



WESTERN
AUSTRALIAN
HERBARIUM
ANNUAL REPORT
1977



Western Australian
Department of Agriculture

ANNUAL REPORT 1977
of the
WESTERN AUSTRALIAN HERBARIUM

INTRODUCTION

The work of the Herbarium which is concentrated on the native flora of the State, continued in the principal areas of research, collecting and advisory services, as elaborated in the 1976 Annual Report.

The present report deals mainly with changes of detail for the period July 1976 to June 1977, listing new publications, new projects, projects completed, staff changes and the like. Activities not mentioned can be assumed to be unchanged from the previous year.

RESEARCH

Fundamental studies

Projects completed:

- Revision of the Uninerves-Triangulares and diaphyllodinous groups of *Acacia*, B.R. Maslin.
- Distribution maps for Western Australian *Acacia* species, B.R. Maslin.
- Biosystematic revision of the genus *Chamelaucium*, N.G. Marchant and G.J. Keighery (Kings Park and Botanic Garden).
- Preparation of taxonomic papers for the Flora of Australia, P.G. Wilson, (while attached to the Division of Plant Industry, C.S.I.R.O., Canberra, as Acting Leader of the Flora of Australia Project).
- Drysdale River National Park Survey, K.F. Kenneally and A.S. George.
- Heathlands and related shrublands, A.S. George.
- Dirk Hartog Island Survey, A.S. George.
- Cape Londonderry Survey, A.S. George.
- Checklist of *Eucalyptus* of Western Australia, T.E.H. Aplin.
- Species richness in heathlands, N.G. Marchant and A.J.M. Hopkins (Department of Fisheries and Wildlife).

Projects commenced:

- Flora of Central Australia. The genus *Acacia* B.R. Maslin.
- Phytogeography of Western Australian *Acacia* species, B.R. Maslin and S.D. Hopper (University of Western Australia).
- Mangroves of Western Australia, P.G. Wilson, K.F. Kenneally and V.E. Semeniuk (University of Western Australia).
- Rare and poorly collected species, N.G. Marchant and G.J. Keighery (Kings Park and Botanic Garden).

Ecological study of the Kwongan, R.J. Hnatiuk.
Introduced species of *Lotus*, G. Perry.

Expedition and collecting trips

Mitchell Plateau, July, 1976, R.J. Hnatiuk, K.F. Kenneally and B.C. Haberley (vegetation and floristics survey).
Dampier Peninsula, April-May 1977, K.F. Kenneally and B.C. Haberley (floristics survey).
Edgar Ranges, August 1976, K.F. Kenneally (floristics survey).
Blue Mountains (New South Wales), January 1977, Grampians (Victoria), February 1977, Porongurups-Manjimup, June 1977, A.S. George (*Banksia*).
South West Australia, July 1976, A.S. George and D.J. McGillivray (National Herbarium of New South Wales) (*Grevillea*).
Kimberley and North-West, April-May 1977, A.S. George, with a party including three Soviet geneticists (*Gossypium* and other economic plants).
Perth-Busselton, August 1976, Mt. Singleton, August-September 1976, Dirk Hartog Island-Shark Bay, September 1976, Albany, December 1976, B.R. Maslin (*Acacia*).
Broome-Perth, May 1977, K.F. Kenneally (mangroves).
Wongan Hills, September, November, December 1976, January, February, March, May 1977, K.F. Kenneally (floristics survey).
Shark Bay-Dalwallinu, September 1976, Lake King, September 1976, Albany-Denmark, March 1977, Badgingarra, October 1976, March 1977, G. Perry (*Logania* and *Lotus*).
Perth-Shark Bay, August 1976, Albany-Israelite Bay, September 1976, Jurien Bay-Dongara, June 1977, R.J. Hnatiuk (ecology of Kwongan).
Kalbarri-Cape Riche, July, August 1976, N.G. Marchant (species richness).
Albany-Esperance-Kalgoorlie, June 1977, T.E.H. Aplin, with a party including two Spanish foresters (*Eucalyptus*).
Perth-Jurien Bay-Geraldton-Mullewa, September 1976, N.G. Marchant, with a party from the Committee of Heads of Australian Herbaria (flora study tour).
Perth-Augusta-Albany-Brookton, October 1976, A.S. George, with a party from the Committee of Heads of Australian Herbaria (flora study tour).

Committees

Committee of Heads of Australian Herbaria, Chairman (J.W. Green).
Junior Tree Society, President; The Tree Society, Executive member (T.E.H. Aplin).
Western Australian Wildflower Society, President (N.G. Marchant).
Western Australian Naturalists' Club, President (K.F. Kenneally).

