Progress Report CF 2011-105

Herbarium collections management

Plant Science and Herbarium

Project Core Team

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Update requested

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Project Team	required
Program Leader	required
Directorate	required

Herbarium collections management

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Context

The Western Australian Herbarium collection provides the core resource for knowledge of the State's plants, algae and fungi. The collection is growing constantly, through addition of new specimens representing new taxa and new records of existing taxa. The collection is maintained to a high standard, and provides the department and the community with the fundamental resource that provides knowledge of the diversity, distribution and abundance of plants throughout Western Australia.

Aims

- Fully document and audit the diversity of Western Australia's plants, algae and fungi.
- Maintain in perpetuity a comprehensive, adequate and representative research and archive collection of specimens of all taxa in these groups occurring in Western Australia.
- Contribute to, support and service the research, conservation and decision-making activities of the department.
- Contribute to, support and service taxonomic research by the world's scientific community.

Progress

- Addition of 10,862 specimens (including 972 priority flora, 159 threatened flora and four presumed extinct flora specimens) to the collection, which now stands at 802,107, a 1.37% increase in holdings.
- Loans and exchanges: loans outward - 20 loans consisting of 398 specimens; loans inward - 6 loans consisting of 436 specimens; loans returned to the Herbarium - 29 loans consisting of 1,683 specimens; loans returned to their home institutions - 33 loans consisting of 1,965 specimens; exchanges inwards - 708 specimens; exchanges outwards - 1,308 specimens including 18 external requests for destructive sampling.
- The most significant achievements were databasing the 800,000th specimen, preparing specimens for the *Nuytsia* 2020 special edition and the curation of the Inocybaceae Fungi of Australia treatment.
- Tasks managed by collections staff with the assistance of volunteers were as follows: mounting and labelling 7,492 specimens; validating the name and occurrence of 1,088 incoming specimens for lodgement; labelling and incorporating ca. 1,500 fungi specimens; incorporating 8,190 specimens; added printed collection information to 801 accessioned specimen backlogs; entering data for 1,071 specimens into Max database format.
- Volunteer participation was significant, totalling 10,198 hours, which is equivalent to ca. 5.8 full time employees. Eleven volunteers were recruited bringing the total working at the Herbarium to 60.
- Maintained the Reference Herbarium facility, which has 14,715 specimens representing 11,871 taxa as well as adding or replacing 136 specimens and removing ca. 340 replicated *Verticordia* specimens. This resource was used by ca. 1,600 visitors to identify plant specimens during 2018-19.
- Research collection was accessed by ca. 800 visitors to study taxa or help with flora identification.
- Provided 40 high resolution scans of Herbarium specimens to departmental staff and industry consultants to aid in the identification and location of known and new populations of priority and threatened taxa, and to scientists for research purposes.
- Scanned 160 Types for the Global Plants Initiative, where Western Australian Herbarium Type specimens are now accessible to the world's scientific community for study.
- Significant collections lodged included industry surveys, departmental regional surveys, Herbarium staff and Research Associates, Ausplot Vouchers, Nimalarragan Survey, Fortescue Valley Wetlands Survey, Kimberley Mound Springs Survey, and collections from SD Hopper.
- The Herbarium Identification Program provided identifications to a range of clients and specialises in taxa and specimens that clients find challenging. Our most significant clients included departmental staff, other government agencies, environmental consultancies, regional herbaria and the public.

- Educational role continued with staff providing tours of the Herbarium for departmental staff, tertiary institutions, environmental consultancies, community groups and the media.

Management implications

- Maintenance and curation of the Herbarium collections provides an authoritative inventory of the plant biodiversity of Western Australia underpinning flora conservation and research programs. The collections are drawn upon constantly by department staff, consultants and others for validating specimen records from biological surveys and for assessing the conservation status of native taxa.

Future directions

- Continue to maintain the collection to an authoritative standard for all users.
- Continue to review and document collections management policy and procedures, to effect efficiencies and reflect modern herbarium practices, and where applicable make these available on the Herbarium webpage.
- Recruit a sustainable number (ca. 20 per year) of volunteers to assist in key Herbarium functions.
- Align the collection and datasets with the recently published Algae of Australia: Marine Benthic Algae of North-western Australia, 2. Red Algae.
- Curate the Myxomycete collection.