

# australian museum

Annual Report 1986/87



# australian museum

Annual Report 1986/87





The Trust and staff of the Australian Museum have pleasure in thanking the following organisations and individuals who provided financial assistance through research grants or donations.

Benefactors are classed as companies who have donated more than \$25,000 or individuals who have donated more than \$15,000. Donors have given more than \$500 this year.

## Benefactors

The Australian Museum Society  
 Bayer Australia Ltd  
 Bernard Van Leer Foundation  
 Blue Circle Southern Cement Ltd  
 Mr William Bowmore (Newcastle NSW)  
 Mr Peter Bridge (Carlisle WA)  
 Broken Hill Proprietary Company Ltd  
 The Bushell Trust  
 Caltex Oil (Australia) Pty Ltd  
 Castlemaine Tooheys Ltd  
 Commonwealth Banking Corporation of Australia  
 CSR Ltd  
 Mr W. O. Cudlipp & Mrs P. B. Cudlipp  
 Dick Smith Electronics Pty Ltd  
 Esso Australia Ltd  
 Government of the Federal Republic of Germany  
 IBM Australia  
 James N. Kirby Foundation  
 Mr Henry Loomis (Washington USA)  
 Mr Stan G. Moriarty (Sydney NSW)  
 Mrs Jean McK. Moriarty (Sydney NSW)  
 Sir John Proud (Sydney NSW)  
 State Bank of New South Wales Limited  
 Suntory Ltd/Japan Foundation  
 The Sydney City Council  
 Unilever Australia Pty Ltd  
 Utah Foundation  
 Dr Charles H. Warman (Sydney NSW)  
 Mr B. W. Weisner, (Sydney NSW)  
 Westpac Banking Corporation Ltd

## DONORS

**To the Australian Museum, Lizard Island Research Station (LIRS) and The Australian Museum Society (TAMS)**  
 AGL Limited Sydney (TAMS)  
 Alpha Research & Development Australia Pty Ltd (LIRS)  
 Amatil Ltd (TAMS)  
 American Express International Inc. (TAMS)  
 Australian Guarantee Corporation Ltd (TAMS)  
 Australian Institute for Marine Science (LIRS)  
 Banque Nationale De Paris (TAMS)  
 Boral Ltd (TAMS)  
 Broken Hill Proprietary Company Ltd (TAMS)  
 Cape Flattery Silica Mines Ltd (LIRS)  
 Condor Marine Manufacturing (LIRS)  
 Consolidated Press Holding Ltd (TAMS)  
 CRA (LIRS)  
 Esso Australia Ltd (TAMS)  
 Dr Paul Fischer  
 Ian Potter Foundation (LIRS)  
 James N Kirby Foundation (LIRS)  
 Johnson and Johnson Australia Pty Ltd (TAMS)  
 Mr S. Johnson and Family  
 Mr Peter Kendall/Far Nor Ag Pty Ltd (LIRS)  
 Dr Barbara Kojis & Dr Norman Quinn (LIRS)  
 Lizard Island Reef Research Foundation  
 Montoro Resources  
 Sir Laurence and Lady Muir (LIRS)  
 National Australia Bank Ltd (TAMS)  
 Northern Chemicals (Mr White) (LIRS)  
 Mr G. J. O'Neil (LIRS)  
 Mrs D. Packard (LIRS)  
 Mr H. Parnaby  
 Peter Stuyvesant Cultural Foundation (TAMS)  
 Philip Bushell foundation (LIRS)  
 Sir John Proud (Sydney NSW) (LIRS)  
 Readers Digest Services Pty Ltd (LIRS)  
 Mrs J. Rentoul (LIRS)  
 Rogers Fibreglass Pty Ltd (LIRS)  
 Rothmans Holdings Ltd (TAMS)  
 Dr W. B. Rudman  
 Siemens Ltd (TAMS)  
 RH & PA Smith (TAMS)  
 Mr W. Tatlow (TAMS)  
 Wild Leitz (Australia) Pty Ltd (TAMS)  
 Wild Leitz (Australia) Pty Ltd (LIRS)



# A Museum for the Future

---

## Mission

The mission of the Australian Museum is to increase and disseminate knowledge about and encourage understanding of, our natural environment and cultural heritage, especially in the Australian region. Acquisition and preservation of collections are central to the achievement of the mission.

The Australian Museum intends to continue to grow and develop as an organisation based in Sydney providing services to the public principally throughout NSW but with an active involvement in all of Australia and its neighbouring regions. We are determined to maintain our place as one of the world's major natural history museums.

In seeking to encourage others to understand and appreciate the world around us we shall continue scientific/scholarly studies generally relevant to the collections, pursue effective educational programs and exhibitions, where appropriate with others, and communicate with our audience.

In acquiring and managing collections we will emphasise foreseeable opportunities for research and communication to the public. We also intend to preserve our collections and the information we have gained about them for the benefit of future generations.

We intend that all people may have access to the Museum and its facilities and the opportunity to share its accumulated knowledge.

We intend to focus our resources on distinct programs and projects: evaluation of the success of those programs will be a central feature of management.

In pursuing our objectives we will respect the rights and wishes of the peoples whose knowledge and material culture forms the basis of our cultural resources, not needlessly affect the environment and will consciously abide by legislation and conventions protecting wildlife and cultural heritage.

As a major institution established by government and attracting increasing public interest and participation and achieving high standards of performance we will seek greater financial support by government. We intend to be responsive to the fundamental policies of government.

We see financial and moral support for the museum as a responsibility of the private citizen and the commercial sector, as well as of government. The Museum must be active in gaining and strengthening that support: we see an obligation to account for that support and how it has advanced the Museum's objectives. We believe that it is also appropriate that the Museum undertake commercial enterprises relevant to its objectives; we seek to recover costs of services where the consumer has a capacity to pay.

We seek to be, and be seen as, a stimulating and responsive organisation to work in by providing appropriate career and personal development opportunities, and opportunities for individual staff to be involved in setting the Museum's objectives. Those responsible for managing programs will be delegated authority for allocation of staff and financial resources.

Above all, we intend that the Museum be seen by those who pay for it, those who use it and those who work in it, as progressive, entrepreneurial, relevant, contributing to the community, credible, friendly, reliable, ethical and exciting.

- The Australian Museum is recognised as one of the six best natural history museums in the world.
- The Museum reaches more than one million people each year, including one adult in seven in metropolitan Sydney and just under half the Sydney adult population over five years.
- Just under half the visitors to the Museum are tourists from outside Sydney.
- Each year almost 100,000 children in school groups use the Museum and as many again visit our travelling displays.
- The Museum's collections are valued at over \$50M.
- In the last seven years we have completed eight new semi-permanent exhibitions. A new travelling exhibition has been completed every two years.



# The "88" Experience

---

**T**he Australian Museum's visitor figure of one million per year will explode in 1988 when we not only open a whole new museum wing, but also four major new exhibitions of our own plus travelling exhibitions. These will add considerably to Australians understanding of their heritage.

## Pieces of Paradise : Pacific Artefacts Through Many Eyes

A show case of the best items from our world class collections from the western and southern Pacific, Papua New Guinea and nearby areas. This temporary exhibition will run for one year and include marvellous and exotic masks, headdresses, carvings and dance ornaments, as well as more mundane but important fishing equipment, weapons, clothing and musical instruments. It will show the range of meanings attributed to these artefacts and how they are used to communicate various kinds of messages. The anthropological content will be of the highest standard and a beautifully illustrated catalogue will be prepared to accompany the exhibition. Pieces of Paradise will be opened by the Premier of NSW on April 10, 1988.

## Dreamtime to Dust : Australia's Fragile Inheritance

Surveying Australia, its environment and inhabitants over the last 200,000 years this exhibition will comprise three large dioramas. Visitors will learn of the changes which have made Australia what it is and be stimulated to think more about the nature of Australia by viewing and interacting with models of animals and audio-visual effects. Life-sized recreations of giant mammals, birds and reptiles in their natural environment will feature along with smells, sounds and other devices to give the exhibition a stimulating theatrical atmosphere. This exhibition will open late May, 1988.

## Tracks Through Time : The Story of Human Evolution

This exhibition will run back to back with Rituals of the Human Lifecycle, it will deal with biological and physical evolution of humans. It has been made possible by the generous sponsorship of Blue Circle Southern Cement Ltd and will open on August 31, 1988.

## Rituals of the Human Lifecycle

Dealing with human societies this exhibition will look at human cultural 'evolution', the rich diversity of human adaptation to the environment and of societies to each other. It will reveal the common thread of humanity running through all societies and the approach taken by people to life at various ages. Rituals will open mid October, 1988.

## First Impressions

*First Impressions* an exhibition from the British Museum and part of that country's Bicentennial gift to Australia will tour Australia throughout 1988. It will be on display in the Long Gallery at the Australian Museum from September 22 — November 20, 1988.

These exhibitions are individually and together the most ambitious ever undertaken by the Museum and certainly no other museum in Australia has attempted such a program.

It is only fitting that the Australian Museum, after 150 years of inadequate exhibition and storage space can make this kind of impact in the Bicentennial year. The program will increase public awareness of the Museum and put it in an excellent position to stage exciting travelling exhibitions from 1989.

# Contents

---

Introduction	2
Director's Report	3
President's Report	5
Divisional Reviews	6
Buildings	7
Long Term Corporate Planning	8
Trustees	9
Community Involvement	10
Anthropology	11
Earth Science Division	14
Invertebrate Zoology	16
Vertebrate Zoology	20
Community Relations Division	23
Education Division	24
Exhibition Division	26
Discovery Room	27
Administration Division	28
Materials Conservation Division	31
Library	33
Lizard Island	35
National Photographic Index of Australian Wildlife	37
The Australian Museum Society (TAMS)	38
Staff	39
Publications	43
Finances	46



# Introduction

---

**F**EW AUSTRALIANS realise the true importance of natural history museums. Every well-structured museum across the world plays a vital part in helping human civilisations understand their heritage and their environment. And thus they help civilisations to progress.

Even fewer Australians realise the true importance of *The Australian Museum* in this context. And fewer still know the multitude of contributions this Museum makes to South Pacific society, and indeed *world* society every year.

This Annual Report reveals that the Australian Museum made literally *hundreds* of fascinating contributions this year alone. Some of them are easy to see. But most of them are highly significant contributions, achieved in remote locations by shy, publicity-shunning scientists.

This year, for example, at the Museum's Great Barrier Reef research establishment on Lizard Island, significant progress was made in research into the Crown of Thorns Starfish, the cause of death of giant clams, and the little known biology of sea daisies.

This year the Australian Museum sent the first zoologists into the Star Mountains of remote Western Papua New Guinea, to gather a comprehensive collection of new species. Many of these are of *international* significance.

This year, Museum research into native bees at Eden has yielded data which will help the honey bee industry enormously.

This year, research in Perth, Western Australia, has provided important new information on the effects of encroaching suburbanisation on native bird populations.

This year, further important work was completed on funnel web spiders in New South Wales, on snails in the deserts of South Australia, and on the entire ecosystem of the Hawkesbury River system.

As far away as the Carribean, the Australian Museum's Scientists have been involved in the discovery of a new species of sea daisy.

Back in Australian waters, Museum biologists are now undertaking *another* important survey of submerged reefs which will provide a basis for a better management plan to protect the Great Barrier Reef.

These are but random examples of current important work being carried out far from the Museum proper.

This Annual Report also covers grand achievements in exhibitions made this year, and even grander plans for exhibitions to be staged in Australia's bicentennial year.

It also reveals the important work being undertaken in taking Museum exhibits to students in the smaller cities and towns around Australia by train and by road.

All this and much more.

The Australian Museum is proud to report on *all* the significant achievements by which it continues to maintain its position as one of the most important Natural History Museums in the world.



*Funnel web.*

*Photography by John Fields.*



# Director's Report

---



*Neville Wran, Des Griffin and architect Colin Still tour the Museum extensions.  
Photography by Kate Lowe.*

**A**T THE Australian Museum the Bicentenary of 200 years of European occupation of Australia will be marked most dramatically by the completion of a new building. Its two exhibition spaces will house special exhibitions: our biggest ever. 'Dreamtime to Dust' will show what has happened to the Australian environment over the last 200,000 years. 'Pieces of Paradise' will display many of our best cultural items from New Guinea and the near Pacific. These exhibitions will both explain our past and offer an opportunity to explore the future.

In the second half of 1988 we will also open two semi-permanent exhibitions dealing with evolution of people — 'Tracks through Time' — and cultural diversity — 'Rituals of Life'. Both relate to the basis of our scholarly studies and educational programs: the theory of evolution and the acceptance of other societies and cultures as intrinsically valid.

Three existing exhibitions have been dismantled to make way for the new exhibits and two more will be turned over to storage space for our Aboriginal ethnographic items. Museum staff have again kept the Museum working during the noise and dust of the building construction. Plans for relocating many staff and some of the largest collections, including all the ethnographic collections and the library, are being developed and refined. At year's end these projects were being developed with enthusiasm, and are on target. The permanent appointment of Building Manager, Lindsey Stockdale, has greatly assisted this. The four new exhibitions will cost

almost \$2 million. Sponsorship of \$600,000 will be needed.

Amongst the greatest pleasures this year was The Australian Museum Society's generous decision to donate \$100,000 to support the 'Dreamtime to Dust' exhibition. They join Blue Circle Southern Cement, sponsors of 'Tracks through Time'. But we still have a long way to go.

In developing our programs for 1988 we are running against the tide of belt-tightening restraint driven by assertions that the future is tough, that we can't hope for much. But already our Bicentennial programs have helped gain us support from the NSW Government and they will continue to do so next year.

Our strategy for raising money has been improved and refined. At the same time the large number of Bicentennial projects for which private money is being sought and some Australian attitudes are making it more difficult. There is an attitude that Government should pay for everything, without raising taxes. As entrepreneur Dick Smith observed recently, 'until we change that attitude we have no hope'.

In the last two years our earned income has increased by almost 50% and donations have risen dramatically. Administrative costs as a proportion of total expenditure have not increased. But the commitment to public programs and marketing, as well as to science, has placed enormous pressure on the Trust's funds.

All our programs, including the Lizard Island Research Station and the National Photographic Index of Australian Wildlife, again achieved outstanding successes, as this Report shows. It is a pleasure to thank my colleagues, especially Deputy Director Hal Cogger and President Robyn Williams, for their support.

Like others from the Museum who have visited museums overseas, I returned from a tour of North American museums and science centres more aware of the very high standard we have reached in research, curatorial and conservation practices, education and exhibitions, and in planning, and even some aspects of financial administration and staff functions.

The new Discovery Room, opened September 1986 by the Hon. Bob Carr, Minister for Heritage, has already been enjoyed by tens of thousands of families. Relatively unstructured communication



processes and a dedication to keeping the exhibits working make overseas science centres the success they are: **it is staff who make exhibits enjoyable learning experiences.**

This year was the tenth in which the Museum continued corporate planning as the single most important process guiding the future of the Museum. A central feature is that planning occurs at several levels. The aim is to get the plans to be those of the staff who prepare them.

For the first time plans were completed by all Divisions in time to provide the basic guide to the allocation of resources next year. They concentrate on objectives most relevant to people in those Divisions — research, collections, exhibitions, education, promotion, merchandising and administration.

A new plan was prepared to focus on long-term objectives. This includes extremely important objectives, a number of which are new. We will review all the Museum's programs and will step up our attention to our customers, especially our visitors. We will also plan the introduction of office automation to improve communication and overall productivity and reduce information dependencies. More detail on the corporate plans is given elsewhere in this Report.

A review of the planning process by an outside 'consultant' in 1986 showed that much more attention must be given to effective communication about the nature of the planning process itself and its benefits and rationale. But if planning is essential to the Museum then involvement of staff in it needs to be non-negotiable. A review of the Community Relations Division's programs was completed.

As we leave the 1980's more and more attention is being focussed on Australia's failure to invest in the intelligence of its people, on the shunning of intellectualism and the pursuit of mediocrity. Increasingly, there is a search for those characteristics of success which can be measured: those in government and outside who 'know' about money are deciding what shall be done. And those activities which can be applied to generate money are being valued over those which bring more knowledge. The future is believed to be dependant on the "quick fix".

Studies of successful organizations show that the most successful are those in which people have a clear shared vision of the future, in which there is a focus on quality and on the

market, on the customers, on people's attitudes, on innovation; those which focus mainly on financial objectives are demonstrably less successful.

In museums the driving force — the one thing or idea or concept — which determines whether something is or isn't done, has been the product: the research, the size or documentation of the collections, whether the exhibitions or educational offerings are scholarly enough.

Next year offers great opportunities. But the new museum will not by itself be enough. We will have to pay more attention to our stakeholders, those who visit, those who seek our help and those who help us. Whatever we do we will have to strive for excellence in an increasingly competitive world. We will have to make our philosophy work.

Museums in the modern world face problems which often cannot be solved by the application of professional training alone. Our tradition of concern with the past, derived from the study of collections, together with our belief in logic gained through scholarly activities, often get in the way of the museum working as an effective organization in today's turbulent times.

Accomplishing our goals requires a great deal more than being a good scholar or educator or designer. As one commentator said, "one has to be a good museum professional"

Des Griffin,  
Director.



# President's Report

---



*Robyn Williams, President of the Australian Museum Trust.*

*Photography by Kate Lowe.*

- The Australian Museum is unique
- The Australian Museum is an extraordinarily exciting place to be
- The Australian Museum is in excellent shape to meet the challenge of the future

**T**HE AUSTRALIAN MUSEUM is one of the very top Natural History Museums in the world. The more I visit similar institutions in other parts of the world, the more I am convinced of this.

It is not simply the Australian Museum's brilliant record in research and publication; nor the extensive collections and imaginative displays; nor its role in education, advice, conservation and national issues; it is all these together and at the same time. And it is the willingness to continue a role as this country's oldest scientific establishment — we argue in a friendly way with the Royal Botanic Gardens about this claim — and also to be as innovative and adventurous as any space-age science centre.

**Our ambitions in these respects have been superbly maintained this year; as you can see from the following:**

- Dr Frank Rowe and his colleagues discovered an entirely new class of echinoderm (starfish) — the first for more than 150 years.

- Dr Alex Ritchie and Dr Tim Flannery, together with Dr Michael Archer from the University of NSW, found a jawbone of an extinct species of platypus — a species that seemed to provide a bridge between reptiles and mammals.

- Dr Ritchie found a site near Gosford, NSW, that was so crammed with superb fossil fish that he had to enlist volunteers to help him. Dozens joined in and unearthed hundreds of exquisite stone fish, their fossils outlined in the slices of rock. There were so many discovered that the volunteers were allowed to keep some as a reward for their careful work.

Such outstanding research has made it possible for our scientists to make important contributions to the current debates on logging, the exploitation of the Barrier Reef, the health of koalas, funding for marine research ... the list is endless.

But all this is only a fraction of the work that is going on at the Museum.

We have our educational programs. A prime example is the experimental Discovery Room. What a huge success this has been! Here we have activity-based exhibits from fossil hunts to computerised displays that enable the visitor to manage a whole forest. There's even a live fruit bat!

One National Parks Forestry ranger was so impressed with the Discovery Room that he decided to send his staff to use it for training.

The success of this experiment has enabled us to continue such innovations for our young public. And we have some exciting new ideas for exhibitions, and we will carry them through, in spite of the tough financial times ahead.

Our sponsors have given us their generous support, and we look to their continuing association with us in bringing to the Australian public the very best that any museum in the world can offer.

Our staff, from all areas of the Museum, have richly deserved our thanks.

A particular success story has been The Museum Society. Their numbers have soared, and their activities proliferate. Sincere congratulations to all members, especially to retiring president Craig Williams, and to Susan Bridie, who has just completed ten years as the link between TAMS and the Museum itself.

Our Director, Dr Des Griffin, has also just completed his decade at the Museum. We celebrated his splendid work with a special



dinner, attended by Ministers Bob Carr and Bob Debus, and friends from other institutions.

Dr Hal Cogger also attained his decade as our Deputy Director. Can there ever have been such a superbly matched team at the top — two scientists whose professionalism is combined with high intelligence and relaxed informality?

These two men have involved their staff in planning at all levels, resulting in the Museum being such a happy and productive work place.

At Lizard Island our new Directors, Dr Barbara Kojis and Dr Norman Quinn, have achieved a hiccup-free take-over from former directors Barry and Lois Goldman.

In what used to be the carpark we now have a new building, soon to be fitted with shelves and furniture for a library, storage and exhibition space. Two of our ambitious exhibitions will open there early in 1988.

I am convinced, as are the Trust and Museum staff, that we shall be an important part of the worldwide revolution in the changing role of museums. The occasional visit once or twice a year will be no more. Instead, the MUSEUM WITHOUT WALLS will invite people to drop in many times a year; will play an increasingly more significant part in the education of our young people and our not-so-young; will provide a meeting place for a variety of every-day and specialist interests; and will be a vital cultural centre for the State and for the whole nation.

1987 has convinced me that the Australian Museum is in excellent shape to meet all these challenges — and more.

Robyn Williams  
President.

## Divisional Reviews

**T**HE MUSEUM'S Corporate Plan calls for periodic reviews of the performance of divisions. During the year a review of Community Relations was conducted.

The review group consisted of the Director, Des Griffin; a trustee, David Throsby and two external specialists, John Iremonger, publisher and Ray Heckendorf, advertising executive.

In general, the review had favourable comments on the working of the Division. In particular the schedules for the production of Australian Natural History magazine and the operation of the Museum Shop were commended. The review also highlighted the need for the formal recognition of the honorary editor of Records of the Museum as part of the Community Relations team. Closer co-operation between the production of the Records and the production of the magazine was also recommended.

Staffing requirements were considered: as a result new appointments will be made in the editorial/publishing and publicity activities.

The Division will benefit from the insight and ideas provided by the review group.



# Buildings

---

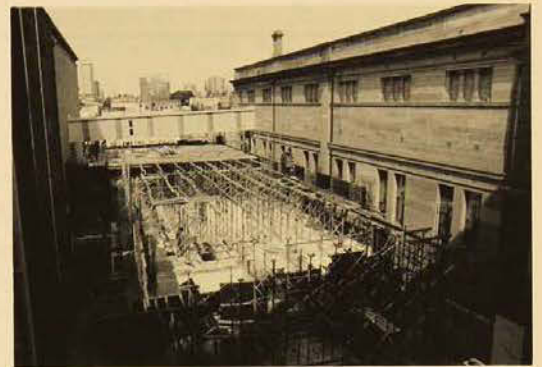
**W**ORK IS proceeding well on the new infill building, with concrete already poured for levels 00 to 5. The remaining levels will be completed by September 1987 and the waterproofing and fitting-out can then be carried out on all levels.

The present building has been modified by the addition of new toilets in the William Street wing, and renovations to the old ones in the South wing. Both the Fossil and the Melanesian Galleries were closed for a few weeks for the installation of airconditioning and some important alterations.

The year saw completion of stage 2 of the stonework restoration of the College Street façade, the Anthropology tea room, the Community Relations offices, and the Point Building Wet collections tank storage area.

The new track lighting system was installed in the Long Gallery, and a ventilation system in the Preparators' Shop.

We will continue our task of making the Australian Museum building both attractive and workable.



