



Introduction to the Census of the Queensland flora 2016

Queensland Herbarium

2016 Version 1.1

Prepared by

Peter D Bostock and Ailsa E Holland
Queensland Herbarium
Science Delivery Division
Department of Science, Information Technology and Innovation
PO Box 5078
Brisbane QLD 4001

© The State of Queensland (Department of Science, Information Technology and Innovation) 2016

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 3.0 Australia (CC BY) licence.



Under this licence you are free, without having to seek permission from DSITI, to use this publication in accordance with the licence terms.

You must keep intact the copyright notice and attribute the State of Queensland, Department of Science, Information Technology and Innovation as the source of the publication.

For more information on this licence visit <http://creativecommons.org/licenses/by/3.0/au/deed.en>

Disclaimer

This document has been prepared with all due diligence and care, based on the best available information at the time of publication. The department holds no responsibility for any errors or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. Information contained in this document is from a number of sources and, as such, does not necessarily represent government or departmental policy.

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3170 5725

Citation for introduction (this document)

Bostock, P.D. and Holland, A.E. (eds) (2016). *Introduction to the Census of the Queensland Flora 2016*. Queensland Department of Science, Information Technology and Innovation: Brisbane.

Citation for Census lists example

Jessup, L.W. (2016). Ebenaceae. In P.D.Bostock & A.E.Holland (eds), *Census of the Queensland Flora 2016*. Queensland Department of Science, Information Technology and Innovation: Brisbane.
<https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2016>, accessed 1 September 2016.

Acknowledgements

This report has been prepared by the Department of Science, Information Technology and Innovation. Acknowledgement is made of the contribution of the Queensland Herbarium curators and honorary research associates who have contributed their expertise to the Queensland Herbarium collections and information in this document. Curators are listed below under "Contributors", as well as in the census documents.

August 2016

Contents

About the Queensland Herbarium collections.....	2
Significance of the collections	2
Type specimens	2
Voucher specimens	2
Census of the Queensland flora	3
2016 presentation	3
Native status	4
Non-native status	4
Botanical names	5
Data limitations	5
Queensland flora statistics 2016	5
Plantae: vascular plants	6
Algae	6
Plantae: non-vascular plants—bryophytes	7
Fungi: macrofungi	8
Fungi: lichens	8
Useful references and web resources	11
Contributors	12
Appendix A: New names and name and status changes 2015 census to 2016 census.....	17

List of tables

Table 1. Census of the Queensland Flora Statistics—1913 to 2016.....	9
--	---

List of figures

Figure 1 Census of the Queensland Flora Statistics —1994 to 2016.....	10
---	----

List of maps

Map 1. Regions of the world	15
Map 2. States of Australia and pastoral districts of Queensland.....	16

About the Queensland Herbarium collections

The Queensland Herbarium houses the state's flora collections, comprising more than 850,000 specimens and associated data, of mainly Queensland species of plants, fungi and algae. Botanists and members of the public contribute thousands of specimens to the herbarium collection each year, representing new species records and new distribution records for both native and naturalised species. Specimens are mostly pressed and dried, and mounted on archival sheets. Some bulky specimens are stored in boxes or paper bags and some delicate specimens are stored in preserving liquid. Each specimen is labelled with the collector, collector's number, date of collection, location, habitat and the plant's features such as bark and flower colour. This information is recorded in a database HERBRECS, and the Queensland native and naturalised specimens data is available on the [open data portal](https://data.qld.gov.au/dataset/queensland-herbarium-specimen-data-herbrecs) (<https://data.qld.gov.au/dataset/queensland-herbarium-specimen-data-herbrecs>), and through [Wildlife Online](https://www.qld.gov.au/environment/plants-animals/species-list/) (<https://www.qld.gov.au/environment/plants-animals/species-list/>) and [Australia's Virtual Herbarium](http://avh.chah.org.au/) (<http://avh.chah.org.au/>). The information is also summarised in the [census lists](https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2016) (<https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2016>).

A manual explaining [how to collect plant specimens](https://www.qld.gov.au/environment/plants-animals/plants/herbarium/identify-specimens/) (<https://www.qld.gov.au/environment/plants-animals/plants/herbarium/identify-specimens/>) is available. Algae and fungi require specialist processing, please contact us for further information on these groups.

Significance of the collections

The Queensland Herbarium specimen collections are fundamental and irreplaceable materials and data sources used to document the flora and vegetation of Queensland. They are essential for: taxonomic and phylogenetic research, the application of scientific names, new species discovery, identification of species, mapping the distribution of species, conservation planning and management, ecology of species, biodiversity assessment, state legislation (*Vegetation Management Act*, *Nature Conservation Act*, *Land Protection Act*, *Environmental Protection Act*), weed identification and ecology, agriculture, ethnobotany, forensic botany, molecular biology and education.

Type specimens

A type specimen is a specimen assigned by a taxonomist to be the reference point/material for the application of a scientific name. All species with a scientific name have type material, usually a plant specimen held in a Herbarium. The Queensland Herbarium holds nearly 10,000 type specimens. High resolution images of the vascular plant type specimens held at the Queensland Herbarium (BRI) are now available on line at [JSTOR](http://plant.jstor.org) (Global Plants Initiative) (<http://plant.jstor.org>) as part of the Global Plants Initiative. Newly discovered species must be published under international rules that standardise botanical name usage across the world (McNeil et al. 2012) and all must be assigned a type specimen housed in an internationally recognised Herbarium.

Voucher specimens

Scientists using plants in their research are usually required to deposit voucher specimens in a herbarium collection as a permanent and verifiable record of the plant sampled. Voucher specimens are also required to verify a new declared weed or threatened species record and are often used as points of reference for a published species photographs, seed bank accessions or other record. Please contact us before collecting voucher specimens to find out what is required.

Census of the Queensland flora

This census provides authoritative published lists of all the known native and naturalised species of plants, algae, fungi and lichens in Queensland, updated from the previous census lists (Bostock & Holland 2015). Separate listings of the naturalised and doubtfully naturalised flora are also presented, along with an all combined data list. Species that are only presented by specimens from cultivation are not included in any of the census lists.

The names of all native and naturalised species, subspecies, varieties, forms and hybrids known to occur in Queensland are listed, generated from the Queensland Herbarium specimen information database (HERBRECS) as at 24 August 2016. These records are primarily based on the Queensland Herbarium specimen collections representing 245 years of verified specimen data.

2016 presentation

The *Census of the Queensland Flora 2016* lists (<https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2016>) are provided in spreadsheet compatible format on the Queensland open data portal (<https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2016>). The census lists include current names, distributions (pastoral districts) and status of all currently known Queensland plants, algae, fungi and lichens (see definitions below). Print format for some lists is also available on request.

A list of name and status changes from the 2015 census (Bostock & Holland 2015) is provided in Appendix A of this document.

Census of the Queensland Flora 2016 lists (spreadsheet compatible format)

All combined records: Names, distributions and status of Queensland plants, algae, fungi, lichens and cyanobacteria combined into one list.

Full data set: The full data set includes the botanical names broken down into parts (genus, species etc.), names with and without authors and botanical classification number (unique identifier for each name).

Vascular plants (Plantae): Queensland native and naturalised flowering plants, conifers, cycads and ferns.

Vascular plants (Plantae) linked to JSTOR images: Full data for Queensland native and naturalised vascular plants with links to images of type specimens held on [JSTOR](http://plants.jstor.org) (Global Plants Initiative) <http://plants.jstor.org>.

Non-vascular plants (Plantae): Queensland mosses, liverworts and hornworts.

Green and red algae (Plantae): Queensland green and red algae.

Macrofungi (Fungi): Queensland macrofungi (microfungi are excluded).

Lichens (Fungi): Queensland lichens.

True algae (Chromista): Queensland Chromista.

Bacteria (Cyanobacteria only): Queensland cyanobacteria.

Naturalised plants: non-native plants that have become naturalised in Queensland.

Native plants naturalised in Qld: native Queensland plants that have naturalised outside of their native range.

Formerly naturalised plants: plants that have previously been naturalised in Queensland, but have not persisted.

Doubtfully naturalised plants: plants with populations occurring outside of cultivation, but that are not yet considered to be naturalised (established) in Queensland.

The **Plantae** (green plants) comprise vascular plants (flowering plants, conifers, cycads, ferns and fern allies) and non-vascular plants (mosses, liverworts, hornworts, green algae and red algae).

