







the australian museum
1978 - 1979 sydney



*COVER: Paul Webber, technical officer in the
Herpetology department searches for reptiles
and amphibians on a field trip for the Colo River
Survey. Photo: John Fields/The Australian Museum.*





REPORT
of
THE AUSTRALIAN MUSEUM TRUST
for the
YEAR ENDED 30 JUNE, 1979

D. WEST, GOVERNMENT PRINTER, NEW SOUTH WALES—1980

CONTENTS

	Page		Page
Acknowledgements	4	Department of Palaeontology	36
The Australian Museum Trust	5	Department of Terrestrial Invertebrate Ecology	38
Lizard Island Research Station	5	Department of Vertebrate Ecology	38
Research Associates	6	Camden Haven Wildlife Refuge Study	39
Associates	6	Functional Anatomy Unit	40
National Photographic Index of Australian Wildlife	7	Director's Research Laboratory	40
The Australian Museum Society	7	Materials Conservation Section	41
Letter to the Premier	9	Education Section	47
		Exhibitions Department	52
SCIENTIFIC DEPARTMENTS		Library	54
Department of Anthropology	13	Photographic and Visual Aid Section	54
Department of Arachnology	18	Publicity/Publications	55
Colo River Survey	19	National Photographic Index of Australian Wildlife	57
Department of Entomology	20	Lizard Island Research Station	59
Department of Herpetology	23	The Australian Museum Society	61
Department of Ichthyology	24	Appendix 1—Staff	62
Department of Malacology	25	Appendix 2—Donations	65
Department of Mammalogy	27	Appendix 3—Acknowledgements of Co-operation	67
Department of Marine Ecology	28	Appendix 4—Overseas visitors	69
Department of Marine Invertebrates (Crustacea and Coelenterates)	28	Appendix 5—Publications by Staff	72
Department of Marine Invertebrates (Echinoderms)	29	Trust's General, Grant and Reserve Funds	76
Department of Marine Invertebrates (Worms)	30	Graph—Trust's General, Grant and Reserve Funds	77
Department of Mineralogy and Petrology	31	Financial Statement	78
Department of Ornithology	34	Financial Tables	79

ACKNOWLEDGEMENTS

The Trust and staff of The Australian Museum have pleasure in thanking the following organizations and individuals who provided financial assistance by way of research grants or donations during the year.

Australian Council	Commercial Banking Co of Sydney Ltd
Australian Biological Resources Study	Council of the City of Sydney
Australian Government, Departments of Science and Environment and Home Affairs	Dick Smith Electronics
Australian Institute of Marine Science	Electricity Commission of NSW
Australian National Parks and Wildlife Service	Esso Australia Ltd
Australian National University	Forestry Commission of NSW
Australian Research Grants Committee	Harris Daishowa Pty Ltd
Bank of New South Wales	James Cook University of North Queensland
Bernard van Leer Foundation	Myer Sydney Ltd
Bushell Trust, Sydney	Roche Research Institute of Marine Pharmacology
CRA Services Ltd	Rural Bank of NSW
CSR Limited	Tooth & Co Ltd
Comalco Ltd	UNESCO
	Unilever Australia Pty Ltd

Further acknowledgements of co-operation are listed at Appendix 3

THE AUSTRALIAN MUSEUM TRUST

PRESIDENT

J. T. Baker, MSc, PhD, FRACI

DEPUTY PRESIDENT

R. C. Richard

MEMBERS

Professor D. J. Anderson, BSc, PhD

K. H. Cousins

R. Hunt, MA, DipEd

K. Klugman, BA, MA

P. Pigott

Professor M. G. Pitman, OBE, MA, PhD

C. M. Serventy, BA

Emeritus Professor A. H. Voisey, DSc

LIZARD ISLAND RESEARCH STATION

COMMITTEE OF TRUSTEES

EXECUTIVE

J. T. Baker, MSc, PhD, FRACI (Chairman)

D. J. G. Griffin, MSc, PhD

B. Goldman, PhD (Director, Lizard Island Research Station)

MEMBERS

Professor K. J. C. Back, MSc, PhD

A. Bartholomai

Professor C. Burdon-Jones, PhD, FlntBiol

Emeritus Professor G. N. Davies, DDS, FDSRCS
(Eng), FACD, FRACDS (to 28-2-79)

P. R. Ehrlich, BA, MA, PhD

P. Mather, DSc

D. F. McMichael, MA, PhD

Sir John Proud, BE, MIMMAust

P. Sale, PhD

G. Saunders, DAgrSc

K. L. Sutherland, OBE, DSc, PhD, FAA, ARIC,
MIMMAust, FRACI, FTS

Professor F. H. Talbot, MSc, PhD, FLS, FRZS, FRSA

S. Williams

Professor B. G. Wilson, BSc, PhD (from 15-5-79)

RESEARCH ASSOCIATES

M. Archer, PhD
I. Bennett, MSc
D. Beechey, MSc
J. B. Burch, PhD
R. Burn
R. Catala, DSc
C. E. Chadwick
R. O. Chalmers, ASTC
S. J. Copland, MSc
W. Dawbin, DSc
B. Egloff, MA, PhD
J. W. Evans, MA, ScD, DSc (Director Emeritus)
H. O. Fletcher, MSc
J. V. Forshaw
V. Gregg
K. Huffman, BA (Cantab), DipEthnol (Oxon)
F. D. McCarthy, DipAnthrop
J. Mahoney, BSc
J. E. Marlow, BSc
T. R. New, PhD
D. Newton
J. Pickett, MSc, DPhilNat
E. C. Pope, MSc, CMZS
A. A. Racek, Drrernat (Brno)
L. R. Richardson, PhD
W. Starck, PhD
Professor F. H. Talbot, MSc, PhD, FLS, FRZS, FRSA
Professor I. W. B. Thornton, PhD
J. P. White, MA, PhD
J. C. Yaldwyn, MSc, PhD

ASSOCIATES

B. Bertram
A. H. Chapman
G. Coates
N. Coleman
L. Courtney-Haines
A. F. D'Ombrian, AM
G. Daniels
D. D. Francois, MSc, PhD
J. Frazier
T. A. Garrard
K. Gillett, ARPS
A. Healy
J. Kerslake
R. Kuiter
C. Lawler
D. H. Lewis
D. Lindner
D. R. Moore, MA, DipAnthrop
D. F. McMichael, MA, PhD
W. McReaddie
M. Moulds
H. Paxton, BA (Hons)
V. Robinson
N. W. Rodd
R. Steene
K. L. Sutherland, OBE, DSc, PhD, FAA, ARIC,
MIMMAust, FRACI, FTS
M. Tuckson
J. Voorwinde

**NATIONAL PHOTOGRAPHIC INDEX OF AUSTRALIAN WILDLIFE
COMMITTEE OF TRUSTEES**

CHAIRMAN

The Hon. Sir Percy Spender, KCVO, KBE, KStJ, QC

EXECUTIVE COMMITTEE

E. L. Carthew
D. J. G. Griffin, MSc, PhD
L. le Guay, FRPS, EFIAP, AIAP
V. N. Serventy, AM, BSc, BEd
R. Strahan, MSc, MIBiol, FSIH, FLS, FRZS

A. D. Trounson
R. W. Turner (Chairman)
Sir Harold Wyndham, CBE, MA, EdD
M. C. Clampett (Hon. Sec.)

COUNCIL MEMBERS

J. H. Broinowski, CMG, FCA
D. C. L. Gibbs, MA
J. C. H. Gill, BA, LLB, FRHist, SQ
Professor Sir Leonard Huxley, KBE, DPhil, PhD,
MAInstP, FAA

Professor L. J. Kramer, OBE, BA, DPhil, FAHA
Sir Robert E. Porter
R. C. Richard
The Hon. Sir Vernon Treatt, KBE, MM, QC
Sir Thomas Wardle
J. W. C. Wyett, BSc, PhD, ARACI, FAIA

THE AUSTRALIAN MUSEUM SOCIETY

PRESIDENT

R. A. Pearson, BA, LLB (from 28-3-79)
C. M. Serventy, BA (to 28-3-79)

VICE-PRESIDENT

J. R. Hazel, MB, BS, FRACP (from 28-3-79)
R. A. Pearson, BA, LLB (to 28-3-79)

EXECUTIVE SECRETARY

S. A. Bridie

SECRETARY

B. L. Stewart

COUNCIL MEMBERS

N. R. Bayliss, FCA, ACIF, JP (Honorary Treasurer)
E. Bryden-Brown, VRD, AFAIM
M. N. Dean
G. W. Galt, BEd, DipEd, MBA (to 28-3-79)
K. V. Gregg
D. J. G. Griffin, MSc, PhD
E. Ireland (from 28-3-79)

Professor J. C. Kelly, BSc, PhD, FINSTP, MAIP
(from 28-3-79)
I. H. Kelly (to 28-3-79)
J. N. McDougall, BSc, DipEd
F. Pittendrigh
P. H. Stitt, BE, GradDiplImm
F. L. Sutherland, MSc



The Hon. Neville Wran, QC, MP
Premier of New South Wales

Dear Premier,

We have pleasure in presenting to you the annual report of the Australian Museum Trust for the year ended 30 June, 1979. The Trust met ten times during the year, the thirty-sixth meeting being held on 28 May, 1979. Dr J. T. Baker was elected President of the Trust at the twenty-sixth meeting on 27 July, 1978, replacing Professor M. G. Pitman, OBE, who had served as President for 3½ years. Mr R. C. Richard was re-elected Vice President.

During the year the Australian Museum continued to improve its status as one of the world's major museums by again producing many innovative and enlightening programmes. It is the museum's intention that it should be regarded as a source of knowledge of man's natural and cultural heritage and that visitors should be stimulated to understand and appreciate this heritage in the Australian region.

The diverse activities and events in which the museum has been involved are grouped for the purposes of this report into scientific activities and the increasing of public awareness.

Scientific Activities

Although all research projects carried out by the museum have relevance and importance some are particularly worthy of mention here.

A faunal survey of the Newnes Plateau/Colo River area has been carried out throughout this year, at the request of the Electricity Commission of NSW. The area under study is part of the recently

School children taking notes of the priceless items housed in the recently opened 'Treasures of the Museum' exhibit. New treasures are featured regularly.

announced Wollemi National Park. The final report of the investigation will be submitted early in the next financial year.

The Department of Marine Ecology is studying the fauna of the bottom of the Hawkesbury River estuary north of Sydney and of selected islands of the Great Barrier Reef. Both estuaries and coral reefs are places of great natural beauty where the life cycles of many species are closely interwoven. However, human influences on these areas often affect these ecosystems, ironically to the ultimate detriment of humans. The information obtained from the research will be essential to further studies.

The Materials Conservation Section of the museum continues to be a leader in its field. Research is being undertaken on the growth of mould on artefacts contained in the ethnographic collections. Determination of the relationship between moisture activity, nutrients and mould growth will assist in preventing the growth of mould which is a serious problem in many collections. The work is concentrating on fungi active at low levels of moisture and is the most comprehensive study yet to be carried out on this problem in any ethnographic collection.

In September 1978 the Australian National Commission for UNESCO held a one-week seminar in Adelaide on The Role of Museums in the Preservation of Traditional Cultures.

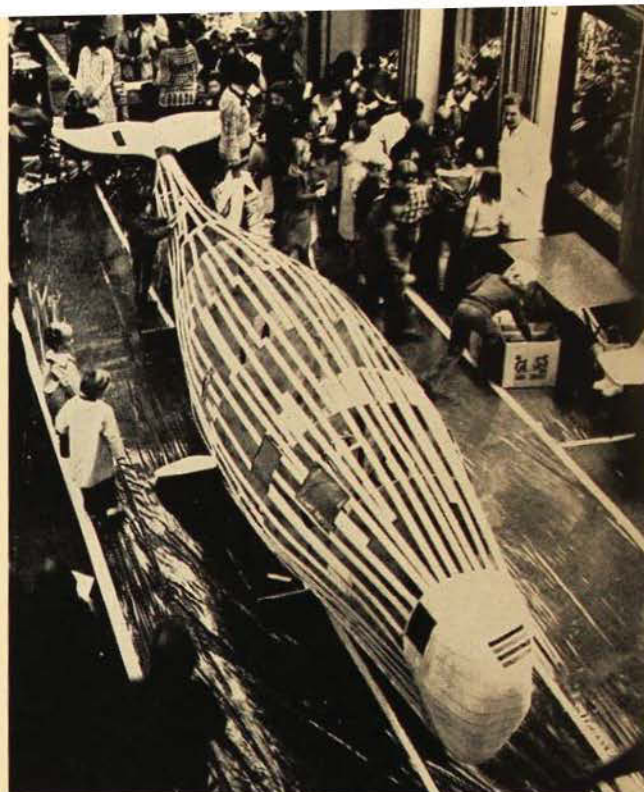
The Director and several members of staff represented the museum at the seminar which attracted participants from throughout Australia, the Pacific and South-East Asia.

It provided an opportunity for the indigenous peoples of the region to express their views on how museums might better serve their special needs. The most outspoken criticisms from the indigenous peoples of the region were directed towards the aloof attitude of museums. People expressed a wish to be more involved in the presentation of their

cultures in exhibitions, in educational programmes, and in decision-making procedures affecting their cultural heritage and its revitalization. Museums, as a whole, have done little to serve the needs of indigenous peoples, and most of the resolutions passed at the seminar were directed towards reversing this situation.

Following the seminar, the Australian Museum Trust approved a programme of initiatives in sympathy with the seminar's resolutions and designed to overcome some of the problems. An approach has been made to the Commonwealth Employment Service for funds to employ and train Aboriginal people to work in Australian museums and cultural centres. Several publications are planned to promote Aboriginal culture generally and to make available information on Aboriginal cultural heritage to Aboriginal people within and outside the State of NSW. Other steps have been taken to obtain Aboriginal opinions on the disposal of certain parts of the collections, especially secret and sacred material, and on the presentation of the Aboriginal heritage in exhibitions. The Trust also established an advisory committee, consisting of Mr R. Lampert, Curator; Associate Professor R. Wright (University of Sydney) and Dr A. Thorne (Australian National University) to evaluate the scientific significance of Aboriginal skeletal remains which may be deposited in the museum under the National Parks and Wildlife Act (1974), and to assess requests from Aboriginal communities for the return and reburial of these remains.

The largest symposium on molluscs ever held in the southern hemisphere was organised by the museum during the year. The symposium, held in May 1979, attracted over 140 scientists and students—many from outside Australia. Particularly prominent among the visiting scientists were Sir Maurice Yonge FRS from the University of Edinburgh, Sir Charles Fleming FRS from New Zealand, Dr V. Fretter from Reading University in England, Dr A. Solem from



An 8 metre long construction of a sperm whale occupied a prominent spot in the Long Gallery during the May 1979 school holidays. Children covered the whale with various pieces of cloth. Photo: Howard Hughes/The Australian Museum.

the Field Museum of Natural History (Chicago) and Dr J. B. Burch of the University of Michigan. A total of 46 papers were presented over the four days.

Increasing Public Awareness

Increasing importance has been given to developing greater public awareness of the museum. Exhibitions are one of the most obvious means of achieving this.

A new exhibit on marine life was opened this year known as 'Man and the Marine Environment'. The gallery will ultimately incorporate three levels and Stage 2 of the exhibition will be completed by mid 1980.

'Balinese Traditional Paintings', an exhibition based on the important temple paintings purchased from Professor A. Forge of Canberra in 1976 and staged first at The Australian Museum from May through July, 1978, was shown at the National Gallery of Victoria, Melbourne during October-November 1978 and in Canberra at the Australian National University during December 1978.

'Renewing the Dreaming', an exhibition staged originally as part of the museum's sesquicentenary celebrations from December 1977 through February 1978, was exhibited at the South Australian Museum at the end of 1978. It dealt with Aboriginal cultural heritage, European impact on traditional life and attempts to return to that life.

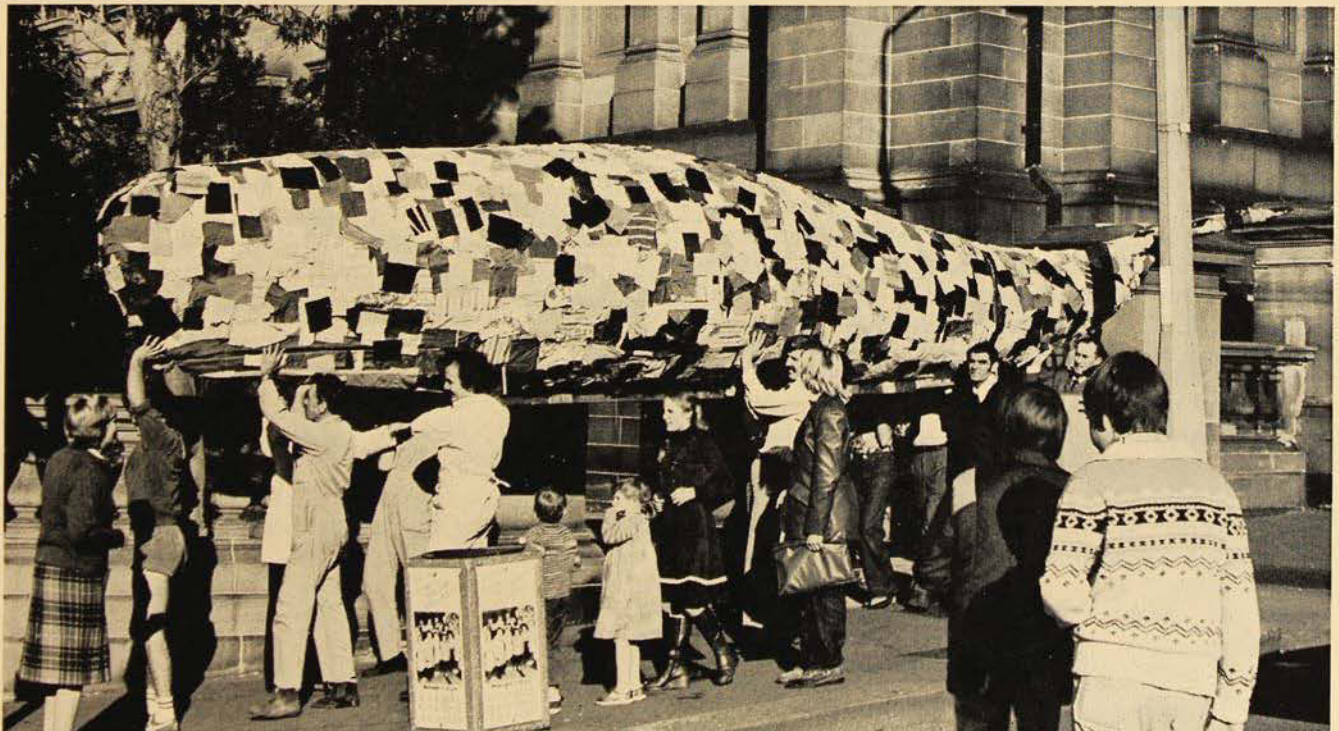
Among the temporary exhibitions staged at the museum was the 'Fourth Part of the World'. Mounted by the Australian Exhibit Organisation

(AEO) and presenting European discovery, settlement and exploration of Australia it was originally Australia's contribution to the United States bi-centenary celebrations. It toured the US extensively in 1976 before returning to Australia to be shown with the assistance of AEO, first at the museum and subsequently at the Science Museum, Melbourne and the War Memorial, Canberra.

A new exhibit, 'Treasures of the Museum' has been mounted near the College Street front entrance. It has been designed to provide an opportunity for the public to view otherwise undisplayed objects of the highest value in the museum's possession. The first display comprised minerals, shells and Aboriginal and Pacific Island artefacts. Each exhibition will be displayed for approximately six months.

An exhibition of Oenpelli bark paintings was held from December to January. The paintings are those of the Gunwinggu people of Western Arnhem Land,

The finished whale being transported from the museum. It was later donated to Project Jonah the Conservation group dedicated to protecting whales. Photo: Howard Hughes/The Australian Museum.



an area in which great changes have been wrought by mining development but where aboriginal people are preserving their cultural heritage through their art. In all, 52 paintings, owned by the Aboriginal Arts Board of the Australia Council and circulated by the Australian Gallery Directors Council (AGDC), were exhibited.

A valuable collection of 22 carved jade pieces from China was among the smaller special exhibitions. It illustrated the use of jade by Chinese carvers from several dynasties including the Ching and Ming through the Mao Tse Tung periods. The collection was loaned to the museum by a private collector.

In the context of increasing public awareness the activities of the education section play a vital part.

In October, 1978 the museum, through its Education Section, participated in Child Care Week as an introduction to its involvement in the following International Year of the Child. It was the first time the museum had participated in such an event and members of the public were able to gain first hand experience of some facets of the work done for children.

The museum contributed to International Year of the Child by arranging a special programme of activities for children. The programme was held during the May school vacation 1979 and attracted a total of 6,000 people over the two week period. A 'fun with faces' competition was part of the programme: over 300 'faces' were placed on public display. With International Museums Day falling on the 18th May it was an occasion on which to award prizes to the eleven winners of the competition.

Other activities included a 'please touch' corner, where children could examine stuffed animals and mineral specimens, and 'Walkabout' questionnaires to add interest to children's visits elsewhere in the museum. A 'sperm whale spectacular' involved

children covering an 8m model of a whale with squares of cloth. A giant animal mobile was made and suspended from the ceiling.

The museum's travelling outer urban exhibitions have been an outstanding success. As a result a fourth exhibition was launched in October. 'Story of the Earth' looks at planet Earth, its origins, inner structure, rocks, minerals and other resources and the fossil record of life through the ages. It has proved to be of interest to children and the general public in the areas it has visited so far in the western suburbs of Sydney. The museum train toured western and northern parts of the State and was visited by some 100,000 people.

So that the special resources of the museum could be made available to teachers, a course on Melanesia was arranged for two days in January. Lecturers for the programme included specialists from within and outside the museum.

During the year, the museum has continued to grow and improve in terms of its audience, the size of its collections and the scope of its research, its exhibitions and its efforts to increase public awareness. The museum's audience grew to over 1,000,000 people, some 400,000 being reached by travelling exhibitions and extension services. However, it has achieved such improvements despite a decrease in real terms in funds available from traditional sources. Special efforts were made to increase the earnings from the shop and to bring in more donations from the public visiting the museum. Sponsorships and donations from companies and individuals listed at the beginning of this report were of vital importance.

The Trust hopes that your Government will give significant recognition to the museum's efforts.

J. T. BAKER, President of the Trust
D. J. G. GRIFFIN, Secretary to the Trust
September, 1979

SCIENTIFIC DEPARTMENTS

Department of Anthropology

A major redirection of activities took place in the Australian Aboriginal section of the department during the year, partly as a response to direct approaches by Aboriginal communities and individuals, partly as a result of the UNESCO Seminar held in Adelaide on 'The Role of Museums in the Preservation of Indigenous Cultures'. For several years there has been a growing desire among Aboriginal people for greater participation in the care and presentation of their cultural heritage. This was also a major concern of the first national conference of museum anthropologists in Australia held in Melbourne in February 1979. The department received visits from several Aboriginal elders to examine the collections for sacred materials: Mr J. Campbell of Orient Point and Mr T. Thomas of Wallaga Lakes, NSW, and two elders from Oenpelli, Arnhem Land. A short training course in museum work was given to Mr B. Tipaloura of Tiwi Pima Art, Bathurst Island, Northern Territory. Mr R. J. Lampert, curator, prepared a submission from the museum to the Select Committee on Aboriginal Affairs of the New South Wales Legislative Assembly, dealing especially with the south coast of NSW. Ms Horning collaborated with Mr W. Marika, Chairman of the Aboriginal Arts Board of the Australia Council, in the preparation of the Museum's 1980 calendar. This features bark paintings from eastern Arnhem Land from the museum's collections, with documentation provided by Mr Marika, and is designed to promote greater public appreciation of Aboriginal art.

A special committee was formed consisting of Mr Lampert, Dr A. Thorne (Australian National University) and Associate Professor R. Wright (University of Sydney) to advise The Australian Museum Trust on the scientific significance of Aboriginal skeletal material received by the museum, with special reference to requests from the Ab-



*Mask from Orokolo area, Gulf of Papua New Guinea.
Photo: Gregory Millen.*

original people for the return and reburial of the remains of their ancestors.

Plans for a new Aboriginal Gallery were developed by Mr Lampert. He presented the proposal to a seminar in the department of Anthropology at the University of Sydney and to the Aboriginal Arts Board of the Australia Council, to obtain a broad spectrum of views from both groups on the gallery's content. Anthropological specimens featured

prominently in the first display in the 'Treasures of The Australian Museum' display in the main foyer, covering Aboriginal, New Guinea and Melanesian areas. Ms Czuchnicka completed the revision of the exhibitions on 'The Ancient World' and 'Ancient Egypt'. Ms Horning, with Mr T. Lang, prepared a foyer display on firearms from the Melbourne Ward bequest. Sections of the Aboriginal Gallery were further upgraded.

Pacific Islands specimens loaned to B.P. Bishop Museum, Honolulu, for its 'Artificial Curiosities' exhibition were returned in September 1978. Some of these items were later displayed in an exhibition on 'Discoverers of the Pacific' held by the National Trust (NSW) in the S. H. Ervin Museum and Art Gallery, Sydney. Eleven artefacts from the Pacific Islands were loaned to the National Gallery of Art, Washington, USA, for its special international exhibition of 'The Art of the Pacific Islands', and a collection of musical instruments was loaned to the Sydney Opera House Trust. A selection of Aboriginal craft items was loaned to the Crafts Association of NSW for its exhibition 'Fantasy and Function', which toured country centres in New South Wales. Other loans for display and educational programmes were made to Professor J. V. S. Megaw, Flinders University (American Indian baskets and stone items); Civic Centre, Orange (Melanesian artefacts); and to the Macleay Museum, University of Sydney (north coast New Guinea). Artefacts were also loaned to the Education section's school holiday project 'Making a Mask' and the 'Drop-in' programme.

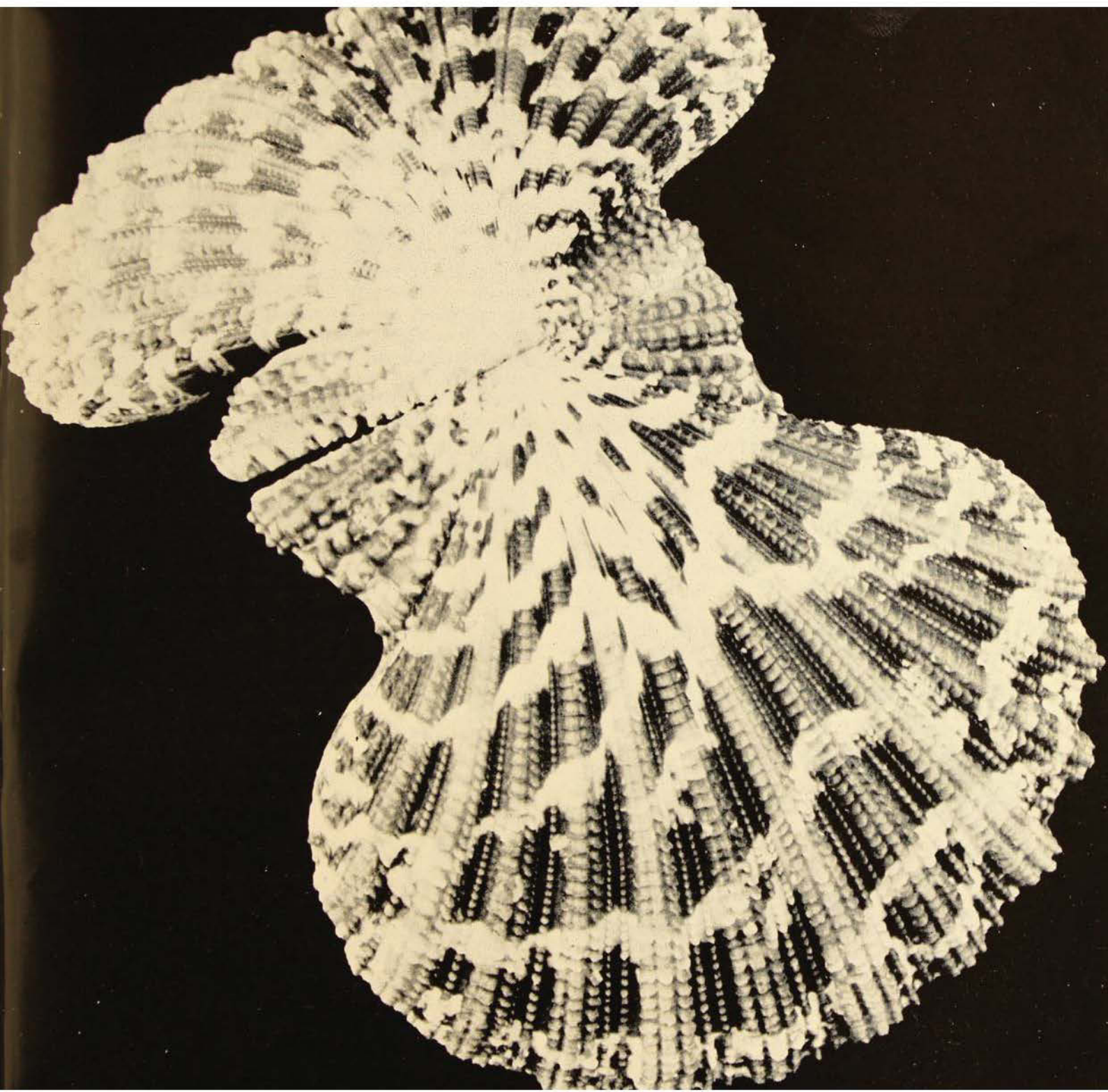
Acquisitions registered during the year totalled 750 artefacts. Major purchases included contemporary Aboriginal craft items; a vertical slit drum from Malekula, New Hebrides; two posts from a men's house, Murik Lakes, Papua New Guinea; a collection from the hill tribes of Laos, including a large bronze drum; a slit-drum from the Schouten Islands, Papua New Guinea, and thirty-five drawings

and prints by the artists Wñ, Wkeńga and Akis from Papua New Guinea. Among the donations received were collections from the Telefomin area of Papua New Guinea (Mr J. Heinz), Zaire, Africa (Mr I. Sharman), Central Australian Aboriginal items (Mitchell Library, Sydney), contemporary Aboriginal arts and crafts (Aboriginal Arts Board and Aboriginal Arts and Crafts Pty Ltd). The Solomon Islands Museum presented two pots from Choiseul Island as an exchange for the two canoe-prow ornaments returned to the Solomon Islands by The Australian Museum in 1977-78.