*Early stages of the Museum extensions.*

*Steve Brique, Peter Curtis and Lindsey Stockdale check the building progress. Photography by Anthony Farr.*





# Long Term Corporate Planning

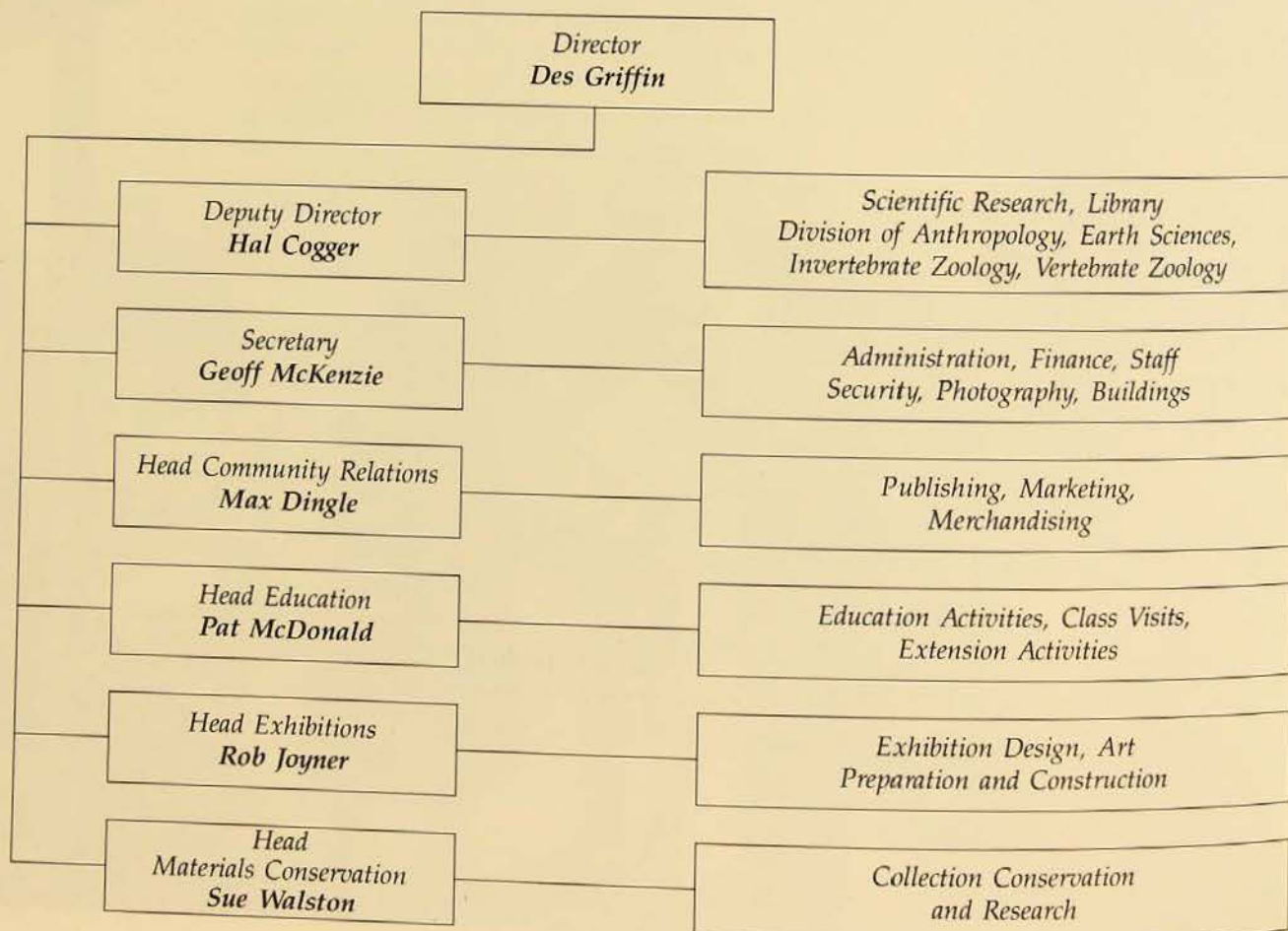
**T**HE MUSEUM'S corporate planning system allows us to identify major goals in the short and the long term.

A central feature of the process is that it is done at several levels. The general plan addresses long term objectives while Divisional Plans address objectives most relevant to people in those divisions in the short and medium terms. The aim is to make these plans the plans of the staff who prepare them.

Some very important objectives in the latest long term plan include:

- identify and implement new proposals which would put the Museum in a uniquely successful situation
- significantly improve services to visitors and public access
- bring eminent scientists from overseas to give public lectures and lead workshops
- review the entire extension services offered by the Museum
- expand fund raising and revenue generation.

## Organization Chart





# Trustees

---

**M**R ROBYN WILLIAMS has been producer/presenter of the ABC "Science Show" since 1975. His television experience includes the "Uncertainty Principle" and documentaries on Australian wildlife.

He has served as a member of the Commission for the Future since its inception and is currently its Deputy Chairman. Until recently he was a member of the National Commission for UNESCO.

He has had a number of books published, including "The Best of the Science Show" and his latest "Outpourings", and is a regular contributor to the Museum's magazine "Australian Natural History". He joined the Trust in 1984 and was elected President in 1986.

**Mr Colin Bull A.M., B.Sc.** was Managing Director of Johnson and Johnson Pty Ltd 1969-81 and Chairman 1982-85. He is a Director of Manufacturers Mutual Insurance Company and of Clyde Industries. He was a member of the NSW Manufacturing Industry Advisory Council, Chairman of the NSW Innovation Centre, Executive Member of the Grocery Manufacturers of Australia Ltd and was Chairman in 1974 of that group. Council Member of the Chamber of Manufacturers of NSW since 1979 and was President in 1981 and 1982.

He joined the Australian Museum Trust in 1985.

**Dr Telford James Conlon** holds degrees in Chemistry from Sydney University and University College London and a PhD in Biophysics from the University of New South Wales. As well as having been a lecturer at the NSW Institute of Technology, he was on the staff of the Minister for Science in 1973 and was a consultant on science policy to the Royal Commission on Australian Government Administration and the Department of Foreign Affairs. He was a director of the Australian Institute of Political Science for fifteen years and was Chairman from 1979 to 1980.

Until recently he was a Research Associate of the Neurobiology Unit at the NSW Institute of Technology. He is now a company director.

His recreations include reading, music and gliding.

**Mr Richard Clark** born and educated in Western Australia, is General Manager, Corporate and Public Affairs for Caltex Australia Ltd. He has had assignments in most states including that of State Manager,

Queensland and more recently of NSW. He is a Trustee of Young Achievement Australia, NADOW, and the Committee for Economic Development of Australia.

**Mrs Joyce Clague** is a member of the Yaegl Aboriginal people whose homeland ranges southward from the lower Clarence Valley. She has formed an Aboriginal Community Co-operative at McLean and is playing a leading role in the plans to establish a regional Museum of Aboriginal life and culture there.

Mrs Clague worked in central Australia and served on the Commission to combat racism of the World Council of Churches. She is currently a member of the Council of the Northern Rivers College of Advanced Education and a member of the NSW Council of the Australian Bicentennial Authority.

**Professor David Throsby**, Msc Agr, PhD, has been Professor of Economics at Macquarie University since 1974.

He was educated at the University of Sydney and the London School of Economics. He was a lecturer in Economics at the London School of Economics in 1965-66, Principal Research Economist with the NSW Dept of Agriculture 1967-69, and joined Macquarie University in 1969. Professor Throsby is an internationally renowned expert on the economics of the arts industry and has been a consultant to numerous organisations worldwide. His current research interests include the economics of education, and agriculture in economic development, as well as the economics of the arts and culture. He was appointed to the Trust in 1985.

**Mr. John G. Fink** was born in Melbourne and educated in Sydney. He is currently on the Board of Management and Consultant to Universal Press Pty. Ltd. Consultant to Singapore Press Holdings and a Director of their Australian company, Times Enterprises (Australia), and Consultant to the New Zealand Broadcasting Corporation. Previously was Proprietor and Managing Director of Gregory's Scientific Publications. Has had many senior positions including: Director of Australian Consolidated Press Ltd. (ACP), Managing Director of Golden Press Pty. Ltd (book publishers), Managing Director Murray Leisure Group Ltd. (magazine publishers, Gregory's Publishing Company and Kosciusko Alpine Resorts), Managing Director Video Tape Corporation, Marketing Director ACP Ltd., Deputy Managing Director Victorian Broadcasting Network, Advertising Director ACP Ltd., National Sales Manager GTV



Channel 9 Melbourne.

**Mr Ernest G. McDonald** was born and educated in Sydney. He is a Civil Engineer and is a Fellow of the Institution of Engineers, Australia.

After some years in the civil construction industry, he joined Civil and Civic Pty. Limited, part of the Lend Lease Group, in 1959. He is currently Chairman of Civil and Civic and of the Lend Lease Superannuation Fund.

Ernie's interests are Australian travel and history. He was appointed to the Trust in 1985.

**Dr Judy Messer** has a sociology degree from Macquarie University and a PhD from the University of New South Wales. Dr Messer has been involved in research, tutoring and lecturing at both the University of NSW and Sydney University. Her PhD thesis dealt with the ecological and sociological implications of structural change in agriculture. Dr Messer is (voluntary) Chairperson of the Nature Conservation Council of New South Wales which is the umbrella body for 79 NSW environmental organisations. She is also a member of the Western Lands Advisory Council. Dr Messer is particularly interested in the maintenance of biological diversity, and the conservation of natural ecosystems and remnant native vegetation.

**Mrs Lorna McClelland** completed her term of office during the year.

**Professor Don Anderson** completed his term of office during the year.

## Community Involvement

**T**HE MUSEUM continues to contribute to the community at large. One of the highlights of the year was the great numbers of people who visited Lizard Island Research Station. More than 1,200 were given a tour of the station, met the researchers and viewed a special slide show. The Cairns branch of the Queensland Wildlife Preservation Society visited the station, as did the University of Queensland Biological Society.

Division staff continued their involvement as members of boards and councils of professional and community associations. They also visited overseas centres for discovery and learning in the USA, Canada and Britain. Other places visited included New Delhi and Cape York.

Dr Sutherland was elected President of the Royal Society of NSW, while Dr Ritchie completed seven years of dedicated service as honorary treasurer of the Linnean Society of NSW.

Our education officers are involved in the production of six children's books, and in the four major exhibitions due to open in the bicentennial year.

We have helped in various ways the PNG National Museum and Art Gallery, the Vanuatu Cultural Centre, the Fiji Museum, and the Western Province Cultural Affairs Department of the Solomon Islands. We also lent a large western desert painting by Michael Nelson Tjakamarra to the Biennale of Sydney for the "Origins, Originality and Beyond" exhibition at the Art Gallery of NSW.



# Anthropology

---

**O**UR PROJECTS cover the cultural heritage of the indigenous peoples of Australia, the Pacific and Indonesia. The Division welcomes co-operative projects with these peoples and encourages their access to information and collections about their material culture.

## Highlights

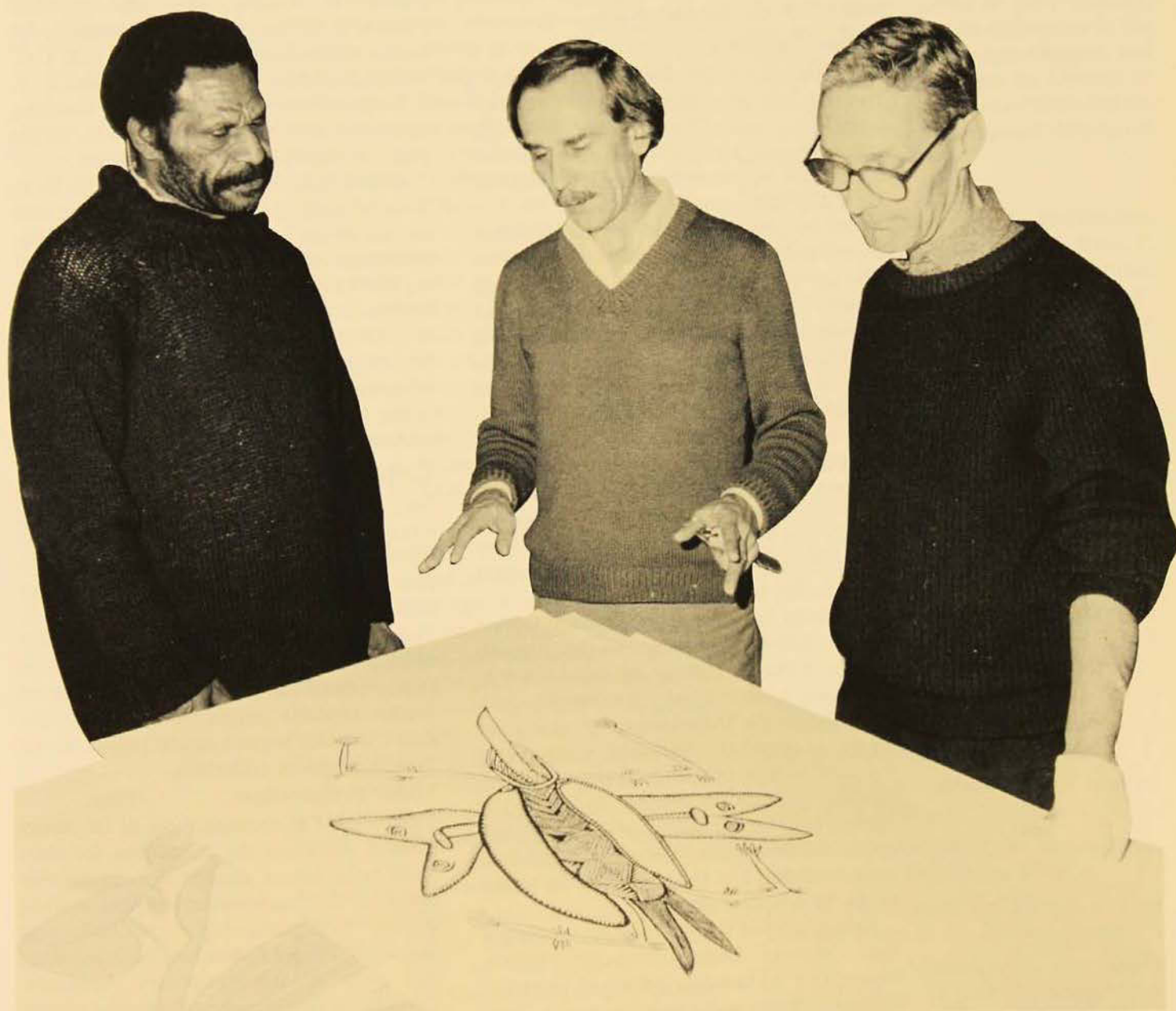
- "National Inventory of Aboriginal Artefacts", surveying all Aboriginal artefacts held in 24 major museums and art galleries in Australia, completed by Betty Meehan

and Joan Bona.

- Major seminar series, "Different ways of looking at (and after) material culture", organised by Betty Meehan, involving over 30 speakers from a number of disciplines.
- Performance of Javanese gamelan orchestra and demonstration of traditional Indonesian dances at opening of Indonesian Regional Cultures Exhibition.

## Development of New Exhibitions

Jim Specht chaired the Project Team for the



Photography by Kate Lowe.

Artist Mattias Kauage  
with Jim Specht and  
Neil Chadwick.



special 1988 exhibition, "Pieces of Paradise", the first major event in the temporary exhibition gallery of the new building. The theme of the exhibition deals with different ways of looking at artefacts. Many of the finest artefacts of the Museum's outstanding Pacific Islands collections will be displayed, some for the first time.

Diane Losche with Betty Meehan developed the anthropological content for a new gallery, "Rituals in the Human Life Cycle", due to open at the end of 1988. The gallery is about human cultural diversity, as revealed by the varying responses of different groups of people to the experiences of birth, childhood, adulthood, old age and death.

### **Major Research**

The Museum is undertaking a major research program into its collections from the lower Sepik River area, PNG. The people of this region operate an important trade network over a wide region, exchanging food, objects, ideas and resources.

This project focuses on the way in which objects and art styles are traded in the region.

In the first period of field work, Lissant Bolton, Dr David Lipset and Dr Kathleen Barlow, in conjunction with John Saulo of the PNG Museum, traced the western arm of the trade network, obtaining information about objects from the museum's existing collections and making a collection of contemporary material to complement existing holdings. The field work established that the network is not only still operating long after European contact but that its participants value very highly both the goods, and the personal relationships they gain through it.

Aided by the Australian Research Grants Scheme Betty Meehan began her field research project, "The technology of subsistence in Aboriginal Arnhem Land", in association with Dr N. White (La Trobe University) and Dr R. Jones (Australian National University). Relevant to this project is Betty's study of existing museum collections, including the photography by Ric Bolzan of Arnhem Land collections held by our Museum. The first field season resulted in 155 artefacts being added to the Museum's collections.

Kate Khan and Ronald Lampert continued their Western Desert Research Project, researching the material culture of Gugadja, Warlpiri, Pintubi and Anmatjera people. They collected and documented 130 artefacts during their manufacture and daily use. Emphasis was placed on collecting women's and children's

items, as in the past this significant aspect had been overlooked.

Documenting the Museum's early Papunya art collection was carried out in the western desert. This collection is probably among the earliest art works in existence, dating to before the world-wide burgeoning of this exciting art form.

### **Other Research**

Jim Specht, in association with Dr J. Kamminga, began a study of the obsidian industry at Talasea, New Britain. He is also writing up the results of his 1985 fieldwork in the Lapita Homeland Project, including two papers on obsidian tools and exchange patterns in the past, and location strategies for Lapita pottery sites. In association with T. G. Harding (University of California) and R. V. S. Wright (University of Sydney) Jim is writing up a study of modern pottery making on the Huon Peninsula, Papua New Guinea.

Ronald Lampert, in association with Dr P. Sutton (South Australian Museum), and with the aid of an ARGS grant, began the Lake Eyre Basin Archaeological Project, which will explore the ancient foundations of Aboriginal societies in the Lake Eyre Basin. In association with Dr P. J. Hughes (University of Papua New Guinea), he has completed the first draft of the final report on archaeological research in the northern Flinders Ranges, conducted between 1980 and 1986.

### **Collection Management**

Nan Goodsell has been examining conservation techniques for botanical collections used by other institutions, with particular reference to the Charles Hedley ethno-botanical collection from Funafuti, Tuvalu, made in 1896. The Museum's valuable collection of North-west Coast American Indian masks was the subject of a Museum Studies Diploma project by Tom Heinsohn. Ross Chadwick began a similar project on our Japanese armour collection.

### **Move Preparation**

The Division is devoting most of its energy towards preparing the collections for their move from present storage areas to the new building. This has involved everyone to some degree, but particularly the collection Managers, Lissant Bolton and Tania Konecny, and most of the Temporary Assistants. Collections are being sorted, checked against the registers, catalogued, labelled and packed. Nearly half of the Papua New Guinea collections, the Santa Cruz, Solomon Islands



and Vanuatu collections, and the Pacific osteological collections have been prepared, as well as a substantial portion of the Australian collections and the Timorese archaeological collections.

### **Universities and Conferences**

Grants-in-aid were awarded to ten post-graduate students in Australian universities as part of the Trust scheme to promote the study of material culture and other fields relevant to the Museum. Jim Specht, Betty Meehan and Ronald Lampert have all acted as supervisors and external examiners of PhD students.

Phillip Gordon presented a paper of the Museum's role in Aboriginal society at the World Archaeological Conference, Southampton. Shayne Rawson attended a conference of Pacific indigenous peoples in New Zealand. Lissant Bolton presented a paper at the Conference of Museum Anthropologists. Ronald Lampert prepared papers on his research for the Australian Archaeological Association's conference and the Conference of Museum Anthropologists. These papers were read by Tania Konecny. Both Jim Specht and Betty Meehan also gave papers at the latter conference, and attended the former. Jim gave a paper at the First Australian Taphonomy Conference. Ron attended the annual conference of the Australian Academy of Humanities, and a workshop at Marree, South Australia, to inaugurate the Lake Eyre Basin Archaeological Project.

### **Appointments**

Jim Specht acted as Advisor to the Interim National Heritage Committee on the development of export controls for movable cultural property, and was a member of the Organising Committee for the Australian National Commission for UNESCO Regional Seminar on the Protection of Movable Cultural Property. He was an expert advisor to the Australian Customs Service and the NZ consulate on the possible illegal import of Papua New Guinea and Maori artefacts. Jim Specht was on the editorial board of **Archaeology in Oceania**, on the Scientific Advisory Board of the Oceanic Research Foundation, Sydney and on the Council of the National Trust of New South Wales, representing the Australian Museum. He was editor of the **Bulletin** of the council of Museum Anthropologists (COMA).

Betty Meehan served with Peter McKenzie

on the Gooriwal project to assist Aboriginal museums in New South Wales. She was on the Membership Committee of the Australian Association of Consulting Archaeologists; the Prehistory, Sites, and Material Culture Committee of the Australian Institute of Aboriginal Studies; and the Australian Archaeological Association Committee.

Ronald Lampert, Betty Meehan and Jenny Hope from NSW National Parks and Wildlife Service were joint editors of **Australian Archaeology**.

Phillip Gordon was a member of the Working Party to examine the proposed Aboriginal Heritage Commission.

Ronald Lampert served on the Prehistory, Sites, and Material Culture Committee of the Australian Institute of Aboriginal Studies, and for part of the year on both the Council of the National Trust of Australia (NSW) and the Working Party for the proposed Aboriginal Heritage Commission.

### **Donations**

The Division gratefully acknowledges donations of artefacts from D'Arcy Ryan, P. Coleman, P. Watson, L. McWhinnie, E. Ruhe, M. Blanc, G. Tisdell, M. Abbott, K. Cummings, A. Paynter, J. Webster, E. Elliot and J. & D. Kirk, H. C. Cogger, D. R. Moore, P. & G. Pulati, J. P. White, P. Barrington, T. Conlan, M. R. Newman, I. Mitchell and T. Speare.

### **Future Plans**

- Research programs on New Britain prehistory to be developed with Dr R. Torrence, University of Sheffield, U.K. and Dr R. Fullagar, Wollongong, N.S.W.
- Commencement of computerization of information on the Indonesian textile collection.
- Acquisition of a demonstration set of Javanese shadow puppets which can be used with Gamelan accompaniment.
- Continued documentation of the Arnhem Land collections.
- Publish the catalogue of ethnographic artefacts from New South Wales.
- Publish final report on the research of prehistoric sites in the Flinders Ranges.
- Further development of the Sepik Documentation project involving joint research with Dr N. Lutkehaus of the University of Southern California, Los Angeles.



# Earth Science Division

**T**HE DIVISION maintains comprehensive fossil, mineral, rock and meteorite collections from Australia and overseas.

It also provides information and advice on these areas to research workers, the public and media. Research activities focus on the evolution of early backboned animals and on volcanic minerals and underlying geology in Eastern Australia.

## Highlights

- Opalized Dinosaurs from Lightning Ridge
- Somersby Fossil Fish Dig
- Collecting from World's largest Diamond Mine

## Field Work

In July 1986 a joint Australian Museum/Australian Army team searched for dinosaur bones in the opal fields of northern NSW. Several opalized bones had come from the 'Boneyard' claim at Lightning Ridge, one of only two areas in NSW where dinosaurs have been discovered. Alex Ritchie, Robert Jones and a team of 12 from 21 Supply Company, Moorebank, led by Captain John Wild found five opalized bones.

Other fossil reports from the Lightning Ridge area were investigated. A very promising dinosaur site was located on Glengarry field, near Lightning Ridge. This claim has produced many specimens of opalized bone, mostly from small to medium sized plant-eating dinosaurs. Museum palaeontologists plan to excavate this site, the richest dinosaur site known in NSW, probably with logistic

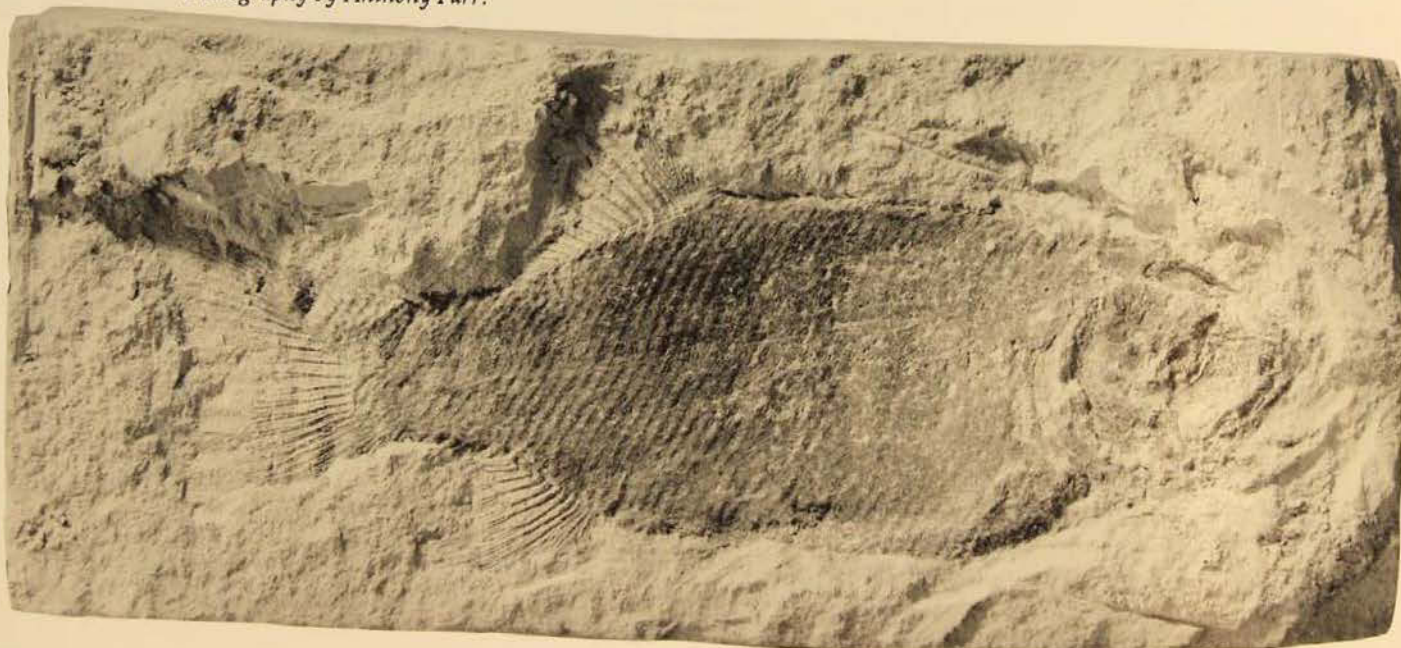
support from the same Australian Army group.