True algae include brown algae and some related groups, together with diatoms (Chromista).

Bacteria are here restricted to the cyanobacteria, previously called blue-green algae. More information on the classification of these groups is given below.

The districts used are the Pastoral Districts of Queensland as outlined on maps issued by the former Survey Office of the Department of Natural Resources, Brisbane, based on State Map 4a. Specimen counts are given for each Queensland district, together with regional (non-Queensland) counts where applicable. Queensland collections not identifiable to a district are recorded under "QLD". Explanatory maps are provided for World regions (Map 1) and Australian States and Territories and Queensland pastoral districts (Map 2), at the end of this document. Note that districts of Queensland, normally abbreviated as 2 letters e.g. MO for Moreton, have been prefaced by a capital Q in the spreadsheets, to distinguish them from other regions e.g. QWA for Warrego, Qld and WA for Western Australia.

Where species and intraspecific taxa (subspecies and varieties) are recognised to exist, but not yet formally described, a temporary phrase name is provided e.g. *Tephrosia* sp. (Barkly Downs S.L. Everist 3384). Taxa that are known to occur in Queensland but which are only represented by verified specimen(s) held at another herbarium are included with a value of "0" (zero). Species are listed alphabetically by family and genus in the pdf document.

Native status

Native species are here defined as those that are considered to have evolved in Queensland unaided by humans, or have migrated to and persisted in Queensland without assistance from humans, from an area in which they are considered to be native. The conservation status (X = Extinct in the wild, E = Endangered, V = Vulnerable or N = Near Threatened) is as recorded in the Queensland [Nature Conservation Act 1992](https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConA92.pdf) (<https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConA92.pdf>) for species listed in the [Nature Conservation \(Wildlife\) Regulation 2006](https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConAdR06.pdf) (<https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConAdR06.pdf>).

The remaining native plant species have a conservation status of Least Concern and these are not marked with a symbol in the status column.

Non-native status

Naturalised species are here defined as those that are considered to have established populations outside of their native range, by reproducing there without cultivation or other human intervention. Naturalised species are indicated by an asterisk (*) in the status column. Queensland native plants that have become naturalised in a pastoral district outside their native range are also recorded in a separate list.

There are separate census lists for naturalised (*), doubtfully naturalised (D) and formerly naturalised plant species (!). Formerly naturalised species are those that were previously considered naturalised, but are presumed to have disappeared from the landscape (not collected for more than 50 years). Doubtfully naturalised species have populations that may be in the early

stages of naturalisation and not yet established in the landscape, or their continued existence in the landscape may be doubtful, for example where the entire Queensland population has been subject to an eradication program. Adventive plants or weeds appearing only in gardens and other cultivated situations are not considered to be either doubtfully naturalised or naturalised. Plants known only from cultivation are excluded from all lists.

Many naturalised and doubtfully naturalised species pose a threat to natural ecosystems, agriculture and grazing lands. More than 100 of these species are listed as pests (restricted or prohibited) under the [Queensland Biosecurity Act 2014](https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/B/BiosecurityA14.pdf) (<https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/B/BiosecurityA14.pdf>).

Botanical names

The botanical names used in these census lists comply with the rules of the [International Code of Nomenclature of Algae, Fungi and Plants \(Melbourne Code\)](http://www.iapt-taxon.org/nomen/main.php) (<http://www.iapt-taxon.org/nomen/main.php>) (McNeill *et al.* 2012) and the International Code of Nomenclature for Cultivated Plants (Brickell *et al.* 2009). Author abbreviations follow Brummitt and Powell (1992) and are also available from the [International Plant Names Index](http://www.ipni.org/index.html) (<http://www.ipni.org/index.html>). Names at the level of Kingdom and Phylum follow Cavalier-Smith (2004).

Data limitations

These census lists are a snapshot of the flora of Queensland as at 24 August 2016, reflecting the accepted scientific names and distribution of Queensland plants, algae, cyanobacteria, lichens and macrofungi in the State of Queensland based primarily on the Queensland Herbarium collections. Other Australian herbarium collections holding Queensland plant data are not included, but see comment above regarding species not represented by a Queensland Herbarium specimen. Additional locations from other herbaria may be accessed from [Australia's Virtual Herbarium](http://avh.chah.org.au/) (<http://avh.chah.org.au/>)

Readers may submit specimen collections to fill obvious distribution gaps, but are requested to please contact us first and find out what is required. Bryophytes, algae, lichens and fungi usually require additional processing. It is recommended that you first contact a specialist curator or technician before collecting these organisms. Note that a permit is required for collecting activities on state lands or where listed threatened species are involved.

Queensland flora statistics 2016

The Queensland native flora is currently represented by 14,295 native species across all groups, nearly double the number listed by Bailey in 1913 (7,781 species), with a net increase of 66 additional species recorded since the last census (Bostock & Holland 2015). These native species include 958 species currently listed as threatened: Endangered (E) or Vulnerable (V), Near Threatened (NT) or Extinct in the wild (X). The remaining native species are listed as Least Concern (no symbol in the census lists).

There are currently 1,326 non-native species that are known to have become naturalised (*) in Queensland since European contact, including two fungi species. The naturalised flora of Queensland has been increasing at the rate of approximately 10 species per year for more than 100 years according to Queensland Herbarium records and now represents more than 13% of the total vascular flora. A further 360 species are considered to be doubtfully naturalised (D). In addition, 22 native Queensland species are recorded here as naturalised outside of their native range. In Queensland, 90 non-native species previously considered to be naturalised have now

disappeared from the landscape (not collected for more than 50 years) and are therefore not considered to be naturalised at the present time, here listed as formerly naturalised (!).

One hundred years of flora species discovery is summarised in **Table 1**. Census data over the last 22 years is summarised in **Figure 1**.

Plantae: vascular plants

Vascular plants are those that have distinct vascular tissue (xylem and phloem), as opposed to the non-vascular plants (see below). They are considered to have evolved from a single freshwater green algal ancestor and now include approximately 250,000 species worldwide. The flowering plants (angiosperms) are the largest group, but Queensland also has many native conifers, cycads and ferns. The classification presented here generally follows that of the [Australian Plant Census \(https://biodiversity.org.au/nsl/services/apc\)](https://biodiversity.org.au/nsl/services/apc) and the [Angiosperm Phylogeny Group III \(http://www.mobot.org/MOBOT/research/APweb/\)](http://www.mobot.org/MOBOT/research/APweb/) with some exceptions.

Queensland's 8,571 native vascular plant species represent about half of the known Australian vascular flora. More than one third of these species are endemic, that is they are only found in Queensland. New vascular plant species are still being discovered and described in Queensland at the rate of over 20 species per year. Queensland has a wide diversity of [regional ecosystems \(http://www.qld.gov.au/environment/plants-animals/plants/herbarium/mapping-ecosystems/\)](http://www.qld.gov.au/environment/plants-animals/plants/herbarium/mapping-ecosystems/): currently there are 1,386 identified ecosystems which include many unique habitats such as lowland tropical rainforests and desert dune systems. Queensland is also the Australian centre of diversity for several iconic plant groups such as the cycads and zamia palms (44 species) and the ferns and fern allies (385 species).

The two largest families of vascular plants in Queensland are the grasses (Poaceae 632 species) and the myrtles and eucalypts (Myrtaceae 598 species); these two families dominate many ecosystems. The next largest families are the legumes (Fabaceae 471 species) and the orchids (Orchidaceae 435 species). The family with the most naturalised species is the grasses (Poaceae 184 species), followed by the daisies (Asteraceae 136 species) and the legumes (Fabaceae 132 species).

Ailsa Holland

Orchids

The taxonomy of a number of plant families is evolving. This particularly applies in Orchidaceae at the generic level. Queensland Herbarium staff are working towards a consensus regarding the application of scientific names to orchids where the views of researchers vary.

Mike Mathieson

Algae

Algae and Cyanobacteria (blue-green algae) have traditionally been grouped together based on their ability to undertake photosynthesis in aquatic environments. Unlike land plants which evolved from a common ancestor, different lineages of algae have evolved separately in aquatic environments over the last three billion years. These different evolutionary histories are reflected in the current classification scheme which assigns 'algal' species to four of the six Kingdoms of Life on Earth: cyanobacteria (Bacteria), red and green algae (Plantae), euglenoids and dinoflagellates (Protozoa, not covered in this census) and the brown algae, diatoms and several other phyla (Chromista, algae in the narrow sense). The classification of the 'algae' has changed markedly over the last fifty years and is expected to undergo further revisions as new species are discovered

and more intensive studies generate new data. The arrangement of the kingdoms and their constituent cyanobacterial and algal species in this census follows Cavalier-Smith (2004).