Under the Tax Incentives for the Arts Scheme, four donations were received. Dr M. Oliver, now of Hawaii, presented a Karawari River shield, Ms J. Moriarty presented a large selection of pottery from Papua New Guinea from the collection of her late husband, Mr S. G. Moriarty, and Mr J. Magers donated twenty Aboriginal weapons from Queensland. The largest collection yet acquired under this scheme is that donated by Mr W. Bowmore of Newcastle, who presented over 100 artefacts from west Africa. This latter acquisition fills a very significant gap in the department's holdings from Africa.

Collection maintenance was chiefly directed to producing up-to-date card catalogues of various sections. Ms Czuchnicka completed the human osteology catalogue, and Ms Horning finalised the documentation and storage of the Aboriginal bark paintings following completion of the conservation project. Ms Koettig began the sorting and restoring of the Australian archaeological collections, and Mr Lampert revised the format of the data entered on the computerized file for the Australian ethnographic collections. Various sections of the Pacific Islands collections were checked and made available for

*Chlamys pallium, collected in 1968 from the Fairfax Is., Bunker Group off Gladstone, Queensland.
Photo: John Fields/The Australian Museum.*



study. Ms Horning documented the anthropological teaching collections of the Education section. Photography of the collections continued with the assistance of the Photography section, and requests for prints and colour slides for study purposes by outside researchers continued to be numerous.

The grants-in-aid scheme for anthropology introduced by the Trust in 1978, has stimulated much additional interest in, and appreciation of, the museum anthropological collections. Australian universities have shown particular interest in the human osteology collections; students from the Australian National University and the University of Sydney have included parts of our collections in post-graduate studies. Associate Professor R. Wright, University of Sydney, assisted the department by processing human remains received from the Morgue for a human osteology course for Anthropology students. Students from universities in Townsville, Canberra, Melbourne and Brisbane studied various sections of the artefact collections.

Three students from the Museum Studies Diploma Course at the University of Sydney, Ms L. Bolton (1978), Ms L. Shaw and Mr W. Roberts (1979), worked in the department for one or two days each week. Ms Bolton used artefacts from the north coast of Papua New Guinea for a small display at the Macleay Museum, University of Sydney, as part of her course work.

Mr G. Abbott, Bernard Van Leer scholar worked for two weeks in the department cataloguing Australian Aboriginal musical instruments and preparing a leaflet on Aboriginal music. Five school students visited the department for one week each to gain first-hand work experience in a museum. Two of these students subsequently returned to work on a voluntary basis during school vacations. Two 'Discoverers', A. Mattea and N. Shea, assisted during the Christmas vacation, and Ms R. Young (University of Sydney), worked for six weeks as vacation assistant.

Mr R. J. Lampert joined the department in July 1978 as curator of Anthropology for the Australian collections. Formerly Senior Research Fellow in the Department of Prehistory, Research School of Pacific Studies at the Australian National University, he conducted research on the prehistory of Aboriginal utilization of Kangaroo Island, South Australia; the results of this study were presented in his doctoral thesis to the Australian National University in March 1979. Prior to his work on Kangaroo Island, Mr Lampert worked extensively on the south coast of New South Wales, Arnhem Land, Bass Strait, Papua New Guinea, Ocean Island, and in the United Kingdom. Mr Lampert's main research effort was in completion of his doctoral thesis. With Mr G. O'Donnell, he participated in excavations in the Mangrove Creek area of NSW.

A special grant was received from the Australia Council to engage a visiting curator to assist with the development of the new Papua New Guinea Gallery. Ms D. Losche, of Columbia University, USA, took up this position in June 1979 and will develop the gallery around the Abelam people of the East Sepik Province. Ms Loche worked among the Abelam people as a social anthropologist in 1976-77.

Ms L. Bolton, graduate in prehistory and anthropology from the Australian National University and diplomate in the Museum Studies Course, University of Sydney, took up a six-month post as research assistant for a pilot survey of Oceanic Cultural Property in Australian institutions on a grant from the Australian National Commission for UNESCO. This survey will provide the first information on the extent and nature of oceanic cultural resources within Australia.

Ms M. Koettig, previously graduate cataloguer in the department, returned in 1979 to begin the re-organisation of the Australian archaeological collections, with particular reference to materials from NSW, for which the museum has legal responsibility under the National Parks and Wildlife Service Act.

Dr J. R. Specht visited Papua New Guinea for two months on an archaeological project concerned with the history of settlement and economy in West New Britain; he was accompanied by Mr O. R. Kaiku, National Museum of Papua New Guinea, and Dr and Ms B. F. Leach, of Dunedin, New Zealand. Dr Specht also visited Honolulu to examine collections at B.P. Bishop Museum as part of his ongoing study of Solomon Islands fishing technology in conjunction with D. Hain and D. Bell.

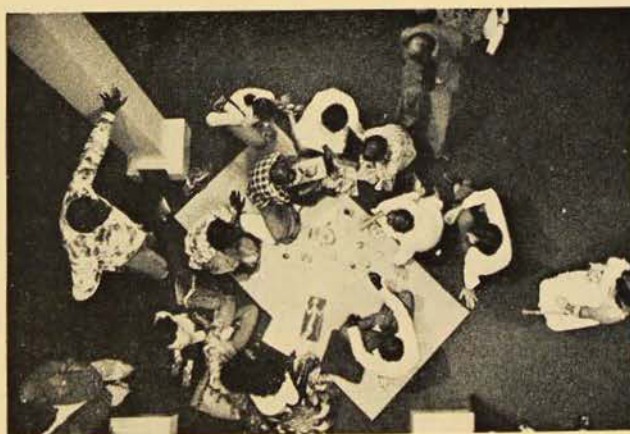
Mr Lampert represented the museum on the Aboriginal and Historic Resources Advisory Committee of the National Parks and Wildlife Service (NSW) and the Landscape Planning Committee of the National Trust (NSW). He is a member of the Prehistory Advisory Committee of the Australian Institute of Aboriginal Studies, the Council of the Australian Archaeological Association, the National Committee of *Aboriginal History*, and the committee investigating the proposed Sydney Rock Art Museum. He acted as external examiner for a BA Honours thesis in the department of Prehistory and Archaeology at the University of New England, and for a MA thesis in the department of Anthropology, University of Western Australia. He presented papers at two conferences on prehistory and archaeological site recording held at the Australian National University's field centre at Kioloa, NSW, and attended the seminar on 'The Role of Museums in the Preservation of Indigenous Cultures' (UNESCO) in Adelaide. He presented seminars on his research work on Kangaroo Island to the department of Anthropology at the University of Sydney and to a staff seminar in the museum and prepared a background paper on computerization of collection files for the first conference of museum anthropologists held in Melbourne.

Dr Specht served as President of the Anthropological Society of NSW, as a committee member of the Australian Archaeological Association, and on the standing committee for the South Pacific Cultural Fund of the Department of Foreign Affairs, Canberra.

He assisted with the organization of the seminar on 'The Role of Museums in the Preservation of Indigenous Cultures' (UNESCO) in Adelaide, and of the first national conference of museum anthropologists in Australia held in Melbourne. He gave a talk on the prehistory of Papua New Guinea to the teachers' inservice course, and to a seminar at the University of Papua New Guinea on his research in West New Britain. Dr Specht and Mr Lampert presented a paper on the department's Aboriginal Ethnography Computer file at the annual conference of the Museums Association of Australia.

Ms Czuchnicka presented a paper on 'Museums and Osteology' at a one-day seminar on 'Public Archaeology' at the University of Sydney, and a paper on 'Data Collection' in the department of Anthropology, University of Sydney. Mr O'Donnell and Ms Horning addressed a group from the College of Idaho, USA, on 'Museums and Non-literate Societies'. Ms Czuchnicka, Ms Horning, Mr O'Donnell, Mr Lampert and Dr Specht attended the first national conference of museum anthropologists in Australia held in Melbourne.

Aboriginal artists from the Oenpelli area demonstrated their painting styles to guests at the opening of the Oenpelli exhibition. Photo: John Fields/The Australian Museum.



Department of Arachnology

Public and professional interest in funnel web spiders was considerably heightened by a fatality in January 1979. Consequently, a number of groups have been addressed by the assistant curator, Mr M. R. Gray, on this subject, including a seminar to the Intensive Care Section of the Concord Repatriation and General Hospital, the annual meeting of the Australian and New Zealand Intensive Care Association, St Vincent's Hospital, The Australian Museum Society, Carlingford Public School Parents Association, and the Australian Museum Discoverers Club.

Attempts are being made to obtain support outside the museum for the preparation of funnel web spider identification kits. Plastic embedded specimens and colour wall charts for distribution to ambulance stations and hospital casualty departments are envisaged.

Interest in funnel web spiders outside Sydney is also high as evidenced by both enquiries and invitations to attend and mount spider exhibits for Agricultural Field Days at Mudgee and Orange.

Mr Gray attended the inaugural meeting of the Sydney Venoms Groups at the University of NSW in May 1979. This group resolved to hold twice yearly meetings to exchange information on venom research.

In July 1979 Mr Gray commenced a part-time PhD research programme at Macquarie University entitled 'Comparative systematics and biology of the funnel web spiders, genus *Atrax*'.

Support given by the Department to the Atea Kananda Caving Expedition to Papua New Guinea has resulted in the deposition of considerable collections of cave and surface dwelling arachnids, insects and molluscs in the museum collections. A report on the spider fauna of the Atea Kananda

Caves, Papua New Guinea has been prepared, the recording of troglobitic nestacid, pholcid and oonopid spiders being of particular interest.

A large collection of arachnids from the Tidbinbilla Nature Reserve, ACT, were sorted and identified and a named representative collection has been returned to assist Rangers in a survey of the fauna of the reserve.

Systematic studies of spiders of Amaurobioidea and funnel web (*Atrax*) groups were undertaken and work dealing with the subfamily Metaltellinae and a western group of the genus *Atrax* has been prepared. A study of distribution and speciation patterns of funnel web species in the Cumberland region is in progress. Comparative work on south-eastern and south-western amaurobioideid faunas has continued.

The field work programme has continued a long term project involving the comparison of cryptozoic spider faunas of forest habitats with particular current emphasis on the Amaurobioidea. Mr Gray spent two months collecting in south-western forest habitats of Western Australia from Geraldton to the Albany-Sterling Range region: pitfall trapping was extensively employed using 50 bucket traps over a total of 1,500 trap days. Of particular interest was the location of several populations of filistatid spiders, a group of aberrant cribellates previously thought to be rare in Australia. In eastern Australia the pitfall trapping programme has continued to yield excellent results. Ms Horseman made 12 two day and 12 one day field trips in association with this programme.

Information for some 15,000 arachnid specimens has been placed upon data sheets ready for computer accession. This represents only a part of new material accumulated since 1970 and a large backlog awaits entry. Ms Horseman, helped by a vacation assistant, Margaret Alexander, reorganized and rebottled much of the arachnid collection. The collections are now organized alphabetically.

Colo River Survey

A 12 month faunal survey of the Newnes Plateau/Colo River area has been carried out by the museum for the Electricity Commission of New South Wales. This was required by the Commission as background information to be incorporated in environmental impact statements for a number of developments proposed for the area. The faunal survey is supervised by Dr Tim Kingston. The survey has received considerable input from several museum departments, in particular from Terrestrial Invertebrate Ecology (Ms Debbie Andrew), Vertebrate Ecology (Dr Peter Smith and Greg Gowing), Mammalogy (Mr Basil Marlow and Ms Linda Gibson), Herpetology (Dr Hal Cogger and Mr Paul Webber), Entomology (Mr Greg Daniels) and from Photography (Mr John Fields).

A wide variety of techniques were employed in an attempt to record as many as possible of the vertebrate species living in the area. Mammals were surveyed by several kinds of traps, by spotlighting, mistnetting (for bats) and from indirect evidence such as tracks, droppings and hairs collected on pieces of adhesive tape attached to trees. Birds were recorded by visual survey and from their calls while amphibians and reptiles were collected by general fossicking, pitfall traps and by setting out sheets of corrugated iron. By these methods a total of 34 mammal species, 132 birds, 52 reptiles and 15 amphibians have been recorded for the area.

Access to some parts of the area, particularly the gorges of the Wollemi, Capertee and Colo Rivers, was difficult making heavy demands on the four-wheel drive vehicles. The gorges were surveyed by a combination of the most basic and the most sophisticated modes of access; backpacking and by helicopter.

An interim report on the fauna of the Newnes Plateau was submitted to the Electricity Commission in January 1979 and the final report will be submitted in September.



A fetus of a Kowari, *Dasyuroides byrnei*; the fetus was only 5mm in length. Photo: John Fields/The Australian Museum.

Department of Entomology

The department has continued its policy of deliberately seeking out specialists to undertake work on groups of insects previously lacking detailed study. As a result of this nearly 9,000 specimens were sent on loan to 56 different authorities. Research on the collections resulted in nearly 1,000 type specimens being registered and collections by staff and donations added about 18,000 specimens to the collections.

The rehousing of the collection into unit trays and other reorganization of the collections which has been in progress over the last few years has been continued. Mantids, phasmids and moths of 51 families and wasps of 3 superfamilies have now been placed in unit trays or rehoused. Cockroaches, bugs, scorpionflies, caddisflies, mayflies and much of the beetle collection has now been placed in unit trays. Economies in space so achieved within cabinets will provide room for newly acquired material in many families. This continued reorganization of the dry collection in the new cabinets has resulted in several orders being reorganized. Nevertheless, it seems unlikely that major space increases will be possible in the near future. Ms R. D. Brewer has been largely responsible for the laborious task of carrying out this extensive rearrangement.

Under the guidance of Dr McAlpine a programme of preserving insects for extremely long periods of time has been commenced. In view of the great age (up to 70 million years) and perfect preservation of amber fossil insects and the relatively short preservation expectancy of dry and spirit-preserved insects in museums, it is planned to preserve specimens of special interest, e.g. endangered species and duplicate paratypes, in clear polyester resin plastic and to store them in a fire-proof safe. This plastic is reputed to be very inert chemically though (like amber) it is destroyed by fire. The scheme is in its initial experimental stage, but it is hoped that,

through it, people of the remote future will be able to glimpse the insect fauna of this millennium, as we can now glimpse those of the times of the amber fossils.

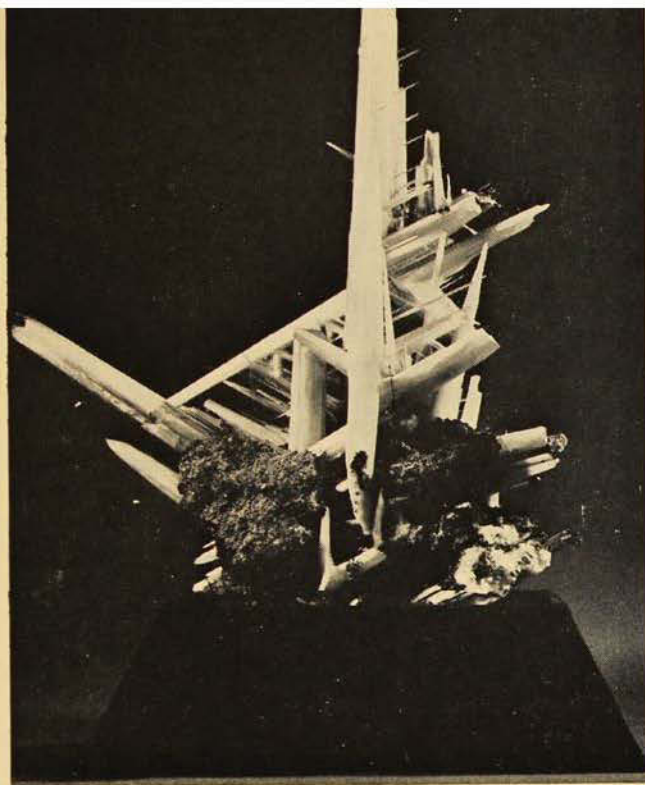
The year has been a very active one in research. Dr D. K. McAlpine has prepared a resume of the New Guinea Acalyptrate Diptera for the Junk volume on Biogeography and Ecology in New Guinea and Dr C. N. Smithers has made a similar synopsis (with Professor I. W. B. Thornton) of the Psocoptera. Dr McAlpine has also continued revisionary work on New Guinea Diptera, including additional descriptions of species of *Achias* and a study of generic limits in the platystomatid tribe Cleitamiini. A preliminary key has been drawn up to the New Guinea species of the micropezid genus *Nestima* (including *Crosa*).

Study of flies of the family Aulacigastridae has progressed to the stage of drawing up a key to world genera. The Australian genera are endemic and somewhat aberrant.

A key to the Australian species of the family Piophilidae has been prepared. These are found mainly on dried up animal carcasses but one species commonly breeds in cheese. Ms M. Schneider and Dr McAlpine prepared a manuscript describing endemic lauxaniid and platystomatid flies of Norfolk Island. Ms D. Kent has commenced a systematic study of Sphaeroceridae and discovered the first wingless species known from New South Wales.

Dr Smithers has been engaged on several lines of research on Psocoptera, on insect migration and various smaller projects.

The family Psocidae from New Guinea has been studied as part of the research programme on the zoogeography of the Melanesian arcs (a programme supported by the ARGC). Material available in the museum collections and borrowed from other institutions is extensive, involving many genera.



A world famous specimen of reticulated cerussite featuring unusually large bladed crystals from the Proprietary Mine, Broken Hill, N.S.W.
Photo: Gregory Millen.

This is enabling considerable revision to be carried out in this family which will be of value in the study of the Australian and Palaearctic faunas. Several peculiar genera have been found; in one the wings are hardened to form wing shields as in the beetles and in another peculiar stridulatory (sound producing) organs occur on the thorax. In the course of this work on New Guinea fauna, it has been found necessary to examine several types of species from Singapore. These were described and illustrated and a paper is now in press.

Work has continued on a large key to the genera of the Psocoptera. There are some 275 genera in the world.

At the request of the publishers, work was completed and a manuscript submitted on the definitions of all the taxa of the Psocoptera. This forms part of a very ambitious synopsis of the taxa of all plants and animals being produced by an American publishing house.

Psocoptera from a Tasmanian faunal survey were studied and a manuscript is in press (Australian Entomological Magazine) describing several new endemic species which occur in an area probably to be flooded by dam construction.

A species of Psocoptera found in stored products was identified in material from the Department of Agriculture. The species had not been previously found in Australia but is known elsewhere as a pest. The local material has been used as a basis for detailed redescription.

Species associated with an artificial rainforest established near Brisbane were studied. Surveys of colonization of the rainforest by insects are being carried out; some of those found are known to occur only in rainforest, indicating that some Psocoptera are early colonizers of such suitable habitats.

Work commenced on a key to the genera of Australian Neuroptera. No such key has ever appeared and is needed. It is intended that the key will accompany a species list and bibliography.

A synopsis of the data on migration of nymphalid butterflies in Australia has been made and earlier work on Papilionidae (swallowtails) and Hesperidae (skippers) published.

Historical researches into the whereabouts of the McComish insect collection (of Norfolk Island species) established that most of it went to Oxford University and then to the British Museum. These important collections were made before and during the Second World War. Plant material collected at the same time was distributed to various herbaria.

In addition to the above research, fauna and floral surveys have been carried out on a casual basis on a wildlife refuge near Mount Royal.

A host plant—insect catalogue has been set up for accumulating host, parasite and predator records. A major contribution to the catalogue has been the moth records accumulated by Mr V. Robinson, of Wollongong.

Collections were made in the Barrington Tops area taking advantage of the newly-opened road from Scone to Gloucester. This road gives access to forests previously accessible only with difficulty (especially Southern beech (*Nothofagus*) forests). Overwintering butterfly populations were investigated at Geelong in connection with migration studies and shorter periods were spent in the field in the Blue Mountains and the Mount Royal areas.

Mr G. Holloway spent some time in South Australia collecting Psocoptera, Diptera and Hymenoptera; this was a very profitable trip, taking advantage of the emergence of insects and population build-up after unusually good rains.

Dr McAlpine and Mr B. Day carried out field work in the Snowy Mountains in order to obtain material of Tephritidae (fruit-flies) and Lauxaniidae in the alpine zone. A trip was also made to Central Western New South Wales to obtain material of Platystomatidae and other Diptera. Dr McAlpine, Ms Schneider and Mr Day made several trips to Tahmoor, in the Picton district, to obtain material of two newly discovered species of Aulacigastridae. Dr McAlpine has visited a number of Wianamatta shale sites near Sydney which still retain remnants of the original plant and insect populations. This habitat is seriously threatened and scarcely any of it is inside reserves.

The Entomology department has always actively encouraged students and amateur entomologists. Mr Holloway delivered four lectures to amateur groups and gave lectures to students of the Sydney

Technical College Agriculture Certificate course. Dr McAlpine gave lectures to Sydney Grammar School science students and the Native Orchid Society, Warringah Group.

Students from the University of New South Wales have made considerable use of the department and its collections. Dr Smithers has assisted in supervision of students from Macquarie University and has acted as external examiner for two Masters theses.

Sydney University Museology Course students visited the department to gain insight into the running of a museum department. Staff members have been approached by the National Parks and Wildlife Service, the Ryde Field Studies Centre and various conservation groups for advice on a wide range of conservation topics. Dr Smithers conducted a field day on migration research for the Entomological Society of Australia. He also attended part of the International Horticultural Congress at which he discussed the European wasp, a potential pest in horticulture and agriculture.

Specialist identifications of collections have been carried out for CSIRO Division of Entomology, Biological and Chemical Research Institute (Rydalmere), Forest Research Station, Bulolo (Papua New Guinea), and DSIR (Department of Scientific and Industrial Research), Entomology Branch, Auckland and other organizations.

A complete collection of species of butterflies found on Lord Howe Island, and a set of coloured photographic slides, was prepared for a display in the newly established museum on Lord Howe Island.

A display of world insects is to be held in Tokyo under the auspices of UNICEF (United Nations International Childrens Emergency Fund). The department provided materials towards this event.

Mr C. E. Chadwick (Associate) has continued to assist in rearranging and studying the weevil collections. Mr M. S. Moulds has provided material

for the collections. During his stay as research assistant to Dr Smithers, Mr G. Daniels spent a considerable amount of his own time carrying out research on, rearranging and identifying sections of the Diptera collections.

Dr Smithers was re-elected for a second term as President of the Australian Entomological Society. In this capacity he represented the Society at meetings with officers of the Department of Science, the CSIRO and the Conference of Museum Directors on the controversial regulation 13A (which concerns the export of insect material). He continued to serve on the Council of the Linnean Society of New South Wales.

Department of Herpetology

The department was greatly saddened and much diminished by the death of one of its long time student associates, Mr Peter R. Rankin, while collecting in New Caldeonia. Peter was one of the brightest herpetologists of his generation and had he lived would have been a pace setter in the field. A memorial fund to provide short-term grants in aid to imaginative young herpetologists has been established in his name and will be administered by The Australian Museum Trust.

Dr Harold Cogger's research was primarily concerned with the biogeography of the northern Australian herpetofauna; to this end field work was undertaken at Weipa, on Cape York Peninsula, and in the Victoria River region of the Northern Territory. Three major projects during the year were surveys of the reptiles of Norfolk, Christmas and Cocos (Keeling) Islands which were undertaken for the Australian National Parks and Wildlife Service to determine the present status and conservation needs of the reptiles of these islands. Ongoing taxonomic research was largely concerned with the sea snakes of the Australian/Pacific region. Dr Cogger continued as a member of the International Commission for Zoological Nomenclature,



Nephruroides laevis, a knob tailed nocturnal desert gecko. Photo: Howard Hughes/The Australian Museum.

and as an honorary consultant in herpetology to the Survival Service Commission of the International Union for the Conservation of Nature. He was also a member on the advisory committee of the CSIRO journal *Australian Wildlife Research*.

Dr Allen Greer's research focused primarily on scincid lizards and dealt with the following topics: redescription of poorly known species, description of new species, recognition of new genera, relationships of taxa at the specific level and higher, ecological and evolutionary significance of critical maximum temperatures, adaptive significance of mode of reproduction and the evolution of the spectacle (the clear scale permanently covering the eye in some lizards and all snakes). Dr Greer spent January and most of February in the field on Cape York Peninsula, Eyre Peninsula, Kangaroo Island and Gippsland assessing the geographic variation in the mode of reproduction of one species of skink and making general collections. Dr Greer was

reappointed Associate in Herpetology at the Museum of Comparative Zoology, Harvard University and re-elected to the Council of the Linnean Society of New South Wales.

Dr Grahame Webb worked in the department on a joint ARGC (Australian Research Grants Committee) grant with Dr Cogger on the biology of freshwater crocodiles in the Northern Territory.

Approximately 15,000 specimens were registered into the collection during 1978-79, bringing the total number of amphibian and reptile specimens in the collection to more than 88,000.

Department of Ichthyology

The Australian Institute of Marine Science provided the research vessel *Lady Basten* for a month of survey fishes in north Queensland. The survey by the Australian Museum, AIMS, the Queensland Museum and James Cook University was carried out between Cooktown and Thursday Island. Over 10,000 specimens and about 1,000 species of fishes were obtained. Several species were discovered from Australia for the first time and some species new to science were obtained. Collections were obtained using SCUBA from coral reefs, trawls from inside the reef, deep sea trawls outside the reef and plankton nets for fish larvae. Previously no extensive survey work had been done in the area.

During the year material representing 3,500 lots of specimens were registered. The department is currently in the process of changing to a computer registration system. Approximately 20% of the collection records were computerized and an additional 40% were prepared for computerization, during the year. Complete computerization is expected to be achieved in about a year. A total of 40 loans of 470 lots (1,300 specimens) were dispatched to other specialists. About 140 specimens were sent on exchange. Of the thirty-five visiting scientists fourteen were from overseas.

Dr D. F. Hoese completed a study of South African gobioid fishes and two revisions of gobioid genera. Other manuscripts are currently being prepared on gobioid fishes.

Dr Hoese is a councillor of the Australian Society for Fish Biology and attended the annual meeting in Victor Harbour. He continued to supervise students at the University of New South Wales and gave lectures to local naturalist societies.

Dr J. R. Paxton has almost completed a study of the lantern fishes of Australia. He and Ms Blake are working on the systematics of the deep sea whalefishes of the family Cetomimidae.

Dr Paxton was past president and councillor of the Australian Society for Fish Biology and at the annual meeting in Victor Harbour presented a paper on aquarium fish importation. He continued as research associate of the Los Angeles County Museum of Natural History and honorary associate in Biology at Macquarie University. He continued to advise graduate students at Macquarie and the University of Sydney, and he was a consultant/contributor for projects of Readers Digest, Bay Books and Jack Pollard Publishing.

Ms H. K. Larson completed a study on Indian Ocean gobiid fishes from the meteor expedition and is nearing completion of her studies on gobiids associated with sea whips and other invertebrates. Ms Larson attended the annual meeting of the Australian Society for Fish Biology in Victor Harbour.

Ms D. J. Blake continued her revision of zeoid fishes.

Ms Blake is treasurer of the Australian Society for Fish Biology.

Dr J. Leis has joined the department for 2 years as a Queen Elizabeth Fellow in Marine Science. He has begun a study on distribution of fish larvae on and near coral reefs at Lizard Island.

Department of Malacology

A symposium on the Biology and Evolution of Mollusca was held in the museum from the 21 to the 25 May, 1979. This was an event of some significance. The phylum Mollusca includes such diverse animals as octopuses, clams, snails and slugs. Many of these animals are of economic and some of medical importance as well as being extremely numerous and important components of the fauna. Relatively few attempts have been made to bring together people working on molluscs in Australia to discuss common problems and to learn about the work going on in the group.

