Updates to the sequence and arrangement of collections

As part of the move to a new Biodiversity Science Centre, the Western Australian Herbarium is rearranging its vascular plant collections. The new systematic sequence is largely based on the phylogeny of the Angiosperm Phylogeny Group (APGIII), a global collaborative effort to better understand the relationships of plant groups. The change to the APGIII system involves some family level changes. Some of these involve the simple merging of one or more families (e.g. Epacridaceae into Ericaceae; Sterculiaceae and Tiliaceae into Malvaceae; Papilionaceae, Mimosaceae and Caesalpiniaceae into Fabaceae), whilst others will necessitate more complex changes to family circumscriptions.

The changes reflect the vastly improved modern knowledge of flowering plant relationships resulting from the APGIII project and other taxonomic work around the world. The previous arrangement of families at the Herbarium, based on the Engler and Prantl sequence of 1905, had been in use since the time of Charles Gardner, and was becoming increasingly out of step with this modern understanding.

Many herbaria around the world are adopting similar phylogenetic arrangements based on APGIII. Being based on a wide range of evidence and repeatable analysis methods, it is expected that this system will be relatively stable, although further changes are always possible as new evidence comes to light.

The tables below list the families that have been changed in the Herbarium (and hence in FloraBase and Max updates). Table 1 lists cases where an entire family has moved or been renamed. Table 2 lists cases where some genera have been moved to a new family and others retained, or where different genera have moved to different families.

Table 1. Simple (entire family) changes; cases where an entire family has moved, renamed or excluded (no longer recognised as occurring in WA)

Old Family	New Family
Adiantaceae	Pteridaceae
Agavaceae	Asparagaceae
Aloeaceae	Asphodelaceae
Asclepiadaceae	Apocynaceae
Avicenniaceae	Acanthaceae
Azollaceae	Salviniaceae
Bombacaceae	Malvaceae
Buddlejaceae	Scrophulariaceae
Caesalpiniaceae	Fabaceae
Callitrichaceae	Plantaginaceae
Cochlospermaceae	Bixaceae
Cuscutaceae	Convolvulaceae

Dipsacaceae	Caprifoliaceae
Epacridaceae	Ericaceae
Fumariaceae	Papaveraceae
Hippocrateaceae	Celastraceae
Hyacinthaceae	Asparagaceae
Hydrophyllaceae	Boraginaceae
Lemnaceae	Araceae
Lobeliaceae	Campanulaceae
Mimosaceae	Fabaceae
Myoporaceae	Scrophulariaceae
Myrsinaceae	Primulaceae
Najadaceae	Hydrocharitaceae
Papilionaceae	Fabaceae
Parkeriaceae	Pteridaceae
Phormiaceae	Hemerocallidaceae
Platyzomataceae	Pteridaceae
Sonneratiaceae	Lythraceae
Stackhousiaceae	Celastraceae
Sterculiaceae	Malvaceae
Taxodiaceae	Cupressaceae
Tiliaceae	Malvaceae
Tremandraceae	Elaeocarpaceae
Valerianaceae	Caprifoliaceae
Viscaceae	Santalaceae
Zannichelliaceae	Potamogetonaceae

Cunoniaceae	Excluded
Davalliaceae	Excluded
Liliaceae	Excluded
Rafflesiaceae	Excluded
Saxifragaceae	Excluded
Ulmaceae	Excluded

Table 2. Family changes involving splits to old families; cases where some genera have been moved to a new family and others retained, or where different genera have moved to different families

Old Family	Genus	New Family
Alliaceae	*Agapanthus*	Agapanthaceae
Anthericaceae	*Arthropodium*	Asparagaceae
	Laxmannia	Asparagaceae
	Murchisonia	Asparagaceae
	Sowerbaea	Asparagaceae
	Thysanotus	Asparagaceae
	Chamaescilla	Asparagaceae
	Chlorophytum	Asparagaceae
	Dichopogon	Asparagaceae

	Agrostocrinum	Hemerocallidaceae
	Arnocrinum	Hemerocallidaceae
	Caesia	Hemerocallidaceae
	Hensmania	Hemerocallidaceae
	Hodgsoniola	Hemerocallidaceae
	Johnsonia	Hemerocallidaceae
	Stawellia	Hemerocallidaceae
	Corynotheca	Hemerocallidaceae
	Tricoryne	Hemerocallidaceae
Apiaceae	*Hydrocotyle*	Araliaceae
	Neosciadium	Araliaceae
	Trachymene	Araliaceae
	Uldinia	Araliaceae
Capparaceae	*Cleome*	Cleomaceae
Clusiaceae	*Hypericum*	Hypericaceae
Cunoniaceae	*Aphanopetalum*	Aphanopetalaceae
Dasypogonaceae	*Acanthocarpus*	Asparagaceae
	Chamaexeros	Asparagaceae
	Lomandra	Asparagaceae
	Xerolirion	Asparagaceae
Euphorbiaceae	*Antidesma*	Phyllanthaceae
	Breynia	Phyllanthaceae
	Bridelia	Phyllanthaceae
	Flueggea	Phyllanthaceae
	Glochidion	Phyllanthaceae
	Margaritaria	Phyllanthaceae
	Phyllanthus	Phyllanthaceae
	Poranthera	Phyllanthaceae
	Sauropus	Phyllanthaceae
	Leptopus	Phyllanthaceae
	Petalostigma	Picrodendraceae
	Drypetes	Putranjivaceae
Hydrophyllaceae	*Phacelia*	Boraginaceae
	Wigandia	Boraginaceae
	Hydrolea	Hydroleaceae
Potamogetonaceae	*Ruppia*	Ruppiaceae
Restionaceae	*Anarthria*	Anarthriaceae
Scrophulariaceae	*Lindernia*	Linderniaceae
	Centranthera	Orobanchaceae
	Striga	Orobanchaceae
	Bartsia	Orobanchaceae
	Parentucellia	Orobanchaceae
	Elacholoma	Phrymaceae
	Glossostigma	Phrymaceae
	Mimulus	Phrymaceae
	Peplidium	Phrymaceae

	Dopatrium	Plantaginaceae
	Bacopa	Plantaginaceae
	Gratiola	Plantaginaceae
	Limnophila	Plantaginaceae
	Stemodia	Plantaginaceae
	Veronica	Plantaginaceae
	Misopates	Plantaginaceae
	Linaria	Plantaginaceae
	Maurandya	Plantaginaceae
	Scoparia	Plantaginaceae
	Buchnera	Orobanchaceae
	Euphrasia	Orobanchaceae
	Rhamphicarpa	Orobanchaceae
	Microcarpaea	Phrymaceae
	Kickxia	Plantaginaceae
	Cymbalaria	Plantaginaceae
Simaroubaceae	*Harrisonia*	Rutaceae
Zygophyllaceae	*Nitraria*	Nitrariaceae

Related content

- Linear systematic sequence -
  a complete list of WA vascular plant families in the new systematic sequence
- Western Australian flora statistics -
  including summary tables of the previous systematic order and accepted families

Written by Kevin Thiele and the Curation Team; 19 January 2010.

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