Globally, there are approximately 34,000 described species of cyanobacteria and algae, but this is probably only a tenth of the species still waiting to be discovered. These organisms play an important role in aquatic ecosystems underpinning food webs including those supporting commercial fisheries, contributing to global carbon, nitrogen and sulphur cycles, stabilizing sediments to improve water quality and providing habitat for many other species.

Julie Phillips, Glenn McGregor

Plantae: non-vascular plants—bryophytes

“Bryophyte” is a collective term for three distinct lineages of non-vascular land plants within the Kingdom Plantae: mosses (Bryophyta), liverworts (Marchantiophyta) and hornworts (Anthocerotophyta). The three lineages are grouped together because of shared traits, primarily small stature, lack of vascular tissue and a life cycle including a sporophyte (diploid spore producing phase) and a dominant gametophyte (haploid sexual phase which is the most easily seen form). From an evolutionary viewpoint, the bryophytes mark the transition from aquatic to terrestrial environments and are considered the closest modern relatives of terrestrial plants but the classification and relationships of the three lineages is still debated. There are an estimated 20,000 species worldwide with approximately 1,800 occurring in Australia. With just over 1,000 known species occurring in Queensland, the Bryophytes are the second-most diverse group of land plants after the angiosperms.

In Queensland, bryophytes occupy a diverse range of habitats from arid environments through to tropical rainforests. They are often among the first species to colonise exposed surfaces such as road cuttings. Along with cyanobacteria, lichens and algae, bryophytes are a critical component of the biological crusts which bind the soil surface in semi-arid to arid areas.

The true mosses (Bryophyta) are the most diverse group and generally have leaves spirally arranged around the stem and usually have a mid-rib (costa). Mosses are generally erect in form and are attached to the substrate via root-like structures (rhizoids).

Liverworts (Marchantiophyta) may be either flat (thallose) or leafy and superficially resemble mosses but leaves lack a mid-rib. Many species grow on other plants, especially in high-rainfall forests and are important as habitats for invertebrates and in regulating forest hydrology.

Hornworts (Anthocerotophyta) have distinctive elongated sporophytes that split longitudinally to release the spores, while the gametophytes are flat. Most species are terrestrial, growing on moist earthen banks or in gaps between ground covers. One genus (*Dendroceros*) is epiphytic, growing on rough barked trees in rainforests.

The bryophyte flora of Queensland is far from complete with many areas yet to be properly surveyed. However, with more identification resources readily available such as Australian Mosses Online and well-illustrated field guides, a greater understanding of the bryophyte diversity and distribution in Queensland will be possible.

Andrew Franks, Ross Patterson

Fungi: macrofungi

Fungi are an important part of ecosystem processes. The roles of different fungi include decomposers that recycle nutrients, mycorrhizal fungi that are associated with plant roots and assist water and nutrient absorption, along with disease fungi such as myrtle rust which attack their hosts. Many fungi are important food sources for native animals.

Fungi appear in the fossil record at around the same time as plants and animals. The macrofungi recorded here include those with larger, more visible fruiting bodies and are mainly decomposers or mycorrhiza. Two groups are included in this census, reflecting the majority of fungal collections: the sac fungi (Ascomycetes) and the club fungi (Basidiomycetes). The sac fungi are recognised by the typical ascus (plural asci), a cup or sac usually containing eight sexually-produced spores. These include the cup fungi, morels, truffles and most lichens. Club fungi are recognised by their distinctive basidium (plural basidia), or club shaped cells, which usually bear sexually-produced spores in groups of four. They include the mushrooms, puffballs, coral fungi, bracket fungi and many other forms.

The fungal biodiversity of Queensland is still largely unknown and the classification of fungi is undergoing rapid changes due to the results of molecular studies. Recent surveys in south-eastern Queensland have shown that more than 70% of fungi species in this area are new to science. The Queensland Herbarium and the [Queensland Mycological Society](http://qldfungi.org.au/) (<http://qldfungi.org.au/>) are actively involved in discovering and documenting the fungi flora.

Two non-native species are known to be naturalised in Queensland.

Nigel Fechner, Megan Prance

Fungi: lichens

The lichens are a group of organisms characterised by a symbiotic relationship between a fungus and a photobiont (photosynthetic organism). The photobiont is usually a green alga or a cyanobacterium (blue-green alga). The fungus is almost always a sac fungus (Ascomycete) but may also be a club fungus (Basidiomycete). About 40% of sac fungi are lichenized. Lichens are considered to be ancient in origin, appearing in the earliest known land floras.

A lichen name is strictly applicable to the fungal component only, the photobiont being classified separately. Most of the green-algal photobionts are not known to occur outside of lichens and many show genetic adaptation to the lichen life-style. Lichenization has occurred at least five times within the Ascomycota and several times in the Basidiomycota.

About half of the known Australian lichens occur in Queensland, with many more yet to be discovered, especially in central and northern Queensland. The Queensland Herbarium and the Queensland Mycological Society are actively involved in discovering and documenting the lichen flora.

Rod Rogers

Table 1. Census of the Queensland Flora Statistics—1913 to 2016

	Kingdom & Group	2016	2015	2014	2013	2010	2007	2002	1997	1994	1913 (Bailey)
Plantae: Angiosperms (flowering plants)	Native	8,121	8,113	8,098	8,078	8,005	7,901	7,677	7,512	7,252	4,626
	Naturalised	1,307	1,294	1,284	1,262	1,241	1,175	1,066	1,001	910	297
	Subtotal	9,428	9,407	9,382	9,340	9,246	9,076	8,743	8,513	8,162	4,923
Plantae: Gymnosperms (conifers, cycads and allies)	Native	65	64	64	64	62	62	59	60	54	29
	Naturalised	6	6	6	6	6	6	3	3	3	0
	Subtotal	71	70	70	70	68	68	62	63	57	29
Plantae: Pteridophytes (ferns and allies)	Native	385	383	383	381	381	381	377	374	375	233
	Naturalised	11	11	11	11	11	10	10	7	5	0
	Subtotal	396	394	394	392	392	391	387	381	380	233
Plantae: Non-vascular plants	Mosses (Bryophyta)	567	562	558	561	555	556	574	595	not listed	360
	Liverworts & hornworts	447	444	442	437	421	411	315	not listed	not listed	113
Algae (Plantae, Chromista and Cyanobacteria)	Algae	1,562	1,558	1,558	1,555	1,505	1,433	1,011	1,004	not listed	718
Fungi (lichens and macrofungi groups)	Lichens	2,035	2025	1,988	1,962	1,888	1,742	1,558	1,370	not listed	828
	Native Macrofungi	1,113	1080	1,083	1,036	1026	not listed	not listed	not listed	not listed	874
	Naturalised fungi	2	2	2	2						
Totals	Total native	14,295	14,229	14,174	14,076	—	—	—	—	—	7,781
	Total naturalised	1,326	1313	1,303	1,279	1,258	1,191	1,079	1,011	918	297
	Overall total native and naturalised	15,621	15,542	15,477	15,355	—	—	—	—	—	8,078

