeastern United States, with one species, *Rhexia virginica* L., reaching Lake Huron in southern Ontario and Nova Scotia in Canada, and one other, *Rhexia cubensis* Griseb., reaching the Greater Antilles (Cuba, Dominican Republic, and Puerto Rico). In the Southern Cone (Argentina, Paraguay, and Uruguay), there are 67 species. Chile, with its large Atacama Desert, is the only country in the Americas without records of native Melastomataceae.

Africa and Madagascar

Tropical Africa harbors 675 species of Melastomataceae in 41 genera and two subfamilies: the Melastomatoideae (37 gen./440 spp.) and the Olisbeoideae (4 gen./235 spp.). The African/Malagasy Melastomatoideae species belong to four tribes (the Dinophoreae (2 gen./3 spp.), Feliciadamieae (1/1), Melastomateae (25/199), and Sonerileae (87/237)). The most species-rich genera are *Memecylon* (172), *Gravesia* (116), *Medinilla* (76), *Warneckea* (49), *Dichaetanthera* (36), and *Rosettea* (21). *Dichaetanthera*, with 28 species, and *Gravesia* with 116 stand out as the two African/Malagasy genera with the major centers of diversity in Madagascar (Almeda et al. [in press](#)). In all, 11 genera are monospecific (*Anaheterotis*, *Almedanthus*, *Benna*, *Cailliella*, *Derosiphia*, *Dionychastrum*, *Dinophora*, *Feliciadamia*, *Pseudosbeckia*, *Pyrotis*, and *Spathandra*). The remaining 24 genera comprise fewer than 20 species each. Only three genera, *Lijndenia*, *Medinilla*, and *Memecylon*, are also found in Asia with *Memecylon* extending to Oceania. There are no genera shared between tropical Africa and the Americas.

Although mainland tropical Africa is about 32 times larger than Madagascar, the latter is the fourth largest island in the world (587,041 km²) and is home to more than half of the melastome species in the two regions (51%; 346 spp.). One-quarter of Madagascar’s genera are endemic to the island, and, at the species level, 99% are endemic (Almeda et al. [in press](#)). For the melastomes, as for most flowering plant families, Madagascar harbors a higher incidence of species-level endemism than any area of comparable size in the world. Approximately 80% of the Malagasy species belong to just three of the 12 native genera—*Gravesia*, *Medinilla*, and *Memecylon*.

After Madagascar, the Guinean-Congolian region follows in terms of species richness and endemism with the following countries leading: Cameroon (7 gen./104 spp.), The Democratic Republic of Congo (DR Congo) (15/99), Gabon (14/89), Guinea (9/59), Equatorial Guinea (3/51), The Republic of Congo (Congo) (2/47), Liberia (2/45), and Nigeria (2/43). Several countries of the Zambezi region are also species-rich in several endemic species (Tanzania (29/73), Angola (17/62), Zambia (2/37), Mozambique (7/27), South Africa (5/11), Kenya (4/15), and Malawi

(1/15)). The southern part of Africa is not species-rich, but of the 11 species occurring there, five are endemic. The small islands Comoros (3/13), Mauritius (3/7), São Tomé and Príncipe (1/11), Réunion (1/2), and Seychelles (1/3) also harbor few species, some of which are endemic.

Three genera (*Amphorocalyx*, *Dionycha*, and *Rousseauxia*) are endemic to Madagascar, and nine genera (*Antherotoma*, *Dichaetanthera*, *Gravesia*, *Lijndenia*, *Medinilla*, *Memecylon*, *Nerophila*, *Tristemma*, and *Warneckea*) are disjunct between Africa and Madagascar but with only three disjunct species (*Antherotoma naudinii* Hook.f., *Tristemma mauritianum* J.F. Gmel., and *Warneckea sansibarica* (Taub.) Jacq.-Fél.). The remaining 27 genera are endemic to Africa. One species, *Memecylon cordatum* Lam., is disjunct between Mauritius and Réunion.

The Guinean-Congolian and Zambezan regions are not just species-rich; each of them tends to show strong patterns of endemism. *Almedanthus*, *Dissotidendron*, *Eleotis*, *Pseudosbeckia*, and *Pyrotis* are all restricted to the Zambezan region; *Dionychastrum* is endemic to Tanzania. Three genera (*Benna*, *Cailliella*, and *Felicidamia*) are endemic to Guinea. *Anaheterotis* is narrowly distributed and restricted to Guinea and Sierra Leone. Eight other genera, *Amphiblemma*, *Derosiphia*, *Dicellandra*, *Dinophora*, *Dissotis*, *Ochthocharis*, *Preussiella*, and *Spathandra*, are restricted to the Guinean-Congolian regions, whereas *Nothodissotis* is endemic to the Congolian region with a narrow distribution in Cameroon, Equatorial Guinea, Gabon, and São Tomé and Príncipe.

There are only a few widespread species and genera, e.g., *Heterotis* is widespread in tropical Africa and extends to Mauritius and Seychelles. *Heterotis prostrata* Benth is not only known in Africa but is also naturalized outside of the continent in India, Singapore, Australia, the West Indies, Costa Rica, and the islands in the Pacific Ocean.

Asia and Oceania

The Asia and Oceania region, as concerns the Melastomataceae, is inclusive of India to the west, Nepal, Bhutan, China, and Japan to the north, the island nations and territories of the South Pacific to the east, Australia to the south, and all of the Malesian floristic area. In this discussion, five bioregions are recognized: Mainland Asia and Sundaland, Wallacea, Sahul, the Philippines, and Oceania. Because generic monophyly is unconfirmed in most cases, and modern monographs and floras are generally lacking, the tallies cited here are likely to change as our understanding improves. The Melastomataceae are represented here by 50 genera and ca. 1462 species belonging to the three subfamilies: the Kibessioideae, a monogeneric subfamily (*Pternandra*, 15 species), is exclusive to Asia; the Olisbeoideae with 2 genera/204 species; and the Melastomatoideae with five tribes (the Astronieae, Dinophoreae, Dissochaetaeae, Melastomateae, and Sonerileae) with 47/1240. Of these tribes, only the Dissochaetaeae is endemic to the region. The most diverse genus by far is *Medinilla* (379), followed by *Memecylon* (202), *Sonerila* (184),

Melastoma (80), *Phyllagathis* (74), *Astronidium* (67), *Astronia* (59), and *Osbeckia* (51). Eight genera are monospecific. Indonesia (457 species) and Malaysia (365) are the most diverse countries, followed by India (199), the Philippines (183), Vietnam (135), China (113), and Brunei (109). The northernmost temperate species, *Osbeckia chinensis* L., reaches the main Japanese island of Honshu and the southern islands of Shikoku and Kyushu.

Six introduced species of the Miconieae have been recorded in the region, with *Miconia crenata* being particularly noxious and widespread. Some other aliens include *Arthrostemma* (1 species), *Bellucia* (1), *Heterocentron* (2), *Heterotis* (1), *Pleroma* (6), and *Tristemma* (1).

For the purposes of this discussion on Melastomataceae diversity and distribution, Mainland Asia and Sundaland are inclusive of India, the southern flanks of the Himalayas, China, Japan, Taiwan, Borneo, Bali, Java, Sumatra, Sri Lanka, and all other lands within this delimitation. These areas have been connected by land bridges during glacial maxima, likely explaining their biological similarity. Except for *Lijndenia*, *Medinilla*, and *Memecylon*, which are shared with the African region, all genera are endemic and several range beyond the mainland and Sundaland; no genus is native to both the Asian and American realms.

The Olisbeoideae in Mainland Asia and Sundaland include *Lijndenia* with three species, all endemic, and *Memecylon* (at all ranks) has 167 taxa in the region, all but 10 of which are endemic. Within the Melastomatoideae, the Astronieae are represented by *Astronia* (7 species/2 endemic) and *Beccarianthus* (1/1). The five species of *Ochthocharis* (Dinophoreae) are restricted to this region, three of which are also found in Wallacea and/or the Sahul. The Dissochaeteae have *Creochiton* (6/6), *Dalenia* (1/1), *Diplectria* (8/8), *Dissochaeta* (49/41), *Macrolenes* (18/18), and *Pseudodissochaeta* (4/4). The Melastomateae in this region include *Melastoma* (51/40) and *Osbeckia* (50/49), the former with 41 species in Borneo and the latter with 30 species in India alone. Situated on the Sunda Shelf, Borneo is the world's third largest island (748,168 sq. km.) and has a greater diversity of melastome genera and species (32 genera and 388 species) than any other. *Boerlagea* (1 species), *Brittenia* (1), *Cyanandrium* (5), and *Neodriessenia* (6) are all restricted to Borneo. Borneo is the center of diversity for *Anerinckleistus* with 22 of its 39 species occurring there, *Catanthera* (9 of 17), *Dissochaeta* (26 of 54), *Driessenia* (14 of 14), and *Heteroblemma* (12 of 14). *Pternandra* has 12 of its 15 species in Borneo; seven are found on Mainland Asia, two of which are absent from Borneo, and only one species is extralimital.

The Sonerileae have diversified extensively in Mainland Asia and Sundaland, with members occupying a wide range of habitats and adopting life forms from small, understory herbs to shrubs, trees, climbers, and epiphytes. Only *Medinilla* and seven other genera have ranges that extend beyond this region, i.e., *Anerinckleistus* (1 in the Philippines), *Catanthera* (1 in Maluku Islands, 10 in New Guinea), *Driessenia* (1 in Sulawesi), *Heteroblemma* (1 in New Guinea), *Pachycentria* (1 in Maluku Islands, 2 in New Guinea and the Philippines), *Sarcopyramis* (1 in the Philippines), and *Sonerila* (3 in Maluku Islands, 2 in Sulawesi and the Philippines, 1 in New Guinea). The 22 genera in the Sonerileae that are restricted to this region

are *Aschistanthera*, *Barthea*, *Blastus*, *Boerlagea*, *Bredia*, *Cyanandrium*, *Fordiophyton*, *Kendrickia*, *Kerriothyrus*, *Neodriessenia*, *Oxyspora*, *Phyllagathis*, *Plagiopetalum*, *Plethiandra*, *Poillannammia*, *Scorpiothyrus*, *Sporoxeia*, *Stussenia*, *Styrophyton*, *Tashiroea*, *Tigridiopalma*, and *Vietsenia*.

