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An Ordinal Classification for the Families of Flowering Plants

Author(s): The Angiosperm Phylogeny Group

Source: *Annals of the Missouri Botanical Garden*, Vol. 85, No. 4 (1998), pp. 531-553

Published by: Missouri Botanical Garden Press

Stable URL: <http://www.jstor.org/stable/2992015>

Accessed: 06/02/2009 10:46

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Volume 85
Number 4
1998

Annals
of the
Missouri
Botanical
Garden



AN ORDINAL
CLASSIFICATION FOR THE
FAMILIES OF FLOWERING
PLANTS

The Angiosperm Phylogeny Group¹

ABSTRACT

Recent cladistic analyses are revealing the phylogeny of flowering plants in increasing detail, and there is support for the monophyly of many major groups above the family level. With many elements of the major branching sequence of phylogeny established, a revised suprafamilial classification of flowering plants becomes both feasible and desirable. Here we present a classification of 462 flowering plant families in 40 putatively monophyletic orders and a small number of monophyletic, informal higher groups. The latter are the monocots, commelinoids, eudicots, core eudicots, rosids including eurosids I and II, and asterids including euasterids I and II. Under these informal groups there are also listed a number of families without assignment to order. At the end of the system is an additional list of families of uncertain position for which no firm data exist regarding placement anywhere within the system.

Why rearrange families, still less formalize orders? Higher-level classifications, the grouping of species into families, orders, etc., are needed as reference tools not only in systematics but also in many other branches of biology. Knowledge of phylogenetic relationships of major groups of organisms, that is, a phylogenetic perspective, is becoming increasingly important, and hence the need for a phylogenetic classification as a reference tool is also becoming imperative.

Our primary focus is on orders with a secondary emphasis on families of flowering plants. The family is central in flowering plant systematics. For example, in studying an unknown plant we usually first identify it to family. The orders, on the other hand, have until quite recently been of little importance, either being morphologically unrecognizable or in most cases lacking any evolutionary coherence (Heywood, 1977; Merxmüller, 1977). However, orders are useful in teaching, for studying

¹ Recommended citation, abbreviated as "APG, 1998." This paper was compiled by Kåre Bremer, Mark W. Chase, and Peter F. Stevens, equally responsible and listed here in alphabetical order only, with contributions from Arne A. Anderberg, Anders Backlund, Birgitta Bremer, Barbara G. Briggs, Peter K. Endress, Michael F. Fay, Peter Goldblatt, Mats H. G. Gustafsson, Sara B. Hoot, Walter S. Judd, Mari Källersjö, Elizabeth A. Kellogg, Kathleen A. Kron, Donald H. Les, Cynthia M. Morton, Daniel L. Nickrent, Richard G. Olmstead, Robert A. Price, Christopher J. Quinn, James E. Rodman, Paula J. Rudall, Vincent Savolainen, Douglas E. Soltis, Pamela S. Soltis, Kenneth J. Sytsma, and Mats Thulin (in alphabetical order). Addresses: K. Bremer, Department of Systematic Botany, Uppsala University, Villavägen 6, S-752 36 Uppsala, Sweden; M. W. Chase, Jodrell Laboratory, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3DS, U.K.; P. F. Stevens, Harvard University Herbaria, 22 Divinity Avenue, Cambridge, Massachusetts 02138, U.S.A.

family relationships, and in positioning genera of doubtful affinity. The didactic value of suprafamilial groupings has been emphasized by various authors (e.g., Dahlgren, 1975; Thorne, 1976; Davis, 1978; Takhtajan, 1997). This value is even more evident now that the phylogeny of flowering plants is being disclosed in increasing detail. Many of the orders recognized by earlier authors are not monophyletic, yet there is a pressing need for names to communicate the knowledge of monophyletic groupings of families that are becoming evident. With the major branching sequence of flowering plant phylogeny becoming clearer, a revised familial and ordinal classification is feasible.

Flowering plant classification systems from the late 1970s seemed to be stable and show substantial agreement, but this stability has been rudely shattered as new kinds of data and new methods of analyzing conventional data have become firmly established (Stevens, 1986). Classifications such as those by Cronquist (1981) and Takhtajan (1980), although still in frequent use, have become outdated. Of more recent classifications, that by Goldberg (1986) of the dicotyledons predates the advent of molecular studies at higher levels, as does that by Dahlgren et al. (1985) of the monocotyledons. However, the latter incorporated much new data and provided synapomorphy schemes for many groups. The recent system of Takhtajan (1997), although extremely elaborate, is made less useful because his propensity for splitting often results in well-known families being dismembered, then reassembled as orders. Furthermore, the findings of recent molecular studies, despite being cited, have hardly influenced his classification.

We conclude that there is a great need for a new, phylogenetic classification of flowering plants, providing names for major monophyletic groups of families. Obviously, it is not possible, nor is it desirable, to name all clades in the entire phylogeny. Any such complete classification would be so cumbersome that it would be useless for general communication. Systematists need to come to some kind of agreement concerning which clades to recognize and name, so that a reference tool of broad utility can be formulated and used to discuss diversity. An ordinal classification of flowering plant families is here proposed for that purpose (pp. 538–542). It recognizes a selected number of monophyletic suprafamilial groups, that is, clades in the phylogeny of flowering plants that are supported by at least one, and often several, lines of evidence. These are clades to which we find it useful to refer when we communicate information about higher-level interrelationships of the flowering plants.

We note that the selection of clades to be represented in a formal classification is different from the procedure of naming these clades. The latter issue of biological nomenclature in phylogenetics is currently much debated (e.g., Cantino et al., 1997; de Queiroz, 1997; Lidén et al., 1997), but we have not adopted any “phylogenetic naming” sensu de Queiroz and Gauthier (1994). We operate under the current *International Code of Botanical Nomenclature* (Greuter et al., 1994) and choose to emphasize the ranks of family and order. The Linnaean categories serve as a convenient mnemonic device for remembering hierarchical relationships, but it should of course be realized that groups of the same rank are evolutionarily non-comparable units unless they are sister groups.

There are noteworthy problems when establishing the names for taxa at ordinal and other higher taxonomic levels. Until recently, little attention has been paid to the nomenclature at these levels, and our knowledge of the early literature in which such names were used is imperfect. This situation has in considerable part been rectified by Reveal’s (1998) Herculean labors. The principle of priority is not mandatory for taxa above the rank of family, although authors are exhorted “generally” to follow this principle (Greuter et al., 1994). We have tried to balance priority with general usage when assigning names to orders, but even if future bibliographic work discloses earlier ordinal names, changes are not mandated.

Which clades should be recognized in classification, or in our case, how should the orders be circumscribed? Given the primary principle of monophyly, that of recognizing clades and not grades in classification, there are nevertheless many considerations to be taken into account when circumscribing taxa at ordinal as well as all other hierarchical levels above that of species. Classification is not only a matter of grouping according to the principle of monophyly, but it is also a matter of communication (note that whatever philosophy of naming is adopted, there has to be some consensus as to the clades we are going to use in general botanical communication). For us, this raises the question of ranking, that is, after having selected clades in the phylogeny to be named, they have to be assigned an appropriate place in the hierarchy, in our case, family and order (e.g., Backlund & K. Bremer, 1998; Stevens, 1998). In choosing between alternative circumscriptions it is desirable to recognize groups that are well supported. It is also useful to select groups that have some kind of easily observed morphological synapomorphies, although this may be difficult at the ordinal level and

even sometimes at the family level. Synapomorphies also often include (sometimes exclusively) anatomical, biochemical, and developmental characters.

Many of our ordinal names are already well established and used in earlier classifications and systematic treatments. So far as they represent monophyletic groups, we retain well-known orders in the interest of preserving stability. In other cases, the size of the orders comes into consideration. However, what is reasonably broad circumscription? From the point of view of memorization of names, groups of 2–6 or a few more would seem to be ideal, and there is evidence that systematists in the past have commonly recognized groups of this size (Stevens, 1997). However, with the discoveries of new species, genera, and families, the sizes of genera, families, and orders have increased, and many orders now comprise 10–20 families, or even more. Other orders contain a few families only, and if there are only two or three families in an order, “one is not far from leaving the families unplaced” (Copeland, 1957). Concerns about the doubtful value of recognizing similarly small groups have also been expressed by others (e.g., Burt, 1977). Nevertheless, we have chosen to recognize a number of small orders because these represent clades for which monophyly and relationships are well supported, and this better conveys the interrelationships of the families included rather than leaving them unclassified to order.

