

A Synoptical Classification of the Lamiales

Version 2.8.0
(This is a working document)

Compiled by
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[estimated 26 families, 1041 genera, and ca. 21,878 species in Lamiales]

The goal of this project is to produce a working infraordinal classification of the Lamiales to genus with information on distribution and species richness. All recognized taxa will be clades; adherence to Linnaean ranks is optional. Synonymy is very incomplete (comprehensive synonymy is not a goal of the project, but could be incorporated). Although I anticipate producing a publishable version of this classification at a future date, my near-term goal is to produce a web-accessible version, which will be available to the public and which will be updated regularly through input from systematists familiar with taxa within the Lamiales. For further information on the project and to provide information for future versions, please contact R. Olmstead via email at olmstead@uw.edu, or by regular mail at: Department of Biology, Box 355325, University of Washington, Seattle WA 98195, USA.

Acanthaceae (~201/3510) Durande, Notions Elém. Bot.: 265. 1782, nom. cons. – Synopsis compiled by R. Scotland & K. Vollesen (Kew Bull. 55: 513-589. 2000). Avicennia included (Schwarzbach & McDade, 2002). Revised based on McDade et al., 2008; Tripp et al., 2013.

Nelsonioideae (7/~170) Lindl. ex Pfeiff., Nomencl.

Bot. 1(1): 10. 8 Dec 1871

- Anisosepalum E. Hossain (3) C. Africa
- Elytraria Michx. (~20) warm & trop. NW & OW
- Gynocraterium Bremek. (1) trop. S. Amer.
- Nelsonia R. Br. (1-5) trop. OW
- Ophiorrhizophyllum Kurz (2) SE Asia
- Saintpauliopsis Staner (1) trop. Africa
- Staurogyne Wall. (~140) trop. OW & NW

Thunbergioideae (5/~170) Kostel., Allg. Med.-Pharm.

Fl. 3: 923. Apr-Dec 1834

- Anomacanthus R.D. Good (1) Zaire, Angola
- Mendoncia Vell ex Vand. (~60) trop. Amer. & Africa, Madag.
- Meyenia Nees (1) India, Sri Lanka
- Pseudocalyx Radlk. (7) trop. Africa, Madag.
- Thunbergia Retz. (~100) trop. OW

Acanthoideae (189/) Link, Handbuch 1:500. Jan-Aug 1829

Acantheae (21/~480) Dunmort., Anal. Fam. Pl.: 23 1829

- Acanthopsis Harv. (4) S. Africa
- Acanthus L. (20) warm & trop. OW
- Achyrocalyx Benoist (3) Madag.
- Aphelandra R. Br. (175) Trop. Amer.
- Blepharis Juss. (129) OW trop., Medit., S. Africa
- Crossandra Salisb. (52) trop. Africa & Asia, Madag., Arabian Penin.
- Crossandrella C.B. Clarke (2) trop. Africa
- Cynarospermum Vollesen (1) India
- Cyphacanthus Leonard (1) Columbia
- Encephalosphaera Lindau (3) trop. S. Amer.
- Geissomeria Lindl. (15) trop Amer, most Brazil
- Holographis Nees (16) Arid Mexico
- Neriacanthus Benth. (5) trop. Amer.
- Orophochilus Lindau (1) Peru
- Rhombochlamys Lindau (2) Columbia
- Salpixinantha Hook. (1) Jamaica
- Sclerochiton Harv. (18) trop. & S. Africa
- Stenandrium Nees (~60-65) trop NW, Afr
- Streptosiphon Mildbr. (1) Tanzania
- Strobilacanthus Griseb. (1) Panama
- Xantheranthemum Lindau (1) Peru

Ruellieae 0

Erantheminae Nees (6/53)

- Brunoniella Bremek. (6) New Guinea, Austral
- Eranthemum L. (30) trop. Asia
- Kosmosiphon Lindau (1) trop. W. Afr
- Leptosiphonium F. Muell. (10) Papuaasia
- Pararuellia Bremek. (5) Malaysia
- Pseudosiphonium ined (1) China

Ruellinae Nees (4/~335)

- Acanthopale C.B. Clarke (150) OW trop.
- Beniocanthus Heine & A. Raynal (= Ruellia) (2) Mad
- Dischistocalyx T.Anderson ex Benth. (20) Afr

Lychniothyrus Lindau (= Ruellia) (5)

Brazil

Polylychnis Bremek. (= Ruellia) (2) NE S. Amer.

Pseudoruellia Benoist (= Ruellia) (1) Madag.

Ruellia L. (150) pantrop.

Satanocrater Schweinf. (4) trop. Africa

Spirostigma Nees (= Ruellia) (1) Brazil

Trichantherinae Benth. & Hook.f. (6/32)

Bravaisia DC. (3) trop. Amer.

Louteridium S. Watson (6) Mex. & C. Amer.

Sanchezia Ruiz & Pav. (20) trop. Amer.

Suessenguthia Merm. (1) Bolivia

Trichanthera Kunth (2) N. S. Amer.

Trichosanchezia Mildbr. (1) trop. Peru

Hygrophilinae Nees (2/34)

Brillantaisia P. Beauv. (9) trop. Africa, Madag.

Hygrophila R. Br. (25) trop. OW & NW

Mimulopsinae E. Tripp (4/14)

Epiclastopelma Lindau (=Mimulopsis) (2) trop Afr

Eremomastax Lindau (2) Africa

Heteradelphia Lindau (1) W. Africa

Ionacanthus Beniost (=Mellera) (1) Madag.

Mellera S. Moore (5) warm Africa

Mimulopsis Schweinf. (3) trop. Africa, Madag.

Petalidiinae Benth. & Hook.f. (6/144)

Apassalus Kobuski (=Dyschoriste) (3) SE US, W.I.

Duosperma Dayton (12) trop. & S. Africa

Dyschoriste Nees (65) warm & trop. NW & OW

Phaulopsis Willd. (20) Afra. Mascarenes, India

Petalidium Nees (35) trop & S Afr, Himal, India

Ruelliospis C.B. Clarke (3) trop. & S. Africa

Sautiera Decne. (=Dyschoriste) (1) Timor

Strobilanthopsis S. Moore (5) trop. Africa

Strobilanthinae T. Anderson (4/345)

Clarkeasia J.R.I. Wood (2) India, China

Hemigraphis Nees (90) Asia to New Caledonia

Stenosiphonium Nees (3) India, Sri Lanka

Strobilanthes Blume (250) trop. Asia

Unplaced within Ruellieae (5/25)

Calacanthus T. Anderson ex Benth. (1) Indomal.

Diceratotheca J.R.I. Wood & R.W. Scotland (1) Thailand

Echinacanthus Nees (4) Himal., China

Sinoacanthus ined. (?) China

Stenothyrsus C.B. Clarke (1) Malaya

Aechmanthera Nees (3) Himal.

Blechum P. Brown (6) trop. Amer.

Eusiphon Benoist (3) Madag.

Physacanthus Benth. (5) trop. Africa

Justicieae (103/)

Afrofittonia Lindau (1) trop. W. Africa

Ambongia Beniost (1) Madag.

Ancistranthus Lindau (1) Cuba

Angkalanthus Balf.f. (2) Socotra,

Transvaal

Anisacanthus Nees (8) SW US, Mex.

Anisotes Nees (19) trop. Africa, Madag.

Anthacanthus Nees (?) Unknown

Aphanosperma T.F. Daniel (1) NW Mex.

Ascotheca Heine (1) trop. W. Africa

Asystasia Blume (70) OW trop.

Ballochia Balf.f. (3) Socotra

Brachystephanus Nees (10) trop. Africa, Madag.

Calycacanthus K. Schum. (1) New Guinea

Carlowrightia A.Gray (23) SW US, Mex, C. Amer.

Celerina Benoist (1) Madag.

Centrilla Lindau (?) Unknown

Cephalacanthus Lindau (1) Peru

Chalarothyrsus Lindau (1) Mex.

Chamaeranthemum Nees (4) trop. Amer.

Chileranthemum Oerst. (2) Mex.

Chlamydocardia Lindau (4) trop. W. Africa

Chlamydstachya Mildbr. (1) trop. E. Africa

Chorisochora Vollesen

Clinacanthus Nees (2) S. China to Malaysia

Clistax Mart. (2) Brazil

Codonacanthus Nees (2) NE India, S. China, Japan

Conocalyx Benoist (1) Madag.

Cosmianthemum Bremek. (8) W. Borneo

Cyclacanthus S. Moore (2) SE. Asia

Cylindrosolenium Lindau (1) Peru

Danguya Beniost (1) Madag.

Dasytropis Urb. (1) E. Cuba

Dichazothece Lindau (1) E. Brasil

Dicladantha F. Muell. (2) W. Australia

Dicliptera Juss. (150) warm & trop. NW & OW

Ecbolium Kurz (19) trop. & S. Africa, Madag.,

Socotra, India

Filetia Miq. (8) Sumatra, Indomal.

Fittonia Coem. (2) Peru

Glossochilus Nees (2) S. Africa

Graptophyllum Nees (10) Australia, SW Pacific Isl.

Gypsacanthus Lott, Jarmillo & Rzed. (1) Mex.

Harpochilus Nees (3) Brasil

Henrya Nees (2) C. Amer.

Herpetacanthus Nees (10) Panama to Brasil

Hoverdenia Nees (1) Mex.

Hypoestes Sol. Ex R.Br. (40) OW trop.

Ichtyostoma Hedren and Vollesen

Isoglossa Oerst. (50) OW trop. & Arabian Penin.

Isotheca Turrill (1) Trinidad

Jadunia Lindau (1) New Guinea

Juruasia Lindau (2) Brazil

Justicia L. (600) trop. & warm temp. NW

Kalbreyeriella Lindau (3) Panama, Columbia

Linariantha B.L. Burt & Ros.M.Sm. (1) Borneo

Mackaya Harv. (15) Africa

Marcania J.B. Imlay (1) Thailand

Megalochlamys Lindau (3) SW Africa

Megalostoma Leonard (1) C. Amer.

Megaskepasma Lindau (1) Venezuela

Mellitacanthus S. Moore (1) Madag.

Metarungia Baden (3) trop. & S. Africa

Mexacanthus T.F. Daniel (1) Mex.

Mirandea Rzed. (2) Mex.

Monechma Hochst. (60) Africa, India

Monothecium Hochst. (3) trop. Africa, S. India

Odontonema Nees 936) Mex., C. & S. Amer., W. I.

Oplonia Raf. (19) trop. Amer., Africa (extinct?),

Madag.

Oreacanthus Benth. (4) C. Africa

Pachystachys Nees (12) trop. Amer.

Pelecostemon Leonard (1) Columbia

Peristrophe Nees (15) trop. OW

Phialacanthus Benth. (5) Himal. to Malay Penin.

Podorungia Baill. (1) Madag.

Poikilacanthus Lindau (6) trop. Amer.

Populina Baill. (2) Madag.

Pranceacanthus Wassh. (1) Brazil

Pseuderanthemum Radlk. (60) trop. OW & NW

Pseudodicliptera Benoist (2) Madag.

Psilanthele Lindau (1) Ecuador

Ptyssiglottis T. Anderson (60) Indomal.

Pulchranthus V.M. Baum, Reveal and Nowicke (4)

trop. S. Amer.

Razisea Oerst. (3) C. Amer.

Rhinacanthus Nees (15) trop. OW

Ritonia Benoist (3) Madag.

Rungia Nees (50) trop. OW

Ruspolia Lindau (4) trop. Africa

Ruttya Harv. (3) trop. & S. Africa, Arabian Penin.

Samuelessonia Urb. & Ekman (1) Hispaniola

Sapphoa Urb. (2) Cuba

Schaueria Nees (8) Brazil

Sebastiano-Schaueria Nees (1) Brazil

Spathacanthus Baill. (5) C. Amer.

Sphinctacanthus Benth. (1) NE India to Burma

Stenostephanus Nees (6) S. Amer.

Streblacanthus Kuntze (6) C. Amer.

Tessmanniacanthus Mildbr. (1) trop. Peru

Tetramerium Nees (28) C. Amer.

Thysanostigma J.B. Imlay (2) Thailand, Malayan

Penin.

Trichaulax Vollesen

Trichocalyx Balf.f. (2) Socotra

Xerothamnella C.T. White (2) E. Australia

Yeatesia Small (3) SE US, NE Mex.

Whitfieldae (?/)

Camarotea Scott Elliot (1) Madag.

Chlamydacanthus Lindau (4) trop. E. Africa,

Madag.