Compared to Mainland Asia and Sundaland, the melastome flora east of Wallace's Line is generally depauperate. Herbaceous taxa are nearly absent. Consistent with typical patterns of island biogeography, smaller, more isolated islands have fewer species and larger ones with more varied niches have richer melastome floras. Wallacea is the biogeographical region that lies in between the Sunda Shelf to the west and the Sahul Shelf to the east. This is a series of mostly Indonesian islands including the Lesser Sunda Islands (from Lombok eastward), Maluku Islands, and Sulawesi. There are 81 species of melastomes native to Wallacea. Of those, 41 are endemic, seven are shared with the Sahul region, 17 are shared with Sundaland, and 16 are found in all three areas. The Olisbeoideae are represented by *Memecylon* (12 species, 6 endemic) and the Kibessioideae by *Pternandra* (3/1). Other groups represented in this region are *Astronia* (Astronieae; 7/4), *Ochthocharis* (Dinophoreae; 1/0), *Dissochaeta* (Dissochaeteae; 8/0), *Melastoma* (15/10), and *Osbeckia* (1/1) in the Melastomataceae and, in the Sonerileae, *Catanthera* (1/1), *Driessenia* (1/1), *Medinilla* (26/12), *Pachycentria* (1/0), and *Sonerila* (5/5).

Situated on the Sahul Shelf, a region that also includes Australia, New Guinea (785,753 sq. km) is the second largest island on Earth and has 228 native melastome species (188 endemic, 82%) (Cámara-Leret et al. 2020). In all, 16 genera from all seven major groups (subfamilies and tribes) of melastomes that occur in the Asia-Oceania region are found here. Members of the Astronieae have radiated on the island with *Astronia* (30 species/29 endemic), *Astronidium* (23/21), and *Beccarianthus* (4/4). The Sonerileae are the largest tribe on the island, totaling 130 species. *Medinilla* comprises 91 species (82 endemic), followed by *Poikilogyne* (25/23), *Catanthera* (10/9), *Pachycentria* (2/1), *Heteroblemma* (1/1), and *Sonerila* (1/0). *Memecylon* (16/10) is the only member of the Olisbeoideae in New Guinea. The remaining taxa are for the Dissochaeteae: *Creochiton* (4/4) and *Dissochaeta* (8/3); for the Melastomataceae: *Melastoma* (30/15) and *Osbeckia* (1/0); for the Dinophoreae: *Ochthocharis* (3/1); and for the Kibessioideae: *Pternandra* (4/0). The 15 melastome species native to Australia are closely allied to those in nearby New Guinea and include *Medinilla* (1/1), *Melastoma* (7/0), *Memecylon* (3/2), *Osbeckia* (2/1), *Poikilogyne* (1/0), and *Pternandra* (1/0).

The Philippines has a complex and varied geological history that is reflected in its floristic affinities with Sundaland, Wallacea, and the Sahul. Considering the melastome genera found in this country, it is more similar to the latter two biogeographic regions than it is to Mainland Asia and Sundaland. The Philippines has 180 native melastome species. *Heterotis prostrata* and *Miconia crenata* are aliens. In the Astronieae, *Astrocalyx calycina* is an endemic, monospecific, endangered genus. *Astronia* has 20 species, 19 of which are endemic. Here, the four species of *Beccarianthus* are all endemic. In addition, *Ochthocharis javanica* (Dinophoreae); *Creochiton* (3 species/3 endemic) and *Dissochaeta* (8/2) in the Dissochaeteae; *Melastoma* (11/3) and *Osbeckia chinensis* in the Melastomataceae; *Lijndenia* (1/0)

and *Memecylon* (38/32) in the Olisbeoideae; and *Anerinckleistus* (1/1), *Medinilla* (88/78), *Pachycentria* (2/0), *Sarcopyramis* (1/0), and *Sonerila* (2/1) in the Sonerileae are also reported here.

Here, Oceania is limited to the region encompassing the South Pacific island nations and territories within Melanesia, Micronesia, and Polynesia. Within this immense expanse of oceanic islands, there are a total of four genera and 77 native melastome species. Fiji has the greatest diversity with four genera and 31 native species, followed by the Solomon Islands (2/21), Samoa (3/10), Vanuatu (4/7), Caroline Islands (3/6), Society Islands (2/6), Wallis-Futuna Islands (2/2), and the Marianas (2/2). Of the 46 species of *Astronidium* here, only four are distributed between two areas, the rest are single-area endemics. There are 25 species of *Medinilla*, each restricted to a single area. *Melastoma denticulatum* Labill. is widespread in this region and can even be found in Australia; two other species of this genus are found in Samoa, and one variety of *Melastoma malabathricum* L. is in two areas. One *Memecylon* species is distributed in two areas, and a second is a single-area endemic.

Annotated Checklist. The Melastomataceae are arranged by subfamily, tribe, and genus. For each genus, the current number of accepted species in parenthesis, a brief geographic range, and the recent literature are presented. Tribes and their genera are arranged alphabetically. Groups that contain both New World and Old World genera are presented first by geography

I. Subfamily Olisbeoideae (see Stone, chapter “Phylogeny and Circumscription of the Subfamily Olisbeoideae”)

Americas, Africa, Asia, Oceania, six genera; Stone (2006).

Tropical America

Mouriri Aubl. (89), Tropical America, especially Brazil (53); Morley (1976).

Votomita Aubl. (10), Panama, Cuba, Amazonia: Colombia, Venezuela, Guianas, Brazil; Morley (1963, 1976, 1989, 1999), Morley and Almeda (1995).

Africa, Asia, Oceania

Lijndenia Zoll. & Moritz (16), Tropical Africa, Madagascar, Sri Lanka, Malesia; Bremer (1982).

Jacques-Félix (1985a, b), Stone and Luke (2015), Stone (2017).

Memecylon L. (391), Africa (76), Madagascar (96), Indian Ocean islands (14), South and Southeast Asia (98), Malesia (97), Oceania (13); Jacques-Félix (1985a, b), Stone (2012, 2014), Amarasinghe et al. (2021).

Spathandra Guill & Perr. (1), West and Central Africa; Jacques-Félix (1978).

Warneckea Gilg (49), Africa, Madagascar, Mauritius; Stone and Andreasen (2010).

II. Subfamily Kibessioideae (see Renner, chapter “The Subfamily Kibessioideae, Its Tribe Pternandreae, and Its Sole Genus, *Pternandra*”)

Tropical Asia, one genus.

Pternandra W. Jack (15), Australia, Southeast Asia to India; Maxwell (1981).

(continued)

III. Subfamily Melastomatoideae

Pantropical, 21 tribes.

1. **Astronieae** (see Mancera et al., chapter “Systematics of Tribe Astronieae Based on Morphology: Prospects for Resurrecting *Bamlera* and Incorporating *Tessmannianthus*”)

Amphi-Pacific tribe in America, Asia, and Oceania.

Tropical America.

Tessmannianthus Markgr. (7), Panama, Colombia to Peru; Almeda (2009).

Tropical Asia, Oceania.

Astrocalyx Merrill (1), Philippines; Maxwell and Veldkamp (1990a), Penneys (2013), Mancera 2017.

Astronia Blume (59), China, Malaysia, Philippines, Pacific Islands; Maxwell and Veldkamp (1990a), Mancera (2017).

Astronidium A. Gray (67), Malay Archipelago; Maxwell and Veldkamp (1990b), Mancera (2017).

Beccarianthus Cogn. (9), Malay Archipelago; Maxwell and Veldkamp (1990b), Mancera (2017).

2. **Bertolonieae** (see Bacci et al., chapter “Systematics and Climatic Preferences of Tribes Bertolonieae and Trioleneae”)

Tropical America, one genus.

Bertonia Raddi (35), Brazil (Atlantic Forest); Baumgratz (1989), Bacci et al. (2018, 2020).

Unplaced species:

Bertonia venezuelensis Wurdack, Venezuela.

3. **Cyphostyleae** (see Michelangeli et al., chapter “The Cyphostyleae, a Small Tribe Rich in Rare Characters in the Family”)

Western South America, four genera; Michelangeli et al. (2011).

Allomaieta Gleason (10), Colombia; Lozano and Becerra de Lozano (1999), Michelangeli et al. (2011).

Alloneuron Pilg. (6), Colombia and Peru; Wallnöfer (1996, 1999), Michelangeli and Ulloa Ulloa (2016).

Quipuanthus Michelang. & C. Ulloa (1), Eastern Ecuador and northeastern Peru; Michelangeli et al. (2014).

Wurdastom B. Walln. (8), Colombia to Peru; Wallnöfer (1996), Mendoza-Cifuentes (2020).

4. **Dinophoreae** (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”)

Tropical Africa and Asia; Veranso-Libalah et al. (2018).

Dinophora Benth. (1), West-Central Africa; Jacques-Félix (1983).

Ochthocharis Blume (5), Tropical Asia; Hansen and Wickens (1981).

Phaeoneuron Gilg (2), West Tropical Africa; Hansen and Wickens (1981).

5. **Dissochaeteae** (see Kartonegoro et al., chapter “Systematics and Phylogeny of Dissochaeteae”)

Tropical Asia, six genera (Kartonegoro et al. 2021).

Creochiton Blume (12), New Guinea, Java, Philippines; Kartonegoro and Veldkamp (2013),

Kartonegoro et al. (2020).

Dalenia Korth. (7), India, Malaysian region; Kartonegoro et al. (2021).

Diplectria (Blume) Rchb. (7), Burma, Malay Peninsula; Kartonegoro et al. (2021).

Dissochaeta Blume (30), China, India, Indonesia, Malaysia, Myanmar, New Guinea, Philippines, Vietnam; Kartonegoro et al. (2018, 2021).