In general, we adopt a broad circumscription of the orders. We recognize 462 families and 40 orders of flowering plants. Cronquist (1981) recognized 321 families and 64 orders, Thorne (1992) 440 families and 69 orders, and Takhtajan (1997) no less than 589 families in 232 orders. Our wider ordinal circumscription is not because finer details of the phylogeny within the orders are as yet unclear, but because we think the classification will be more useful with a limited number of larger orders. As we develop more firmly supported phylogenies within and among orders, groups at the infraordinal and supraordinal levels can be recognized. Hence we anticipate that there will be little need to change the circumscription of the orders recognized here, except for inclusion of yet unassigned families of unknown systematic position and the transfer of misplaced families. Additional orders may have to be recognized as the phylogenetic relationships of families that are not yet placed are clarified. Discussion as to whether a widely accepted monophyletic group should be a superorder, order, suborder, or family is largely vac-

uous because this will always be an arbitrary decision.

Takhtajan (1997) opted in favor of “smaller, more natural families and orders, which are more coherent and better-defined, where characters are easily grasped, and which are more suitable for information retrieval and phylogenetic studies, including cladistic analyses (e.g., because it reduces polymorphic codings).” However, the size of a group has nothing to do with its “naturalness.” For a smaller group, one will often be able to say more about all of its constituent members, and so the characters may be more easily grasped. However, segregates of well established monophyletic families like Rubiaceae (Gentianales) or Asteraceae (Asterales) would by Takhtajan’s generalization also be more natural; by this criterion, the smaller the group, the more natural it will necessarily be, so there is no ranking criterion to be derived from “naturalness.” If by “more natural” is meant “has more synapomorphies” then this, too, is incorrect; the number of synapomorphies is not connected to the size of the group or the hierarchical level at which it is recognized.

In our classification, these considerations have had little impact. The principle of monophyly in combination with the desirability of maintaining already well established and familiar entities has largely formed the ordinal classification. Monofamilial orders (and monogeneric families) are avoided as much as possible, minimizing redundancy in classification. In a few cases we have, however, recognized some monofamilial orders (Ceratophyllales, Acorales, Arecales) because these are sister groups of more than one other order. Hence, the families of these monofamilial orders cannot be included in any other order without violating monophyly.

The principle of monophyly in combination with the mandatory usage of the family category (Greuter et al., 1994) may lead to the recognition of many small families. For example, in Dipsacales, if Dipsacaceae and Valerianaceae are to be retained as families separate from Caprifoliaceae, the principle of monophyly requires the recognition also of Dieraviaceae, Linnaeaceae, and Morinaceae (Backlund & K. Bremer, 1998; Backlund & Pyck, 1998). This is because each of these latter families is the sister group of more than one family so they cannot be merged with any other family without violating monophyly. Similar considerations apply at the ordinal level. Unfortunately, no absolute guidelines as to reasonable practice can be offered, but we simply observe that caution is always in order.

In other cases there are small families that may be reduced to synonymy of their sister group if the

latter consists of a single family. Examples are *Cambaceae*, which may be merged with *Nymphaeaceae*, and *Kingdoniaceae*, which may be merged with *Circaeasteraceae* (*Ranunculales*). Such commonly recognized families that nevertheless may be merged with their sister family are in our classification placed within square brackets below the family with which they may be merged (in *Ranunculales* either *Fumariaceae* or both *Fumariaceae* and *Pteridophyllaceae* may be merged with *Papaveraceae*; alternatively, either *Pteridophyllaceae* or both *Fumariaceae* and *Pteridophyllaceae* may be retained as distinct).

We do not attempt to thoroughly revise family circumscriptions. In general we follow recent authors and attempt to recognize as many monophyletic families as possible. It should be emphasized, however, that following additional investigation some families listed below may be shown to be non-monophyletic; revised circumscriptions, either by merging or splitting, into monophyletic taxa are not yet possible given our current knowledge. Examples are *Euphorbiaceae* and *Flacourtiaceae* of *Malpighiales* (Källersjö et al., 1998) and several families of *Myrtales* (Conti et al., 1996; Gadek et al., 1996) and core *Caryophyllales* (which comprise *Achatocarpaceae*, *Aizoaceae*, *Amaranthaceae*, *Basellaceae*, *Cactaceae*, *Caryophyllaceae*, *Didiereaceae*, *Molluginaceae*, *Nyctaginaceae*, *Phytolaccaceae*, *Portulacaceae*, *Sarcobataceae*, and *Stegnospermataceae*; Hershkovitz & Zimmer, 1997). Other probably non-monophyletic families that cannot yet be recircumscribed are *Boraginaceae* (euasterids I; Chase et al., 1993), *Scrophulariaceae* (*Lamiales*; Olmstead & Reeves, 1995), and *Santalaceae* (*Santalales*; Nickrent & Duff, 1996; Nickrent et al., 1998). *Brassicaceae* (*Brassicales*) include also the former, paraphyletic *Capparaceae* (*Brassicaceae* *sensu stricto* being nested inside *Capparaceae*; Judd et al., 1994; Rodman et al., 1996). A supposedly parallel case comprises *Apiaceae* and *Araliaceae* (*Apiales*), since the former have been assumed to be nested inside the latter (Plunkett et al., 1996). However, with a transfer of *Hydrocotyloideae* from *Apiaceae* to *Araliaceae*, it seems that two monophyletic families can be recognized, only a few genera remaining unplaced (Plunkett et al., 1997). Delimitation of *Bombacaceae*, *Malvaceae*, *Sterculiaceae*, and *Tiliaceae* (*Malvales*) is problematical, and only *Malvaceae* are monophyletic (Alverson et al., 1998; Bayer et al., 1999). Here all four are treated together as a single monophyletic family, *Malvaceae sensu lato* (Judd & Manchester, 1997).

Our proposed classification is a modification of

that conceived by Bremer et al. (1995, 1996, 1997) and since 1996 available on the Internet (Bremer et al., 1998). This classification is based on various recently published mostly molecular phylogenetic analyses (e.g., Chase et al., 1993; Chase et al., 1995; Bremer et al., 1994; Struwe et al., 1994; Nadeau et al., 1995; Nickrent & Soltis, 1995; Soltis et al., 1995; Gadek et al., 1996; Gustafsson et al., 1996; Morton et al., 1996; Soltis & Soltis, 1997; Soltis et al., 1997; Anderberg et al., 1998; Backlund & B. Bremer, 1998; Bakker et al., 1998; Källersjö et al., 1998; Soltis et al., 1998; Thulin et al., 1998; further references above). The major differences are in the expansion of *Alismatales* (including also *Araceae*), *Caryophyllales* (including *Droseraceae*, *Nepenthaceae*, *Polygonaceae*, *Plumbaginaceae*, and several other families outside the traditional, core *Caryophyllales*), the recognition of a comparatively widely circumscribed *Rosales* (including *Rhamnaceae*, *Urticaceae*, *Moraceae*, and their allies), in the addition of a number of smaller orders (*Ceratophyllales*, *Acorales*, *Arecales*, *Proteales*, *Garryales*, *Aquifoliales*), and in the deletion of a few others (*Aristolochiales*, *Nymphaeales*, *Bromeliales*, *Trochodendrales*, *Zygophyllales*). Monocots and eudicots are not formally ranked and named because it is not yet clear at which level they should be recognized. The same problems occur with commelinoids (a phylogenetically derived subgroup of monocots) and with rosids and asterids (subgroups of eudicots), although these are commonly known as subclasses *Commelinidae*, *Rosidae*, and *Asteridae*, respectively.