Forcipella Baill. (5) Madag.

Lankesteria Lindl. (7) trop. Africa, Madag.

Leandriella Benoist (1) Madag.

Whitfieldia Hook. (10) trop Africa
Zygoruella Baill. (1) Madag.

Andrographideae (8/)

Andrographis Wall. ex Nees (20) trop. Asia
Cystacanthus T. Anderson (10) SE Asia
Diotacanthus Benth. (2) Indomal.
Graphandra J.B. Imlay (1) Thailand
Gymnostachyum Nees (30) India to C
Malaysia.
Haplanthodes Kuntze (4) India
Indoneesiella Sreem. (2) India
Phlogacanthus Nees (15) Indomal.

Barlerieae (9/)

Acanthostelma Bidgood and Brummitt (1) Somalia
Barleria L. (250) OW & NW trop.
Barleriola Oerst. (6) W. I.
Borneacanthus Bremek. (6) Borneo
Boutonia DC. (1) Madag.
Chroesthes Benoist (3) China, SE Asia
Crabbea Harv. (12) trop. & S. Africa
Golaea Chiov. (1) Somalia
Hulemacanthus S. Moore (1) New Guinea

Lasiocladus Bojer ex Nees (5) Madag.
Lepidagathis Willd. (100) warm & trop. NW & OW
Lophostachys Pohl. (15) trop. Amer.

Unplaced within Acanthoideae (20/)

Acanthura Lindau (1) Brazil
Aphelandrella Mildbr. (1) Peru (= Aphelandra?)
Dolichostachys Benoist (1) Madag.
Idiacanthus Leonard (= Stenostephanus?)
Kudoacanthus Hosok. (1) taiwan
Morsacanthus Rizzini (1) Brazil (= Pseuderanthemum?)
Neuracanthus Nees (20) trop. Africa, Arabian Penin. to India
Perenideboles Ram. Goyena (1) Nicaragua (??)
Pericalypta Benoist (1) Madag.
Sphacanthus Benoist (2) Madag.
Vavara Benoist (1) Madag.
Vindasia Benoist (1) Madag.

Unplaced within Acanthaceae (1/4-7)

Avicennia (4-7) warm cosmop

Bigoniaceae (82/~852) Durande, Notions Elém. Bot.: 265. 1782, nom. cons. - Synoptical classification by tribe following Gentry 1980, 1992; Spangler & Olmstead 1999, Zjhra et al. 2003, Lohman 2006, Grose & Olmstead, 2007; Olmstead et al., 2009, Lohmann & Taylor, 2014, Sutee Duangjai, pers. comm., Callmander et al., 2016.

Bigoniaceae Dumort., Anal. Fam. Pl.: 23. 1829
(treatment following L. Lohmann, 2006) (21/394
Lohmann&Taylor, 2014, and following papers; Fonseca&Lohmann, 2019, for Adenocalymma)

Adenocalymma Mart. ex Meisn. (76) trop Am
Amphilophium Kunth (47) trop Am
Anemopaegma Mart. ex Meisn. (45) trop Am
Arrabidaea DC. (= Cuspidaria, Fridericia, Tanaecium, Xylophragma)
Bignonia L. (28) trop Am (incl. SE USA)
Callichlamys Miq. (1) trop Am
Ceratophytum Pittier (= Paragonia Bureau)
Clytostoma Miers ex Bureau (= Bignonia L.)
Cuspidaria DC. (21) trop Am
Cydistia Miers (= Bignonia L.)
Distictella Kuntze (= Amphilophium Kunth)
Distictis Mart. ex. Meisn. (= Amphilophium Kunth)
Dolichandra Cham. (8) trop Am
Fridericia (56) Colomb, Ecuad, Peru, Brazil
Gardnerodoxa Sandwith (= Nejobertia Baill.)
Glaziova Bureau (= Amphilophium Kunth)
Haplophium Cham. (= Amphilophium Kunth)
Leucocalantha Barb. Rodr. (= Pachyptera DC. ex Meisn.)
Lundia DC. (13) trop Am
Macfadyena A. DC. (= Dolichandra Cham.)
Macranthisiphon Bureau ex K. Schum. (= Bignonia L.)
Manaosella J.C. Gomes (1) Bolivia & Brazil

Mansoa DC. (12) trop Am
Martinella Baill. (2) trop Am
Melloa Bureau (= Dolichandra Cham.)
Memora Miers (= Adenocalymma Mart. ex Meisn.)
Mussatia Bureau ex Baill. (= Bignonia L.)
Nejobertia Baill. (2) Eastern Brazil
Pachyptera DC. ex Meisn. (4) trop Am
Parabignonia Bureau ex K. Schum. (= Dolichandra Cham.)
Paragonia Bureau (= Tanaecium)
Perianthomega Bureau ex Baill. (1) SE Brazil, NE Parag. and SE Bolivia
Periarrabidaea A. Samp. (= Paragonia Bureau)
Phryganocydia Mart. ex Bureau (= Bignonia)
Piriadacus Pichon (= Arrabidaea DC.)
Pithecoctenium Mart. ex Meisn. (= Amphilophium Kunth)
Pleotoma Miers (17) trop Am
Potamoganos Sandwith (= Bignonia L.)
Pseudocatalpa A. H. Gentry (= Paragonia Bureau)
Pyrostegia C. Presl (2) trop S Am
Roentgenia Urb. (= Bignonia L.)
Sampaiella J.C. Gomes (1) Brazil (~Fridericia?)
Saritaea Dugand (= Bignonia L.)
Spathicalyx J. C. Gomes (= Paragonia Bureau)
Sphingiphila A. H. Gentry (= Tanaecium) Bolivia, Paraguay
Stizophyllum Miers (3) trop Am

- Tanaecium** Sw (21) neotropical forests
Tynanthus Miers (15) trop Am
 Urbanolophium Melch. (= Amphilophium Kunth)
Xylophragma Sprague (7) C & S Am
Catalpeae DC. ex Meisn. (3/11)
Catalpa Scop. (8) E Asia, N Am, Antilles
 Sect. *Catalpa* (4) E Asia, N Am
 Sect. *Macrocatalpa* Griseb. (4) Antilles
Chilopsis D. Don (1) SW US, Mex
 x*Chitalpa* Elias & Wisura (= *Catalpa* X *Chilopsis*)
Macrocatalpa Britton (= *Catalpa*)
Oroxyleae Gentry 1980 (4/6)
Hieris Steenis (1) Penang
Millingtonia L.f. (1) SE Asia, Malaysia
Nyctocalos Teijsm. & Binn. (3) Indomalaysia
Oroxylum Vent. (1) Indomalaysia
Crescentiina/Crescentioideae Kostel. (34/~342)
Paleotropical clade (20/~188)
Coleeae Bojer 1837 (4/97)
Colea Bojer ex Meisn. (45) Madagascar, Mascarenes
Ophiocolea H. Perrier (= *Colea*)
Phyllarthron DC. (24) Madagascar, Comores
Phylloctenium Baill. (8) Madagascar
Rhodocolea Baill. (20) Madagascar
Paleotropical clade unassigned (16/91)
Barnettia (= *Santisukia*)
Catophractes D. Don (1) tropical & S Africa
Dolichandrone (Fenzl) Seem. (10) E Afr, Indomal, trop. Austral, New Caledonia
Fernandoa Welw. ex Seem. (14) Afr, Mad, S China, SE Asia to Sumatra
Haplophragma Dop. (= *Fernandoa*)
Heterophragma DC. (2) India, SW Asia
Kigelia DC. (2) tropical Africa
Markhamia Seem. ex Baill. (10) trop Afr & SE Asia
Mayodendron Kurz (1) (= *Radermachera*) accepted in Flora of China
Newbouldia Seem. ex Bureau (1) tropical W Africa
Pajanelia DC. (1) Indomalaysia
Perichlaena Baill. (1) Madagascar
Radermachera Zoll. & Moritz. (17) SE Asia, Malaysia
Rhigozum Burch. (7) trop & S Afr, Ethiop, Somal, Madag
Santisukia Brummitt (2) Thailand
Spathodea P. Beauv. (1) tropical Africa
Stereospermum Cham. (20) trop Afr & Asia
Tecomella Seem. (1) Arabia to W India
Tabebuia Alliance Grose & Olmstead, 2007 (Digitifolieae, sensu Bentham & Hooker, 1876) (14/~154)
Crescentieae G. Don, Gen. Hist. 4: 216, 232. 1837-8 Apr 1838 (3/33)
Amphitecna Miers (18) tropical Am
Crescentia L. (6) tropical Am
Enallagma (Miers) Baill. (= *Amphitecna*)
Parmentiera DC. (10) C Am, NW Columbia
Tabebuia Alliance unassigned (11/~121)
Cybistax Mart. ex Meisn. (1) trop S Am
Ekmanianthe Urb. (2) Cuba, Hispaniola
Handroanthus (34) Neotrop.
Godmania Hemsl. (2) tropical Am
Paratecoma Kuhl. (1) Brazil
Romeroa Dugand (1) Colombia
Roseodendron (2) Neotrop.
Sparattosperma Mart. Ex Meisn. (2) trop. S. Am.
Spirotecoma Baill. ex Dalla Torre & Harms (4) Cuba, Hispaniola
Tabebuia Gomes ex DC. (~70) tropical Am
Zeyheria Mart. (2) Brazil, Bolivia
Crescentiina unassigned (1/1)
Pauldopia Steenis (1) NE India to SE Asia
Tecomeae Endl., Gen. Pl.: 711. Jan 1839 (13/60)
Astianthus D. Don (1) C Am
Campsidium Seem. (1) Chile, Argentina
Campsis Lour. (2) E Asia, E US
Deplanchea Vieill. (5) Malay, Aust, New Cal
Dinklagoedoxa Heine & Sandwith (1) Liberia
Incarvillea Juss. (16) Himalaya, C to E Asia
Lamiodendron Steenis (1) New Guinea
Neosepicaea Diels (4) N Guinea, Queensl, Moluccas
Pandorea (Endl.) Spach (9) E Malay, Austr, New Cal
Podranea Sprague (2) tropical to S Africa
Tecoma Juss. (7-Wood; 12-Gentry) tropical Am (Andes) to Ariz
Tecomanthe Baill. (5) Malaysia, Austr, NZ
Tecomaria (Endl.) Spach (2) E & S Africa
Tourrettieae G. Don, Gen. Hist. 4: 215, 231. 1837-8 Apr 1838 (2/4)
Eccremocarpus Ruiz & Pav. (3) Colombia to Chile
Tourrettia Foug. (1) Andes to Mexico
Jacarandae Seem., Ann. Mag. Nat. Hist., ser. 3, 10: 31. Jul 1862 (2/52)
Digomphia Benth. (3) Guayana highland (= *Jacaranda*)
Jacaranda Juss. (52) Guatemala/Antilles to Argentina
Bignoniaceae unassigned to more inclusive clade (2/16)
Argylia D. Don (12) Peru, Chile, Argentina
Delostoma D. Don (4) Andes of Peru, Ecuador, Colombia

Byblis Salisb. (2) Aus, New Guinea

Calceolariaceae (2/275) (G. Don) R. Olmstead 2001 (Olmstead et al. 2001) (see Molau 1988; Andersson 2006)
Calceolaria L. (240-270 sensu Molau) C to S Am **Porodittia** G. Don (= Calceolaria) Peru
Jovellana Ruiz & Pav. (6) NZ, Chile

Carlemanniaceae Airy Shaw, 1964. (2/5) (APG II, 2002)

Carlemannia Benth (3) Indomal
Silvianthus Hook.f. (2) India to SE Asia

Gesneriaceae (~135-140/>3000) (Perret et al., 2013 BJLS; class'n following A. Weber, & al., 2013, Selbyana)

Sanangoideae Weber, Clark, & Moller, Selbyana
31: 68-94. 2013.

Sanango Bunting & Duke (1), C America,
eastern slopes of the Andes (Ecuador and
Peru)

Gesnerioideae Link, Handbuch 1: 505. Jan-Aug
1829

Titanotricheae Yamaz. Ex W.T. Wang, F.I.
Republ. Popularis Sin. 69: 577. 1990.

Titanotrichum Soler. (1), S China, Taiwan, S
Japan

Napeantheae Wiehler, Selbyana 6:151, 1983.

Napeanthus Gardn. (>30), Neotropics

Beslerieae Bartl., Ord. Nat. Pl.: 175. 1830.

Besleriinae G. Don, Gen. Hist. 4: 644, 651.
1838.