Organised by Dr W. F. Ponder at the museum and Dr A. J. Underwood of the University of Sydney with the assistance of the other members of the department of malacology and TAMS volunteers, the symposium was widely supported. Over 140 delegates attended representing 10 countries, and 47 papers and 26 posters were presented. The abstracts of the papers and posters are to be published in the *Journal of the Malacological Society of Australia*.

The overseas participants included Sir Maurice Yonge, Edinburgh University, Scotland; Sir Charles Fleming, Wellington, New Zealand; Dr A. C. van Bruggen, Rijksmuseum van Natuurlijke Historie, Leiden; Dr V. Fretter, University of Reading, England; Professor K. J. Götting, Giessen, West Germany; Professor J. B. Burch, University of Michigan, USA; Dr A. Solem, Field Museum, Chicago, USA; Dr R. Robertson, Academy of Natural Sciences, Philadelphia, USA; Dr F. Starmühlner, University of Vienna, Austria; Dr J. D. Taylor, British Museum (Natural History), London; Dr B. S. Morton, University of Hong Kong; Dr F. Climo, National Museum of New Zealand; Professor M. C. Miller, University of Auckland, New Zealand; and Professor G. J. Vermeij, University of Maryland.

Papers of considerable importance were presented including one by Dr F. Climo describing a new order



Museum Train officer Peter Miller teaches children about animals during one of the train's regular country stops. Photo: Heather McLennan/The Australian Museum.

of pulmonate gastropods and several papers dealing with the higher classification and evolution of molluscs. In addition several significant papers on the ecology and biology of molluscs were given.

It was agreed by all who participated that the symposium was an extremely worthwhile and

successful event not only in providing a forum for presenting information and for meeting people with similar interests but, particularly, in enabling scientists and students to gain a broader knowledge and appreciation of the phylum containing the animals on which they have chosen to work.

A notable event early in the new year was the appointment of Dr W. Rudman as a second curator to replace Dr J. B. Burch. Dr Rudman's main research interest is in the field of opisthobranch molluscs or sea slugs. A paper on the ecology and anatomy of a new species of madreporarian coral feeding aeolid was published and another on aeolids from the western Indian Ocean was accepted for publication. His work on nudibranchs feeding on madreporarian corals and alcyonarians continues and he has long term projects on revisions of the Chromodoridae and Aglajidae of the Indo-West Pacific faunal region and the Acteonacea of the Australian region.

Dr W. F. Ponder's research during the year, which was assisted by Mr E. K. Yoo, included work towards a generic revision of the Rissoiidae, a large family of minute gastropods; a manuscript on Australian acmaeid limpets with Dr R. G. Creese was completed. A paper on the Hydrobiidae, a group of small freshwater gastropods, from Lord Howe Island, is also well advanced. This project was largely based on collections made in April 1978 and material obtained on a supplementary collecting trip in late June 1979 will enable this work to be finished.

Field activities included work on the south coast of New South Wales, Lizard Island, Lord Howe Island, Norfolk Island and Central Australia. Good collections of opisthobranchs were obtained from southern NSW and Lizard Island and micromolluscs from the south coast. Terrestrial and freshwater collections were made on Lord Howe Island and Central Australia and terrestrial and marine collections on Norfolk Island. The latter collections are of importance because, due to the extreme damage

to the terrestrial habitat on Norfolk Island, some of the endemic land snails may be in danger of extinction. Extremely valuable benthic collections were made by trawling on the continental slope using the FRV *Kapala*.

Curatorial activities included routine upgrading of collections particularly the non-marine collections. During the year about 40% of the non-marine collections were curated by J. Stanisic (employed during most of this period by ABRS) to an excellent standard. During this work 110 primary types and 330 secondary types have been located and added to the type collection.

The opisthobranch collections have been significantly increased both from field work and from the donations of amateur collectors. Wherever possible photographs of living animals are obtained and registered with the preserved specimens because with many opisthobranchs, especially the nudibranchs, the colour and shape of the living animal is most important for identification. As colour is lost and shape often changes with preservation, good colour photographs are essential in any collection of opisthobranchs.

Sample sorting and sorting of minute molluscs continues to be a major problem, although Mr J. Voorwinde is making significant contributions on a voluntary basis. Temporary funds were made available during the year to assist with sorting benthic samples and a collection of non-marine Papua New Guinea and West Irian material made by D. F. McMichael.

Some visiting scientists assisted in the curation of parts of the collection in which they have special interests. These included Dr J. Houbrick (Cerithiidae), Mr B. Marshall (Triphoridae), Dr R. Robertson (Phasianellidae), Dr F. Climo (Endodontacea), Dr J. Richardson (Brachipoda), Dr J. McLean (Fissurellidae), Mr L. Joll (Octopuses) and Dr A. Warren (Eulimidae).

Some time has been spent organising the collections at the Rushcutter's Bay store. A great deal of work remains to be done to make the potentially valuable material that is housed there accessible. As in past years the very considerable assistance of the TAMS volunteer workers has enabled a great deal more progress to be made in curatorial work than otherwise would have been possible.

A major task undertaken, and now almost completed, was the complete reorganisation of the departmental library. A new TAMS volunteer, Ms S. McGeachy, was responsible for a great deal of the work involved. The looseleaf file system on Australian and Indo-Pacific Mollusca has now been incorporated into the library.

The installation of an air conditioning system was a major improvement to the department which, previously had been almost uninhabitable in the summer.

Loans made this year numbered 37—a total of 1,054 lots comprising 6,234 specimens. Fifteen exchanges were also made involving 458 specimens.

Department of Mammalogy

The transfer of the mammal registration onto computer data sheets has been completed and the first stage of programming has been entered. Approximately 400 new specimens were registered last year.

The curator, Mr B. J. Marlow, attended a symposium on endangered wildlife sponsored by

the Royal Zoological Society of South Australia held at Adelaide Zoo 21–23 September. He also visited the Adelaide Zoo to view the collection of mammals and the Institute for Medical and Veterinary Science, Adelaide to view its large collection of native mammals. Mr Marlow gave a lecture on primates to students of Macquarie University and attended numerous meetings to select photographs for the National Wildlife Photographic Index.

A numbered and limited edition of the *Mammals of Australia* by Gerard Krefft (former curator of the museum) was reprinted by Landsdowne Press. Mr Marlow wrote the foreword for this historically interesting publication. He has also continued work on an Identification Manual of the Mammals of Australia.

The technical officer, Ms L. M. Gibson, again assisted the Forestry Commission with a study on the behaviour of the yellow-bellied glider. This involved field work and observations in the forests south of Eden. Ms Gibson also took part in the aerial survey of whales being conducted by Dr W. Dawbin (research associate) off the coast of NSW. This survey deals with the numbers and migratory patterns of humpback and southern right whales, and dolphins, passing eastern Australia. Some field work was also carried out in connection with the Newnes Plateau/Colo River survey.

Planning for the new mammal gallery has commenced and Ms Gibson attended a number of meetings in her capacity as assistant to the scientific officer for the project, Dr Michael Archer.

The curator and technical officer were invited by 'Film Australia' to view unedited film footage on spiny anteaters. This film is to be used in constructing a documentary on these animals. Assistance was also given to the Bureau of Customs and Excise in identifying a number of illegally imported mammals and products made therefrom.

Department of Marine Ecology

While continuing with the Hawkesbury estuary benthic survey Dr Alan Jones and Ms Charlotte Short have also initiated a new project on coral reef areas. The former project is boat-based and employs a remote-sampling grab; the latter depends on diver-operated core samplers supplemented by photography.

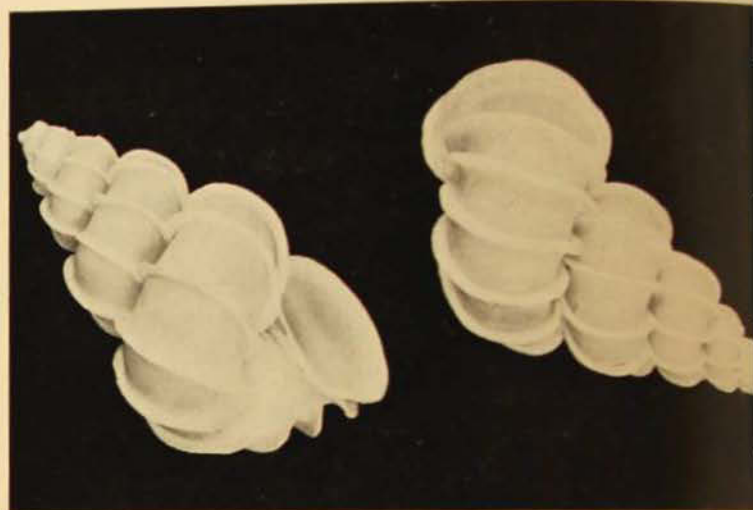
Both departmental members have attended conferences and symposia including ANZAAS (Australia and New Zealand Association for the Advancement of Science), AMSA (Australian Marine Sciences Association) and Sub-Tidal Communities (Dr Jones) and Sub-Tidal Communities and Oceans (Ms Short). Dr Jones has assisted with the marine hall and the outer urban exhibition, on conservation of Australian fauna and continues to be involved in the preparation of submissions, the assessment and refereeing of reports, proposals and articles, and the organization of museum seminars. He has also delivered lectures at Sydney University.

Ms Short's activities have been principally engaged in arranging the complexities of tropical invertebrate taxonomy. She has also contributed to the development of new sampling and photographic techniques for the diving project. Mr Jock Young and Ms Jenny Gate have assisted with sample sorting and crustacean taxonomy on a temporary basis.

In addition the department has been host to high school students on work experience programmes.

Department of Marine Invertebrates (Crustacea and Coelenterates)

During September-October 1978 Dr J. K. Lowry, curator and Mr P. Terrill, (technical officer) spent three weeks at Lizard Island, on the Great Barrier Reef, with members of the department of Marine Ecology studying the benthic ecology of the lagoon. Sorting and identifying the crustaceans from this work has progressed steadily through the year.



Epitonium sclare, also collected from the Fairfax Is., Bunter Group off Gladstone, Queensland. Photo: John Fields/The Australian Museum.

Dr Lowry and Ms H. Stoddart have nearly completed the first paper of the ARGC supported study on the gammaridean amphipoda of the subantarctic islands of Australia and New Zealand. The second paper in the series is well underway.

During the year Mr Terrill curated and re-registered on to computer sheets the entire alpheid shrimp collection. This collection now represents the most complete record of Australasian alpheids available.

In July Dr Lowry taught a short course in amphipod systematics at Sydney University. Earlier in the year he participated in a field course at Heron Island, Great Barrier Reef, with students from the University of New South Wales.

Nearly 40 loans representing 900 lots of material were sent overseas during the year, indicating a healthy interest in the Australian crustacean and coelenterate fauna by workers in other parts of the world.

Department of Marine Invertebrates (Echinoderms)

The number of echinoderms incorporated into the collection during the year numbered 2,000 specimens; these specimens have been received from various parts of Australia, Fiji, Tahiti, New Caledonia, Indonesia, New Zealand, Seychelles Islands (Indian Ocean), the Mediterranean and Bermuda. A selection of ophiuroids from Lizard Island and One Tree Island, Great Barrier Reef have been exchanged for holothurians from New Zealand waters.

Ms Berenice Marshall has continued, on a voluntary basis, to assist Ms J. Marshall (technical officer) with the checking and relabelling of the echinoderm collections and compiling a literature card index.

The collection of dried echinoderms has been relocated in the sub-basement of the new wing of the museum.

Following his involvement as scientific co-ordinator for the museum train exhibit during 1977-1978, Dr F. W. E. Rowe was appointed scientific co-ordinator both for the outer urban exhibition, marine life and the new marine invertebrate gallery. Dr Rowe edited 13 papers presented at the Echinoderm Conference of 1978 and subsequently submitted for publication in the *Records of The Australian Museum*.

Ms Lynette Favelle from St George Girls' High School, Kogarah, spent a week in the department on a work-experience programme (11-15 June, 1979) assisting with the curation of collections. Ms Katie Cessor assisted in the department during June 1979, sorting and labelling the *Kapala* collection.

Dr Rowe was invited to give a paper on Australian echinoderms at a colloquium held in London from July 11-13, 1978 and later, in August, to give the same talk to staff in the Smithsonian Institute of Natural History, Washington, DC, USA. He spent 2 months (July-August, 1978) visiting the British Museum

(Natural History) in London, UK; Université Libre de Bruxelles, Belgium; Musée Royal de L'Afrique Centrale, Belgium; Smithsonian Institute of Natural History, Washington, DC; Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts; Museum of Natural History, New York and Allan Hancock Foundation, University of Southern California, Los Angeles, USA. Dr Rowe also examined parts of the echinoderm collections relating to current research projects in these institutions. A collection of holothurians from Indonesia was identified and the collections of holothurians made by 'Siboga' and reported by Sluiter (1901) was re-examined for the Rijksmuseum, Leiden. These collections were made available for Dr Rowe during his visit to the Université Libre de Bruxelles. During his visit overseas, Dr Rowe discussed joint projects with Drs Pawson (USA) (Holothurians of Abrolhos Is, Western Australia; Revision of the holothurian genus *Pentacta*); Jangoux (Belgium); Revision of the asteroid genera *Nardoa* and *Gomophia*; Professor Nichols (UK) (The asteroid genus *Podosphaeraster* (also with Jangoux)). He has continued to work towards revisions of the holothurian fauna of southern Australia and the holothurians described by Joshua and Creed from South Australia and Victoria. Dr Rowe has described a new genus and species of ophiasterid sea-star from 183 metres off Lord Howe Island, NSW (*Australian Zoologist* in press), is also revising the southern Australian sea-star genus *Nectria* with Mr W. Zeidler (South Australian Museum), and has written a short article on sea-squirts for *Australian Natural History*.

Ms Jan Marshall was awarded a French Government Scholarship and spent 6 months (1 June-1 December 1978) in Europe. She was based in the Musée National d'Histoire Naturelle in Paris. Ms Marshall studied taxonomic aspects of crinoid collections in the Paris Museum; Musée d'Histoire Naturelle Geneva; British Museum (Natural History), London; Université Libre de Bruxelles, Brussels; Centre

National pour L'Exploitation des Océans Brest, Rijksmuseum van Natuurlijke Historie, Leiden and Institut voor Taxonomische Zoologie, Amsterdam, and marine stations in Banyuls and Marseille, Polynesia and New Caledonia. She attended the Echinoderm Colloquium in London (July 11-13, 1978). Ms Marshall made small collections of echinoderms from the Mediterranean, Tahiti and New Caledonia during her overseas travel.

Dr Susan Oldfield completed her term as Queen's Fellow in the department having worked for two years on the ophiuroid collections. She completed a report on a collection of ophiuroids from Swain Reefs, Capricorn Group, Great Barrier Reef.

Participants in the 'Fishes of Sydney' course, run by the Education Section in January, 1979. The children are picking through seaweed brought up by a trawl in Port Hacking. Photo: Heather McLennan/The Australian Museum.



Department of Marine Invertebrates (Worms)

Dr Hutchings's grant from the Australian Research Grants Committee to study the distribution and abundance of cryptofauna of Lizard Island, Great Barrier Reef was renewed. Four collecting trips to Lizard Island were made to complete a second, two-year experiment to investigate the seasonality of polychaete recruitment. Additional experiments were set up to investigate the effect of size of habitat on recruitment and the effect of boring species.

Two papers from this work were presented, by invitation, at the Western Society of Naturalists International Symposium on Marine Biogeography and Evolution in the southern hemisphere held in Auckland in July 1978, and at ANZAAS, also held in Auckland, in January, 1979. The Great Barrier Reef Marine Park Authority provided funds for Dr Hutchings to purchase a diamond saw which has been installed at Lizard Island Research Station. This saw greatly facilitates the cutting of uniform sized blocks used in recruitment experiments.

A key to some 180 estuarine polychaetes of NSW was prepared with Dr Rainer of CSIRO (Fisheries and Oceanography) and submitted for publication. The data from *Posidonia* cores collected along the NSW coast has been analysed and is being prepared for publication with Mr Gibbs of NSW State Fisheries and Dr Collett, Ministry for Conservation, Victoria.

Taxonomic studies have concentrated on estuarine polychaetes. A revision of the genus *Mediomastus* (family Capitellidae) is being undertaken. Taxonomic studies are also continuing on the polychaetes from Lizard Island, especially the Family Terebellidae. A collecting trip to South Australia was undertaken during March 1979 and extensive collections were made in intertidal and estuarine areas plus some subtidal areas along the coast as far west as Streaky Bay and on Kangaroo Island. Dr Stan Edmonds of the South Australian Museum and Dr Alan Butler of the Zoology Department, University of Adelaide participated in the trip to Kangaroo Island. A

representative collection of the polychaetes from the Port Phillip Bay Environmental Survey 1971-1973 was incorporated into the collections.

Dr Hutchings participated in a dive workshop organised in November 1978 by the Australian Institute of Marine Science (AIMS), James Cook University of North Queensland and the Great Barrier Reef Marine Park Authority. She also participated in a mangrove workshop also held at AIMS in April.

Dr Hutchings was the Australian Museum representative on the Council of the Great Barrier Reef Committee until November 1978.

Department of Mineralogy and Petrology

October 1978 saw the launching of the outer urban exhibit 'The Story of the Earth' with a TAMS champagne breakfast; the exhibit is now circulating the suburbs of Sydney. Meanwhile work on stage II of the mineral gallery has continued. Due to problems of unsatisfactory locks and dustproofing on the new cases, work has been confined to behind-the-scenes preparations. It is hoped that the coming year will see the installation of some new displays, such as the 'Introduction to Minerals', 'Australian Mineral Resources', 'Minerals and Ore Bodies', 'Meteorites and Tektites'—all of which have received considerable attention from members of the department, Exhibitions and other sections of the museum.

As a new venture, working closely with Exhibitions, the department was called upon to devise a series of 'swap' cards to go in cereal packets and a 'mineral game' to go on the backs of the packets. These have been well received by the company concerned and publication is expected at a future date.

In the mineral gallery, a temporary exhibit of a private collection of twenty-two carved jade pieces from China was on display from August 1978 to April 1979. Originally scheduled for a three-month

period, this time was extended due to its popularity; it is hoped that the department may be able to purchase three of the items. Antique ornamental material belonging to the department's collection, has featured in a special exhibit entitled 'Treasures of the Museum' in the main foyer of the museum.

A suite of minerals from Prospect, NSW, was displayed at the Fourth National Exhibition of Minerals held in Melbourne in September 1978. In October the same display was taken to Orange, where it is on temporary loan to the new 'Gallery of Minerals' opened that month by the Hon. K. G. Booth, MP, Minister for Sport, Recreation and Tourism. Other loans included two requests for casts of famous gold nuggets: one for display during a historical re-enactment at East Gosford, the other for an exhibit on gold at the Royal Easter Show.

Probably the most significant acquisition this year has been that of an X-ray Diffractometer. Long-awaited, it was finally installed in January 1979 and is now being used for routine identification and in connection with research work on zeolites. A number of new minerals have been purchased for the collections and for display. Most notable of these purchases have been: a very fine specimen of wulfenite from the San Francisco Mine, Mexico; a precious opal quartzite from Andamooka; cuprite from Africa; a chrysoberyl from Brazil and several cassiterite crystals from Storey's Creek, NE Tasmania. In addition, minerals have been acquired through donations, from field trips and through exchanges, (a small selection of minerals were exchanged for overseas minerals from Italy and the USA) giving rise to a total of 587 newly registered specimens for the year.

In order to relieve an ever-increasing shortage of storage space in the mineral store, a series of public mineral sales was initiated in the museum, with much duplicate material being put up for sale. As a direct result of these, many requests have been received from local schools for teaching sets of the

major rock-forming minerals and mineral ores, which the museum has been pleased to donate. Additional donations of department material have been made to universities and other higher education establishments for displays or teaching purposes, to an old people's home for a display, and to individuals to aid their research work. A collection of rocks, notebooks and other papers from Herald Island has been loaned for a research project to Monash University. A selection of 112 samples from Mawson's 1911-1914 Dredgings are being examined in a project to determine their age.

The rock collection shows an unusually high increase in the number of specimens registered this year (848), bringing the total to 11,007. This reflects not only new specimens collected on field-work in Queensland and Tasmania but also work on the collection by Mr R. E. Pogson. During his meticulous checking and reorganizing, Mr Pogson uncovered two historically exciting specimens collected from the summit of Cape Horn in 1830 by Captain Fitzroy and party of HMS *Beagle*! One of these is featured in an article by Mr Pogson for publication in *Wild Life in Australia* entitled 'An Historical Rock from The Australian Museum—A geological-marine-historical tale'.

The main research by the curator, Mr F. L. Sutherland, involved joint investigations of important suites of inclusions in volcanic rocks from Queensland and Tasmania with Dr J. D. Hollis. In particular, detailed field and laboratory investigations have been made on garnet-bearing inclusion suites from Mt St. Martin, Monto and Nanango, Queensland, and Bow Hills, Tasmania. It is planned to incorporate the results, with others, into a comprehensive review and model of the lower crust and upper mantle of Eastern Australia. In addition, studies of the structural controls of Eastern Australian volcanism and aquagene volcanism in the coastal seas and river systems of Tasmania, have been prepared for publication.

A field trip by members of the department with mineralogists and petrologists from the National Science Museum of Japan, Tokyo, resulted in the collection of research material from a number of zeolite localities in Tasmania. These minerals from the tertiary volcanic rocks are to be the subject of a joint study by the two institutions.

Pursuing his research interest, Mr R. O. Chalmers (former curator) went on a combined field trip with Dr B. Mason from the Smithsonian Institute to the Lake Frome region, South Australia, to look further into the question of the distribution and age of tektites. In April, Mr Sutherland and Dr Hollis joined Mr Chalmers on a short trip to the sapphire areas of New England, while Ms Hingley, with Ms McLennan from the Photography Department, made a brief visit to a jade deposit near Tamworth, NSW.

All members of the department and Dr Hollis once again attended the annual joint seminar organised by the Mineralogical Societies of NSW and Victoria, which was held in Sydney in June. 'Broken Hill' was the subject and Mr Chalmers gave the opening paper entitled 'A General Review of the Minerals of the Broken Hill Region'. This year Mr Chalmers' book 'Rocks and Minerals of Australia' was published by Methuen in the Observer Series.

The department has benefited greatly from the allocation of several Trustees Short Term Assistance and Special Grants during the year. Dr J. D. Hollis has been employed twice to help with projects related to the Curator's research work on the upper mantle—lower crust in Queensland and Tasmania. During his stay at the museum he presented papers on 'Ultramafic Nodules from the Bullenmerri and Gnotuk Maars, Camperdown, Victoria' at the Third Australian Geological Convention held in Townsville and on 'Models of the upper mantle based on ultramafic and gabbroic xenolith suites from the volcanics of Victoria' at the CUMSEA symposium at Canberra. At the end of August, Ms J. James completed her appointment to



Exhibits and other areas of the Australian Museum are often used as backdrops for commercials, films and photographs. Photo: John Fields/The Australian Museum.

help with preparations for stage II of the mineral gallery and at the beginning of 1979, Mr Pogson was engaged for three months to make a systematic check and generally reorganize the rock collection.

Mr C. Parker once again worked for six weeks as a summer vacation assistant, while Ms C. Connolly, a work experience student helped the department for a couple of weeks and for a short period Mr P. Ewen offered his services voluntarily. On a regular voluntary basis, Ms B. Clark has provided great assistance through her wide knowledge and experience of minerals and Mr J. Pixley has compiled an invaluable index of synonyms for minerals, in addition to keeping up-to-date his index of rare minerals.

Ms J. Hingley gave a talk to Gosford Lapidary Club entitled 'Dig-in at Rum Jungle' in July, 1978. She is a member of the Mineralogical Society of NSW and of the Gemmological Association of Australia. Mr

F. L. Sutherland has attended four major conferences at which he has presented papers: on 'Megacrysts, Xenoliths and Fractionation Nebo Volcanic Province, Northern Queensland' at the Third Australian Geological Convention of the Geological Society of Australia, held at Townsville, Queensland, in August, 1978; on 'Aquagene Volcanism, North-west Tasmania, in relation to Tertiary Coastal Seas and River Systems' at the Symposium on the Geology and Mineralisation of North-west Tasmania, organized by the Geological Society of Australia (Tasmania Division), at Burnie, Tasmania, in November, 1978; on 'Tectonic and Regional Structural Controls in Eastern Australian Volcanism' at the 49th ANZAAS Congress, held in January, 1979, at Auckland, New Zealand, and on 'Upper Mantle—Lower Crustal Xenoliths from the Tasmanian Volcanic Province' at the CUMSEA (Crust and Upper Mantle of South-East Australia) Symposium organized by ANU, BMR and the GSA, and held in Canberra in February, 1979. He also attended the joint Mineralogical Societies of NSW and Victoria seminar on 'Broken Hill', held in June, 1979, at which he acted as Chairman for one of the afternoon sessions. In addition he has given talks on 'Museums and Minerals' to Willoughby Legion Club; on 'Volcanoes' to East Gordon Public School and the NSW Lapidary Club, and on 'Minerals' to The Australian Museum Society. He opened the Parramatta Lapidary Club Exhibition in September, 1978, and acted as a judge at the Northside Gem Club Exhibition held in May, 1979.

Mr Sutherland is the Australian representative on the Museums Commission of the International Mineralogical Association; represents the museum on the Geological Co-ordination Committee for NSW Government Departments and is a Trustee of Hatton's Corner Geological Reserve, NSW. He is on the editorial board of the Australian Mineralogist, a patron of the Mineralogical Society of NSW, a panelist of the NSW Lapidary Club and a council member of The Australian Museum Society and the Royal Society of NSW.

Department of Ornithology

Mr H. J. Disney, curator and Dr Fullagar of the CSIRO Division of Wildlife Research, consultants to the National Parks and Wildlife Service of New South Wales on the Lord Howe Island research, visited the island from 25 September to 2 October 1978 to observe progress in the research projects being carried out by Dr B. Miller, National Parks and Wildlife Service and Dr T. Kingston, Department of Terrestrial Invertebrate Ecology, The Australian Museum. Mr Disney and Dr Fullagar, supervised the colour banding of the woodhens and discussed the survey reports on the sightings and banding of new woodhens submitted by Mr P. Beaumont and forwarded by Mr L. Judd, the Superintendent.

Three days were spent on the summit of Mount Gower with Dr Miller, Dr Kingston and Mr Beaumont and some help was given to Drs Miller and Kingston laying out transects for their soil fauna survey. In addition Mr Disney, Dr Fullagar and Mr Beaumont searched the summit for woodhens. Eleven were seen, a reasonable number in the short time available. On woodhen surveys carried out by Dr Miller and Mr Beaumont to plateaux below the southern Razor-back Ridge at least five unmarked woodhens were found and banded, a further two on Big Slope and one on Mount Lidgbird. Valuable discussions were held with all at Lord Howe Island who were involved in the project. Mr Disney and Dr Fullagar also completed the survey of the distribution of colonies and burrow densities of fleshy-footed shearwaters *Puffinus carneipes*; this work is now being prepared for publication.

With the help of the Exhibitions department an exhibit was put together of scientific study skins of Lord Howe Island birds, including some of the extinct species on loan for display in the museum in time for its official opening.

In December 1978 Mr Disney attended the Royal Australasian Ornithologists' Union Congress on

Norfolk Island where he gave a paper on the Norfolk Island birds. While there he took part in a special survey organised by Mr J. Forshaw of the Australian National Parks and Wildlife Service to count the indigenous Norfolk Island parrot *Cyanoramphus novaezelandiae cookii*.

In February Mr Disney and Mr W. Boles (technical officer) joined Mr R. Lossin and Mr G. Hangay of the Exhibitions department in a joint trip to Gilgandra and Macquarie Marshes to collect specimens for 'Bird in the Hand' research and for display. Four days were spent on the property of Mr R. McCutcheon, Gilgandra, who had in the past helped the museum when Dr A. Keast was curator. At Macquarie Marshes the owner kindly allowed museum staff to stay at Fairholme homestead. A total of 140 specimens were collected, several of which filled existing gaps in the collection.

In March 1979 Mr Disney helped Dr Fullagar with the annual survey of his mutton bird study plots on Montague Island.

Mr Boles and Mr W. Longmore joined Mr G. Ingram of the Queensland Museum on a joint museum expedition to the Clarke Range in mid-east Queensland. Eighty-one specimens were collected including possible new forms. A short time was also spent in northern New South Wales where 38 specimens were collected.

Mr Boles and members of the Discoverers Club of the museum spent two days assisting the Department of Vertebrate Ecology and the New South Wales Forestry Commission banding birds for research work in Bondi State Forest.

Mr Disney continued to serve on the council of the Royal Zoological Society of New South Wales. He remained a member of the Field Investigation Committee of the Royal Australasian Ornithologists' Union which is conducting an Australian-wide bird distributional survey from which it is planned to produce an Atlas of the Distribution of Australian

Birds. Mr Disney remained museum delegate on the Taxonomic Advisory Committee of the RAOU and continued on the committee of the Australian Bird Study Association.