Well supported ordinal interrelationships are shown in Figure 1. Interrelationships among the basal branches of the tree and the position of the root of the flowering plant phylogeny remain elusive. Within the eudicots there is increasing support for a large subgroup with predominantly pentamerous and isomerous flowers, the core eudicots, mainly comprising *Caryophyllales*, *Santalales*, *Saxifragales*, *rosids*, and *asterids*. *Rosids* and *asterids* each comprise two large subgroups, *eurosid* I and II and *euasterids* I and II, also receiving increasing support as monophyletic. These correspond to the similarly numbered *rosid* and *asterid* clades of Chase et al. (1993).

Under each of the supraordinal groups of monocots, commelinoids, core eudicots, rosids, etc., there are a number of families listed without assignment to order. These families are known to belong within the major group under which they are listed, but their ordinal position is still uncertain. Similarly, *Amborellaceae*, *Austrobaileyaceae*, *Cannellaceae*, etc., are listed at the beginning because

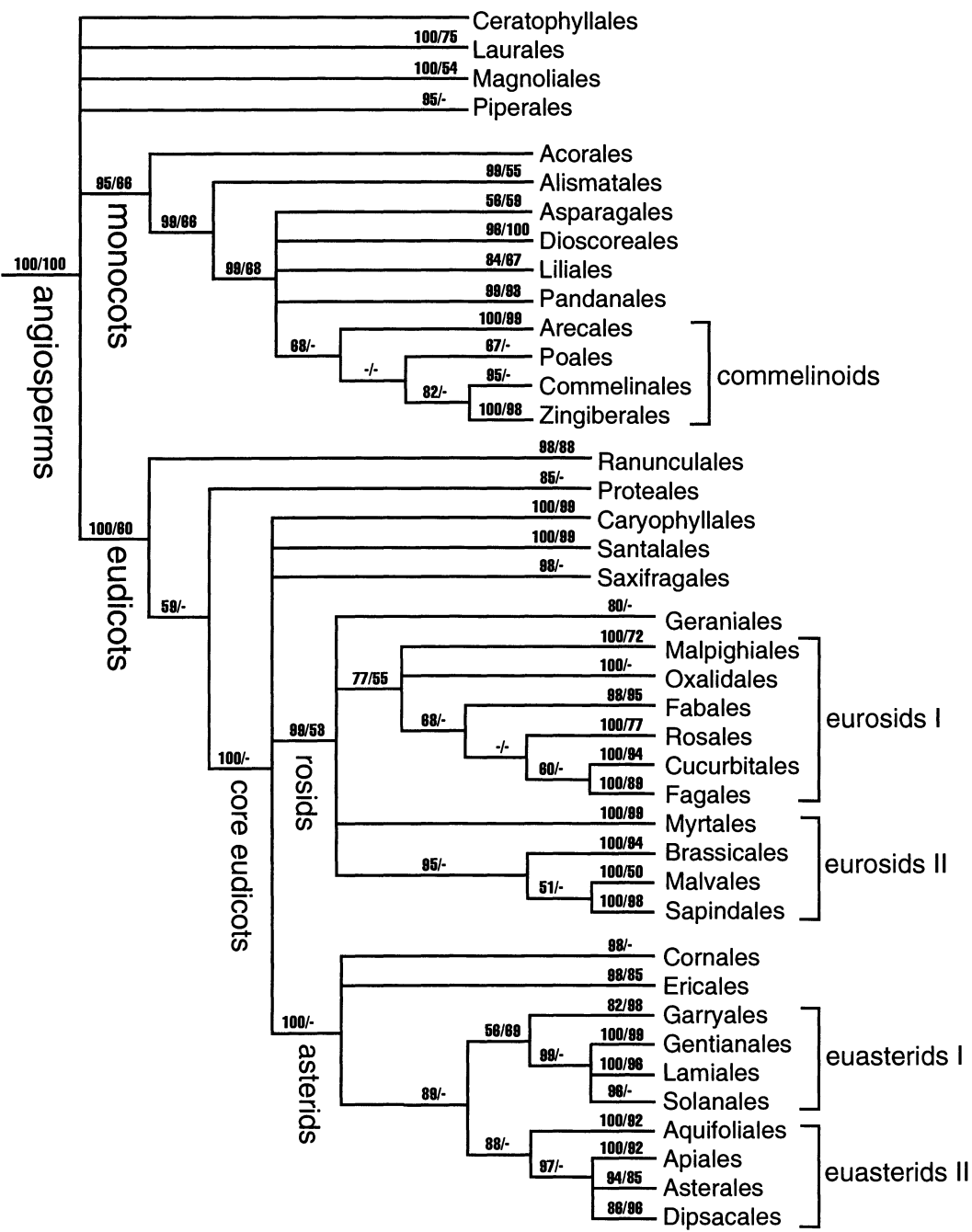


Figure 1. Phylogenetic interrelationships of the orders of flowering plants, compiled from recent cladistic analyses cited in the text. Jackknife support is given on the branches (a dash for values < 50%), first jackknife values from analysis of 545 sequences of the *rbcl*, *atpB*, and 18S rDNA genes (D. E. Soltis, M. W. Chase, P. S. Soltis, D. Albach, M. E. Mort, V. Savolainen, M. Zanis & J. S. Farris, unpublished, in prep.) and second jackknife values from analysis of 2538 *rbcl* sequences (Källersjö et al., 1998).

they belong neither in any of the phylogenetically "basal" orders at the beginning nor in the monocots or eudicots. Furthermore, families listed directly under monocots without an order are monocots but not commelinoids, and families similarly listed directly under eudicots and core eudicots are eudicots or core eudicots, respectively, but neither rosids nor asterids. At the end of the system is an additional list of families of uncertain position. Most of these are probably eudicots (including core eudicots, rosids, and asterids), but so far there are no firm data supporting their placement anywhere within the eudicots.

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CLASSIFICATION OF FLOWERING PLANTS

Amborellaceae	Limncharitaceae
Austrobaileyaceae	Posidoniaceae
Canellaceae	Potamogetonaceae
Chloranthaceae	Ruppiaceae
Hydnoraceae	Scheuchzeriaceae
Illiciaceae	Tofieldiaceae
Nymphaeaceae	Zosteraceae
[+ Cabombaceae]	
Rafflesiaceae	Asparagales Bromhead
Schisandraceae	Agapanthaceae
Trimeniaceae	Agavaceae
Winteraceae	Alliaceae
	Amaryllidaceae
Ceratophyllales Bisch.	Anemarrhenaceae
Ceratophyllaceae	Anthericaceae
	Aphyllanthaceae
Laurales Perleb	Asparagaceae
Atherospermataceae	Asphodelaceae
Calycanthaceae	Asteliaceae
Gomortegaceae	Behniaceae
Hernandiaceae	Blandfordiaceae
Lauraceae	Boryaceae
Monimiaceae	Convallariaceae
Siparunaceae	Doryanthaceae
	Hemerocallidaceae
Magnoliales Bromhead	Herreriaceae
Annonaceae	Hesperocallidaceae
Degeneriaceae	Hyacinthaceae
Eupomatiaceae	Hypoxidaceae
Himantandraceae	Iridaceae
Magnoliaceae	Ixioliriaceae
Myristicaceae	Lanariaceae
	Laxmanniaceae
Piperales Dumort.	Orchidaceae
Aristolochiaceae	Tecophilaeaceae
Lactoridaceae	Themidaceae
Piperaceae	Xanthorrhoeaceae
Saururaceae	Xeronemataceae
MONOCOTS	
Corsiaceae	Dioscoreales Hook. f.
Japonoliriaceae	Burmanniaceae
Nartheceae	Dioscoreaceae
Petrosaviaceae	Taccaceae
Triuridaceae	Thismiaceae
	Trichopodaceae
Acorales Reveal	
Acoraceae	Liliales Perleb
	Alstroemeriaceae
Alismatales Dumort.	Campynemataceae
Alismataceae	Colchicaceae
Aponogetonaceae	Liliaceae
Araceae	Luzuriagaceae
Butomaceae	Melanthiaceae
Cymodoceaceae	Philesiaceae
Hydrocharitaceae	Ripogonaceae
Juncaginaceae	Smilacaceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Pandanales Lindl.

Cyclanthaceae
Pandanaceae
Stemonaceae
Velloziaceae

Proteales Dumort.