Macrolenes Naudin (27), Peninsular Thailand, the Malay Peninsula, Sumatra, Java and Borneo;

Kartonegoro et al. (2019, 2021).

Pseudodissochaeta Nayar (5), Southeast Bhutan, northeastern India, northern Myanmar, southern China, northern Thailand, Cambodia, Laos, Vietnam; Kartonegoro et al. (2020).

6. **Eriocnemeae** (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”)

Tropical America, three genera.

Eriocnema Naudin (1), Brazil; Penneys et al. (2020).

Ochthephilus Wurdack (1), Guyana; Penneys et al. (2020).

Physeterostemon R. Goldenb. & Amorim (5), Brazil; Goldenberg and Amorim (2006), Amorim et al. (2009).

(continued)

7. Feliciadamiaceae (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”)

Africa, one monospecific genus.

Feliciadamia Bullock (1), Guinea; Jacques-Félix (1994).

8. Henrietteae (see Judd & Penneys, chapter “Systematics of Tribe Henrietteae”)

Tropical America, three genera.

Bellucia Neck. ex Raf. (22), Tropical America; Renner (1989), Penneys et al. (2010).

Henriettea DC. (71), Tropical America; Penneys et al. (2010).

Kirkbridea Wurdack (2), Colombia; Wurdack (1976).

9. Lavoisiereae (see Pacifico & Almeida, chapter “Lavoisiereae, a Neotropical Tribe with Remarkable Endemism on Eastern Brazilian Mountaintops”)

Tropical America, three genera, mostly in Brazil; Fritsch et al. (2004); Versiane et al. (2021).

Microlicia D. Don (249), Mostly Brazil, a few species elsewhere in tropical South America;

Koschnitzke and Martins (2006), Martins (1997), Martins and Almeida (2017).

Poteranthera Bong. (5), Colombia, Bolivia, Venezuela, Brazil; Kriebel (2012), Rocha et al. (2016), Almeida and Pacifico (2018).

Rhynchanthera DC. (15), Mexico to Brazil and Paraguay, but most in southeastern Brazil; Renner (1990).

10. Lithobieae (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”)

Tropical America, one genus.

Lithobium Bong. (1), Brazil (Minas Gerais), campos rupestres; Penneys et al. (2020).

11. Marcetieae (see Rocha et al., chapter “Systematic Studies in the Neotropical Tribe Marcetieae”)

Tropical America, 20 genera.

Acanthella Hook.f. (2), Colombia, Venezuela, Brazil.

Aciotis D. Don (13), Southern Mexico, Central America, Colombia and Venezuela to the Guianas, Brazil, Trinidad; Freire-Fierro (2002).

Acisanthera P. Browne (8), Southern Mexico to Argentina, Paraguay, Caribbean; Kriebel (2008), Guimarães et al. (2017), Rocha et al. (2018 [2017]).

Appendicularia DC. (3), Venezuela, Guianas, northeastern Brazil; Rocha et al. (2018 [2017]), Silva et al. (2020).

Brasilianthus Almeida & Michelang. (1), Brazil (Pará); Almeida et al. (2016a), Rocha et al. (2018 [2017]).

Comolia DC. (12), Brazil, Colombia, Guianas, Trinidad, Venezuela; Seco (2006).

Comoliopsis Wurdack (3), Venezuela (Cerro de la Neblina).

Dicrananthera C. Presl. (1), Colombia, Venezuela, Brazil; Rocha et al. (2018 [2017]).

Ernestia DC. (14), Colombia, Peru, Venezuela, Guianas, Brazil; Rocha et al. (2018 [2017]).

Fritzschia Cham. (12), South-Central Brazil; Rocha et al. (2018 [2017]).

Leiostegia Benth. (1), Venezuela, Guianas, Brazil; Rocha et al. (2018 [2017]).

Macaírea DC. (22), Tropical South America; Renner (1989).

Mallophyton Wurdack (1), Venezuela; Berry et al. (2002).

Marcetia DC. (30), Most diverse in Brazil, also Colombia, Guianas, Venezuela; Martins (1989).

Nepsera Naudin (1), Central America, Colombia, Ecuador, Venezuela, Guianas, Brazil, Cuba to Trinidad.

Noterophila Mart. (6), Tropical America; Rocha et al. (2018 [2017]).

Pseudoernestia (Cogn.) Krasser (2), Brazil, Colombia, Guianas, Venezuela; Rocha et al. (2018 [2017]).

Rostranthera M.J.R. Rocha & P.J.F. Guim. (1), Brazil, Guianas; Rocha et al. (2018 [2017]).

Sandemania Gleason (1), Venezuela, Peru, Bolivia, Brazil; Renner (1987).

Siphanthera Pohl ex DC. (15), Colombia, Peru, Bolivia, Guianas, Brazil; Almeida and Robinson (2011).

(continued)

12. Melastomataceae (see Veranso-Libalah et al., chapter “Systematics and Taxonomy of the Tribe Melastomataceae”) Worldwide, tropical and subtropical, 44 genera.

Tropical America, 17 genera.

- Andesanthus* P.J.F. Guim. & Michelang. (9), Costa Rica, Panama, Venezuela to Ecuador; Todzia and Almeda (1991), Guimarães et al. (2019).
Brachyotum (DC.) Triana (55), Andes, Colombia to northern Argentina; Wurdack (1953), Meyer et al. (2021).
Bucquetia DC. (3), Andes, Venezuela to Ecuador; Guimarães et al. (2019).
Castratrella Naudin (2), Venezuela and Colombia; Guimarães et al. (2019).
Centradenia G. Don (4), Southern Mexico to Colombia; Almeda (1977).
Chaetogastra D. Don (117), Southern Mexico to Argentina, Uruguay, southern Brazil; Guimarães et al. (2019), Meyer et al. (2021).
Chaetolepis (DC.) Miq. (10), Costa Rica, Colombia, Venezuela, Guianas; Grimm and Almeda (2013).
Desmoscelis Naudin (2), Colombia to Paraguay and eastern Brazil, Guianas; Wurdack et al. (1993).
Heterocentron Hook. & Arn. (14), Mexico, Central America; Whiffin (1972).
Loricalepis Brade (2), Colombia, Brazil; Goldenberg et al. (2020b).
Monochaetum (DC.) Naudin (54), Mexico and Central America through Andes to Peru, Venezuela, Guianas, Brazil; Alvear and Almeda (2019).
Pilocosta Almeda & Whiffin (5), Costa Rica to Ecuador; Almeda and Whiffin (1980), Almeda (1993a).
Pleroma D. Don (161), Northwestern South America, mostly eastern Brazil; Da Silva et al. (2014), Guimarães et al. (2019).
Pterogastra Naudin (3), Venezuela to Peru, Guianas; Renner (1994b).
Pterolepis (DC.) Miq. (16), Mexico and Central America to Argentina and Paraguay, Greater and Lesser Antilles; Renner (1994a), Almeda and Martins (2015).
Schwackaea Cogn. (1), Mexico (Oaxaca and Chiapas) to Colombia; Renner (1994b).
Tibouchina Aubl. (38), Central America to Guianas, Brazil; Guimarães et al. (2019).

Africa, Asia, Oceania, 27 genera:

- Almedanthus* Ver.-Lib. & R.D. Stone (1), East Africa: Burundi, DR Congo, Tanzania; Veranso-Libalah et al. (2020).
Amphorocalyx Baker (5), Madagascar; Perrier de la Bâthie (1951).
Anaheterotis Ver.-Lib. & G. Kadereit (1), West Africa: Guinea and Sierra-Leone, Veranso-Libalah et al. (2017a).
Antherotoma Hook.f. (11), Widespread in Africa (12), Madagascar (1); Veranso-Libalah et al. (2020).
Argyrella Naudin (7), Tropical Africa; Veranso-Libalah et al. (2017a, 2017b).
Cailliella Jacq.-Fél. (1), Guinea; Veranso-Libalah et al. (2021).
Derosiphia Raf. (1), West Africa; Veranso-Libalah et al. (2020).
Dichaetanthera Endl. (36), Tropical Africa (8), Madagascar (28); Perrier de la Bâthie (1951), Ranarivelo and Almeda (2019).
Dionycha Naudin (3), Madagascar; Perrier de la Bâthie (1951).
Dionychastrum A. Fern. & R. Fern. (1), Tanzania; Fernandes and Fernandes (1956), Veranso-Libalah et al. (2017a).
Dissotidendron (A. Fern. & R. Fern.) Ver.-Lib. & G. Kadereit (11), East Africa; Veranso-Libalah et al. (2017a).
Dissotis Benth. (6), West Africa; Veranso-Libalah et al. (2020).
Dupineta (Sm.) Raf. (5), Tropical Africa; Veranso-Libalah et al. (2017a).
Eleotis Ver.-Lib. & R.D. Stone (4), Angola, Congo, DR Congo, Zambia; Veranso-Libalah et al. (2020).
Feliciotis Ver.-Lib. & G. Kadereit (12), Tropical Africa; Veranso-Libalah et al. (2020).
Guyonia Naudin (14), Tropical Africa; Veranso-Libalah et al. (2020).
Heterotis Benth. (6), Tropical Africa, but naturalized in India, Singapore, Australia, West Indies Costa Rica, Brazil, and islands in the Pacific Ocean; Veranso-Libalah et al. (2017a).
Melastoma L. (80), India, Malaysia, Japan, China, Borneo, Australia, Pacific Islands; Meyer (2001), Wong (2016), Neo et al. (2017).
Melastomastrum Naudin (6), Tropical Africa; Veranso-Libalah et al. (2017a).
Nerophila Naudin (8), Tropical Africa; Veranso-Libalah et al. (2020).
Nothodissotis Ver.-Lib. & G. Kadereit (2), Cameroon, Equatorial Guinea, Gabon, São Tomé & Príncipe; Veranso-Libalah et al. (2019).
Osbeckia L. (51), India, Sri Lanka and Nepal to Vietnam, southern China, Taiwan, Japan, Philippines, Peninsular Malaysia, Indonesia, New Guinea, and northern Australia; Hansen (1977), Prashob and Thomas (2019).
Pseudosbeckia A. Fern. & R. Fern. (1), East Africa: Mozambique, Zimbabwe; Veranso-Libalah et al. (2017a).
Pyrotis Ver.-Lib. & R.D. Stone (1), DR Congo, Zambia; Veranso-Libalah et al. (2020).
Rosettea Ver.-Lib. & G. Kadereit (21), Tropical Africa; Veranso-Libalah et al. (2020).
Rousseauxia DC. (13), Madagascar; Jacques-Félix (1973a).
Tristemma Juss. (16), Tropical Africa (16), Madagascar (1); Veranso-Libalah et al. (2017a).