He attended the Second South Pacific Conference on National Parks and Reserves as observer for the International Council for Bird Protection and attended a symposium on 'Birds of Prey' and the Annual General meeting of the Royal Australasian Ornithologists' Union. Mr Disney spoke at the RAOU Congress on Norfolk Island. While attending the Congress, he participated in the atlas survey work on Norfolk and Phillip Islands. During the year he gave talks to: NSW Field Ornithologists Club on Norfolk Island; Knox Grammar School and the Avicultural Section of the Royal Zoological Society.

Mr Boles continued as vice-chairman of the Ornithological Section of the Royal Zoological Society of NSW and as Honorary Assistant Secretary of the Australian Bird Study Association. He spoke to the New South Wales Field Ornithologists Club, Kansas Ornithological Society (USA) and the Emporia State University Department of Biology (USA) seminars.

During 1978-79, 600 specimens were received and registered. Among those received were the northern shoveller (*Anas clypeata*), the second Australian record and only extant Australian specimen; a wandering albatross (*Diomedea exulans*) with a known age of 15 years; a good series of plumed tree ducks (*Dendrocygna eytoni*) and whistling tree ducks (*Dendrocygna arcuata*), magpie geese (*Anseranas semipalmata*), red-tailed black cockatoos (*Calyptorhynchus magnificus*), and brolgas (*Grus rubicundus*) from the Ord River Irrigation District in Western Australia. A white-chinned petrel (*Procellaria aequinoctialis*) and Arctic skua (*Stercorarius parasiticus*) were also received. A total of 3,000 specimens of the Austin and Macgillivray egg collections were registered and put onto computer data sheets by



A whale ivory figure from Tonga, collected on one of Capt. J. Cook's voyages; the figure stands 5.3cm high. Photo: Gregory Millen.

Mr Longmore. The total '0' register stands at 51,977; 39,659 specimens (77 percent) of the '0' register are now on computer data sheets; 9,000 specimens (18 percent) are on magnetic tape awaiting completion of the computer programme. The first stage of the reorganisation of the collection was completed by Mr T. Lindsey. The specimens held in the bird room are arranged in systematic order and contain representative series of both Australian and non-Australian species.

Department of Palaeontology

Departmental research concentrated on the evolution and distribution of early vertebrates from the Ordovician, Silurian and Devonian periods of Australia and other continents.

Professor J. Warren of Monash University made available a large selection of Late Devonian arthrodontan fish remains from Mt Howitt, Victoria. When prepared these were found to include an almost complete growth series of articulated and disarticulated specimens of *Groenlandaspis* ranging from 5cm to over 25cm in length. The Mt Howitt material will provide the best documented species of this genus which is now known from over eighteen occurrences on five continents. Other new *Groenlandaspis* sites were identified near the Genoa River, on the NSW/Victorian border and NW of Cowra, in central NSW. The Cowra site also contained abundant remains of a very large antiarchan fish (?*Remigolepis*). Other new sites were located NE of Grenfell, NSW and some important fossil fish material recovered. Work on a memoir on *Groenlandaspis* is processing.

Another, unexpected, occurrence of *Groenlandaspis* came to light in the museum's hall of fossils because of a decision by Professor E. S. Hills, Melbourne, to cease research work on the large fossil fish slab from Canowindra, NSW which is on permanent display. Discovered in 1956 this slab contains a rich concentration of Devonian antiarchs (*Bothriolepis*, *Remigolepis*) and a single large crossopterygian, *Canowindra grossi*. The protective glass was removed for the first time since the hall was opened in 1966 and Dr A. Ritchie and Mr R. K. Jones, carried out extensive preparation work *in situ*, uncovering many previously hidden specimens of fish. Two small arthrodont specimens were also discovered which proved to be a species of *Groenlandaspis*, the first recognition of the genus from the Canowindra site. The Canowindra slab has now been cast and is under study.

Following an appeal to the public and to mineral and opal dealers by Dr Ritchie and Dr Ralph Molnar, University of NSW, several more specimens of opalised bones from Lightning Ridge, northern NSW were loaned for study and for casting. Lightning Ridge fossil fauna differs from that of other Australian opal fields in containing more terrestrial or semi-terrestrial animals such as various dinosaurs, crocodiles, turtles etc.; lungfish toothplates. Gymnosperm cones also came to light.

The outer urban exhibition 'Story of the Earth', under preparation since early 1978, was completed in September 1978 and placed on temporary display in the museum before being sent to the outer suburbs. As head of the team which planned and designed it Dr Ritchie accompanied Mr E. Wilson (Education) to the various sites it occupied during early 1979 to give talks to teachers on the subject and the best ways to use the displays.

Ms Mary White completed the recuration of the Tertiary plant collection and started various research projects on material located during the work. She is engaged on a revision of the Jurassic Talbragar fossil flora using the museum collections and large quantities from the same site held by the Geological and Mining Museum.

The complete core samples through Funafuti Atoll, drilled at the turn of the century, were examined and photographed for Auckland University by Mr Tony Leach and Mr Anton Estie in connection with a research project currently underway on the Funafuti Bores.

In October 1978 Mr Jones led a Museum Society party on a two-day excursion to fossil sites in the Hunter Valley. In June 1979 Dr Ritchie and Mr R. O. Chalmers (former curator of minerals) planned and led a three-day Fokker Friendship flight to Central Australia to see classic geological sites and features from the air. The trip covered the Warrumbungles, White Cliffs opal field, Birdsville,

Alice Springs and the MacDonnell Range, Gosse Bluff, Ayers Rock, the Olgas, Broken Hill and the Menindee Lakes. Routes followed by early explorers were noted and museum specimens collected from sites along the flight (fossils and rocks) were taken to illustrate the geology seen from the plane.

Ms Lyn Dawson has revised most of the Wellington Caves Pleistocene marsupial fauna in the collections. In the light of recent work on fossils and living marsupials elsewhere in eastern Australia the taxonomy of this classic fossil fauna can now be updated. Mr Jones continued research work on an interbedded marine/non-marine Late Devonian succession near Orange, NSW.

A volunteer worker, Professor Jeremy Hirschhorn of Lindfield, made a spectacular 25m long, fibreglass, table mounted replica of the skeleton of a long-extinct marine reptile, *Ichthyosaurus*, as a centrepiece for the 'Story of the Earth' OUE. He also made a second copy to replace the original 19th century plaster cast and this has been placed in the Education

department's Blue Room on permanent loan for class use.

Some 1,054 specimens were registered during the year bringing the total number to nearly 61,000. Of these 30 were purchased, 145 were received by exchange, 195 were presented. Of those purchased by far the most important was the first complete specimen of the Triassic lungfish *Gosfordia truncata* from a quarry near Somersby, NSW. Discovered by a quarryman, Mr John Costigan, it was purchased and passed on to the museum by Mr Colin Chidley of Lindfield, Sydney who recognised its unique scientific importance.

Dr A. Ritchie was elected president of the Linnean Society of NSW for 1979 and was invited to Monash University to give a lecture on his fossil fish research work. He also lectured to TAMS and to several local organisations in Sydney (lapidary clubs, scout groups etc.) and appeared on ABC TV (the Children's Programme), ABC Radio (The Body Programme) and Channel 9's Mike Walsh Show.

The most complete specimen known of a Triassic lungfish called Gosfordia from a quarry at Somersby near Gosford N.S.W. The specimen was collected in early 1979. Photo: John Fields/The Australian Museum.



Department of Terrestrial Invertebrate Ecology

The energies of the department have been divided between two major projects, a faunal survey of the Newnes Plateau/Colo River area, and the Lord Howe Island Woodhen Project.

Dr Tim Kingston, curator of the department has been working with Dr Ben Miller of the National Parks and Wildlife Service of New South Wales on a programme of research directed at the rare Lord Howe Island woodhen. One of the aims of the research is to identify those areas of Lord Howe Island that are most suitable for re-introduction of the species. Among a number of components that must be assessed at each potential site is the availability of food for the birds. Since the woodhen is an insectivore this necessitates an investigation of the invertebrates present in the leaf litter and the surface layer of the soil at each site. Dr Kingston has spent a total of 12 weeks on Lord Howe Island during four separate trips in July and September 1978 and January and May 1979. Forty-eight 0.05 m² samples of leaf litter and underlying soil have been taken in each of seven sampling areas. Such areas have included Mt Gower and Big and Little Slopes, as well as other lowland sites. Invertebrates have been extracted from the samples on the island and brought back to the museum for sorting (mostly carried out by Ms Debbie Andrew), and counting and weighing. The results for the different areas are compared, the most important comparison being that between the Mt Gower samples and each of the other areas as it is on Mt Gower that the few remaining woodhen still survive. It is already apparent that several areas of the island hold a plentiful food supply for the woodhen; the site chosen for re-introduction of the bird will now depend on other factors such as the numbers of feral pigs and feral cats present.

Together with a great deal of general collecting, the sampling programme has yielded the basic material for a comprehensive analysis of the distribution and abundance of terrestrial invertebrates on the island. The results will allow examination of the zoogeographical affinities of the island with surrounding islands and with mainland Australia.

During the May 1979 visit to Lord Howe Island Dr Kingston assisted preparations by the Lord Howe Island Museum for their official opening by setting up several natural history exhibits contributed by The Australian Museum on permanent loan. These included displays of birds, butterflies, terrestrial molluscs and specimens of the 'land lobster' or phasmid that is now extinct on the main island. Dr Kingston represented The Australian Museum at the official opening and escorted the Governor of New South Wales, Sir Roden Cutler, Lady Cutler and other official guests through the natural history section of the new museum.

The last week of May was spent touring the New South Wales south coast forests between Eden and Bombala with members of the museum's Vertebrate Ecology department and of the NSW National Parks and Wildlife Service. The purpose of the trip was to look at current forestry practices in the area, including the woodchip industry and at on-going research by Vertebrate Ecology and other organisations. Research in co-operation with these other bodies is one of several possible future projects presently being considered by this department.

Department of Vertebrate Ecology

Dr H. F. Recher, curator, was a visiting professor in the Department of Ecology and Evolutionary Biology at the University of California, Irvine USA, from February 1978 to February 1979. In his absence Dr Peter Smith continued the department's studies

into the effects of forest management on bird and mammal populations.

In his year at Irvine, Dr Recher presented courses on the application of ecological theory to the management of natural areas and on the ecology of Australian vertebrates. He also visited research institutions throughout North America where studies were underway on forestry/wildlife interactions and completed research on herons (*Andridae*) begun in 1965.

Since 1976, the department's research has focused on two major areas of forest management: prescribed burning and integrated logging (i.e. clear-felling). Study areas originally established in 1967 in the Brisbane Waters National Park for the study of honeyeaters (*Meliphagidae*) were burnt in 1977 and studies through 1978 have continued on the impact of fire on bird populations and their most important sources of nectar (e.g. *Banksia aricifolia*). Monitoring of populations of small mammals in the Nadgee Nature Reserve following from the 1972 wild fire has also been continued. The two studies complement each other and together provide an insight into the effect of fire on vertebrate populations.

The studies of the effects of forestry operations on wildlife are carried out primarily in the Eden/Bombala district, but Dr Smith extended the work during 1977/78 to include forests near Bega. These studies are complemented by the work of Mr David Milledge on the North Coast near Kendall. Most work is done in co-operation with the wildlife research team from the Forestry Commission and in 1978/79 will also be co-ordinated with work to be done by the National Parks and Wildlife Service at Bega.

Dr Smith also participated in other museum programmes during the year including the Colo River Survey co-ordinated by Dr Kingston. Dr Smith joined the National Parks and Wildlife Service in May 1979 and will be part of the team looking at the effects of forestry operations on wildlife at Bega.

Camden Haven Wildlife Refuge Study

With the generous financial assistance of Dick Smith and the Forestry Commission of NSW it has been possible to continue work in the Taree area for a second year. This year the work consisted of consolidating base-line survey information by concentrating on certain habitats and vertebrate groups. Seven additional sites were sampled quantitatively for birds and small mammals in addition to the main sites. Sampling of forest amphibian and reptile populations was carried out by a series of experimental pitfall arrangements and methods of micro-habitat measurement were developed for analysis of ground cover vegetation and shelter. This work was to complement the analyses of higher vegetation layers already made.

Nearly 250 species of vertebrates have been recorded. Three species of lizards which are dependent on rainforest and sclerophyll forest have been found to be common and widely distributed in the area. About 170 species of birds have been recorded and their distributions have been related to the vegetation types. Detailed analyses of the sites have been made using techniques developed during the study. Over 30 species of mammals have been observed in the area by trapping and spotlighting. The most significant of these has been the trapping of the tiger quoll and brush tail phascogale, both of which are considered rare. The mammal fauna of the study area appears to be fairly rich compared with some other coastal areas of NSW. As in the case of the birds, the mammal distribution has been related to vegetation types.

The findings of the work will be of practical value in providing data which will contribute to more soundly based management programmes.

A full report and scientific papers from the survey are being prepared.

Functional Anatomy Unit

Mr Strahan delivered the final manuscripts of his *Dictionary of Australian Mammal Names* and the Museum history, *Rare and Curious Specimens*, to the publishers and began work on *Monotremes and Marsupials*, a book for Collins Australian Naturalist series, and on a revision of Troughton's *Furred Animals of Australia*. In consequence of the reduction in laboratory activities, Ms G. Serkowsky was temporarily transferred to work in other departments of the museum.

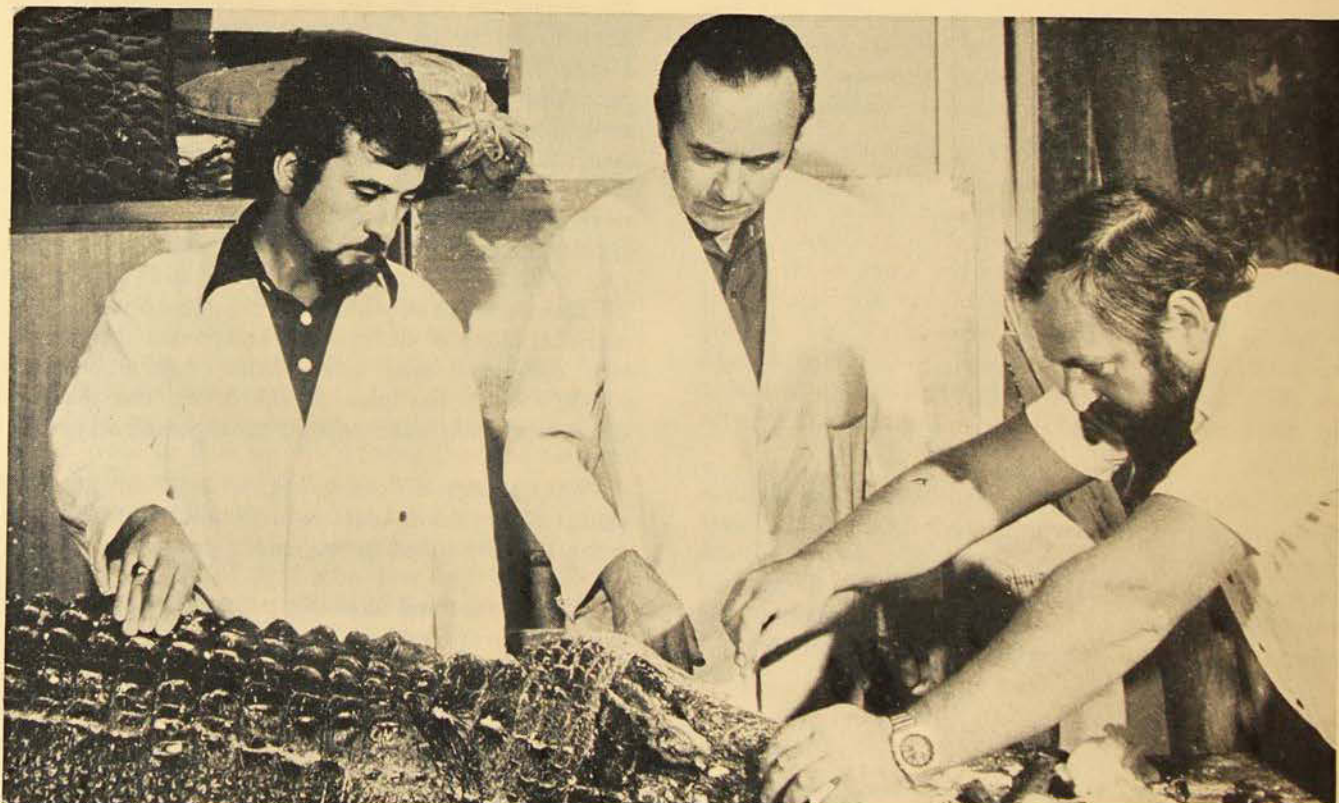
Mr Strahan was re-elected vice-president of the Royal Zoological Society of NSW and chairman of its mammal section. He was elected to the Council of the Australian Mammal Society, continued as chairman of its Vernacular Names Committee, and attended the annual conference of the Society in

Brisbane in April 1979. He served as a councillor of the Australian and New Zealand Association for the Advancement of Science and as honorary editor of its journal, *Search*, and attended the Congress of ANZAAS in Wellington, New Zealand, in January, 1979. In the National Photographic Index of Australian Wildlife, he continued as a trustee, member of the Executive Committee, and Secretary of the Mammal Index Advisory Panel.

Director's Research Laboratory

Dr Griffin and Ms Tranter completed research on the taxonomy and zoogeography of spider crabs of the family Majidae from the Indo-west Pacific region: forty new species have been described. Illustrations for the paper were made by Mr R. McRae. Studies have begun on the zoogeography and evolution of the world Majidae.

Preparators James Cases, Rolf Lossin and George Hangay making a plaster mould of a crocodile. Photo: John Fields/The Australian Museum.



MATERIALS CONSERVATION SECTION

The Materials Conservation laboratory (now situated in the former Cafeteria of Department of Child Welfare) has been transformed into a functional conservation unit. Throughout the seven-month renovation period, the staff were confined to a small room on the floor above, and, as a consequence, practical conservation activities requiring space and the use of flammable or toxic chemicals were severely restricted. Major attention has therefore been given to other matters including: establishing an information storage and retrieval system for conservation data; reorganising and updating technical data on treatment materials; writing reports; and organising the National Conference of the Institute for the Conservation of Cultural Materials.

The second half of the year resulted in the launching of a number of conservation and research projects as well as the appointment of Ms Paula Casey to the position of Scientific Officer (Assistant Curator) on 26 March, 1979. Ms Casey obtained her (BSc AgHons II) from Sydney University in 1975 majoring in plant pathology. Research for her PhD (1975-1979) at Sydney University involved the study of the epidemiology of soybean rust. Her thesis has been submitted and is currently being examined.

The objective of Ms Casey's research will be the study of various factors affecting the growth of mould on the ethnographic collections. Observations of the collections have indicated that growth of mould is influenced by the microenvironment surrounding the objects; the cultural utilization of the objects; the composition of the objects and the specific fungi causing the mould. An understanding of the interactions between these factors is essential because each factor is not individually important. In the initial stages of the project she has been developing techniques suitable for the primary isolation of fungi sampled from the collections. Preliminary investigations have indicated that the



*A north-west coast Canadian blanket being prepared for exhibition by Ms Joan Cocks, a volunteer worker with the Materials Conservation Section.
Photo: The Australian Museum.*

surface moulds present on the collections belong to a xerophilic group of fungi, i.e. they have the ability to grow at low water activity. Primary isolation will attempt to identify the particular fungi associated with the different cultural/geographic groups of objects containing similar nutrient characteristics. Identification of the fungi has been carried out in association with Dr John Pitt of the Division of Food Research, CSIRO, and has so far concentrated on the collections from the Highlands of New Guinea.

In support of this research, as well as the general conservation work of the laboratory, Ms Lissant Bolton joined the section for four months to carry out a literature search relating to the material culture of the Highlands area of New Guinea. The

purpose was to investigate whether the range of physical data required for the implementation of research and treatment programmes was available in the ethnographic literature to be organised into a usable system. The information extracted from the literature concerned the material composition and method of construction, and the physical effects of usage on specific object types. The value of this literature search to Ms Casey's research related to the identification of the various fungal nutrients present on the surface of the objects giving rise to identifiable mould growth characteristics.

The Conservation Section has stepped up its general investigations into the effect of the environment on objects, and Mr David Horton-James has been carrying out detailed measurements in the galleries and storage areas on light, relative humidity and temperature, including measurements on the surface of objects. He has also been investigating techniques for the control of the micro-environment using saturated solutions of salts for specialised humidity control. Various collections have been worked on during the year which were required for temporary and travelling exhibitions. These included the 'Treasures of the Museum', the North West Coast Canadian collection and Melanesian objects for exhibition at the Metropolitan Museum of Art. Ms Pat Townley continued her work on the evaluation of synthetic polymers and solvent systems for use in various aspects of conservation, and it is anticipated that this work will be completed towards the end of 1979. It is hoped that the information obtained from this investigation can be used in the preparation of painted objects that are to be commissioned by the museum for the new 'Abelam Gallery'.

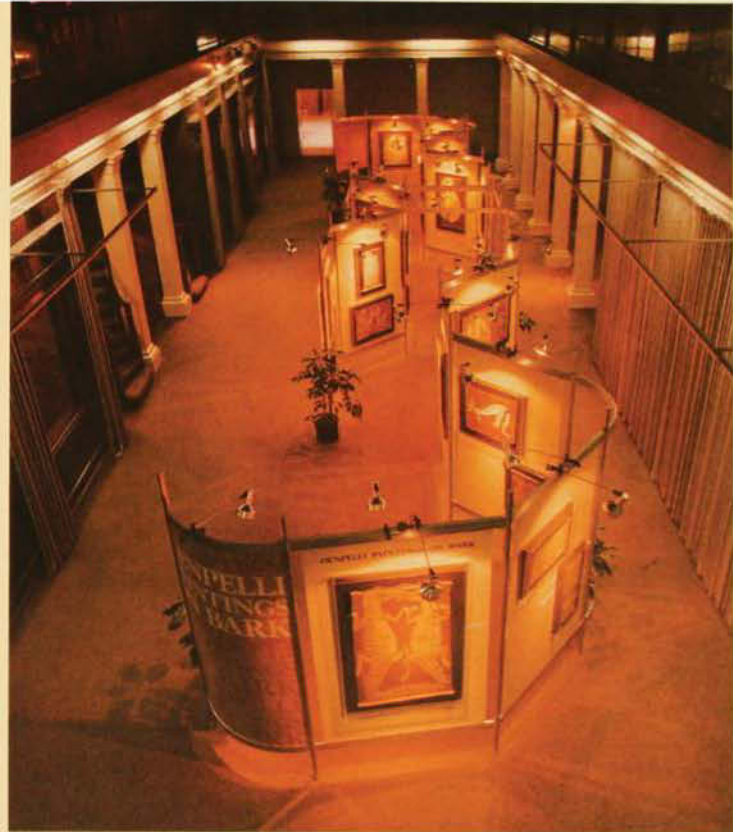
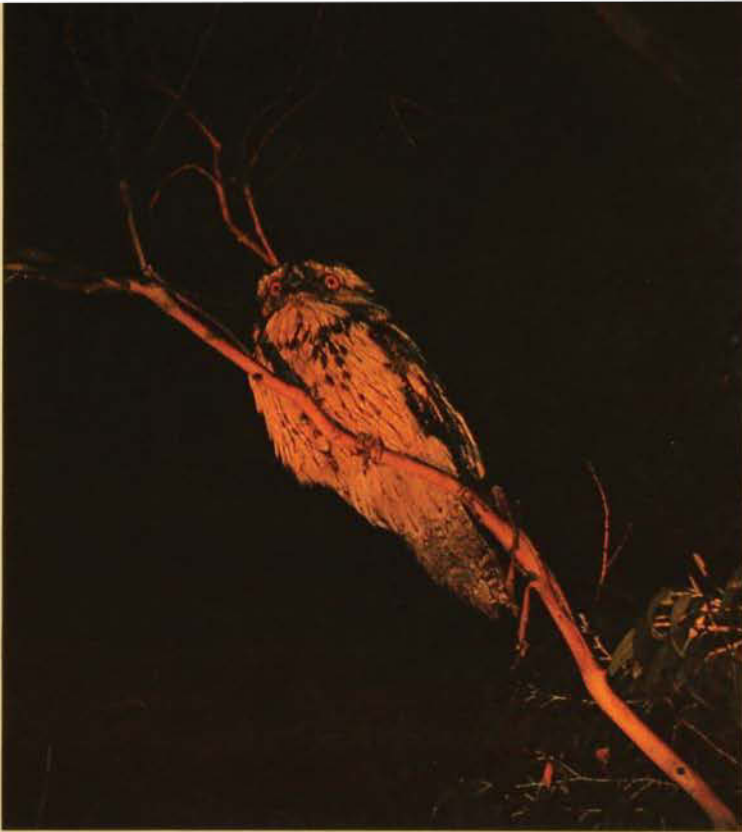
A programme of treatment for new bark painting acquisitions has continued. Mr Geza Marton and Ms Townley have been supervising a range of volunteer projects including African bead work and a very intricate, decorated, wool apron from the

Canadian north west coast being worked on by Ms Jean Vere, Ms Joan Cocks, Ms Nadine Turner and Ms Heather Joynes.

Dr Jan Lyall and Mr David Hill, students undertaking the Masters Course at the Canberra College of Advanced Education, worked in the laboratory for two months as part of their internship programme.

Ms Sue Walston attended two UNESCO seminars during the year; the first in Adelaide on 'The Role of Museums in Preserving Indigenous Cultures' at which she presented a paper on 'The Conservation of Aboriginal and Pacific Cultural Material in Australian Museums', and the second in Canberra on 'Conservation of Cultural Material in Humid Climates' where she presented a paper on 'Mould and Mould Control'. She also attended the Conference of Museum Anthropologists in Melbourne and organised, with other members of the section, the 1978 ICCM Conservation Conference in Sydney, at which the four members of staff presented seven papers. Following two terms as President of the Institute Ms Walston resigned and was elected Senior Vice President. She also represented ICCM on the recently formed Council of Heritage Organizations, an informal group established at the initiative of the Museums Association of Australia.

During the year Sue Walston gave a series of lectures to various institutions including the Museums Studies Course at Sydney University, the Newcastle College of Advanced Education and was also visiting lecturer at the Material Culture Research University at James Cook University. She has also been involved in the planning of the Shepparton Aboriginal Keeping Place and in advice to the Art Galleries Directors Council on travelling exhibitions. In addition Ms Walston sat on the assessment panel for the Australian Territories Accreditation Committee for Advanced Education for the purpose of assessing the Conservation Courses at the Canberra College of Advanced Education.



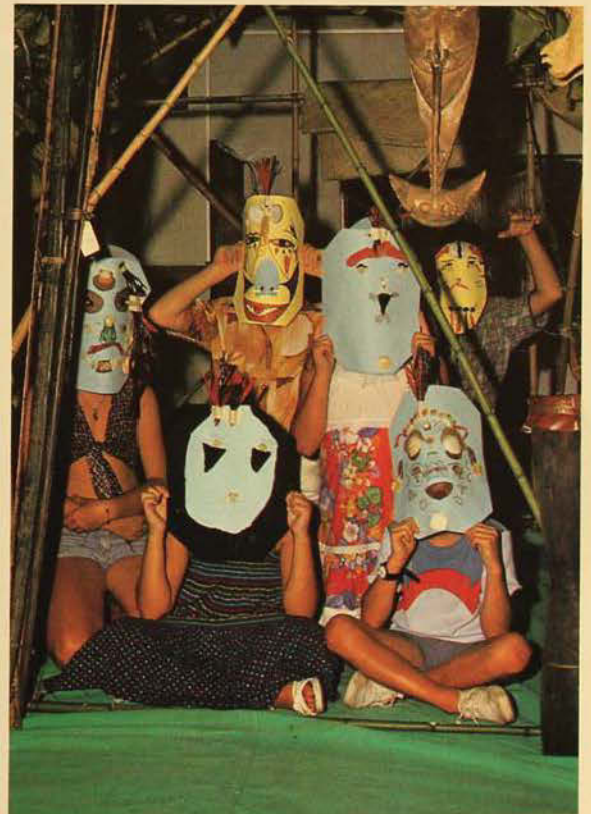
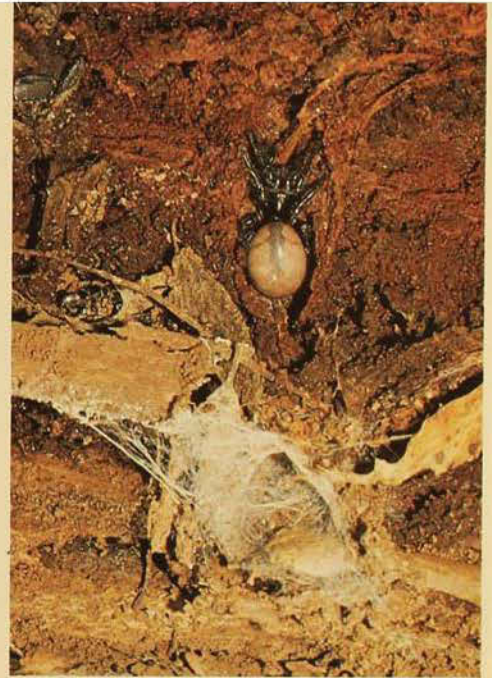
Above Left: The Tawny Frogmouth *Podargus strigoides* is a common but seldom seen bird which feeds at night. Photo: John Fields/The Australian Museum. Above: The Oenpelli Paintings on Bark Exhibition was staged in the Long Gallery from December 1978 to January 1979. The exhibition featured 51 paintings. Photo: John Fields/The Australian Museum. Left: Staff from the museum are currently working on a wildlife survey of the Colo River area. The helicopter is used for aerial surveys of study areas, otherwise inaccessible to investigators. Photo: John Fields/The Australian Museum.