Nelumbonaceae
Platanaceae
Proteaceae

COMMELINOIDS

Abolbodaceae
Bromeliaceae
Dasypogonaceae
Hanguanaceae
Mayacaceae
Rapateaceae

Ranunculales Dumort.

Berberidaceae
Circaeasteraceae
[+Kingdoniaceae]
Eupteleaceae
Lardizabalaceae
Menispermaceae
Papaveraceae
[+Fumariaceae]
[+Pteridophyllaceae]
Ranunculaceae

Arecales Bromhead

Arecaceae

Commelinales Dumort.

Commelinaceae
Haemodoraceae
Philydraceae
Pontederiaceae

CORE EUDICOTS

Aextoxicaceae
Berberidopsidaceae
Dilleniaceae
Gunneraceae
Myrothamnaceae
Vitaceae

Poales Small

Anarthriaceae
Centrolepidaceae
Cyperaceae
Ecdeiocoleaceae
Eriocaulaceae
Flagellariaceae
Hydatellaceae
Joinvilleaceae
Juncaceae
Poaceae
Prioniaceae
Restionaceae
Sparganiaceae
Thurniaceae
Typhaceae
Xyridaceae

Caryophyllales Perleb

Achatocarpaceae
Aizoaceae
Amaranthaceae
Ancistrocladaceae
Asteropeiaceae
Basellaceae
Cactaceae
Caryophyllaceae
Didiereaceae
Dioncophyllaceae
Droseraceae
Drosophyllaceae
Frankeniaceae
Molluginaceae
Nepenthaceae
Nyctaginaceae
Physenaceae
Phytolaccaceae
Plumbaginaceae
Polygonaceae
Portulacaceae
Rhabdodendraceae
Sarcobataceae
Simmondsiaceae
Stegnospemataceae
Tamaricaceae

Zingiberales Griseb.

Cannaceae
Costaceae
Heliconiaceae
Lowiaceae
Marantaceae
Musaceae
Strelitziaceae
Zingiberaceae

EUDICOTS

Buxaceae
Didymelaceae
Sabiaceae
Trochodendraceae
[+Tetracentraceae]

Santales Dumort.

Olacaceae
Opiliaceae

CLASSIFICATION OF FLOWERING PLANTS

(cont'd.)

Loranthaceae
Misodendraceae
Santalaceae

Saxifragales Dumort.

Altingiaceae
Cercidiphyllaceae
Crassulaceae
Daphniphyllaceae
Grossulariaceae
Haloragaceae
Hamamelidaceae
Iteaceae
Paeoniaceae
Penthoraceae
Pterostemonaceae
Saxifragaceae
Tetracarpaeaceae

ROSIDS

Aphloiaceae
Crossosomataceae
Ierbaceae
Krameriaceae
Picramniaceae
Podostemaceae
Stachyuraceae
Staphyleaceae
Tristichaceae
Zygophyllaceae

Geraniales Dumort.

Francoaceae
Geraniaceae
[+Hypseocharitaceae]
Greyiaceae
Ledocarpaceae
Melianthaceae
Vivianiaceae

EUROSIDS I

Celastraceae
Huaceae
Parnassiaceae
[+Lepuropetalaceae]
Stackhousiaceae

Cucurbitales Dumort.

Anisophylleaceae
Begoniaceae
Coriariaceae
Corynocarpaceae
Cucurbitaceae
Datisceae
Tetramelaceae

Fabales Bromhead

Fabaceae
Polygalaceae
Quillajaceae
Surianaceae

Fagales Engl.

Betulaceae
Casuarinaceae
Fagaceae
Juglandaceae
Myricaceae
Nothofagaceae
Rhoipteleaceae
Ticodendraceae

Malpighiales Mart.

Achariaceae
Balanopaceae
Caryocaraceae
Chrysobalanaceae
Clusiaceae
Dichapetalaceae
Erythroxylaceae
Euphorbiaceae
Euphroniaceae
Flacourtiaceae
Goupiaceae
Hugoniaceae
Humiriaceae
Irvingiaceae
Ixanthaceae
Lacistemataceae
Linaceae
Malesherbiaceae
Malpighiaceae
Medusagynaceae
Ochnaceae
Pandaceae
Passifloraceae
Putranjivaceae
Quiinaceae
Rhizophoraceae
Salicaceae
Scyphostegiaceae
Trigoniaceae
Turneraceae
Violaceae

Oxalidales Heintze

Cephalotaceae
Connaraceae
Cunoniaceae
Elaeocarpaceae
Oxalidaceae
Tremandraceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Rosales Perleb
Barbeyaceae
Cannabaceae
Cecropiaceae
Celtidaceae
Dirachmaceae
Elaeagnaceae
Moraceae
Rhamnaceae
Rosaceae
Ulmaceae
Urticaceae

EUROSIDS II

Tapisciaceae

Brassicales Bromhead

Akaniaceae
[+ Bretschneideraceae]
Bataceae
Brassicaceae
Caricaceae
Emblingiaceae
Gyrostemonaceae
Koeberliniaceae
Limnanthaceae
Moringaceae
Pentadiplandraceae
Resedaceae
Salvadoraceae
Setchellanthaceae
Tovariaceae
Tropaeolaceae

Malvales Dumort.

Bixaceae
[+ Diegodendracheae]
Cistaceae
Cochlospermaceae
Dipterocarpaceae
Malvaceae
Muntingiaceae
Neuradaceae
Sarcolaenaceae
Sphaerosepalaceae
Thymelaeaceae

Myrtales Rchb.

Alzateaceae
Combretaceae
Crypteroniaceae
Heteropyxidaceae
Lythraceae
Melastomataceae
Memecylaceae
Myrtaceae
Oliniaceae

Onagraceae
Penaeaceae
Psiloxylaceae
Rhynchocalycaceae
Vochysiaceae

Sapindales Dumort.

Anacardiaceae
Biebersteiniaceae
Burseraceae
Kirkiaceae
Meliaceae
Nitrariaceae
[+ Peganaceae]
Rutaceae
Sapindaceae
Simaroubaceae

ASTERIDS

Cornales Dumort.
Cornaceae
[+ Nyssaceae]
Grubbiaceae
Hydrangeaceae
Hydrostachyaceae
Loasaceae

Ericales Dumort.

Actinidiaceae
Balsaminaceae
Clethraceae
Cyrillaceae
Diapensiaceae
Ebenaceae
Ericaceae
Fouquieriaceae
Halesiaceae
Lecythidaceae
Marcgraviaceae
Myrsinaceae
Pellicieraceae
Polemoniaceae
Primulaceae
Roridulaceae
Sapotaceae
Sarraceniaceae
Styracaceae
Symplocaceae
Ternstroemiaceae
Tetrameristaceae
Theaceae
Theophrastaceae

EUASTERIDS I

Boraginaceae
Plocospermataceae
Vahliaceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Garryales Lindl.

Aucubaceae
Eucommiaceae
Garryaceae
Oncothecaceae

Gentianales Lindl.

Apocynaceae
Gelsemiaceae
Gentianaceae
Loganiaceae
Rubiaceae

Lamiales Bromhead

Acanthaceae
Avicenniaceae
Bignoniaceae
Buddlejaceae
Byblidaceae
Cyclocheilaceae
Gesneriaceae
Lamiaceae
Lentibulariaceae
Myoporaceae
Oleaceae
Orobanchaceae
Paulowniaceae
Pedaliaceae
[+ Martyniaceae]
Phrymaceae
Plantaginaceae
Schlegeliaceae
Scrophulariaceae
Stilbaceae
Tetrachondraceae
Verbenaceae

Solanales Dumort.

Convolvulaceae
Hydroleaceae
Montiniaceae
Solanaceae
Sphenocleaceae

EUASTERIDS II

Adoxaceae
Bruniaceae
Carlemanniaceae
Columelliaceae
[+ Desfontainiaceae]
Eremosynaceae
Escalloniaceae
Icacinaceae
Polyosmaceae
Sphenostemonaceae
Tribelaceae

Apiales Nakai

Apiaceae
Araliaceae
Aralidiaceae
Griselinaceae
Melanophyllaceae
Pittosporaceae
Torricelliaceae

Aquifoliales Senft

Aquifoliaceae
Helwingiaceae
Phyllonomaceae

Asterales Lindl.