Unplaced species:

- Dissotis leonensis* Hutch. & Dalziel, Guinea, Sierra Leone.
Dissotis splendens A. Chev. & Jacq.-Fél., Guinea.

(continued)

13. Merianieae (see Michelangeli et al., chapter “Phylogenetics and Taxonomy of the Tribe Merianieae”)

Tropical America, eight genera.

Adelobotrys DC. (31), Southern Mexico and Central America to Peru and Bolivia, Amazon basin; Schulman and Hyvönen (2003).

Axinaea Ruiz & Pav. (41), Costa Rica through Andes to Bolivia; Cotton et al. (2014).

Centronia D. Don (5), Northern South America; Mendoza-Cifuentes and Fernández-Alonso (2011).

Graffenrieda DC. (68), Southern Mexico, Central America, West Indies to Guyana, tropical Andes to Bolivia, southeastern Brazil.

Macrocentrum Hook. f. (25), Northern South America, mainly Guianas; Bacci et al. (2019).

Maguireanthus Wurdack (1), Guyana.

Meriania Sw. (120), Southern Mexico and Guatemala, southern Central America, Greater Antilles to tropical Andes, Guayana Highlands, southeastern Brazil; Mendoza-Cifuentes (2021).

Salpinga Mart. ex DC. (10), Colombia to Peru, Guyana, Brazil.

14. Miconieae (see Michelangeli et al., chapter “Why Recognize *Miconia* as the only Genus in Tribe Miconieae?”)

Tropical America, one genus.

Miconia Ruiz & Pav. (1901), Tropical America; Goldenberg et al. (2013), Michelangeli et al. (2019).

15. Pyramieae (see Bochorny et al., chapter “Systematics and Evolution of Tribe Pyramieae”)

Tropical America, four genera.

Bisglaziovia Cogn. (1), South-Central Brazil; Baumgratz et al. (2004).

Cambessedesia DC. (25), South-Central Brazil; Martins (1984), Fidanza (2009).

Huberia DC. (37), Southeastern Brazil, one in Ecuador, two in Peru; Baumgratz (2004), Tavares (2005), Bochorny et al. (2019).

Merianthera Kuhl. (7), Southeastern Brazil; Bochorny et al. (2019), Goldenberg et al. (2012).

16. Pyxidanthae (see Penneys & Almeda, chapter “An Overview of the Tribe Pyxidanthae”)

Tropical America, two genera.

Blakea P. Browne (192), Tropical America, mainly Costa Rica to Ecuador; Penneys and Judd (2013a, b).

Chalybea Naudin (12), Andes of Colombia to Bolivia; Morales (2010), Bernal et al. (2015), Penneys et al. (2015).

17. Rhexieae (see Judd & Ionta, chapter “Systematics of Tribe Rhexieae”)

North America to South America, three genera.

Arthrostemma Pav. ex D. Don (4), Mexico to Bolivia and Brazil, Greater Antilles and Trinidad; Almeda (2009).

Pachyloma DC. (4), Northern South America.

Rhexia Gronov. (13), United States (10 in Florida) reaching Canada, Greater Antilles; Kral and Bostick (1969), Nesom (2012).

18. Rupestreeae (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”)

South America, one genus.

Rupestrea R. Goldenb., Almeda & Michelang. (2), Eastern Brazil (Bahia); Goldenberg et al. (2015).

(continued)

19. Sonerileae (see Liu et al., chapter “Systematics of the Tribe Sonerileae”)

Tropical, Old World with 43 genera, and Neotropics with 6 genera.

Tropical America

Boyania Wurdack (2), Colombia, Guyana; Bacci et al. (2019), Wurdack and Michelangeli (2019).
Neblinantha Wurdack (1), Venezuela and Brazil (Cerro Neblina); Wurdack (1964).
Opisthocentra Hook. f. (1), Amazonian Colombia, Venezuela, Brazil; Berry et al. (2002).
Phainantha Gleason (5), Southeastern Venezuela, Guyana, Ecuador; Berry et al. (2002), Ulloa Ulloa and Neill (2006).
Tateanthus Gleason (1), Venezuela and Brazil; Berry et al. (2002).
Tryssophyton Wurdack (2), Guyana; Wurdack and Michelangeli (2019).
 Tropical Africa and Asia

Amphiblemma Naudin (15), West-Central Africa; Jacques-Félix (1973b), Bánki et al. (2021).
Anerincleistus Korth. (39), India and Peninsular Malaysia; Maxwell (1989).
Aschistanthera C. Hansen (1), Vietnam; Hansen (1987a).
Barthea J.D. Hooker (1), China (Fujian, Guangdong, Guangxi, Hunan), Taiwan; Hansen (1980).
Benna Burgt & Ver.-Lib. (1), Guinea, West Africa; van der Burgt et al. (2022).
Blastus Loureiro (12), Cambodia, China, eastern India, Indonesia, Japan (Ryukyu Islands), Laos, Myanmar, Thailand, Vietnam; Hansen (1982).
Boerlagea Cogn. (1), Borneo; Cogniaux (1891).
Bredia Blume (23), China, Taiwan, Japan; Zhou et al. (2019).
Brittenia Cogn. (1), Borneo; Hansen (1985a).
Calvoa Hook.f. (19), Tropical Africa; Jacques-Félix (1981), Figueiredo (2001).
Campimia C. Hansen (3), Borneo; Hansen (1988a).
Catanthera F.V. Muller (19), Borneo, New Guinea, Sumatra; Nayar (1982), Bánki et al. (2021).
Cinnobotrys Gilg (8), Tropical Africa; Jacques-Félix (1981), Jacques-Félix (1994).
Cyanandrium Stapf (5), Borneo; Nayar (1969).
Cyphotheca Diels (1), China (Yunnan); Hansen (1990a).
Dicellandra Hook.f. (3), West-Central Africa and Uganda; Jacques-Félix (1974).
Driessenia Korth. (19), Vietnam, Borneo, Sumatra, Java; Hansen (1985b), Bánki et al. (2021).
Enaulophyton Steenis (2), Malaysia; Nayar (1965).
Fordiophyton Bullock (15), China, Vietnam; Zeng et al. (2016).
Gravesia Naudin (116), Tropical Africa (DR Congo, Gabon, Tanzania; 5), Madagascar (111); Fernandes and Fernandes (1956), Jacques-Félix (1994), Perrier de la Bâthie (1951).
Heteroblemma (Blume) Cámara-Leret, Ridd.-Num. & Veldk. (15), Peninsular Malaysia, Sumatra, Borneo, Sulawesi, New Guinea, and Vietnam; Cámara-Leret et al. (2013), Okada et al. (2017).
Kendrickia J.D. Hooker (1), Sri Lanka; Cámara-Leret et al. (2013).
Kerriothyrus C. Hansen (1), Laos; Hansen (1988b).
Medinilla Gaudich. (379), Tropical Africa (3), Madagascar (73), Southeast Asia (303), Australia (1); Perrier de la Bâthie (1951), Wickens (1975), Jacques-Félix (1983), Regalado (1990, 1995), Whiffin (1990), Bánki et al. (2021).
Neodriessenia Nayar (6), Borneo; Hansen (1985c).
Oxyspora DC. (37), Bhutan, India, Cambodia, China, Laos, Myanmar, Nepal, Thailand, Vietnam
 Melanesia; Bakhuizen f. (1943), Bánki et al. (2021).
Pachycentria Blume (8), Myanmar, Thailand, Peninsular Malaysia, Sumatra, Java, Borneo, Philippines
 Sulawesi, New Guinea; Clausing (2000).
Phyllagathis Blume (74), Brunei, China, Indonesia, Malaysia, Myanmar, Thailand; Hansen (1992),
 Cellinese (2002, 2003).
Plagiopetalum Rehd. (3), China, Myanmar, Vietnam; Hansen (1988c), Chen and Renner (2007).
Plethiandra J.D. Hooker (8), Borneo, Sumatra, Malay Peninsula; Nayar (1974), Kadereit (2005).
Poikilogyme E.G. Baker (28), Melanesia, mainly New Guinea; Cellinese (2007), Bánki et al. (2021).
Poilammamia C. Hansen (4), Vietnam; Hansen (1987b).
Preussiella Gilg (2), West-Central Africa; Jacques-Félix (1977).
Sarcopyramis Wallich (2), Southeast Asia; Hansen (1979), Chen and Renner (2007), Bánki et al. (2021).
Scorpiothyrus Hui-Lin Li (3), China (Guangxi, Hainan); Li (1944).
Sonerila Roxburgh (184), India and Sri Lanka to southern China and through Malesia to New Guinea;
 Cellinese (1997), Bánki et al. (2021).
Sporoxeia W.W. Sm. (7), China, Myanmar; Hansen (1990b).
Stussenia C. Hansen (1), Vietnam; Hansen (1985d).
Styrophyton S.Y. Hu (1), Southern China (Guangxi, Yunnan); Hu (1952).
Tashiroea Matsum. (12), China, Japan; Kokubugata et al. (2019), Zhou et al. (2019), Bánki et al. (2021).
Tigridiopalma C. Chen (2), China (Guangdong); Zeng et al. (2021).
Tylanthera C. Hansen (2), Thailand; Hansen (1990c).
Vietsenia C. Hansen (4), Vietnam; Hansen (1984).

(continued)

20. Stanmarkieae (see Penneys et al., chapter “A New Melastomataceae Classification Informed by Molecular Phylogenetics and Morphology”)

Tropical America, two genera.