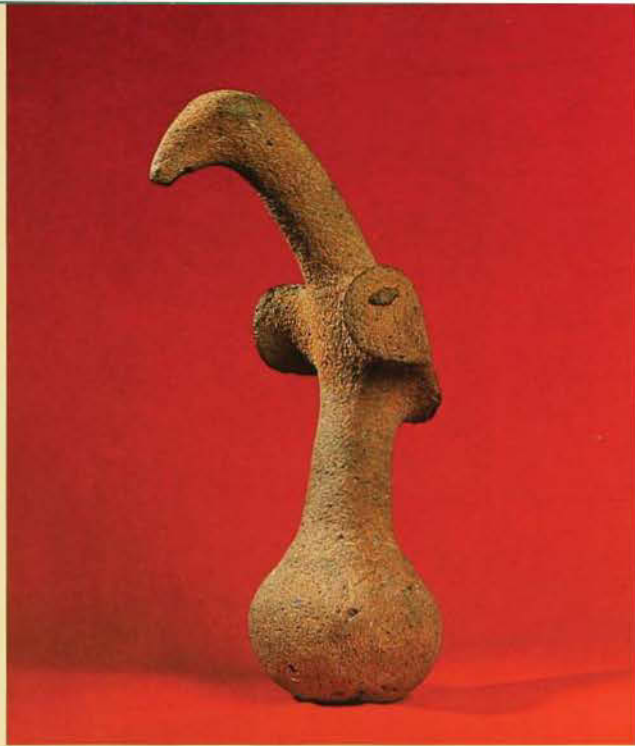


Left: Jim Lowry, Curator of Marine Invertebrates (Crustaceans and Coelenterates) and technical officer, Peter Terrill, airlifting reefs from Eagle Island, off Lizard Island in October 1978, to collect and describe invertebrate fauna found on the reef. Photo: C. Short. Below: Sally Robinson, artist in the museum's Exhibitions department puts the final touches of colour onto the coral reef diorama, part of the recently-opened Marine Hall. Photo: John Fields/The Australian Museum.



Right: The web of *Atrax versutus*, Blue Mountains Funnel Web – the log is split open to show a gravid female within. This species is also found in ground webs. Photo: M. Gray. Below: The rare and spectacular mineral crocoite, unique in this perfect crystalline form to the Dundas area, Tasmania. Photo: Gregory Millen. Below Right: A display of Melanesian masks made by school children during the January 1979 school holiday activities. Photo: Heather McLennan/ The Australian Museum.





Left: Stone pestle from Wonia, Fly River delta, Papua New Guinea; collected in 1927; 30cm high. Photo: Gregory Millen. Below Left: Mask from Malekula Island, New Hebrides; presented to the Museum in 1945. Photo: Gregory Millen. Below: Cult figure from Malekula Island, New Hebrides; presented to the Museum in 1913. Photo: Howard Hughes/The Australian Museum.



EDUCATION SECTION

The year's activities have been highlighted by the outstanding success of the Australian Museum Train and the Wales Wandervan. However the depressing effect of continuing difficulties with public transport and petrol shortages led to many cancellations of school visits. There has been a most welcome increase in the number of visiting migrant groups who have come for lessons on the environment and, at the same time, for the purpose of improving their facility in English. The number and variety of programmes for teacher trainees have likewise increased and it is pleasing to report the greater long-term involvement of some of these students with the museum. As 1979 is being celebrated as International Year of the Child, a special programme of activities was held in the May school holidays (detailed in the introduction).

The total number of school groups attending lesson programmes organised by the Education staff was 825, comprising 38,680 pupils. Of these total figures, about 25% of high schools and 20% of primary schools came from country areas. Seashore ecology field trips in association with museum lessons again proved popular and this year saw our first class visit to a muddy mangrove area. Approximately 1,350 classes (some 40,000 pupils) visited the museum without appointment and for these we were able to provide only minimal assistance. Demonstration lessons and lectures on the museum's educational facilities were given to groups of teacher trainees from colleges of advanced education and university schools of education in Sydney and Newcastle. Following the success of the first non-school practice for pre-school trainee teachers, four more students from the Nursery School CAE spent one day per week for three months at the museum. To experience the ways in which the needs of children are being met by other institutions, the students participated in the various activities provided by the Education section and conducted

other programmes themselves. The training programme was organised by Ms Maguire. Students from the University of Sydney School of Education are involved in regular participatory observations of the museum's after-school activities and methods.

Lectures were given by Education staff to in-service courses for teachers at Taronga Zoo and Truscott Street Teachers Centre. Advice has been given to the Naremburn Teachers Centre on special museum programmes for gifted children. Various groups of other students—nurses, engineers, biology technicians—were given specific lesson programmes as part of their course work. Lectures in two WEA courses were given by Ms P. McDonald, assisted by Mr McDougall on the two field trips, and plans have now been finalised for further involvement of the museum in other WEA courses later in the year.

This first full year of operation of The Australian Museum Train can only be described as a resounding success. As well as the intrinsic interest and excitement generated by the arrival of the train at a country centre, much of the success is due to the careful planning and continuous energies of the train's education officers and to the support they have been given by the other education, exhibitions and administration staff. Special reference should also be made to the helpful co-operation of the Public Transport Commission, whose officers in Sydney and in the country have done their utmost to ensure that the train is kept in full operational condition and maintains its schedules. Difficulties were experienced in the trip from Cootamundra to Gundagai in April, 1979, where the line was black banned by union workers but the AFULE agreed to lift the ban and the PTC funded a special trip to get the museum train through. Their co-operation was greatly appreciated by the museum and the people of the Gundagai District. A ten-day strike in June 1979 delayed the departure of the museum train and it was unfortunately necessary to miss Wellington and arrive two days later than scheduled in Dubbo.

The train was stationed at 27 centres in 259 days of operation and was visited by a total of 91,000 people. This is a very high level of visitation and during the first term tour of 1979, in six of the eight centres over 50 percent of the population visited the train. Of these total numbers, 38,370 were children in school classes from 422 schools who were given 580 lessons by the education Officers. These visits were arranged by a local co-ordinator appointed by the regional office of the Department of Education in each area. In addition, many programmes for specific groups—local naturalist societies, Rotary, CWA, etc.—were arranged during the evenings. Sales of posters and models were brisk and this service was also appreciated by country visitors.

During the year 608 loans were made to country and metropolitan schools, comprising 25 collections of specimens and 583 school loan travel cases. Two new cases on 'Aborigines and their Food' have been completed and planning and preparation of specimens are well in hand for a series of new cases on 'Reptiles', the topic most requested by teachers who continue to express their enthusiastic support for the school case service. The case containing the squirrel glider possum was stolen whilst on loan to a school and has not been recovered.

Launched in April, 1978 and sponsored by the Bank of New South Wales, the aim of the Wandervan unit is to extend educational facilities of the museum into the classrooms and institutions of children and adults who for various reasons function poorly outside their own environment. These include children with physical and intellectual handicaps, to whom most attention is given, children from disadvantaged backgrounds, senior citizens and various other special groups. Visits from the Wandervan to schools, hospitals and institutions have been met with enthusiasm. The total number of centres visited was 115, of which 15 were in country areas. Some 2,000 children and adults



A young boy learns about tortoise shells in activities held during Child-Care Week, 23 to 26 October, 1978. Photo: Heather McLennan/The Australian Museum.

(including 300 country visitors) were involved in the activities; for many centres, Wandervan lessons are now part of their regular programme. Natural science lessons cover topics such as Australian animals, rocks, fossils and Australian Aborigines. Lessons are prepared according to the special requirements of each group visited. They are supported by a collection of visual aids including live and preserved animals.

Due to problems with the original paintwork, the Wandervan underwent a repainting in November 1978. This resulted also in a new illustrative design and was jointly financed by the museum and the Bank of NSW.

Ms Checka McLaurin, the museum's first special education officer, secured the success of the Wandervan in its initial year, as evidenced by the increasing numbers of groups availing themselves

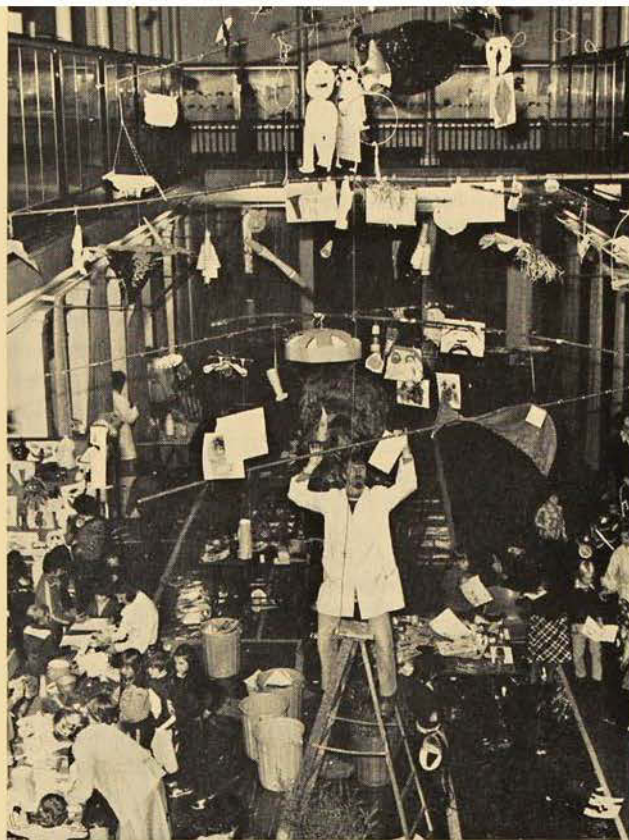
of the service. Her resignation in April, was followed by the appointment in mid-May of Ms Anne Saunders, who had previously taught in schools for handicapped children.

Some 99,000 people have visited the four outer urban exhibitions during the year, comprising about 21,000 children in school classes and 78,000 adults. In the eight months that the latest exhibition, 'Story of the Earth' has been travelling, it has been visited by approximately 33,000 people compared with an average of 22,000 for the other three exhibitions for twelve months. The pilot exhibition 'Man—A Peculiar Primate' finished its outer urban circuit in late 1978 and commenced a country 'loop' in the central western district in 1979. To date it has been visited by 13,000 people in the country. These figures do not compare as well with those of the museum train when the number of centres and population densities are taken into consideration. One reason for this may be that these exhibitions do not have an education officer working with them full-time to help with their interpretation and promotion with the local communities.

An additional travelling exhibition on 'Life in the Sea' is in an advanced stage of preparation. This exhibition has been funded by the Bushell Trust.

Mr Ed Wilson is conducting a survey of visitors to two of the outer urban exhibitions—Arid Australia and Story of the Earth—to obtain information on the visitors to the exhibitions and their reactions. The survey programme and questionnaire were developed in conjunction with Mr Ross Dunstan, Lecturer in Education, Semcentre, Sydney Teachers' College.

The popularity of the creative activities of the Drop-In After School Programme has led to an expansion from two to three afternoons each week of term. Many children who live in the inner city region now enthusiastically participate in the various museum-related projects offered, including the study of ancient and modern cultures through crafts,



A giant mobile displaying articles made by children was assembled and hung from the ceiling of the Long Gallery during May, 1979. Education Officer, Ed Wilson, adjusts the giant structure into place. Photo: Howard Hughes/The Australian Museum.

music and dance, and study and observation of live animals and plants. From time to time the children are taken to have a behind-the-scenes look at the work of the museum and to visit other museums nearby. An average of 28 children attend each session, drawn from 36 inner city schools and making a total attendance of about 242. Since July 1978, four of these inner city schools have participated one day a week in activities at their school, thus the museum is reaching approximately 190 children who are unable to come to regular sessions at College Street. We are grateful to the school principals for making these visits possible.

An evaluation study on the Drop-In After School programme was carried out by students from the University of New South Wales Sociology Department and co-ordinated by Ms Ann Daniel. This was completed in December, 1978 and has proved of great value in the development and refinement of the programme. Another study on the Drop-In by a student from the Education Department, Macquarie University, is nearing completion. This programme is organised by Mr G. S. Hunt, education officer and conducted by head tutor Ms Dianne Johnson and assistant tutor Mr Edwin Reid (until December 1978) and Ms Pamela Batters (from February, 1979).

A grant from the Bernard van Leer Foundation has supported the programme since 1st July, 1977 and continued assistance is anticipated until mid-1980.

A group of children involved in the activities of the museum's after-school Drop-in Centre. Photo: John Fields/The Australian Museum.



Specimens were prepared for the education centre teaching collections, for the museum train, Wander-van and school loan travel cases. Methods used included freeze drying (61), traditional taxidermy (5), embedding in clear plastic (75), wet boxing (12), enclosing in a perspex box (5) and moulding and casting (51). Sixty-eight repairs were also carried out. A colony of native mice *Pseudomys australis* was established in new quarters simulating a burrow system and snakes and tortoises were also set up in improved cages for student observation. A sophisticated cage was built for pythons kept on the museum train.

Special exhibitions and activities were held in each of the three school vacations: 'Life in the Sea' (coinciding with the newly opened Marine Hall) in August–September, 'Peoples of New Guinea and the Islands' in January and 'Fun with Faces' in May, the latter programme related to International Year of the Child. These activities attracted a total of some 10,500 people.

'Fishes of Sydney', a course for children, was held 8–12 January, 1979 organised by Mr McDougall. The course was attended by 28 children between the ages of 10 and 16 and included field trips to Balmoral, Port Hacking and Sydney Fish Markets. Ms Dianne Blake, from the museum's Ichthyology department was the main tutor and Ms McLeod, education officer assisted at the teaching sessions. A large number of potential students had to be turned away because of space limitations. 'Melanesia', a course for teachers, was held 23–24 January 1978, organised by Ms Maguire.

Film screenings were arranged in the Spring and January vacations, the films relating to special activities in the education centre. They were attended by 2,750 people. Museum walkabout sheets were completed by 302 young people; twenty students completed the Walkabout series, received the *LIFE* Nature Books and joined the Discoverers' Club.

Seven Discoverers' Club meetings were held during school holidays and the Discoverers' Society (those who have left school) met nine times. Talks for these meetings were given by members of the group and outside speakers who came from the staff of The Australian Museum, the Aboriginal Arts Board of the Australia Council, the Atomic Energy Commission and the Universities of Sydney and New South Wales and Macquarie University. Discoverers assisted with setting up the rooms for the holiday activities and helped young visitors with craft work. Seven Discoverers assisted in curatorial and other museum departments during the January vacation period. Mr McDougall took 13 Discoverers on a field trip to Bombala 15-26 January, 1979, to assist Dr Peter Smith and others in the joint Australian Museum-Forestry Commission bird-banding project.

On 14 October, 1978, the degree of Doctor of Philosophy was conferred on Murray Fletcher by the University of Sydney for his work on leaf-hoppers. Murray is a member of the first group of young people to complete the series of museum walkabouts and was a foundation member of the Discoverers Club and Society. He is the first Discoverer to receive a doctorate.

Models, dioramas, posters, paintings and books produced by children as a follow-up to their museum lessons, and by those participating in the Drop-In programme, were put on display for Education Week 13-19 August, 1978. In order to allow the contributors and their friends to view the work, the articles were exhibited until the end of the spring school vacation. On Thursday, 17 August, 1978, an open day was held. Visitors to the museum saw pupils of 60C, Neutral Bay Primary School, making shadow-puppets, bark paintings, ceremonial objects and models as a follow-up to their museum lesson on 'The Art of Many Peoples'. These activities were organised by Ms Maguire.

Child Care Week, 23-27 October, 1978, was celebrated at the museum for the first time with a

series of events and activities organised by Ms Maguire.

The museum has co-operated with high schools in providing work experience for senior students from State and non-State secondary schools. A total of 17 students worked in the Departments of Anthropology, Palaeontology, Entomology and Marine Ecology. Both students and museum staff have been generally satisfied with these arrangements.

The Bernard van Leer-Australian Museum Scholarship Scheme continues. Two scholars, Ms Deborah Perrow and Mr Clive Astle, completed their tertiary studies at the end of 1978 and achieved very good results. Ms Perrow obtained her Diploma of Art and now works as a studio assistant in the Canberra School of Art where she studied. Ms Perrow worked for short periods in the Canberra Botanical Gardens and the Institute of Anatomy Museum as her part in the van Leer-Australian Museum Work Experience Scheme. Mr Astle obtained his Bachelor of Science degree from the University of Sydney and has joined IBM as a trainee systems engineer. As his part in the work experience scheme, he worked in the Herpetology Department of The Australian Museum. The remaining four scholars are continuing their studies.

Mr McDougall assisted Ms Denise Torv (Publicity/Publications department) in planning involvement of The Australian Museum in an ABC TV children's show called ARVO. The programme is presented daily and several members of the museum's scientific staff have participated in the series.

Exhibitions in the Education centre included those for each school holiday programme, Drop-In After School activities, Education Week and other special displays of children's work from time to time. The production of these exhibitions was carried out by museum education preparators and education officers.

Education officers have been associated with the production of the following new travelling exhibitions: Marine Invertebrate Gallery, 'Treasures of the Museum', Outer Urban Exhibition 'Life in the Sea' (Ms McDonald); Pacific Gallery, Mineral Gallery, 'The Ancient World Display', 'Lion Rugs from Fars' display (Ms Maguire); Outer Urban Exhibition 'The Story of the Earth' (Mr Wilson); Mammal Gallery (Mr Hunt); Bird Gallery (Mr McDougall); Insect Gallery (Ms McLeod).

Ms McDonald attended the International Society for Education through the Arts Conference in Adelaide 14-16 August, 1978 and gave a paper on 'Art Education in Museums'; the UNESCO Conference 'The Role of Museums in Preserving Indigenous Cultures' 10-16 September, 1978 in Adelaide, where she chaired one of the working groups, the Museums Association of Australia Annual Conference 25-29 October, 1978 in Melbourne.

Mr Hunt also attended the Museums Association of Australia Conference.

All Education staff attended the meetings of the Museum Education Officers Group, held at various museums in Sydney and environs every two months.

Ms McDonald attended the meetings of the following professional committees, of which she is a member; Board of Studies for the Museum Studies Course, University of Sydney; Museums and Gallery Committee of the NSW Cultural Grants Advisory Council; and the proposed Sydney Rock Art Museum. She continued to serve as President of the Museums Association of Australia until 28 October 1978; as Vice-President of the Museum Education Association of Australia; and as a Council Member of the Australian National Committee for ICOM.

Ms McLeod is a member of Australian Museum Committees concerned with Museum Seminars, Australian Natural History magazine and Social Club.

Mr McDougall represented the Museum on the TAMS Council.

Mr Hunt has submitted his thesis for the degree of Doctor of Philosophy at the University of New South Wales. Mr Hunt continued as President of the New South Wales Branch of the Museums Association of Australia. Ms McLeod is in her second year of a Diploma of Special Education, an external course from Mitchell CAE, Bathurst. Mr Dengate is a student in the Diploma of Education external course at the University of New England. Mr Miller is undertaking an external course in Environmental Studies at The University of New England.

Ms McDonald was awarded a British Empire Medal in the New Year's Honours List 1979.

EXHIBITIONS DEPARTMENT

'The other 71%' was the apt title used to publicise the opening of Stage I of the new Marine Hall. The title conveys the breadth of this gallery opened by the Hon. Paul Landa, LLB, MLC, Minister for the Environment, on 10 August, 1978.

Designed by Mr Jeff Freeman, exhibitions officer, stage I of the Marine Hall has been followed by the development of stage II, marine invertebrates, which will complete a three-level marine environment exhibit in mid-1980.

The outer urban exhibit (OUE) programme was increased to four circulating exhibits with the completion of 'The Story of the Earth' in October 1978. A linkage of panels and showcases supports this colourful presentation designed by artist Bodo Matzick. A fifth OUE, 'Life in the Sea', is being prepared with generous support from the Bushell Trust.

Temporary exhibitions staged during 1978 reflected two aspects of Australian heritage. The 'Fourth Part of the World' was a display mounted by



Museum staff, Lisa Juska (Exhibitions department), Denise Torv (Publicity/Publications) and photographer John Fields check the museum display at the Royal Easter Show, 1979. The display featured as part of the Premier's Department Exhibit.
Photo: Heather McLennan/The Australian Museum.

the Australian Exhibit Organisation which presented the European discovery, settlement and exploration of Australia with historical material drawn from public and private collections throughout the country. This exhibit was Australia's contribution to the United States bicentenary celebrations and toured extensively throughout the US in 1976 before returning to Australia to be shown first at the Australian Museum where it ran for six weeks commencing on 4 October, 1978 and was later shown in Melbourne and Canberra.

'Oenpelli Bark Painting' was the second temporary exhibit staged in the Long Gallery. This exhibition of remarkable paintings was held in conjunction with the Aboriginal Arts Board and the Australian Gallery Directors Council. The presentation was designed by Ms Elizabeth Juska, exhibitions officer and was shown from 6 December, 1978 to 14 January, 1979.

Last year's temporary exhibition, 'Balinese Traditional Painting' travelled interstate this year and was shown at the National Gallery of Victoria in August and the Australian National University in December 1978.

Gallery redevelopment plans continued with the mammal gallery, the bird and insect gallery, the Aboriginal gallery and the Abalam-New Guinea gallery.

Mr David Rae, exhibitions officer, was promoted to the position of chief preparator in September 1978. Mr Jeff Freeman, exhibitions officer, was on leave of absence from March 1979 returning in January 1980, to complete his final year in architecture at the University of New South Wales.

The chief of Exhibitions, Mr Brian Bertram resigned in April 1979. Mr Bertram commenced work with the museum in 1956 as cadet preparator, and his skill and dedication assured his subsequent progression to preparator, artist, exhibitions officer and finally chief of Exhibitions in 1970. Mr Bertram was associated with the inception of many museum exhibits: among notable gallery initiatives taken under his direction were the 'Hall of Fossils' 1968, and the 'Arid Australia' gallery, 1977. Major temporary exhibitions were the 'Conservation of the Environment' in 1969 and the Cook-Banks Bicentenary in 1970. The museum extension programme was also strongly supported by his contribution to the outer urban exhibits and the museum train. Mr Bertram has left the museum to establish his own consultancy and has been appointed a museum associate.

LIBRARY

Bound volumes acquired by the library over the year numbered 1,046, an increase of nearly three hundred volumes over the previous year's figures. Of these 1,046 volumes, approximately 285 were purchased monographs and 531 donated; the rest being bound volumes of serials. In addition, approximately 3,500 loose parts of serials were accessioned.

A new system for increasing the amount of binding completed per year has been put into operation to overcome the backlog. The effects of the new system will not be seen until the next financial year. This year, the amount of binding completed was 282 volumes.

A total of 1,786 internal loans were made to the staff of the museum, while heavy demands on our inter-library loan system remained constant. Thirty-three bound volumes were lent to us, while we lent 161 bound volumes. Similarly with photocopies of articles; we received 775 requests for photocopies (11,000 pages), while we requested only 150 photocopies from other libraries, both Australian and overseas. As a result, a large percentage of the inter-library loans officer's time is spent in satisfying other libraries' requests for material.

Approximately three hundred readers from outside the museum used the library, and 130 reference enquiries were dealt with by the staff. The enquiries ranged from simple question and answer to in-depth literature searches and came from children, schools, members of the staff and general public and other libraries.

In addition, the library had two students from Kuring-gai College of Advanced Education working here for two weeks. Students from universities and colleges of advanced education have come to the library for both informal tours and formal talks on the museum library.

The library now produces for the benefit of museum staff an accessions bulletin and a periodicals bulletin.

PHOTOGRAPHIC AND VISUAL AID SECTION

The Department of Public Works completed construction of extensions to the section's photographic quarters giving an additional small darkroom, studio, store room and film editing rooms. These premises are air conditioned with temperature controlled filtered water supply. Another project was the construction of a lead lined radiation proof cabinet to house our new heavy duty industrial X-ray machine. The cabinet, built to the section's specifications under the stairs of the new extensions, makes it possible to cope with large specimens (up to two metres in length) with complete safety for the operators. Time and experience will be required before the full potential of the X-ray unit can be realised, but preliminary radiographs have been very satisfactory. Intended mainly to enable the study of skeletal structure of fish and other animals without destroying the specimen, the machine will have many other uses.

The need for colour photography has increased over the year. Every aspect of museum endeavour has been covered by the section's activities including events like a fashion parade, special exhibits, opening functions, educational activities such as the 'Drop-In After School', and school vacation programmes, promotional material for leaflets, posters, calendars and scientific research.

During September/October 1978 John Fields, photographer, visited the Colo Environment Study Project area to obtain illustrative material for use in the report while during April Ms Heather McLennan accompanied Ms Joan Hingley (Mineralogy) to Tamworth to obtain material for an article to be published in the museum magazine (Australian Natural History).



Howard Hughes, Head of the Photography and visual Aids Department working with volunteer Samantha Bell in the department during the annual school holidays. Photo: Heather McLennan/The Australian Museum.

Several shorter field excursions were made to obtain photographs for display in the new Marine Gallery; one project associated with this was the making of three dimensional stereo pairs for a section of the display. Other excursions were outer urban exhibit location pictures and sea shore photographs of inter-tidal animals for an educational publication.

This year Ms Ann Brown (now a member of TAMS) has assisted on a regular basis with the filing and cataloguing of the photographic collections. During both the Christmas and May school vacations a High School student, Ms Samantha Bell, also helped with some of this work.

Great interest continues in photographic collections of historical value like the Hurley collection of early New Guinea; these depict unique scenes of the early 1920's and, apart from their scientific and monetary value, are of great artistic merit. All these negatives are on glass plates. Similarly the Dick collection depicting Aborigines in the Port Macquarie district on New South Wales is much sought after. A project, with the co-operation of The Aboriginal Arts Board, is in hand to publish some of the Dick collection material.

Continuous playing of museum films in the Long Gallery attracts many interested audiences each day, and has justified the automatic video tape machine and television monitor installed last year.

Films are still selling here and overseas, the most recent sale of 'The Australian Sea Lion' being to a Japanese television company. A draft script and budget has been prepared for a film dealing with the modern and traditional methods Aborigines use to hunt dugong. A proposal has been made for a sponsor of this film and when completed the NSW Film Corporation has indicated interest in its distribution.

PUBLICITY/PUBLICATIONS

It has been the general aim of the public relations effort initiated by this section, to improve public awareness and appreciation of the museum. Utilizing the media, paid advertisements and publications are of course the expected product of the section in achieving this purpose.

The medium of press, television and radio have played an increasingly important part in the work of the section. Regular appearances of museum personnel were organised for the ABC Channel 2 programme ARVO and there have been several other news and feature items on varying subjects on other channels. Personnel have also been interviewed on many radio programmes and co-operation from press representatives has been particularly good.

The museum remains grateful for the assistance of the many members of the media whose interest and co-operation has made the publicity of the museum so much easier.

One of the innovations of the last few years has been the policy of inviting use of museum facilities as a backdrop for functions by outside organisations. Fashion parades, dinners, seminars and photography

are encouraged and a brochure is being produced to advertise the idea.

The museum itself staged the 'Music at the Museum' programme in 1976 and again in March/April of this year. The latter programme combined classical, jazz, folk and popular music and proved successful.

Publications are, of course, the source of much of the activity of the section and a high number have been produced.

The Museum's 'Guide to Exhibits', translated into the Italian and Greek languages was printed with the financial assistance of the Commercial Banking Company of Sydney Ltd and launched in December, 1978, by the Federal Commissioner for Community Relations. The Hon. A. J. Grassby. Various ethnic communities were represented at the launching, these books are available to visitors from our ethnic communities as well as the increasing number of foreign tourists who visit the Museum. A Japanese guide is being generously sponsored by the Australian-Japan Society and will shortly be available.

Four free educational leaflets were produced: *Blackhouse Spiders* (No. 24), *Red Back Spiders* (No. 52), *Aborigines of the Sydney area* (No. 23), *Australian Snakes* (No. 59).

The department initiated the production of a series of yearly calendars with the publication of the 1979 Fossil Calendar. This calendar comprised seven pages of full-colour, close-up photos of various fossils. A more ambitious thirteen page full-colour calendar featuring Aboriginal bark paintings and the stories they represent is currently in press.

A series of six drawings of Australian mammals by Jenny Pollack were produced as large posters and as cards and have proved extremely popular.

Three issues of the Museum's quarterly magazine, *Australian Natural History* were published—Volume 19 Numbers 6, 7 and 8.

Ten numbers of the *Records of the Australian Museum* have been published since 30 June, 1978. These were: (Volume 31) *A Revision of Australian Architectonicidae (Gastropoda: Mollusca)*, by T. A. Garrard (No. 13); *Some Polyclad Turbellarians new to the Fauna of the Australian Coasts*, by S. Prudhoe

Dr D. J. G. Griffin, Director of the Australian Museum and the Hon. A. J. Grassby, the Commissioner for Community Relations, examine the Museum's *Guide to Exhibits* book translated into Italian and Greek. These foreign language editions were launched by Mr Grassby in December, 1978 and additional foreign guide books are being prepared.
Photo: Heather McLennan/The Australian Museum.



