Western Australian Cryptogam Statistics
2016 Cryptogam Flora Statistics

2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Table 1. Analysis of the size of major cryptogamic groups for various categories of name; data sourced on 1 June 2016.

Category	Fungi	Lichens	Myxomycetes	Algae	Bryophytes	Total
Total names [A]	314	991	160	1,164	207	2,836
Non-current names [B]	73	178	0	45	14	310
Current names [C]	241	813	160	1,119	193	2,526
Species with infraspecies [K]	1	28	0	35	23	87
Current taxa [D]	240	785	160	1,084	170	2,439
Current species [E]	240	772	160	1,076	164	2,412
Manuscript names [F]	0	0	0	0	0	0
Phrase names [G]	0	0	0	0	0	0
Published species [H]	240	772	160	1,076	164	2,412
Published alien species [I]	2	0	0	4	1	7
Published native species [J]	238	772	160	1,072	163	2,405
Estimated species number [L]	140,000 [1]	700 [2]	200 [5]	9,000 [3]	400 [4]	150,300

- The term *taxa* here refers to entities at species level and below
- The term *species* refers only to those entities at species rank

Highlights

A brief comparison of the 2016 data with the previous year (2015).

- the net addition of 198 cryptogam names entered into the Census of Western Australian Plants database (including 36 synonyms);

- an additional 163 current published native cryptogam species are now recorded in the Census: 1 moss, 102 fungi, 0 slimemoulds, 11 algae and 49 lichens;
- the number of published native lichen species now significantly exceeds Ray Cranfield's 2004 estimates. When publishing the lichen census for WA that year he estimated there would be c. 700 lichen species occurring in the State—there are now 772 recorded in the Census.

Notes

Only for the lichens, myxomycetes and for the mosses (bryophyta) of the Perth region, could this information be considered adequate or representative of the diversity of the group. For the remaining groups, specialists have provided an estimate of the actual number of species that could be found to occur in WA once adequate field and taxonomic studies have been made.

1. **Fungi** (both macro- and micro-fungi): Pascoe (1991) suggests the ratio of plants to fungi is about 1:10 in Australia, i.e. 25,000 plants (native and exotic), and 250,000 fungi. So, if WA has 14,000 vascular plants, then the estimated number of fungi in WA would be 140,000 (Neale Bougher, pers. comm.).
2. **Lichens** (lichenised fungi): Ray Cranfield (pers. comm.) suggests that even with the recent publication of a State census of lichens (Cranfield, 2004), there are likely to be in the order of another 70 taxa likely to be discovered in coming years.
3. **Algae** (including marine macro- and micro-algae, dinoflagellates, diatoms and freshwater macro-algae): The estimated number of macroalgae occurring in WA is 1,400, given that much of the northwest remains to be explored and we are still uncovering new records/species in all parts of WA (John Huisman, pers. comm.). Huisman goes on to say that “my earlier compilation of diatom/dinoflagellate and other microalgal records for WA included around 600 diatoms and 150 dinoflagellates (the other groups were negligible); marine and freshwater were included. The multiplication factor used by Watson *et al.* (1995) to estimate the world’s algal species was x10, so WA’s microalgae will probably add up to approximately 7,500 spp.” If we also allow around 100 species of freshwater macroalgae, then the putative number of algae will total some 9,000 taxa.
4. **Bryophytes** refers here to the paraphyletic assemblage of mosses, liverworts and hornworts. Streimann & Klazenga (2002) list 212 moss taxa occurring in WA, and M^{c}Carthy (2003) lists 90 taxa of liverworts and hornworts. As these figures are comparable in size to those listed for the Australian Capital Territory (a region one-thousandth the area), we might expect there are a number of bryophytes yet to discover. Conservatively, the estimated number of taxa occurring in WA could be put at 400 (Ray Cranfield, pers. comm.)
5. **Myxomycetes** (slime moulds): After the recent publication of a census of slime moulds (Knight and Brims, 2010) the estimated maximum number of taxa occurring in WA may be put at 200 (Karina Knight, pers. comm.)

References

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Knight, K.J. and Brims M.H. (2010). Myxomycota census of Western Australia. *Nuytsia* 20: 283–307.

McCarthy, P.M. (2003). *Catalogue of Australian liverworts and hornworts.* Flora of Australia supplementary series. Australian Biological Resources Study, Canberra.

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Streimann, H. and Klazenga, N. (2002). *Catalogue of Australian mosses.* Flora of Australia supplementary series. Australian Biological Resources Study, Canberra.

Watson, R.T., Heywood, V.H., Baste, I., Dias, B., Gamez, R., Janetos, T., Reid, W. & Ruark, G. (1995). *Global Biodiversity Assessment. Summary for Policy-Makers.* Cambridge University Press, Cambridge, New York, Melbourne. 46 pp.

Compiled by Alex Chapman; last updated on 23 June 2016.

Related content

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Did you notice?

There is a diminishing relationship between figures in subsequent rows of the table, as figures in each category are subtracted from the ones above. For example: in each column: A − B = C.

Highlighted rows

Highlighted rows are the recommended figures if you need:

- to cite the number of known entities in WA (D), or
- a conservative estimate of the number of well-documented species (H).

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