Centradeniastrum Cogn. (2), Andes, Colombia to Peru; Almeda (1997).

Stanmarkia Almeda (2), Mexico (Chiapas), Guatemala; Almeda (1993b).

21. Trioleneae (see Bacci et al., chapter “Systematics and Climatic Preferences of Tribes Bertoloniae and Trioleneae”)

Tropical America, two genera; Bacci et al. (2019).

Monolena Triana ex Benth. & Hook.f. (16), Guatemala to Brazil; Warner (2002).

Triolena Naudin (27), Southern Mexico to Brazil.

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References

- Almeda F (1977) Systematics of the neotropical genus *Centradenia* (Melastomataceae). *J Arnold Arbor* 58:73–108
- Almeda F (1993a) *Pilocosta* (Melastomataceae), revisited: a new species, polyploidy, and the base chromosome number of the genus. *Novon* 3:311–316
- Almeda F (1993b) *Stanmarkia*, a new genus of Melastomataceae from the volcanic highlands of western Guatemala and adjacent Mexico. *Brittonia* 45:187–203
- Almeda F (1997) Systematics of the Andean genus *Centradeniastrum* (Melastomataceae). *BioLlania Ed Esp* 6:153–166
- Almeda F (2009) Melastomataceae. In: Davidse G, Sousa SM, Knapp S, Chiang F (eds) *Flora Mesoamericana*, 1, vol 4. Universidad Nacional Autónoma de México, Mexico City, pp 164–338
- Almeda F, Whiffin T (1980 [1981]) *Pilocosta*, a new genus of tropical American Melastomataceae. *Syst Bot* 5:294–311
- Almeda F, Robinson OR (2011) Systematics and phylogeny of *Siphanthera* (Melastomataceae). *Syst Bot Monogr* 93:1–101
- Almeda F, Martins AB (2015) *Pterolepis haplostemona* (Melastomataceae): a new serpentine endemic from Goiás, Brazil. *Phytotaxa* 201:233–238
- Almeda F, Pacífico R (2018) Neotropical *Poteranthera* (Melastomataceae: Microlicieae) Revisited. *Syst Bot* 43:552–556. <https://doi.org/10.1600/036364418X697274>
- Almeda F, Michelangeli FA, Viana PL (2016a) *Brasilianthus* (Melastomataceae), a new monotypic genus endemic to ironstone outcrops in the Brazilian Amazon. *Phytotaxa* 273(269–282):10.11646/phytotaxa.273.4.3
- Almeda F, Mendoza-Cifuentes H, Penneys DS, Michelangeli FA, Alvear M (2016b) Melastomataceae. In: Bernal R, Gradstein SR, Celis M (eds) *Catálogo de plantas y líquenes de Colombia*, vol II. Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, pp 1585–1664, 2537–2538
- Almeda F, Ranarivelo H, Stone RD (in press) Melastomataceae: princess flowers. In: Goodman SM (ed) *The new natural history of Madagascar*. Princeton, Princeton University Press
- Alvear M, Almeda F (2019) Revision of *Monochaetum* (Melastomataceae: Melastomateae) in Colombia. *Syst Bot Monogr* 109:1–155

- Alvear M, Ocampo C, Parra-O C, Carbonó E, Almeda F (2015) Melastomataceae of the Sierra Nevada de Santa Marta (Colombia): floristic affinities and annotated catalogue. *Phytotaxa* 195:1–30
- Amarasinghe P, Joshi S, Page N, Wijedasa LS, Merello M, Kathriarachchi H, Stone RD, Judd W, Kodandaramaiah U, Cellinese N (2021) Evolution and biogeography of *Memecylon*. *Am J Bot* <https://doi.org/10.1002/ajb2.1624>. Epub ahead of print
- Amorim AM, Goldenberg R, Michelangeli FA (2009) A new species of *Physeterostemon* (Melastomataceae) from Bahia, Brazil, with notes on the phylogeny of the genus. *Syst Bot* 34:324–329. <https://doi.org/10.1600/036364409788606389>
- Bacci LF, Amorim AM, Michelangeli FA, Goldenberg R (2018) Increased sampling in under-collected areas sheds new light on the diversity and distribution of *Bertolonia*, an Atlantic Forest endemic genus. *Syst Bot* 43:767–792
- Bacci LF, Michelangeli FA, Goldenberg R (2019) Revisiting the classification of Melastomataceae: Implications for habit and fruit evolution. *Bot J Linn Soc* 190:1–24
- Bacci LF, Amorim AM, Michelangeli FA, Goldenberg R (2020) Flower morphology is correlated with distribution and phylogeny in *Bertolonia* (Melastomataceae), an herbaceous genus endemic to the Atlantic Forest. *Mol Phylogenet Evol* 149:106844. <https://doi.org/10.1016/j.ympev.2020.106844>
- Bakhuizen van den Brink RC (fil) (1943) A contribution to the knowledge of the Melastomataceae occurring in the Malay archipelago especially in the Netherlands East Indies. *Recueil Trav Bot Neerl* 40:1–391
- Bánki O, Roskov Y, Vandepitte L, DeWalt RE, Remsen D, Schalk P, Orrell T, Keping M, Miller J, Aalbu R, Adlard R, Adriaenssens E, Aedo C, Aescht E, Akkari N, Alonso-Zarazaga MA, Alvarez B, Alvarez F, Anderson G et al (2021) Catalogue of life checklist (version 2021-08-25). Catalogue of Life. <https://doi.org/10.48580/d4sg>
- Baumgratz JFA (1989) O gênero *Bertolonia* Raddi (Melastomataceae): Revisão taxonômica e considerações anatômicas. *Arq Jard Bot Rio J* 30:69–213
- Baumgratz JFA (2004) Sinopse de *Huberia* DC. (Melastomataceae: Merianieae). *Rev Bras Bot* 27:545–561
- Baumgratz JFA, D’El Rei Souza ML, Tavares RDM (2004) *Bisglaziovina* Cogn. (Merianieae, Melastomataceae): Considerações Taxonômicas e Biogeográficas. *Bradea* 10:75–80
- Baumgratz JFA, Fidanza K, Bernardo R, Chiavegatto B, Goldenberg R, Guimarães PJF, Kriebel R, Martins AB, Michelangeli FA, Reginato RR, Souza ML, Woodgyer E (2010) Melastomataceae. In: *Catálogo de plantas e fungos do Brasil*, vol 2, pp 1236–1277
- Bernal R, Gradstein SR, Celis M (2015) New names and new combinations for the catalogue of the plants and lichens of Colombia. *Phytoneuron* 22:1–6
- Bernal R, Gradstein SR, Celis M (eds) (2016) *Catálogo de plantas y líquenes de Colombia*, vol 1. Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá
- Berry P, Gröger A, Holst BK, Morley T, Michelangeli FA, Luckana NG, Almeda F, Renner SS, Freire-Fierro A, Robinson OR, Yatskievych K (2002) Melastomataceae. *Flora of the Venezuelan Guayana* 6:263–528
- Bochorny T, Michelangeli FA, Almeda F, Goldenberg R (2019) Phylogenetics, morphology and circumscription of Cambessedesieae: a new Neotropical tribe of Melastomataceae. *Bot J Linn Soc* 190:281–302
- Bremer K (1982) *Lijndenia*, a re-established paleotropical genus of the Melastomataceae—Memecylaceae. *Nord J Bot* 2:121–124
- Cámara-Leret R, Ridder-Numan JWA, Veldkamp JF (2013) Revision of *Heteroblemma* gen. nov. (Dissochaeteae-Melastomataceae) from Malesia and Vietnam. *Blumea* 58:229–240
- Cámara-Leret R, Frodin DG, Adema F et al (2020) New Guinea has the world’s richest island flora. *Nature* 584:579–583
- Cardoso D, Särkinen T, Alexander S, Amorim AM, Bittrich V, Celis M, Daly DC, Fiaschi P, Funk VA, Giacomini LL, Goldenberg R (2017) Amazon plant diversity revealed by a taxonomically verified species list. *Proc Natl Acad Sci* 114:10695–10700