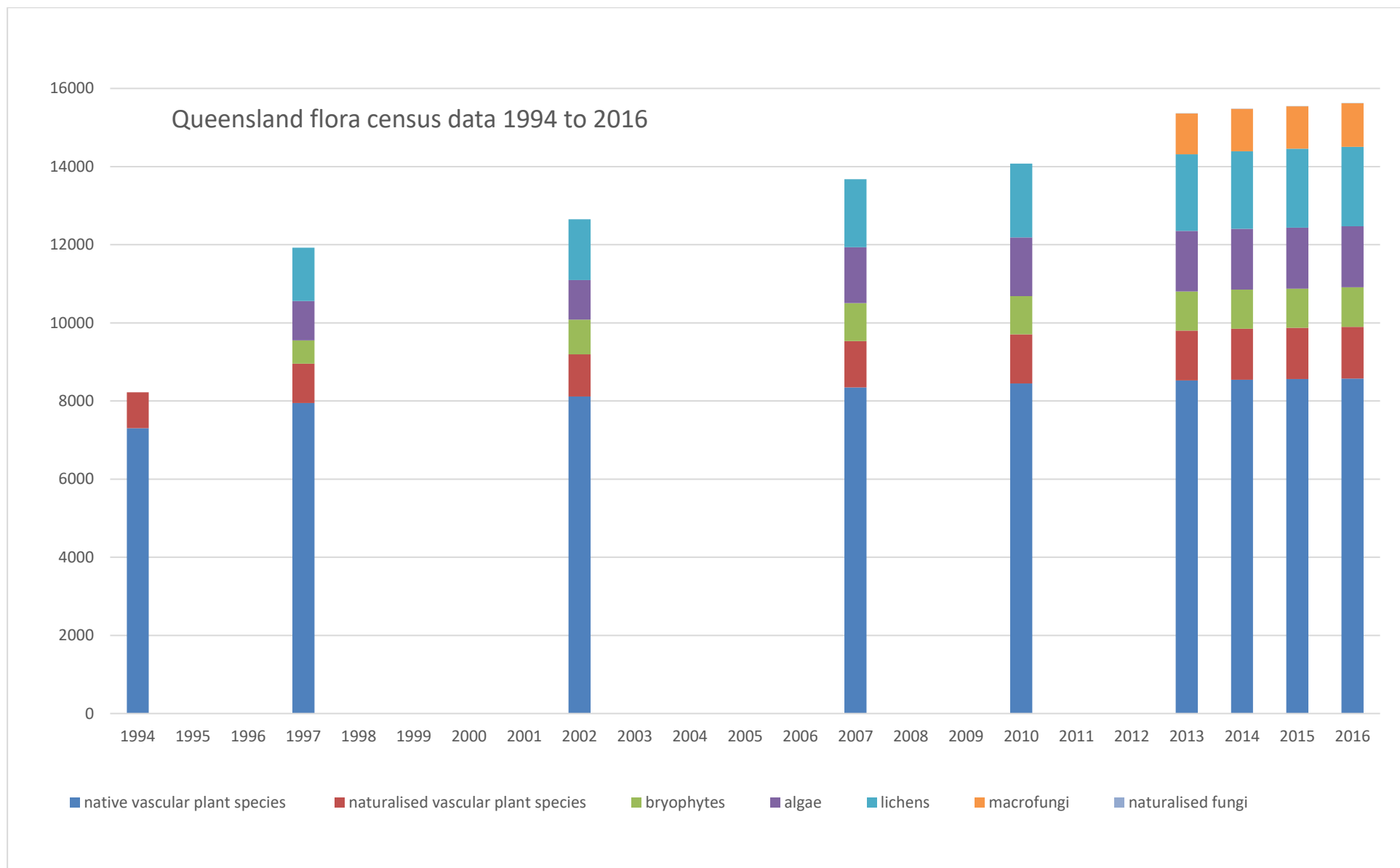


Figure 1 Census of the Queensland Flora Statistics —1994 to 2016

Useful references and web resources

- Australia Biological Resources Study (2015). Australian Mosses Online.
http://www.anbg.gov.au/abrs/Mosses_online/index.html
- Australian Plant Census, IBIS database, Centre for Australian National Biodiversity Research, Council of Heads of Australasian Herbaria, <https://biodiversity.org.au/nsl/services/apc>
- Australian Plant Name Index, IBIS database, Centre for Australian National Biodiversity Research, Australian Government, Canberra <http://www.cpbr.gov.au/cgi-bin/apni>
- Australia's Virtual Herbarium, Council of Heads of Australasian Herbaria <http://avh.chah.org.au>
- Bailey, F.M. (1913). *Comprehensive Catalogue of Queensland Plants both Indigenous and naturalised*. Government Printer: Brisbane.
- Bean, A.R. (2016). *Collecting and Preserving Plant Specimens, a Manual*. Second edition. Queensland Herbarium, Department of Science, Information Technology and Innovation: Brisbane. <http://www.qld.gov.au/environment/plants-animals/plants/herbarium/identify-specimens>
- Bostock, P.D. & Holland, A.E. (eds) (2010). *Census of the Queensland Flora 2010*. Queensland Herbarium, Department of Environment and Resource Management: Toowong.
- Bostock, P.D. & Holland, A.E. (eds) (2015). *Introduction to the Census of the Queensland Flora 2015; Census of the Queensland Flora 2015 (census lists)* Queensland Herbarium, Department of Science, Information Technology and Innovation: Toowong.
<https://data.qld.gov.au/dataset/census-of-the-queensland-flora-2015>
- Brickell, C.D., Alexander, C., David, J.C., Hettterscheid, W.L.A., Leslie, A.C., Malecot, V., Xiaobai Jin & Cubey, J.J. (2009). International Code of Nomenclature for Cultivated Plants. *Scripta Horticulturae* 10. http://www.actahort.org/chronica/pdf/sh_10.pdf
- Brummitt, R.K. & Powell, C.E. (1992). *Authors of Plant Names*. Royal Botanic Gardens: Kew.
- Cavalier-Smith, T. (2004). Only six kingdoms of life. *Proceedings of the Royal Society of London, B*. 271: 1251–1262.
- Cowan, R.A. (2016). AMANI: Australian Marine Algal Name Index. Australian Biological Resources Study and Murdoch University, Perth.
<http://www.anbg.gov.au/amanisearch/servlet/amanisearch>
- Global Plants Initiative. Global Plants on JSTOR. <http://plants.jstor.org>
- Guiry, M.D. & Guiry, G.M. (2015). AlgaeBase. World-wide electronic publication, National University of Ireland, Galway. <http://www.algaebase.org>
- Heywood, V.H., Brummitt, R.K., Culham, A. & Seberg, O. (2007). *Flowering Plant Families of the World*. Royal Botanic Gardens: Kew.
- Index Fungorum. <http://www.indexfungorum.org/Index.htm>
- May, T.W., Milne, J., Wood, A.E., Shingles, S., Jones, R.H. & Neish, P. (2004). Interactive catalogue of Australian fungi, version 3.0. Australian Biological Resources Study, Canberra / Royal Botanic Gardens Melbourne. <http://data.rbq.vic.gov.au/cat/index.php/fungicatalogue>
- McCarthy, P.M. (2006). *Checklist of Australian Liverworts and Hornworts*. Australian Biological Resources Study, Canberra. Version 6 April 2006.
http://www.anbg.gov.au/abrs/liverwortlist/liverworts_intro.html.

McCarthy, P.M. (2016), *Checklist of the Lichens of Australia and its Island Territories*. Australian Biological Resources Study, Canberra. Version 22 January 2016. <http://www.anbg.gov.au/abrs/lichenlist/introduction.html>.

McNeill, J., Barrie, F.R., Buck, W.R., Demoulin, V., Greuter, W., Hawksworth, D.L., Herendeen, P.S., Knapp, S., Marhold, K., Prado, J., Prud'homme Van Reine, W.F., Smith, G.F., Wiersema, J.H. & Turland, N.J. (2012). International Code of Nomenclature for algae, fungi and plants (Melbourne Code). *Regnum Vegetabile* 154. A.R.G. Gantner Verlag KG. <http://www.iapt-taxon.org/nomen/main.php>

Mycobank database. <http://www.mycobank.org>

Stevens, P. F. (2001 onwards). Angiosperm Phylogeny Website. Version 13, 2016 [and more or less continuously updated since]. <http://www.mobot.org/MOBOT/research/APweb>

The International Plant Name Index. <http://www.ipni.org>

Wiersema, J.H. (continuously updated). Taxonomic information on cultivated plants in the usda-ars germplasm resources information network (GRIN). National Germplasm Resources Laboratory Agricultural Research Service United States Department of Agriculture Beltsville, Maryland 20705-2350, U.S.A. <https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomyquery.aspx>

Contributors

[*= Queensland Herbarium honorary research associate or external contributor]

Flowering Plant families (Angiosperms)

Bean, A.R.: Acanthaceae, Amaranthaceae, Apiaceae, Balsaminaceae, Caprifoliaceae, Chrysobalanaceae, Cleomaceae, Hydatellaceae, Hydroleaceae, Lythraceae, Mazaceae, Melastomataceae, Myodocarpaceae, Myrtaceae (Leptospermoideae), Pedaliaceae, Plantaginaceae, Ranunculaceae, Rhamnaceae, Rosaceae, Sambucaceae, Solanaceae, Sphenocleaceae, Stylidiaceae, Thymelaeaceae.