Besleria L. (>200), throughout the Neotropics,
esp. Andes of Colombia and Ecuador

Cremosperma Benth. (23), Costa Rica to
Andes of Peru

Gasteranthus Benth. (35), S Mexico, central
America, SW South America to Bolivia

Reldia Wiehler (5), Panama to N Peru

Anatanthinae Weber & Clark Selbyana 31: 84.
2013.

Anetanthus Benth. (2), Peru, Bolivia, C
Colombia, SE Brazil

Cremospermopsis Skog & Kvist (2) Colombia

Resia H.E.Moore (2), Colombia, Venezuela

Shuaria Neill & Clark (1) Ecuador

Tylopsacas Leeuwenb. (1), Guayana
Highlands

Coronanthereae

Coronanthinae Fritsch in Engler & Prantl,
Nat. Pflanzenfam. IV, 3b: 143. 1893.

Coronanthera C.B.Clarke (11), New
Caledonia, one sp. in Solomon Islands

Rhabdothamnus Cunn. (1), New Zealand

Mitrariinae Hanst., Linnaea 26: 198, 199.
1854.

Asteranthera Hanst. (1), Chile

Fieldia Cunn. (1), SE Australia

Mitraria Cav. (1), Chile, nearby Argentina

Sarmienta Ruiz & Pav. (1), Chile

Negriinae Woo, Smith, & Garn.-Jones. Int. J.
Pl. Sci. 172:454. 2011.

Depanthus S.Moore (2), New Caledonia

Lenbrassia G.W.Gillett (1), NE Australia

Negria F. Muell. (1), Lord Howe Island (SW
Pacific)

Gesnerieae Dumort., Anal. Fam. PL.: 30.
1829.

Gesneriinae G. Don, Gen. Hist. 4: 644, 651.
1838.

Bellonia L. (2), Cuba and Hispaniola

Gesneria L. (46), Carribean islands

Pheidonocarpa L. E. Skog (3), Carribean
islands

Rhytidophyllum Mart. (c. 20), Carribean
islands

Gloxiniinae G. Don Gen. Hist. 4: 644,645.
1838.

Achimenes Pers. (24), mainly Mexico and
Central America

Amalophyllum Brandegees (12-13) Mex to Peru

Chautemsia Araujo & Souza

Eucodonia Hanst. (2), C and S Mexico

Gloxinella (H.E. Moore) Roalson & Boggan (1)
Peru.

Gloxinia L'Hér.(15), central America and trop.
S America

Gloxiniopsis Roalson & Boggan (1) Colombia

Goyazia Taub. (2), C Brazil

Heppiella Regel (4), Peru, W Venezuela

Kohleria Regel (>20) , Peru to Mexico,
Venezuela, Trinidad, Guianas

Mandirola Decne. (3) Brazil

Nomopyle Benth. (>27), Bolivia to Guatemala

Moussonia Regel (11), Mexico to Panama

Niphaea Lindl. (5), Mexico, Guatemala,
Venezuela, Peru

Nomopyle Roalson & Boggan (2) Ecuador,
Peru

Pearcea Regel (incl. Parakohleria Wiehler)
(17), eastern slopes of the Andes (Colombia,
Ecuador, Peru, Bolivia), 1 sp. also on the

western slopes (Ecuador)

Phinaea Benth. (>16), Mexico to Peru,
Venezuela, Cuba, Haiti

Seemannia Regel (4) S Amer.

Smithiantha Kuntze (5), C & N Mexico,
Guatemala

Solenophora Benth. (> 20), central America

- Columniinae** Hanst. Linnaea 26: 198, 199. 1854.
- Alloplectus** Mart. (5), Costa Rica to Andean Peru
- Alsobia** Hanst. (2), Mexico and central America
- Christopheria** JF Smith & JL Clark (1) Fr. Guiana & Guyana
- Chrysothemis** Decne. (7), Ecuador to Guatemala, C Brazil, the Guianas, Venezuela and Lesser Antilles
- Cobananthus** Wiehler (1), Guatemala
- Codonanthe** (Mart.) Hanst. (>20), throughout the Neotropics
- Codonanthopsis** Mansf. (5), Peru to Brazil (Amazon system)
- Codonea** L. s.l. (?) *where?* See included gen
- Corytoplectus** Oerst. (15), Bolivia to Panama, coastal Venezuela, Guayana Highlands
- Crantzia** Scop. (4) Carib, N S Am.
- Cremersia** Feuillet & Skog (?) *where?*
- Drymonia** Mart. (>140) throughout the Neotropics
- Episcia** Mart. (9) trop. S America to Nicaragua
- Glossoloma** Hanst. (27) Mexico to Panama; NW S Am to Bolivia
- Lampadaria** Feuillet & Skog (?) *where?*
- Lembocarpus** Leeuwenb. (1), Surinam and French Guiana
- Lesia** J.L. Clark & J.F. Smith (1) Colombia to Peru, Brazil, Guyana, Surinam
- Nautilocalyx** [Linden ex] Hanst. (>70), throughout trop. America, except SE Brazil
- Nematanthus** Schrad. (30), S & SE Brazil
- Neomortonia** Wiehler (3), central America and W Colombia
- Oerstedina** Wiehler (3), Central America
- Pachycaulos** J.L. Clark & J.F. Smith (1) Mexico to N Peru
- Pagothyra** (Lwbg.) J.F. Smith & J.L. Clark (1) Fr. Guiana, Guyana, Venezuela
- Paradrymonia** Hanst. (>70), throughout the Neotropics, except SE Brazil
- Rhoogeton** Leeuwenb. (3), British Guiana
- Rufodorsia** Wiehler (4), Costa Rica, Panama
- Sphaerorrhizinae** Weber & Clark Selbyana 31: 85. 2013.
- Sphaerorrhiza** Roalson & Boggan (?) *where?*
- Ligeriinae** Hanst. Linnaea 26: 198, 199. 1854.
- Paliavana** Vand. (8), SE Brazil
- Sinningia** Nees (>60), throughout the Neotropics
- Vanhouttea** Lem. (6), SE Brazil
- Didymocarpoideae** Arn., Botany: 121. 1832.
- Epithemateae** C.B. Clarke, Commelyn. et Cyrtandr. Bengal 67. 1874.
- Loxotidinae** G. Don, Gen. Hist. 4: 645, 664. 1838.
- Rhynchoglossum** Blume (c. 12), Malesia (India and S China to New Guinea), 1 (or more?) spp. in C America, Columbia, Venezuela
- Monophyllaeinae** A. Weber & M. Moller Selbyana 31: 86. 2013.
- Monophyllaea** R. Br. (32), Malesia (Sumatra to New Guinea, S Thailand and Luzon to Java)
- Whytockia** W. W. Sm. (6), S China, Taiwan
- Loxoniinae** A. DC., in A.P. & A.L.P.P. deCandolle, Prodr. 9: 274. 1845.
- Gyrogyne** W. T. Wang (1), S China
- Loxonia** Jack (3), W Malesia (Sumatra, Malay Penins., Borneo)
- Stauranthera** Benth. (5-8), NE India and S China over Malesia to New Guinea
- Epithematinae** DC. Ex Meisn., Pl. Vasc. Gen.: Tab. Diagn. 303, Comm. 212. 1840.
- Epithema** Blume (> 20), S & SE Asia, one sp. in W Africa
- Trichosporeae** Nees, Flora 8: 143. 1825.
- Jerdoniinae** A. Weber & M. Moller, Selbyana 31: 86. 2013.
- Jerdonia** Wight (?) *where?*
- Corallodiscinae** A. Weber & M. Moller, Selbyana 31: 87. 2013.
- Corallodiscus** Batalin (17), India, Bhutan, Nepal, Sikkim, C & S China
- Tetraphyllinae** A. Weber & M. Moller, Selbyana 31: 87. 2013.
- Tetraphyllum** [Griff. ex] C.B. Clarke (2-3), NE India, Bangladesh, Thailand, ?Burma
- Leptoboeinae** C.B. Clarke, in J.D. Hooker, Fl. Brit. India 4: 337. 1884.
- Beccarinda** Kuntze (c. 8), NE India, Burma, S China, Hainan, Vietnam, Sumatra
- Boeica** C.B. Clarke (9), NE India, Bangladesh, Burma, S China, Malaysia
- Championia** Gard. (1), Sri Lanka
- Leptoboea** Benth. (4), NE India, Sikkim, Bhutan, Burma, S China
- Platystemma** Wall. (1), Nepal, SW China
- Rhynchotechum** Blume (12), SE Asia, position somewhat uncertain, eventually to Didymocarpeae
- Ramondinae** DC. Ex Meisn., Pl. Vasc. Gen.: Tab. Diagn. 302, Comm. 212. 1840.
- Haberlea** Friv. (2), Balkan Peninsula
- Jancaea** Boiss. (1), Greece
- Ramonda** Rich. (3), Iberian (Pyrenees) and Balkan Peninsula
- Litostigminae** A. Weber & M. Moller, Selbyana 31: 87. 2013.
- Litostigma** Wei, Wen, & M. Moller (?) *where?*

- Streptocarpinae** Ivanina, Bot. Zhurn 50: 33. 1965.
- Acanthonema** Hook.f. (2), trop. W Africa
- Colpogyne** B.L.Burt (1), Madagascar
- Hovanella** A.Weber & B.L.Burt (2), E & C Madagascar
- Linnaeopsis** Engl. (3), E Africa
- Nodonema** B.L.Burt (1), trop. W Africa
- Saintpaulia** H.Wendl. (>20), E Africa
- Schizoboea** (Fritsch) B.L.Burt (1), W, C & E Africa
- Streptocarpus** Lindl. (>130), Africa, Madagascar, Comoro Islands
- Trachystigma** C.B.Clarke (1), W Africa
- Didissandrinae** A.Weber & M. Moller, Selbyana 31: 87. 2013.
- Didissandra** C.B.Clarke (?), where?
- Tribounia** D.J.Middleton (?), where?
- Loxocarpinae** A. DC., in A.P. & A.L.P.P. deCandolle, Prodr. 9: 277. 1845.
- Boea** [Comm. ex] Lam.(17), S China, NE India, N Thailand, Vietnam, Philipp. Sulawesi, Sumbawa, Flores, Ne Guinea, Solomon Islands, Bismarck and Lousiade Archipelago
- Damrongia** Kerr (?), where?
- Emarhendia** R.Kiew, A.Weber, & B.L.Burt (?), where?
- Kaisupeea** B.L.Burt (?), where?
- Loxocarpus** R.Br. (?), where?
- Orchadocarpa** Ridl. (1), Malay Peninsula
- Ornithoboea** [Parish ex] C.B.Clarke (11), S China to N Malay Peninsula
- Paraboea** (C.B.Clarke) Ridl. (>80), Malesia (Sumatra to New Guinea, S Thailand to Borneo)
- Rhabdothamnopsis** Hemsl. (1), S China
- Semyumia** R.Kiew, A.Weber, & B.L.Burt (?), where?
- Somrania** D.J.Middleton (?), where?
- Spelaeanthus** R.Kiew, A.Weber, & B.L.Burt (?), where?
- Streptocarpus** Lindl. p.p. (Asian spp.) (?), where?
- Didymocarpinae** G. Don, Gen. Hist. 4: 644, 658. 1838.
- Aeschynanthus** Jack (c. 150), S China, Nepal, S India, Sri Lanka, throughout Malesia to New Guinea, Solomon Islands
- Agalmyla** Blume (>50), Malesia
- Allocheilos** W.T.Wang (2), S China
- Allostigma** W.T.Wang (1), S China
- Anna** Pellegr. (3), S China
- Briggsia** Craib p.p. excl. type (21), C & S China
- Briggsiopsis** K.Y.Pan (1), S China
- Cathyanthe** Chun (1), S China
- Codonoboea** Ridl. (?), where?
- Conandron** Sieb. & Zucc. (1), China, Taiwan, Japan
- Cyrtandra** J.R. & G.Forst. (>450), Nicobar Islands, Sumatra, S Thailand, Taiwan, throughout Malesia to the Pacific and Hawaiian Islands
- Deinostigma** [W.T.Wang ex] Z.Y.Li (8), W Malesia
- Didymocarpus** Wall. (c. 80), S China to Malay Peninsula and Sumatra
- Didymostigma** W.T.Wang (1), SE China
- Gyrocheilos** W.T.Wang (4), S China
- Hemiboea** C.B.Clarke (21), C & S China, N Vietnam, Taiwan, Japan
- Henckelia** Spreng. (includes Chirita p.p. & Hemiboeopsis) (c. 180), from S India and Sri Lanka throughout Malesia to New Guinea
- Hexatheca** C.B.Clarke (3), Borneo
- Leibigii** Endl. (?), where?
- Loxostigma** C.B.Clarke (7 or more), NE India, Sikkim, Bhutan, Nepal, Burma, S China, N Vietnam
- Lysionotus** G.Don (c. 30) from N India and Nepal to Thailand, Vietnam, S China, S Japan
- Metapetrocosmea** W.T.Wang (1), S China
- Microchirita** (C.B.Clarke) Y.Z.Wang (?), where?
- Oreocharis** Benth. (27), C & S China, N Vietnam, Thailand.
- Petrocodon** Hance (1), China
- Petrocosmea** Oliv. (27), S China, NE India, Burma, Thailand Vietnam
- Primulina** Hance (1), S China
- Pseudochirita** W.T.Wang (1), S China
- Raphiocarpus** Chun (Didissandra p.p.) (11), China, Vietnam
- Ridleyandra** A.Weber & B.L.Burt (Didissandra p.p.) (c. 23), Malay Peninsula, Borneo
- Sepikaea** Schltr. (1), New Guinea, probably to be included in *Cyrtandra*
- Genera unrecognized in Weber et al. 2013:**
- Ancylostemon** Craib (=Oreocharis) (11), C & S China
- Anodiscus** Benth. (1), Peru
- Bournea** Oliv. (=Oreocharis) (2), SE China
- Briggsia** Craib p.p. incl. type (=Oreocharis) (21), C & S China
- Bucinellina** Wiehler (= Collumnea) (2), SW Colombia, NW Ecuador
- Calcareoboea** H.W.Wu (1), S China
- Capanea** Planch. (11), Peru to Guatemala
- Chirita** D.Don (=Henckelia) (>130), S China to Borneo
- Chiritopsis** W.T.Wang (8), S China
- Dalbergaria** Tussac (= Collumnea) (>120), Bolivia to Guiana Highlands, Mexico, Greater Antilles
- Diastema** Benth. (>20), Bolivia to Mexico, Venezuela, Colombia, Ecuador, Peru