(No. 14); A Revision of the Eatoniellidae of Australia (Mollusca: Gastropoda, Littorinacea), by W. F. Ponder and E. K. Yoo (No. 15); Some Wooden Artefacts from the North Coast of NSW: New Archaeological and Ethnographic Data, by I. McBryde (No. 16); Recent Australian Nuculidae (Mollusca: Bivalvia) except *Ennucula* Iredale, 1931, by W. Bergmans (No. 17); Underwater Observations on Sea Snake Behaviour, by H. Heatwole, S. A. Minton and R. & V. Taylor (No. 18); Balof Shelter, New Ireland—Report on a Small Excavation, by J. E. Downie and J. P. White (No. 19); (Volume 32) A Revision of the Species of *Bolma* Risso, 1826 (Gastropoda: Turbinidae), by A. G. Beu and W. F. Ponder (No. 1); *Onycocaris anomala* sp. nov; A New Pontonine Shrimp from the Northern Territory, Australia, by A. J. Bruce (No. 2); An Annotated Checklist of Australian and New Zealand Polychaeta, Archiannelida and Myzostomida, by J. H. Day and P. A. Hutchings (No. 3). Another 23 manuscripts are currently in press.

Ms Nancy Smith resigned as head of the section after five years highly productive service. During those years she established the section as it is now and introduced many new and successful ideas. She departed the museum in June and has since taken up residence in Pago Pago, American Samoa. Ms Susan Quirk replaces her.

NATIONAL PHOTOGRAPHIC INDEX OF AUSTRALIAN WILDLIFE

Production of the first volume in the book series—which deals with the 85 species of Australia's wrens and warblers was the main feature of the year's work. By the end of June, the first draft of the narrative, running to 46,000 words, had been completed by Mr John Pringle, the synopses of technical data for each species had all but been completed, and some 250 photographs been provisionally selected. Details of page design had also been settled, and a set of sample pages produced to

demonstrate the quality of the colour printing for the illustrations and the type-faces chosen for the text. Negotiations for the marketing and distribution of the book were continuing as the year closed.

Exploratory talks with Marshall Cavendish Part Works Limited of London, a leading firm in the part works field, were also proceeding regarding the possibility of publishing the best work in the Bird Index in the form of a part works series to cover all the species.

Financing the work on the wren/warbler book was sustained by advances totalling \$7,000 from the Museum's \$10,000 loan and a further loan of \$3,000 from Index funds. These loans will be repaid when contracts for the publication of the book and/or the part works series are concluded.

Critical commentary provided by the Honorary Scientific Consultants on the textual content of the book has been invaluable in ensuring that it will rank as a work of scholarship, and the Index Trustees are greatly indebted to them for their expert help.

Fund raising on the level of effort of previous years was beyond the capacity of the Index's small team to sustain while supporting the publishing project. Consequently there was a significant drop in donations, as shown in the following comparative table:

	Private Sector	Federal Government	Total
	\$	\$	\$
1976-77	21,427	15,000	36,427
1977-78	18,437	15,000	33,437
1978-79	12,648	15,000	27,648

Operations were further handicapped by the absence of Ms J. M. (Peggy) Trounson for a substantial part of the year through illness. As honorary

archivist (photographs) from the inception of the project in 1969, she was responsible for controlling the movement, processing and cataloguing of all photographs submitted—of which nearly 20,000

passed through her hands over the years. It is to her credit that not one of these was lost or damaged. The state of the two Index collections at 30th June 1979 is reflected in the following tables:

Bird Index	1977-78	1978-79	Totals
Submissions	1,448	1,467	18,449
Acceptances for the Index (target 5,000)—			
As prints (with replicas for the National Library) ..	182	192 4,430	..
As 35 mm duplicate slides (XT classification) as an overflow of Index quality photographs when print targets for individual species have been reached..	159	250 451	4,881
Acceptances for the Transparency Section of 35mm duplicate slides (T classification)	292	300	1,921
Species represented (target 803)—			
Index			737
Transparency Section (species additional to those in Index)	2		30
Mammal Index	1977-78	1978-79	Totals
Submissions	738	357	1,095
Acceptances for the Index—			
As duplicate 10.5cm transparencies	133	122	255
As 35mm duplicate slides (SX classification) ..	71	10	81
			336
Acceptances for the Slide Section of 35mm duplicate slides (5 classification)	81	72	153
Species (target 343)—			
Index	106	24	130
Slide Section .. .. .			..
Species additional to those in Index			25

The Executive Committee met on four occasions under the chairmanship of Mr R. W. Turner.

LIZARD ISLAND RESEARCH STATION

The year was an extremely active one with 100 visitors and a number of important improvements.

To satisfy growing demands for compressed air and power a new compressor and generator were purchased. The generator, a 25 KVA 3-phase alternator powered by a 40 hp Lister diesel, was installed in the powerhouse and connected to the Station's wiring via a new switchboard and distribution panel. A 1,000 diesel header/storage tank, courtesy of Caltex (Australia) Pty Ltd, has been installed alongside the powerhouse. The laboratory block has been re-wired to make full use of the 3-phase power system and a colour-coded metre panel and circuit breaker board has been installed on the verandah. Two parallel, main power cables now run from the powerhouse to the laboratory and workshop.

In the dive shop, a 12cfm Bauer high pressure compressor has been installed to supplement the 7cfm unit. The SCUBA bottle complement has been increased to 30.

Verandahs of all three houses have been concreted, making living somewhat more comfortable.

Another DeHaviland 5 metre aluminium boat has been purchased bringing the complement to 6. Three more $\frac{1}{2}$ ton concrete moorings have been laid in front of the station. These are now sufficient to hold the station's six small workboats in most weather conditions.

Two permanent bunks with a small enclosed sleeping area have been constructed on the platform on Carter Reef on the edge of the Barrier Reef. This should hopefully entice more visitors to use the structure.

A functional darkroom has been completed which is well equipped and has ducted air conditioning, which also conditions the small microscope storage room alongside. Air conditioning has been installed in the dry lab and is soon to be installed in the library.

Three drained aquarium trays have been installed inside the aquarium room, with two outside in the open, but under 50% shade-cloth (to stop direct sun-light). The plumbing is complete with incoming salt water running through insulated pipes to stop overheating on the hot summer days. The 120 metres of pipe from the pumps to the salt water header tank have been buried to one metre to also stop the water heating up during pumping. A second helical-rotor type salt water pump has been installed to provide a back-up for the aquarium system.

A wet-sorting tray with salt water on tap has been erected on the verandah of the wet lab for bulk sorting and preserving of specimens—hopefully most formalin work can now be kept outside the laboratory rooms.

A small diamond saw has also been installed on the lab verandah. This was purchased with assistance from the Great Barrier Reef Marine Parks Association and can be used for cutting coral block samples, etc.

Another 30 volumes have been added to the library bringing the total to about 150, together with numerous reprints, monographs and occasional journals which have still to be registered.

There have been no staff changes during the year. Mr Trevor Barnes has been re-appointed for another twelve months as maintenance officer, Ms Lois Goldman continues as part-time secretary and the position of station manager has been upgraded to director. Dr Goldman has been re-appointed for another two years.

During 1978-79 there was one meeting in November of the Committee of Trustees; the former committee and Board of Consultants being amalgamated. The Executive (Dr J. T. Baker, Dr D. J. G. Griffin and Dr B. Goldman) met in Sydney in March. In addition, in November, Dr Goldman attended a ten day workshop at Heron Island on fish census techniques (sponsored by the Great Barrier Reef Marine Park Authority), participated in a working

party at the Australian Institute of Marine Sciences in Townsville on developing a code of practice for scientific diving on the Barrier Reef, attended the joint meeting of Barrier Reef research stations held at the University of Queensland, and the annual general meeting of the Great Barrier Reef Committee in Brisbane.

The station has again proved extremely useful as a resource for many research projects, and some of the longest staying research visitors were: Mr Peter Parks, Oxford, Scientific Films, London, two months filming marine life and concentrating on microscopic organisms; some footage taken was used as special effects in 'Superman: The Movie'.

Mr Hugh Sweatman, Macquarie University, research assistant to Professor Talbot, four trips totalling 28 weeks, studying recruitment of fishes into natural reef isolates;

Dr Pat Hutchings, Australian Museum, with assistant Ms Penny Weate, four visits totalling six weeks, ecological and taxonomic studies on animals which bore into corals;

Greg Stroud, PhD student, James Cook University, four visits totalling 21 weeks, continuing ecological studies on life history, behaviour and reproductive biology of sand weaver fishes (Parapercidae);

Gordon Anderson, Australian National Parks and Wildlife Service, three visits totalling four and a half weeks, studies on the function of predators in maintaining fish community structure, especially species immigration and settling success;

Jan Aldenhoven, PhD student, Macquarie University, three visits totalling 29 weeks, examination of social structure, reproductive strategy and foraging methods in the angelfish *Centropyge bicolor*;

Zena Dinesen, PhD student, James Cook University, one visit of four weeks, continuing work in ecological associations of cave-dwelling coral species;



As part of a behavioural exercise a psychology student from the Alexander Mackie College of Advanced Education wrapped another student as an Egyptian mummy and recorded bystanders' reactions as the 'mummy' made slight movements. The 'mummy' was set up in the Egyptology section and the experiment received wide publicity through television and newspapers. Photo: John Fields/The Australian Museum.

Brian Lassig, PhD student, Macquarie University, Sydney, two visits totalling 16 weeks, investigation of the role of predators in maintaining fish community structure; and

Dr Dave Meyer, University of Cincinnati, USA, four weeks, habitat requirements and feeding behaviour of crinoids;

In addition, the station received visits from:

Dr D. F. McMichael, formerly acting Chairman of the Great Barrier Reef Marine Park Authority and

now Director of the Department of Home Affairs (January);

Mr Ray Groome, Minister for Environment, Housing and Community Development (April);

Senate Select Committee on Oil and the Environment, including Senator Hodges (Chairman) Baillieu, Cohen, Fisher and Simon (June); and

Mrs Flo Bjelke-Petersen, wife of the Queensland Premier (October).

The number of publications resulting from work done wholly or in part at the Lizard Island Research Station now totals 28.

THE AUSTRALIAN MUSEUM SOCIETY

The Society continues to grow both in membership and in diversity of activities. Membership now exceeds 2,000 and attendance at functions and activities during the current year was at a pleasingly high level.

The standard of lectures was again excellent and the range of topics varied. Highlights were 'A Tail of a Tale'—a lecture on frogs by Dr H. Cogger; 'An Evening with Ron and Valerie Taylor', and 'An Empty Landscape and the First People' by Dr Rhys Jones, 'Air Today, Gone Tomorrow' a joint panel chaired by Professor J. Kelly and consisting of Dr Robert Hyde, Dr Maurice Mulcahy and Dr David Iverach. Visiting overseas lecturers, British industrial archaeologist, Kenneth Hudson and Dr Sylvia Earle, marine botanist and ecologist maintained this high standard.

A new development was the chartering of an aircraft to enable Society members to enjoy a journey to the centre of Australia—a tight package of three days led by Mr Oliver Chalmers and Dr Alex Ritchie.

For the first time we were able to launch an overseas trip: to New Guinea. Margaret Tuckson led

the party which took in visits to the National Museum and Art Gallery in Port Moresby, the Goroka Show, the Karawari River area and Mt Hagen.

Corporate Sponsor membership, initiated last year, was taken up by Tooth and Co Ltd, and Corporate Benefactor membership was taken up by Esso Aust. Ltd, Myer Sydney Ltd and Unilever Aust. Ltd. Unilever was the first of our Benefactor Members.

Morning Coffee Talks were launched—the first by Lin Sutherland and his staff. Attendance at this and later talks was most promising.

An experimental forum was held during the year to attract the student population. An informal debate 'Nuclear Energy and Australia' between Sydney and NSW Universities was organised. The debate was followed by a light supper, free of charge.

Field trips met with an enthusiastic response—bird banding under the guidance of Mr S. G. Lane, the ever popular twilight visit to Taronga Zoo and a Parramatta River Boat Cruise were notable examples. A fossil weekend in the Hunter Valley was well attended and most rewarding to all who attended. The social aspect of the society's functions was successfully provided for by a champagne breakfast in the museum and a 'Night in New Orleans' dinner dance. A preview of the Marine Gallery proved to be an enjoyable social occasion as did the 2001 Christmas party.

Again our volunteers helped in the departments of Anthropology, Ornithology, Conservation, Marine Invertebrates, Malacology, Ichthyology, Entomology, Herpetology, Palaeontology, Publicity/Publications and the General Office. Much special assistance was once more given by Mr and Mrs N. R. Ireland.

The enthusiasm of the Council of the Society was most noticeable and the encouragement and support of the Director, Dr Griffin and the staff, contributed greatly to maintaining its enthusiasm.

APPENDIX I STAFF

DIRECTOR—D. J. G. Griffin, MSc, PhD

DEPUTY DIRECTOR—H. G. Cogger, MSc, PhD

SCIENTIFIC DEPARTMENTS

PRINCIPAL CURATOR—C. N. Smithers, MSc, PhD

ANTHROPOLOGY

CURATORS—J. R. Specht, MA PhD (Head of Department);
R. J. Lampert (from 3-7-78);

ASSISTANT CURATOR—D. Losche, MA, MPhil (from 13-6-79)

TECHNICAL OFFICERS—H. Czuchnicka, BA; Z. Horning (nee
Wakelin-King), BA; M. Koettig (from 12-3-79 to 8-6-79)

TECHNICAL ASSISTANT—G. O'Donnell

RESEARCH ASSISTANT—L. Bolton BA, Hons, Dip Museum Stud,
(from 2-4-79)

ASSISTANTS—T. Corkhill (to 11-7-78); R. Young (from 3-1-79
to 13-2-79)

ARACHNOLOGY

ASSISTANT CURATOR—M. R. Gray, MSc (Head of Department)

ASSISTANT—C. A. Horseman

ENTOMOLOGY

CURATORS—D. K. McAlpine, MSc, PhD, DIC; C. N. Smithers,
MSc, PhD (Head of Department)

RESEARCH ASSISTANTS—G. Daniels (to 18-5-79); D. F. Kent,
BSc (from 8-1-79); M. A. Schneider, BSc (to 26-10-78)

TECHNICAL OFFICER—G. A. Holloway, BSc

ASSISTANTS—R. D. Brewer; B. J. Day

CAMDEN HAVEN WILDLIFE REFUGE STUDY

TECHNICAL OFFICER—D. Milledge

HERPETOLOGY

CURATORS—H. G. Cogger, MSc, PhD (Head of Department);
A. E. Greer, BA, PhD

TECHNICAL OFFICER—P. Webber

ASSISTANT—A. Young

ICHTHYOLOGY

CURATORS—J. R. Paxton, MSc, PhD; D. F. Hoese, BA, PhD
(Head of Department)

TECHNICAL OFFICERS—D. J. Blake, BA, DipEd; L. Hodgson,
BSc(Hons) (from 1-7-78 to 31-12-78); H. K. Larson, MSc

QUEEN ELIZABETH II FELLOW IN MARINE SCIENCE—J. Leis,
BA, PhD (from 8-1-79)

TECHNICAL ASSISTANT—G. Serkowski

ASSISTANT—W. Gladstone (from 20-12-78 to 31-1-79)

MALACOLOGY

CURATORS—W. F. Ponder, MSc, PhD (Head of Department);
W. B. Rudman, MSc, PhD, (from 24-7-78)

RESEARCH ASSISTANT—E. K. Yoo, BSc

TECHNICAL OFFICERS—I. Loch; J. Stanisic, BSc(Hon), MSc

TECHNICAL ASSISTANT—P. H. Colman

ASSISTANTS—K. L. Cowled, BA (to 21-7-78); B. G. Duckworth

MAMMALOLOGY

CURATOR—B. J. Marlow, BSc

TECHNICAL OFFICER—L. M. Gibson

MARINE ECOLOGY

CURATOR—A. R. Jones, MSc, PhD (Head of Department)

TECHNICAL ASSISTANT—C. J. Short

ASSISTANT—J. Young (from 1-11-78)

MARINE INVERTEBRATES (Crustacea and Coelenterates)

CURATOR—J. K. Lowry, MA, PhD (Head of Department)

RESEARCH ASSISTANT—H. Stoddart, BSc

TECHNICAL OFFICER—P. Terrill, BSc

ASSISTANT—D. Andrew, BSc (from 17-7-78 to 6-10-78)

MARINE INVERTEBRATES (Worms and Echinoderms)

CURATORS—P. A. Hutchings, PhD (Research Scientist);
F. W. E. Rowe, PhD, MIBiol, FLS (Head of Department)

QUEEN ELIZABETH II FELLOW IN MARINE SCIENCE—S.
Oldfield, PhD (to 6-2-79)

RESEARCH ASSISTANTS—A. Murray, BSc (from 11-12-78 to
31-5-79); P. Weate, BSc (to 17-11-78)

TECHNICAL OFFICERS—J. I. Marshall, BSc; L. Vail, MSc (from
6-6-78 to 6-12-78)

ASSISTANT—K. Handley

MINERALOGY AND PETROLOGY

CURATOR—F. L. Sutherland, MSc
TECHNICAL OFFICER—J. E. Hingley, BAppSc
ASSISTANT—G. A. Brady, MA(Hons)

ORNITHOLOGY

CURATOR—H. J. de S. Disney, MA
TECHNICAL OFFICER—W. E. Boles, BSE
ASSISTANTS—T. R. Lindsey (from 25-9-78 to 19-12-78);
N. W. Longmore (from 25-9-78 to 12-1-79)

PALAEONTOLOGY

CURATOR—A. Ritchie, BSc, PhD
TECHNICAL OFFICER—R. K. Jones, BSc
ASSISTANT—D. Jones

TERRESTRIAL INVERTEBRATE ECOLOGY

ASSISTANT CURATOR—T. J. Kingston, MA DPhil (Head of Department)
TECHNICAL OFFICERS—D. Andrew (from 9-10-78); D. Brown;
I. Pulsford, BSc (from 2-10-78)
CURATOR—H. F. Recher, BSc, PhD
TECHNICAL OFFICER—P. Smith, MSc, PhD (to 15-5-79)
ASSISTANT—G. Gowing

FUNCTIONAL ANATOMY UNIT

RESEARCH FELLOW—R. Strahan, MSc, FSIH, FRZS
TECHNICAL ASSISTANT—G. Serkowsky
DIRECTOR'S RESEARCH LABORATORY
RESEARCH ASSISTANT—H. Tranter, BSc
DEPUTY DIRECTOR'S RESEARCH LABORATORY
RESEARCH ASSISTANT—E. Cameron, MSc

MATERIALS CONSERVATION SECTION

OFFICER-IN-CHARGE AND ASSISTANT CURATOR—
S. Walston, Dip Inst Arch
SCIENTIFIC OFFICER—P. Casey (from 26-3-79)
TECHNICAL OFFICERS—D. Horton-James; G. Marton, Chem
Dip; P. Townley, BA(Hons)

EDUCATION SECTION

EDUCATION OFFICER-IN-CHARGE—P. M. McDonald, BEM,
BSc, Med
EDUCATION OFFICERS—Z. M. Harkness (part-time); G. S.
Hunt, BSc, DipEd; J. N. McDougall, BSc, DipEd; J. M.
McLeod, BA, DipEd; S. B. H. Maguire, BA; M. M. Tyler,
ASTC (part-time); E. J. Wilson, BSc
EDUCATION OFFICERS (Special Project)—C. McLaurin,
DipSpecEd (to 10-4-79); A. Saunders, BA, DipEd (from
14-5-79)
EDUCATION OFFICERS (Museum Train)—J. R. Dengate, BSc
(Hons) (from 5-2-79); P. R. Miller, BScAg, DipEd; A.
Stokes, BSc, DipEd (to 1-2-79)
PREPARATORS—R. C. Inder, D. B. Millar
TYPISTS—A. Brown (from 8-9-78); A. Karayan (from 30-10-78);
E. McPhee; B. Shiner (to 8-9-78); R. Thompson (25-10-78)

EXHIBITIONS DEPARTMENT

CHIEF—B. Bertram (to 20-4-79); R. Joyner (acting) (from
23-4-79)
EXHIBITIONS OFFICERS—J. Freeman, AIDIA, ESTC, CDesign
(Int); R. Joyner, AIDIA; E. Juska, AIDIA, DipDesign
(Industrial); R. Ross-Wilson (from 2-4-79)
SENIOR ARTIST—K. Gregg
ARTISTS—M. Kolotas, ASTC, DipDesign(Graphics); S. Robinson,
ASTC, DipDesign (Painting)
ASSISTANTS—D. Beeman; L. Calcutt; L. Clapton
TYPIST/ASSISTANT—L. Brown
EXTENSION SERVICES PROJECTS
ARTIST—B. Matzick, DipDesign(Display)
ASSISTANT—J. Powell, DipArts(Interior SCA)
PREPARATION SECTION
CHIEF PREPARATOR—D. Rae (from 14-9-78)
PREPARATORS—W. Bell; S. Clark; M. Dingley; G. Hangay;
R. Lossin; R. Scott-Child; R. Witchard
ARTIFICERS SECTION
ARTIFICER-IN-CHARGE—A. Carpenter
ARTIFICERS—K. Forster; T. Lang; J. Neish (to 2-3-79); H.
Magor (from 3-5-79)

LIBRARY

LIBRARIAN—G. Baker, ALAA (from 27-2-79); N. Boness, BA DipLib, ALAA (to 22-12-78); P. Davis (from 5-2-79 to 23-2-79)

CATALOGUER—E. E. Giles, BA, DipLib, ALAA (part-time)

LIBRARY OFFICERS—N. Dunn (from 27-2-79); M. E. Kerry (to 9-3-79)

TYPIST—H. Spitzer

CLERICAL ASSISTANT—C. M. Pyne

PHOTOGRAPHY AND VISUAL AIDS SECTION

PHOTOGRAPHER AND VISUAL AIDS OFFICER—H. Hughes, FRPS, AIAP

PHOTOGRAPHER—J. Fields

PHOTOGRAPHIC OPERATOR—H. McLennan

PUBLICITY/PUBLICATIONS SECTION

SCIENTIFIC INFORMATION OFFICER (EDITOR)—N. Smith (to 29-5-79); S. Quirk, BScAg (from 1-6-79)

ASSISTANT EDITORS—I. Oettle (from 21-8-78 to 20-2-79); D. L. Torv, BA(Hons)

DESIGN/PRODUCTION ASSISTANT—L. E. Ryan

CLERICAL ASSISTANT—B. Shirley, NSW Govt. Youth Training Programme (from 28-8-78 to 27-10-78)

ADMINISTRATION

SECRETARY—B. Krywulycz (from 30-8-78)

GENERAL OFFICE

OFFICER-IN-CHARGE—K. R. Todd

CLERKS—J. Garbutt (from 24-7-78); B. Grainger (to 19-1-79); L. Grey (from 1-11-78 to 30-1-79); S. Gulson (to 19-1-79); B. Hough (from 5-2-79); B. M. James; G. P. Kondilios (from 2-4-79); J. F. Lowe (to 3-8-78); I. Lucas; W. H. Tarvey (to 27-10-78); G. Wargren (from 30-3-79); S. Wright (to 13-8-78) (from 1-12-78 to 6-4-79)

CLERICAL ASSISTANTS—G. Brady; J. Campbell, NSW Govt. Youth Training Programme (from 29-8-78 to 22-12-78); L. P. Hanafin, NSW Govt. Youth Training Programme (from 28-8-78 to 24-11-78); V. Parker; G. Whitfield, N.S.W. Govt. Youth Training Programme (from 28-8-78 to 10-8-78)

CLERICAL ASSISTANTS (Bookshop)—P. Russell; B. Jones (part-time)

STENOGRAPHERS/TYPISTS—P. T. Clark (from 31-7-78); C. Choy; V. Morrissey; J. Raffin (from 5-2-79); C. Sinclair; A. Whilby (to 10-1-79); J. Williams; D. ter Wisscha; B. Wright

RECEPTIONIST/TYPIST—C. Spicer

TELEPHONIST—A. Sommer

STOREMAN/DRIVER—J. Rusten

STOREMAN—W. Rixon

ATTENDANTS AND SECURITY

SUPERVISOR—J. Lewis

SENIOR ATTENDANT—D. Hodges

ATTENDANTS—R. Aylward (to 20-11-78); B. Buckley; S. Coops*; J. Connelly; M. Duncan (to 31-8-78); J. Finney; S. Folkes; J. Glaessen (from 14-5-79); K. Graham; R. Holmes; E. Johnson; J. Laughton; T. Lazarides (from 21-11-78); T. McMillan (from 3-10-78 to 4-5-79); M. Neligan; P. Power; W. Payne; K. Randall; A. Rosewarn; K. Smith; S. Soltan (to 28-9-78); R. Stevenson (from 29-9-78); D. Walden; W. Walsh; S. Zimeris

NIGHT SECURITY OFFICERS—S. Landy; D. Paterson; H. Pierson; R. Souter; H. Ward; J. Watt

CLEANERS—L. Cernuda (from 9-5-79 to 5-7-79); E. Drakoulaki; J. Elias; J. Fernandez; T. Kovar; P. Pumares

LIZARD ISLAND RESEARCH STATION

DIRECTOR—B. Goldman, BSc, PhD

MAINTENANCE OFFICER—T. Barnes

SECRETARY—L. Goldman (part-time)

NATIONAL PHOTOGRAPHIC INDEX OF AUSTRALIAN WILDLIFE

EXECUTIVE OFFICER—A. D. Trounson

EXECUTIVE TRUSTEE—E. L. Carthew

ARCHIVIST (photographs)—J. M. Trounson*

CLERICAL ASSISTANT (part-time)—Z. Middleton (to 30-9-78); M. R. Gordon (from 1-10-78)

STENOGRAPHERS—C. Evans (casual); C. Phillips (casual); M. Alcock (casual)

THE AUSTRALIAN MUSEUM SOCIETY

EXECUTIVE SECRETARY—S. A. Bridie

SECRETARY—B. L. Stewart

* deceased

APPENDIX 2 DONATIONS

The department of Arachnology received donations of spiders from NW NSW from L. Edmondson-Dovey, NPWS; spiders from Queensland from R. Mascord; and cavernicolous and epigeal spiders from Papua New Guinea and caves in NSW from G. Smith, of the Atea Kananda Expedition.

During the year the Entomology department received several important collections. The Geometrid (moth) collection of approximately 1,400 specimens, made by the late C. W. Frazier, of Armidale, was given to the museum. This collection was fully named; most of the specimens were from localities not represented in the collections and several were of species of which we had none, or only few specimens. Mr N. Rodd, of Mount Tomah, has continued to collect Hymenoptera for our collections. Mr Rodd is particularly interested in bees and his periodic donations are helping to make the museum collection one of the best. Mr and Mrs M. S. Moulds have donated large collections of Psocoptera, Neuroptera, Diptera and other material, collected during their extensive travels in Queensland, Northern Territory, Western Australia and South Australia. A particularly fine collection of Psocoptera was obtained by them in the Nullabor, an area seldom rich in these insects. A large collection of Dermaptera (earwigs) of Dr E. T. Giles, of Armidale, has been received. This collection almost doubles our holdings of this group and includes specimens of the remarkable genus *Arixenia* which parasitizes bats. A large collection of local Sydney insects, numbering several thousand, was donated by Mr Nikiitin, of Cabramatta. Mr C. Chadwick, who is carrying out a long term survey of insects on *Macrozamia* (cycads), has donated material from his survey. It includes several species peculiar to *Macrozamia*. Mr Graeme Smith collected insect material from caves in New Guinea and the material is being sent to various authorities for study and will eventually be returned to the Museum collection. Mr and Mrs A. Walford-Huggins and Mr H. Roberts have donated significant collections of Diptera.

The department of Herpetology, received several very useful collections during the year. The most important of these was approximately 800 lizards from New Caledonia collected by the late Mr Peter Rankin and Mr Ross Sadlier. Other noteworthy collections included approximately 600 reptiles and amphibians from the Northern Territory donated by Mr Ross Sadlier and Dr Grahame Webb; approximately 250 frogs from eastern Australia donated by Mr John Barker and Dr Gordon Grigg; approximately 50 frogs, lizards and snakes from the Solomon Islands collected by Mr Mike McCoy, and approximately 100 reptiles from the Northern Territory collected by Mr Gary Stephenson and Mr Grant Husband.

Important collections of fishes to the department of Ichthyology were donated by FRV *Kapala*, New South Wales State Fisheries, R. and A. Kuiter; H. Midgley; R. Young and T. Clarke, University of Hawaii; G. Bright, Office of the Chief Conservationist, Palau; Dr S. F. Hoda, University of Karachi, Pakistan; Mr Y. Yanagasawa, Ehime University, Japan; R. Wass, Office of Marine Resources, Samoa, and FRV *Courageous*, CSIRO Fisheries and Oceanography.