- Cellinese N (1997) Notes on the systematics and biogeography of the *Sonerila* generic alliance (Melastomataceae) with special focus on fruit characters. *Tropical Biodiversity* 4:83–93
- Cellinese N (2002) Revision of the genus *Phyllagathis* Blume (Melastomataceae: Sonerileae). I. The species of Burma, Thailand, Peninsular Malaysia and Sumatra. *Blumea* 47:463–492
- Cellinese N (2003) Revision of the genus *Phyllagathis* Blume (Melastomataceae: Sonerileae). II. The species of Borneo and Natuna Island. *Blumea* 48:69–97
- Cellinese N (2007) Two new species in the genus *Poikilogyne* (Melastomataceae) from Papua New Guinea. *Novon* 17:20–23
- Chen J, Renner SS (2007) Melastomataceae. In: Wu ZY, Raven PH, Hong DY (eds) *Flora of China*, vol 13. Science Press/Missouri Botanical Garden Press, Beijing/St. Louis, pp 360–399
- Clausing G (2000) Revision of *Pachycentria* (Melastomataceae). *Blumea* 45:341–375
- Cogniaux A (1891) Mélastomacées. In: de Candolle ALP, de Candolle C (eds) *Monographiae phanerogamarum*, vol 7. G. Masson, Paris, pp 1–1256
- Cotton E, Borchsenius F, Balslev H (2014) A revision of *Axinaea* (Melastomataceae). *Scientia Danica. Series B, Biologica* 4:1–120
- Fernandes A, Fernandes R (1956) Melastomataceae africanae novae vel minus cognitae—III. *Bol Soc Broteriana* 30:183–297
- Fidanza K (2009) Estudos taxonômicos em *Cambessedesia* DC. (Melastomataceae). PhD, Universidade Estadual de Campinas, Campinas
- Figueiredo E (2001) A revision of *Calvoa* Hook.f. (Melastomataceae). *Bot J Linn Soc* 136:179–205
- Freire-Fierro A (2002) Monograph of *Aciotis* (Melastomataceae). *Syst Bot Monogr* 62:1–99
- Fritsch PW, Almeda F, Renner SS, Martins AB, Cruz BC (2004) Phylogeny and circumscription of the near-endemic Brazilian tribe Microlicieae (Melastomataceae). *Am J Bot* 91:1105–1114. <https://doi.org/10.3732/ajb.91.7.1105>
- Giulietti AM, Pirani JR (1997) Espinhaço Range Region, Eastern Brazil. In: Davis SD, Heywood VH, Herrera-MacBryde O, Villa-Lobos JH, Hamilton AC (eds) *Centres of plant diversity: a guide and strategy for their conservation*. Vol. 3 (The Americas). IUCN Publications Unit, Cambridge, UK, pp 397–404
- Goldenberg R, Amorim AM (2006) *Physeterostemon* (Melastomataceae): a new genus and two new species from the Bahian Atlantic Forest, Brazil. *Taxon* 55:965–972
- Goldenberg R, Fraga CN, Fontana AP, Nicolas AN, Michelangeli FA (2012) Taxonomy and phylogeny of *Merianthera* (Melastomataceae). *Taxon* 61:1040–1056
- Goldenberg R, Almeda F, Caddah MK, Martins AB, Meirelles J, Michelangeli FA, Weiss M (2013) Nomenclator botanicus for the neotropical genus *Miconia* (Melastomataceae). *Phytotaxa* 106:1–171
- Goldenberg R, Almeda F, Sosa K, Ribeiro RC, Michelangeli FA (2015) *Rupestrea*: a new Brazilian genus of Melastomataceae, with anomalous seeds and dry indehiscent fruits. *Syst Bot* 40:561–571. <https://doi.org/10.1600/036364415X688862>
- Goldenberg R, Baumgratz, JFA, Michelangeli FA, Guimarães PJF, Romero R, Versiane AFA, Fidanza K, Völtz RR, Silva DN, Lima LFG, Gonçalves KC, Bacci LF, Fontelas JC, Pacifico R, Brito ES, Rocha MJR, Caddah MK, Meirelles J, Rosa P, Ferreira-Alves R, Santos AKA, Moreira KVC, Reginato M, Oliveira LFA, Freire-Fierro A, Amorim AMA, Martins AB, Koschnitzke C, Almeda F, Jesus JC, Hinoshita LKR, Kriebel, R (2020a) Melastomataceae in Flora do Brasil 2020. Jardim Botânico do Rio de Janeiro. <http://floradobrasil.jbrj.gov.br/reflora/floradobrasil/FB161>
- Goldenberg R, Michelangeli FA, Amorim AM (2020b) First record of *Loricalepis* (Melastomataceae) from the Brazilian Atlantic Forest, with the description of a new species from Bahia. *Brittonia* 72:308–316. <https://doi.org/10.1007/s12228-020-09629-6>
- Grimm D, Almeda F (2013) Systematics, phylogeny, and biogeography of *Chaetolepis* (Melastomataceae). *J Bot Res Inst Tex* 7:217–263
- Guimarães PJF, da Silva MFO, Rocha MJR (2017) Nomenclator botanicus for *Acisanthera* (Melastomataceae: *Marcetia* alliance). *Brittonia* 69(2):231–240

- Guimarães PJF, Michelangeli FA, Sosa K, de Santiago Gomez RJ (2019) Systematics of *Tibouchina* and allies (Melastomataceae: Melastomateae): a new taxonomic classification. *Taxon* 68:937–1002. <https://doi.org/10.1002/tax.12151>
- Hansen C (1977) The Asiatic species of *Osbeckia* (Melastomataceae). *Ginkgoana* 4:1–150
- Hansen C (1979) A revision of the genus *Sarcopyramis* Wall. (Melastomataceae). *Bot Tidsskr* 73:177–184
- Hansen C (1980) A revision of *Barthea*. *Notes Roy Bot Gard Edinburgh* 38:489–493
- Hansen C (1982) A revision of *Blastus* Lour. (Melastomataceae). *Bull Mus Natl Hist Nat, ser 4(4), B Adansonia* 1-2:43–77
- Hansen C (1984) *Vietsenia* C. Hansen, a new genus of the Melastomataceae for Vietnam. *Adansonia* 2:147–156
- Hansen C (1985a) The genus *Brittenia*. *Willdenowia* 15:171–173
- Hansen C (1985b) Taxonomic revision of *Driessenia* (Melastomataceae). *Nord J Bot* 5:335–352
- Hansen C (1985c) A revision of *Neodriessenia*. *Bot Jahrb Syst Pflanzengesch Pflanzengeogr* 106:1–13
- Hansen C (1985d) *Stussenia*, a new genus in the Melastomataceae. *Willdenowia* 15:175–176
- Hansen C (1987a) *Aschistanthera*, a monotypic new genus for Vietnam (Melastomataceae). *Nord J Bot* 7:653–654
- Hansen C (1987b) *Poilannammia* C. Hansen (Melastomataceae), a new genus of four new species endemic to Vietnam. *Adansonia* 3:263–271
- Hansen C (1988a) The genus *Campimia* (Melastomataceae). *Willdenowia* 17:147–151
- Hansen C (1988b) *Kerriothyrsus*, a new genus of Melastomataceae. *Willdenowia* 17:153–157
- Hansen C (1988c) A revision of the genus *Plagiopetalum* Rehd. (Melastomataceae). *Adansonia* 2:127–136
- Hansen C (1990a) The monotypic genus *Cyphotheca* (Melastomataceae). *Nord J Bot* 10:21–23
- Hansen C (1990b) New species and combinations in *Allomorpha*, *Phyllagathis*, and *Sporoxeia* (Melastomataceae) in Indo-China. *Adansonia* 1:37–41
- Hansen C (1990c) *Tylanthera* (Melastomataceae), a new genus of two species endemic to Thailand. *Nord J Bot* 9:631–635
- Hansen C (1992) The genus *Phyllagathis* (Melastomataceae); characteristics; delimitation; the species in Indo-China and China. *Bull Mus Natl Hist Nat, B Adansonia* 14:355–428
- Hansen C, Wickens GE (1981) A revision of *Ochthocharis* (Melastomataceae), including *Phaeoneuron* of Africa. *Kew Bull* 36:13–29
- Harley RM (1995) Introduction. In: Stannard BL (ed) *Flora of the Pico das Almas, Chapada Diamantina*. Royal Botanic Gardens, Kew, Bahia, Brazil, pp 1–40
- Hu SY (1952) Notes on the Flora of China, II. *J Arnold Arbor* 33:166–178
- Jacques-Félix H (1973a) Contribution à l'étude du genre *Rousseauxia* (Melast.). *Adansonia* 13:177–193
- Jacques-Félix H (1973b) Le genre *Amphiblemma* Naud. (Mélastomatacées). *Adansonia* 13:429–459
- Jacques-Félix H (1974) Le genre *Dicellandra* Hook. f. (Mélastomatacées). *Adansonia* 14:77–98
- Jacques-Félix H (1977) Le genre *Preussiella* Gilg (Mélastomatacées). *Adansonia* 16:405–414
- Jacques-Félix H (1978) Les genres de Memecyleae (Melastomataceae) en Afrique, Madagascar et Mascareignes. *Adansonia* 18:221–235
- Jacques-Félix H (1981) Révision du genre *Calvoa* (Melastomataceae). *Bull Mus Natl Hist Nat, 4e sér, B Adansonia* 3:123–143
- Jacques-Félix H (1983) 25. Mélastomatacées. In: Leroy JF (ed) *Flore du Gabon*. Muséum National d'Histoire Naturelle, Paris, p 166
- Jacques-Félix H (1985a) Les Memecyleae (Melastomataceae) de Madagascar (1re partie). *Bull Mus Natl Hist Nat, B Adansonia* 6:383–451
- Jacques-Félix H (1985b) Les Memecyleae (Melastomataceae) de Madagascar (2e partie). *Bull Mus Natl Hist Nat, B Adansonia* 7:3–58
- Jacques-Félix H (1994 [1995]) Histoire des Melastomataceae d'Afrique. *Bull Mus Natl Hist Nat, sér 4, 16(2–4):235–311*