Dayaoshania W.T.Wang (=Oreocharis) (1), S
China
Deinocheilos W.T.Wang (=Oreocharis) (2), S
China
Dolicholoma D.Fang & W.T.Wang (1), SE
China
Hemiboeopsis W.T.Wang (=Henckelia) (1), S
China
Isometrum Craib (=Oreocharis) (13), C China
Koellikeria Regel (1), C and trop. S America
Lagarosolen W.T.Wang (2), S China
Metabriggsia W.T.Wang (2), S China
Micraeschynanthus Ridl. (1, doubtful), Malay
Peninsula
Opithandra B.L.Burt (=*Oreocharis*) (9), S
China, Japan

Paraisometrum W.T.Wang (=Oreocharis) (1), S
China
Pentadenia (Planch.) Hanst. (= *Collumnea*)
(>35), Bolivia to Mexico
Phylloboea Benth. (1), Burma
Tengia Chun (1), S China
Thamnocharis W.T.Wang (=Oreocharis) (1), S
China
Tremacron Craib (=Oreocharis) (7), S China
Trichantha Hook.f. (= *Collumnea*) (>70),
Bolivia to Guatemala, Greater Antilles,
Guayana Highlands
Trisepalum C.B. Clarke (15), S China, Burma,
Thailand, N Malay Peninsula

Lamiaceae (= Labiatae) (~249/6700) Genera by subfamily and tribe (after Cantino et al. 1992, 1997, Wagstaff et al. 1997, Olmstead, unpubl.; Harley et al, 2004; Harley & Pastore 2012; Bramley et al., 2009; Drew et al., 2012; Li et al., 2016; Li & Olmstead, 2017; Cantino pers. comm.). Nomenclature follows Cantino et al 1997; 1998; Harley et al., 2004; Li et al., 2016; Li & Olmstead, 2017.

Callicarpoideae (1/~140) B. Li & R.G.
Olmstead, Phytotaxa 313(2):222-226. 2017
[√2/13/20]
Callicarpa L. (~140) warm & trop. NW & OW
Geunsia Blume (= *Callicarpa*; see Bramley, 2009
BJLS)

Prostantheroideae (18/314) Leurss., Handb.
Syst. Bot. 2: 1014, 1016. Sep 1882 [√11/10/20]

Chloanthae (13/104) Benth. & Hook.f., Gen. Pl.
2: 1132. 1-16 Mai 1876 (see Conn et al., 2011
& Wilson et al., 202X, Aus Sys Bot) [√11/10/20]
Apatelantha T.C. Wilson & M.J. Henwood (5)
SW Australia

Brachysola (F. Muell.) Rye (2) Australia
Chloanthes R. Br. (4) Australia
Cyanostegia Turcz. (5) Australia
Dasymalla Endl. in Endl. & Frenzl (5) Australia
Denisonia (= *Pityrodia*)
Dicrastylis J.L. Drumm. ex Harv. (28)
Australia
Hemiphora F. Muell. (5) Australia
Lachnostachys Hook. (5) SW Australia
Mallophora Endl. (= *Dicrastylis*) Australia
Muniria N. Streiber & B.J. Conn (4) Australia
Newcastelia F. Muell. (9) Australia
Physopsis Turcz. (2) Western Australia
Pityrodia R. Br. (~23) Australia
Quoya Guadich. In Freyc. (7) Australia

Westringieae Bartl., Ord. Nat. Pl.: 182. Sep
1830. (5/210)

Cryphia (= *Prostanthera*)
Eichlerago (= *Prostanthera*)
Hemiandra R. Br. (14) Australia
Hemigenia R. Br. (~50) Australia
Microcorys R. Br. (16) Australia
Prostanthera Labill. (~100) Australia
Westringia Sm. (~30) Australia
Wrixonia (= *Prostanthera*)

Symphorematoideae (3/24) [√12/6/12]
Congea Roxb. (7-10) SE Asia & W. Malaysia
Sphenodesme Jack (14) SE Asia & W.
Malaysia
Symphorema Roxb. (3) Indomal

Ajugoideae (23/~750) [√12/6/12]

Adelosa Blume (= *Clerodendrum*)
Aegiphila Jacq. (120) trop Am
Ajuga L. (40-50) mainly Eurasia
Amasonia L.f. (8) trop Am
Amethystea L. (1) Asia
Archboldia E. Beer & H.J. Lam (= *Clerodendrum*)
Cardioteucris (= *Rubiteucris*)
Caryopteris Bunge (7) E Asia
Clerodendrum L. (~150) trop/subtrop
Cyclonema (= *Rothea*)
Discretitheca (1) Nepal
Eplingia L.O. Williams (= *Trichostema*)
Faradaya F. Muell. (= *Oxera*)
Glossocarya Wall. ex Griff. (9-13)
Australia/Indomal/SE Asia
Hosea Ridl. (1) Indomal
Huxleya Ewart (= *Clerodendrum*)
Isanthus (= *Trichostema*) N Am
Kalaharia (1) SW Africa
Karomia Dop. (9) Afr/Mad/Viet Nam
Kinostemon (= *Teucrium*) China
Monochilus Fisch. & C.A. Mey. (2) Brazil
Oncinocalyx F. Muell. (= *Teucrium*) Australia
Ovieda (~ *Clerodendrum*) (1) Hispaniola
Oxera Labill. (37) New Caledonia, Vanuatu,
Indomal/Austral/Polynesia [cf. Barrabe et al.
2015]
Pseudocaryopteris (3) S China, India, SE Asia
Rothea (50-60) Afr/Mad/Ind Ocean/S Asia/Indomal
Rubiteucris (2) E Asia
Schnabelia Hand.-Mazz. (5) China

- Spartothamnella Briq. (= Teucrium) Australia
 Tetraclea (2) S. N.Am
 Teucrium Hook.f. (= Teucrium) New Zealand
 Teucrium L. (~250) worldwide mostly temp
 Trichostema L. (17) N Am/Bahamas
 Tripora (1) E Asia
 Volkameria (~ Clerodendrum) (25-30) coastal
 pantropical
- Lamiina** () [[√12/6/12](#)]
- Scutellarioideae** Prantl, Text-Book Bot.: 293. 1
 Mar-15 Apr 1880. (5/382) [[√12/6/12](#)]
 Harlanlewisia (= Scutellaria) Ecuador
 Holmskioldia Retz. (1) Himal
 Perilomia (= Scutellaria) S Am
 Renschia Vatke (1) Africa (2 sp. in Tropicos)
 Salazaria (= Scutellaria) SW US
 Scutellaria L. (~360) worldwide
 Tinnea Kptschy & Peyr. (19) Africa
 Wenchengia C.Y. Wu & S. Chow (1) China
- Lamioideae** (~64/1194) See Harley et al, 2004,
 Scheen et al., 2010, Bendiksby et al., 2011
[\[√10/9/15\]](#)
- Pogostemoneae** (10/132) [[√12/6/12](#)]
 Achyrospermum Blume (10) Old World trop
 Anisomeles R. Br. (13) OW trop, Mad, Indom,
 Aus
 Colebrookea Sm. (1) India
 Comanthosphace S. Moore (5) E Asia
 Craniotome Rechb. (1) Himalaya
 Eurysolen Prain (1) SE Asia and Malaysia
 Holocheila (Kudo) S. Chow (1) China
 Leucosceptrum Sm. (3) Himal., China
 Microtoena Prain (25) Himalaya-W China
 Pogostemon Desf. (71) Indomalaysia
 Rostrinucula Kudo (2) E Asia
- Gomphostemmataeae** (3/44) [[√12/6/12](#)]
 Bostrychanthera Benth. (= Chelonopsis) China
 Chelonopsis Miq. (14) Kashmir/Tibet/E Asia
 Gomphostemma L. (30) SE Asia/Malaysia
- Synandreae** (5/18) [[√12/6/12](#)]
 Brazoria Engelm. & A. Gray (2) S US
 Macbridea Elliott ex Nutt. (2) SE US
 Physostegia Benth. (12) N Am
 Synandra Nutt. (1) E US
 Warnockia 1 S US
- Stachydeae** (13/469) [[√12/6/12](#)]
 Chamaesphacos Schrenk ex Firsh. & C.A.
 Mey. (1) Iran/Afghanistan
 Haplostachys (A. Gray) W.F. Hillebr. (6)
 Hawaii
 Hypogomphia (4) C Asia/Afghan
 Melittis L. (1) Eur - Iran
 Paralamium Dunn (1) SW China
 Phlomidostemma (Benth.) Vved. (1) Iran-W
 Himalaya
 Phyllostegia Benth. (25) Tahiti/Hawaii
 Prasium L. (1) Medit
 Sideritis L. (100) N temp Old world/Macarones
 Stachys L. (300) temp World-wide
- Stenogyne Benth. (25) Hawaii
 Suzukia Kudo (2) Ryukyus/Taiwan
 Thuspeinanta T. Durand (2) C
 Asia/Iran/Afghan
- Paraphlomideae Bendiksby** (3/14) [[√12/6/12](#)]
 Ajugoides Makino (1) Japan
 Matsumurella Makino (5) China, Japan,
 Taiwan
 Paraphlomis Prain (8) E Asia/Malaysia
- Phlomideae** (4/~100) [[√12/6/12](#)]
 Eremostachys Bunge (~Phlomoides) (5+) Eur-
 C.Asia
 Lamiophlomis (=Phlomis) Himal.- Central
 China
 Notochaete Benth. (2) Himalaya
 Phlomis L. (75-100) Medit - China
 Phlomoides Moench (= Phlomis)
 Pseudereimostachys Popov (= Phlomis) C Asia
 Pseudomarrubium Popov (1) C Asia ?
- Leonureae** (6/52) [[√12/6/12](#)]
 Chaiturus (~ Leonurus) Ehrh. ex Willd. (1) W
 Eur to C As
 Lagochilus Bunge (35) C.As - Iran/Afghan.
 Lagopsis Bunge (4) (=Marrubium?)
 Siberia/Japan
 Leonurus L. (4) temp Eurasia
 Loxocalyx Hemsl. (2) China
 Panzerina Sojak (6) Siberia/Mongol
- Marrubieae** (4/69) [[√11/2/15](#)]
 Ballota L. (35) Europe/Medit/W.Asia
 Marrubium L. (30) Eur/Medit
 Moluccella L. (3) Medit - NW India
 Sulaimania Hedge & Rech.f. (1) Pakistan
- Lamieae** (4/48) [[√12/6/12](#)]
 Alajja Ikonn. (3) C Asia/Afghan/W Himalaya
 Eriophyton Benth. (1) Himalaya
 Galeobdolon (= Lamium) W Eur/Iran
 Lamiastrum (= Lamium)
 Lamium L. (41) N.Af/Eurasian
 Stachyopsis Popov & Vved. (3) C Asia
 Wiedemannia Fisch. & C.A. Mey. (= Lamium)
- Leucadeae** (6/215) [[√12/6/12](#)] [cf. Scheen &
 Albert, 2007\
 Acrotome Benth. ex Endl. (8) trop and S.
 Africa
 ["African Leucas" (48) Africa & Arabia]
 Harmsiella (= Otostegia)
 Isoleucas O. Schwartz (2) Arabia
 Lasiocorys (= Leucas) trop S Af/Socotra/Arab
 Leonotis (Pers.) R. Br. (40) trop, S Af; 1
 pantrop
 [Leucas R. Br. = Leucas s.s. (38) Indomal.]
 Otostegia Benth. (11) SE trop Af - C Asia
 Physoleucas (= Leucas) Arabia
 Rydingia Scheen & V.A.Albert (4) NE Afr – C
 Asia
- Lamioideae – genera unassigned or of uncertain
 placement** (6/32) [[√12/6/12](#)]
 Betonica (15) W Eurasia