A collection of terrestrial and freshwater molluscs from central Australia was donated to the department of Malacology by Professor J. B. Burch, University of Michigan, and J. Walker, School of Public Health and Tropical Medicine, University of Sydney. Dr R. G. Creese now of University of Auckland, New Zealand, donated a collection of limpets and A. and H. Kuiter, J. Hunter and H. Woodward, all of Sydney, donated opisthobranchs and associated colour photographs. Important Northern Territory terrestrial and freshwater molluscs were donated by Mr V. Kessner of Katherine. Another important collection of New Guinea caves material was obtained from the Atea Kananda Caves Expedition. Valuable collections of off-shore mollusca have been

obtained by K. Graham of the FRV *Kapala*. Other donations were made by S. Mackay, J. Kerslake, N. Coleman, C. Short, W. and A. Hosmer, R. Stobbs, D. Pearson, C. Pregonza, R. Paton, G. W. Fulton, G. Annabell, R. Rose, A. Rose, D. Howlett, H. Wise, W. Richards, B. Collins, R. Penprase and J. Hewitt.

A large collection of cetacean skeletal and spirit specimens was donated to the department of Mammalogy by Dr W. Dawbin, formerly of Sydney University. Coffs Harbour Porpoise Pool donated an adult leopard seal, a mammal not easily obtained due to its solitary behaviour. A significant collection of mammals was obtained as a result of the Newnes Plateau/Colo River survey.

Specimens were also received from the National Parks and Wildlife Service of NSW, the Forestry Department of NSW, and Taronga Zoo.

The department of Marine Invertebrates (Crustacea and Coelenterates) received several important collections. Dr R. Taylor, Entomology Division, CSIRO, Canberra, donated an extensive collection of terrestrial crustaceans from Australia and New Guinea; Dr G. C. B. Poore and Ms M. Drummond, Marine Studies Group, Ministry for Conservation, Melbourne, donated representative collections of the described crustaceans of Western Port and Port Phillip Bay. Type material of new Australian cladocerans was received from Dr Smirnoff, Institute of Evolutionary Morphology and Ecology of Animals of the USSR, Academy of Sciences, Moscow, USSR and Dr B. Timms, Avondale College, Cooranbong, NSW. Type material of new Australian freshwater ostracodes was received from Dr P. De Deckker, University of Adelaide, and type material of new Australian pycnogonids was received from Mr D. Staples, c/o National Museum of Victoria, Melbourne. Dr K. McKenzie of Wagga Wagga College of Advanced Education, also donated ostracode type material and Dr A. J. Bruce, Heron Island Research Station, continued to deposit type specimens of tropical Pontoniinae shrimps. Mr K. Graham, NSW State Fisheries, continued to deposit deepwater crustaceans collected by the FRV *Kapala*.

The department of Marine Invertebrates (Echinoderms) received echinoderms from Bermuda and holothurians from the Seychelles Islands, Indian Ocean by Dr N. Sloan (Bermuda); Mediterranean by Mr H. Kirkman (Perth, WA); Fiji by Mr L. Vail (Sydney); Queensland by Ms V. Harriott (Queensland University); South Australia by Mr M. Keough (Adelaide, SA); from deep-water (-400 fms) off the coast of NSW, by Mr K. Graham (State Fisheries); from the western part of Great Australian Bight, Dr G. Maxwell (CSIRO, Cronulla).

Donations to the department of Ornithology were received from S. G. Lane; J. Willows; Ms Burkett; A. B. Rose; A. K. Morris; G. J. Mendel; Reptile Park, Gosford; B. Miller; W. Rohan-Jones; P. Smith; P. Rankin; J. Francis; V. Navratil; A. Stokes; H. Moar; G. Retmock; J. Evans; B. Young; R. Loucks; D. Tufrey; H. Posamentier; S. Malcher; Bellambi Public School; M. Skeel; Mrs Doven; H. Downes; M. Franklin; R. Shick; A. Crockett; C. Bonser; B. Day; T. H. Alley; D. Turner; E. Thirey; B. Evans; S. O'Malley; Mr McNea; W. Little; L. T. Nicholls; B. Mannes; P. Lanaham; P. Gowland; D. Milledge; F. Sharples; D. Bird; K. G. Brennan; N. W. Longmore; J. Thompson; S. Marchant; C. Campion; N. Kurtz; K. Boag.

Specimens presented to the department of Palaeontology during the year included Triassic plant remains and a labyrinthodont amphibian bone from the Sydney area from Mr Colin Chidley, Lindfield; Pleistocene marsupials from Wombeyan Caves, NSW from Field Museum of Natural History, Chicago; Pleistocene marsupials from NSW, Dr Jeanette Hope, Australian National University, ACT; Triassic plants, Mr Robert Jones, Mosman; Cretaceous plesiosaur skull and jaw from central Qld and fossil plants, Dr Ralph Molnar, University of NSW; Paleozoic fish, trilobites, echinoderms, trace fossils, etc. from Britain, Dr Alex Ritchie; casts of

Oligocene and Miocene marsupials from Tasmania and South Australia, Dr Richard Tedford, American Museum of Natural History, New York.

TIME-LIFE International (Australia) Pty Ltd donated a set of LIFE Nature Books to the Department of Education for awards to Museum Discoverers, and the Royal Botanic Gardens donated plant samples for use in school loan travel cases on Aboriginal food.

The National Photographic Index of Australian Wildlife received donations from Ms C. Crowe; Dr Ian A. Hamilton; Ms P. Fizelle; J. A. Martin Charitable Settlement No. 1 and J. A. Martin Charitable Settlement No. 2; Pioneer Sugar Mills Ltd.

APPENDIX 3 ACKNOWLEDGEMENTS OF CO-OPERATION

The following organizations provided general assistance to the Museum and its staff in important ways including provision of research facilities and advice:

NSW Department of Agriculture; American Museum of Natural History, New York, USA; Art Gallery of NSW; Australian Atomic Energy Commission; Bankstown City Council; Bathurst City Council; Bathurst Regional Art Gallery; Australian Biological Resources Study; Biological and Chemical Research Institute; Blacktown City Council; Council of the City of the Blue Mountains; British Museum (Natural History) London, UK; Campbelltown City Council; the Colo Committee; Department of Corrective Services; Dubbo City Council; Dubbo Square Shopping Plaza; Electron Microscope Unit, University of Sydney; Exeter University, Devon, UK; Fairfield City Council; CSIRO Divisions of Entomology, Fisheries and Oceanography, Food Research and Wildlife Research; NSW State Fisheries; Forestry Commission of NSW, Geological and Mining Museum, Sydney; Gosford Shire Council; NSW Health Commission; Commonwealth Department of Health; Australian Herpetological Society; Hydro Electricity Commission, Tasmania; Institute of Medical and Veterinary Sciences, Adelaide; NSW Institute of Technology (Department of Geology); James Cook University, Townsville; Université Libre de Bruxelles, Brussels, Belgium; Lithgow City Council; Liverpool City Council; Liverpool Department of Education; Lord Howe Island Board; Australian Institute of Marine Sciences; Melbourne University (Department of Geology), Melbourne; Merrylands Mall; Metropolitan West Department of Education; Mudgee Shire Council; Museo Civico di Storia Naturale, Genova, Italy; Muséum National d'Histoire Naturelle, Paris, France; Museum of Vertebrate Zoology, Berkeley, California, USA; National Museum and Art Gallery, Port Moresby, PNG; National Museum of Victoria, Melbourne; National Parks and Wildlife Service of NSW; North Sydney Department of Education; Fisheries Section, Northern Territories Administration; NSW Public Transport Commission; Orange City Council; Parramatta City Council; Penrith City Council; Animal Quarantine, Federal and State Departments of Health; Queensland Fisheries Service, Brisbane; Queensland Museum, Brisbane; Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands; School of Earth Sciences; Australian National University, Canberra; School of Earth Sciences, Macquarie University; School of Public Health and Tropical Medicine, University of Sydney; Smithsonian Institution, Washington, DC, USA; South Australian Museum, Adelaide; South Coast Department of Education; Department of Education, St George Region; Sutherland Shire Council; Tasmanian Department of Mines, Hobart; CSIRO Division of Textile Physics; Warringah Mall; Warringah Shire Council; Western Australian Museum, Perth; Western Region, Department of Education; Windsor Municipal Council; Wollongong City Council; Zoological Parks Board of NSW.

The following individuals also helped the Museum during the year: G. Anderson, Lightning Ridge; Dr M. Archer, University of NSW; Dr A. Baker, National Museum of New Zealand, Wellington; K. Baker; R. Ball, School of Metallurgy, University of NSW; D. Barnes, Specialist Services, NSW Department of Mines; M. Bartlett, Farley and Lewers, Hornsby Quarry; F. Bates; Mr D. Beechey, CSIRO, Division of Computing Research; Professor Dr P. L. G. Beneit, Musée Royal de L'Afrique Centrale, Brussels, Belgium; Mr Doug Benson, National Herbarium, Sydney, NSW; K. Berlin, Gem and Rock Museum, Nanango, Queensland; Dr W. Birch, National Museum of Victoria; Dr J. Bunt, Australian Institute of Marine Science; Dr Alan Butler, University of Adelaide; R. O. Chalmers; A. H. Chapman; C. Chidley; Ms A. M. Clark, British Museum (Natural History), London, UK; Mrs B. Clark; Mrs J. Clout; C. J. Cocks; Ms Joan Cocks; D. Colchester, NSW Institute of Technology; Mr N. Coleman, Associate, Australian Museum, Sydney; Mr R. Conder; Mr W. T. Cooper; Ms T. Corkhill, NSW; M. Costello; Mrs B. Crawford; J. Cullen; Mrs Daniels; Freya Dawson, Greenwich; J. Dean; Mr Bill Denbz; Joan Dixon, National Museum of Victoria; N. Duke, Australian Institute of Marine Science; E. Edmondson-Dovey, Ranger Naturalist, Coonabarabran, NSW; Dr Stan Edmonds; South Australian Museum; B. Ellis, Readymix, Erskine Park Quarry; P. Ewer; Dr Kristian Fauchald, Curator, Smithsonian Institution, Natural History, Washington, DC, USA; Mr E. Finnie, Taronga Zoo, Sydney; Mr Leo Fleischmann; Ms Betty Fleming; E. N. Fragar, Cowra; Dr D. Francois, NSW State Fisheries; A. Fraser, Terang, Victoria; E. French; A. E. Gardner; T. A. Garrard; Dr David George, Curator of Worms, British Museum, Natural History; Dr. G. Gibbons, NSW Institute of Technology; Dr G. Goedden, Queensland Fisheries Service; Mr P. N. Gowland; R. H. Green, Queen Victoria Museum, Launceston, Tasmania; D. Grey, Fisheries Section, Northern Territories Administration; David Haines, CSIRO Division of Computing Research; H. Haneiman; Professor Dr G. Hartmann and Dr Hartmann-Schroeder, Zoologisches Institut and Zoologisches Museum, and University of Hamburg, Germany; Dr J. C. den Hartog, Rijksmuseum van Natuurlijke Historie, Leiden, Netherlands; N. Haysom, Queensland Fisheries Service; H. Henley; E. Hepburn; M. Hilleard, Alexander Mackie College; P. Hilleard; Professor J. Hirschhorn, Lindfield; Ms M. Hirst; Dr J. Hollis, Mosman; Mr Bill Holdarwag; Ms M. Holmes; G. Husbane; C. Ianson; Ms Sandra Ingleby, Macquarie University; Mr G. Ingram; N. Ireland; T. Ireland, Sydney; Dr M. Jangoux; Meg Jensen, Willoughby; Dr Meredith Jones, Smithsonian Institution of Natural History, Washington, DC; N. Joyce, Plan Printing Section, PWD; Ms Heather Joynes; J. Karaolis, NSW Department of Mines, Chemical Laboratory; J. Kerslake; Dr P. Kier, Smithsonian Institution, Washington, DC, USA; A. Kuiter; R. Kuiter; R. Large, Geopeko, Mount Morgan, Queensland; J. Lewis; J. Lindsay; T. Lindsay, Mount Biggenden Mine, Queensland; A. Lindsey; Mr Alan Lloyd, Art Gallery of NSW; M. Lloyd; N. W. Longmore; Mr J. Mahoney, Department of Geology and Geophysics, Sydney University; B. Malouf; Ms L. M. Marsh, Western Australian Museum, Perth; S. McGeachy; D. McColl, BMR, Canberra, ACT; Mr R. McCutcheon and family; R. J. McKay, Queensland Museum; Mr K. G. McLaren, Australian Atomic Energy Commission; D. Metcalfe; D. Milledge, Camden Haven Fauna Survey, NSW; Dr Ben Miller; M. Milston; Dr N. Milward, James Cook University, Townsville; Mr and Mrs D. Mollenhouer, Garnet Gem Mine, Brigooda, Queensland; Dr R. Molnar, Queensland Museum; Mr P. W. Moore, Australian Atomic Energy Commission; Mr A. K. Morris; Dr G. Murphy, CSIRO Division of Fisheries and Oceanography; C. Murray; Ms J. Myers; Mr D. Newton, Metropolitan Museum of Art, New York; Professor D. Nicholls; Mr and Mrs H. Nicholson; Mr R. K. O'Brien and family; Brother M. O'Loughlin; P. Oram, Ranger, Tidbinbilla, ACT; J. Oxenford, Pioneer, Minchinbury Quarry; Dr D. L. Pawson, Smithsonian Institution, Washington, DC, USA; Hannelore Paxton, Macquarie University; D. Pearson; Dr Marian Pettibone; Dr J. Pickett, Geological and Mining Museum, Sydney; Mr and Mrs H. Pitt; Mr John Pitt; J. Pixley; Betty Prince, Pymble; F. Ramsey;

P. R. Rankin; Mme J. Renaud-Mornant, Muséum National d'Histoire Naturelle, Paris, France; Professor B. Reynolds, James Cook University, Townsville; Mr A. B. Rose; National Parks and Wildlife Service; Roma Rowe, Belmore; Mrs J. Russell; Dr W. Ryall, CSIRO; R. Sadler; J. Scanlon; G. Sherman Pty Ltd, Sydney; J. M. Shields; R. Shine; Ms Sheila Simpson; R. Smith, Lightning Ridge; Mr R. Springthorpe; R. Steene; D. Steggles; H. Steggles; G. Stephenson; Ms Helen Strahan; G. Stroud, James Cook University, Townsville; Dr K. L. Sutherland, Sydney; Dr Saunder Spoel; G. Thornley; Mr G. Thurgood and family; M. Tille, Chatswood; G. Tombs; Ms Nadine Turner; A. J. Underwood, University of Sydney; Dr C. L. Vaucher, Muséum d'Histoire Naturelle, Geneva; Ms Jean Vere; J. Voorwinde; J. Walsh, Ranger, Mount Keira, NSW; Professor J. Warren, Monash University, Victoria; R. Wells; H. Whitfield, CSIRO, Melbourne; Dr E. Williams, Director, Geological Survey of Tasmania; J. Wise, Sydney; Mr W. Zeidler, South Australian Museum.

APPENDIX 4 OVERSEAS VISITORS

Argentina:	Dr R. Gonzalez, Tucuman University
Austria:	Mr G. Theischinger; Dr F. Starmuhlner, Universitat Wien
Canada:	Dr A. Baker, Royal Ontario Museum, Ontario; Dr E. L. Bousfield, National Museum of Canada, Ottawa; Dr K. Collerson, Department of Geology, University of Newfoundland; Dr H. Howden; Mrs Lee Jolliffe, Ontario Museums Association; Dr J. Kutalova-Peck; Professor Joan Marsden, McGill University, Montreal; Dr Peck; Dr Mary Taylor, University of British Columbia, Vancouver
England:	Dr D. M. Adams, University of Leicester; Dr P. Carter, Cambridge University; Mr A. Fleming, London; Dr V. Fretter, The University of Reading; Mr G. M. Henry; Dr I. Lansbury, Hope Department of Entomology, Oxford University; Professor J. V. S. Megaw, Leicester University, Leicester; Dr J. D. Taylor, British Museum (Natural History), London; Ms Sue Turner, Hancock Museum, Newcastle on Tyne; Dr D. Williams, British Museum, Mr Cross, British Museum (Natural History), London
France:	Dr P. Bouchet, Muséum d'Histoire Naturelle, Paris; Mr J. Kerchache, Paris; Dr M. Makaagiansar, UNESCO, Paris; M. Pierre Semenoff-Tian-Chansky, Muséum National d'Histoire Naturelle, Paris; Jean-Phillipe Varin, Paris; Gerald and Diane Calderon
Hong Kong:	Dr S. Bard
India:	Mr O. P. Agrawal, Head, National Research Laboratory; Dr S. Jones, Natural Conservation and Aquatic Sciences Service, Karala
Ireland:	Dr D. Roberts, Queen's University, Belfast
Israel:	Dr L. Fischelson, Tel Aviv University; Dr P. Smith, Hebrew University, Jerusalem
Italy:	Professor Bonicatti, University of Rome

- Japan: Dr M. Hashimoto, Department of Geology, National Science Museum, Tokyo; Professor N. Kachima, Department of Geology, Ehime University; Professor T. Kato, Tokyo University of Fisheries; Dr H. Kawanabe, Kyoto University; Dr N. Kobayashi, Kyoto University; Mr S. Matsubara, Department of Geology, National Science Museum, Tokyo; Mr J. Meyer, Tanaka Memorial Biological Station, Tokyo; Dr G. Nakata, Professor of Biology, Kobe Gakuin University, Kobe; Professor N. Nakata; Dr Y. Saito, Department of Geology, National Science Museum, Tokyo; Dr Nobuo Tamiya, Tohoku University, Sendai; Dr T. Tiba, Department of Geology, National Science Museum, Tokyo
- Malaysia: Mr Kamarnl Baharin Buyong, Curator of Monuments
- Netherlands: Dr A. C. van Bruggen, Rijksmuseum van Natuurlijke Histoire, Leiden
- New Hebrides: Mr G. Ligo, New Hebrides Cultural Centre, Port Vila
- New Zealand: Dr P. Bergquist, University of Auckland; Dr Margaret Bradshaw, Canterbury Museum, Christchurch; Dr D. Burton, Victoria University of Wellington; Mr C. W. Cernohorsky, Auckland Institute and Museum; Dr J. H. Choat, University of Auckland; Dr F. Climo, National Museum of New Zealand, Wellington; Dr R. G. Creese, University of Auckland; Dr R. K. Dell, National Museum of New Zealand, Wellington; Dr M. Duggan, Department of Geology, University of Otago; Mr Anton Estie, Auckland University; Sir Charles Fleming, Wellington; Mr J. Fry, National Museum; J. Graham, Oamaru; Dr J. Grant-Mackie, University of Auckland; Dr George Grindley, Wellington; Mr G. James, Fisheries Research Division; Mr A. Leach, Auckland University; Dr D. Mackinnon, University of Canterbury, Christchurch; B. A. Marshall, National Museum of New Zealand, Wellington; P. Maxwell, Geological Survey of New Zealand, Lower Hutt; Dr M. C. Miller, University of Auckland; Dr A. Moeed, Ecology Division, DSIR, Lower Hutt; Dr R. Neich, National Museum, Wellington; Dr J. Richardson, New Zealand Oceanographic Institute, Wellington; Dr S. E. Shumway, Portobello Marine Laboratory, Dunedin; R. L. Stevenson, University of Canterbury, Christchurch; Professor J. F. Taylor, University of Auckland; Dr C. Wallace, University of Waikato, Hamilton; R. C. William, University of Auckland; Dr M. Winterbourne, University of Canterbury, Christchurch.
- Papua New Guinea: Brother L. G. Faux, Banz; Mr T. Fenner; Abid Beg Mirza, Wau Ecology Institute; Dr J. Stibick
- Samoa (American): Ms F. Lavao, J. P. Hayden Museum, Pago Pago
- Scotland: Sir Maurice Yonge, University of Edinburgh
- Singapore: Mrs Ng-Lim Chong Quek, National Museum; Dr B. Harrison, Director, Singapore Zoo; Mrs Lim Amy Peck Hwang, Singapore Arts Centre

- South Africa: Dr G. M. Branch, University of Cape Town; R. E. Stobbs, Rhodes University, Grahams-town
- Sweden: Mr Stephen Carlen, Riksstallningar, Stockholm; A. Waren, Göteborgs Universitet, Göteborg
- Switzerland: Mrs H. Owen, Palau Museum, Palau; Professor and Mrs M. Schuster, University of Basel, Basel
- Thailand: Mrs Kulpanthada Janposri, Ministry of Education; Mrs Wannipa Na Songkhla, Division of Archaeology, Ministry of Education
- USA: Dr G. J. Bakus, Allan Hancock Foundation, University of Southern California, Los Angeles; Professor Richard G. Beidleman, Colorado College; Professor J. B. Burch, University of Michigan; Mr M. Cantusciello, Alaska; Dr T. Clarke, University of Hawaii, Honolulu; Mr J. Coe, Los Angeles County Museum; Dr B. B. Collette, National Marine Fisheries Service, Washington, DC; H. H. Davis, University of Pennsylvania; Mr C. E. Dawson, Gulf Coast Research Laboratory Museum, Ocean Springs, Mississippi; Dr W. N. Eschmeyer, California Academy of Sciences, San Francisco; Mr J. Ferdyn, Fallbrook, California; Dr A. Fleminger, Scripps Institution of Oceanography, La Jolla, California; Professor Carl Gans, University of Michigan; Mr and Mrs B. Harris, Fallbrook, California; L. Herlands, Yale University; Professor Cleve P. Hickman, Washington and Lee University, Virginia; Dr C. S. Hickman, University of California; Dr J. C. Hickman, University of California; Dr R. S. Houbrick, Smithsonian Institution, Washington, DC; Professor H. W. Levi, Museum of Comparative Zoology, Harvard; Dr S. Livingston, Florida State University; Dr H. Mahn and party, Cleveland Museum of Natural History; Dr B. Mason, Department of Mineral Sciences, Smithsonian Institution, Washington, DC; Mr and Mrs T. W. Mastin, The Lubrizol Corp., Ohio; Dr J. McCosker, Steinhart, Aquarium, San Francisco; Dr J. McLean, Los Angeles County Museum, California; Dr J. Montague, Chicago; Dr Wendell Patton, Ohio Wesleyan University; Professor Philip J. Regal, University of Minnesota, Minneapolis; Dr R. Robertson, Academy of Natural Sciences, Philadelphia; Dr Ursula Rowlett, Department of Pathology, University of Illinois, Medical Centre, Chicago; Dr R. and A. Scheltema, Woods Hole Oceanographic Institute; Mr Elliot Shick, Los Angeles, California; Professor George and Dr Anne Simpson, Tucson, Arizona; Dr G. A. Solem, Field Museum of Natural History, Chicago; Dr V. G. Springer, Smithsonian Institution, Washington, DC; Dr E. Z. Vermeij, University of Maryland; Professor G. J. Vermeij, University of Maryland; Dr A. E. Werner, Chairman, Pacific Regional Conservation Centre, Honolulu; Dr and Mrs Martin.
- USSR: Dr A. Tobias
- West Germany: Professor K. J. Gottin, Institut für Allgemeine und Spezielle Zoologie, Geissen, West Germany; Dr I. Hearman, Linden Museum, Stuttgart; Dr G. Mackensen, Übersee-Museum, Bremen; Mr. H. Zeberl

APPENDIX 5 PUBLICATIONS BY STAFF

- Cameron, E., H. G. Cogger and H. Heatwole, 1978. A natural laboratory. *Aust. Nat. Hist.* 19 (6): 190-197.
- Cogger, H. G., 1978. Reproductive cycles, fat body cycles and socio-sexual behaviour in the mallee dragon, *Amphibolurus fordii* (Lacertilia: Agamidae). *Aust. J. Zool.* 26: 653-672.
- Cogger, H. G. and H. Heatwole, 1978. Reptiles: lizards, sea snakes. In: *A Coral Reef Handbook*. Great Barrier Reef Committee, Brisbane. pp. 77-79.
- Cogger, H. G. and H. Heatwole, 1978. Serpents of Australian seas. *Aust. Nat. Hist.* 19 (8): 261-265.
- Cogger, H. G., 1979. Reptiles and Amphibians of Australia. Revised edition. A. H. and A. W. Reed, Sydney. 608 pages.
- Colman, P. H., 1978. Land snail life histories. *North Qld Nat.* 44 (172): 2-3.
- Colman, P. H., 1978. An invading giant. *Wildlife in Australia*. 15 (2): 46-47.
- Daniels, G., 1978. Catalogue of type specimens of Diptera in the Australian Museum. *Rec. Aust. Mus.* 31 (11): 411-471.
- Disney, H. J. de S., 1978. The age of breeding in the Stubble Quail and Japanese Quail. *Corella*. 2: 81-84.
- Disney, H. J. de S. (with P. J. Fullagar), 1978. A note on road kills. *Corella*. 2: 89.
- Disney, H. J. de S., 1979. Temporary preservation of specimens. *Corella*. 3: 26-28.
- Garrard, T. A., 1978. A revision of the Australian Architectonicidae (Gastropoda: Mollusca). *Rec. Aust. Mus.* 31 (13): 506-584.
- Gray, M. R., 1978. Silk, Spinnerets and Snares. *Aust. Nat. Hist.* 19 (7): 228-235.
- Hingley, J. E., 1979. X-Ray Diffraction: the Powder Method. *Mineralogical News*: No. 41, pp. 9-11.
- Hoese, D. F., 1978. Family Eleotridae. In: W. Fischer (Ed.), *FAO species identification sheets for fishery purposes. Western Central Atlantic (fishing area 31)*. (2) 3 pp. Rome: FAO.
- Hoese, D. F., 1978. Family Gobiidae. (2) 8 pp. *ibid*.
- Hoese, D. F. and P. Fourmanoir, 1978. *Discordipinna griessingeri*, a new genus and species of gobiid fish from the tropical Indo-West Pacific. *Japan J. Ichth.* 25 (1): 19-24.
- Hoese, D. F. and R. Steene, 1978. *Amblyeleotris randalli*, a new species of gobiid fish living in association with alpheid shrimps. *Rec. West. Aust. Mus.* 6 (4): 379-389.
- Hoese, D. F. and R. Winterbottom, 1979. A new species of *Liotes* with a revised list of gobioid fishes from South Africa. *Ontario Museum Life Sciences Occ. Pap.* 31: 13 pp.
- Horton-James, D. and P. Townley, 1978. Lamination Techniques for Fibrous Materials. *Bull. Inst. Cons. Cult. Mat.* 4 (2 and 3): 60-63.

- Hunt, G. S., 1979. Collection and Identification of Animals and Plants. In: W. G. Shearer and B. W. Jenkins (eds.), *Resource Book for Field Studies in the Ryde District*, pp. 52-54.
- Hunt, G. S., 1978. Education Officers Do Have A Role in Exhibition Development. *Kalori* No. 54, pp. 36-39. Adelaide Conference Issue.
- Hutchings, P. A., 1978. Non-colonial crypto fauna. In: D. R. Stoddart and R. E. Johanes (eds.), *Coral reefs: research methods*. Monographs on oceanographic methodology 5, UNESCO, Paris, pp. 251-263.
- Hutchings, P. A. and P. B. Weate, 1978. Comments on the Technique of Acid Dissolution of Coral Rock to Extract Endo-Cryptolithic Fauna. *Aust. Zool.* 19: 315-500.
- Hutchings, P. A. and J. H. Day, 1978. An annotated Checklist of Australian and New Zealand Polychaeta, Archiannelida and Myzostomida. *Rec. Aust. Mus.* 32 (1-3): 80-159.
- Hutchings, P. A., 1978. The Hidden fauna of coral reefs. *Oceans*. 1 (4): 160-163.
- Loch, I., 1978. *Terebra succinea* in North Queensland. *Hawaiian Shell News*. 26 (9): 10.
- Loch, I., 1979. Catch Your Hare. *Aust. Shell News*. 25 : 1-2.
- Lowry, J. K., 1978. Macquarie Island marine studies. *Aust. Mar. Sci. Bull.* 63: 8.
- Lowry, J. K., 1978. Extensive Macquarie diving program. *Aurora* (Spring 1978 Issue), pp. 113-114.
- Lowry, J. K., 1978. Exploring Macquarie Island. Part 2: Subantarctic Refuge. *Aust. Nat. Hist.* 19 (7): 242-245.
- Lowry, J. K. (with D. S. Horning, G. C. B. Poore and R. W. Ricker), 1978. The Australian Museum Macquarie Island Expedition, Summer 1977-1978. The Aust. Mus. Trust, Sydney, pp. 1-152.
- McAlpine, D. K., 1978. Bot-flies. *Aust. Encycl.* (Grolier Soc.) 1: 354.
- McAlpine, D. K., 1978. Cicadas. *Aust. Encycl.* (Grolier Soc.). 2: 24-25.
- McAlpine, D. K., 1978. Diptera. *Aust. Encycl.* (Grolier Soc.). 2: 265-267.
- McAlpine, D. K., 1978. Insects. *Aust. Encycl.* (Grolier Soc.). 3: 293-297.
- McAlpine, D. K., 1978. On the status of *Thelymitra truncata* Rogers. *Orchadian*, 5 (12): 179-181.
- McAlpine, D. K., 1978. Notes on nomenclature and type specimens of Australian Pyrgotidae (Diptera, Schizophora). *Aust. ent. Mag.* 5: 27-33.
- McAlpine, D. K., 1978. Description and Biology of a new genus of flies representing a new family (Diptera, Schizophora, Neurochaetidae). *Ann. Natal Mus.* 23: 273-295.
- McAlpine, D. K., 1978. A new species of Cypselosomatidae from Lord Howe Island (Diptera, Micropezioidea). *Aust. ent. Mag.* 5: 61-64.
- McAlpine, D. K., 1979. Agonistic behaviour in *Achias australis* (Diptera, Platystomatidae) and the significance of eyestalks. In: M. S. and N. A. Blum (eds.) *Sexual selection and reproductive competition in insects*, pp. 221-230. Academic Press, New York.