In May 1987 Robert Jones visited Riversleigh, NW Queensland, with Australian and overseas palaeontologists to examine the sites of the richest and best preserved fossil mammal faunas ever found in Australia. These are being recovered by a team led by Professor Archer, University of NSW. Jones studied the stratigraphy of the deposits and located several new bone-rich sites.

Dr Lin Sutherland, Dr Julian Hollis, Dr Jane Barron and Ross Pogson visited Tasmania in December 1986, as part of a



*Photography by Anthony Farr.*





Alex Ritchie and Bob Foster examine the opalised dinosaur bone.



Photography by Anthony Farr.

project on the origin of gem zircons. New finds were made of rare sodalite syenite rocks around Boat Harbour and Interlaken. The Tasmanian Mines Department, assisted with logistic and analytical work.

Lin Sutherland and Ross Pogson with the Geological Survey of Queensland undertook a combined field trip into the Monto-Rockhampton area in May-June 1987. They collected material to elaborate a new concept of an arc-like migration of volcanic centres. The Queensland survey is providing extensive chemical analyses on the rocks.

The largest and most successful fossil recovery dig ever undertaken in NSW was carried out. Montoro Resources Ltd who owns the sand quarry near Somersby, west of Gosford on the NSW central coast, offered the

site to the Museum for controlled excavation and research. Montoro provided us with excavation equipment and hundreds of volunteers enabled us to recover 1500 fossil fish. We added 700 of the best to our Museum collection. There were at least eight different types of fish, some new to science. Montoro Resources also generously donated funds to employ a part-time preparator to conserve the specimens.

In March 1987 The Hon. Bob Carr, Minister for Environment, Planning and Heritage, presented to Dr Bruce Walpole, chairman of Montoro Resources Ltd, a mounted specimen and several other specimens were given to company personnel who assisted in the project.

### Mineral Gallery

Guided tours of the new gallery were given to a number of societies and TAMS who sponsored it. The Mineral Gallery was promoted through TV and radio programs.

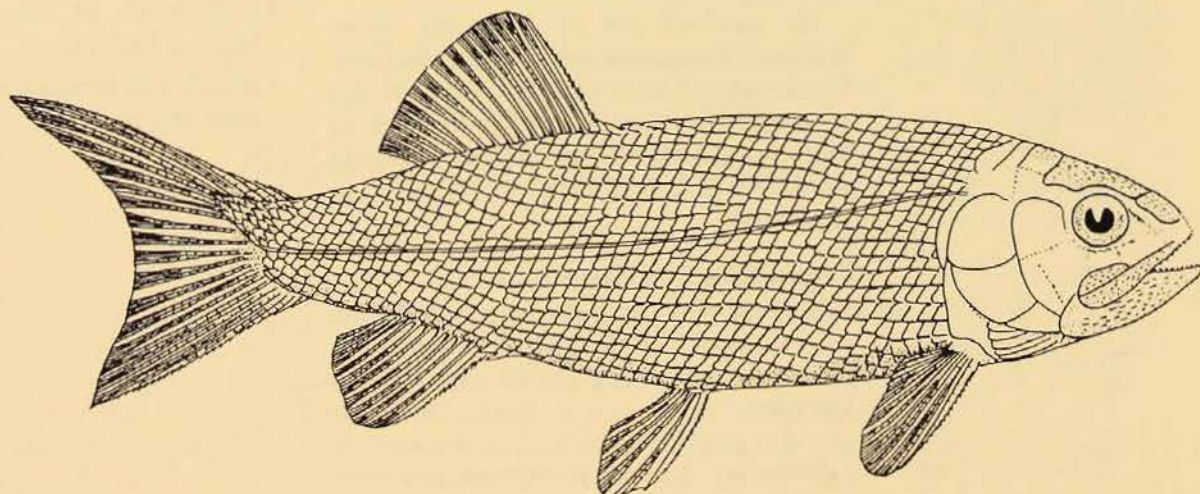
Some of the display units, unfinished when the new Mineral Gallery opened in June 1986, were completed; but construction of the Gem Room is postponed awaiting new building modifications.

### Fossil Gallery

The Hall of Fossils, relocated and reopened in 1986, was closed again from April to June 1987 to instal a new ventilation system.

Fossil diggers on the Somersby site.

*Promecofomina*, the commonest ray-finned fish found at the Somersby site.





### Collection Management

The Department of Geology, University of Sydney, continued the transfer of type and important fossil material to the Museum.

The old Mineral Store, renovated and reconnected to the Palaeontology Store, was named the 'Anderson Room' (after Dr Charles Anderson, former Director, mineralogist and palaeontologist). It joins the Etheridge and Krefft Rooms and the Fletcher wing.

The Anderson Room is currently shared by Palaeontology, Minerals and Anthropology (the Aboriginal skeletal collection) and now houses the meteorite collection.

The entire gemstone collection was photographed for insurance and record purposes.

The 1 tonne uranium ore specimen previously on display in the Mineral Gallery foyer was returned to the Atomic Energy Commission because of display problems caused by the new building modifications.

### Growth of the Collection

During the year over 2907 fossil specimens were registered, mostly important type or figured material transferred from the Department of Geology and Geophysics, University of Sydney.

A number of important gemstones were purchased for the Gem Room to be constructed in the Mineral Gallery.

### Specimens on Loan

Two large meteorites were lent to the University of New South Wales for display. A portion of the Australia's Forest Vale meteorite, the oldest yet discovered, was sent to Dr P. Pellas, Museum of Natural History, Paris, for a research project on the origins of the solar system.

The opalized jaw of Australia's oldest mammal, *Steropodon galmani* from the Early Cretaceous of Lightning Ridge, NSW was one of several specimens lent to the Museum of Victoria from May to July 1987 for display in a 'RETURN OF THE DINOSAURS' Exhibition.

### Pegmatites and Diamonds

During the year Lin Sutherland attended the International Mineralogical Association conference in the USA, and the International Kimberlite conference in Perth. Dr Hollis attended a workshop on Australian volcanism held by the Bureau of Mineral Resources workshop in the Warrumbungles.

### Conferences

Alex Ritchie and Robert Jones attended the De Vis Symposium on Vertebrate Palaeontology, held at the Queensland Museum. It is proposed to hold a V.P. meeting in Sydney in 1989 organised by the Australian Museum and the University of New South Wales.

All Mineralogy staff attended the Department of Mineral Resources Seminar on "Tertiary Volcanics and Sapphires".

### Projects in Progress

Dr Ritchie continued research on the origins, evolution and distribution of early vertebrates in Australia and their relationships with contemporaneous faunas on other continents. He is also involved in the preparation of the new Human Evolution Gallery for 1988.

Dr Sutherland's research focuses on analysis of the pattern of volcanic activity in eastern Australia. The occurrence of sapphires, diamonds and zircons is also closely related to volcanic activity and new information uncovered by Dr Sutherland is reshaping ideas on volcanic patterns.

Ross Pogson applied his computing and geophysical expertise in all our research projects, carrying out statistical analyses on the chemistry of volcanic rocks and calculating pressure-temperature relationships of mantle and lower crustal mineral suites.

### Future Plans

- Acquisition of the Chapman Collection, the finest private mineral collection in Australia.
- Computerisation of major sections of the geological collections.
- Investigation of Lightning Ridge dinosaur site.
- Completion of the Gem Room in the Mineral Gallery.
- Repair and completion of display units in Hall of Fossils.



# Invertebrate Zoology

**W**E UNDERTAKE evolutionary, biological and ecological studies on various invertebrate (backboneless) animal, which represent the majority of animals. Our findings are communicated to both specialists and general audiences through lectures, publications and demonstrations. We make our collections available to scientists around the world, and to all those interested in research.

## Highlights

- First comprehensive study of Funnel Web spiders

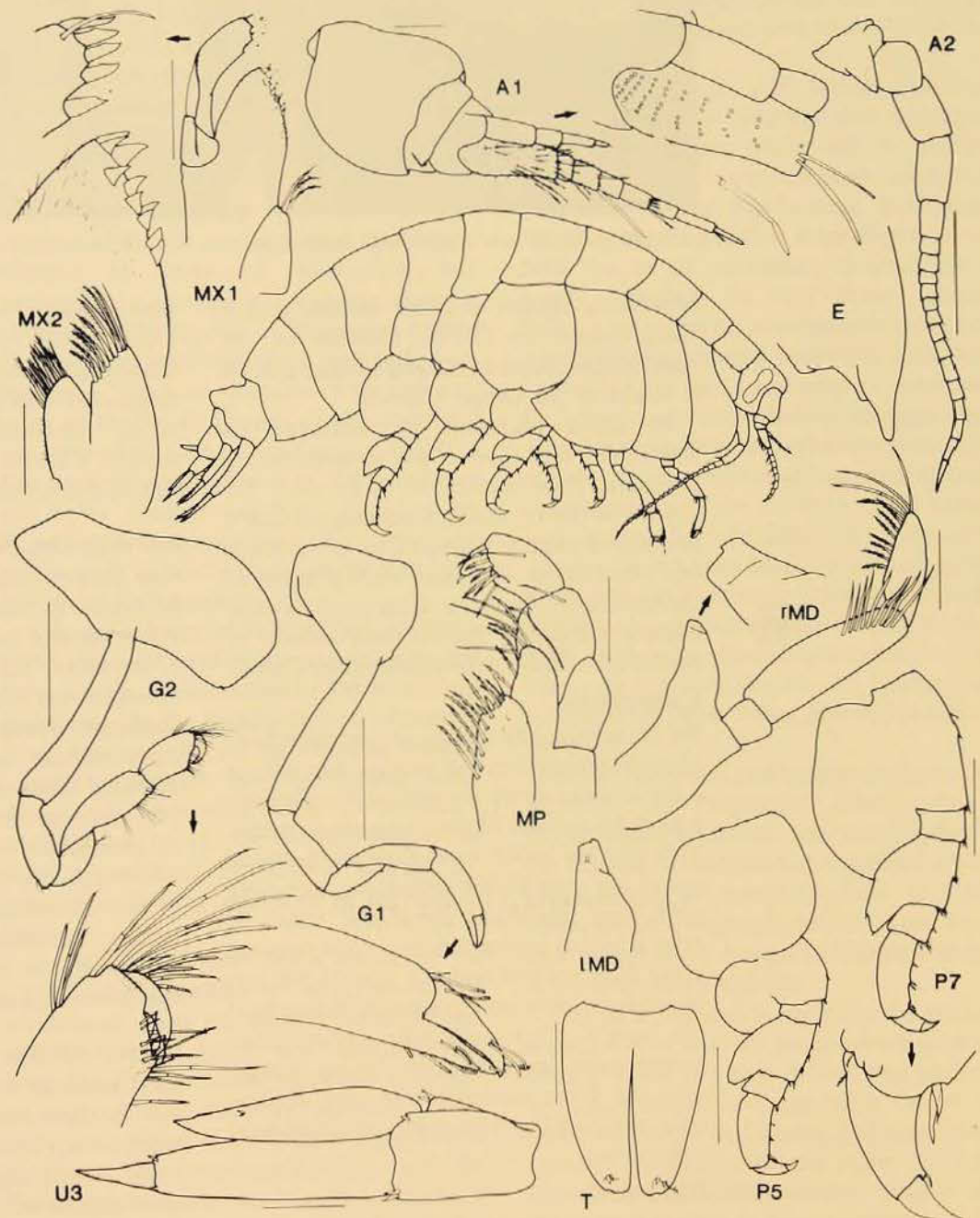
- Second species of Sea Daisy found in the Caribbean

- Ballast water study at Twofold Bay

## Research Projects

The first comprehensive study of the venomous Funnel Web spiders was carried out by Dr Mike Gray as part of the PhD he was awarded in September 1986. Using electrophoresis he showed there are thirty five species of funnel web spiders in two genera. He mapped the distribution of each species so that both the identity and occurrence of most funnel web spiders can now be readily determined. Dr Gray is also undertaking some

*Dissected body parts and mouth parts of a typical amphipod crustacean.*







*A scientist in the new entomology laboratory.*

*Photography by Anthony Farr.*

revisionary studies of other spiders, and is being helped by Dr N. Platnick of the American Museum of Natural History and Dr R Foster of the Otago Museum.

Dr David McAlpine is continuing his research on fern flies, as well as undertaking a generic classification of more than 360 species of the fly family Lauxaniidae, and a revision of some stalk-eyed flies of Australia and New Guinea. He is also writing several of the sections of the Australasian and Oceanic Diptera Catalogue for the new edition of *Insects of Australia* to be published by CSIRO.

### **Collections**

We are continually adding to our collections of invertebrates from all around Australia in order to make up for the generally inadequate knowledge we have of these important species. This year we added more than 60 thousand lots to our invertebrate collections, including some very important donations. Loans to other scientists ensure that these collections are being fully utilized and this year 16,500 lots of specimens were sent to scientists throughout the world. Our collection information management program is developing rapidly, with the Titan minicomputer now holding data on the spider, crustacean and echinoderm collections.

### **Fieldwork**

Our staff continue their various projects

around Australia and overseas. Some of the areas visited included the Nullabor Plain, Madagascar, northern NSW rainforests, the Kosciusko region, Hastings River drainage areas, Auckland NZ, Darwin, Tasmania, eastern Victoria, Dampier Archipelago WA, Tahiti, France and Italy.

### **Serving the Wider Community**

Our staff continue to extend the work of the Museum to the scientific community in Australia and overseas.

Dr Bickel delivered a paper at the first International Congress of Dipterology at Budapest, Hungary. Winston Ponder spent three months as Visiting Professor at the National Museum of Natural History in Paris. He also presented two papers at the International Malacological Congress in Edinburgh, Scotland, and later gave a paper at the Australian Society for Limnology in Albury, Australia. Dr Rowe gave a lecture on sea daisies to a gathering of echinoderm specialists in London.

### **Survey of the Hawkesbury**

Dr Alan Jones and Anna Murray have carried out the first ever comprehensive long-term study of any estuary in Australia. They have been sampling the bottom-dwelling invertebrates of the Hawkesbury estuary for the past seven years, and have gained a



valuable understanding of the patterns of natural variation in space and time. This information will provide a base against which to judge the impact of human intervention.

### **New Species of Deep Sea Daisy**

Dr Rowe, with Dr Helen Clark and Dr Alan Baker of the National Museum of New Zealand, have identified a second new species of sea daisy (*Xyloplax*) in the Caribbean. This follows the discovery of the first new species reported in the scientific journal *Nature* in 1986. Over 200 specimens of the second species were collected by Professor Ruth Turner of the Museum of Comparative Zoology, Harvard University. Collaborative work with Dr John Healy and Professor D. T. Anderson of the University of Sydney, has revealed a new type of sperm in the Caribbean species of *Xyloplax*, demonstrating that there are important differences between these and other living echinoderms.

### **Coral Reef Ecology**

A group of French scientists from the Marine Station at Endoume, Marseille, has commenced a joint project with the Museum to compare the process of bioerosion on the Great Barrier Reef with those reefs in French Polynesia. This is an extension of the previous work of Dr Pat Hutchings on the rates and mechanisms of bioerosion of coral substrates. **The Ecology of Mangroves** by Pat Hutchings and Peter Saenger has been published by Queensland University Press. This is the first major work to deal with the entire mangrove community of Australia.

A benthic survey of Twofold Bay, southern NSW, was conducted by Jos van der Velde and Steve Keable. Co-ordinated by Pat Hutchings and funded by the Fishing Industry Research Trust Account, this survey aimed to identify species introduced by ship' ballast water discharged in Australian waters. While no such species were found, the research did locate other methods of introducing species, for instance as fouling organisms on the hull of ships.

Dr Winston Ponder led a cruise of the CSIRO ship **Franklin** on a survey of the continental slope off eastern Tasmania and southern NSW. Many new animals were identified from collections gathered at depths in excess of three thousand metres.

Dr Dan Bickel and C. Dyte completed a catalogue of long-legged flies and Dr Courtenay Smithers' work on Tasmania bark lice has led to the identification of a further

29 species. Dr Bill Rudman's study on higher taxonomy of opisthobranchs continues and his latest work on slugs has doubled the number of species of the genus *Trapania* known worldwide.

Dr Winston Ponder has completed his work on the taxonomy and distribution of snails living in artesian mound springs in the arid north of South Australia. Dr Ponder's research, supported by ARGS, has shown that one of the commonest freshwater snails in SE Australia and Tasmania was introduced from New Zealand. Other research into snails has been carried out in Spain, Sweden, France, Guernsey and Tahiti. Electrophoretic studies on snails are being carried out using the facilities in the Department of the University of NSW.

Dr Jim Lowry and Helen Stoddart completed a further section of their amphipod (Crustacea) project which will be further advanced using computerised analytical techniques at the Smithsonian Institution, Washington. In addition a catalogue of the 2000 species of peracaridea crustaceans is nearly complete. Dr Niel Bruce, Queens Fellow, completed his monographic studies on a group of fish parasites, examining collections in North American and European museums. Dr Lowry and Penny Berents continue their work on the previously unknown Australian cerapid fauna (tube-building amphipods). Steve Keable will use the work of Dr Lowry and Roger Springthorpe on scavenging crustaceans at Lizard Island as the basis of his MSc project at Macquarie University. Dr Rowe continues his research on the echinoderms of NSW, with three manuscripts completed this year, and a catalogue of Australian echinoderms (with Jenny Hanley) is almost complete.

Dr Pat Hutchings gave a paper at the second International Polychaete Conference at Copenhagen, Denmark, and another one to the Coastal Management Conference on the management of mangroves held at Coffs Harbour. Dr Hutchings and Dr Alan Jones gave papers at the Australian Marine Sciences Association in Townsville.

Our staff continue to supervise the work of students, with fourteen postgraduate students coming under our care. Nearly two hundred secondary school students made use of the insect collections and library, and many other students researched in our other sections. Ninety five research workers visited the Division, 32 of these from overseas.



# Vertebrate Zoology

**W**E MANAGE collections of vertebrate animals, provide information to scientists and the community and engage in research on the taxonomy and ecology of vertebrate animals. Activity also focuses on the ecology and behaviour of Australian vertebrates — mammals, birds, reptiles, amphibians and fishes — and the application of ecological principles to land and aquatic management.

## Highlights

- Development of procedures for radio-tracking of honeyeaters from the air
- Discovery of significant effect of introduced honeybees on nesting biology of Australian native bees
- Relocation of part of fish collection

Dr Recher attended the XIX International Ornithological Congress in Ottawa, Canada during June-July. He was co-convenor of a session on the 'Ecology of Forest Birds' and presented a paper on the 'Ecology of Australian Eucalypt Forest Birds'.

Mr Walter Boles attended the XIX International Ornithological Congress in Ottawa, Canada. During his time in Canada he visited several museums, arranging exchanges of specimens and observing different curatorial techniques.

Mr Boles also attended the Scientific Day of the Royal Australasian Ornithologists Union in Melbourne and a meeting of that organization's Taxonomic Advisory Committee. Work on fossil birds was carried out at the Museum of Victoria and the South Australian Museum. He also attended a

banding workshop at the Pappinbarra Field Studies Centre, held under the auspices of the Australian Bird Banding Association.

Linda Gibson attended the 33rd Scientific Meeting of the Australian Mammal Society held at Pemberton, S.W. of Perth and participated in a post conference field trip looking at rare Western Australian Mammals such as Numbats, Brush-tailed Bettongs and Phascogales.

Dr T. Flannery presented two papers at the De Vis Symposium (a symposium on Vertebrate systematics) held in Brisbane in May.

Dr Jeff Leis organized and chaired a highly successful one-day workshop on larval fish dispersal and recruitment in Townsville.

## Field Studies

Expedition to the Star Mountains. In April, T. Flannery, H. Cogger and L. Seri (P.N.G. Division of Wildlife) travelled to the alpine herbfields of Mt. Capella in the Star Mountains of far western Papua New Guinea for three weeks. Although this area is of considerable zoogeographic interest, it had never previously been visited by a zoologist.

During this visit they spent about a week above 3,000 m on the Irian Jaya border. A comprehensive collection of frogs, reptiles and mammals was made, including a number of undescribed taxa and species not previously represented in the Museum's collections.

Mammal survey work around Jervis Bay continued with work carried out in December concentrating on the small insectivorous bats. The future use of the forests in this area is now receiving greater attention because of possible increased use by the Australian Navy.

John Paxton participated in a three week research cruise off Scotland and Ireland on the German Fisheries Research Vessel Walther Herwig. More than 75 species of deep sea fishes were preserved for the museum collection.

Jeff Leis was involved in a co-operative project on larval fish biology at the Museum's Lizard Island Research Station with research workers from James Cook University, The Australian Museum and Griffith University.

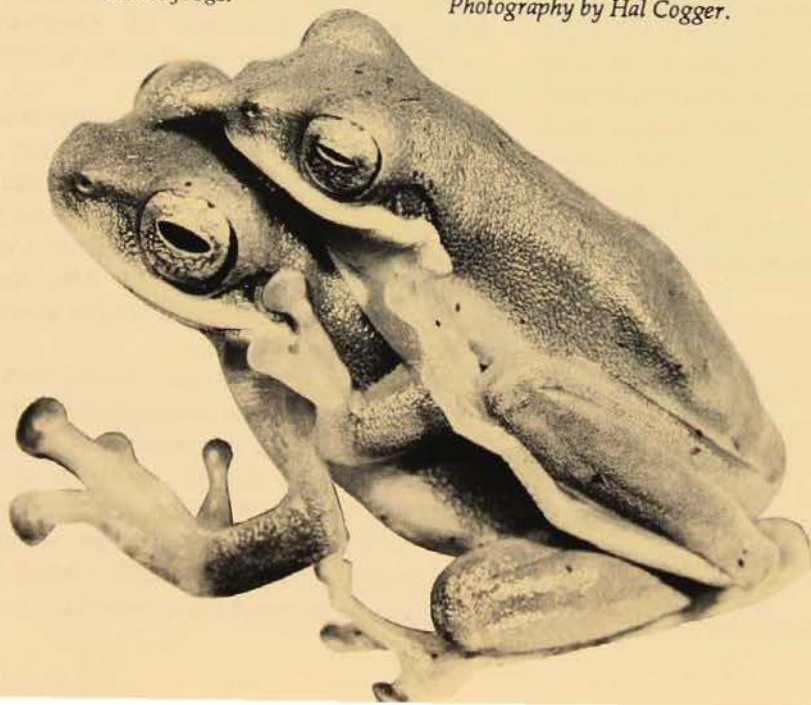
A co-operative project by Walter Boles and Anne Skates with the Queensland Museum in Cape York Peninsula yielded a number of species poorly represented in the collections.

## Collection Management

Our collections of vertebrate animals have increased considerably with the following

*Green frogs.*

*Photography by Hal Cogger.*





registered material; 2500 mammal specimens, 2950 reptile and amphibian specimens; 700 bird specimens, 1100 lots of over 2300 specimens of fishes.

Work concentrated on transfer of all computer records of the collections from a CSIRO computer to a Museum computer, with a record management system specially designed for collection information.

Strandings of whales enabled the mammal section to add new specimens to the collection. Most strandings occurred on the south coast of NSW including the first NSW record of the rarely seen Pigmy Right Whale.

Some interesting specimens from NSW were received including the first record of the Long-footed Potoroo in this state and the second and third records of the Queensland tube-nosed bat, representing the most southerly occurrence known.

Specimens of the world's only recently extinct microchiropteran (insect-eating bat) were recognised. The New Zealand Greater Short-tailed Bat specimens had lain unrecognised in the collection since 1902. They add significantly to our understanding of the zoogeography and natural history of this intriguing bat.

Mr D. J. Russell of Queensland Fisheries provided a large and valuable collection of Queensland estuarine larval fishes.

### Research

Work has continued following the movements of honeyeaters in heathland in Brisbane Water National Park through studies carried out under Dr Graham Pyke's supervision. New procedures were developed for radio-tracking from the air to extend greatly the range over which bird movements can be followed.

The effects of introduced honeybees on native bees have been explored by Dr Pyke and Dr Evan Sugden in the Nadgee Nature Reserve near Eden. The studies have shown that the introduced bees have an adverse effect on the nesting biology of the native bees. This study will contribute to improved management of honeybees.

Research on the ecology of foliage-gleaning forest birds and the effects of wildfire on small mammals in the Nadgee Nature Reserve continues. The Nadgee work is now in its 18th year. This long term study by Dr Harry Recher is an important contribution to the understanding of terrestrial ecology.