- Colquhounia Wall. (3) Himalaya/SW China
 Galeopsis L. (11) temp Eurasia
 Epimeredi (= Anisomeles)
 Eusteralis (= Pogostemon) 96 temp Asia/Aus
 Metastachydium Airy Shaw ex C.Y. Wu &
 H.W. Li (1) C. Asia
 Roylea Wall. ex Benth. (1) Himalaya
Cymarioideae Li et al., in prep. (2/3-4)
 [provisional name] [$\sqrt{10/9/15}$]
 Acrymia Prain (1) Malaysia
 Cymaria Benth. (2-3) SE Asia, Indomal.
Nepetoideae Kostel., Allg. Med.-Pharm. Fl. 3:
 752. Apr-Dec 1834. (117/ca. 3400)
Mentheae Dumort., Fl. Belg.: 48. 1827. (1)
 Acanthomintha A. Gray (3) W. US
 Acinos (10) Eur, Med, C Asia
 Agastache Gronov. (22) N Am, E Asia (1)
 Blephilia Raph. (3) E N Am
 Bystropogon L'Her. (10) Macaronesia
 Calamintha (= Clinopodium)
 Cedronella Moench (1) Macaronesia
 Chaunostoma Donn.Sm. (= Lepechinia)
 Cleonia L. (2) W Medit.
 Clinopodium L. (90) N World temp Eurasia
 (European and N World not a clade. Trusty
 et al., 2004; Edwards et al, 2008)
 Conradina (6) SE US
 Coridothymus (= Thymbra) Rchb.f. (unknown)
 Uncertain
 Cuminia Colla (1) Juan Fernandez Isl.
 Cunila Royen ex L. (15) N/S Am
 Cyclotrichium (Boiss.) Manden. & Scheng. (6)
 SW Asia to Iran
 Dicerandra Benth. (8-9) SE US
 Diodeilis (= Clinopodium)
 Dorystaechas Boiss. & Heldr. ex Benth. (1) W
 Asia
 Dracocephalum L. (46) Eurasia, N. Amer.
 Drepanocaryum Pojark. (1) C Asia
 Eriothymus (Benth.) Rchb. (1) Brazil
 Euhesperida Brullo & Furnari (1) Libya &
 Cyrenaica
 Gardoquia (= Clinopodium)
 Glechoma L. (10) temp. Eurasia
 Glechon Spreng. (6) Brazil, Paraguay
 Gontscharovia Boriss. (1) C Asia
 Hedeoma Pers. (38) SW N. Amer. & S. Amer.
 Hesperozygis Epling (8) Mex. to Brazil
 Heterolanium C.Y. Wu (1) China
 Hoehnea Epling (4) S Brazil to N Argentina
 Horminum L. (1) S Europe
 Hymenocrater Fisch. & C.A. Mey. (12) SW
 Asia
 Hyssopus L. (5) S Europe & Medit. to C Asia
 Killickia Brauchler, Heubl, & Doroszenko (4) S
 Afr
 Kudrjaschevia Pojark. (4) C Asia
 Kurzamra Kuntze (1) temp. S. Amer.
 Lallelantia Fisch. & C.A. Mey. (5) Turkey to
 C Asia & Himal.
 Lepechinia Willd. (55) warm N. Amer. & S.
 Amer., Hawaii
 Lophanthus Adans. (2) unknown
 Lycopus L. (14) N temp
 Marmoritis Benth. (5) Pakistan to China
 Meehania Britton (2) E Asia, E US
 Melissa L. (3) Europe to Iran & C Asia
 Mentha L. (25) temp. OW
 Meriandra Benth. (2) Ethiopia, Himal.
 Micromeria Benth. (90) temp. Europe, Canary
 Isl., W.I.
 Minthostachys (Benth.) Spach (12) W S. Amer.
 Monarda L. (20) N Am, Mex
 Monardella Benth. (20) W N. Amer.
 Neoepilingia Ramam., Hiriart & Medrano Mex.
 (= Lepechinia)
 Nepeta L. (250) Eurasia & N Africa
 Obtegomeria (1) N S Am
 Origanum L. (36) Eurasia
 Pentapleura Hand.-Mazz. (1) Kurdistan
 Perovskia Kar. (7) NE Iran to NW India
 Piloblephis Raf. (1) SE US
 Pitardia Batt. ex Pit. (2) NW Africa
 Pogogyne Benth. (6) W N. Amer.
 Poliomintha A. Gray (7) SW N. Amer.
 Prunella L. (4) N temp. Eurasia & NW Africa
 Pycnanthemum Michx. (17-21) E N Am
 Rhabdocaulon (Benth.) Epling (7) trop. S.
 Amer.
 Rhododon Epling (1) SC US
 Rosmarinus L. (2) Medit.
 Saccocalyx Coss. & Durieu (1) NW Africa
 Salvia L. (900) OW & NW temp regions
 Satureja L. (30) OW & NW temp. & warm
 regions
 Schizonepeta (Benth.) Briq. (3) temp. Asia
 Stachydeoma Small (1) SE US
 Thymbra L. (4) Medit. & S Europe to SW Asia
 Thymus L. (350) temp. Eurasia
 Xenopoma (= Clinopodium)
 Zataria Boiss. (1) Iran, Afghanistan
 Zhumeria Rech.f. & Wendelbo (1) Iran
 Ziziphora L. (25) Medit. to C Asia
Ocimeae Dumort., Anal. Fam. Pl.: 22. 1829
 (52/1458)
Hyptidinae Endl., Gen. Pl.: 610. 1838.
 Asterohyptis Epling (3-4) Mex.
 Cantinoa Harley & JFB Pastore (23) SE US,
 Carib, S Am
 Condea Adanson (26) w N Am, C Am, Carib, S
 Am
 Cyanocephalus Harley & JFB Pastore (25)
 Carib, Brazil, Paraguay, Bolivia
 Eplingiella Harley & JFB Pastore (2) Brazil
 Eriope Humb.&Bonbl. ex Benth. (30) Brazil
 mostly

- Eriopidion (= Eriope) Harley (1) Venezuela, Brazil
 Gymnea (Benth.) Harley & JFB Pastore (6) Brazil
 Hypenia (Mart. ex Benth.) Harley (23) Brazil, Venezuela, Paraguay, Bolivia
 Hyptidendron Harley (18) Andes, Brazil, Guayana, Paraguay, Bolivia
 Hyptis Jacq. (144) N Am, Carib, C&S Am
 Leptohyptis Harley & JFB Pastore (5) Brazil
 Marsypianthes Mart. ex Benth. (5) Mexico to Argentina, Carib
 Martyanthus Harley & JFB Pastore (4) Brazil, Peru
 Medusantha Harley & JFB Pastore (8) Brazil
 Mesosphaerum Browne (25) Andes, mts of Mex/C Am, Brazil
 Ocephalus (Benth.) Harley & JFB Pastore (14) Brazil
 Peltodon Pohl (= Hyptis)
 Physominthe Harley & JFB Pastore (2) Brazil
 Rhapsiodon Schauer (1) Brazil
Sections of Hyptis unplaced to genus within Hyptidinae (Harley&Pastore 2012)
 Hyptis sect. Rhytidea (2) Mexico, C Am
 Hyptis sect. Hilaria(1) Brazil
Ociminae J.A. Schmidt in C.F.P von Martium Fl. Bras. 8(1): 67, 69. 1858.
 Acrocephalus Benth. (= Platostoma)
 Basilicum Moench (~Platostoma)(7) OW trop. to Australia
 Becium Lindl. (= Ocimum)
 Benguella G. Taylor (1) Angola
 Catoferia (Benth.) Benth. (4) C. Amer.
 Ceratanthus F. Muell. ex G. Taylor (= Platostoma)
 Endostemon N.E. Br. (20) trop. & S Africa to India
 Erythrochlamys Gurke (= Ocimum)
 Fuerstia T.C.E. Fr. (~Orthosiphon)(6) trop. Africa
 Geniosporum Wall. ex Benth. (= Platostoma)
 Haumaniastrum P.A.Duvign. & Plancke (~Platystoma)(23) trop. Africa
 Hemizygia (Benth.) Briq. (= Syncolostemon)
 Hoslundia Vahl (~Orthosiphon)(2) trop. Africa
 Mesona Blume (=Platystoma)
 Nosema Prain (= Platystoma)
 Ocimum L. (150) temp. & trop. OW
 Octomeron Robyns (= Platystoma)
 Orthosiphon Benth. (40) OW trop.
 Platostoma P. Beauv. (5) OW trop.
 Puntia Hedge (=Endostemon)
 Syncolostemon E. Mey. (44) trop Af, SE Africa
Plectranthinae Endl., Gen. Pl.: 609. 1838.
 Aeollanthus Mart. ex Spreng. (43) trop. & warm Amer.
 Alvesia Welw. (3) trop. Africa
 Anisochilus Wall. Ex Benth. (18) OW trop, Indomal.
 Bovonia Chiov. (= Aeollanthus)
 Capitanopsis S. Moore (2) Madag.
 Capitanya Schweinf. ex Gurke (= Plectranthus)
 Coleus Lour. (=Plectranthus)
 Dauphinea Hedge (1) Madag.
 Englerastrum Briq. (= Plectranthus)
 Holostylon Robyns & Lebrun (3) trop. Africa
 Isodictyophorus Briq. (= Plectranthus)
 Leocus A. Chev. (= Plectranthus) (5-6) trop Africa
 Madlabium Hedge (1) Madagascar
 Neohyptis J.K. Morton (= Plectranthus)
 Perrierastrum Guillaumin (= Plectranthus)
 Plectranthus L'Her. (200) warm & trop. OW
 Pycnostachys Hook. (37) trop & S Africa, Madag.
 Solenostemon Schumach. (= Plectranthus).
 Rabdosiella Codd (= Plectranthus)
 Symphostemon Hiern (= Plectranthus)
 Tetradenia Benth. (9) trop. Africa, Madag.
 Thorncroftia N.E. Br. (3) Transvaal
Lavandulinae Endl., Gen. Pl.: 611. 1838 (1/30)
 Lavandula L. (30) Atlantic isl., Medit. to Somalia & India
 Sabaudia (= Lavandula)
Genera w/in Ocimeae unplaced to subtribe.
 Isodon (Schrad. ex Benth.) Spach (96) warm & trop. Asia & Africa
 Hanceola Kudo (3) China
 Siphocranion Kudo (2) China
 Skapanthus C.Y Wu & Li (= Isodon)
Elsholtzieae Burnett, Outl. Bot.: 971. Jun 1835 (6/57)
 Collinsonia L. (4) E N Am
 Elsholtzia Willd.(41) OW trop.
 Keiskea Miq. (7) Asia
 Mosla (Benth.) Buch.-Ham. ex Maxim. (14) E Asia, Malaysia
 Ombrocharis Hand.-Mazz. (1) China
 Perilla L. (1) India to Japan
 Perillula Maxim. (1) Japan
 Vuhungia Solomon Raju, Molinari & Mayta (2) Asia
Viticoideae (8/282) [[√12/6/12](#)]
 Neorapinia Moldenke (= Vitex) New Caledonia
 Paravitex H.R. Fletcher (= Vitex) SE Asia
 Petitia Jacq. (2) W.I.
 Pseudocarpidium Millsp. (9) West Indies
 Teijsmanniodendron Koord. (23) SE Asia, Malaysia
 Tsoongia Merr. (= Vitex) SE Asia
 Vitex L. (250) temp. & trop. NW & OW
 Viticipremna Lam. (= Vitex) Indomal., Australia
Tectonoideae (1/4) B. Li & R.G. Olmstead, Phytotaxa 313(2):222-226. 2017 [[√2/13/20](#)]

Tectona L.f. (4) trop. Asia
Premnoideae Li et al., in prep. (3/247)
[provisional name] [v12/6/12]
Cornutia L. (12) trop. Am
Gmelina L. (35) SE Asia, Indomal., Africa,
Mascarenes
Pygmaeopremna (= Premna?)
Premna (200) trop/subtrop Af/Asia/Aust

Peronematoideae Li et al., in prep. (4/16)
[provisional name] [v10/9/15]
Garrettia H.R. Fletcher (1) SE Asia, Indomal.
Hymenopyramis Wall. ex Griff. (6) India, SE
Asia
Petraeovitex Olive (8) Indomal /Pac.Is/Phillipines
Peronema Jack (1) SE Asia/Indomal.