Seminars and symposia

Herbarium seminars:

The effects of man on the natural vegetation in the National Parks of South Australia, E. Mattiske, Forests Department. 22 July 1976.
The flora and vegetation of the Drysdale River National Park, A.S. George and K.F. Kenneally. 29 July 1976.

The Australian flower paintings of Ferdinand Bauer, C. Garry, Basilisk Press. 11 August, 1976.
The flora of the Fitzgerald River National Park, K.R. Newbey, Murdoch University. 15 September 1976.
Samphires in Australia, P.G. Wilson. 24 September 1976.
The family Restionaceae, B.G. Briggs, National Herbarium of New South Wales. 13 October 1976.
The vegetation of south eastern Australian saltmarshes, P. Bridgewater, Murdoch University. 9 November 1976.
Ethnobotany in the north Kimberley, I.M. Crawford, Western Australian Museum. 8 March 1977.
Application of some quantitative ecological methods in forests of Western Australia, J.J. Havel, Forests Department. 14 April 1977.
Quantitative methods in taxonomic research. *Conostylis* and *Anigozanthos* case studies. S.D. Hopper. 28 April 1977.
Insect populations and the regeneration of vegetation after fire, R.J. Whelan, University of Western Australia. 9 May 1977.

Outside seminars:

The genera *Chamelaucium* and *Darwinia*, Australian Systematic Botany Society seminar, N.G. Marchant and G.J. Keighery (Kings Park and Botanic Garden). 21 September 1976.
The relevance of Diels' phytogeographical districts of south west Australia to modern botanical research, A.S.B.S. seminar, N.G. Marchant, R.J. Hnatiuk, J.S. Beard (Applecross) and B.B. Lamont (Western Australian Institute of Technology). 16 November 1976.
The flora of Dirk Hartog Island, A.S.B.S. seminar, A.S. George. 25 January 1977.
The vegetation of Wongan Hills, A.S.B.S. seminar, K.F. Kenneally. 1 March 1977.
Plant Life, The Jarrah Forest, Royal Society of Western Australia/University of Western Australia Public Lectures, N.G. Marchant. 28 March 1977.
Deficiencies and prospects in botanical collecting in Western Australia, A.S.B.S. seminar, R.J. Hnatiuk, N.G. Marchant, G.J. Keighery (Kings Park and Botanic Garden) and M.E. Trudgen (Subiaco). 17 May 1977.
Microclimates of Aldabra Atoll, Botany Department, University and Western Australia seminar, R.J. Hnatiuk. 6 June 1977.

Visits and visitors

P.G. Wilson, while attached to the Division of Plant Industry, C.S.I.R.O., Canberra, as Acting Leader of the Flora of Australia Project, visited a number of Australian herbaria.

A.S. George attended the Australian Orchid Foundation Research Committee meeting held in Canberra, and spent two weeks at the National Herbarium of Victoria on *Banksia* studies.

R.J. Hnatiuk attended the Royal Society discussion meeting on the Terrestrial Ecology of Aldabra held in London.

The Committee of Heads of Australian Herbaria, under the chairmanship of J.W. Green, held its annual meeting in the Western Australian Herbarium (PERTH) in September 1976. In attendance were H.J. Eichler (C.S.I.R.O.), G.M. Chippendale (C.S.I.R.O.), B.G. Briggs (Sydney), A.B. Court (Canberra

Botanic Gardens), J.P. Jessop (Adelaide), R.W. Johnson (Brisbane) and J.W. Parham (Hobart).

Eighty local and visiting botanists, including a number of post-graduate students, used the herbarium and library facilities. They included B.J. Grieve, H.J. Eichler, B.G. Briggs, N.H. Brittan, B.G. Muir, R.W. Johnson, G.M. Chippendale, D.J. McGillivray, C.D. Boomsma, G.J. Keighery, M. Blackwell and A.J.M. Hopkins.

Equipment

New items of equipment acquired included one research microscope, three stereo-microscopes and one tissue processor.