Mr Boles continues his work on the Tertiary fossil birds of Riversleigh, north-west

Queensland. A revision of the subspecies of Australian finches, carried out in connection with Mr Boles' participation in the Zoological Catalogue (Aves), has been accepted for publication.

Analysis of results from the Star Mountains expedition in Papua New Guinea is still underway, but it appears that the tree-kangaroo collected may represent a new race, and a rat (*Melomys*) found may also be new. The collections made during this trip are of international interest, because they are unique and shed new light on distribution patterns of animals in New Guinea. Because of access difficulties to Mt. Capella, they will probably remain unique for some time to come.

Analysis of material collected during the TAMS-sponsored expedition to the Telefomin area, western Papua New Guinea (April 1986), has produced some interesting results. These include major range extensions for some mammal species.

Jeff Leis has collaborated with T. Trnski in major research for the book, "Larvae of Indo-Pacific Shorefishes". They will complete the guide to identification of the larvae of 50 families of tropical marine fishes in early 1988.

Additional projects were analysis of ecological data on fish larvae; taxonomy and systematics of the larvae of the sea perches, family Lutjanidae (with S. Reader); and taxonomy and ecology of billfish larvae, especially of black marlin, in the Lizard Island region (with B. Goldman and S. Ueyanagi).

Work in the Ichthyology section continued on the systematics of whalefishes, gobies, kelpfishes and gudgeons, and on the taxonomy of lanternfishes and spiny flatheads. Studies on the distribution of Sydney Harbour fishes continue.

The second volume of the Zoological Catalogue for the fishes of Australia is approximately two-thirds completed. Volume one is still being edited and publication is expected in 1988. This study, in conjunction with other studies in the fish section, has resulted in the discovery of over 200 kinds of fished previously not known from Australia, of which approximately 50 represent fishes new to science. It is expected that over 3600 species will be treated by the Zoological Catalogue. Future studies will almost certainly increase the number to over 4000.

### Scientists Participate in International and Interstate Studies and Conferences

John Paxton worked at the Institute for Sea



Fisheries at the University of Hamburg from July to November 1986 studying whalefishes. Whalefishes were also studied during a trip to other European museums during this period, including those in Leningrad and Moscow as a guest of the Soviet Academy of Sciences. Several new forms were found in these collections.

Dr Harry Recher spent most of 1986 in Western Australia where he was a VRF at the Western Australian Institute of Technology. He conducted research on the comparative ecology of Australian Warblers for comparison with closely related species which he has been studying in the Sydney region. Dr Recher also repeated censuses of birds in Kings Park, Perth first initiated by Dr D. L. Serventy 60 years ago.

During his stay at WAIT, Dr Recher initiated studies of eucalypt insects with Dr Jonathon Majer of WAIT. This research has been funded by ARGS and a program comparing insect communities on eucalypts in eastern and western Australian forests commenced in February.

### Major Publications

During 1986, two books edited by Dr Recher were published. These were "Birds of Eucalypt Forests and Woodlands: Ecology, Conservation, Management" (A. Keast, H. Recher, H. Ford and D. Saunders editors) and the second edition of the very successful ecology text "A Natural Legacy" (H. Recher, D. Lunney and I. Dunn editors).

The book, *Rainforest Birds of Australia*, written by Mr Boles and illustrated by Mr Robert Edden, was launched in October by the Museum bookshop.

The fourth edition of the highly popular book *Reptiles and Amphibians of Australia*, by Hal Cogger was released.

In addition staff contributed 19 chapters to various popular and scientific books on ecology, fishes, reptiles, and birds. Twenty-six scientific papers and four popular articles were also published.

### Community Activities

Walter Boles helped lead a TAMS trip to Mungo and Kinchega National Parks. He taught an 'Ornithological Techniques' course at Sydney Technical College, spoke to various organizations, served as a consultant for various government organizations and as scientific consultant to the bird book project of the National Photographic Index of Australian Wildlife. He continued as President

of the Australian Birds Study Association and member of the Taxonomic Advisory Committee (RAOU) and was scientific paper organizer of the RAOU's Annual Congress in Lae, Papua New Guinea.

Graham Pyke represented the Museum on the Research Committee of the Royal Australasian Ornithologists Union.

The existence of an unrecorded koala population SW of Sydney near Campbelltown has enabled the Museum to co-ordinate and advise on a count of koalas by local conservation groups. This involves the design of forms to record habitat data as well as animals sighted.

Linda Gibson continued as an active member of the Coastal Conservation Committee of the National Trust and participated in a full day seminar organized by the Department of Education.

Jeff Leis served on the Discovery Room management team.

John Paxton lectured the Hornsby Kuringai fishing club on Zoogeography of Australian Fishes.

### Amateur and Student Support

The Peter Rankin Trust Fund for herpetology awarded the following five grants for 1986/87.

Connell, G. W.	WA	\$350.00
social aggregation in <i>Egernia kingii</i> and <i>E. multiscutata</i>		
Dillon, M	NSW	277.20
Development of <i>Crocodylus johnstoni</i> pituitary		
Johnston, G. R.	SA	500.00
Ecological and morphological variation in <i>Amphibolurus rufescens</i>		
Kennett, R.	ACT	481.00
Reproduction and growth in two populations of <i>Chelodina longicollis</i>		
Richards, S. J.	SA	210.00
Colour morphs of <i>Litoria ewingi</i>		
		\$1,818.20

### Future Plans

- Continued studies on the ecology of forest birds and animals
- Completion of book on larvae of Indo-Pacific shorefishes
- New Studies on distribution and evolution of mammals of the Pacific Islands to produce new insight into zoogeographic theory as applied to mammals
- Relocation of large fish specimens
- Relocation of Herpetology, Ichthyology and Vertebrate Ecology Staff for improved working conditions



# Community Relations Division

---

**T**HE COMMUNITY Relations Division aims to promote the Museum's image as a centre for scientific research, a source of enjoyable experiences, and an educator. Through publications such as *Records of the Museum*, *Australian Natural History* magazine, promotional brochures, material on new exhibitions and the Annual Report, it spreads knowledge about Australia's natural environment and cultural heritage.

## Highlights

- An "Open Weekend" took thousands behind the scenes.
- Colour printing in *Records of the Australian Museum*.
- Record turnover for Museum Shop.

## Australian Natural History Magazine

The magazine entered the financial year with substantial profits and this trend continued throughout the year. In an effort to improve magazine turn-around production schedules have been refined. This made it possible to publish five issues during the year.

For the first time ANH had its circulation audited by the Audit Bureau of Circulations. Advertising income has increased and distribution concentrated through subscriptions with more direct mail promotions and the discontinuation of newsagents' sales.

An interesting start and finish to the year: the first issue was a complete sell-out and the last was a completely four-colour issue, a major improvement in quality.

## Museum Shop

The recently completed temporary exhibitions space in the Museum Shop has been well used. Many interesting exhibitions have attracted large numbers of people as well as pleasing sales results.

Exhibitions of Pacific Island and Mexican Indian Weaving and handcrafts were interspersed with the "Cradle of Civilisation" exhibition. This world first brought casts and replicas from the National Archaeological Museum in Athens to our shop and proved extremely popular.

We exhibited Aboriginal Artist, Jimmy Pike's prints as well as being a major venue for book launches of a natural history and scientific nature.

The Shop turnover exceeded the half-million

dollar mark during the year, and the stockturnover approached that usually found in supermarkets.

## Marketing

Public awareness of the Museum as a research institution was heightened by a very successful "Open Weekend". This included behind-the-scenes tours of laboratories and collections. Almost 4,000 people visited the Museum on "Open Weekend" 16th and 17th May. A fossil fish dig at Somersby near Gosford attracted much media attention, resulting in many volunteers assisting in recovery of precious specimens.

Radio advertising replaced the usual television advertising over the Christmas period. Television was back in April for the first of the new school holidays in the four term year. Some experimentation with holiday advertising is taking place as the new holiday periods are so far an unknown quantity.

## Records of the Australian Museum

A total of 620 pages were published this financial year: Numbers 3-6 of Volume 38, in two parts; the first part of Volume 39 (Numbers 1 and 2), and Supplement 6 — a monographic work on the cirrolanid isopods of Australia by Niel Bruce.

Volume 38 Number 4 contained 11 colour plates of parrot fishes from the Great Barrier Reef. The colour printing was made possible by a grant to the authors from the Great Barrier Reef Marine Parks Authority.

A review of scincid lizards of New Caledonia was published in Volume 39 Number 1. This paper was dedicated to the memory of Peter Rankin, a promising young herpetologist who was killed in an accident whilst collecting lizards to be used in this study.

All of the 14 papers published this financial year were on Zoology. One third of the contributing authors were from overseas and one half were Australian Museum scientists.

## Future Plans

- Opening of the second Museum Shop
- Supplementary issues of ANH will be published to co-incide with the opening of Pieces of Paradise and Human Evolution galleries in 1988.
- New four-colour Museum guide book will be published.



# Education Division

**T**HE DIVISION'S aim is to provide an environment that encourages interest, enthusiasm, and opportunities for learning, about Australia's natural environment and cultural heritage for all sections of the community.

## Highlights

- Highly successful tour of the Museum train
- Training program for Volunteer Education Assistants
- Opening of the Discovery Room (see separate report)

## Integration of Class Visits Program

Two strands of class visits — booked and self-guided visits — were brought together during the year. This enabled a co-ordinated marketing plan.

Action Room activities followed four themes this year — Earth Materials, Aboriginal Perspectives in Science, Life in the Sea and Vertebrate Adaptation. Over 170 classes enjoyed Action Room activities and a total of 25,050 students in 917 classes booked Museum visits.

Our attempts to encourage teachers to make their own use of our class areas and teaching specimens are starting to bear fruit with 10 groups participating. Special educational activities were offered during National Aborigines Week and Bird Week.

A total of 56,537 students in 1456 unbooked, self-guided groups visited the

Museum. About half of these received their Teachers' Packs before they arrived at the Museum, due in part to advertising through the Museum Noticeboard, others were given a Pack on arrival at the Museum.

## A New Experience

Secondary school students value highly the opportunity to gain experience by working in one of the Museum's specialist areas. All Museum Divisions participate in this training, co-ordinated by the Education Division. There were 76 students selected this year from many applicants.

## Maximised Use of Education Facilities

The Education Centre's facilities, temporarily reduced by building alterations, were stretched to capacity. Use by Education staff for school classes and by other Museum staff for meetings and seminars was continued in the evenings by outside scientific and conservation groups. Three students from Sydney CAE and one from the Institute of Early Childhood Studies spent their practice teaching periods with us, while other teacher trainee groups watched demonstration lessons and were given information on our facilities.

## Volunteer Education Assistants

Twelve volunteers recently graduated from a three-month training course, bringing to 17 the number of those who work at the Museum on a regular basis. The Action Room, gallery activities and answering children enquiries all benefit from volunteer help. Many other volunteers assist with special projects.

## Teacher's Ideas Pack Evaluated

Students from the University of New South Wales Market Research Department studied use of the Ideas Packs and evaluated the Action Room and gallery activities. Teachers value the Packs highly and recommended additional ones to satisfy the needs of the secondary curricula. Evaluation of the Action Room showed that 'hands-on' activities were most popular, while those which required a lot of explanation were less favoured.

## Museum Train

During the past year the Museum Train completed its tour of the North West region (Narrabri — Coonabarabran), toured the Central/North Coast (Wyee — Kendall), the Southern and Central Tablelands (Mittagong — Gulgong), and the Riverina (Temora — Coolamon).

A total of 53,286 people visited the Train during the year, including 22,786 children in

*Anne Saunders takes the Wandervan out into the community to present natural history to special groups.*



*Photography by Kate Lowe.*



school groups, and 30,500 members of the public. This is comparable to previous years, though the introduction of the four term school year makes comparisons difficult. Lesson slots were invariably very quickly booked out, necessitating double-bookings in many towns in order to accommodate all the schools.

The Commonwealth Bank and the local radio stations provided generous sponsorships. The Bank's staff in each town also assisted with promotion. The State Rail Authority has continued to haul and maintain the Train, playing an integral role in the success of the Train.

### **Museum on the Road**

Museum on the Road experienced another very successful year. During the later part of 1986 MOTR exhibitions "Mammals" and "Papua New Guinea" completed their tour of the south coast while "Life in the Sea" and "Aboriginal Australia" were viewed by audiences in Sydney. During 1987 "Aboriginal Australia" and "Life in the Sea" toured through the Northern Tablelands and North West while "Mammals" and "Papua New Guinea" continued their tour of the outer Sydney suburbs.

Altogether, an estimated total of 143,470 people visited the Museum on the Road exhibitions, of whom 39,010 were school children.

### **Museum in a Box**

Specimens, artefacts, tapes, graphics and notes are packed into a box and sent on loan to schools.

There has been an increased demand so far in 1987 with 187 loans booked for Term 2 alone, making a total of 661 loans for the year. The updating of the Mammal and Anthropology cases is complete while the new Frog case awaits only specimens of eggs.

### **Wandervan**

Designed to extend the Museum's resources to the disadvantaged, this service provides for the physically and intellectually handicapped and the emotionally disturbed in schools, remand and migrant centres, hospitals and nursing homes. The Wandervan visited 4014 people at 120 centres in the urban area and three visits to country centres. The Wandervan participated in events such as University Open days and World Environment Day, and continued its regular program on TV's Romper Room.

### **School Holidays Activities**

After 25 years of continuous operation, the holiday activities in the Education Centre were discontinued, and replaced by the Discovery Room. The Sunday at the Museum program ceased in August, 1986. The Museum Walkabouts, a series of question booklets which have to be completed to gain entry to the Discoverers' Club, are continuing. The Club holds meetings and field days for its members.

### **Preparation of New Specimens**

Activities for the Action Room tended to dominate the Preparator's time this year, with four rather than the previous three special emphasis programs. The activities he has developed included demonstration of the effects of streamlining in fishes, the pentadactyl limb structure using prepared bones and use of special live animals to illustrate such concepts as defence of territory, camouflage and reproduction. Approximately 200 repairs and new specimens were prepared for the class visits, Museum Train and Wandervan. David Millar continued into Stage 3 of the Animal Technicians' Certificate course.

### **Making the Museum More Widely Known**

Feature articles have appeared in a number of publications concerning the work of the Division. The "Forest Futures" activity in the Discovery Room has received coverage in both educational and environmental publications as well as on television, and the Education Division was featured as a cover story in "Independent Education".

We organized a tour of the Education Division for educational journalists from major publications in November.

The introduction of the four term school year has resulted in the "Noticeboard" Museum Education Poster being sent twice yearly to all schools in New South Wales.

Publicity for the Museum Train and Museum on the Road has continued with advertisements, posters, press interviews and teachers' previews being organised.

### **Future Plans**

- Education activities for the Bicentenary
- Move to new offices and re-organization of teaching spaces
- Taking Museum on the Road to centres of high Aboriginal population



# Exhibition Division

**O**UR DIVISION is responsible for providing visitors with an understanding of the natural environment and cultural heritage by devising and producing innovative and eye-catching exhibitions.

We are also responsible for providing and maintaining pleasant and modern facilities for all the public areas in our Museum.

## Highlights

- International Peace Fair
- Purchase of Video camera
- Planning for 1988
- Opening of the Discovery Room (see separate report)

## Planning for 1988

Under the heading "The '88 Experience" the Museum advanced its planning for the Bicentennial year with four outstanding exhibitions. Four Project Teams are working in parallel to stage these exciting presentations throughout 1988. The exhibitions will be, "Dreamtime to Dust — Australia's Fragile Environment", "Pieces of Paradise — Pacific Art Through Many Eyes", "Tracks through Time — Story of Human Evolution", and "Rituals of Human Life".

A fifth exhibition "First Impact — British impressions of Australia 1770-1840" will be on loan from the British Museum and will be shown also as part of the Australian Bicentennial Authority funded exhibition program for 1988 organized by the International Cultural Corporation of Australia.

## International Year of Peace

The Museum was an important focal point for

the 1986 IYP. We were the host for the IYP Peace Fair in July and August. Over forty worldwide organisations met at the Museum, and worked with us in discovering ways of promoting peace in a troubled world.

Our exhibition created a great deal of interest as it presented a wide range of options for achieving peace.

## Purchase of a Video Camera

Our Audio-visual section purchased a portable colour video camera. This will be a great asset as we move into producing our own in-house videos for a variety of purposes. We are working on producing our own training films to help in the induction of new staff to the Museum. We will be producing videos as part of our exhibitions, and we will use the camera to produce archival material to supplement the still photographs.

## Freeze Dryer

The Preparation Section installed a large capacity freeze dryer for the preparation of animal and plant material for both exhibition and scientific purposes. It is big enough to accommodate large mammals, and will greatly improve the quality of our animal mounts.

## Future Plans

The two semi-permanent exhibitions, 'Tracks through Time' and 'Rituals of Life' will be completed late 1988.

We have started to develop a program of exciting temporary exhibitions for after 1988 for the new temporary exhibition space just inside the main entrance. These will be publicised towards the end of our bicentennial. We are designing a new Skeleton display to be housed in the Long Gallery.

46

*Opening night of David Fanshawe's "African Santos" exhibition.*



*Photography by John Fields.*



# Discovery Room

**T**HIS NEW gallery of interactive exhibits opened on 23rd August 1986. Designed for children it is an exciting collection of interactive exhibits aimed to encourage "hands-on", "minds-on" learning.

It is one of the most ambitious projects undertaken by the Museum and is the most advanced exhibit of its type in Australia. Other museums undertaking interactive exhibit programs have used it as a guide.

The Discovery Room resulted from eighteen months planning and research by a Project Team which included educators, scientists and designers. The Room is a Museum Trust project generously sponsored by Caltex, CSR,

IBM and the Commonwealth Bank.

This exciting facility provides visitors with "direct experience" learning in areas of natural science and anthropology. The exhibits, designed to allow visitors to "discover" for themselves, focus on themes such as forest ecology, human communication, snake identification, the effects of waves on seashores, animal coverings, fossil finding, shell identification and many more.

Extensive evaluation programs have given information useful for the modification of existing exhibits and in the development of new exhibits which are to be added to the Room at the rate of four per year.

The Chairperson of the Discovery Room, Sarah Main, spent five weeks in April/May visiting Science Centres and Museums in the USA, Canada and Britain. This was an excellent opportunity to see interactive exhibits in action and talk to both the people who design them and who run the centres. Information gained from this trip will be invaluable in future planning.

The Discovery Room is managed by a coordinator and staffed by "Explainers" — a team of 60 high school, college and university students who have undergone a training programme.

Over 140,000 people have visited the Discovery Room since its opening and it has received a positive and enthusiastic response from the visitors. The Discovery Room is open on weekends and school holidays and, from 3rd March, 1987, three days a week for booked school classes and groups.

*A young visitor "Finds a Fossil" in the Discovery Room.*



*"Learn a Language" is always popular in the Discovery Room.*



*Photography by Karen Handley.*



# Administration Division

**T**HE KEY supportive role of this division is the provision of accounting, building, guiding, staffing, security and other administrative services to the Museum. The commitment of the Division to issues such as accountability, provision of appropriate career and personal development opportunities, being a stimulating, responsible, progressive and entrepreneurial organization to work in, is seen as being crucial to maintaining that role.

## Highlights

- undertaking a one day workshop for administration staff on communication and team building
- achievement of a 38 hour week for guides, security officers and cleaners
- creation and filling of a new position of building manager
- continued planning for relocation of divisions and sections following completion of the new building

## Accounts Section

Improvements in the level of service provided by the Section were made during the year in the following ways:—

Improved Reporting — a reporting package has been purchased which, when fully operational, will reduce the extent of manual reformatting of monthly reports necessary with existing software.

Communication — The section initiated a number of discussion sessions with staff of other Museum Divisions to clarify and resolve issues of concern to users of accounting services.

Computer Knowledge — as the Section's work is entirely computerised, it is essential that an ongoing training program be provided. During the year two thirds of the Accounts

Section staff attended courses conducted by the Public Service Board and UNISYS for Burroughs B20 equipment.

## Staff Section

The section is responsible for co-ordinating the staff, personnel and training areas for the Museum. This year special attention was given to revising the induction process for new starters. A video is to be produced to help introduce new staff to the Museum by familiarising them with the various scientific and administrative areas in a more stimulating and interesting way.

Two in-house workshops on Selection Techniques were developed and run for twenty four staff members.

The Staff Section's Corporate Plan includes initiatives by the Section in staff appraisals, staff development, inductions and staff exchanges.

The Museum has continued to take part in the Commonwealth and State Governments' incentives to assist in the training of the young unemployed. Several young people working with the Museum as a result of the Youth Employment Scheme (YES) and the Australian Traineeship Scheme.

## Security, Cleaning and Stores

Emphasis this year has been on minimising the disruptions to all Museum users caused by major renovations and building the new extension. Improvements in the quality of the services are being achieved through staff training and motivation.

During the year an organizational change has brought these services under the direct supervision of a new position of building manager.

## Guides Section

Innovations during the year included: "Museum on the Streets", a program of walks which linked the environment of the surrounding city with the Museum's collections; "Rogues and Scientists", a history walk highlighting the institution's exciting and controversial past, and the commencement of "Pilotbird", a monthly Guides' newsletter.

The aim of the Guide Section is to make the Museum's exhibitions more accessible to the public and to increase public awareness of the role of the Museum by the provision of guided tours and other interpretive activities. The Section is staffed by volunteer and paid guides.

During 1986/87 the Section's program of

*Pat Hutchings took the Museum guides on a tour of Careel Bay mangroves.*



*Photography by Kate Lowe.*



free highlight tours proved popular with both local and overseas visitors. A second guide training course was undertaken which added 20 Volunteer Guides to the roster. This will enable the Section to provide more tours through the day in 1987/88. Particular interest groups were given specialised tours during the year and found them informative and entertaining.

### Future Plans

- Computerization of plants and stores records
- Development of a video outlining the major functions of the Museum to assist in induction of new staff
- Enhancement of computer memory capacity for the Burroughs mini computer and improvements to the format of accounting reports
- Movement of Stores, Accounts, Staff and Guides Sections to new offices
- Continued emphasis on staff training programs in areas such as security, computer use, management and communication techniques

## Photography Section

### Aims

We provide photographic services for the marketing, exhibition, educational and scientific needs of the Museum. Our tasks range from providing up-to-date illustrations for the various Museum displays, to photographing details of the latest archaeological and scientific discoveries for our archives.

### Servicing

This year we have photographed more than 1,500 artefacts from the Pacific Islands, and covered all the important events and temporary displays at the Museum.

One of our more important tasks is to prepare colour transparencies and high quality art illustrations for various publications.

This year 30 colour transparencies of birds' eggs were included in The National Photographic Index of Australian Wildlife books, "Seabirds of Australia" and "Shorebirds of Australia"; the Australian Natural History magazine cover and photo story on "Feathers"; and many scientific research papers.

We provided all the photographs for the

*Ric Bolzan photographs artefacts for "Pieces of Paradise".*



*Photography by Kate Lowe.*



Open Day at the Museum, as well as covering the progress of the new building.

There has been a significant increase in the use of our photographs by other government institutions, adding to our ability to generate additional revenue to the Museum.

### **Archives**

New and more efficient methods for the storage and retrieval of photographic material are constantly being researched. Students from the Nepean CAE helped us by producing a computerized file and retrieval system evaluation study. This will help us as we move to a full computerization of our section. John Fields convened the first national conference of the Australian Photographic Access Network to develop an Australia-wide standard for data entry and retrieval of pictorial collections.

As well as the regular culling and reorganising of our colour transparency collection, we completed the archival treatment of the famous T. Dick collection of Aboriginal photographs made in the early 1900s.

### **Fieldwork**

Our staff were kept very busy during the year recording projects in progress at places like Kempsey — records of the Thylacine skull — Willandra and Menindee Lakes with the TAMS group, Myall Lakes area with the TAFE Biological studies group teaching Nature photography, Somersby Quarry fossil dig, and many other important projects interstate.

We are also recording the changes to the environment in the Illawarra district water catchment areas, Wolli Creek from Tempe to Bexley North, the Botany Bay region, and Alpine land use at Kosciusko National Park.

### **Future Challenge**

We look forward to continuing our role of making permanent visual records of the total work of our Museum which will be available to staff and customers of our Museum.

## **Occupational Health and Safety Committee**

A committee comprising Michael Dingley — Prep Shop, Linda Gibson — Mammals, David Horton-James — Conservation, Lois Horton-James — Design Studio, Ian Loch — Malacology (chairperson), Geoff McKenzie — Chief Administrative Officer and Lindsey Stockdale — Building Manager, has been established and has operated throughout the

year in accordance with the Occupational and Health Safety Act, 1983.

