FloraBase the Western Australian Flora

Western Australian Cryptogam Statistics 2011

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Preliminary Statistics - June 2011

Analysis of the size of major cryptogamic groups for various categories of name

Category	Fungi	Lichen	Myxomycetes	Algae	Bryophytes	Total
Total names [A]	166	827	142	1117	201	2453
Non-current names [B]	59	108	0	29	10	206
Current names [C]	107	719	142	1088	191	2247
Species with infraspecies [K]	1	23	0	36	23	83
Current taxa [D]	106	696	142	1052	168	2164
Current species [E]	106	686	142	1038	161	2133
Manuscript names [F]	0	0	0	4	1	5
Phrase names [G]	0	0	0	0	0	0
Published species [H]	106	686	142	1042	162	2138
Published alien species [I]	0	0	0	4	1	5
Published native species [J]	106	686	142	1038	161	2133
Estimated species number [L]	140000	700	200	9000	400	150300
See notes	*1*	*2*	*3*	*4*	*5*	

Data sourced on 1st June 2011. Compare with the 2010 figures or the current figures.

A - total number of cryptogam names in the database

B - number of synonymous, excluded or misapplied names (ie. names no longer in current use, at least in WA)

C - number of currently accepted names (ie. includes the species-level name when infra-species exist)

D - number of currently accepted taxa (ie. excludes the species-level name when infra-species of that taxon exist)

E - number of currently accepted species (ie. only the species-level names, excludes any infra-species names)

F - number of proposed but unpublished species (ie. informal names proposed on specimens or in manuscripts)

G - number of assigned but unpublished species (ie. informal names assigned to specimens for further analysis)

H - number of formally published species names (ie. formally published names described in botanical literature)

I - number of published naturalised alien species (ie. formally published names of weed species occurring in WA)

J - number of published species native to Western Australia (ie. formally published names of native WA species)

K - number of species with subordinate current taxa (subspecies, varieties and formas)

L - estimated total number of species expected to occur in Western Australia (see notes 1-5).

2011 Highlights

For the non-vascular (cryptogamic) plants, a brief comparison of the 2011 with the 2010 data shows:

- an additional 324 cryptogam names entered into the Census of Western Australian Plants database (67 of these were synonyms);
- the appearance for the first time of data for 142 myxomycetes (slime moulds) of WA, from the recent Myxomycota census of Western Australia;
- the addition of 99 fungal taxa, 14 algae and 1 moss;
- an increase in the number of cryptogams recorded in the Census to 2164 taxa, or 2133 species.

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, ie. 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] Lichen (ie. 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] 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.)

[4] 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.

[5] 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.)

References

Biggs, L. and Chappill, J., (2008). An annotated census of the mosses of the Perth Region, Western Australia. *Nuytsia* 18 (1) : 1-30.

Cranfield, R.J., (2004). Lichen Census of Western Australia. *Nuytsia* 15 (2) : 193-220.

Huisman, J.M., Cowan, R.A. & Entwisle, T.J. (1998). Biodiversity of Australian marine macroalgae - a progress report. *Bot. Mar.* 41: 89-93.

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.

Pascoe, I.G. (1991). History of systematic mycology in Australia. *In: History of Systematic Botany in Australasia*. Ed by: P. Short. Australian Systematic Botany Society Inc. pp. 259-264.

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 1 July 2011.

Related content

- 2011 Highlights
- Current Statistics - Vascular Plants
- A summary of Floristics and Endemism in WA

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

Having trouble deciding …

... the most appropriate data for your purpose? The highlighted rows are the recommended figures if you need:

- to cite the number of known entities in WA as listed on the State's Census [D], or
- a conservative estimate of the number of well-documented species [H].