Bean, A.R. & Jessup, L.W.*: Araliaceae.

Bean, A.R. & Forster, P.I.: Lamiaceae.

Booth, R.: Centrolepidaceae, Cyperaceae, Restionaceae.

Clarkson, J.R.*: Erythroxylaceae.

Crayn, D.*: Ericaceae.

Dowling, R: Rhizophoraceae.

Edginton, M.: Brassicaceae, Chenopodiaceae, Cucurbitaceae, Passifloraceae, Santalaceae, Scrophulariaceae, Viscaceae.

Fechner, N.: Linderniaceae, Phrymaceae, Stackhousiaceae.

Fensham, R.J.: Burmanniaceae, Eriocaulaceae, Pandanaceae.

Field, A.R.: Cymodoceaceae, Nymphaeaceae, Ruppiaceae, Zosteraceae.

Forster, P.I.: Agavaceae, Amaryllidaceae, Apocynaceae, Arecaceae, Argophyllaceae, Asphodelaceae, Blandfordiaceae, Bromeliaceae, Cactaceae, Campanulaceae, Carpodetaceae, Commelinaceae, Costaceae, Crassulaceae, Dioscoreaceae, Doryanthaceae, Dracaenaceae,

Escalloniaceae, Flagellariaceae, Haemodoraceae, Hyacinthaceae, Iridaceae, Loganiaceae, Melianthaceae, Phyllanthaceae, Piperaceae, Proteaceae (Edginton M.: *Grevillea* & *Hakea*); Ptaeroxylaceae, Putranjivaceae, Quintiniaceae, Ripogonaceae, Rutaceae, Smilacaceae, Stemonaceae, Taccaceae, Violaceae, Vitaceae, Xanthorrhoeaceae, Xyridaceae.

Forster, P.I. & Guymer, G.P.: Sapindaceae.

Forster, P.I. & Halford, D.A.*: Euphorbiaceae, Picrodendraceae, Rubiaceae.

Forster, P.I. & Laidlaw, M.J.: Araceae.

Forster, P.I. & Ngugi, L.: Zingiberaceae.

Guymer, G.P.: Aceraceae, Alseuosmiaceae, Balanopaceae, Bignoniaceae, Bombacaceae, Byttneriaceae, Capparaceae, Corynocarpaceae, Elaeagnaceae, Elaeocarpaceae, Gesneriaceae, Helicteraceae, Icacinaceae, Leptaulaceae, Loranthaceae, Malvaceae, Nothofagaceae, Orobanchaceae, Pennantiaceae, Pentapetaceae, Simaroubaceae, Stemonuraceae, Sterculiaceae (McDonald W.J.: *Argyrodendron*), Surianaceae, Tamaricaceae, Winteraceae.

Guymer, G.P. & Jessup, L.W.*: Myrtaceae (Myrtoideae).

Halford, D.A.*: Brownlowiaceae, Convolvulaceae, Muntingiaceae, Sparrmanniaceae.

Harris, W.K.*: Oleaceae.

Hodgon, J.*: Juncaceae.

Holland, A.E.: Bataceae, Begoniaceae, Cannabaceae, Casuarinaceae, Corsiaceae, Dilleniaceae, Goodeniaceae, Gyrostemonaceae, Hydrangeaceae, Martyniaceae, Moringaceae, Nitrariaceae, Olacaceae, Oxalidaceae, Papaveraceae, Petiveriaceae, Phytolaccaceae, Plumbaginaceae, Resedaceae, Triuridaceae, Tropaeolaceae, Zygophyllaceae.

Holland, A.E. & Bean, A.R.: Asteraceae.

Holland, A.E. & Pedley, L.*: Fabaceae.

Hosking, J.* & Bean, A.R.: naturalised species.

Jessup, L.W.*: Actinidiaceae, Akaniaceae, Aphanopetalaceae, Aristolochiaceae, Atherospermataceae, Austrobaileyaceae, Basellaceae, Berberidaceae, Berberidopsidaceae, Bixaceae, Burseraceae, Cardiopteridaceae, Caricaceae, Clusiaceae, Cochlospermaceae, Connaraceae, Datisceae, Dichapetalaceae, Elatinaceae, Eupomatiaceae, Hamamelidaceae, Hanguanaceae, Hernandiaceae, Himantandraceae, Idiospermaceae, Lauraceae, Malpighiaceae, Meliaceae, Memecylaceae, Menispermaceae, Moraceae, Myristicaceae, Myrsinaceae, Ochnaceae, Opiliaceae, Paulowniaceae, Pittosporaceae, Samolaceae, Sapotaceae, Sphenostemonaceae, Theaceae, Trimeniaceae, Turneraceae, Ulmaceae.

Jessup, L.W.* & Field, A.R.: Annonaceae, Ebenaceae.

Jessup, L.W.* & Halford, J.J.*: Anacardiaceae, Aquifoliaceae, Celastraceae, Cornaceae, Flacourtiaceae, Monimiaceae, Symplocaceae, Urticaceae, Cunoniaceae

Jessup, L.W.* & Laidlaw, M.J.: Cunoniaceae.

Laidlaw, M.J.: Calceolariaceae, Heliconiaceae, Salicaceae, Tetrachondraceae.

Mathieson, M.T.: Byblidaceae, Droseraceae, Frankeniaceae, Lentibulariaceae.

Mathieson, M.T., Field, A.R. & Bostock, P.D.*: Orchidaceae.

McDonald, W.J.*: Combretaceae.

Ngugi, L.B.: Asparagaceae, Cannaceae, Marantaceae, Musaceae.

Pedley, L.*: Avicenniaceae, Caesalpiniaceae, Verbenaceae.

Pedley, L.*, Brown, G.: Mimosaceae.

Pennay, C.: Alismataceae, Aponogetonaceae, Cabombaceae, Ceratophyllaceae, Haloragaceae, Hydrocharitaceae, Juncaginaceae, Limnocharitaceae, Maundiaceae, Mayacaceae, Menyanthaceae, Najadaceae, Nelumbonaceae, Onagraceae, Philydraceae, Podostemaceae, Polygonaceae, Pontederiaceae, Potamogetonaceae, Typhaceae.

Pollock, A.: Nyctaginaceae.

Thompson, E.J.*: Poaceae; Kelman, D. (*Bambusa*).

Thomas, M.B.: Aizoaceae, Caryophyllaceae, Molluginaceae, Portulacaceae.

Thompson, E.J.*: Boraginaceae, Polygalaceae.

Wang, J.: Alliaceae, Alstroemeriaceae, Anthericaceae, Balanophoraceae, Boryaceae, Cecropiaceae, Colchicaceae, Gentianaceae, Hemerocallidaceae, Hugoniaceae, Hypoxidaceae, Johnsoniaceae, Laxmanniaceae, Liliaceae, Linaceae, Luzuriagaceae, Maesaceae, Pentaphragmaceae, Petermanniaceae.

Wilson, G.*: Nepenthaceae.

Wood, A.: Geraniaceae, Lecythidaceae, Strelitziaceae.

Wood, A. & Cameron, P.*: cultivated species.