The Committee met eleven times during the year, and considered a wide range of issues including the effectiveness of fume hoods; improved ways of dealing with chemical spills; emergency exit from the Spirit House and implementation of recommendations following a study of safety aspects at the Museum by the Sydney Hospital Occupational Health and Safety Service, in conjunction with Riskex Pty Ltd.

During the year, the Director and the committee undertook two tours of inspection of the Museum buildings, concentrating on problem areas.

A system of pink slips notifying Divisional Heads about problems within their areas and requesting action was instituted. Geoff Holloway conducted a successful cardiac resuscitation training course for 45 staff members, and he plans to repeat this course regularly. A survey of attitudes to workplace smoking was conducted, prior to recommending a plan of action to the Director. Ian Loch attended seminars on workplace smoking and RSI management.



# Materials Conservation Division

---

**T**HE MATERIALS Conservation division aims to prevent damage to the collections, conserve items of special importance and undertake research to increase the immediate and long-term preservation of the collection as well as disseminating information on conservation methods.

## Highlights

- "Rituals in the Human Life Cycle" exhibition — planning completed and conservation underway.
- "Pieces of Paradise" exhibition — conservation work on schedule for April,

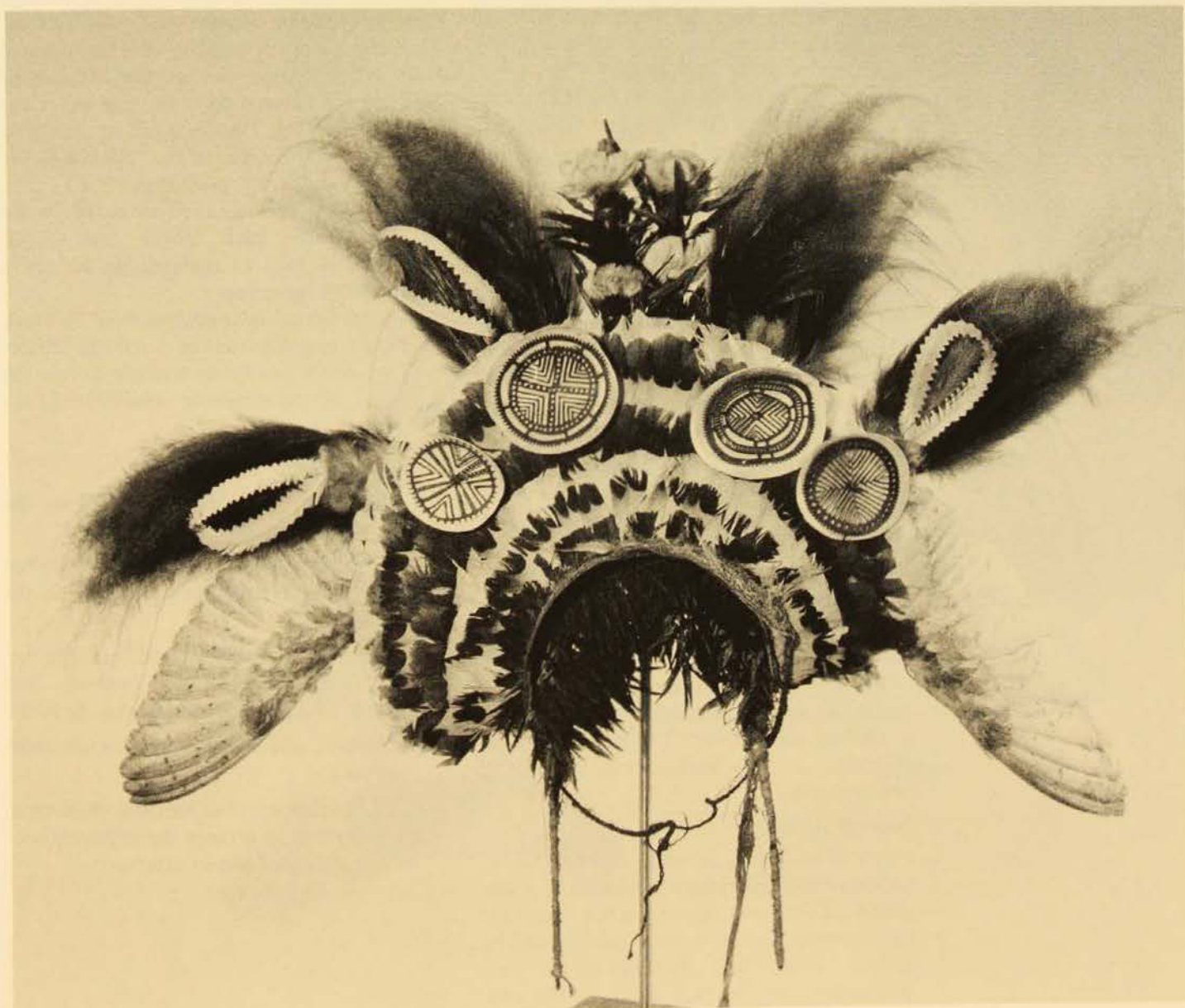
1988 opening.

- Research on the materials used in the treatment of damaged painted artefacts — Stage II nearing completion.

## Pieces of Paradise

The preparation of over 350 objects for the Bicentenary exhibition of Pacific artefacts is proceeding on schedule. Approximately 200 objects have already been treated, many requiring innovative treatment techniques and mounting methods; for example the transportation, conservation and storage of two 5m Sepik house posts comprising wood, feathers, plant fibre, shells, plastic, fur and

*A headdress conserved for the "Pieces of Paradise" exhibition.*



*Photography by Kate Lowe.*



various pigments.

The progress of the conservation work has been greatly assisted by the appointment of 3 permanent members of staff as well as temporary assistance from Thurid Clark (from USA) and Jenny Dickens (from Canberra).

The exhibition will feature many significant Pacific artefacts which have not been displayed before, as well as objects especially brought from the National Museum in Canberra.

### **International Conservation Conference in Sydney**

This year Sydney is hosting the 8th Triennial Meeting of the ICOM Conservation Committee (ICOM-CC), the first international conservation conference to be held in the southern hemisphere. Assistance has been provided by the Museum, Federal and State Government, and sponsorship by private companies has been arranged. Sue Walston and Karen Coote are responsible for the organisation of the conference.

In addition, Sue Walston, as the ICOM-CC Co-ordinator of the Working Group on Ethnographic Materials, is collaborating with overseas colleagues in the production of a Bibliography on Ethnographic Conservation, a Newsletter for the Group and an international survey of ethnographic conservation.

### **Rituals in the Human Life Cycle**

About 400 objects have been selected for inclusion in this exhibition and conservation work has commenced. The exhibition, to open in October 1988, will include objects from a wide range of cultures — from ancient Egyptian mummies to modern Australian Aboriginal toys.

### **Research on Painted Artefacts**

A major three stage research project is underway to develop methods and materials to reduce flaking of paint from ethnographic artefacts.

The second stage, to develop procedures to assess the performance and stability of resins, is nearing completion. The results will be presented at the forthcoming ICOM-CC conference.

### **New Building**

Preparation for the relocation of the Pacific and Aboriginal collections is continuing. More than 80,000 objects, ranging in size from tiny shell earrings to 10m wooden canoes, will be moved from the Anthropology and Rushcutters Bay storage areas to the new

building.

A conservator has been employed to ensure that fragile items will be moved and stored safely.

### **General**

The division welcomed back Sue Gatenby from a 4 month ICCROM course in Rome on "Scientific Principles of Conservation". Sue Walston and Karen Coote organised an ethnographic textile conservation workshop in Adelaide as part of the 1986 National Conservation Conference of the ICCM; both also attended an International Ethnographic Conservation Symposium in Ottawa in October where Sue presented a paper and organised an interim meeting of the Working Group on Ethnographic Materials. She also spent a week at the Getty Conservation Institute in Los Angeles looking at research and information management programmes.

A large slit drum weighing over half a tonne was safely moved out of the Melanesian Gallery and lowered down the stairwell of the William St. wing. The drum will eventually go on permanent display in the "Rituals in the Human Life Cycle" exhibition.

The Division again provided work experience for high school and CCAE students, as well as maintaining an active volunteer programme.

The forthcoming appointment of Dr Mark Gilberg (from Canada) as Scientific Officer will provide a significant contribution to the research and development capabilities of the laboratory.

### **Future Plans**

- Completion of conservation work on the "Pieces of Paradise" exhibition.
- Conservators (from Canada and the United States) will be assisting with work on the projects.
- Completion of the third and final stage of the research project on methods and materials for the adhesion of flaking paint.
- Computerisation of conservation treatment records.
- Collaboration with the National Museum of New Zealand to arrange the production of an exhibition of Maori artefacts.



# Library

**T**HE MUSEUM Library Collections form a major natural history literature resource in Australia. Our aims are to conserve, acquire, organise, retrieve and disseminate information to support the work of the Museum staff.

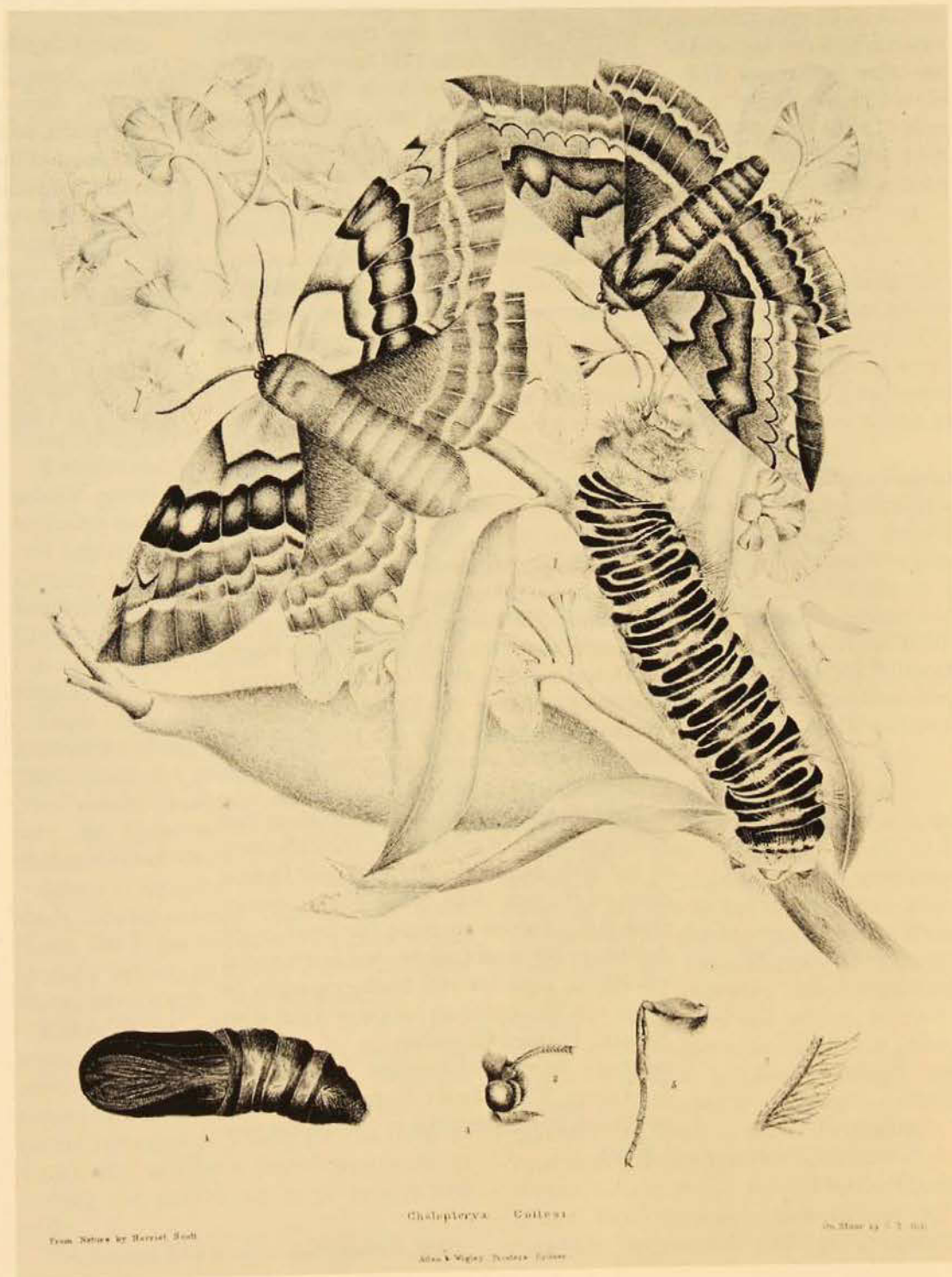
The Library also makes the collections available for the scientific and educational activities of many organisations and individuals.

## Highlights

- Resurgence of interest in Scott Sisters Paintings
- Acquisition of IBM XT PC
- Move — planning and preparations
- New Staff appointments

The Library acquired an IBM XT personal computer. It is currently being used for word

*A magnificent work by the Scott sisters.*





processing, for accessing the Minerva Interlibrary Loan system, and in planning the relocation of our 10,000 serial titles to their new location in the new Library. Using a specially designed program, information on the space currently taken up by each serial title, plus projected growth for 10 years, are entered into the computer which then allocates the title a new location. The list produced can be used as a location guide, a shelf list, and as a guide for packing and moving the collection in an organised and efficient manner.

Detailed plans for our move, currently scheduled for December 1987 have been drawn up. Library services are slowly being wound down and from October 1987 the Library will effectively be closed as packing of the collection is due to start at that time. The Archives collection has already been packed and moved to a temporary area.

Shelving, joinery and overall interior design plans have been decided upon and in some cases tenders have been called and contracts awarded. The new Library should offer enough space to house the current collection and allow 10 years growth. In addition, it will offer Library staff, museum staff and visitors far better facilities and access than previously in an extremely pleasant environment. The Library is currently scheduled to re-open in April 1988.

The Library acquired two new permanent positions — a Librarian and a Senior Library Technician. The Librarian's position involves responsibility for the Archives and Rare Books Collections and also for Departmental Collections. These are all important areas which can now be given the attention they deserve with regard to conservation, organisation and retrieval.

The Library's collections include many rare or unique items of great value. The collection of butterfly paintings by Harriet and Helena Scott in the late 1800s is but one. Paintings from this collection are being borrowed by the Australian National Gallery for a Bicentennial exhibition, used for two books currently in press, and featured in an article in **Australian Natural History**. A collection of prints is currently being sold through the Museum Bookshop. The Library hopes to hold an exhibition of the paintings in 1988 in the new Library.

STATISTICS	1986/7	1985/6
Loans — staff	4,000	3,700
InterLibrary loans		
— staff requests	742	750
— external requests	1,373	1,236
— pages copies	10,300	10,126
Binding	2,535	1,628
Acquisitions		
— monographs	650	823
— serial titles	160	117

During the past year, staff attended the following:

Office Automation Seminar, Austnet Course, Technology at the leading Edge Seminar, Seminar on Library Materials Preservation, and Dialog updates. Some staff participated in the Fossil Dig at Somersby and the Chief Librarian visited the Museums' Research Station on Lizard Island where the Library collection was reviewed, deficiencies assessed, recorded and plans made for future acquisition, organisation and access.

### Future Plans

The major and overriding objective for next year will be the move, relocation, and re-opening in 1988.



# Lizard Island

---

**E**STABLISHED IN 1973, the Research Station provides support for scientific research into all aspects of biology, geology, oceanography, hydrology and ecology on the northern Great Barrier Reef. Accommodation, boats, diving equipment, a running seawater aquarium system and air conditioned laboratory facilities for up to 16 scientists are available right on the reef. The station's 14m catamaran plies the waters north to Papua New Guinea and south to Townsville, assisting in a variety of research programs.

## Highlights

- Purchase of new 6m speedboat
- New lab facilities and equipment
- Over \$50,000 in fellowships awarded last year
- The number of visitors to the Station has doubled

## Station and RV SUNBIRD Hotbed of Scientific Activity

The daily occupancy rate at the station has doubled with an average of nearly 10 people per day compared with 4.1 per day in 1984-85 using all station facilities.

Research was as varied as ever. Larval fish studies occupied a number of researchers, including our doctoral fellow Maria Milicich, Jeff Leis from the Australian Museum, Peter Doherty and Mark Meekan from Griffith's University and Howard Choat from the James Cook University. The collaborative work in this area should produce some outstanding results.

Leslie Newman is making important discoveries about the biology of the tiny, fragile plankters, pteropods (sea butterflies). They can be seasonally very abundant and may be responsible for concentrating phytoplankton toxins, such as ciguatera.

Louise Goggin has received MST funds to study disease-causing organisms in giant clams. She hopes to discover the cause of the sporadic but locally extensive deaths of giant clams, particularly *Tridacna gigas*.

Randy Olsen, with a team from AIMS, studied environmental factors affecting the survival and settlement of larvae from the Crown-of-Thorns starfish. Surprisingly, his results indicated that food (in the form of algae) may not be a significant factor in limiting the larvae's ability to survive and settle.

The station had its first Earthwatch group

under the supervision of Drs Abby Schwarz and Jerry Downhower. They studied variation in the social structure and sex change in a small pomacentrid fish, *Dascyllus reticulatus*.

## Condor Cat

Getting to the reefs neighbouring Lizard Island and to the outer barrier is just as important to scientists visiting the station as access to the fringing reefs of Lizard Island. To increase this access Condor marine in Sydney built and helped finance a 6m aluminium catamaran with twin 70 hp motors for the station. The boat has two long distance fuel tanks, large deck space and walk out transom in the back. It is outfitted with a CB Radio for communication with the CB base on the island. This allows the station to keep contact with the Condor Cat within at least a 30 nm radius of the island.

## Few Facilities

The old library, adjacent to the aquaria, was converted into a new formalin free wet lab for culture work and live animal research. The outdoor aquarium space has been increased by 75%. Further shelf space and a cupboard for shop merchandising have been added to the new library.

The remainder of the grant from the Federal Republic of Germany was used to purchase a Zeiss compound microscope, Schott microscope lights, Heraeus Biofuge A (which becomes a refrigerated centrifuge if placed in the walk-in coldroom), Heraeus incubator and two Braun flashes. A donation from Wild-Leitz was used to purchase a Wild Polaroid camera back for our two photomicroscopes, a large swinging arm stand for the Wild M400 and a Planix 7 planimeter.

## Lizard Island Fellowships

What influences humbug fishes to settle on some coral heads and not others? Are chemical cues responsible for attracting humbug fish larvae but discouraging other species? This research is important to Dr Hugh Sweatman from the University of Sydney's Department of Biometry and Agricultural Genetics. Hugh was one of six scientists chosen to receive fellowships to work at Lizard Island Research Station. Through the fellowships the station is encouraging research that will contribute to the understanding of coral reefs and highlight the capabilities of the station. This program, assisted by the Lizard Island Reef Research Foundation, will conclude in August 1988 at the Sixth



International Coral Reef Congress.

Other 1988 Lizard Island Research Fellows are: Dr Mark Hay (University of North Carolina), who is studying the way in which by-products of coral reef seaweeds affect the feeding, growth, breeding success and mortality of the fish and invertebrates which feed on these seaweeds; Drs Tony Larkum and Guy Cox (University of Sydney), are searching for extremely primitive algae symbiotic with various sponges. The discovery of such organisms would lead to the re-evaluation of current thinking about the evolution of more advanced algae. Dr Jason Smith and Ove Hoegh-Gulberg (UCLA) are researching the contribution made by photosynthesis of zooxanthellae (symbiotic algae), which live within the coral tissue, to the nutrition of the coral and whether that contribution changes over the life of the coral. Whilst the density of the algae varies, neither the pattern of variation nor the mechanism determining it is understood.

Anne Hemsley was awarded the first Lizard Island Honours Fellowship and will study the biochemistry and molecular genetics of toxin granule proteins isolated from molluscs of the family Conidae. Her supervisor is Dr Maquire of Griffith University.

Kendall Clements received the fifth doctoral fellowship to study herbivory in newly settled reef fish. His supervisors are Prof J. H. Choat from James Cook University and Dr D. Williams from AIMS.

### **R V SUNBIRD Overhauled**

Captain Matt and Mipi Jumelet joined the station in October. Matt has a 1st Class Master's Ticket and extensive sailing experience in northern Australian and New Guinea waters. His experience was well utilized in charters that covered reefs from Thursday Island to Townsville. The following are among the research projects that the RV SUNBIRD supported this year:

- ▶ Studies of the distribution and abundance of the Crown-of-Thorns Starfish;
- ▶ Monitoring of nesting turtles on Raine Island and nearby reefs;
- ▶ Collections of marine organisms for cancer research.

The boat, now 4 years old, went into Cairns for a major overhaul. The boat looks good and remains ready to support scientific research anywhere on the northern part of the barrier reef.

### **Future Plans**

This year existing facilities will be further improved and an assessment will be made of any need for expansion of facilities.



# National Photographic Index of Australian Wildlife

---

**T**HE INDEX is a special project of the Australian Museum. It maintains a documented collection of photographs of the mammals, birds, reptiles and frogs of Australia and its territories. This resource complements the collections of preserved specimens in the Vertebrate Zoology Division of the Museum, providing information on the appearance of the living animals. It is also available for use by zoologists, authors and publishers and is the basis of richly illustrated books produced by the Index itself.

Overall direction and financial control of the Index is vested in a Committee of Management appointed by the Australian Museum Trust. Under the chairmanship of Mr. J. H. Broinowski CMG, the Committee held four meetings during the year. The Index is administered by an Executive Officer and four other staff.

## Highlights of the year

- **The Shorebirds of Australia**, a 700-page book with 720 colour illustrations was printed in May, 1987. This is the fourth in a series of ten volumes which will cover all the birds of Australia, far surpassing any other publications in pictorial coverage.
- **The Seabirds of Australia** received the 1986 Whitley Award of the Royal Zoological Society of New South Wales for the best reference book in zoology to have been published in Australia in that year.
- Coverage of the species of Australian reptiles and frogs exceeded 70%.
- The extensive photographic collection of the late Michael Sharland, extending from the 1920s to the 1980s, was bequeathed to the historical section of the Index.

## Activities

Book production was the major activity of the Index during the year. **The Robins and Flycatchers of Australia** went to press.

An unscheduled book, **What Bird Song is That?**, an illustrated text with accompanying tape cassettes, was completed and in press by the end of June and scheduled for publication

in November 1987.

Some 3,400 colour photographs were added to the collection, bringing the total number of transparencies to about 21,000.

The coverage includes 271 species of mammals, 800 species of birds, 448 species of reptiles and 154 species of frogs.

## Historical Collection

The historical collection comprises black-and-white prints, glass negatives and lantern slides, mostly of birds, made in the first half of the twentieth century. We have added about 7,000 items during the year, making a total of about 15,000 photographs, some of which have yet to be catalogued.

The important collection of the late Michael Sharland of Hobart was received, together with field notes and diaries covering some sixty years of Australian natural history. A research student is currently indexing the written records.

A general collection has been received from the estate of Athol D'Ombrian. Vincent Serventy has donated an interesting selection of his early negatives of Australian seabirds.

A group of volunteers under the direction of Mr. E. L. Carthew, Honorary Archivist, assisted by Mr. H. J. de S. Disney and Mr. J. D. Waterhouse, also honorary archivists, manages the historical collection.

## Funding

The Index continues to meet most of its operating costs from royalties derived from its publications, sponsorship of illustrations in its bird books, and reproduction fees for use of its photographs. The Museum Trust has undertaken to provide up to \$30,000 per annum from matching grants generated by donations to the Index under its page sponsorship scheme.

## Future Plans

Preparation for publication of a further two volumes in the Birds of Australia series, *The Honeyeaters of Australia* and *Parrots & Pigeons of Australia*.



# The Australian Museum Society (TAMS)

**O**UR SOCIETY develops and maintains contact between the Museum and the community by promoting a greater understanding of Museum activities, and assists the Museum financially, as requested by the Trust.

## Highlights

- Two successful tours to Galapagos and Patagonia
- \$50,000 contribution towards the Bicentennial Project, "Dreamtime to Dust".
- Continued membership increase

## Tours

Our tours were all fully booked. Naturalist Vincent Serventy and Museum scientist Dr Jim Lowry led a group of thirty members on memorable tours to the Galapagos Islands, and to Patagonia in South America.

Dr Tim Flannery led a group of TAMS volunteers to the New Guinea highlands to participate in an extremely useful research and mammal survey expedition.

We were able to take advantage of both the fall in the value of the Australian dollar and an increased awareness of wilderness areas by organising well-patronised tours within Australia. The most notable were the four Kakadu/Arnhem Land tours, involving sixty members. There were also the camping tours to Lake Mungo, Kinchega National Park and Peppy Beach.