Lentibulariaceae (4/310) Rich. in Poit. & Turpin, Fl. Paris 1: ed. fol. 23, ed. qu. 26. 1808, nom. cons. See Müller et al. 2004.

Genlisea A. St.-Hil. (21) trop Am, trop & S Af,
Mad

Pinguicula L. (74) Am, Medit, circumbor

Utricularia L. (215) cosmop, esp trop

Sometimes assigned here, but excluded in most
recent phylogenetic studies:

Byblis Salisb. (2) Aus, New Guinea

Linderniaceae (Rchb.) Borsch, K. Müller, & Eb. Fisch. (23/~258) Rahmanzadeh et al., 2005; class'n following Fischer et al., 2013, but including Bampsia & Picria; Biffin et al., 2018; Almeida et al., 2019) updated 10/11/19

Artanema D. Don (4) trop Afr, Asia

Bampsia Lisowskia & Mielcarek (2) Congo

Bonnaya (12) China, India, SE Asia, Africa (1)

Bryodes (= Lindernia) Med & Mascaren

Catimbaua L.P. Felix et al. (1) Brazil

Chamaegigas Dinter (1) Namibia

Craterostigma Hochst. (26) Africa, Arabia,
India, SE Asia

Crepidorhopalon Eb. Fisch. (30) trop & S Af,
Mad

Cubitanthus Barringer (1), Brazil; Excluded
from Gesneriaceae (J. Smith, V. Savolainen
pers.comm.), sister to Stemodiopsis (Perret et
al., BJLS, 2013))

Curanga (= Picria) here or Plantaginaceae?

Hartliella Eb. Fisch. (4) C Af (Congo,
Katanga)

Hemianthus (= Micranthemum) C Am

Hemiarrhena Benth. (1) Q'land (~ Bonnaya?)

Hemisiphonia (=Micranthemum)

Isabelcristinia L.P. Felix et al. (1) Brazil

Legazpia Blanco (1) SE As, Micrones, N Guin
(~ Torenia?)

Lindernia Allioni (30) Eur (1), trop Af, Mad,
SE As, N, C, & S. Am.

Linderniella E. Fisch., Schaferh. & K. Mull.
(16) Africa, Mad

Micranthemum Michaux (14) SE US, WI,
Mex, S Am (1)

Picria Lour. (1) Indomal. here or
Plantaginaceae? Oxelman 2005 here

Pierranthus Bonati (1) SE As
Psammetes (= Lindernia) trop W Af, Med

Schizotorenia T. Yamaz. (2) SE As (~
Lindernia?)

Scolophyllum T. Yamaz. (3) SE As (~
Bonnaya?)

Stemodiopsis Engler (6) Africa

Torenia L. (51) Chna, SE Asia, Africa, Mad

Vandellia L. (52) China, Jap, S&SE Asia,
Austral

Yamazakia W.R. Barker et al. (2) Australasia

Martyniaceae Horan., Char. Ess. Fam.: 130. 1847, nom. cons. (4/13) (sensu H.-D. Ihlenfeldt, pers. comm.)

Craniolaria L. (2) S. Am., Greater Antilles

Holoregmia Nees (1) Brazil (Bahia)

Ibicella Van Eselt. (2) Argent, S Brazil, Boliv

Martynia L. (1) Mex to Costa Rica; Antilles

Proboscidea Schmidel (7) Mex, SW US

Mazaceae Reveal Kew Bull 66:47. 2011. (4/36)

Dodartia L. (1) S Russia, W As (Mazaceae; Perret et al. BJLS 2013)

Lancea J.D. Hook & Thompson (2) Tibet, China (Mazoideae)

Mazus Loureiro (32) E & SE As, Indomal, Aust (Mazoideae)

Puchiumazus B. Li, DG Zhang, & CL Xiang (1) Sichuan, China

Oleaceae Hofmanns. & Link Fl. Portug. 1:62. 1809. (25/600+) provided by Eva Wallander (updated here: <http://www.oleaceae.info/oleaceae.html>). Comments: Note that *Dimetra* and *Nyctanthes* now, without doubt, belong to Oleaceae (not Verbenaceae). The subfamilies Jasminoideae and Oleoideae have been

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abandoned because Jasminoideae is paraphyletic. The Oleoideae is monophyletic but now recognised as tribe Oleaceae, with its former tribes as subtribes.

Fontanesieae H. Taylor ex L. Johnson

Fontanesia Labill. (1-2) SW Asia (and Sicily) and China

Forsythieae H. Taylor ex L. Johnson

Abeliophyllum Nakai (1) Korea

Forsythia Vahl (11) E Asia and SE Europe (1 sp.)

Myxopyreae Boerl.

Dimetra Kerr (1) Thailand

Myxopyrum Blume (4) Tropical SE Asia

Nyctanthes L. (2) Tropical and subtropical S & SE Asia

Jasmineae Lam. & DC.

Jasminum L. (200+) Tropical and subtropical parts of Africa, Asia, Australia

Menodora Bonpl. (24) Subtropical North America, central and S South America, and S Africa

Oleeae Hoffmanns.&Link ex Dumort.

Ligustrinae Koehne

Ligustrum L. (45) Temperate to tropical parts of Eurasia, N Af, Australia

Syringa L. (20) Mainly temperate Eurasia

Schreberinae (Wight) E. Wallander & V.A. Albert

Comoranthus Knobl. (2) Madagascar and the Comores

Schrebera Roxb. (4) Tropical parts of Africa and India

Fraxininae (Vest) E. Wallander & V.A. Albert

Fraxinus L. (48) Mainly temperate and subtropical regions of the Northern Hemisphere

Oleinae J.Presl

Cartrema Raf. (7) SE Asia (5) N America (2)

Chionanthus D.Royen (80-100) Tropical and subtropical Africa, America, Asia, and Australia

Forestiera Poir. (17) Subtropical North

America, West Indies, and N South America

Haenianthus Griseb. (3) West Indies

Hesperelaea A.Gray (1, extinct) Mexico

Nestegis Raf. (5) New Zealand and Hawaii (1 sp.)

Noronhia Stadtm.ex Thouars (40) Madagascar & Comores

Notelaea Vent. (13) Australia and Tasmania

Olea L. (33) Tropical and subtropical parts of the Old World

Osmanthus Lour. (30) Subtropical parts of E Asia and North America (1-2 spp.)

Phillyrea L. (2) Mediterranean region to W Asia

Picconia DC. (1) Macaronesia

Priogymnanthus P.S.Greene (2) South America

Orobanchaceae Vent., Tabl. Règne Vég. 2:292. 1799, *nom. cons.* (102/1840-2125) Synoptical classification following Young et al. 1999, Olmstead et al. 2001, Fischer, 2004; Wolfe et al. 2005, Bennett & Mathews 2006, Tank et al. 2009, Morawetz et al., 2010, McNeal et al., 2013, and D. Nickrent, pers. comm.

Orobanchaeae Lam. & DC. (McNeal et al, 2013) (8/~174)

Boschniakia (4) Himal, N Asia, NW N Am
Cistanche (10) Med, Ethiopia, India, to W China

Conopholis (2) E US to Panama

Epifagus (1) E N Am

Kopsiopsis (2) W N Am (~ *Boschniakia*)

Mannagettaea (3) W China to E Siberia

Mysorrhiza (= *Orobanche*)

Necranthus (= *Orobanche*)

Orobanche (~150) temp & warm N Hemisphere

Xylanche (2) Himal to Taiwan (= *Boschniakia*)

Pedicularideae Duby (McNeal et al, 2013) (20/~844-944)

Gerardieae (13/122)

Agalinis (40) trop & warm Am

Anisantherina (1) trop Am

Aureolaria (11) E US, Mex

Brachystigma (1) SW US

Dasistoma (1) E N Am

Esterhazyia (5) Bolivia, Brazil

Gerardia (= *Agalinis*)

Lamourouxia (28) Mex to Peru

Macranthera (1) SE US

Phtheirospermum (4) E As

Seymeria (25) S N Am

Seymeriopsis (1) Cuba (~*Seymeria*)

Silviella (2) Mex

Tomanthera (2) N Am

Castillejinae G. Don (6/~222)

Adenostegia (= *Cordylanthus*)

Castilleja Mutis ex L. f. (~190) most W N Am, also E N Am, Euras, C Am, Andes

Chloropyron Behr (4) W N Am (formerly *Cordylanthus*)

Clevelandia Greene (= *Castilleja*)

Cordylanthus Nutt. ex Benth. in DC. (13) W NAM

Dicranostegia (A. Gray) Pennell (1) W N Am (form. *Cordylanthus*)

Gentrya Breedlove & Heckard (= *Castilleja*)

Ophiocephalus Wiggins (= *Castilleja*)

Orthocarpus Nutt. (9) W Am

Triphysaria Fisch. & C.A. Mey. (5) W N Am

Castilleja-Pedicularis clade, unassign (1/500-600)

Pedicularis (500-600) N hemi, 1 sp in Andes

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Alectra-Cyclocheilon clade (McNeal et al, 2013)
(48/~422)

Buchnerae Benth. (unnamed in McNeal et al.,
2013) (46/~418)

- Aeginetia L. (3) Indomal, E As
- Alectra (40) Africa/Asia
- Baumia (1) Angola
- Buchnera (~100) warm O&NW (16 NW)
- Buttonia (2) trop & S Af
- Centranthera (5-6) China to Australia
- Christisonia (17) SW China, SE As
- Cycniopsis (2) trop Africa
- Cycnium (15) warm AF (~Escobedia)
- Diphelypaea (= Phelypaea)
- Escobedia (15) trop Am
- Gerardiina (2) trop & S. Af
- Ghikaea (1) trop Africa
- Gleadovia (6) W Himal, W. China
- Graderia (5) Af & Socotra
- Harveya (40) trop & S. Af, Mascarenes
- Hiernia (1) Angola, Namibia
- Hyobanche (7) S Af
- Leptorhabdos (1) Cauc, Iran, C As, Himal
- Leucosalpa (3) Madagascar
- Madgalenaea (1) SE Brazil
- Melasma (20) trop Af, Am
- Micrargeria (4) trop Af, India
- Micrargeriella (1) trop E Africa
- Nesogenes A. DC. (8) E Afr, Mad, India, Pac Is
(formerly Nesogenaceae)
- Nothochilus (1) Brazil
- Paraharveya (1) C & E Africa
- Parasopubia (2) SE Asia
- Parastriga (1) trop Africa
- Petitmenginia (2) S China, SE Asia
- Phacellanthus (1) E As
- Phelypaea (4) Medit
- Physocalyx (2) Brazil
- Platypholis (1) Japan
- Pseudomelasma (1) Madagascar
- Pseudosopubia (5) trop Africa
- Pseudostriga (1) SE Asia
- Radamaea (5) Madagascar
- Rhamphicarpa (6) trop & S Af, India, Austral
- Rhaphispermum (1) Madag
- Sieversandreas (1) Madagascar
- Sopubia (~40) trop OW to S Af
- Stellularia (= Buchnera)

- Striga (33) OW trop to S Af
- Tetraspidium (1) Madagascar
- Thunbergianthus (2) Africa
- Tienmuia (=Phacellanthus)
- Vellosiella (2) Brazil
- Xylocalyx (5) Somalia, Socotra

Cyclocheilaceae (2/4)