Conifers, cycads and allies (gymnosperms): Forster, P.I.; Edginton, M. (Pinaceae)

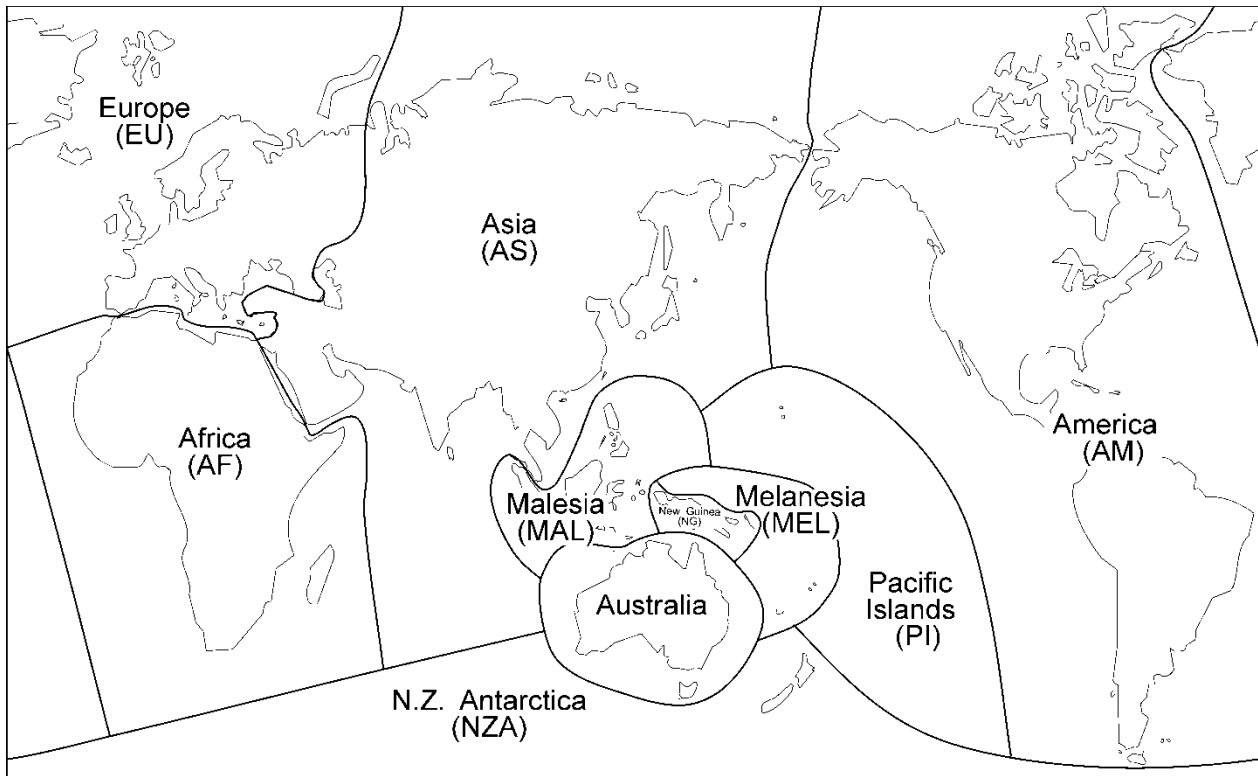
Ferns and fern allies (pteridophytes): Field, A.R. & Bostock, P.D.*

Mosses, liverworts, hornworts (bryophytes): Franks, A.J.*

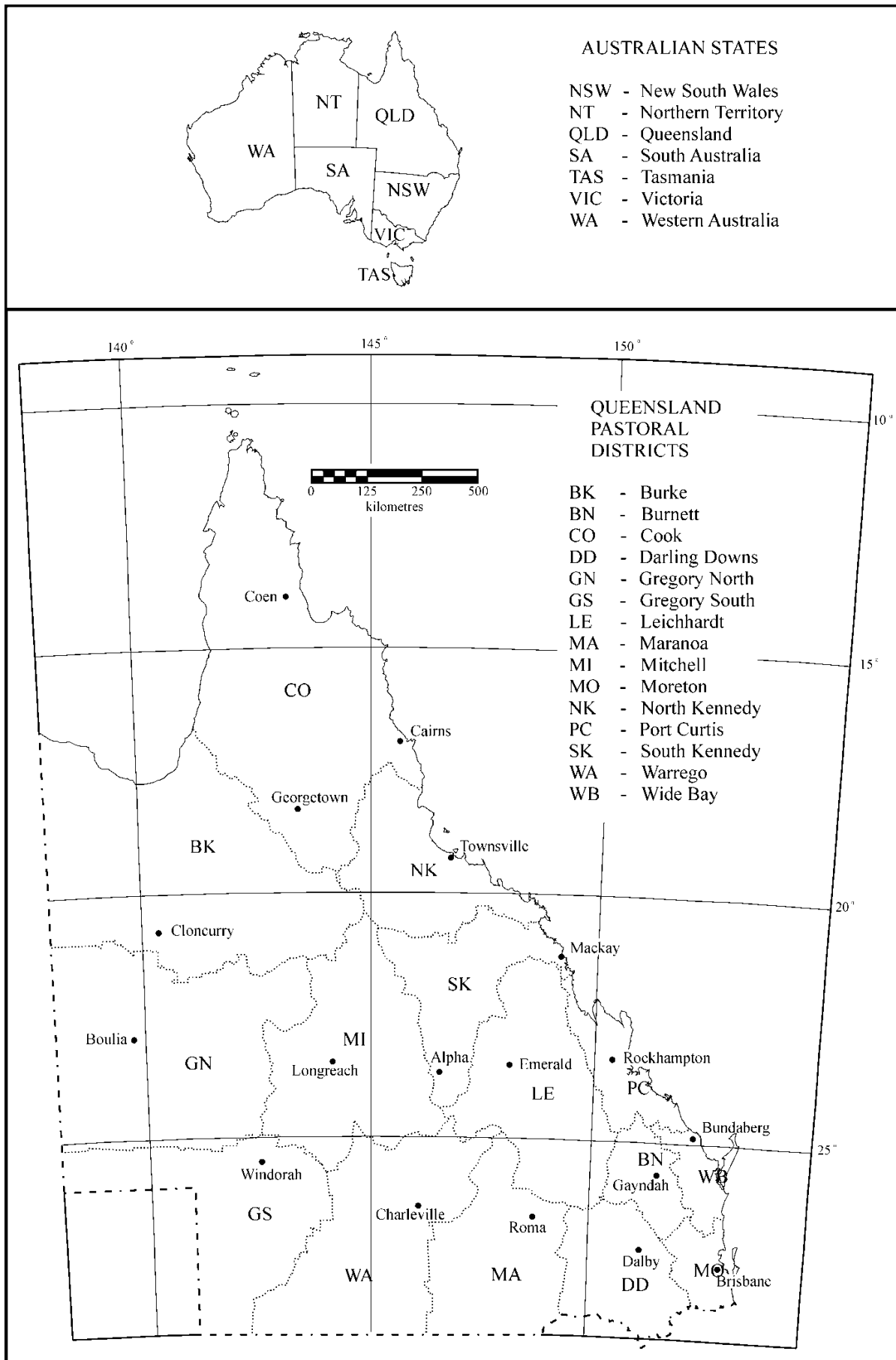
Algae (all groups): McGregor, G.B.* (freshwater); Phillips, J.A.* (marine)

Lichens: Rogers, R.*

Macrofungi: Fechner, N., Prance, M. (*Trametes, Geastrum*), Leonard P.*, Guard F.* & Evans G.*



Map 1. Regions of the world



Map 2. States of Australia and pastoral districts of Queensland

Appendix A: New names and name and status changes 2015 census to 2016 census

(vascular plants only)

X = Extinct in the wild

E = Endangered

V = Vulnerable

N = Near Threatened

LC = Least Concern

* = naturalised

D = doubtfully naturalised

Conifers

Gnetaceae

Gnetum gnemon L., a new record for Queensland

Ferns and fern allies

Adiantaceae

Adiantum caudatum L., a new record for Queensland

Doryopteris ludens (Wall. ex Hook.) J.Sm. to *Calciphlopteris ludens* (Wall. ex Hook.) Yesilyurt & H.Schneid. (currently listed under Pteridaceae)

Dennstaedtiaceae

Pteridium revolutum (Blume) Nakai to *Pteridium aquilinum* subsp. *wightianum* (J.Agardh) W.C.Shieh

Pteridium esculentum (G.Forst.) Cockayne x *P.revolutum* (Blume) Nakai to *Pteridium semihastatum* (Wall. ex J.Agardh) S.B.Andrews

Gleicheniaceae

Gleichenia microphylla R.Br., a new record for Queensland

Polypodiaceae

D *Phlebodium aureum* (L.) J.Sm., a new doubtfully naturalised species for Queensland, previously cultivated

Pteridaceae

D *Pteris ensiformis* Burm.f. 'Evergemiensis', a new doubtfully naturalised cultivar for Queensland, previously cultivated

Flowering plants

Acanthaceae

**Crossandra nilotica* Oliv., a new naturalised species, previously doubtfully naturalised

Justicia platyphylla S.Moore, this species re-instated

Rhaphidospora glabra (J.Koenig ex Roxb.) Nees removed, Queensland specimens re-determined to *Rhaphidospora cavernarum* (F.Muell.) R.M.Barker

Staurogyne leptocaulis subsp. *decumbens* R.M.Barker to *Staurogyne spatulata* (Blume) Koord,

Alismataceae

**Echinodorus cordifolius* (L.) Griseb. subsp. *cordifolius* to **Echinodorus cordifolius* (L.) Griseb., subspecies no longer recognised

Amaranthaceae

D *Amaranthus caudatus* L., a new doubtfully naturalised species for Queensland

Amaryllidaceae

Crinum angustifolium R.Br. to *Crinum arenarium* Herb.