Alseuosmiaceae
Argophyllaceae
Asteraceae
Calyceraceae
Campanulaceae
[+ Lobeliaceae]
Carpodetaceae
Donatiaceae
Goodeniaceae
Menyanthaceae
Pentaphragmataceae
Phellinaceae
Rousseaceae
Stylidiaceae

Dipsacales Dumort.

Caprifoliaceae
Diervillaceae
Dipsacaceae
Linnaeaceae
Morinaceae
Valerianaceae

FAMILIES OF UNCERTAIN POSITION

Balanophoraceae
Bonnetiaceae
Cardiopteridaceae
Ctenolophonaceae
Cynomoriaceae
Cytinaceae
Dipentodontaceae
Elatinaceae
Geissolomataceae
Hoplestigmataceae
Kaliphoraceae
Lepidobotryaceae
Lissocarpaceae
Lophopyxidaceae
Medusandraceae
Metteniusaceae
Mitrastemonaceae
Paracryphiaceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Pentaphragaceae
Peridiscaceae
Plagiopteraceae
Pottingeriaceae
Sladeniaceae
Strasburgeriaceae
Tepuianthaceae

ORDINAL SYNONYMS

Acanthales Lindl.
= Lamiales
Acerales Lindl.
= Sapindales
Actinidiales Takht. ex Reveal
= Ericales
Adoxales Nakai
- not accepted, family under
euasterids II
Aesculales Bromhead
= Sapindales
Agavales Hutch.
= Asparagales
Alliales Traub
= Asparagales
Alstroemeriales Hutch.
= Liliales
Altingiales Doweld
= Saxifragales
Amaranthales Dumort.
= Caryophyllales
Amaryllidales Bromhead
= Asparagales
Ambrosiales Dumort.
= Asterales
Ammiales Small
= Apiales
Amomales Lindl.
= Zingiberales
Ancistrocladales Takht.
= Caryophyllales
Annonales Lindl.
= Magnoliales
Anthobolales Dumort.
= Santalales
Apocynales Bromhead
= Gentianales
Aponogetonales Hutch.
= Alismatales
Arales Dumort.
= Alismatales
Araliales Reveal
= Apiales
Aralidiales Takht. ex Reveal
= Apiales
Aristolochiales Dumort.
= Piperales

Asarales Horan.
= Piperales
Asclepiadales Dumort.
= Gentianales
Asteliales Dumort.
= Asparagales
Atriplicales Horan.
= Caryophyllales
Aucubales Takht.
= Garryales
Austrobaileyales Takht. ex Reveal
- not accepted, family at beginning
of system
Avenales Bromhead
= Poales
Balanopales Engl.
= Malpighiales
Balanophorales Dumort.
- not accepted, family unplaced
Balsaminales Lindl.
= Ericales
Barbeyales Takht. & Reveal
= Rosales
Batales Engl.
= Brassicales
Begoniales Dumort.
= Cucurbitales
Berberidales Dumort.
= Ranunculales
Betulales Bromhead
= Fagales
Biebersteiniales Takht.
= Sapindales
Bignoniales Lindl.
= Lamiales
Bixales Lindl.
= Malvales
Boraginales Dumort.
- not accepted, family under
euasterids I
Brexiales Lindl.
- not accepted, family under
eurosids I
Bromeliales Dumort.
- not accepted, family under
commelinoids
Bruniales Dumort.
- not accepted, family under
euasterids II
Brunoniales Lindl.
= Asterales
Burmanniales Heintze
= Dioscoreales
Burserales Baskerville
= Sapindales
Butomales Hutch.
= Alismatales

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

- Buxales Takht. ex Reveal
 - not accepted, family under eudicots
 Byblidales Nakai ex Reveal
 = Lamiales
 Cactales Dumort.
 = Caryophyllales
 Callitrichales Dumort.
 = Lamiales
 Calycanthales Mart.
 = Laurales
 Calycerales Takht. ex Reveal
 = Asterales
 Campanulales Rechb.
 = Asterales
 Canellales Cronquist
 - not accepted, family at beginning of system
 Cannales Dumort.
 = Zingiberales
 Capparales Hutch.
 = Brassicales
 Caprifoliales Lindl.
 = Dipsacales
 Cardiopteridales Takht.
 - not accepted, family under euasterids II
 Carduales Small
 = Asterales
 Caricales L. D. Benson
 = Brassicales
 Cassiales Horan.
 = Fabales
 Casuarinales Lindl.
 = Fagales
 Celastrales Baskerville
 - not accepted, family under eurosids I
 Centrolepidales Takht.
 = Poales
 Cephalotales Nakai
 = Oxalidales
 Cercidiphyllales Hu ex Reveal
 = Saxifragales
 Chenopodiales Dumort.
 = Caryophyllales
 Chironiales Griseb.
 = Gentianales
 Chloranthales A. C. Sm. ex J. -F. Leroy
 - not accepted, family at beginning of system
 Cinchonales Lindl.
 = Gentianales
 Circaeasterales Takht.
 = Ranunculales
 Cistales Rechb.
 = Malvales
 Citrales Dumort.
 = Sapindales
 Cocosaes Nakai
 = Arecales
 Colchicales Dumort.
 = Liliales
 Combretales Baskerville
 = Myrtales
 Connarales Takht. ex Reveal
 = Cunoniales
 Convolvulales Dumort.
 = Solanales
 Coriariales Lindl.
 = Cucurbitales
 Corylales Dumort.
 = Fagales
 Corynocarpales Takht.
 = Cucurbitales
 Crassulales Lindl.
 = Saxifragales
 Crossosomatales Takht. ex Reveal
 - not accepted, family under rosids
 Cunoniales Hutch.
 = Oxalidales
 Cyclanthales J. H. Schaffn.
 = Pandanales
 Cymodoceales Nakai
 = Alismatales
 Cynomoriales Burnett
 - not accepted, family unplaced
 Cyperales Hutch.
 = Poales
 Cytinales Dumort.
 - not accepted, family unplaced
 Daphnales Lindl.
 = Malvales
 Daphniphyllales Pulle ex Cronquist
 = Saxifragales
 Datiscales Dumort.
 = Cucurbitales
 Desfontainiales Takht.
 - not accepted, family under euasterids II
 Diapensiales Engl. & Gilg
 = Ericales
 Didymelaes Takht.
 - not accepted, family under eudicots
 Dilleniales Hutch.
 - not accepted, family under core eudicots
 Dioncophyllales Takht. ex Reveal
 = Caryophyllales
 Diospyrales Prantl
 = Ericales
 Droserales Griseb.
 = Caryophyllales