## Financial Contribution

We were able to give the first \$50,000 of our

pledge of \$100,000 towards the cost of the "Dreamtime to Dust" Bicentennial exhibition project. We were able to finance lectures given by several Australian and overseas specialists, including Professor Geoffrey Blainey, Professor Manning Clark, Professor Revelle of the USA and Dr Norman Myers of the UK.

We continued to encourage businessmen and corporations to sponsor the many projects involving our Museum. These are listed elsewhere in the Annual Report.

We have seen a 50% increase in the net profit of the Café Museum, due largely to the increased number of private functions held in the Museum's public galleries.

## Volunteer Program

We continue our task of co-ordinating the volunteer program. We were able to train and place more than 200 volunteers in all departments of the Museum. These volunteers provide a vital service by assisting both the staff and the public to enjoy the Museum to the full.

## Future Plans

We will be launching three new membership categories, to be known as The Australian Museum Society Circles:

- Curators' Circle — \$500
- Director's Circle — \$1,000
- Trustees' Circle — \$5,000

We will be computerising the TAMS office, and completing our pledge to the "Dreamtime to Dust" sponsorship.

*TAMS members rub shoulders with the locals on the Galapagos Islands.*



*Photography by Vincent Serventy.*



# Staff

D. J. G. Griffin, MSc, PhD  
H. G. Cogger, MSc, PhD

M. Ingham  
E. Kortvelyesy  
P. Dempsey  
I. Gorman

## Anthropology Division

L. Bolton, BA (Hons), Dip. Mus. Stud., M.A.  
P. Gordon  
R. Lampert, PhD, FAHA  
J. Specht, MA, PhD  
S. Thomsett BA (Hons) Dip. Mus. Stud.  
S. Young  
N. Goodsell, BA  
K. Khan, BA (Hons) Dip. Anthropol.  
Z. Wakelin-King, BA (Hons).

S. Florek, MA  
R. Fullager BA (Hons), PhD  
T. Konecny, BA (Hons) Dip. Mus. Stud.

D. Losche, MA M. Phil., PhD  
B. Meehan BA (Hons), MA (Hons), PhD  
S. Rawson

## Temporary Assistants.

N. Baker  
J. Bible, BA  
R. Bolzan  
J. Bona  
K. Bona  
L. Bonshek, BA Dip. Mus. Stud.  
F. Campbell  
N. Chadwick  
T. Corkill, BA (Hons)  
M. Darcey  
D. Donlan BA (Hons)  
M. Graham  
T. Heinsohn, BA (Hons), Dip. Mus. Stud.  
P. Hyde  
D. Jagger, BA  
C. A. McGrath  
R. Muhlen-Schultze, BA (Hons)  
L. Oakes, BA, Dip. Mus. Stud.  
U. Protopeescu  
A. Szalay BA (Hons).

## Earth Sciences Division

### Palaeontology

R. Jones, MSc  
A. Ritchie, BSc, PhD

### Mineralogy and Petrology

J. E. Henley BAppSc, FGAA  
R. E. Pogson BAppSc (Hons)  
F. L. Sutherland MSc, PhD  
G. Webb BA, FGAA, DipDT

### Part-time Assistants

M. E. White, BSc, MSc  
P. Willis, BSc

## Invertebrate Zoology Division

### Arachnology

M. Gray, MSc, PhD  
C. Horseman  
G. Hunt, BSc, PhD  
R. Meza, BSc (Hons)

### Entomology

D. Bickel, PhD  
B. Day  
R. de Keyser, BSc  
G. Holloway, BSc  
D. McAlpine, MSc, PhD, DIC  
T. Robinson

### Malacology

G. Avern, BSc, DipEd, MSc  
S. Carter  
G. Clark  
P. Colman  
D. Hunt, BSc  
I. Loch  
W. Ponder, MSc, PhD

Director  
Deputy Director

Secretary to the Director  
Assistant to the Deputy Director  
Director's/Scientific Typist  
Director's Research Assistant

Senior Technical Officer (Collection Manager)  
Aboriginal Liaison Officer  
Head of Division and Senior Research Scientist.  
Senior Research Scientist  
Technical Officer (Scientific)  
Typist  
Technical Officer (Scientific) Part-time  
Technical Officer (Scientific) Part-time  
Senior Technical Officer (Collection Manager) Part-time  
Technical Officer (Scientific) Temporary Staff  
Consultant Temporary Staff  
Technical Officer (Scientific) (Collection Manager) Temporary Staff  
Consultant Temporary Staff  
Scientific Officer Temporary Staff  
Aboriginal Trainee Temporary Staff

Technical Officer (Scientific) and Collection Manager  
Senior Research Scientist and Head of Division

Senior Technical Officer (Collection Manager)  
Technical Officer (Scientific)  
Senior Research Scientist  
Technical Officer

Scientific Officer (Collection Manager)  
Technical Assistant  
Visiting Research Worker (Part time from June 1987)  
Temporary Assistant  
(Part time from March to June 1987).

Scientific Officer (Temporary)  
Technical Assistant  
Research Assistant (Temporary)  
Collection Manager  
Principal Research Scientist  
Technical Assistant (Temporary)

Research Assistant (Part Time)  
Research Assistant (Temporary)  
Research Assistant (from 3.1.87)  
Technical Assistant  
Research Assistant (Part Time) (from 31.3.1987)  
Senior Technical Officer (Collection Manager)  
Principal Research Scientist  
(Head of Division since 1st March)

W. Rudman, MSc, PhD  
L. Shaman  
J. Waterhouse, BSc (Hons)

## Marine Ecology

A. Jones, MSc, PhD  
A. Murray, BSc  
T. Trnski, BSc

## Crustacea

P. Berents, MSc  
N. Bruce, BSc (Hons), PhD  
S. Keable, BSc  
J. Lowry, MA, PhD  
L. Matthews  
A. McLean, BSc  
G. Moore, BSc  
R. Springthorpe, BSc  
A. Watt, BSc

## Echinoderms

E. Albertson, BSc.  
J. Hanley, BA  
P. Filmer-Sankey, BSc (Hons)  
F. Rowe, BSc (Hons), PhD,  
CIBiol, MIBiol, FLS

## Worms

L. Howitt, BSc  
P. Hutchings, BSc (Hons), PhD  
S. Keable, BSc

## S. Kopp

L. Matthews  
S. Perry, BSc  
A. Reid, BSc  
J. van der Velde, BSc (Hons)  
L. Walker

Senior Research Scientist  
(from 11th May 1987)  
Technical Officer

Scientific Officer  
Technical Officer (Scientific)  
Technical Officer (Temporary)

Scientific Officer  
Scientific Officer (Queens Fellow)  
Technical Officer  
Senior Research Scientist  
Technical Assistant  
Technical Officer  
Technical Officer  
Technical Officer (Acting Collection Manager)  
Technical Officer

Research Assistant (to 31.12.86)  
Research Assistant  
Technical Officer (Scientific)  
Senior Research Scientist

Technical Officer (Part Time)  
Senior Research Scientist  
(Head of Division until 1st March)  
Research Assistant — Twofold Bay Project  
(to 20.3.87)  
Museum Assistant  
(Government Traineeship Scheme)  
Museum Assistant (Part Time)  
Technical Officer  
Technical Officer  
Research Assistant — Twofold Bay  
Technical Officer

## Vertebrate Zoology Division

### Herpetology

H. Cogger, MSc, PhD  
A. Greer, PhD  
D. Kent, BSc, Dip. Agr. Ent  
G. Mengden, BSc, PhD  
R. Sadler, BSc

Deputy Director  
Senior Research Scientist  
Technical Officer (Scientific)  
Research Fellow  
Collection Manager

## Deputy Director's Research Laboratory

E. Cameron, MSc

Scientific Officer

## Ichthyology

M. Atkinson, MSc  
D. Brown, BA  
J. Hills, BSc  
D. Hoese, BA, PhD  
J. Leis, BSc, PhD  
M. McGrouther, BSc (Hons)  
L. Moodie BSc (Hons)  
J. Paxton, MSc, PhD  
S. Reader, BSc  
D. Rennis, MSc  
S. Thompson, MSc  
T. Trnski BSc  
T. Goh

Technical Officer (Scientific)  
Technical Officer (Scientific)  
Temporary Assistant  
Head of Division  
Scientific Officer  
Technical Officer (Scientific)  
Technical Officer (Scientific)  
Scientific Officer  
Technical Officer (Scientific)  
Collection Manager  
Technical Officer (Scientific)  
Technical Officer (Scientific)  
Scientific Typist

## Mammalogy

T. Flannery, BSc, PhD  
L. Gibson  
B. Duckworth Dip. Art.  
E. Eyres; S. Praseuthsouk; S. Weidland

Research Scientist  
Collection Manager  
Technical Assistant  
Temporary Assistants

## Ornithology

W. E. Boles, BSE (Hons.)  
I.A.W. McAllan; D. W. McFall; L. Hazel;  
A. Gillespie; J. Gillespie; A. Meza

Senior Technical Officer (Collection Manager)  
Temporary Assistants

## Vertebrate Ecology

G. Barrett, BSc (Hons.)  
N. Carlile, Assoc. Dipl. ApSc.  
N. Gertenaar  
G. Gowing, BSc (Hons)  
P. O'Connor, BSc  
C. Palmer  
G. Pyke, BSc (Hons), PhD  
H. Recher, BSc, PhD  
G. Serkowski  
M. Mitchell

Research Assistant  
Research Assistant  
Research Assistant  
Senior Technical Officer  
Research Assistant  
Research Assistant  
Senior Research Scientist  
Principal Research Scientist  
Technical Officer (Scientific)  
Vacation Assistant



## Community Relations

J. Bear  
M. Dingle  
F. Doig  
G. Hickey, BSc

L. Hodgson, BSc (Hons)  
H. Lee  
J. McIntosh  
A. Maxwell  
L. Saunders  
M. Sherlock

Shop Assistant\*  
Head of Division  
Editor, Australian Natural History  
Assistant Editor, Australian Natural History  
Assistant Editor (Records)  
Shop Assistant  
Circulations Officer  
Publicity Officer  
Shop Manager  
Shop Assistant

## Education Division

P. M. McDonald, BEM, BSc, MEd, FMAA  
G. B. Ebeling, BSc, DipEd,  
J. Griffin, BA, DipEd, DipSpecEd  
Z. Harkness  
G. S. Hunt, BSc, DipEd, PhD  
C. MacLulich, BEd (Hons) Dip. Mus Studies  
S. O. Main, BA, DipEd  
A. L. O'Neill, BAppSc, Cert Ed  
R. A. Osborne, MSc, DipEd  
A. Skates, Dip Teach, BA  
A. Saunders, BA, DipEd  
J. J. Gillespie, BSc  
V. Crossley, BSc

S. S. Stephens, BSc (Hons) DipEd

A. W. Watterson, BSc (Hons), DipEd  
D. B. Millar  
M. L. Robinson, B Appl Sc  
F. J. Fletcher  
E. McPhee  
H. Samios  
C. Browne, Dip Teach Science  
H. Raphael, BA, DipEd  
J. Sharpe, BA (Comm), DipEd

Head of Education Division  
Education Officer (from 2.3.87)  
Education Officer (to 2.2.87)  
Education Officer (part time)  
Education Officer  
Co-ordinator, Discovery Room  
Education Officer  
Education Officer (to 30.1.87)  
Education Officer (from 5.5.87)  
Education Officer  
Education Officer (Special Project)  
Education Officer (from 1.2.87-5.5.87)  
Education Officer (Museum Train)  
(From 8.9.86-14.11.86)  
Education Officer (Museum Train)  
(from 18.11.86)  
Education Officer (Museum Train)  
Preparator  
Preparator  
Typist  
Typist  
Typist  
Senior Explainer\*\*  
Senior Explainer\*\*  
Senior Explainer\*\*

## Exhibitions Division

R. Joyner, ADIA  
M. Cloyd

### Design

G. Ferguson, Dip Art (App Art)  
R. Galimam, BA Hons  
K. Gregg  
L. Horton-James  
M. Keogh  
B. Matzick, Dip Art (Painting)  
R. Ross-Wilson  
R. Weakley

Head of Division  
Secretary

Exhibition Project Manager  
Head of Design  
Designer  
Museum Assistant  
Designer  
Exhibition Project Manager  
Exhibition Project Manager  
Designer

### Preparation

M. Bray  
M. Dingley  
W. Feinberg  
A. Gregg  
G. Hangay  
J. Hood  
B. Horn  
C. Johnson  
M. Kelly  
P. Keszei  
O. Keywan  
T. Lang  
E. MacLeod  
H. Magor  
R. Moloney  
T. Ralph  
B. Rix  
R. Scott-Child  
A. Titchen  
A. Wang  
C. Wang

Preparator  
Preparator  
Preparator  
Assistant Preparator  
Chief Preparator  
Preparator  
Preparator  
Assistant Preparator  
Assistant Preparator  
Preparator  
Preparator  
Preparator  
Assistant Preparator  
Assistant Preparator  
Preparator  
Preparator  
Assistant Preparator  
Assistant Preparator  
Assistant Preparator

### Audio Visual

D. Sweet

Audio Visual Technician

## Administration Division

G. McKenzie, AASA, CPA  
J. Shewan

Head of Division  
Secretary

## Accounts Section

Z. Christofides  
A. Crame  
N. Davis  
T. Goyen  
S. Hingston  
A. Murgia  
A. Nowland  
M. O'Reilly  
J. Phillips  
M. Quinlan  
D. Schizas  
J. Van Der Velde  
D. Ward

Senior Clerk\*  
Acting Assistant Accountant  
Cashier  
Acting Accountant  
Accountant\*  
Accountant\*  
Accountant\*  
Accounts Payable Clerk\*  
Clerical Assistant  
Accounts Payable Clerk\*\*  
Cashier  
Mail Clerk\*  
Accounts Payable Clerk\*

## Building Section

L. Stockdale  
M. Hickie

Building Manager  
House Officer

## Cleaning

K. Bilbe  
G. Casey  
E. Drakoulki  
J. Elias  
P. Fletcher  
N. Gregoire  
N. Koulouzis  
J. Laughton  
E. Mair  
S. Melish  
B. Walsh  
W. Walsh  
C. Picklum

Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Cleaner  
Gardener

## Guides

A. Brady  
R. Davies  
G. Gatenby  
K. Jenness, BSC  
A. Youssef, B. Tourism  
E. Adcock  
D. Barron BSC (Hons) Dip. Ed.  
M. Beavis  
G. Brock  
M. Chapman  
P. Cromie  
B. Hough  
R. Jaques  
C. Johnston  
F. Kirby  
Y. Lundy  
J. Nancarrow  
G. Oldfield  
G. Osbourne, B. App. Sc  
K. Page  
C. Palmer  
A. Ponton  
A. Ralph  
B. Silver  
J. Stuart  
V. Wilson  
S. Lenton

Guide  
Guide  
Chief Guide  
Guide  
Guide  
Information Attendant  
Guide\*  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Volunteer Guide  
Work Experience Student

## Photography

J. Fields  
K. Lowe  
K. Handley  
R. Schoen

Head of Section  
Photographer  
Museum Assistant — Photographer  
Temporary Assistant\*

## Security

H. Barrows  
G. Bonham  
H. Butler  
P. Goodwin  
W. Grice  
B. Griffiths  
A. Jones  
U. Lederman  
E. Martin  
R. Milroy  
W. Payne  
H. Pierson  
K. Randall  
E. Reynolds  
B. Seears  
D. Shallis  
D. Shelton

Security Officer  
Security Officer  
Security Officer  
Security Officer\*  
Security Officer\*  
Security Officer  
Security Officer\*  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer  
Security Officer



## Staff Section

R. Norris  
N. Davis  
L. Charlesworth  
M. Pettit  
F. Stamper  
M. O'Reilly  
D. Ward  
J. Van Der Velde  
A. Sommer  
K. Hawkey  
J. Rae  
G. Moriarty

## Stores

W. Rixon  
J. Rusten  
W. Steele

Staff Manager  
Assistant Staff Manager\*  
Assistant Staff Manager  
Clerical Assistant\*  
Clerical Assistant\*  
Clerical Assistant\*  
Clerical Assistant\*  
Clerical Assistant\*\*  
Reception  
Reception  
Reception  
Australian Youth Trainee\*

Storeman Driver  
Storeman Driver  
Temporary Assistant\*

## Material Conservation Division

T. Clark  
A. Coggins, BSc (Hons) DipEd  
K. Coote, BA BSc (Hons)  
S. Costello  
N. Dammerel  
J. Dickens, BAppSc  
G. Drummond, BA BAppSc  
P. Edmonds  
S. Gatenby, BSc  
M. Henderson  
D. Horton-James, BSc  
E. Loughland  
E. McFadyen, BA  
M. Scott, BAppSc  
S. Valis, BA  
S. Walston, DipCons (Lond)  
A. Xavier  
X. Zounis

Conservator  
Technical Officer (Scientific)  
Conservator  
Conservation Assistant  
Technical Assistant  
Conservator  
Conservator  
Conservation Assistant  
Conservator  
Conservation Assistant  
Conservator  
Conservation Assistant  
Technical Officer (Scientific)  
Conservator  
Conservation Assistant  
Technical Officer (Scientific)  
Head of Division  
Conservation Assistant  
Technical Officer (Scientific)

## Library

N. Bain  
G. Baker, ALAA  
C. Cantrell  
M. Craig

J. Dudman  
M. Kumvaj, BA DipLib  
A. McConochie  
C. Pyne  
M. Pettit  
P. van der Made  
J. van der Velde

Librarian Technician  
Chief Librarian  
Assistant Library Technician  
Temporary Assistant Library Technician  
Technician  
Museum Assistant  
Librarian  
Senior Library Technician  
Clerical Assistant  
Temporary Typist  
Temporary Assistant Library Technician  
Temporary Assistant Library Technician

## Lizard Island Research Station

B. Kojis, BA, BSc, PhD  
N. Quinn, BA, BSc, MA, PhD  
M. Jumelet  
M. Jumelet  
B. Trett  
S. Trett  
J. Dargaville  
M. Dargaville  
P. Pini  
G. Pini

Co-Director  
Co-Director  
Master, RV Sunbird  
Crew, RV Sunbird  
Maintenance Officer  
Accommodation and Transport Officer  
Master, RV Sunbird to 25/9/86  
Crew, RV Sunbird to 25/9/86  
Maintenance Engineer to 17/7/86  
Accommodation/Maintenance Officer to 17/7/86

## National Photographic Index

R. Strahan, MSc, FIBiol, MAIBiol, FSIH,  
FRZS, FANZAAS,  
T. R. Lindsey  
H. Lawrence  
J. Coghlan  
H. Cooney, BSc,

Executive Officer  
Scientific Editor  
Archivist  
Typist  
Clerical Assistant

## Australian Museum Society

S. Bridie  
W. Wilkins BA  
F. Shinn  
G. Nichol  
B. Thomas  
A. Whitten

Executive Officer  
Project Officer  
Bookkeeper  
Clerical Assistant  
Clerical Assistant  
Clerical Assistant\*

## Cafe Museum

J. van Opdorp  
T. Bonczyk

Manager  
Assistant Manager

## Volunteers

### National Photographic Index

E. L. Carthew  
H. J. de S. Disney  
H. Ehmann  
J. D. Waterhouse  
G. Watt,

### Vertebrate Zoology

#### Herpetology

G. Roberts  
J. Whitehoos  
D. Ward  
M. Milston

#### Ichthyology

Y. Brennan  
A. Daniel  
M. Driver  
D. Field  
J. Hills  
C. McLaughlan  
A. McLean  
B. Mitchell  
M. Thomson

#### Mammalogy

T. Ennis  
E. Eyre  
T. O'Niell  
S. Praseuthsouk

#### Ornithology

A. Derwent  
J. Gillespie  
R. Heath  
I. McAllan  
K. McFarlane  
M. Tink

#### Vertebrate Ecology

S. Atkinson  
D. Ayers  
Z. Babankova  
J. Bloom  
C. Burrows  
C. Cull  
S. Fox  
R. Genest

\* Denotes permanent or temporary position no longer occupied by this person

\*\* Denotes part-time employment



R. Humby  
J. Lilywhite  
S. Little  
J. McGraw  
J. Molle  
L. Powell  
G. Riese  
P. Sanderson

## Earth Science Division

### Palaeontology

W. Boogaart,  
J. Hodgson,  
V. MacFarlane,  
J. Roxburgh

### Mineralogy

E. Hepburn,  
C. Jones,  
C. Marsh,  
B. Mitchell,  
J. Wiggins

### Administration

K. Bona  
R. Schoen  
S. Smith

## Education Division

R. Biddle  
B. Bullock  
B. Burke  
M. Copp  
P. Diamond  
B. Eyre  
M. Gordon  
K. Hamer  
O. Hassler  
J. Haskins  
P. Heuer  
M. Hughes  
R. Johanson  
B. Johnston  
B. Kenyon  
B. McEwin  
J. Miller  
D. Minchin  
K. Moore  
M. Moore  
B. Moran  
C. Murphy  
I. Pinto  
P. Rohl  
P. Scholfield  
A. Sharpe  
L. Tredinnick  
R. Virtue  
M. Walton  
B. Weekes

### Invertebrate Zoology

#### Arachnology

E. Balmer  
G. Copp  
E. Sheridan

#### Entomology

R. Blanche  
I. Buddle  
W. Carlov  
C. Chadwick  
J. Clancy  
K. Connell  
M. Craig  
P. Cromie  
K. Hartley  
G. Knowles  
R. Lormer  
T. Robinson  
D. Scambler  
C. Smithers  
C. Uguhart  
G. Williams

### Malacology

J. Beck  
M. Bradbury  
F. Brown  
S. Bull  
P. Burton  
G. Clark  
G. Davis  
J. Fisher  
L. Foster  
D. Hunt  
N. Ireland  
T. Ireland  
A. Leroi  
M. McKellar  
M. Melville  
F. Mobbs  
A. Murdoch  
C. Neild  
D. Pearson  
W. Richmond  
K. Rutland  
R. Simmons  
R. Squelch  
G. Thornley  
L. Vlahos  
J. Wise  
J. Woodhouse

### Marine Ecology

R. Marsh

### Marine Invertebrates

#### Crustacea

V. Bonocorso  
T. Goodsell  
P. Kalinan  
E. Silk  
H. Ward

#### Echinoderms

H. Broughton  
M. Durack

#### Worms

M. Cooper  
H. Kingston

#### Anthropology

M. Armitage  
J. Bona  
R. Chadwick  
C. Jones  
V. Kevorkian  
E. Laxton  
J. Lindbergh  
M. Masters  
R. Muhlen-Schultze  
A. Paynter  
V. Protopopescu  
M. Rawson  
K. Richards  
A. Robinson  
I. Rowell  
M. Russell  
S. Simons  
D. Sohler  
B. Speechley  
C. Walsh  
K. Westmacott  
H. Wood

### Materials Conservation

R. Byrne  
H. Joynes  
L. Mack  
P. Ovenden  
N. Turner

#### Exhibitions

K. Anderson  
J. Bennet  
A. Bowman  
I. Docking  
J. Giffen  
J. Gillings  
K. Kurtz  
J. Pinsker  
P. Roberts

B. Speechley  
J. White  
B. Wright

### Library

K. Blofeld  
K. Tunks  
M. Fields

### The Australian Museum Society

D. Chandler  
J. Cocks, BA  
E. French  
N. Ireland  
T. Ireland  
M. Jones  
R. Saunders  
H. Verge



# Publications

## Anthropology

- Bolton, L.**, 1987. Highland feathers. *Craft Australia* 1987 (2): 56-61.
- Gordon, P.**, 1986. A museum's role in Aboriginal society today. IN 'Archaeological objectivity in interpretation', Vol. 2 Sect. C.: 1-7. Allen & Unwin, London.
- Lampert, R. J. and R. Sim.**, 1986. Residue on artefacts: implications for handling and storage. *Australian Archaeology* 22: 157-159.
- Kohen, J. L. and R. J. Lampert.**, 1987. Hunters and fishers in the Sydney region. IN 'Australians to 1788' (eds. D. J. Mulvaney & J. P. White) 343-365. Fairfax, Syme and Weldon, Sydney.
- White, J. P. and R. J. Lampert.**, 1987. Creation and discovery. IN 'Australians to 1788' (eds. D. J. Mulvaney & J. P. White) 3-23. Fairfax, Syme and Weldon, Sydney.
- Meehan, B. and R. Jones.**, 1985. Hunter-gatherer diet: an archaeological perspective and ethnographic method. In T. G. Taylor and N. K. Jenkins eds. *Proceedings of the XIII International Congress of Nutrition*: 951-955. John Libbey, London.
- Meehan, B.**, 1986. The dreaming shellfish. *Hilton Australia* 1(5): 52-55.
- Meehan, B. and J. Bona.**, 1986. The national inventory of Aboriginal artefacts. Co-ordinated by the Australian Museum, Sydney with support from the Council of Museum Directors, the Aboriginal Arts Board and the Australian Institute of Aboriginal Studies. The Australian Museum, Sydney.
- Meehan, B.**, 1987. An Aboriginal food tradition. In B. Santich, M. Symons and C. Purner eds. *Proceedings of the Second Symposium of Australian Gastronomy. Foodism-philosophy or fad*: 131-150. The Symposium of Australian Gastronomy, Adelaide.
- Specht, J.**, 1985. Unesco and Pacific Island cultures. *Unesco Review* 10: 8-11.