Apocynaceae

Cynanchum bowmanii S.T.Blake to *Vincetoxicum ovatum* Benth.

Cynanchum brachystelmoides P.I.Forst. to *Vincetoxicum brachystelmoides* (P.I.Forst.) Liede, a new combination

Cynanchum carnosum (R.Br.) Schltr. to *Vincetoxicum carnosum* (R.Br.) Benth.

Sarcostemma brevipedicellatum P.I.Forst. to *Cynanchum brevipedicellatum* (P.I.Forst.) Liede & Meve, a new combination

Sarcostemma viminale subsp. *australe* (R.Br.) P.I.Forst. to *Cynanchum viminale* subsp. *australe* (P.I.Forst.) Liede & Meve, a new combination

Sarcostemma viminale subsp. *brunonianum* (Wight & Arn.) P.I.Forst. to *Cynanchum viminale* subsp. *brunonianum* (Wight & Arn.) Meve & Liede, a new combination

Araliaceae

Astrotricha floccosa DC. removed, Queensland specimen re-determined elsewhere

Asteraceae

**Aster subulatus* Michx. to **Symphotrichum subulatum* (Michx.) G.L.Nesom

Brachyscome paludicola P.S.Short, newly recognised as occurring in Queensland

**Conyza aegyptiaca* (L.) Aiton to *Eschenbachia aegyptiaca* (L.) Brouillet, a new combination, and new status (now considered to be native, also occurs in Asia)

**Conyza bonariensis* (L.) Cronquist to **Erigeron bonariensis* L.

**Conyza canadensis* (L.) Cronquist to **Erigeron canadensis* L.

**Conyza aegyptiaca* (L.) Aiton to *Eschenbachia aegyptiaca* (L.) Brouillet, a new combination and new status: now accepted as a native species

Conyza leucantha (D.Don) Ludlow & P.H.Raven to *Eschenbachia leucantha* (D.Don) Brouillet, a new combination

**Conyza parva* Cronquist to **Erigeron pusillus* Nutt.,

**Conyza primulifolia* (Lam.) Cuatrec. & Lourteig to **Erigeron primulifolius* (Lam.) Greuter

**Conyza sumatrensis* (Retz.) E.Walker to **Erigeron sumatrensis* Retz.

D *Gerbera jamesonii* Adlam, a new doubtfully naturalised species for Queensland, previously cultivated

Olearia cuneifolia A.R.Bean & M.T.Mathieson, a new species for Queensland

Podolepis decipiens Jeanes, a new species for Queensland

Podolepis hieracioides F.Muell., a new record for Queensland

D *Bartlettina sordida* (Less.) R.M.King & H.Rob., a new doubtfully naturalised species for Queensland, previously cultivated

Leucochrysum fitzgibbonii (F.Muell.) Paul G. Wilson to *Waitzia fitzgibbonii* (F.Muell.) X.Weber & Schmidt-Leb., a new combination

Begoniaceae

**Begonia cucullata* Willd. removed, Queensland specimens re-determined to **Begonia hirtella*

Berberidaceae

**Nandina domestica* Thunb., a new naturalised species for Queensland, previously doubtfully naturalised

Byttneriaceae

Keraudrenia collina Domin to *Seringia collina* (Domin) C.F.Wilkins & Whitlock, a new combination

Keraudrenia hookeriana Walp. to *Seringia hookeriana* (Walp.) F.Muell.

Keraudrenia lanceolata (Steetz) Benth. to *Seringia lanceolata* Steetz

Keraudrenia nephrosperma (F.Muell.) F.Muell. to *Seringia nephrosperma* F.Muell.

Keraudrenia corollata var. *denticulata* C.T.White and *Seringia* sp. (Chermside S.T.Blake 23068) to *Seringia denticulata* (C.T.White) C.F.Wilkins, a new species for Queensland and new combination

Cactaceae

D *Opuntia puberula* Hort.Vindob. ex. Pfeiff, a new doubtfully naturalised species for Queensland

**Opuntia sulphurea* Gillies ex Salm-Dyck, a new naturalised species for Queensland, previously doubtfully naturalised

Caesalpiniaceae

D *Senna guatemalensis* (Donn.Sm.) H.S.Irwin & Barneby, a new doubtfully naturalised species for Queensland

Caryophyllaceae

Polycarpaea tenax Cowie, a new record for Queensland

Cleomaceae

Cleome microaustraliana H.H.Iltis removed, Queensland specimens re-determined to *Cleome limmenensis* P.S.Short

Cleome tetrandra var. *pentata* Hewson removed, Queensland specimens re-determined elsewhere

Combretaceae

Macropteranthes kekwickii F.Muell. ex Benth. removed, Queensland specimens re-determined to *Psydrax paludosa* S.T.Reynolds & R.J.F.Hend.

Terminalia bursarina F.Muell., a new record for Queensland

Commelinaceae

D *Gibasis pellucida* (M.Martens & Galeotti) D.R.Hunt, a new doubtfully naturalised species for Queensland, previously cultivated

Convolvulaceae

Ipomoea velutina R.Br. removed, to *Ipomoea abrupta* R.Br.

Cucurbitaceae

Neoalsomitra sp. (Claudie River B.P.Hyland 10923 at QRS) to *Neoalsomitra clavigera* (Wall.)Hutch.

Cunoniaceae

Ceratopetalum sp. (Mt Hemmant B.P.Hyland RFK3338) to *Ceratopetalum iugumensis* Rozefelds & R.W.Barnes, a new species for Queensland

Cyperaceae

**Cyperus x turbatus* Baijnath, a new naturalised species for Queensland

Rhynchospora sp. (Croydon S.L.Everist 5384) to *Rhynchospora croydonensis* R.Booth, a new species for Queensland

Rhynchospora chinensis Nees & Meyen, a new record for Queensland

Schoenus thedae M.D.Barrett & R.L.Barrett, a new species for Queensland

Ericaceae

Epacris microphylla R.Br. var. *microphylla* to *Epacris microphylla* R.Br., varieties now recognised at species level

Fabaceae

**Crotalaria lunata* Bedd. ex Polhill (an illegitimate name) to **Crotalaria beddomeana* Thoth. & A.A.Ansari

D *Cyamopsis tetragonoloba* (L.) Taub., a new doubtfully naturalised species for Queensland, previously cultivated

**Indigofera decora* Lindl., a new naturalised species for Queensland, previously doubtfully naturalised

**Indigofera hendecaphylla* Jacq., a new naturalised species for Queensland, previously doubtfully naturalised

Muelleranthus trifoliolatus (F.Muell.) Hutch. ex A.T.Lee removed, Queensland specimens re-determined elsewhere

Swainsona microphylla A.Gray removed, Queensland specimens re-determined to *Swainsona affinis* (A.T.Lee) Joy Thomps.