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

- Ebenales Engl.
 - = Ericales
 - Elaeagnales Bromhead
 - = Rosales
 - Elaeocarpaceae Takht.
 - = Oxalidales
 - Elatiniales Nakai
 - not accepted, family unplaced
 - Elodeales Nakai
 - = Alismatales
 - Empetrales Raf.
 - = Ericales
 - Eriocaulales Nakai
 - = Poales
 - Eucommiales Nemejc ex Cronquist
 - = Garryales
 - Euphorbiales Lindl.
 - = Malpighiales
 - Eupomatiales Takht. ex Reveal
 - = Magnoliales
 - Eupteleales Hu ex Reveal
 - = Ranunculales
 - Euryalales H.L.Li
 - not accepted, family at beginning of system
 - Ficales Dumort.
 - = Rosales
 - Flacourtiaceae Heintze
 - = Malpighiales
 - Fouquieriales Takht. ex Reveal
 - = Ericales
 - Francoales Takht.
 - = Geraniales
 - Frangulales Wirtg.
 - = Rosales
 - Galiales Bromhead
 - = Gentianales
 - Geissolomatales Takht. ex Reveal
 - not accepted, family unplaced
 - Gesneriales Dumort.
 - = Lamiales
 - Glaucidiales Takht. ex Reveal
 - = Ranunculales
 - Globulariales Dumort.
 - = Lamiales
 - Goodeniales Lindl.
 - = Asterales
 - Greyiales Takht.
 - = Geraniales
 - Grossulariales Lindl.
 - = Saxifragales
 - Gunnerales Takht. ex Reveal
 - not accepted, family under core eudicots
 - Gyrocarpaceae Dumort.
 - = Laurales
 - Gyrostemonales Takht.
 - = Brassicales
 - Haemodoriales Hutch.
 - = Commelinales
 - Haloragales Bromhead
 - = Saxifragales
 - Hamamelidiales Griseb.
 - = Saxifragales
 - Hanguanales R. Dahlgren ex Reveal
 - = not accepted, family under commelinoids
 - Helleborales Nakai
 - = Ranunculales
 - Helwingiales Takht.
 - = Aquifoliales
 - Himantandriales Doweld & Shevryyova
 - = Magnoliales
 - Hippuridiales Pulle ex Reveal
 - = Lamiales
 - Homaliales Bromhead
 - = Malpighiales
 - Hortensiales Griseb.
 - = Cornales
 - Hydatellales Cronquist
 - = Poales
 - Hydnorales Takht. ex Reveal
 - not accepted, family at beginning of system
 - Hydrangeales Nakai
 - = Cornales
 - Hydrastidiales Takht.
 - = Ranunculales
 - Hydrophylloides (Bartl.) Spenn.
 - not accepted, family Nymphaeaceae at beginning of system
 - Hydrostachyaes Diels ex Reveal
 - = Cornales
 - Hypericales Dumort.
 - = Malpighiales
 - Hypoxidiales Takht.
 - = Asparagales
 - Icacinales Tiegh. ex Reveal
 - not accepted, family under euasterids II
 - Illiciales Hu ex Cronquist
 - not accepted, family at beginning of system
 - Iridales Raf.
 - = Asparagales
 - Ixiales Lindl.
 - = Asparagales
 - Jasminales Dumort.
 - = Lamiales
 - Juglandales Dumort.
 - = Fagales
-

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

- Julianiales Engl.
 - = Sapindales
- Juncaginales Hutch.
 - = Alismatales
- Juncuales Dumort.
 - = Poales
- Lacistematales Baskerville
 - = Malpighiales
- Lactoridales Takht. ex Reveal
 - = Piperales
- Lardizabalales Loconte
 - = Ranunculales
- Lecythidales Cronquist
 - = Ericales
- Leitneriales Engl.
 - = Sapindales
- Lentibulariales Lindl.
 - = Lamiales
- Ligustrales Bartl. ex Bisch.
 - = Lamiales
- Limnanthales Nakai
 - = Brassicales
- Linales Baskerville
 - = Malpighiales
- Loasales Bessey
 - = Cornales
- Loganiales Lindl.
 - = Gentianales
- Lonicerales T. Liebe
 - = Dipsacales
- Loranthales Dumort.
 - = Santalales
- Lythrales Caruel
 - = Myrtales
- Marathrales Dumort.
 - not accepted, family
 - Podostemaceae under rosids
- Mayacales Nakai
 - not accepted, family under
 - commelinoids
- Medusagynales Takht.
 - = Malpighiales
- Medusandrales Brenan
 - not accepted, family unplaced
- Melanthiales R. Dahlgren ex Reveal
 - = Liliales
- Melastomatales Oliv.
 - = Myrtales
- Meliales Lindl.
 - = Sapindales
- Menispermatales Bromhead
 - = Ranunculales
- Menyanthales T. Yamaz. ex Takht.
 - = Asterales
- Metteniusales Takht.
 - not accepted, family unplaced
- Mitrastemonales Makino
 - not accepted, family unplaced
- Monimiales Dumort.
 - = Laurales
- Moringales Nakai
 - = Brassicales
- Myricales Engl.
 - = Fagales
- Myristicales Thomé
 - = Magnoliales
- Myrothamnales Nakai ex Reveal
 - not accepted, family under core
 - eudicots
- Myrsinales Spenn.
 - = Ericales
- Najadales Dumort.
 - = Alismatales
- Narcissales Dumort.
 - = Asparagales
- Nartheciales Reveal & Zomlefer
 - not accepted, family under
 - monocots
- Nelumbonales Reveal
 - = Proteales
- Nepenthales Dumort.
 - = Caryophyllales
- Nolanales Lindl.
 - = Solanales
- Nyctaginales Dumort.
 - = Caryophyllales
- Nymphaeales Dumort.
 - = not accepted, family at beginning
 - of system
- Ochnales Hutch. ex Reveal
 - = Malpighiales
- Oenotherales Bromhead
 - = Myrtales
- Olacales Benth.
 - = Santalales
- Oleales Lindl.
 - = Lamiales
- Onagrales Rchb.
 - = Myrtales
- Opuntiales Willk.
 - = Caryophyllales
- Orchidales Raf.
 - = Asparagales
- Paeoniales Heintze
 - = Saxifragales
- Pandales Engl. & Gilg
 - = Malpighiales
- Papaverales Dumort.
 - = Ranunculales
- Paracryphiales Takht.
 - not accepted, family unplaced
- Paridales Dumort.
 - = Liliales

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

- Parnassiales Nakai
- not accepted, family under
 eurosids I
Passiflorales Dumort.
 = Malpighiales
Penaeales Lindl.
 = Myrtales
Petiveriales Lindl.
 = Caryophyllales
Petrosaviales Takht.
 - not accepted, family under
 monocots
Philydrales Dumort.
 = Commelinales
Physenales Takht.
 = Caryophyllales
Pinguiculales Dumort.
 = Lamiales
Pittosporales Lindl.
 = Apiales
Plantaginales Lindl.
 = Lamiales
Platanales J. H. Schaffn.
 = Proteales
Plumbaginales Lindl.
 = Caryophyllales
Podophyllales Dumort.
 = Ranunculales
Podostemales Lindl.
 = not accepted, family under rosids
Polemoniales Bromhead
 = Ericales
Polygalales Dumort.
 = Fabales
Polygonales Dumort.
 = Caryophyllales
Pontederiales Hook. f.
 = Commelinales
Portulacales Dumort.
 = Caryophyllales
Posidoniales Nakai
 = Alismatales
Potamogetonales Dumort.
 = Alismatales
Primulales Dumort.
 = Ericales
Quercuales Burnett
 = Fagales
Rafflesiales Oliv.
 - not accepted, family at beginning
 of system
Resedales Dumort.
 = Brassicales
Restionales J. H. Schaffn.
 = Poales
Rhamnales Dumort.
 = Rosales
Rhinanthales Dumort.
 = Lamiales
Rhizophorales Tiegh. ex Reveal
 = Malpighiales
Rhodorales Horan.
 = Ericales
Rhoipteleales Novák ex Reveal
 = Fagales
Roridulales Nakai
 = Ericales
Rubiales Dumort.
 = Gentianales
Ruppiales Nakai
 = Alismatales
Rutales Perleb
 = Sapindales
Sabiales Takht.
 = not accepted, family under
 eudicots
Salicales Lindl.
 = Malpighiales
Salvadorales R. Dahlgren ex Reveal
 = Brassicales
Samolales Dumort.
 = Ericales
Samydales Dumort.
 = Malpighiales
Sanguisorbales Dumort.
 = Rosales
Sapotales Hook. f.
 = Ericales
Sarraceniales Bromhead
 = Ericales
Scheuchzeriales B. Boivin
 = Alismatales
Scleranthales Dumort.
 = Caryophyllales
Scrophulariales Lindl.
 = Lamiales
Scyphostegiales Croizat
 = Malpighiales
Sedales Rchb.
 = Saxifragales
Silenales Lindl.
 = Caryophyllales
Simmondsiales Reveal
 = Caryophyllales
Smilacales Lindl.
 = Liliales
Stellariales Dumort.
 = Caryophyllales
Stylidiales Takht. ex Reveal
 = Asterales
Styracales Bisch.
 = Ericales
Taccales Dumort.
 = Dioscoreales
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CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Tamales Dumort.
 = Dioscoreales
 Tamaricales Hutch.
 = Caryophyllales
 Tecophilaeales Traub ex Reveal
 = Asparagales
 Theales Lindl.
 = Ericales
 Theligonales Nakai
 = Gentianales
 Thymelaeales Willk.
 = Malvales
 Tiliales Caruel
 = Malvales
 Tofieldiales Reveal & Zomlefer
 = Alismatales
 Torricelliales Takht. ex Reveal
 = Apiales
 Tovariales Nakai
 = Brassicales
 Trilliales Takht.
 = Liliales
 Triuridales Hook. f.
 - not accepted, family under monocots
 Trochodendrales Takht. ex Cronquist
 - not accepted, family under
 eudicots
 Tropaeolales Takht. ex Reveal
 = Brassicales
 Turnerales Dumort.
 = Malpighiales
 Typhales Dumort.
 = Poales
 Ulmales Lindl.
 = Rosales
 Urticales Dumort.
 = Rosales
 Vacciniales Dumort.
 = Ericales
 Vallisneriales Nakai
 = Alismatales
 Velloziales R. Dahlgren ex Reveal
 = Pandanales
 Veratrales Dumort.
 = Liliales
 Verbenales Horan.
 = Lamiales
 Viburnales Dumort.
 - not accepted, family under
 euasterids II
 Vincales Horan.
 = Gentianales
 Violales Perleb
 = Malpighiales
 Vitales Reveal
 - not accepted, family under core
 eudicots