- Kadereit G (2005) Revision of *Plethiandra* Hook. f.; a polystaminate, East Asian genus of Melastomataceae. *Edinb J Bot* 62:127–144. <https://doi.org/10.1017/S0960428606000175>
- Kartonegoro A, Veldkamp JF (2013) Revision of *Creochiton* (Melastomataceae). *Blumea* 58:217–227
- Kartonegoro A, Hovenkamp P, van Welzen P (2019) A taxonomic revision of *Macrolenes* (Melastomataceae). *Gard Bull (Singap)* 71:185–241
- Kartonegoro A, Veldkamp JF, Hovenkamp P, van Welzen P (2018) A revision of *Dissochaeta* (Melastomataceae, Dissochaeteae). *PhytoKeys*:1–178. <https://doi.org/10.3897/phytokeys.107.26548>
- Kartonegoro A, Liu Y, de Oliveira SM, van Welzen P (2020) Taxonomic revision of *Pseudodissochaeta* (Melastomataceae, Dissochaeteae). *Phytotaxa* 468:159–174
- Kartonegoro A, Veranso-Libalah MC, Kadereit G, Frenger A, Penneys DS, Mota de Oliveira S, van Welzen PC (2021) Molecular phylogenetics of the *Dissochaeta*-alliance (Melastomataceae): redefining tribe Dissochaeteae. *Taxon* 70:793–825
- Kokubugata G, Nakamura K, Kuo WH, Qi ZC, Chung KF, Fu CX, Suzuki Y, Yokota M (2019) Reappraisal of *Tashiroea* as a genus independent of *Bredia* (Melastomataceae) based on molecular data. *Phytotaxa* 392:75–83. <https://doi.org/10.11646/phytotaxa.392.1.8>
- Koschnitzke C, Martins AB (2006) Revisão taxonômica de *Chaetostoma* DC. (Melastomataceae, Microlicieae). *Arq Mus Nac Rio de Janeiro* 64:95–119
- Kral R, Bostick PE (1969) The genus *Rhexia* (Melastomataceae). *Sida* 3:387–440
- Kriebel R (2008) Systematics and biogeography of the Neotropical genus *Acisanthera* (Melastomataceae). MS thesis, San Francisco State University, San Francisco, California
- Kriebel R (2012) A synopsis of the genus *Poteranthera* (Melastomeae: Melastomataceae) with the description of a new, apparently pollinator deceiving species. *Brittonia* 64:6–14
- Li HL (1944) Studies in the Melastomataceae of China. *J Arnold Arbor* 25:1–42
- Lozano G, Becerra de Lozano N (1999) Los géneros *Allomaieta* y *Cyphostyla* (Melastomataceae). *Rev Acad Colomb Cienc* 23:5–18
- Mancera JP (2017) Morphological phylogenetic analysis of the Astronieae (Melastomataceae). MS thesis, San Francisco State University, San Francisco, California
- Martins AB (1984) Revisão taxonômica do gênero *Cambessedesia* DC. (Melastomataceae). MS thesis, Universidade Estadual de Campinas, Campinas
- Martins AB (1989) Revisão taxonômica do gênero *Marcetia* DC. (Melastomataceae). PhD thesis, Universidade Estadual de Campinas, Campinas
- Martins AB, Almeda F (2017) A monograph of the Brazilian endemic genus *Lavoisiera* (Melastomataceae: Microlicieae). *Phytotaxa* 315:1–194. <https://doi.org/10.11646/phytotaxa.315.1.1>
- Martins E (1997) Revisão taxonômica do gênero *Trembleya* DC. (Melastomataceae). MSc thesis, Universidade Estadual de Campinas, Campinas
- Maxwell JF (1981) A revision of the genus *Pternandra* (Melastomataceae). *Gard Bull (Singap)* 34:1–90
- Maxwell JF (1989) The genus *Anerincleistus* Korth. (Melastomataceae). *Proc Acad Natl Sci Phila* 141:29–72
- Maxwell JF, Veldkamp JF (1990a) Notes on the Astronieae (Melastomataceae). I. *Astrocalyx*, *Astronia*. *Blumea* 35:71–114
- Maxwell JF, Veldkamp JF (1990b) Notes on the Astronieae (Melastomataceae). II. *Astronidium*, *Beccarianthus*. *Blumea* 35:115–165
- Mendoza-Cifuentes H (2020) Taxonomic revision of the genus *Wurdastom* (Melastomataceae: Cyphostyleae). *Acta Bot Mex* 127:e1642. <https://doi.org/10.21829/abm127.2020.1642>
- Mendoza-Cifuentes H (2021) Revisión taxonómica del género *Meriania* (Melastomataceae) en Colombia. *Acta Bot Mex* 128:e1734. <https://doi.org/10.21829/abm128.2021.1734>
- Mendoza-Cifuentes H, Fernández-Alonso JL (2011) Análisis cladístico de *Centronia* (Merianieae/Melastomataceae) con base en caracteres morfológicos. *Rev Acad Colomb Cienc Exactas Fis Nat* 35:431–450

- Meyer K (2001) Revision of the Southeast Asian genus *Melastoma*. *Blumea* 46:351–398
- Meyer FS, Reginato M, Smidt EC, Santiago-Gómez JR, Michelangeli FA, Goldenberg R (2021) Phylogenetic relationships in *Brachyotum* and allies (Melastomataceae, Melastomataceae): a reassessment of the limits of its genera. *Bot J Linn Soc.* <https://doi.org/10.1093/botlinnean/boab014>
- Michelangeli FA, Ulloa Ulloa C (2016) A new species of *Alloneuron* (Melastomataceae) from northern Peru. *Brittonia* 68:429–432. <https://doi.org/10.1007/s12228-016-9436-2>
- Michelangeli FA, Nicolas A, Morales-P ME, David H (2011) Phylogenetic relationships of *Allomaieta*, *Alloneuron*, *Cyphostyla*, and *Wurdastom* (Melastomataceae) and the resurrection of the tribe Cyphostyleae. *Int J Plant Sci* 172:1165. <https://doi.org/10.1086/662032>
- Michelangeli FA, Ulloa Ulloa C, Sosa K (2014) *Quiipuanthus*, a new genus of Melastomataceae from the foothills of the Andes in Ecuador and Peru. *Syst Bot* 39:533–540
- Michelangeli FA, Goldenberg R, Almeda F, Judd WS, Bécquer ER, Ocampo G, Ionta GM, Skean JD Jr, Majure LC, Penneys DS (2019) Nomenclatural novelties in *Miconia* (Melastomataceae: Miconieae). *Brittonia* 71:82–121
- Michelangeli FA, Almeda F, Goldenberg R, Penneys DS (2020) Guide to curating New World Melastomataceae collections with a linear generic sequence to world-wide Melastomataceae. Preprints 2020:2020100203. <https://doi.org/10.20944/preprints202010.0203.v1>
- Morales ME (2010) Análisis filogenético de *Huilaea* Wurdack (Melastomataceae) basado en datos morfológicos y moleculares. PhD thesis, Universidad Nacional de Colombia, Bogotá
- Morley T (1963) *Votomita* Aublet (Melastomataceae). *Bull Torrey Bot Club* 90:1–16
- Morley T (1976) *Memecyleae* (Melastomataceae). *Fl Neotrop Monogr* 15:1–295
- Morley T (1989) New species and other taxonomic matters in the New World *Memecyleae* (Melastomataceae). *Ann Missouri Bot Gard* 76:430–433
- Morley T (1999) A new species of *Votomita* (Melastomataceae) from Venezuela, with thoughts on ovule and seed number and seed size. *Novon* 9:241–244
- Morley T, Almeda F (1995) A new *Votomita* (Melastomataceae) from Panama. *Novon* 5:290–293
- Nayar MP (1965) Contributions to the knowledge of Indo-Malaysian and other Asiatic Melastomataceae. *Kew Bull* 19:501–506
- Nayar MP (1969) A new species and notes on *Cyanandrium*. *Bull Bot Surv India* 10:334–336
- Nayar MP (1974) A revision of *Plethiandra* (Melastomataceae). *Reinwardtia* 9:143–151
- Nayar MP (1982) Revision of *Catanthera* F. v. Mueller (Melastomataceae). *Reinwardtia* 10:35–61
- Neo L, Wong KM, Tan HTW (2017) Studies in Southeast Asian *Melastoma* (Melastomataceae), 3. A new species of *Melastoma* from peninsular Malaysia. *Phytotaxa* 317:286–291. <https://doi.org/10.11646/phytotaxa.317.4.3>
- Nesom GL (2012) Infrageneric classification of *Rhexia* (Melastomataceae). *Phytoneuron* 15:1–9
- Okada H, Tsukaya H, Soejima A (2017) A new species of *Heteroblemma* (Melastomataceae) from West Kalimantan, Borneo, Indonesia. *Acta Phytotaxa Geobot* 689(2):101–106
- Penneys DS (2013) Preliminary phylogeny of the Astronieae (Melastomataceae) based on nuclear and plastid DNA sequence data, with comments on the Philippine endemic genus, *Astrocalyx*. *Philipp J Sci* 142:159–168
- Penneys DS, Judd WS (2013a) A revised circumscription for the Blakeeae (Melastomataceae) with associated nomenclatural adjustments. *PhytoKeys* 20:17–32. <https://doi.org/10.3897/phytokeys.20.4344>
- Penneys DS, Judd WS (2013b) Combined molecular and morphological phylogenetic analyses of the Blakeeae (Melastomataceae). *Int J Plant Sci* 174:802–817
- Penneys DS, Michelangeli FA, Judd WS, Almeda F (2010) Henrietteae: a new neotropical tribe of berry-fruited Melastomataceae. *Syst Bot* 35:783–800
- Penneys DS, Ulloa Ulloa C, Neill DA, Fernández D (2015) A new species of *Chalybea* (Blakeeae, Melastomataceae) from the Ecuador-Peru border. *Phytotaxa* 212(4):264–270
- Penneys DS, Almeda F, Michelangeli FA, Goldenberg R, Martins AB, Fritsch PW (2020) Lithobieae and Eriocnemeae: two new neotropical tribes of Melastomataceae. *Phytotaxa* 453:157–178
- Perrier de la Bâthie H (1951) Flore de Madagascar et des Comores: 153e Famille—Mélastomatacées. Firmin-Didot et Cie, Paris