- Asepalum (1) NE & E Af
- Cyclocheilon (3) NE Af

Rhinantheae Lam. & DC. (McNeal et al, 2013)
(18/~365-545)

- Bartsia (54) Eur, Af mt, Andes (not mono-
Bennett&Mathews)
- Bartsiella (1) N Afr Atlas Mts
- Bellardia (1) Med
- Bornmuellerantha (1) Turkey to Iran
- Euphrasia (~170-350) N temp, Malaysia, NZ, S
Am (only Eurasia? Nickrent)
- Fistularia (= Rhinanthus)
- Hedbergia (1) trop Africa
- Lathraea (7) Eurasia
- Macrosyringion (2) Medit (~Odontites)
- Melampyrum (35) N temp
- Nothobartsia (2) Medit
- Odontitella (1) Spain, Port
- Odontites (32) W & S Eur to W As
- Omphalotrix (1) NE As
- Orphantha (= Odontites)
- Parentucellia (2) Med & SW As
- Pseudobartsia (= Parentucellia)
- Pterygiella (4) China
- Rhynchocorys (6) S Eur to Iran
- Rhinanthus (45) N hemisphere, esp Eur
- Siphonidium (= Euphrasia)
- Tozzia (1) Alps, Carpathians

Cymbarieae D. Don (McNeal et al, 2013)
(Schwalbinae Hogg Veg. Kingd.: 562. 1858) (6/12)

- Bungea (2) SW As to China
- Cymbaria (4) Eurasia
- Lesquereuxia (1) E Medit (= Siphonostegia?)
- Monochasma (2) E As
- Schwalbea (1) E US
- Siphonostegia (2) Med & E As

Orobanchaceae placed in tree, but unassigned to
above clades (2/25)

- Brandisia (13) Burma China
- Lindenbergia (12) Himal to trop Afr/Asia

Paulowniaceae Nakai J. Jap. Bot. 24:13, 1949. (1/7)

Paulownia Siebold & Zucc. (7) E Asia

Pedaliaceae R.Br. Prodr. 519. 1819. *nom.cons.* (14/79) (Pedalioideae of Pedaliaceae s.l.; sensu H.-D.

Ihlenfeldt, 2010; D. Bedigian, pers. comm.)

Ceratotheca Endl. (5) trop and S. Af.

Dewinteria (1) vanJaarsv.&A.E.vanWyk
(~Rogeria) Namibia, Angola

Dicerocaryum Bojer (3) S. trop. Af.

Harpagophytum DC.ex Meisn. (2) S. Af.
Madagascar

Holubia Á.Löve & D.Löve (1) S. Af.

Josephinia Vent. (4) Kenya to Somalia;
Australia
Linariopsis Welw. (3) W and SW trop Af.
Pedaliodiscus Ihlenf. (1) E Af
Pedaliium D.Royen (1) OW trop – P. murex
edible

Pterodiscus Hook. (14) trop and S. Af.
Rogeria J.Gay (4) trop and S. Af.
Sesamothamnus Welw. (6) trop Af.
Sesamum L. (20) OW trop. and S. Af.
Uncarina Stapf (14) Madagascar

Peltantheraceae Molinari *Veberbauerella* 1(7): 1-4, 2016. (1/1) (either sister to Gesneriaceae, including Sanango, or sister to Calceolariaceae + Gesneriaceae)

Peltanthera Benth. (1) Costa Rica to Bolivia

Phrymaceae Schauer in DC. Prodr. 11:520. 1847. *nom. cons.* (13/188) (Beardsley & Olmstead 2002; Beardsley & Barker 2005; Barker et al., 2012, *Phytoneuron* & Li et al., 2019, *J Syst. Evol.*)

Cyrtandromoeaeae Bo Li, et al.

Cyrtandromoea Zoll. (11) SE Asia, Mal

Diplaceae Bo Li, et al.

Berendtiella Wettst.&Harms (= *Hemichaena*)

Diplacus Nutt. (46) W NAM

Hemichaena Benth. (5) C Am

Mimetanthe Greene (1) W NAM

Leucocarpeae Conzatti

Erythranthe Spach (111) W NAM

Leucocarpus D. Don (1) trop Am

Mimuleae Dumort.

Elacholoma F.Mull.&Tate (2) C Aus

Glossostigma Wight&Arn. (5) Aus, NZ, Af, Ind

Microcarpea R.Br. (2) (~*Peplideum*) SE Asia

Mimulicalyx P.C.Tsoong (1) China

Mimulus L. (7) E NAM, Asia, Austral, S Af

Peplidium Delile (4) Aus, Ind, Af

Thyridia W.R.Barker&Beardsley (1) Austral, NZ

Uvedalia R.Br. (2) Austral

Phrymeae Hogg

Phryma L. (1) E Asia, E N Am

Plocospermataceae Hutch. *Fam. Fl. Pl.* ed. 3 469. 1973. (1/1)

Lithophytum Brandegees (= *Plocosperma*) Mexico

Plocosperma Benth. (1) Mex, Guatemala

Rehmanniaceae Reveal *Kew Bull* 66:47. 2011. (2/11) – included in Orobanchaceae in APG IV (2016)

Rehmannia Libosch. 9) E As (sister to *Triaenophora*)

Triaenophora Soler. (2) China (sister to *Rehmannia*)

Schlegeliaceae (A.H. Gentry) Reveal *Phytologia* 79:74. 1996. (4/36) formerly of Bignoniaceae and may still be close

Exarata A.H.Gentry (1) Ecuador & Colombia

Gibsoniothamnus L.O.Williams (12) Mexico to C Am

Schlegelia Miq. (22) tropical Am

Synapsis Griseb. (1) Cuba

Scrophulariaceae Durande *Notions Elém. Bot.*: 265. 1782. (51/1780) Synoptical classification by tribe. Following Wettstein (1891), Barringer (1993), Olmstead et al. 2001, Kornhall et al., 2001, 2004, Oxelman et al. 2005.

Aptosimeae (3/41)

Anticharis (14) Af to Mal

Aptosimum (20) Africa

Chilostigma (= *Aptosimum*)

Peliostomum (7) trop & S Af

Buddlejeae (1/110) (Chau et al. 2017)

Buddleja (110) Neotrop (67) S Af (10) As (25) Mad (8)

Chilianthus (= *Buddleja*) (3-4 S Af)

Emorya (= *Buddleja*) (2 Tex., Mex.)

Gomphostigma (= *Buddleja*) (2 S Af)

Nicodemia (= *Buddleja*) (8 Af, Mad)

Hemimerideae (6/134)

Alonsoa Ruiz & Pav. (16) trop Am, S Af

Chamaecrypta (= *Diascia*)

Colpias (1) S Africa

Diascia (38) S Af

Diclis (10) trop & S Af, Mad

Hemimeris (4) S Af

Nemesia (65) trop & S Af

Schistanthe (= Alonsoa)
Leucophyleae (3/21) (Gandara, 2017, BJLS)
Capraria (4) warm Am
Eremogeton (1) Mex, Guat
 Faxonanthus (= Leucophyllum)
 Ghiesbreghtia (= Eremogeton)
Leucophyllum (16) SW N Am
Limoselleae (26/634) (Hilliard 1994)
 Agathelpis Choisy (= Microdon) SW Cape
Barthlottia (1) Madag
Chaenostoma (46) S. Af
Chenopodiopsis (3) S Af
Cromidon (12) S Af
Dischisma (11) SW Cape to Namibia
 Freyliniopsis (= Manuleopsis)
Glekia (1) S Af
Globulariopsis (7) S. Af
Glumicalyx (6) S&SE Af
Gosela (1) S Af
Hebenstretia (25) trop & S Af
Jamesbrittenia (82) S Af
Limosella (11) cosmop
 Lychnidea (= Manulea)
Lyperia (6) S Af
Manulea (73) S Af
Manuleopsis (1) SW Af
Melanospermum (6) S Af
Microdon (7) SW Cape
 Nemia (= Manulea)
 Nycterinia (= Zaluzianskya)
Phyllopodium (26) SW Cape
Polycarena (17) SW Cape
Pseudoselago (28) west S Af
 Reyemia (= Zaluzianskya) S Af
Selago (190) trop & S Af
 Sphenandra? (= Sutura)
Strobilopsis (1) S Af
Sutura (3) S Af
Tetraselago (4) S Af
Trieenia (9) SW Cape
 Walafrida (= Selago) Madag, S Af
Zaluzianskya (57) W S Af

Myoporeae (1/253) sensu Chinnock, 2007, but see Fowler (2018 thesis), which shows all other genera nested within Eremophila
Bontia L. (~Eremophila) (1) W. Ind., trop S. Am.
 Calamphoreus Chinnock (=Eremophila) (1) sw Austral
 Diocirea Chinnock (=Eremophila) (4) Austral
Eremophila R. Br. (214) Austral. (1 NZ)
Glycocystis Chinnock (~Eremophila) (1) Austral
Myoporium Sol. Ex Forster (~Eremophila) (30) Austral., NZ, Pac. Is., E. Asia
 Pentacoelium Zucc. (=Eremophila) (1) Austral
Scrophularieae (3/564)
Antherothamnus (1) C&S Af
 Celsia (= Verbascum)
 Mosheovia (= Scrophularia)
 Nathaliella (= Scrophularia/Oreosolen) (1) C.Asia
 Oreosolen (= Scrophularia; see Scheunert & Heubl, 2017) Himalaya
Rhabdotosperma (7) Afr Mts, Arabia
Scrophularia (200) N temp to trop Am
 Staurophragma (= Verbascum)
 Tuerckheimocharis (= Scrophularia)
Verbascum (360) Euras, E Af
Teedieae (5/12) (G. Don; Barringer 1993, incl. Freylinieae Barringer 1993)
Dermatobotrys (1) S. Af
Freylinia (4) trop & S Af
Oftia (3) S Af
Ranopisoa (1) Madag (~ Oftia)
Teedia (2) S Af
 Unassigned (3/5)
Androya (1) Madagascar (mistakenly included in Myoporeae in Fig. 3 of in Oxelman et al. 2005)
Camptoloma (3) Canaries Ethiopia Arabia, Angola, Namibia
Phygelius (2) S Africa

Stilbaceae Kunth (11/39) Synoptical Classification by tribe. (Bremer et al. 1994; Rourke, 2000; Olmstead et al. 2001; Kornhall unpublished thesis, 2004 [not followed; needs confirmation/publication]; Oxelman et al, 2005)

Stilbeae Hogg (7/28)
Campylostachys E.Mey. (1) SW Cape
 Eurylobium Hochst. (= Stilbe) SW Cape
Euthystachys A.DC. (1) S Af
Kogelbergia Rourke (2) S Af
Nuxia Comm. ex Lam. (15) S Arabia to trop Af, Masc, S Af.
Retzia Thunb. (1) Cape
Stilbe P.J.Bergius (10) SW and S Cape
 Xeroplana Briq. (= Stilbe) SW and S Cape

Bowkerieae Barringer (3/7)
Anastrabe E.Mey ex Benth. (1) S Africa
Bowkeria Harv. (5) S Africa
Ixianthes Benth. (1) S Africa
Hallerieae G. Don (1/4)
Charadrophila Marloth (1) S Af
Halleria L. (4) trop & S Africa, Madag
 Unassigned to tribe 1/1
Thesmophora Rourke (1) S Af

Tetrachondraceae 2/3 (Oxelman et al. 1999)

Polypremum L. (1) warm Am.

Tetrachondra Petrie (2) Patagonia, N.Z.

Thomandersiaceae Sreem. (Phytologia 37: 413-416. 1977) 1/6 (Wortley et al. 2007)

Thomandersia Baill. (6) trop Afr.

Verbenaceae J. Sainte-Hilaire 1805 (29/833) –Classification follows (O’Leary et al. 2009; Marx et al., 2010; Thode et al., 2013; Lu-Irving et al., 2014; Frost et al., in prep; and others)

Petreeae Briquet 1895 (1/13)

Petrea L. (13) trop Am (Rueda ’94 only 11;

Hammel 2020 adds one)

Xolocotzia Miranda (1) (= Petrea) Mexico

Duranteae Benth 1839 (5/189)

Bouchea Cham. (10) trop-subtr Am

Castorea Mill. (=Duranta)

Chascanum E.Mey. (27) Af/Mad./Arab./Ind.