Swainsona viridis J.M.Black removed, Queensland specimens re-determined elsewhere

Iridaceae

**Moraea setifolia* (L.f.) Druce, a new naturalised species for Queensland

Lamiaceae

Anisomeles antrorsa A.R.Bean, a new species for Queensland

Anisomeles brevopilosa A.R.Bean, a new species for Queensland

Anisomeles carpentarica A.R.Bean, a new species for Queensland

Anisomeles dallachyi A.R.Bean, a new species for Queensland

Anisomeles sp. (Agnew J.R.Clarkson 4993) to *Anisomeles eriodes* A.R.Bean, a new species for Queensland

Anisomeles malabarica (L.) R.Br. removed (not in Australia), specimens re-determined elsewhere

Anisomeles languida A.R.Bean, a new species for Queensland

Anisomeles lappa A.R.Bean, a new species for Queensland

Anisomeles macdonaldii A.R.Bean, a new species for Queensland

Anisomeles ornans A.R.Bean, a new species for Queensland

Anisomeles papuana A.R.Bean, a new species for Queensland

Anisomeles vulpina A.R.Bean, a new species for Queensland

Anisomeles xerophila A.R.Bean, a new species for Queensland

**Mentha spicata* L., re-instated after rediscovery (previously formerly naturalised)

(D) *Ocimum kilimandscharicum* Baker ex Gurke removed, status change, this species now considered to be cultivated

Plectranthus laetus P.I.Forst., a new species for Queensland

E *Plectranthus ventosus* P.I.Forst., a new species for Queensland

Prostanthera eungella B.J.Conn & K.M.Proft, a new species for Queensland

Prostanthera sp. (Blackdown Tableland K.A.W.Williams 79071) to *Prostanthera oleoides* T.C.Wilson & B.J.Conn, a new species for Queensland

V *Prostanthera* sp. (Mt Tinbeerwah P.R.Sharpe 4781) to **V** *Prostanthera spathulata* T.C.Wilson & B.J.Conn, a new species for Queensland

Teucrium ajugaceum F.M.Bailey & F.Muell. ex F.M.Bailey to *Anisomeles ajugacea* (F.M.Bailey & F.Muell.) A.R.Bean, a new combination

Linderniaceae

Lindernia scapigera R.Br. removed, Queensland specimens re-determined elsewhere

Malvaceae

Abutilon oxycarpum (F.Muell.) F.Muell. ex Benth. forma *oxycarpum* to *Abutilon oxycarpum* (F.Muell.) F.Muell. ex Benth. var. *oxycarpum*, forms are no longer recognised

Azanza Alef., this genus re-instated

Thespesia thespesioides (R.Br. ex Benth.) Fryxell to *Azanza thespesioides* (Benth.) F.Areces, a new combination

D *Wissadula grandifolia* Baker f. ex Rusby, a new doubtfully naturalised species for Queensland, previously cultivated

Mimosaceae

Acacia brachycarpa Pedley (illegitimate homonym of a fossil name) to *Acacia neobrachycarpa* I.M.Turner

Acacia sp. (Coolullah M. Lazarides 3988) to *Acacia citriodora* Kodela & Maslin, a new species for Queensland

Moraceae

**Artocarpus attilis* (Parkinson) Fosberg, a new naturalised species for Queensland, previously doubtfully naturalised

**Fatoua villosa* (Thunb.) Nakai, status change: native to naturalised (now considered to be non-native)

Myrtaceae

Lophostemon grandiflorus (Benth.) Peter G.Wilson & J.T.Waterh. subsp. *grandiflorus* removed, this subspecies is not known to occur in Queensland

Melaleuca sp. (Blackdown Tableland S.G.Pearson 287) to *Melaleuca lazaridis* Craven

Melaleuca sp. (Cudmore E.J.Thompson+ GAL174) to *Melaleuca montis-zamiae* Craven

Melaleuca sp. (Marlborough Creek G.N.Batianoff+ MC9108006) to *Melaleuca viminalis* (Sol. ex Gaertn.) Byrnes

Melaleuca sp. (Mt Abbot A.R.Bean 5186) to *Melaleuca recurva* (R.D.Spencer & Lumley) Craven

Melaleuca sp. (Mt Walsh P.I.Forster PIF7477) to *Melaleuca linearis* Schrad. & J.C.Wendl. var. *linearis*

Melaleuca sp. (Ropers Peak P.I.Forster PIF7208) to *Melaleuca hemisticta* S.T.Blake ex Craven

Melaleuca sp. (Windsor E.J.Thompson+ CHA206) to *Melaleuca montis-zamiae* Craven

Melaleuca sp. (Rainbow Falls P.I.Forster PIF13786) to *Melaleuca viminalis*

Melaleuca phratra Craven to *Melaleuca paludicola* Craven

Orchidaceae

Caladenia amnicola D.L.Jones removed, specimen re-determined to *Caladenia* sp. (Stanthorpe R.Crane 1448)

Caladenia catenata (Sm.) Druce var. *catenata* and *Caladenia catenata* var. *gigantea* (R.S.Rogers) W.M.Curtis, both to *Caladenia catenata* (Sm.) Druce, varieties no longer recognised

Diuris aurea Sm. removed, Queensland specimens re-determined elsewhere

Peristylus papuanus (Kraenzl.) J.J.Sm. removed, Queensland material re-determined as *Peristylus chlorandrellus* D.L.Jones & M.A.Clem.

Pterostylis longifolia R.Br. removed, Queensland specimens re-determined elsewhere

Pterostylis praetermissa M.A.Clem. & D.L.Jones, a new record for Queensland

Sarcochilus olivaceus Lindl. removed, Queensland specimens re-determined elsewhere

Sarcochilus argochilus D.L.Jones & M.A.Clem., a new record for Queensland

Sarcochilus parviflorus Lindl., a new record for Queensland

Taeniophyllum triquetroradix B.Gray, a new species for Queensland

Orobanchaceae

**Orobanche minor* Sm., a new naturalised species for Queensland, previously doubtfully naturalised

Phyllanthaceae

Synostemon F.Muell., this genus re-instated

Sauropus albiflorus (F.Muell. ex Muell.Arg.) Airy Shaw to *Synostemon albiflorus* (F.Muell. ex Muell.Arg.) Airy Shaw

Sauropus podenzanae (S.Moore) Airy Shaw to *Synostemon podenzanae* (S.Moore) I.Telford & Pruesapan, a new combination

Sauropus sphenophyllus (Airy Shaw) Airy Shaw to *Synostemon sphenophyllus* Airy Shaw

Synostemon spinosus I.Telford & J.J.Bruhl, a new species for Queensland

Plantaginaceae

**Cymbalaria muralis* P.Gaertn. *et al.* subsp. *muralis*, a new naturalised species for Queensland, previously doubtfully naturalised

**Nuttallanthus texanus* (Scheele) D.A.Sutton, a new naturalised species for Queensland

**Linaria arvensis* (L.) Desf., a new naturalised species for Queensland

Veronica calycina R.Br., a new record for Queensland

Poaceae

**Cynodon plectostachyus* (K.Schum.) Pilg, a new naturalised species for Queensland, previously doubtfully naturalised

Eremochloa muricata (Retz.) Hack. removed, Queensland specimens re-determined elsewhere

Eriachne scleranthoides F.Muell., this name re-instated

D *Paspalum setaceum* var. *ciliatifolium* (Michx.) Vasey, a new doubtfully naturalised species for Queensland

D *Nassella tenuissima* (Trin.) Barkworth, a new doubtfully naturalised species for Queensland

**Polypogon lutosus* (Poir.) Hitchc., a new naturalised species for Queensland, previously doubtfully naturalised

D *Thysanolaena latifolia* (Roxb. ex Hornem.) Honda, a new doubtfully naturalised species for Queensland

Proteaceae

Grevillea coriacea McGill (illegitimate homonym of a fossil name) to *Grevillea mcgillivrayi* I.M.Turner

Hakea plurinervia F.Muell. ex Benth (illegitimate homonym of a fossil name) to *Hakea benthamii* I.M.Turner

Rhizophoraceae

Bruguiera hainesii C.G.Rogers, a new record for Queensland

Rosaceae

Acaena agnipila Gand. to *Acaena ovina* A.Cunn.

D *Pyracantha koidzumii* (Hayata) Rehder and **Pyracantha rogersiana* (A.B.Jacks.) Bean both removed, Queensland specimens re-determined to **Pyracantha fortuneana* (Maxim.) H.L.Li

Rutaceae

D *Casimiroa edulis* La Llave & Lex., a new doubtfully naturalised species, previously cultivated

Zanthoxylum parviflorum Benth., this species re-instated

Sapindaceae

Dodonaea microzyga var. *acrolobata* J.G.West removed, Queensland specimens re-determined to *Dodonaea sinuolata* subsp. *acrodentata* J.G.West

Scrophulariaceae

Eremophila sp. (Opalton V.J.Neldner+ 2619) to *Eremophila woodiae* Edginton, a new species for Queensland

Solanaceae

D *Solanum sanitwongsei* Craib , a new doubtfully naturalised species for Queensland

D *Cestrum diurnum* L., re-instated as a doubtfully naturalised species after rediscovery (previously formerly naturalised)

Sparrmanniaceae

Corchorus capsularis L., a new record for Queensland

Ulmaceae

Celtis philippensis Blanco var. *philippensis* to *Celtis philippensis* Blanco, varieties no longer recognised