- Prashob P, Thomas SM (2019) The genus *Osbeckia* (Melastomataceae) in India. *Rheedea* 29:236–305
- Ranarivelo H, Almeda F (2019) A new *Dichaetanthera* (Melastomataceae: Melastomeae) from Masoala National Park in Madagascar. *Candollea* 74:131–136
- Rangel JR, Garzón CA (1997) Sierra Nevada de Santa Marta, Colombia. In: Davis SD, Heywood VH, Herrera-MacBryde O, Villa-Lobos J, Hamilton AC (eds) *Centres of plant diversity: a guide and strategy for their conservation*. Vol. 3 (The Americas). IUCN Publication Unit, Cambridge, UK, pp 426–430
- Regalado JC (1990) Revision of *Medinilla* (Melastomataceae) of Borneo. *Blumea* 35:5–70
- Regalado JC (1995) Revision of Philippine *Medinilla* (Melastomataceae). *Blumea* 40:113–193
- Renner SS (1987) *Sandemanina hoehnei* (Melastomataceae: Tibouchineae): taxonomy, distribution, and biology. *Brittonia* 39:441–446
- Renner SS (1989) Systematic studies in the Melastomataceae *Bellucia*, *Loreya* and *Macairea*. *Mem NY Bot Gard* 50:1–112
- Renner SS (1990) A revision of *Rhynchanthera* Melastomataceae. *Nord J Bot* 9:601–630
- Renner SS (1994a) A revision of *Pterolepis* (Melastomataceae: Melastomeae). *Nord J Bot* 14:73–104
- Renner SS (1994b) Revisions of *Pterogastra* and *Schwackaea* (Melastomataceae: Melastomeae). *Nord J Bot* 14:65–71
- Rocha MJR, Guimarães PJF, Michelangeli FA, Romero R (2016) Phylogenetic placement and a new circumscription of *Poteranthera* (Microlicieae; Melastomataceae). *Phytotaxa* 263:219–232. <https://doi.org/10.11646/phytotaxa.263.3.3>
- Rocha MJR, Guimarães PJ, Michelangeli FA, Nogueira Batista JA (2018 [2017]) Taxonomy of Marcetieae: a new neotropical tribe of Melastomataceae. *Int J Plant Sci* 179:50–74
- Schulman L, Hyvönen J (2003) A cladistic analysis of *Adelobotrys* (Melastomataceae) based on morphology, with notes on generic limits within the tribe Merianieae. *Syst Bot* 28:738–756
- Seco, RC (2006) Estudos taxonômicos no gênero *Comolia* (Melastomataceae – Melastomeae) no Brasil. MS thesis. Universidade Estadual de Campinas, Campinas
- Silva MFO, Guimarães PFJ, Michelangeli FA (2014) Nomenclatural and taxonomic novelties in the tribe Melastomeae (Melastomataceae). *Phytotaxa* 186:222–228
- Silva DN, Rocha MJR, Guimarães PJF (2020) Nomenclator botanicus of *Appendicularia* DC. *Phytotaxa* 460:230–234
- Stone RD (2006) Phylogeny of major lineages in Melastomataceae, subfamily Olisbeoideae: utility of nuclear glyceraldehyde 3-phosphate dehydrogenase (*GapC*) gene sequences. *Syst Bot* 31:107–121
- Stone RD (2012) Endemism, species richness and morphological trends in Madagascan *Memecylon* (Melastomataceae). *Plant Ecol Evolut* 145:145–151
- Stone RD (2014) The species-rich, paleotropical genus *Memecylon* (Melastomataceae): molecular phylogenetics and revised infrageneric classification of the African species. *Taxon* 63:539–561
- Stone RD (2017) Revised treatment of the genus *Lijndenia* (Melastomataceae, Olisbeoideae) in Madagascar. *Candollea* 72:67–86
- Stone RD, Andreasen K (2010) The Afro-Madagascan genus *Warneckea* (Melastomataceae): molecular systematics and revised infrageneric classification. *Taxon* 59:83–92
- Stone RD, Luke Q (2015) *Lijndenia udzungwarum* (Melastomataceae-Olisbeoideae): a new, endemic species from the Udzungwa Mountains of southern Tanzania. *Phytotaxa* 226:169–176
- Tavares RDM (2005) Revisão taxonômica do gênero *Behuria* Cham. (Melastomataceae, Merianieae). MS thesis, Universidade Federal do Rio de Janeiro, Rio de Janeiro
- Todzia CA, Almeda F (1991) A revision of *Tibouchina* section *Lepidotae* (Melastomataceae: Tibouchineae). *Proc Calif Acad Sci* 47:175–206
- Ulloa Ulloa C, Neill DA (2006) *Phainantha shuariorum* (Melastomataceae), una especie nueva de la Cordillera del Cóndor, Ecuador, disyunta de un género guayanés. *Novon* 16:281–285
- Ulloa Ulloa C, Acevedo-Rodríguez P, Beck S, Belgrano MJ, Bernal R, Berry PE, Brako L, Celis M, Davidse G, Forzza RC, Gradstein SR, Hokche O, León B, León-Yáñez S, Magill RE, Neill

- DA, Nee M, Raven PH, Stimmel H, Strong MT, Villaseñor JL, Zarucchi JL, Zuloaga FO, Jørgensen PM (2017) An integrated assessment of the vascular plants species of the Americas. *Science* 358:1614–1617
- Ulloa Ulloa C, Acevedo-Rodríguez P, Beck S, Belgrano MJ, Bernal R, Berry PE, Brako L, Celis M, Davidse G, Forzza RC, Gradstein SR, Hokche O, León B, León-Yáñez S, Magill RE, Neill DA, Nee M, Raven PH, Stimmel H, Strong MT, Villaseñor JL, Zarucchi JL, Zuloaga FO, Jørgensen PM (2018 onwards) Vascular plants of the Americas (VPA) Website. Tropicos, Botanical Information System at the Missouri Botanical Garden, St. Louis, MI, USA. <http://www.tropicos.org/Project/VPA>
- van der Burgt XM, Haba PM, Magassouba S, Veranso-Libalah MC (2022) *Benna alternifolia* (Melastomataceae: Sonerileae), a new herbaceous genus and species from Guinea, West Africa. *Willdenowia* 52:25–37. <https://doi.org/10.3372/wi.52.52/02>
- Veranso-Libalah MC, Stone RD, Fongod AGN, Couvreur TLP, Kadereit G (2017a) Phylogeny and systematics of African Melastomataceae (Melastomataceae). *Taxon* 66:584–614
- Veranso-Libalah MC, Stone RD, Kadereit G (2017b) *Argyrella richardsiae*, a new species of Melastomataceae from the wet miombo woodlands of south-central Africa. *PhytoKeys* 82:113–121
- Veranso-Libalah MC, Kadereit G, Stone RD, Couvreur TLP (2018) Multiple shifts to open habitats in Melastomataceae (Melastomataceae) congruent with the increase of African Neogene climatic aridity. *J Biogeogr* 45:1420–1431. <https://doi.org/10.1111/jbi.13210>
- Veranso-Libalah MC, Lachenaud O, Stone RD, Kadereit G (2019) *Nothodissotis* (Melastomataceae), a new genus from Atlantic Central Africa, including the new species *N. alenensis* from Equatorial Guinea. *PhytoKeys*:89–103. <https://doi.org/10.3897/phytokeys.118.31572>
- Veranso-Libalah MC, Stone RD, Kadereit G (2020) Towards a complete phylogeny of African Melastomataceae: systematics of *Dissotis* and allies (Melastomataceae). *Taxon* 69:946–991
- Veranso-Libalah MC, Stone RD, Haba PM, Magassouba S, Kadereit G, Burgt XM van der (2021) Phylogenetic placement of *Cailliella praerupticola* (Melastomataceae), a rare, monospecific lineage from Guinea, West Africa. *Willdenowia* 51:47–56
- Versiane AF, Romero R, Reginato M, Welker CA, Michelangeli FA, Goldenberg R (2021) Phylogenetic analysis of Microlicieae (Melastomataceae), with emphasis on the re-circumscription of the large genus *Microlicia*. *Bot J Linn Soc* 197:35–60
- Villaseñor JL (2016) Checklist of the native vascular plants of Mexico. *Rev Mex Biodivers* 87:559–902
- Wallnöfer B (1996) A revision of the genus *Alloneuron* Pilg. and segregation of *Wurdastom* gen.n. (Melastomataceae). *Ann Nat Hist Mus Wien Ser B Bot Zool* 98:447–462
- Wallnöfer B (1999) *Alloneuron* Pilg. (Melastomataceae): some additions. *Ann Nat Hist Mus Wien Ser B Bot Zool* 101B:593–598
- Warner RH (2002) Systematics of the genus *Monolena* (Melastomataceae) in Central America. *Proc Calif Acad Sci* 53:95–116
- Whiffin TP (1972) A systematic study of the genus *Heterocentron* (Melastomataceae). PhD thesis, University of Texas, Austin
- Whiffin TP (1990) Melastomataceae. In: George AS (ed) *Fl. Australia*, vol 18, pp 243–255
- Wickens GE (1975) Melastomataceae. In: Polhill RM (ed) *Flora of Tropical East Africa*. Crown Agents for Oversea Governments and Administrations, London
- Wong KM (2016) Studies in Southeast Asian *Melastoma* (Melastomataceae), 2. The genus *Melastoma* in Borneo including 31 new species. Natural History Publications (Borneo), Kota Kinabalu, in association with National Parks Board, Singapore, 184 pp
- Wurdack JJ (1953) A revision of the genus *Brachyotum* (Tibouchineae-Melastomataceae). *Mem NY Bot Gard* 8:343–407
- Wurdack JJ (1964) Melastomataceae. In: Maguire B, Wurdack JJ et al (eds) *The botany of the Guayana highland—Part 5*. *Mem NY Bot Gard*, vol 10. New York Botanical Garden, Bronx, NY, pp 135–186

- Wurdack JJ (1976) Endemic Melastomataceae of the Sierra Nevada de Santa Marta, Colombia. *Brittonia* 28:138–143
- Wurdack JJ, Renner SS, Morley T (1993) Melastomataceae. In: Görts-van Rijn ARA (ed) *Flora of the Guianas*. Koeltz Scientific Books, Koenigstein, 13:1-424
- Wurdack KJ, Michelangeli FA (2019) Systematics and relationships of *Tryssophyton* (Melastomataceae), with a second species from the Pakaraima Mountains of Guyana. *PhytoKeys*:1, 10.3897/phytokeys.136.38558–21
- Zabalgoitia A, Figueroa DS, Muñoz-Castro MA (2020) A new species of *Miconia* (Melastomataceae) endemic to western Jalisco, Mexico. *Phytotaxa* 432:1–10
- Zeng SJ, Zou LH, Wang P, Hong WJ, Zhang GQ, Chen LJ, Zhuang XY (2016) Preliminary phylogeny of *Fordiophyton* (Melastomataceae), with the description of two new species. *Phytotaxa* 247:45–61
- Zeng SJ, Xu YC, Wang GT, Jia P, Cui DF (2021) *Tigridiopalma exalata*, a new and endangered species of Melastomataceae from China. *PhytoKeys* 176:33–42
- Zhou QJ, Dai JH, Lin CW, Denda T, Zhou RC, Liu Y (2019) Recircumscription of *Bredia* and resurrection of *Tashiroea* (Sonerileae, Melastomataceae) with description of a new species *T. villosa*. *PhytoKeys*:121–150. <https://doi.org/10.3897/phytokeys.127.36608>