Duranta L. (~20) trop-subtr Am

Plexipus Raf. (=Chascanum)

Recordia Moldenke (2) Bolivia & Brazil

Stachytarpheta Vahl (130) trop-subtr Am

(weeds in tropics elsewhere)

Svensonia Moldenke (= Chascanum; 4

E.Af/India)

Ubochea Baill. (=Stachytarpheta; 1 C Verde Is)

Verbenoxylum Tronc. (= Recordia; 1 Brazil)

Casselieae (Schauer) Tronc 1974 (3/14)

Casselia Nees & Mart. (6) trop Brazil,

Bolivia, Paraguay

Ghinia Schreber (= Tamonea)

Parodianthus Tronc. (2) Argentina

Tamonea Aublet (6) trop Am

Citharexyleae Briquet 1895 (2/134)

Baillonia Bocq. (1) (=Citharexylum) Brazil &

Paraguay

Citharexylum L. (~130) trop-subtr Am

Rehdera Moldenke (3) C.Am

Scleröon Benth. (2) (=Citharexylum) Mexico

Priveae Briquet 1895 (2/21)

Castelia Cav. (=Pitreaea)

Pitreaea Turcz. (~Priva) (1) temp Peru &

Bolivia to Argentina/Chile

Priva Adans. (20) trop/subtrop Af/Am/As

Neospartoneae Olmstead & O’Leary 2010 (3/7)

Diostea Miers (1) Argentina/Chile

Lampaya Phil. (2) Argent/Chile/Bolivia

Neosparton Gris. (4) temp. Argentina

Verbeneae Dumortier 1829 (5/177)

Glandularia Gmelin (84) S subtr-temp New

World

Hierobotana Briq. (1)

Colombia/Ecuador/Peru (~Verbena)

Junellia Moldenke (37) Peru to Patagonia

Stylodon Raf. (= Verbena)

Mulguraea N.O’Leary & P.Peralta (11)

Argentina (ex Junellia)

Obletia Rozier (=Verbena)

Urbania R.A.Phil. (= Junellia)

Valerianoides Medik. (=Verbena)

Verbena L. (44) mostly New World, few

Eur/As

Lantaneae Endler 1838 (5/~270) (generic

boundaries and species no. poorly defined)

Acantholippia Gris. (= Aloysia; 5 arid

Argent/Chile

‘**Acantholippia seriphioides**’ (unassigned to genus)

Aloysia Paláu (~36; 41 WCSP) trop-subtr

New World

Burroughsia Moldenke (~Lippia; 2 SW N Am)

Diphyllocalyx Greuter & R.Rankin (~Nashia;

Greuter, 2016) (6) Cuba

Dipterocalyx Cham. (=Lippia)

Goniostachyum Small (=Lippia)

Isodroa Greuter & R.Rankin (~Nashia;

Greuter, 2016) (1) Hispaniola

Lantana L. (~100; 111 WCSP) (Rotman, 2009)

trop Am/trop-subtr; Africa

Lippia L. (~125; 174 WCSP) (Salimena &

Mulgura, unpubl) trop Af/Am (incl. 5 Mex

spp. of Aloysia)

Nashia Millsp. (~Lippia) (8; 1 in Greuter, 2016)

Bahamas/Cuba

Phyla Lour. (~Lippia) (5) trop Am

Xeroaloyisia Tronc. (=Aloysia; 1 NW Argentina)

Zapania Lam. (=Lippia)

Genera unassigned to more inclusive clades, or of uncertain position (3/8)

Coelocarpum Balf. (5) Socotra, Somalia,

Madagascar

Dipyrena Hook. (1) temp Argentina

(tentatively placed in Verbeneae based on

cpDNA, but not based on PPR)

Rhaphithamnus Miers (2) Chile/Juan

Fern./W Argentina

Veronicaceae (= Plantaginaceae in APGIII) (120/1876) Synoptical classification by Tribe. Following Wettstein (1891), Barringer (1993), Olmstead et al. 2001, Oxelman et al. 1999, Wolfe et al., 2002; Oxelman et al. 2005; Albach et al. 2005; Fischer et al. (2004); Scatigna et al. (2015 – Philcoxia).

Angelonieae (5/39)

Angelonia (25) trop Am

Basistemmon (8) trop Am

Desdemona (= Basistemmon)

Hassleropsis (=Basistemmon; 1 Paraguay)

Melosperma (1) Chile, Argentina

Monopera (2) S. Am

Monttea (3) Chile, Argentina

Saccanthus (=Basistemmon; 1-2 Bolivia)

Antirrhineae 28/297 (Sutton 1988)

Acanthorrhinum (1) N Af

Albraunia (3) SW Asia

- Anarrhinum* (8) Medit. SW Asia
Antirrhinum (20) Sutton - Medit; 36
 Thompson – Medit, W N Am)
Asarina (1) SW Europe
Chaenorrhinum (21) Medit., W Asia
Cymbalaria (9) W Europe to Iran
Epixiphium (1) SW N Am (~Maurandya)
Galvezia (4) coast Peru, Ecuador, Galap.
Gambelia (4) SW N Am (~Antirrhinum)
Holmgrenanthe (1) SW N Am
Holzneria (2) SW Asia
Howelliella (1) SW N Am (~ Antirrhinum)
Kickxia (9) Med to SC&SW Asia
Linaria (150) Euras, Medit
Lophospermum (6) Mex, Guatemala
Mabrya (5) SW N Am
Maurandella (1) SW N Am (~Maurandya)
Maurandya (2) Mex C Am
Misopates (7) Medit, Cape Verde, Is Ethiop
 India
Mohavea (2) SW US
Nanorhinum (10) (~ Kickxia) Med, SC-SW
 Asia
Neogaerrhinum (2) SW N Am
 (~Antirrhinum)
Nuttalanthus (4) N Am temp S Am (~Linaria)
Pseudorontium (1) SW N Am (~Antirrhinum)
Rhodochiton (3) Mex (~Lophospermum)
Sairocarpus (13) SW US (~ Antirrhinum)
Schweinfurthia (6) NE Af to India
Callitricheae 2/~45
Callitriche (40-50) Cosmop
Hippuris (1) Cosmop
Cheloneae 9/290
Chelone (4) E N Am
Chionophila (2) W N Am
Collinsia (20) N Am
Keckiella (7) N Am
Nothochelone (1) W N Am
Pennellianthus (1) NE As
Penstemon (~250) N Am
Tonella (2) W US
Uroskinnera (3) Mex C Am
Digitalideae 2/25
Digitalis (23) Med, Eur, C As, Macaronesia
Erinus (2) N Af, Pyrren, Alps
Isoplexis (= Digitalis) Macaronesia
Globulariaceae (Globularieae) 2/25
Globularia (22) Cape Verde Eur W As
Poskea (3) Somolia Socotra
Gratiroleae 35/~317
Achetaria Cham. & Schltld. (5) Brazil, Carib
Adenosma R. Br. (15) China, Indomal, Aus
 Allocalyx? (=Bacopa)
Amphianthus (= Gratiola; Estes&Small, 2008)
Ancistrostylis (= Bacopa) Laos
Bacopa (~60) pantropical
Benjaminia (1) trop Am
Boelckia (1) Bolivia
Braunblanquetia (1) Arg Patagonia
Bythophyton? (1) Indomal (Linderniaceae in
 Christenhusz et al. 2017)
Cheilophyllum (8) Carib
Conobea (7) Am trop
Darcya (3) Costa Rica - Columbia
Deinostema (2) E Asia
Dintera (1) trop Af (Linderniaceae in
 Christenhusz et al. 2017)
Dizygostemon (2) Brazil
Dopatrium (12) trop Afr – SE Asia
Encopella (1) Cuba (Linderniaceae in
 Christenhusz et al. 2017)
 Geochorda (=Bacopa)
Gratiola (20) temp, trop mts
 Herpestis (=Bacopa)
Hydrotriche? (4) Mad
 Ildefonsia (=Bacopa)
Leucospora (1) (~Stemodia?) E N Am
Limnophila (36) OW trop
Maeviella (1) S. Am
Mecardonia (15) warm Am (~Bacopa)
 Monocardia (=Bacopa?)
Morgania (4) (~Stemodia) Australia
Otacanthus (6) Brazil
Philcoxia (7) Brazil (update: Scatigna 2017)
Schistophragma? (2) (~Leucocarpus) W N
 Am, C Am
Schizosepala (1) Brazil
Scoparia (20) trop Am
Sophronanthe (1) SE US
Stemodia (57) OW & NW trop [update
 Scatigna 2017]
Tetraulacium (1) Brazil
Trapella (1-2) E. As.
Zenkerina? ()
Hemiphragmieae 1/1
Hemiphragma (1) Himal
Plantaginaceae (Plantagineae) (3/~256)
Aragoa (23) northern Andes
 Bougueria (= Plantago) Andes
Littorella (3) 1 each in N Am, S Am, Eur
Plantago (~230) cosmop
Russelieae 2/60
Russelia (52) Cuba, Mex to Columbia
Tetranema (8) Mex, Guatem, Nicaragua,
 Costa Rica
Sibthorpieae 2/6
Ellisiophyllum (1) India to Japan, New
 Guinea
Sibthorpia (5) trop & S Am, Macaron, Eur,
 Afr mts
Veroniceae 21/~450 (see Albach et alo. 2004)
 Besseyia (7) N Am (= Veronica)
 Botryopleuron (=Veronicastrum)
 Calorhabdos (=Veronicastrum)
Chionohebe (7) Tasmania, NZ (~Veronica)
 Cochlidiosperma (= Veronica)
Derwentia (8) SE Aus (= Veronica)
Detzneria (1) New Guin (= Veronica)
 Falconeria (=Kashmiria)
Hebe (~70) NZ, Fr Polynes, S Am (= Veronica)

- Heliohebe** (5) NZ (= Veronica)
Kashmiria (1) Himal
Lagotis (20) Eur to W China
Neopicrorhiza (1) E Himal (~Picrorhiza)
Odicardis (2) Cauc, E Afr (~Veronica)
Oligospermum (= Veronica)
Paederota (2) S Eur
Paederotella (3) As Minor, Cauc (~Veronica)
Parahebe (30) N Guinea NZ (~Veronica)
Picrorhiza (1) W Himal
Pseudolysimachion (~15) temp/subtemp Euras
(= Veronica)
Scroffella (1) China
Synthyris (~15) W N Am (= Veronica)
Veronica (s.s. ~250; s.l. ~450) N temp or
cosmop temp
Veronicastrum (5-6) NE As, NE Am
- Wulfenia** (4) SE Eur, Turk
Wulfeniopsis (2) Afghan – Nepal
Veronicaceae unassigned to tribe 7/66
Ameroglossum Fischer et al. (2) Brazil
(Linderniaceae in Christenhusz et al. 2017)
Anamaria (= Stemodia)
Brookea (Stilbaceae in Fischer, 2004) (4)
Borneo
Campylanthus (12) Macaron NE Af Arabia
Curanga (= Picria) here or Linderniaceae?
Tropicos says here
Lafuentea (1) Spain
Ourisia (36) Andes (20), NZ (15), Tasm (1)
Picria Lour. (1) Indomal. here or
Plantaginaceae? Tropicos says here; Albach
2005 says no

Wightiaceae B. Li, B. Liu, S. Liu, & Y.H. Tan J. Syst. Evol. 2019. (1/2) See also Zhou et al., 2014

Wightia Wall. (2) SE Asia epiphytes becoming
trees

Acknowledgments:

- P. Cantino (Lamiaceae)**
E. Norman (Buddlejaceae, Sanango, Peltanthera)
P. Garnock-Jones (New Zealand Scrophulariaceae s.l.)
B. Oxelman (unpubl. Results in Buddlejaceae, Scrophulariaceae s.l.)
J. Reveal (nomenclature and misc.)
A. Weber (Gesneriaceae)
J. Smith (Gesneriaceae)
R. Harley (Lamiaceae)
P. Goldblatt (Scrophulariaceae s.l.; esp. S. Africa)
D. Albach (Veroniceae and Veronicaceae/Plantaginaceae)
Eva Wallander (eva.wallander@systbot.gu.se) (Oleaceae)
R. Scotland (Acanthaceae)
B. Bremer (scroph tribe Manuleeae, including former Selagineae)
H.-D. Ihlenfeldt (Pedaliaceae, Martyniaceae, Trapellaceae)
D. Mabberley (Lamiaceae)
L. Lohmann (Bignoniaceae)
D. Nickrent (Orobanchaceae)
D. Albach (Veronicaceae)
N. O'Leary (Verbena, Glandularia, Mulguraea)
Shirley Joan Smithies (South African groups)
John L. Clark (Gesneriaceae)
D. Bedigian (Pedaliaceae)
B. Li

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