## Earth Sciences

### Mineral Section

- Griffin, W. L., F. L. Sutherland and J. D. Hollis.**, 1987. Geothermal profile and crust-mantle transition beneath east-central Queensland: volcanology, xenolith petrology and seismic data. *Journal of Volcanology and Geothermal Research* 31: 177-203.
- Hollis, J. D. and Sutherland, F. L.**, 1986. Relationships between color, crystallography and origins of gem zircons in E. Australia. Abstract with Progr. 14th International Mineralogical Association General Meeting 13-18th July 1986. Stanford University, California U.S.A. Mineralogical Society of America: 127.
- Hollis J. D., Sutherland, F. L. and Gleadow, A. J.**, 1986. The occurrence and possible origins of large zircons in alkali volcanics of Eastern Australia. *Crystal chemistry of Minerals. Proceedings 13th General Meeting International Mineralogical Association Varna September 19-25th 1982* Publishing House of the Bulgarian Academy of Sciences, Sofia. Pp. 565-578.
- Koul, S. L., Chadderton, L. T. and Sutherland, F. L.**, 1986. On the annealing behaviour of fission tracks in zeolites. *Nuclear Tracks radiation measurements. International Journal of Applied Instrumentation*. D 11 (1/2): 85-92.
- Sutherland, F. L. and Raynor, L. R.**, 1986. The spinel to garnet Iherzolite transition beneath Eastern Australia, in relation to a hot Tasmanian geotherm. Abstract with Progr. 14th International Mineralogical Association. General Meeting 13-18th July 1986 Stanford University, California, U.S.A. Mineralogical Society of America: 242.
- Sutherland, F. L. and Wellman, P.**, 1986. Potassium-argon ages of Tertiary volcanic rocks, Tasmania. *Papers and Proceedings of the Royal Society of Tasmania* 120: 77-86.
- Sutherland, F. L., Raynor, L. R., Hollis, J. D. and Tenby, P. A.**, 1986. Prospective relationships between diamonds, volcanism and tectonism in Australia. 4th International Kimberlite Conference Perth, 1986. Extended Abstracts. Geological Society of Australia. Abstracts 16: 484-486.

### Palaeontology

- Ritchie, A.**, 1987. Testimony of the rocks. In 'Confronting creationism — defending Darwin' (eds. D. R. Selkirk and F. J. Burrows): 49-71. New South Wales University Press, pp. 158.
- Ritchie, A.**, 1987. The great Somersby fossil fish dig. *Australian Natural History* 22 (4): 146-150.

### Invertebrate Zoology

- Avern, G. J.**, 1986. The biology of the nudibranch mollusc *Noumea haliolona* (Burn, 1957) (Family: Chromodorididae). MSc Thesis, University of Sydney. Pp. 136.
- Baker, A. N., F. W. E. Rowe and H. E. S. Clark.**, 1986. A new class of Echinodermata from New Zealand. *Nature* 321 (6073): 862-864.
- Bickel, D. J.**, 1986. *Atlatia*, a new genus of Dolichopodidae (Diptera) from Australia. *Entomologica Scandinavica* 17: 165-171.
- Bickel, D. J.**, 1986. *Thrypticus* and an allied new genus, *Corindia* from Australia (Diptera: Dolichopodidae). *Records of the Australian Museum* 38: 135-151.
- Bickel, D. J.**, 1986. Australian species of *Systemus* (Diptera: Dolichopodidae). *Records of the Australian Museum* 38: 263-270.
- Bickel, D. J.**, 1987. *Kowmungia* (Diptera: Dolichopodidae), a new genus from Australia. *Invertebrate Taxonomy* 1: 147-154.
- Botosaneanu, L., N. L. Bruce and J. Notenvoon.**, 1986. Isopoda, Cirolanidae. In 'Stygofauna Mundi' (ed. L. Botosaneanu): 412-422. E. J. Brill, Leiden. Pp. 740.
- Bruce, N. L.**, 1986. Revision of the isopod crustacean genus *Mothocya* Costa, in Hope, 1851 (Cymothoidae: Flabellifera), parasitic on marine fishes. *Journal of Natural History* 20: 1089-1192.
- Bruce, N. L.**, 1986. Cirolanidae (Crustacea: Isopoda) of Australia. *Records of the Australian Museum Supplement* 6: 1-239.
- Bruce, N. L.**, 1987. Australian *Pelopodias* Richardson, 1910, and *Anilocra* Leach, 1818 (Isopoda: Cymothoidae), crustacean parasites of marine fishes. *Records of the Australian Museum* 39(2): 85-130.
- Colman, P. H.**, 1987. Blazing snail trails. *Australian Natural History* 22(3): 119.
- Colman, P. H.**, 1987. Open forum. *Townsville Shell Club Newsletter* 11: 15.
- Gray, M. R.**, 1987. A systematic study of the funnel web spiders (Mygalomorphae: Hexathelidae: Atracinae). PhD Thesis, Biological Sciences, Macquarie University. Pp. 369.
- Gray, M. R.**, 1987. Distribution of funnel web spiders. In 'Toxic plants and animals: a guide for Australia' (Eds J. Cavacevich, P. Davie, J. Pearn). 313-323 Queensland Museum, Brisbane.
- Gray, M. R.**, 1987. A rainbow of spiders. *The Living Australia Magazine* 5 (February-March): 22-24.
- Gray, M. R. (with N. I. Platnick and R. F. Forster).**, 1987. A review of the spider superfamilies Hypochiloidea and Austrochiloidea (Araneae, Araneomorphae). *Bulletin of the American Museum of Natural History* 185 (1): 1-116.
- Hoggett, A. K. and F. W. E. Rowe.**, 1986. Revision of the family Comasteridae A. H. Clark, 1908 (Echinodermata: Crinoidea), with the description of a new subfamily and a new genus. *Zoological Journal of the Linnean Society* 88: 103-142.
- Hoggett, A. K. and F. W. E. Rowe.**, 1986. South-west cidarid echinoids (Echinodermata) including two new species. *Indo-Malayan Zoology* 3: 1-13.
- Holloway, G. A. and I. D. Gauld.**, 1986. Australian ichneumonids of the tribes Labenini and Poecilocryptini. *Bulletin of the British Museum (Natural History) Entomology* 53(2): 107-149.
- Holloway, G. A.**, 1987. The classification and relationships of the Australian species of *Gotra* Cameron (Hymenoptera: Ichneumonidae). MSc Thesis, Macquarie University. Pp. 169.
- Hutchings, P. A.**, 1986. Strategies for mangrove conservation. *Proceedings of the National Conference on Coastal Management* 1: 145-148.
- Hutchings, P. A.**, 1986. Cryptofaunal communities of coral reefs. *Acta Oceanologica Sinica* 5(4): 603-613.
- Hutchings, P. A.**, 1987. Determinations of faunal populations in mangroves. In 'Mangrove ecosystems of Australia and the Pacific' (Eds C. J. Fields and A. Dartnall): 265-270. Australian Institute of Marine Science, Townsville.
- Hutchings, P. A., and C. J. Glasby.**, 1986. The Polycirrinae (Polychaeta: Terebellidae) from Australia. *Records of the Australian Museum* 38: 319-350.
- Hutchings, P. A. and C. J. Glasby.**, 1987. The Thelepininae (F. Terebellidae) from Australia together with a discussion of the generic and specific characters of the subfamily. *Bulletin of Biological Society of Washington* 7: 217-250.
- Hutchings, P. A. and W. E. Keine.**, 1986. Bioerosion of coral reefs. *Oceanus* 29(2): 71.
- Hutchings, P. A. and P. Saenger.**, 1987. Ecology of mangroves. University of Queensland Press, Brisbane. Pp. 388.
- Hutchings, P. A., J. T. Van der Velde and S. J. Keable.**, 1986. Colonization of New South Wales by non-indigenous marine species. Baseline Studies at Twofold Bay, New South Wales. Final Report to the Fisheries Industry Research Committee. Pp. 79.
- Hutchings, P. A., J. T. Van der Velde and S. J. Keable.**, 1987. Guidelines for the conduct of surveys for detecting introductions of non-indigenous marine species by ballast water and other vectors and a review of marine introduction to Australia. Occasional Report of the Australian Museum 3: 1-147.
- Hutchings, P. A. and B. L. Wu.**, 1987. Coral reef of Hainan Island, South China Sea. *Marine Pollution Bulletin* 18(1): 25-26.
- Jones, A. R.**, 1987. Temporal patterns in the macrobenthic communities of the Hawkesbury Estuary, N.S.W. *Australian Journal of Marine and Freshwater Research* 38(5): 1-18.
- Loch, I. W.**, 1986. Shells at Port Essington. *Australian Shell News*. 55: 3-4.
- Loch, I. W.**, 1986. New Australian turrids. *Australian Shell News* 56: 4-5.
- Loch, I. W.**, 1986. More comments on nomenclature. *Keppel Bay Tidings* 25(4): 5.



- Loch, I. W., 1987. *Conus crocatus*. Townsville Shell Club Newsletter 11: 8-9.
- Loch, I. W., 1987. Description overseas. Townsville Shell Club Newsletter 11: 13-14.
- Loch, I. W., 1987. Editorial. Australian Shell News 57:2.
- Loch, I. W., 1987. Malacological Macabre. Australian Shell News 57: 3-4.
- Loch, I. W., 1987. Taxonomic turnover. Australian Shell News 57: 4.
- Loch, I. W., 1987. An eight armed, blue-ringed, fusinophilic. Australian Shell News 57: 8-9.
- Loch, I. W., 1987. Coral slug. Townsville Shell Club Newsletter 13: 13.
- Loch, I. W., 1987. *Cymatium armatum*. Townsville Shell Club Newsletter 13: 16.
- Lowry, J. K. and S. Ruffo, 1986. The rediscovery of *Lysianassa costae* H. Milne Edwards from the Gulf of Naples. Bolletino di Museo Civico di Storia Naturale, Verona 11: 205-216.
- Lowry, J. K., 1986. The callynophore, a cucaridan/peracaridan sensory organ prevalent among the Amphipoda (Crustacea). Zoologica Scripta 15: 333-349.
- Lowry, J. K. and H. E. Stoddart, 1986. Protandrous hermaphrodites among the lysianassoid Amphipoda. Journal of Crustacean Biology 6(4): 742-748.
- McAlpine, D. K., 1986. Up a gumtree or taxonomic changes in the Eucalyptus alliance. Search 17 (7-9): 170-171.
- McAlpine, D. K., 1987. Note on aerial swarming of *Perissomma* (Diptera: Perissommatidae). Australian Entomological Magazine 14(1-2): 29-30.
- Ponder, W. F., 1986. Mound springs of the Great Artesian Basin. In 'Limnology in Australia' (Ed. P. De Deckker and W. D. Williams): 403-420 CSIRO, Melbourne and W. Junk, Dordrecht.
- Rowe, F. W. E., 1986. The off-beat urchins. The Living Australia Magazine 1 (June-July): 45-49.
- Rudman, W. B., 1986. Nudibranchs: nature's thieves. Australian Natural History 22: 2-6.
- Rudman, W. B., 1986. The Chromodorididae (Opisthobranchia: Mollusca) of the Indo-West Pacific: *Noumea flava* colour group. Zoological Journal of the Linnean Society 88: 377-404.
- Smithers, C. N., 1986. Redefinition of *Copostigma* Enderlein (Psocoptera). Australian Entomological Magazine 13(3,4): 61-62.
- Smithers, C. N., 1986. Order Psocoptera (barklice, booklice, psocids). In 'Insects of Southern Africa' Scholtz, C. H. and Holm, E. (Eds) 99-104: Butterworths, Durban.
- Smithers, C. N., Name changes for some species of Myopsocidae. Psyche 92(203): 265-267.
- Smithers, C. N., 1986. Some new records of Psocoptera from Norfolk and Phillip Islands. Australian Entomological Magazine 13(1): 33-34.
- Zeidler, W. and F. W. E. Rowe, 1986. A revision of the southern Australian starfish genus *Nectria* transferred to the family Oreasteridae (Echinodermata: Asteroidea), with the description of a new species. Records of the South Australian Museum 19(9): 117-138.
- ### Vertebrate Zoology
- Allen, G. R. and D. F. Hoese, 1986. The eleotrid fishes of Lake Katubu, Papua New Guinea, with descriptions of four new species. Records of the Western Australian Museum. 13(1): 79-100.
- Boles, W. E. (text), R. Edden (paintings), 1986. Rainforest birds of Australia. Reed, Sydney. Pp. 170.
- Booth, D. J., G. H. Pyke and W. J. R. Lanzing, 1986. Prey selection by the blue-eye (*Pseudomugil signifer* Kner): Analysis of field behaviour using controlled laboratory experiments. Australian Journal of Marine and Freshwater Research 36: 691-699.
- Cogger, H. G., 1986. Reptiles and Amphibians of Australia. Reed Books, Sydney. 4th edn. pp. xxi + 688.
- Cogger, H. G., 1986. Comments on the biogeography of the elapid snakes of south eastern Australia. In 'Atlas of elapid snakes of Australia' (ed. R. Longmore): 16-19. Australian Government Publishing Service, Canberra.
- Cogger, H. G. and R. A. Sadlier, 1986. Population size and structure in the Fijian Crested Iguana. In 'Studies in Herpetology' (ed. Z. Roček): 507-512. Charles University, Prague, for Societas Europaea.
- Cogger, H. G., 1987. The venomous land snakes. In 'Toxic plants and animals; a guide for Australia' (ed. J. Covacevich, P. Davie and J. Pearn): 340-355. Queensland Museum, Brisbane.
- Duckworth, B. G. and J. McLean, 1986. Notes on a collection of butterflies from the islands of the Great Barrier Reef, Queensland. Australian Entomological Magazine 13(3,4): 43-48.
- Flannery, T. F. and M. Plane, 1986. A new late Pleistocene diprotodontid (Marsupialia) from Puren, Southern Highlands Province, Papua New Guinea. BMR Journal of Geology and Geophysics 10: 65-76.
- Frith, C. A., J. M. Leis and B. Goldman, 1986. Currents in the Lizard Island Region of the Great Barrier Reef Lagoon and their relevance to potential movements of larvae. Coral Reefs 5(2): 81-92.
- Greer, A. E., 1986. Diagnoses of the *Lerista bipes* species-group (Lacilia: Scincidae), with a description of a new species and an updated diagnosis of the genus. Records of the Western Australian Museum 13(1): 121-127.
- Hoese, D. F., 1986. Descriptions of two new species of *Heterolepis* (Pisces: Gobiidae) from the western Indian Ocean, with discussion of related species. Special Publications of the J. L. B. Smith Institute of Ichthyology 41: 1-25.
- Hoese, D. F., 1986. Gobiidae, Eleotridae and Kraemeriidae. In 'Smiths' sea fishes' (eds M. M. Smith and P. C. Heemstra): 775-811, pls. 122-127. Macmillan South Africa Pty. Ltd. Johannesburg. Pp. 1047.
- Holmes, R. T. and H. F. Recher, 1986. Determinants of guild structure in an Australian eucalypt forest-woodland bird community. Dondor 88: 427-439.
- Holmes, R. T. and H. F. Recher, 1986. Search tactics of insectivorous birds foraging in an Australian eucalypt forest. The Auk 103: 515-530.
- Leis, J. M., 1986. Family diodontidae. In 'Smiths' sea fishes' (eds M. H. Smith and P. C. Heemstra): 903-907. Macmillan South Africa, Johannesburg.
- Leis, J. M., 1986. Larval development of four species of the Indo-Pacific coral trout genus *Plectropomus* (Pisces: Serranidae: Epinephelinae) with an analysis of the relationships of the genus. Bulletin of Marine Sciences 38(3): 525-552.
- Leis, J. M., 1986. Epeibenthic schooling by the larvae of the spratellodine clupeid *Spratelloides gracilis*. Japanese Journal of Ichthyology 33(1): 60-62.
- Leis, J. M., 1987. Review of the early life history of tropical groupers (Serranidae) and snappers (Lutjanidae). In 'Tropical snappers and groupers: biology and fisheries management' (eds J. J. Polovina and S. Ralston): 189-237. Westview Press, Boulder and London.
- Mengden, G. A., 1985. A chromosomal and electrophoretic analysis of the genus *Pseudonaja*. In 'Biology of Australasian frogs and reptiles', (eds G. C. Grigg, R. Shine and H. Ehmann): 177-184. Surrey Beatty and Sons, Sydney.
- Mengden, G. A., R. Shine and C. Moritz, 1986. Phylogenetic relationships within the Australasian venomous snakes of the genus *Pseudechis*. Herpetologica 42(2): 215-229.
- Mengden, G. A. and M. Fitzgerald, 1987. The paradoxical brown snakes. In 'Toxic plants and animals; a guide for Australia', (eds J. Covacevich, P. Davie and J. Pearn). Queensland Museum, Brisbane.
- Paxton, J. R., 1986. Families Cetomimidae, Rondeletiidae and Ateleopodidae. In 'Fishes of the Northeastern Atlantic and Mediterranean' (eds P. J. P. Whitehead, M. L. Bauchot, J. C. Hureau, N. Nielsen and E. Tortonese): Vol. 2: 524-529 UNESCO, Paris.
- Paxton, J. R. and D. J. Bray, 1986. Order Cetomimiformes, families Cetomimidae, Rondeletiidae and Barbouriidae. In 'Smiths' Sea Fishes', (eds M. M. Smith and P. C. Heemstra): 433-434. Macmillan, Johannesburg.
- Pyke, G. H., 1986. Human diets: a biological perspective. In 'Shared wealth and symbol', (ed L. Manderson): Cambridge University Press, Cambridge.
- Pyke, G. H., 1986. Pollination biology of *Telopea speciosissima*. In 'Waratahs — their biology, cultivation and conservation', (ed J. A. Armstrong). Australian National Botanic Gardens Occasional Publication 8.
- Pyke, G. H. and H. F. Recher, 1986. Relationships between nectar production and seasonal patterns of density and nesting of resident honeyeaters in heathland near Sydney. Australian Journal of Ecology 11: 195-200.
- Randall, J. E. and D. F. Hoese, 1986. Revision of the groupers of the Indo-Pacific genus *Plectropomus* (Pisces: Serranidae). Indo-Pacific Fishes 13: 1-31.
- Recher, H. F., 1986. Integrating national park and forestry objectives for wildlife conservation: the forester's responsibility. The Forestry Log 18: 5-7.
- Recher, H. F., 1986. Eucalypt forest bird communities: structure and adaptations. Proceedings of the 16th International Ornithological Congress, Abstract.
- Recher, H. F., D. Lunney & I. Dunn (eds.), 1986. 'A Natural Legacy: Ecology in Australia'. Pergamon Press, Sydney. 2nd ed. Pp. 443. Chapters by H. F. Recher:
1. A natural legacy: an introduction.
  3. Ecosystems.
  6. The ecology of plant communities\*
  11. The living landscape: the ecology of national parks & nature conservation\*\*
  12. The ecology of animal communities.
  15. Maintaining our legacy: the ecology of planning.
- (\* with M. Fox, \*\* with D. Lunney)
- Recher, H. F., J. Shields, R. Kavanagh, and G. Webb, 1987. Retaining remnant mature forest for nature conservation at Eden, New South Wales. In 'The role of remnants of native vegetation', (eds D. A. Saunders, G. Arnold, A. Burbidge and A. Hopkins): 177-194. Surrey Beatty and Sons, Chipping Norton.
- Recher, H. F., W. E. Davis, and R. T. Holmes, 1987. Ecology of brown and striated thornbills in forests of southeastern New South Wales. Emu 87: 1-13.
- Rennis, D. S. and D. F. Hoese, 1986. *Aiollops*, a new genus of ptereleotrine fish (Pisces: Gobioidae)



from the tropical Indo-Pacific with description of four new species. *Records of the Australian Museum* 39 (1 and 2): 67-84.

**Sadler, R. A.**, 1986. A review of the scincid lizards of New Caledonia. *Records of the Australian Museum* 39: 1-66.

**Young, P. C., J. M. Leis and H. Hausfeld**, 1986. Seasonal and spatial distribution of fish larvae in waters over the northwest continental shelf of Western Australia. *Marine Ecology Progress Series* 31(3): 209-222.

**Zimmerman, M. and G. H. Pyke**, 1986. Reproduction in *Polemonium*; patterns and implications of floral nectar production and standing crops. *American Journal of Botany* 73: 1405-1415.

## Education Division

**MacLulich, C.**, 1987. The Australian Museum's Discovery room, *MEAA Journal*, No. 23 (in press).

**Main, S. and MacLulich, C.**, 1987. The Discovery Room — the first six months. *Australian Museum*, Sydney. Pp. 35.

**O'Neill, A.**, 1986. The Australian Museum — a dynamic place, *Independent Education* 16 (4): 28-30.

**Skates, A.**, 1986. "Report from Unesco Seminar in Mexico", *MEAA Journal* 21.

## Exhibitions Division

**Dingley, M.**, 1986. 1985 Museum study tour of the United Kingdom. Pacific Preparators conference Proceedings, Launceston.

**Hangay, G., O. Keywan and K. Gregg**. Text for We want your body. Video presentation of preparation technique. Australian Museum.

**Hood, J.**, 1986. Animated models used in The Australian Museums Insect Gallery. Pacific Preparators Conference Proceedings. Launceston.

**Moloney, R.**, 1986. Fumigation: A new method for easy access. Pacific Preparators Conference Proceedings. Launceston.

**Ralph, T. J.**, 1986. A touch of life to halls of death. Pacific Preparators Conference Proceedings. Launceston.

**Scott-Child, R.**, 1986. Lights in art houses. Pacific Preparators Conference Proceedings. Launceston.

**Titchen, A.**, 1986. Reconstruction of prehistoric animals. Pacific Preparators Conference Proceedings. Launceston.

## National Photographic Index

**Lindsey, T. J.**, 1986. The Seabirds of Australia. Angus & Robertson, Sydney. Pp. 518.

**Lindsey, T. J.**, 1986. The Australian Bird-lover's Diary, 1987. Angus & Robertson, Sydney. Pp. 121.

**Lindsey, T. J.**, 1987. Illustrations. In 'Birds and where to watch them in New South Wales' (ed R. Wheeler): Collins, Sydney. Pp. 119.

**Strahan, R.**, 1986. Why save endangered species and which ones do we save? In 'Endangered species: social, scientific, economic and legal aspects in Australia and the South Pacific' (ed S. Bergin). Total Environment Centre, Sydney, pp 2-17.

**Strahan, R.**, 1986. The dominant species: towards an understanding of human ecology. In 'A natural legacy: ecology in Australia' (eds H. F. Recher, D. Lunney and I. Dunn): 353-370. Pergamon Press, Sydney. 2nd edn.

**Strahan, R.**, 1987. The creationist crusade. In 'Confronting creationism: defending Darwin' (eds D. R. Selkirk and F. J. Burrows): 1-13. New South Wales. University Press, Sydney, Pp 1-13.

*Terry Lindsey and Heather Lawrence of the National Photographic Index choose slides for their next book.*



*Photography by Anthony Farr.*



# Finances

## STATISTICAL SUMMARY YEAR ENDING 30 JUNE

	1983 (\$'000)	1984 (\$'000)	1985 (\$'000)	1986 (\$'000)	1987 (\$'000)
Reserves	134	483	306	218	(2)
General Fund Receipts	991	1,310	1,319	1,457	1,758
Grant Fund Receipts	679	1,057	700	937	898
General Fund Payments	875	1,044	1,479	1,608	1,968
Grant Fund Payments	876	982	727	864	976
Consolidated Fund Payments	4,498	5,007	5,520	5,729	10,800
Statutory Endowment Receipts	125	140	148	160	160
Corporate Sponsorship raised during the year:	200	200	350	350	350
% of State Government funds to Total Funds Spent During the Year	71%	65%	69%	66%	79%
Permanent Staff	162	163	163	163	177

## BUDGET 1987/88

Budget for year ending 30th June, 1988 for Consolidated and Trust Grants and General Funds.