Vochysiales Dumort.
 = Myrtales
 Winterales A. C. Sm. ex Reveal
 - not accepted, family at beginning
 of system
 Xyridales Lindl.
 = Poales
 Zosteriales Nakai
 = Alismatales
 Zygophyllales Takht.
 - not accepted, family under rosids

SELECTED FAMILIAL SYNONYMS

Abrophyllaceae
 = Carpodetaceae
 Acanthochlamydeaceae
 = Velloziaceae
 Aceraceae
 = Sapindaceae
 Achradaceae
 = Sapotaceae
 Aegicerataceae
 = Myrsinaceae
 Agdestidaceae
 = Phytolaccaceae
 Aitoniaceae
 = Meliaceae
 Alangiaceae
 = Cornaceae
 Aloaceae
 = Asphodelaceae
 Alsinaceae
 = Caryophyllaceae
 Ambrosiaceae
 = Asteraceae
 Amygdalaceae
 = Rosaceae
 Androstachyaceae
 = Euphorbiaceae
 Antoniaceae
 = Loganiaceae
 Apodanthaceae
 = Rafflesiaceae
 Apostasiaceae
 = Orchidaceae
 Aptandraceae
 = Olacaceae
 Aristoteliaceae
 = Elaeocarpaceae
 Asclepiadaceae
 = Apocynaceae
 Asteranthaceae
 = Lecythidaceae
 Averrhoaceae
 = Oxalidaceae
 Avetraceae
 = Dioscoreaceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

- Balanitaceae
 - = Zygophyllaceae
- Barbeuiaceae
 - = Phytolaccaceae
- Barclayaceae
 - = Nymphaeaceae
- Barringtoniaceae
 - = Lecythidaceae
- Baueraceae
 - = Cunoniaceae
- Baxteriaceae
 - = Dasypogonaceae
- Bembiciaceae
 - = Flacourtiaceae
- Berzeliaceae
 - = Bruniaceae
- Bischofiaceae
 - = Euphorbiaceae
- Blepharocaryaceae
 - = Anacardiaceae
- Boerlagellaceae
 - = Sapotaceae
- Bombacaceae
 - = Malvaceae
- Boopidaceae
 - = Calyceraceae
- Bretschneideraceae
 - = Akaniaceae
- Brexaceae
 - = Celastraceae
- Brunelliaceae
 - = Cunoniaceae
- Brunoniaceae
 - = Goodeniaceae
- Bumeliaceae
 - = Sapotaceae
- Burchardiaceae
 - = Colchicaceae
- Byttneriaceae
 - = Malvaceae
- Cabombaceae
 - = Nymphaeaceae
- Caesalpiniaceae
 - = Fabaceae
- Calectasiaceae
 - = Dasypogonaceae
- Callitrichaceae
 - = Plantaginaceae
- Calochortaceae
 - = Liliaceae
- Camelliaceae
 - = Theaceae
- Canotiaceae
 - = Celastraceae
- Cansjeraceae
 - = Opiliaceae
- Capparaceae
 - = Brassicaceae
- Carduaceae
 - = Asteraceae
- Cassythaceae
 - = Lauraceae
- Chailetiaceae
 - = Dichapetalaceae
- Chenopodiaceae
 - = Amaranthaceae
- Chionographidaceae
 - = Melanthiaceae
- Chloanthaceae
 - = Lamiaceae
- Cichoriaceae
 - = Asteraceae
- Cleomaceae
 - = Brassicaceae
- Cneoraceae
 - = Rutaceae
- Cobaeaceae
 - = Polemoniaceae
- Compositae
 - = Asteraceae
- Conostylidaceae
 - = Haemodoraceae
- Cordiaceae
 - = Boraginaceae
- Coridaceae
 - = Primulaceae
- Corokiaceae
 - = Argophyllaceae
- Corylaceae
 - = Betulaceae
- Croomiaceae
 - = Stemonaceae
- Cruciferae
 - = Brassicaceae
- Curtisiaceae
 - = Cornaceae
- Cuscutaceae
 - = Convolvulaceae
- Cyananthaceae
 - = Campanulaceae
- Cyanastraceae
 - = Tecophilaeaceae
- Cynocrambaceae nom. illeg.
 - = Rubiaceae
- Cypriaceae
 - = Campanulaceae
- Cyphocarpaceae
 - = Campanulaceae
- Cypripediaceae
 - = Orchidaceae
- Dactylanthaceae
 - = Balanophoraceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

- | | |
|--------------------------|---------------------|
| Davidiaceae | Frangulaceae |
| = Cornaceae | = Rhamnaceae |
| Davidsoniaceae | Fumariaceae |
| = Cunoniaceae | = Papaveraceae |
| Decaisneaceae | Funkiaceae |
| = Lardizabalaceae | = Agavaceae |
| Desfontainiaceae | Galacaceae |
| = Columelliaceae | = Diapensiaceae |
| Dialypetalanthaceae | Geitonoplesiaceae |
| = Rubiaceae | = Hemerocallidaceae |
| Dianellaceae | Geniostomaceae |
| = Hemerocallidaceae | = Loganiaceae |
| Dichondraceae | Geosiridaceae |
| = Convolvulaceae | = Iridaceae |
| Diclidanthaceae | Gisekiaceae |
| = Polygalaceae | = Phytolaccaceae |
| Diegodendraceae | Glaucidiaceae |
| = Bixaceae | = Ranunculaceae |
| Dionaeaceae | Globulariaceae |
| = Droseraceae | = Plantaginaceae |
| Dracaenaceae | Goetzeaceae |
| = Convallariaceae | = Solanaceae |
| Duabangaceae | Gonystylaceae |
| = Lythraceae | = Thymelaeaceae |
| Duckeodendraceae | Gouaniaceae |
| = Solanaceae | = Rhamnaceae |
| Dulongiaceae nom. illeg. | Gramineae |
| = Phyllonomaceae | = Poaceae |
| Dysphaniaceae | Gronoviaceae |
| = Amaranthaceae | = Loasaceae |
| Ehretiaceae | Gustaviaceae |
| = Boraginaceae | = Lecythidaceae |
| Ellisiophyllaceae | Guttiferae |
| = Scrophulariaceae | = Clusiaceae |
| Empetraceae | Gyrocarpaceae |
| = Ericaceae | = Hernandiaceae |
| Epacridaceae | Halophilaceae |
| = Ericaceae | = Hydrocharitaceae |
| Eremolepidaceae | Halophytaceae |
| = Santalaceae | = Amaranthaceae |
| Eriosemaceae | Hectorellaceae |
| = Convallariaceae | = Portulacaceae |
| Erycibaceae | Heliotropiaceae |
| = Convolvulaceae | = Boraginaceae |
| Erythropalaceae | Heloniadaceae |
| = Olacaceae | = Melanthiaceae |
| Eucryphiaceae | Helosidaceae |
| = Cunoniaceae | = Balanophoraceae |
| Euryalaceae | Henriqueziaceae |
| = Nymphaeaceae | = Rubiaceae |
| Exocarpaceae | Hippocastanaceae |
| = Santalaceae | = Sapindaceae |
| Flindersiaceae | Hippocrateaceae |
| = Rutaceae | = Celastraceae |
| Foetidiaceae | Hippuridaceae |
| = Lecythidaceae | = Plantaginaceae |