- Martin, G., 1978. Dying in Restoration. *Bull. Inst. Cons. Cult. Mat.* 4 (2 and 3): 64-74.
- Paxton, J. R. (with B. G. Nafpaktitis,) 1978. *Idiolychnus*, a new genus of lanternfishes (Myctophidae) based on *Diaphus urolampus*. *Copeia*. (3): 492-497.
- Paxton, J. R. (with J. C. Tyler), 1979. New genus and species of pufferfish (Tetraodontidae) from Norfolk Island, Southwest Pacific. *Bull. Mar. Sci.* 29 (2): 202-215.
- Ponder, W. F. and A. G. Beu, 1979. A revision of the species of *Bolma* Risso, 1826 (Gastropoda: Turbinidae). *Rec. Aust. Mus.* 32 (1): 1-68.
- Ponder, W. F., 1978. The unfigured Mollusca of J. Thiele, 1930 published in "Die Fauna südwest-Australiens". *Rec. Western Aust. Mus.* 6 (4): 423-441.
- Ponder, W. F. and R. U. Gooding, 1978. Four new eulimid gastropods associated with shallow-water diadematid echinoids in the western Pacific. *Pacific Science*. 32 (2): 157-181.
- Ponder, W. F. and E. K. Yoo, 1978. A revision of the Eatoniellidae of Australia. *Rec. Aust. Mus.* 31 (15): 606-658.
- Recher, H. F., 1977. Ecology of co-existing white-cheeked and New Holland honeyeaters. *Emu*: 77: 136-142.
- Recher, H. F. and J. A. Recher, 1978. Why are there different kinds of herons? *Proc. Linn. Soc. (NY)*.
- Recher, H. F. and W. Rohan-Jones, 1978. Wildlife Conservation: A case for managing forests as ecosystems. *8th World Forestry Congress*. Jakarta, Indonesia.
- Rowe, F. W. E., 1979. Inside the sophisticated sea squirt. *Aust. Nat. Hist.* 19 (7): 224-7.
- Rudman, W. B., 1979. The ecology and anatomy of a new species of aeolid opisthobranch mollusc; a predator of the reef-forming coral *Porites*. *Zool. J. Linn. Soc.*
- Smithers, C. N., 1977. A note on welcome swallows and a Canada goose on Lord Howe Island. *Australian Birds*. 12 (2): 36.
- Smithers, C. N., 1978. Migration records in Australia. 2. HesperIIDae and Papilionidae. *Aust. ent. Mag.* 5 (1): 11-14.
- Smithers, C. N., 1979. A preliminary list of the ferns of Tuglo Wildlife Refuge. *Hunter Nat. Hist.* 10 (4): 189-191.
- Smithers, C. N. and G. A. Holloway, 1978. Establishment of *Vespula germanica* (Fab.) (Hymenoptera: Vespidae) in New South Wales. *Aust. ent. Mag.* 5 (3): 55-59.
- Smithers, C. N. (with I. W. B. Thornton), 1978. Philotarsidae (Psocoptera) of the Solomon Archipelago. *Pacific Ins.* 18 (3 and 4): 227-233.
- Specht, J. and J. P. White (eds.), 1978. *Trade and Exchange in Oceania and Australia*. Special issue of *Mankind*. 11 (3).

- Specht, J., 1978. An Intergovernmental Committee. On Restitution or Return of Cultural Property. *UNESCO News*. 29 (3): 3-5.
- Sutherland, F. L., 1978. Cainozoic volcanism in North Eastern Australia. In: *Abstr. Third Australian Geological Convention, Townsville*, p. 14.
- Sutherland, F. L., 1978. Megacrysts, xenoliths and fractionation, Nebo Volcanic Province, North Queensland. In: *Abstr. Third Australian Geological Convention, Townsville*, p. 35.
- Sutherland, F. L., 1978. Mesozoic-Cainozoic Volcanism of Australia. *Tectonophysics*. (48): 413-27.
- Sutherland, F. L., 1978. Introduction to Zeolite Minerals. *Aust. Miner.* (18): 85-87.
- Sutherland, F. L., 1978. Aquagene volcanism, North-west Tasmania, in relation to Tertiary coastal seas and river systems. In: D. C. Green and P. R. Williams (eds.), *Geology and Mineralization of NW Tasmania*. Geol. Soc. Aust. (Tas. Div.) Symp. Abstr. Burnie.
- Sutherland, F. L., 1979. Tectonic and Regional Structural Controls in East Australian Volcanism. *49th ANZAAS Abstr.* 1 (3): 184, Auckland, NZ.
- Sutherland, F. L., 1979. Upper Mantle-Lower Crustal Xenoliths from the Tasmanian Volcanic Province. In: D. Denham (Comp.), *Crust and Upper Mantle of Southeast Australia*. Bur. Miner. Resour. Geol. Geophys. Aust. Rec. 1979/2, pp. 85-87.
- Sutherland, F. L. (with P. J. Stephenson and T. J. Griffin), in press. Cainozoic Volcanism in North Eastern Australia. In: R. A. Henderson and P. J. Stephenson (eds.), *Geology and Geophysics of Northeastern Australia*. Geol. Soc. Aust. (Qld. Div.), James Cook Univ. Press.
- Townley, P., 1978. Conservation of a Kwakiutl Cannibal Raven Mask. *Bull. Inst. Cons. Cult. Mat.* 4 (2 and 3): 45-53.
- Walston, S. and P. Gill, 1978. Conservation of the Australian Museum's Collection of Aboriginal Bark Paintings. *Bull. Inst. Cons. Cult. Mat.* 4 (2 and 3): 54-59.
- Walston, S., 1978. Storage and Retrieval of Information using Edge Punch Cards. *Bull. Inst. Cons. Cult. Mat.* 4 (2 and 3): 77-84.
- Walston, S., 1978. Conservation of Aboriginal and Pacific Cultural Material in Australian Museum. *Bull. Inst. Cons. Cult. Mat.* 4 (4): 9-21.
- Webber, P., 1978. To spy on a desert skink. *Aust. Nat. Hist.* 19 (8): 270-275.
- Webber, P., 1979. Burrow density, position and relationship to vegetation coverage shown by Rosen's Desert Skink *Egernia inornata* (Lacertilia: Scincidae). *Herpetofauna*. 10 (2): 16-20.

THE AUSTRALIAN MUSEUM TRUST
THE TRUST'S GENERAL, GRANT AND RESERVE FUNDS FOR THE FIVE YEAR PERIOD
ENDED 30TH JUNE, 1979

TRUST GENERAL FUNDS

These funds are the separate income of the Trust of which the major items are statutory endowment, Bookshop earnings and magazine sales. The growth of these funds has, over the last five years, been 124 percent in income and 99 percent in expenditure. For two years after 1974-75 the rate of expenditure far exceeded the income received to the extent that by the end of 1976-77 the funds stood at an accumulated deficit of \$25,158. In 1977-78 income was slightly ahead of expenditure and in 1978-79 the margin was greatly increased in favour of income so that reserves have now been built up to an accumulated credit of \$40,396.

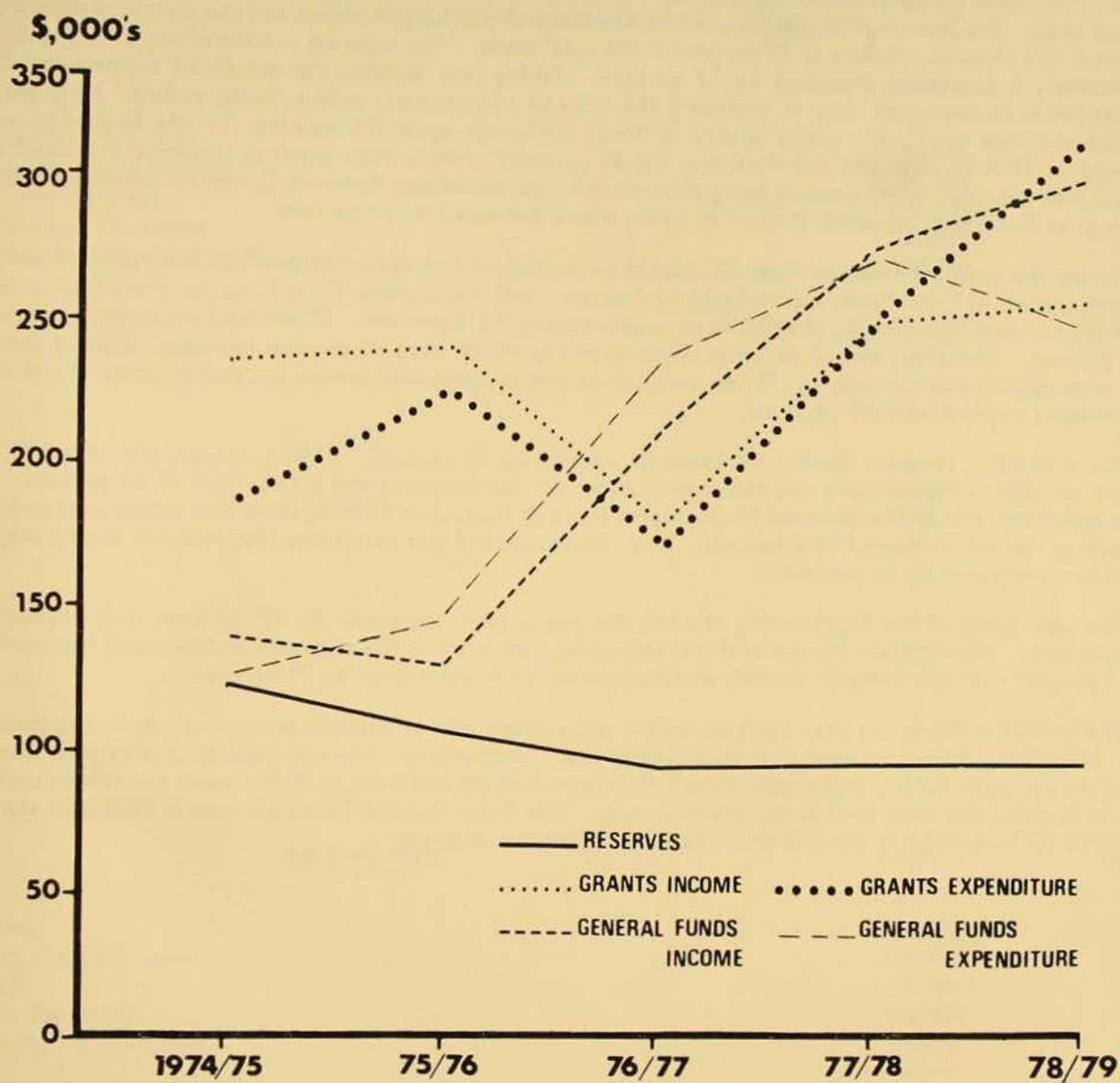
GRANT FUNDS

These funds are received from granting agencies and private enterprise for specific projects in the fields of scientific research, exhibitions and educational programmes. From 1974-75 up to 1977-78 income had always exceeded the rate of expenditure, and during this period reserve funds accumulated fairly rapidly to reach a peak of \$101,410. The rate of expenditure in 1978-79 far exceeded income and the reserves have now been reduced to \$48,178. Over the five-year period income increased by 10 percent and expenditure by 68 percent.

RESERVES (Trust General and Grants)

The combined reserves peaked in 1974-75 at \$121,980. This was followed by a sharp decline during the next two years before reserves levelled off at about \$94,932. This pattern is clearly reflected in the growth rate of Trust General and Grants Funds during the five-year period. That is to say, combined income has increased by 52 percent and combined expenditure by 80 percent. In this period income has exceeded expenditure by only 3 percent whereas the rate of inflation has been well in excess of 10 percent. The reduction in reserves since the peak in 1974-75 has been 22 percent. However, after taking into account inflation during the five-year period the purchasing power of the Trust has been eroded by a further 22 percentage points.

GRAPH SHOWING THE TRUST'S GENERAL, GRANT AND RESERVE FUNDS
FOR THE FIVE YEAR PERIOD ENDED 30TH JUNE, 1979



FINANCIAL STATEMENT

The total funds of the Trust during the year reached 3.15 million dollars, an increase of 8 percent over the previous year. The State Government's contribution towards working expenses and the statutory endowment amounted to 2.59 million dollars or 82 percent of the total funds. The separate income of the Trust, excluding the statutory endowment, increased by 23 percent. Taking into account the statutory endowment Trust General Funds increased by only 11 percent; the level of endowment, in fact, being reduced by 8 percent over the previous year. The major source of Trust funds was again the earnings by the Bookshop which increased in 1978-79 over the previous year by 38 percent. Funds from granting agencies increased by 3 percent with the major grant account being allocations by the Australian Research Grants Committee. Income for the Joint Coral Reef Research Project at Lizard Island decreased by 53 percent.

During the year expenditure from all sources amounted to 3.15 million dollars, an increase of 8 percent. The expenditure of Trust Funds was reduced by 9 percent and this allowed Trust Funds to move from a deficit of \$19,265 to a cumulative credit of \$40,396, an improvement of 310 percent. Grant fund expenditure increased by 24 percent. The effect overall on Trust reserves was again less than a 1 percent increase. During the year funds were applied towards salaries (72 percent), stores and equipment (8 percent), travel (3 percent) and other miscellaneous expenditure (17 percent).

The Australian Museum Society increased its income by 40 percent. This, however, was offset by a 59 percent increase in expenditure and the overall effect on cash reserves was a reduction of 83 percent. The consolidated accounts of The National Photographic Index of Australian Wildlife show that income and expenditure during the year increased by 6 percent. The consequence of this result was that reserves during the year were further reduced by 41 percent.

The total funds of the Trust during the last five years have increased by 77 percent and expenditure by 85 percent. The separate income of the Trust, taking into account the statutory endowment, has increased by 124 percent over the five-year period, whilst expenditure has increased by 99 percent.

The growth in funds this year has been below the average rate of inflation and in real terms the spending power of the Trust did not improve over the previous year. Expenditure, however, was controlled most carefully during the year, particularly in the case of the Trust General Funds and because of this it was possible to maintain reserves at about the same level as the previous year. The Trust General Funds are now in credit for the first time since 1975-76 and it is planned to maintain this situation next year.

THE AUSTRALIAN MUSEUM
CONSOLIDATED SUMMARY FINANCIAL STATEMENT
FOR THE YEAR ENDED 30TH JUNE, 1979

RECEIPTS								1979	1978
								\$	\$
Balance as at 1st July	..	..	..	..	..	..	..	94,932	95,610
Treasury Appropriation	..	..	..	..	..	..	..	2,585,751	2,422,479
Trustees Account	..	..	..	..	..	..	..	201,067	151,887
Grants and Contracts	..	..	..	..	..	..	..	258,783	251,109
Donations, etc.—Special Projects	..	..	..	..	..	..	..	106,884	98,965
								<u>\$3,247,417</u>	<u>\$3,020,050</u>

PAYMENTS								1979	1978
								\$	\$
Salaries	..	..	..	..	..	..	..	2,284,854	2,052,059
Stores and Equipment	..	..	..	..	..	..	..	239,720	253,489
Travel	..	..	..	..	..	..	..	90,966	82,263
Other Payments	..	..	..	..	..	..	..	536,468	537,307
Balance as at 30th June	..	..	..	..	..	..	..	95,409	94,932
								<u>\$3,247,417</u>	<u>\$3,020,050</u>

**THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS AND
CONSOLIDATED REVENUE—RECEIPTS**

	1979 \$	1978 \$
Treasury Appropriations	2,485,751	2,313,979

\$2,485,751

\$2,313,979

TRUSTEES FUNDS—RECEIPTS

	1979 \$	1978 \$
Balance as at 1st July .. .. .	..	19,265Dr.
Consolidated Revenue, Endowment	100,000	108,500
Museum Bookshop Sales	116,173	84,452
Red Telephone	359	347
Australian Natural History Magazine Sale	29,691	27,015
Photocopies	1,922	997
Miscellaneous	4,712	3,630
Cinefilm Sale	13,177	12,409
Royalties and Copyright	98	120
Donations	7,389	3,254
Interest	8,359	6,981
Contribution from grants to Administration Cost	7,274	15,917
150th Anniversary .. .. .	..	9,459
Dinosaur Shares .. .. .	..	19
Balinese Exhibition Receipts .. .. .	..	500
Echinoderm Conference .. .. .	..	4,033
Mineral Sales	7,979	..
Minor Grants	9,110	..
Exhibition Receipts	2,213	..

\$308,456

\$299,898

PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1979

CONSOLIDATED REVENUE—PAYMENTS

	1979	1978
	\$	\$
Salaries and Payments in nature of Salary	2,021,746	1,832,168
Meal Allowance	1,667	1,557
Rent, Rates, Insurance—Building	68,312	66,103
Maintenance, Alterations, Additions and Maintenance Renewals—Building	2,048	538
Travelling and Subsistence Expenses	47,984	43,133
Motor Vehicles—Running Costs, Maintenance, etc.	25,117	28,217
Freight, Cartage and Packing	8,985	11,542
Books, Periodicals and Papers	20,663	15,506
Postal Expenses	14,349	20,678
Fees for Services Rendered	11,444	6,655
Stores, Provisions, Furniture Equipment, Minor Plant etc. (including Maintenance and Repairs)	151,742	117,153
Printing	53,984	44,993
Laundry Expenses	1,192	986
Other Insurance	10,861	5,875
Minor Expenses	245	213
Equipment for Storage of Museum Specimens	42,771	90,283
Travelling Museum Expenses	..	13,042
Overseas Visits by Departmental Officers	2,641	15,337
	<u>\$2,485,751</u>	<u>\$2,313,979</u>

TRUSTEES FUNDS—PAYMENTS

	1979	1978
	\$	\$
Balance as at 1st July	19,265	25,158
Balance as at 1st July	2,008	1,023
Education Programme	660	2,609
Fee for Services Rendered	12,864	12,686
Printing	522	861
Reprints	7,995	11,846
Scientific Assistance	5,132	7,514
Honoraria	2,418	7,201
Cinefilm Production	13,138	10,556
Travelling Expenses	1,352	3,750
Research Grants	30,786	35,462
Specimens	8,166	7,315
Entertainment	1,176	1,200
Computer Cost	435	330
Red Telephone	30,821	35,337
Cost of Publishing Australian Natural History	76,687	64,114
Stock for Bookshop	1,803	1,016
Photocopies	2,998	2,996
Miscellaneous	5,000	5,000
Museum Contribution to Lizard Island	805	2,000
Scientific Information Officer Temporary Assistance	..	4,659
Exhibition Assistance	3,400	25,562
150th Anniversary	..	2,160
Arid Zone Exhibition	558	1,607
Mineral Gallery	21,166	12,094
Marine Hall Exhibition	..	6,934
Balinese Exhibition	..	5,848
Exhinoderm Conference	2,882	60
Molluscs Symposium	7,370	..
Temporary Exhibition	940	..
Museum Treasures Exhibition	7,713	..
Minor Grants	40,396	..
Balance as at 30th June	<u>\$308,456</u>	<u>\$299,898</u>

GRANTS ACCOUNT

[illegible]

ND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1979

RECEIPTS		PAYMENTS		BALANCE	
1979	1978	1979	1978	1979	1978
\$	\$	\$	\$	\$	\$
57,961	39,506	59,145	39,774	3,758Dr.	2,574Dr.
33,614	71,617	87,995	65,129	35,586Dr.	18,795
117	13	56	81	Nil	61Dr.
..	950	956	8,522	1,917Dr.	961Dr.
..	..	..	3,398	..	Nil
..	19,119	1,312	..	17,807	19,119
4,458	7,444	2,066	3,283	8,650	6,258
..	66	50	..	Nil	50
..	8,561	..	15,696	..	Nil
31,119	19,888	23,351	23,486	7,029	739Dr.
13,830	8,825	14,684	9,192	1,221Dr.	367Dr.
..	..	2,850	4,066	7,558	10,408
..	..	179	..	Nil	179
..	..	925	9	Nil	925
..	..	173	..	Nil	173
..	..	923	..	Nil	923
5,000	..	973	..	4,027	..
3,198	..	5,773	29,425	Nil	2,575
..	..	..	..	500	500
7,838	21,626	10,882	16,897	6,984	10,028
12,254	..	12,362	..	108Dr.	..
2,000	12,000	12,613	11,155	2,232	12,845
2,000	..	1,961	..	39	..
985	2,500	3,445	50	Nil	2,460
5,000	..	634	3,598	4,082	284Dr.
610	..	..	..	Nil	610Dr.
17,590	16,346	15,221	12,414	6,301	3,932
19,583	4,120	17,656	1,794	4,253	2,326
18,240	15,000	30,558	1,097	1,585	13,903
2,820	..	1,259	..	1,561	..
..	3,527	..	1,920	1,607	1,607
8,911	..	3,758	..	5,153	..
11,655	..	255	..	11,400	..
<u>\$258,783</u>	<u>\$251,109</u>	<u>\$312,015</u>	<u>\$250,986</u>	<u>\$133,358</u>	<u>\$112,602</u>

THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS

THE AUSTRALIAN

RECEIPTS	1979	1978
	\$	\$
Balance as at 1st July	5,781	4,446
New South Wales Government Grant	1,000	..
Member Subscription	10,469	10,082
Proceeds from Functions	15,953	19,970
Interest	88	132
Donations	68	858
Australian Natural History Magazine	3,521	3,358
Central Australia Trip	18,449	..
Badges	64	49
Benefactor and Sponsor Membership	950	1,700
Tyrells Wine Offer	938	1,160
Miscellaneous	898	..
	<u>\$58,179</u>	<u>\$41,755</u>

NATIONAL PHOTOGRAPHIC

MAIN ACCOUNT—RECEIPTS	1979	1978
	\$	\$
Balance as at 1st July	9,197	12,796
Donations .. .. .	..	33,437
Federal Government	15,000	..
Other	6,648	..
T.A.A. Refund on tickets	467	..
Interest	159	631
Sale of Equipment	52	825
Insurance Refund	500	919
Transfer from Sales Account (Profit on Book Sales) .. .. .	..	1,500
Miscellaneous Sales	27	72
Transfer of Balance—		
Close of Readers Digest Account .. .. .	..	7
Close of Bank of N.S.W. Grants Scheme Account .. .. .	..	223
Part repayment of loan from Sale Account	3,000	..
	<u>\$35,050</u>	<u>\$50,410</u>

AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1979
MUSEUM SOCIETY

PAYMENTS										1979	1978
										\$	\$
Lecture Fees .. .. .	..	..	..	..	..	..	..	..	..	150	210
Member Functions .. .. .	..	..	..	..	..	..	..	..	..	9,561	14,202
Salaries .. .. .	..	..	..	..	..	..	..	..	..	8,810	7,328
Printing and Stationery .. .. .	..	..	..	..	..	..	..	..	..	2,609	1,057
Honoraria .. .. .	..	..	..	..	..	..	..	..	..	6,500	4,500
Postage and Mailing .. .. .	..	..	..	..	..	..	..	..	..	3,195	3,382
Central Australia Trip .. .. .	..	..	..	..	..	..	..	..	..	16,247	..
Telephone .. .. .	..	..	..	..	..	..	..	..	..	..	234
Australian Natural History Magazine .. .. .	..	..	..	..	..	..	..	..	..	1,595	2,118
Miscellaneous .. .. .	..	..	..	..	..	..	..	..	..	8,550	2,943
Balance as at 30th June .. .. .	..	..	..	..	..	..	..	..	..	962	5,781
										<u>\$58,179</u>	<u>\$41,755</u>

INDEX OF AUSTRALIAN WILDLIFE

MAIN ACCOUNT—PAYMENTS										1979	1978
										\$	\$
Salaries .. .. .	..	..	..	..	..	..	..	..	..	21,235	22,055
Equipment and Stores .. .. .	..	..	..	..	..	..	..	..	..	470	2,053
Travel .. .. .	..	..	..	..	..	..	..	..	..	511	4,387
Photography .. .. .	..	..	..	..	..	..	..	..	..	3,366	4,250
Expeditions .. .. .	..	..	..	..	..	..	..	..	..	105	3,003
Displays and Exhibitions .. .. .	..	..	..	..	..	..	..	..	..	..	701
Printing and Duplicating .. .. .	..	..	..	..	..	..	..	..	..	204	1,234
Stationery .. .. .	..	..	..	..	..	..	..	..	..	20	185
Meals and Entertainment .. .. .	..	..	..	..	..	..	..	..	..	133	274
Telephone .. .. .	..	..	..	..	..	..	..	..	..	41	73
Postage .. .. .	..	..	..	..	..	..	..	..	..	203	412
Insurance .. .. .	..	..	..	..	..	..	..	..	..	333	302
Miscellaneous .. .. .	..	..	..	..	..	..	..	..	..	84	184
Loan on Sale Account .. .. .	..	..	..	..	..	..	..	..	..	4,400	2,100
Balance as at 30th June .. .. .	..	..	..	..	..	..	..	..	..	3,945	9,197
										<u>\$35,050</u>	<u>\$50,410</u>

THE AUSTRALIAN MUSEUM STATEMENT OF RECEIPTS

NATIONAL PHOTOGRAPHIC

SALES ACCOUNT—RECEIPTS								1979	1978
								\$	\$
Balance as at 1st July	..	..	..	..	..	..	..	859	1,463
Sales—R. D. Bird Books	..	..	..	..	..	..	..	528	811
Reproduction Fees	..	..	..	..	..	..	..	2,043	652
Bank Interest	..	..	..	..	..	..	..	23	26
Loans—									
Museum drawing facility	..	..	..	..	..	..	..	7,000	3,000
Temporary loan from Index Main Account	..	..	..	..	..	..	..	4,400	2,100
Donation—Bushell Trust	..	..	..	..	..	..	..	6,000	..
								<u>\$20,853</u>	<u>\$8,052</u>

NATIONAL PHOTOGRAPHIC

PAGE SPONSORSHIP SCHEME—RECEIPTS								1979	1978
								\$	\$
Donations to Page Sponsorship Scheme	..	..	..	..	..	..	..	1,200	..
								<u>\$1,200</u>	<u>..</u>

AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1979

INDEX OF AUSTRALIAN WILDLIFE

SALES ACCOUNT—PAYMENTS										1979	1978
										\$	\$
Salaries .. .. .	..	..	..	..	..	..	..	..	..	13,754	4,267
R. D. Bird Books .. .. .	..	..	..	..	..	..	..	..	..	202	634
Reproduction Fees .. .. .	..	..	..	..	..	..	..	..	..	1,838	356
Duplicating and Stationery .. .. .	..	..	..	..	..	..	..	..	..	192	365
Transfer to Main Account—											
Profit on Sales .. .. .	..	..	..	..	..	..	..	..	..		1,500
Loans—											
Interest to Museum .. .. .	..	..	..	..	..	..	..	..	..	1,128	
Part repayment to Index Main Account .. .. .	..	..	..	..	..	..	..	..	..	3,000	
Miscellaneous .. .. .	..	..	..	..	..	..	..	..	..	11	71
Balance as at 30th June .. .. .	..	..	..	..	..	..	..	..	..	728	859
										<u>\$20,853</u>	<u>\$8,052</u>

INDEX OF AUSTRALIAN WILDLIFE

PAGE SPONSORSHIP SCHEME—PAYMENTS										1979	1978
										\$	\$
Balance as at 30th June, 1979 .. .. .	..	..	..	..	..	..	..	..	..	1,200	..
										<u>\$1,200</u>	<u>..</u>

THE AUSTRALIAN MUSEUM
STATEMENT OF BALANCES AS AT 30TH JUNE, 1979

FUNDS	1979 \$	1978 \$
Trustees Account	40,396	22,265Dr.
Grants Account	48,178	101,410
National Photographic Index of Australian Wildlife—		
Main Account	3,945	9,147
Sales Account	728	859
Page Sponsorship Scheme	1,200	..
The Australian Museum Society	962	5,781
	<u>\$95,409</u>	<u>\$94,932</u>

REPRESENTED BY	1979 \$	1978 \$
Investment—		
Grants Account	52,400	73,800
Trustee Account—		
Special Advance	10,000	..
Cash at Bank and on Hand—		
Trustees Account	30,396	22,265Dr.
Grants Account	4,222Dr.	27,610
National Photographic Index of Australian Wildlife—		
Main Account	3,945	9,147
Sales Account	728	859
Page Sponsorship Scheme	1,200	..
The Australian Museum Society	962	5,781
	<u>\$95,409</u>	<u>\$94,932</u>

Subject to audit