Publications

- Aplin, T.E.H. (1977). A check list of *Eucalyptus* of Western Australia. W.A. Dept. Agric. Tech. Bull. 33. 17pp.
- Hnatiuk, R.J. (1976). The Climate of Mt. Wilhelm. Mt. Wilhelm Studies 2; BG/Y, Res. School Pac. Studies. ANU, Canberra, xiii, + 76pp. (with J.M.B. Smith and D.N. McVean).
- Hnatiuk, R.J. (1976). Giant tortoise and vegetation interactions on Aldabra Atoll - part 1. Inland. Biol. Cons. 9: 293-304 (with L.F.H. Merton and D.M. Bourn).
- Hnatiuk, R.J. (1976). Giant tortoise and vegetation interactions on Aldabra Atoll - part 2. Coastal. Biol. Cons. 9: 305-316 (with S.R.J. Woodell and D.M. Bourn).
- Maslin, B.R. (1977). The identity of *Acacia leiophylla* Benth. (Mimosaceae). Nuytsia 2(3):162-166 (with D.J. Whibley).
- Maslin, B.R. (1977). Studies in the genus *Acacia* - 6. Miscellany. Nuytsia 2(3):145-161.

ADVICE AND ASSISTANCE

Environmental consulting

- Fire Control in Sensitive dune areas, Department of Conservation and Environment, R.J. Hnatiuk.
- Pilbara Region, Department of Conservation and Environment, R.J. Hnatiuk.
- Monitoring of Millstream vegetation, National Parks Authority, R.J. Hnatiuk.

Surveys and inspections

- Leschenault Inlet (dune rehabilitation), July 1976, Eneabba (rehabilitation after mining), December 1976, April, June 1977, woodchip license area (study tour), February 1977, R.J. Hnatiuk.
- Avondale Research Station (reserve assessment) April 1977, Kulin reserves (reserve assessment), April 1977, Mt. Lesueur (reserve assessment), June 1977, R.J. Hnatiuk and A.S. George.
- Karratha townsite (tree planting problems), March 1977, T.E.H. Aplin.

Toxic plants and economic botany

Confirmed toxic plants: *Myoporum tetrandrum* and *Senecio quadridentatus*, reported by Animal Health Laboratories.
New weed record: *Carduus nutans*.

Work completed:

Check list of grasses of Australia, compiled by Queensland Herbarium, G. Perry and T.E.H. Aplin.

Work commenced:

Survey of weeds of the Ord River irrigation area, G. Perry and D.J. Gilbey (Weeds Section, Plant Research Division).
Weedy species of *Sorghum*, G. Perry.
Survey of aquatic weeds of the Ord River area, N.G. Marchant.

Advisory Committees

Committees terminated:

Algae Odour Control Study Group, Chairman (T.E.H. Aplin)

Committees convened:

System 6, Conservation Reserves and National Parks; Biological Surveys Committee (A.S. George).
Road Verge Conservation Committee (N.G. Marchant, replacing P.G. Wilson).
Trees for the Pilbara Committee (T.E.H. Aplin).
Western Australian Wildlife Authority, Flora Committee (J.W. Green and N.G. Marchant).

Editorship

Nuytsia, Vol. 2, No. 3. Published 4 April 1977.

Reports

T.E.H. Aplin (1977). Report of the Algae Odour Control Working Group, Department of Conservation and Environment Publication.

EXTENSION

Compilation

C.A. Gardner's Bulletins on "Trees of Western Australia", compiled and revised, T.E.H. Aplin.

Publications

T.E.H. Aplin (1976). The Vegetation of Western Australia. Official Year Book of Western Australia, 1976, No. 15 (New Series): 57-73.
T.E.H. Aplin (1976). Poison Plants in the Garden. W.A. Dept. Agric. Bull. 3401. 8pp.
K.F. Kenneally (1976). A discovery at Bickley. Nature Walkabout 12:60-62.

ADMINISTRATION

Accommodation

Storage space for materials is still acute and the space acquired in the previous year, elsewhere in the Department, has rapidly reached capacity.

Staff

Mr. P.G. Wilson, Botanist level 3, was attached to the Division of Plant Industry, C.S.I.R.O., Canberra, as Acting Leader, Flora of Australia Project, from October 1976 until April 1977.

Mr. S.D. Hopper, post-graduate student, University of Western Australia, was employed during Mr. Wilson's absence as his replacement.

Resignations:

Mr. R.A. Saffrey, Laboratory Technician Grade 2.
Mr. M.E. Trudgen, Laboratory Technician Grade 2.
Mr. M.L. Clarke, Laboratory Assistant.

Appointments:

Mrs. J.G. Goff, Laboratory Technician Grade 2.
Mrs. J.W. Lee-Frampton, Laboratory Technician Grade 2,
promoted to this position from Laboratory Attendant.
Miss C.M. Lynch, Laboratory Assistant
Miss C. Greenland, Clerical Assistant, on temporary transfer
from Administration.