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Hortoniaceae	Lepuropetalaceae
= Monimiaceae	= Parnassiaceae
Hostaceae	Lilaeaceae
= Agavaceae	= Juncaginaceae
Humbertiaceae	Limoniaceae
= Convolvulaceae	= Plumbaginaceae
Hydrastidaceae	Liriodendraceae
= Ranunculaceae	= Magnoliaceae
Hydrocotylaceae	Lobeliaceae
= Araliaceae	= Campanulaceae
Hydropeltidaceae	Lomandraceae
= Nymphaeaceae	= Laxmanniaceae
Hydrophyllaceae	Lophiraceae
= Boraginaceae	= Ochnaceae
Hymenocardiaceae	Lophophytaceae
= Euphorbiaceae	= Balanophoraceae
Hypecoaceae	Luxemburgiaceae
= Papaveraceae	= Ochnaceae
Hypericaceae	Malaceae
= Clusiaceae	= Rosaceae
Hypseocharitaceae	Martyniaceae
= Geraniaceae	= Pedaliaceae
Idiospermaceae	Mastixiaceae
= Calycanthaceae	= Cornaceae
Illecebraceae	Medeolaceae
= Caryophyllaceae	= Liliaceae
Jasionaceae	Meliosmaceae
= Campanulaceae	= Sabiaceae
Jasminiaceae	Mendonciaceae
= Oleaceae	= Acanthaceae
Johnsoniaceae	Mesembryanthemaceae
= Hemerocallidaceae	= Aizoaceae
Julianiaceae	Mimosaceae
= Anacardiaceae	= Fabaceae
Kiggelariaceae	Monotaceae
= Flacourtiaceae	= Dipterocarpaceae
Kingdoniaceae	Monotropaceae
= Circaeasteraceae	= Ericaceae
Kirengeshomaceae	Mouririaceae
= Hydrangeaceae	= Memecylaceae
Labiatae	Moutabeaceae
= Lamiaceae	= Polygalaceae
Langsdorffiaceae	Myriophyllaceae
= Balanophoraceae	= Haloragaceae
Leeaceae	Mystropetalaceae
= Vitaceae	= Balanophoraceae
Leguminosae	Najadaceae
= Fabaceae	= Hydrocharitaceae
Leitneriaceae	Nandinaceae
= Simaroubaceae	= Berberidaceae
Lemnaceae	Napoleonaceae
= Araceae	= Lecythidaceae
Lennoaceae	Naucleaceae
= Boraginaceae	= Rubiaceae
Leoniaceae	Nectaropetalaceae
= Violaceae	= Erythroxylaceae

CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

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- | | |
|---------------------|---------------------|
| Nelsoniaceae | Pistiaceae |
| = Acanthaceae | = Araceae |
| Nemacladaceae | Platystemonaceae |
| = Campanulaceae | = Papaveraceae |
| Nesogenaceae | Plumeriaceae |
| = Cyclocheilaceae | = Apocynaceae |
| Nolanaceae | Podoaceae |
| = Solanaceae | = Anacardiaceae |
| Nolinaceae | Podophyllaceae |
| = Convallariaceae | = Berberidaceae |
| Nupharaceae | Polygonanthaceae |
| = Nymphaeaceae | = Anisophylleaceae |
| Nyctanthaceae | Potaliaceae |
| = Oleaceae | = Gentianaceae |
| Nyssaceae | Ptaeroxylaceae |
| = Cornaceae | = Rutaceae |
| Octoknemaceae | Pteridophyllaceae |
| = Olacaceae | = Papaveraceae |
| Oftiaceae | Punicaceae |
| = Scrophulariaceae | = Lythraceae |
| Ophiopogonaceae | Pyrolaceae |
| = Convallariaceae | = Ericaceae |
| Osyridaceae | Ranzaniaceae |
| = Santalaceae | = Berberidaceae |
| Pachysandraceae | Reaumuriaceae |
| = Buxaceae | = Tamaricaceae |
| Palmae | Retziaceae |
| = Arecaceae | = Stilbaceae |
| Papilionaceae | Rhinanthaceae |
| = Fabaceae | = Orobanchaceae |
| Peganaceae | Rhodoleiaceae |
| = Nitrariaceae | = Hamamelidaceae |
| Pentastemonaceae | Rhopalocarpaceae |
| = Stemonaceae | = Sphaerosepalaceae |
| Peperomiaceae | Rhynchothecaceae |
| = Piperaceae | = Ledocarpaceae |
| Periplocaceae | Roxburghiaceae |
| = Apocynaceae | = Stemonaceae |
| Peripterygiaceae | Ruscaceae |
| = Cardiopteridaceae | = Convallariaceae |
| Petermanniaceae | Saccifoliaceae |
| = Colchicaceae | = Gentianaceae |
| Petiveriaceae | Salaciaceae |
| = Phytolaccaceae | = Celastraceae |
| Philadelphaceae | Salicorniaceae |
| = Hydrangeaceae | = Amaranthaceae |
| Phormiaceae | Salpiglossidaceae |
| = Hemerocallidaceae | = Solanaceae |
| Phylicaceae | Sambucaceae |
| = Rhamnaceae | = Adoxaceae |
| Picrodendraceae | Samolaceae |
| = Euphorbiaceae | = Primulaceae |
| Pinguiculaceae | Saniculaceae |
| = Lentibulariaceae | = Apiaceae |
| Pistaciaceae | Sarcophytaceae |
| = Anacardiaceae | = Balanophoraceae |
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CLASSIFICATION OF FLOWERING PLANTS
(cont'd.)

Sarcospermataceae	Tetradiclidaceae
= Sapotaceae	= Peganaceae
Sargentodoxaceae	Tetragoniaceae
= Lardizabalaceae	= Aizoaceae
Saurauiaceae	Tetrastylidiaceae
= Actinidiaceae	= Olacaceae
Sauvagesiaceae	Thalassiaceae
= Ochnaceae	= Hydrocharitaceae
Scaevolaceae	Theligonaceae
= Goodeniaceae	= Rubiaceae
Scepaceae	Thunbergiaceae
= Euphorbiaceae	= Acanthaceae
Schoepfiaceae	Tiliaceae
= Olacaceae	= Malvaceae
Sclerophylacaceae	Trapaceae
= Solanaceae	= Lythraceae
Scoliopaceae	Trapellaceae
= Liliaceae	= Pedaliaceae
Scybaliaceae	Tribulaceae
= Balanophoraceae	= Zygophyllaceae
Scytotetalaceae	Tricyrtidaceae
= Lecythidaceae	= Liliaceae
Selaginaceae	Trilliaceae
= Scrophulariaceae	= Melanthiaceae
Sesamaceae	Triplostegiaceae
= Pedaliaceae	= Valerianaceae
Sesuvaceae	Uapacaceae
= Aizoaceae	= Euphorbiaceae
Simethidaceae	Ullucaceae
= Hemerocallidaceae	= Basellaceae
Siphonodontaceae	Umbelliferae
= Celastraceae	= Apiaceae
Sonneratiaceae	Utriculariaceae
= Lythraceae	= Lentibulariaceae
Spigeliaceae	Uvulariaceae
= Loganiaceae	= Colchicaceae
Stenomeridaceae	Vacciniaceae
= Dioscoreaceae	= Ericaceae
Sterculiaceae	Viburnaceae
= Malvaceae	= Adoxaceae
Stilaginaceae	Viscaceae
= Euphorbiaceae	= Santalaceae
Strychnaceae	Vitaceae
= Loganiaceae	= Lamiaceae
Stylobasiaceae	Walleriaceae
= Surianaceae	= Tecophilaeaceae
Stylocerataceae	Wellstediaceae
= Buxaceae	= Boraginaceae
Symphoremataceae	Xanthophyllaceae
= Lamiaceae	= Polygalaceae
Syringaceae	Xerophyllaceae
= Oleaceae	= Melanthiaceae
Tetracentraceae	Zannichelliaceae
= Trochodendraceae	= Potamogetonaceae