### ANTICIPATED REVENUE

	1988 \$'000	1987 \$'000
Consolidated Fund	8,468	6,459
Grants Account	953	898
General Fund	2,473	1,795
Deficit	—	250
Deficit	<u>11,894</u>	<u>9,402</u>

### BUDGETED EXPENSES

Consolidated Fund			
— Salaries/Employee Payments	5,802	8,468	6,459
— Maintenance and Working Expenses	2,016	4,900	
— Major Plant and Equipment	<u>650</u>	<u>1,433</u>	
Grants Fund		953	976
General Fund		2322	1,967
— Acquisitions	60	80	
— Trading Activities	738	592	
— Education Programs	128	189	
— Exhibition Programs	1,085	562	
— Scientific Programs	158	207	
— Other	<u>153</u>	<u>337</u>	
Budgeted surplus		151	
		<u>11,894</u>	<u>9,402</u>



## FINANCES

### HIGHLIGHTS

Revenue from Trading Operations up by over \$95,000 (14%).

Education Programs expenditure up by \$129,342 to \$189,470 — includes development and operation of Discovery Room.

Exhibition development expenditure increased by \$90,485 to \$561,959 — this expenditure included development of five major exhibitions.

### SUPPLEMENTARY INFORMATION

**STATE GOVERNMENT FUNDS** State Government funds were provided to meet salaries of the Museum's permanent and some temporary staff; general operating maintenance expenses; endowment, special subsidy contributions and capital works and services.

The State Government allocation to the Museum's salaries and working expenses increased by \$672,682 or 12% over the previous year. Of this amount 81% related to increases in salary and allowance payments; and 19% or \$126,422 to increases in the maintenance and working expenses. Salaries and salary related expenses represented 77% of the total Government recurrent allocation of \$6.3 million and 49.5% of the Museum's total recurrent expenditure of \$9.9 million.

Consolidated Fund Capital Works and Services expenditure totalled \$4,465,917 in 1986/87. This expenditure covered:—

— Emergency communication system	5,582
— Fire sprinklers	26,445
— William Street lifts	873
— Strong Store	1,273
— College Street entrance	50,140
— Major Building Extensions	3,863,455
— Demolition of Point Building	217,757
— Public toilets	5,584
— Yurong Street sprinklers	59,657
— Fumigation chamber	109,151
— Major plant and equipment	126,000

The State Government allocation for recurrent expenses was supplemented by Treasury during the year, by a total of \$46,169 — of which \$8,260 related to additional unbudgetted back payments following implementation of a 38 hour week for attendant cleaners. The balance of \$37,909 was for increases in respect of property rented by the Museum following extensive modifications to the building.

As in the previous year, the Consolidated Fund allocation proved inadequate for all the Museum's maintenance and working expenses. As a result, expenditure on advertising, fees and printing totalling \$210,282 was paid from Trust funds. This was an increase of \$66,793 or 46% on expenditure funded for these items from Trust Funds in the previous year.

Major variations in the Consolidated Fund working expenses compared with the previous year include Rent and Rates (+43%), Travel (+34%), Postal and Telephone (+48%) and Workers Compensation Insurance (–61%).

### Trust Accounts

The Museum Trust operates two main accounts, the General and Grant Accounts.

Funds for the General Account are generated through merchandising operations such as sale of books, magazines, minerals, souvenirs, replicas, etc; hire of parts of the Museum buildings for functions and television commercials; donations and interest on investments.

Scientific research grants and corporate sponsorship are accounted for within the Grant Account. Corporate sponsorship funds are transferred to the Trust Account as expenditure is incurred on projects for which the sponsorship has been raised.

Combined income for the General and Grant Accounts for the year totalled \$2,656,580 (budgeted income was \$2,857,010) while expenditure totalled \$2,944,073 (budgeted expenditure was \$2,828,785). As a result of these variations the accumulated funds for these Accounts decreased to a deficit of \$1,705 as at 30th June, 1987.



### **Trust General Account**

**Receipts** to the General Account were \$1,758,444, an increase of 21% over the previous year. Major items contributing to this result were Museum Shop (31% of total funds); Special Subsidy (20%); Gallery Sponsorship (17%); Australian Natural History Magazine (13%); Statutory Endowment (9%); and Donations (4%).

**Payments** from the General Account were \$1,968,019, an increase of 22% over the previous year. Major items contributing to this result were Exhibitions (29%); Museum Shop (18%); Australian Natural History Magazine (12%); Education (10%); Advertising (9%) and Collection acquisitions (4%).

### **Trust Grant Account**

**Receipts** to the Grant Account were \$898,136. The main sources of this income were: Lizard Island Research Station (26%) of total income; National Photographic Index (19%); Exhibition programs (14%); Marine Science and Technology Grant Scheme (13%) and Australian Research Grants Scheme (10%).

Lizard Island Research Station income by way of bench fees excludes \$10,770 due in respect of Lizard Island Research Station 88 Fellows.

**Payments** from the Grant Account amounted to \$976,054. Major contributors were Lizard Island Research Station (25%); National Photographic Index (21%); Education and Exhibition programs (17%) and Marine Science and Technology Grant Scheme (10%).

Lizard Island Research Station 88 Fellows expenditure excludes \$10,770 in respect of bench fees payable to the Station.

### **Summary of Accumulated Funds**

**Trust General Account** — operations within this account resulted in an accumulated deficit of \$18,193 at 30th June, 1987, a reduction of \$170,557 in the balance of accumulated surplus funds 12 months earlier.

**Trust Grant Account** — showed an accumulated surplus of \$16,488 at the 30th June, 1987.

The decline in accumulated funds resulted from increased outlays in exhibitions and education projects and receipt of money from sponsorship late in the year causing an early decline of reserves and thus reduced earnings from interest on investment.

With regard to the General Fund, recoupment of income from the Bicentennial Council for the "Dreamtime to Dust" exhibition was less than budget because of a slower rate of expenditure on this exhibition than had originally been planned. In addition, while the level of Sponsorship Funds reached the target level of \$350,000, this was achieved only with an increased contribution for scientific purposes from the Lizard Island Reef Research Foundation. A lower level of corporate sponsorship for exhibition and education programs resulted in a significantly lower transfer of funds from the Grant to General Account to offset the costs incurred on those programs.

Throughout the year the difficulty of obtaining corporate sponsorship for the major exhibition and education programs being undertaken by the Museum continued to be of major concern.

The Grant Account comprises a number of individual specific purpose accounts. The reduction in accumulated funds within the Grant Account reflects the continuing deficit within one Account — the Lizard Island Research Station. This increased from \$88,191 to \$102,565 during the year and resulted from substantial capital works expenditure on equipment and boat maintenance costs.



AUDITOR-GENERAL'S CERTIFICATE  
AUSTRALIAN MUSEUM TRUST

The accounts of the Australian Museum Trust for the year ended 30 June 1987, have been audited in accordance with Section 34 of the Public Finance and Audit Act 1983.

In my opinion, the accompanying financial position, financial operations and funds statements, read in conjunction with the notes thereto, comply with Section 4 1B of the Act and exhibit a true and fair view of the financial position at 30 June 1987 and transactions for the year then ended.




K. J. ROBSON, FASA CPA  
AUDITOR-GENERAL OF NEW SOUTH WALES

SYDNEY,  
19 October 1987

STATEMENT IN ACCORDANCE WITH SECTION 4 1B(1) (f)  
OF PUBLIC FINANCE AND AUDIT ACT, 1983

In accordance with a resolution of the Australian Museum Trust we state that:

- (a) The financial statements and notes thereon exhibit a true and fair view of the financial position and transactions for the year ended 30 June, 1987.
- (b) The financial statements have been prepared in accordance with the provisions of the Public Finance and Audit Act, 1983 and the Public Finance and Audit (Statutory Bodies) Regulation 1985 and the Treasurer's Directions; and
- (c) We are not aware of any circumstances which would render any particulars included in the financial statements to be misleading or inaccurate.



R. Williams,  
PRESIDENT OF THE TRUST

11/8/87



D. J. G. Griffin,  
SECRETARY OF THE TRUST

11/8/87



AUSTRALIAN MUSEUM TRUST  
STATEMENT OF FINANCIAL OPERATIONS FOR THE YEAR ENDED  
30 JUNE 1987

	Note	1987 \$	1986 \$
<b>Revenue:</b>			
Consolidated Fund —			
Recurrent Services	—	6,333,722	5,728,999
Statutory Endowment	—	160,000	160,000
Projects Subsidy	—	350,000	350,000
Capital Works and Services	4	4,465,917	—
Grants —			
Australian Government	7	287,575	256,788
Other Scientific	7	481,971	563,604
Education/Exhibitions	7	128,590	117,120
Trustees and Special Accounts —			
Trading Operations	8	803,449	706,956
Other Revenue	9	444,995	240,601
Peter Rankin Trust Fund	10	3,102	2,525
Australian Museum Society	11	344,339	292,445
Coffee Shop	24	297,995	259,454
		<u>14,101,655</u>	<u>8,678,492</u>
Expenses for Year			
Exceeded Revenue by		<u>223,583</u>	<u>11,863</u>
		<u>14,325,238</u>	<u>8,690,355</u>

	Note	1987 \$	1986 \$
<b>Expenses:</b>			
Consolidated Fund —			
Personnel Costs	—	4,900,436	4,334,206
Working Expenses	12	1,433,286	1,394,793
Capital Works and Service	4	4,465,917	—
Grants —			
Australian Government	7	277,054	285,840
Other Scientific	7	530,599	520,151
Education/Exhibition	7	168,401	57,866
Trustees and Special Accounts —			
Trading Operations	8	591,953	501,525
Exhibitions	13	561,959	471,474
Science Programs	14	117,694	99,308
Collection Acquisitions	—	80,059	132,206
Program Distribution	—	89,508	72,000
Education Programs	15	189,470	60,128
Other Operating Costs	16	337,376	271,236
Peter Rankin Trust Fund	10	1,833	1,167
Australian Museum Society	11	346,544	267,734
Coffee Shop	24	233,149	220,721
		<u>14,325,238</u>	<u>8,690,355</u>



AUSTRALIAN MUSEUM TRUST  
STATEMENT OF FINANCIAL POSITION AS AT  
30 JUNE 1987

	Note	1987 \$	1986 \$
<b>Funds Held —</b>			
Trust General Account	—	(18,193)	152,364
Trust Grant Account	—	16,488	96,123
Australian Museum Society	—	107,549	72,055
Peter Rankin Trust Fund	—	19,310	18,040
Coffee Shop	—	(1,428)	8,727
		<u>123,726</u>	<u>347,309</u>
<b>Represented By</b>			
Investments	18	117,954	283,000
Debtors and Accrued Income (less Provision for Doubtful Debts 1987 \$5000)	19	63,667	8,892
Cash at Bank	20	—	74,896
Cash on Hand	20	<u>25,901</u>	<u>15,900</u>
		207,522	382,688
<b>Less</b>			
Creditors and Accrued Expenses	21	19,051	35,379
Bank Overdraft	20	<u>64,745</u>	<u>—</u>
		83,796	35,379
		<u>123,726</u>	<u>347,309</u>



STATEMENT OF SOURCE AND APPLICATION OF FUNDS  
FOR THE YEAR ENDED 30TH JUNE, 1987

	1987	1986
<b>SOURCE OF FUNDS</b>		
<b>Reduction in Assets</b>		
Investments	165,046	—
Debtors	—	8,595
Cash at Bank	74,896	—
<b>Increase in Liabilities</b>		
Bank Overdraft	64,745	—
Creditors and Accrued expenditure	—	28,283
	<u>304,687</u>	<u>36,878</u>
<b>APPLICATION OF FUNDS</b>		
<b>Funds from Operations</b>		
Outflow of Funds from Operations	14,325,238	8,690,355
Less — Inflow of Funds from Operations	<u>14,101,655</u>	<u>8,678,492</u>
	223,583	11,863
<b>Increase in Assets</b>		
Debtors	54,775	—
Cash on Hand	10,001	5,015
Investments	—	20,000
<b>Reduction in Liabilities</b>		
Creditors and Accrued Expenses	<u>16,328</u>	—
	<u>304,687</u>	<u>36,878</u>



## AUSTRALIAN MUSEUM TRUST

### NOTES TO AND FORMING PART OF THE FINANCIAL STATEMENTS

#### 1. ACCOUNTING POLICIES

- 1.1 Basis of Accounting — the financial statements incorporate the Australian Museum Trust and New South Wales State Government Consolidated Fund allocations to the Australian Museum.

The financial statements have been prepared in accordance with Sections 41B of the Public Finance and Audit Act 1983 and the Regulation thereto and exhibit a true and fair view of the financial position and transactions of the Australian Museum.

The financial statements have been prepared in accordance with historical cost conventions.

- 1.2 Exemptions have been granted from full accrual accounting under Section 41B (2), and from the necessity of preparing a Balance Sheet or Statement of Balance under Section 41B (3) of the Public Finance and Audit Act, 1983. Wherever applicable regard has been given to current accounting standards and industry practice.

- 1.3 The financial statements have been prepared on a modified accrual accounting basis. Accrued income and expenses relating to Trust and Grant operations have corresponding amounts shown as 'Debtors' and 'Creditors' in the Statement of Financial Position. Consolidated Fund operations, except in relation to salary costs, are on a cash basis. Salary costs shown represent the full years' expense.

- 1.4 As a result of the accounting policies adopted, assets purchased are treated as an expense in the year of purchase. Accordingly, depreciation as required by the Australian Accounting Standards, is not provided.

- 1.5 General operating expenses of the Museum including salaries of all permanent staff, rent, rates, travel, and other similar costs, are met from the Consolidated Fund.

- 1.6 The cost of employers' superannuation contributions and payroll tax are met directly by the Treasurer and are therefore not included in the financial statements. Employees are entitled to be members of the State Superannuation Scheme. No provision is required to be made for any deferred liability under this scheme as the contributions paid by the Treasury cover this liability.

- 1.7 Long service leave and annual leave are paid from the Consolidated Fund allocation when taken.

- 1.8 The Australian Museum occupies a site bounded by College, William, and Yurong Streets, Sydney. The site is Crown Land and is dedicated for the purpose of the Australian Museum. It is considered to be inappropriate to value this land given the restricted purpose of the holding.

The cost and current values of land and buildings are not reflected in the accounts. Insurance coverage for buildings and contents has been effected through the Government Insurance Office and Treasury Fire Risks Account and the costs are shown at Note 12.

- 1.9 The financial statements do not include expenditure on Commonwealth Government special employment programs which is recouped via the Department of Environment and Planning.

2. For insurance purposes, plant and equipment is valued at \$874,000.

- 2.1 The Trust's collections were valued in 1981 by the Museum at \$76 million. The current value of these items may, however, be substantially in excess of this amount. The State Government acts as self insurer for any fire loss or damages to collections amounting to more than \$5 million, arising from any one claim. Insurance cover has been arranged to cover exhibits up to the amount of \$5 million.

3. Motor vehicles are provided by the Government Supply Department for the use of the Australian Museum. The estimated cost of these vehicles as at 30th June, 1987 is \$167,285 (1986 \$144,000). The cost of acquisition of these vehicles is met by the Government Supply Department while their running costs are met by the Australian Museum.

4. The Consolidated Fund Capital Works and Services expenditure for the year was \$4,465,917. This expenditure included \$3.6 million for extensions to the existing Museum building. These extensions were further financed by an amount of \$930,470 from the State Bank Deferred Payments Scheme. This latter amount is not included in the financial statements.

The extensions to the Museum building forms part of a three year \$13 million development that is being constructed by the Public Works Department and is due to be completed in February 1988.

The 1985/86 Australian Museum Consolidated Fund Capital Works and Services expenditure was paid from the Premier's allocation. That expenditure was not included in the Australian



Museum Trust 1985/86 financial statements nor in the "1986" column in the 1986/87 financial statements.

- 4.1 An allocation of \$126,000 from Capital Works and Services was expended on the acquisition of major plant and equipment items during the year.
5. Trading stock of the Museum Shop and Coffee Shop on hand at 30th June, 1987 was valued (at cost) at \$102,384 and \$5,798 respectively. Trading Stock on hand is not included in the Statement of Financial Position.
6. The following is provided as a guide to the manner in which funds are applied within the organization. Salaries are categorised within activities, as is the case with other expenditure that falls directly within an Activity. Expenditure not falling directly into a specific activity, such as rent and electricity, has been allocated to Administration Activities which, therefore, reflects actual Administrative costs as well as overheads associated with maintaining the specific Activities undertaken by the Museum.

	1987	1986
Administration Activities	2,454,748	2,300,005
Community Relations	522,836	(i) —
Educational Activities	784,437	506,127
Exhibition Activities	1,425,600	1,254,395
Scientific Research/Collections	3,500,054	3,644,848
Trading Operation Activities	825,102	717,246
The Australian Museum Society	346,544	267,734
Capital Works and Services	4,465,917	(ii) —
	<u>14,325,238</u>	<u>8,690,355</u>

(i) The costs of this Activity were included within Administration in 1986.

(ii) Expenditure on Capital Works and Services was not included in the Museum's Accounts in 1986.

#### 7. Grants — Revenue and Expenses Comprised:

	1987		1986	
	\$ Revenue	\$ Expenses	\$ Revenue	\$ Expenses
<b>Australian Government</b>				
Australian Biological Resources Study	61,527	63,674	24,558	43,686
Marine Science and Technologies Grants Scheme	117,856	99,803	128,490	123,920
Australian Research Grants Scheme	93,628	73,695	59,323	69,456
Queen Elizabeth II Fellowship Scheme	2,013	21,466	43,078	46,382
Other	12,551	18,416	1,339	2,396
	<u>287,575</u>	<u>277,054</u>	<u>256,788</u>	<u>285,840</u>
<b>Other Scientific</b>				
Lizard Island Research Station	230,439	244,813	253,802	252,404
National Photographic Index of Australian Wildlife	168,710	201,926	255,752	188,093
Lizard Island Research Station Fellowships	—	26,442	(i) —	—
Other	82,822	57,418	54,050	79,654
	<u>481,971</u>	<u>530,599</u>	<u>563,604</u>	<u>520,151</u>



**Education/Exhibition  
Programs**

	128,590	168,401	117,120	57,866
<b>Grants in total</b>	<u>898,136</u>	<u>976,054</u>	<u>937,512</u>	<u>863,857</u>

(i) The expenditure shown excludes an amount of \$10,770 in respect of bench fees payable to the Lizard Island Research Station.

**8. Trading Operations:**

	1987		1986	
	\$	\$	\$	\$
	Revenue	Expenses	Revenue	Expenses
Museum Shop	539,158	356,754	467,019	313,301
Australian Natural History	222,323	233,361	203,366	180,614
Gallery Guides	31,996	—	27,771	—
Other Trading	9,972	1,838	8,800	7,610
	<u>803,449</u>	<u>591,953</u>	<u>706,956</u>	<u>501,525</u>

Other Trading excludes Coffee Shop distribution of \$37,500 to the Museum General Account. This amount is included in Coffee Shop Revenue.

**9. Other Revenue:**

	1987	1986
	\$	\$
NSW Bicentennial Council —		
Dreamtime to Dust	127,374	—
Sponsorship Exhibitions/Education	164,000	72,866
Interest on Investments	28,051	80,932
Donations	73,494	35,765
Miscellaneous	43,093	38,728
Records of the Museum	2,857	7,192
Museum as a Venue	6,126	5,118
	<u>444,995</u>	<u>240,601</u>

**10. Peter Rankin Trust Fund**

The Peter Rankin Trust Fund for Herpetology is a fund which seeks to provide small grants-in-aid to young Australians studying lizards, frogs and their relatives. The Fund makes awards annually up to \$1,000.

Contributions to the invested capital of the Fund are continually being sought by the Committee overseeing the Fund.

	1987	1986
	\$	\$
<b>Revenue</b>		
Donations	470	55
Interest	2,632	2,470
	<u>3,102</u>	<u>2,525</u>
<b>Expenses</b>		
Scholarships	1,818	1,166
Bank Charges	15	1
	<u>1,833</u>	<u>1,167</u>



**11. The Australian Museum Society:**

The Society was established for the purpose of fostering interest amongst the general public in natural history and the work carried out by the Museum.

	1987 \$	1986 \$
<b>Revenue</b>		
Functions	214,813	178,260
Membership Subscriptions	96,947	84,030
Merchandising	10,076	4,086
Other	22,503	26,069
	<u>344,339</u>	<u>292,445</u>
	1987 \$	1986 \$
<b>Expenses</b>		
Functions	140,848	136,577
Subscriptions	683	7,121
Exhibition Sponsorship	60,000	—
Merchandise	6,372	2,915
Salaries and Honoraria	63,574	55,433
Office Supplies	3,782	29,528
Other	71,285	36,160
	<u>346,544</u>	<u>267,734</u>

Revenue excludes Coffee Shop distribution of \$37,500 to the Museum Society. This amount is included in Coffee Shop Revenue.

**12. Consolidated Fund — working expenses comprised:**

	1987 \$	1986 \$
Workers Compensation Insurance	31,960	81,284
Meals	5,369	3,835
Fringe Benefits Tax	513	—
Rent and Rates	297,909	208,436
Maintenance	16,068	8,097
Travel	94,263	70,458
Motor Vehicle Running Costs	40,822	54,690
Freight and Cartage	28,761	23,378
Advertising	27,505	54,373
Books	66,679	62,501
Fees for Services Rendered	96,406	61,736
Gas and Electricity	146,937	134,501
Laundry	843	1,154
Other Insurance	73,034	62,298
Postal and Telephone	104,846	70,849
Printing	186,610	168,967
Stores	210,153	226,984
Minor Items	4,608	1,272
Plant and Equipment	—	99,980
	<u>1,433,286</u>	<u>1,394,793</u>

Consolidated Fund maintenance and working expenses had amounts due and unpaid of \$196,420 for goods and services received as at 30th June, 1987.



**13. Exhibition expenses comprised:**

	1987	1986
	\$	\$
Mineral Gallery	131,602	208,173
Temporary Exhibitions	15,360	70,583
Aboriginal Australia Travelling Exhibition	—	57,216
Maintenance of Galleries	10,111	33,013
Fossil Gallery	327	28,038
College Street Foyer Refurbishing	—	19,298
Dreamtime to Dust	150,375	16,751
Aboriginal Australia	—	13,817
Pieces of Paradise	109,339	12,666
Rituals of the Human Life Cycle	42,228	—
Tracks Through Time	100,108	—
Other Galleries/Exhibitions	2,509	11,919
	<u>561,959</u>	<u>471,474</u>

**14. Science Program expenses comprised:**

	1987	1986
	\$	\$
Research Grants	12,480	28,714
Visiting Fellows	38,902	27,883
Contributions to		
Lizard Island Research Station	25,000	25,000
Conferences	5,000	—
Scientific Assistance	30,229	14,481
Honoraria	4,583	3,230
Sutherland Award	1,500	—
	<u>117,694</u>	<u>99,308</u>

**15. Education Program expenses comprised:**

	1987	1986
	\$	\$
Museum Train	24,733	27,440
Wandervan	28,856	25,925
Sunday at the Museum	—	6,663
Discovery Room	135,881	100
	<u>189,470</u>	<u>60,128</u>

**16. Other Operating Costs comprised:**

	1987	1986
	\$	\$
Advertising	175,667	107,634
Computer Fees	14,683	6,148
Entertainment	28,974	18,978
Printing	19,932	29,707
Travelling Expenses	38,039	22,583
Visitors Survey	—	5,234
Miscellaneous	26,366	59,217
Buildings — Improvements and Repairs	25,715	7,135
Audit Fee (see note 17)	8,000	14,600
	<u>337,376</u>	<u>271,236</u>

**17. Audit Fee**

	1987	1986
	\$	\$
Australian Museum Trust	8,000 (accrued 86/87)	7,000
Consolidated Fund	7,400 (to be paid 87/88)	7,600
	<u>15,400</u>	<u>14,600</u>



**18. Investments of the Australian Museum as at 30 June comprised:**

	1987		1986	
	Cost	Market Value	Cost	Market Value
	\$	\$	\$	\$
Primary Industry Bank of Australia	—	—	10,000	10,850
Australian Savings Bonds	—	—	3,000	3,000
St George Building Society	—	—	270,000	270,666
Commonwealth Bank of Australia	117,954	118,778	—	—
	<u>117,954</u>	<u>118,778</u>	<u>283,000</u>	<u>284,516</u>
			1987	1986
			\$	\$

**These Investments are held on behalf of:**

Australian Museum Trust	—	200,000
The Australian Museum Society	99,749	66,000
Peter Rankin Trust Fund	18,205	17,000
	<u>117,954</u>	<u>283,000</u>

The dissection of the market value of investments as at 30th June, 1987 is:

Peter Rankin Trust Fund	18,328
The Australian Museum Society	100,450
	<u>118,778</u>

**19. Debtors and Accrued Income comprised:**

	1987	1986
	\$	\$
Lizard Island Reef Research Foundation	2,547	—
New South Wales Government Bicentennial Secretariat	15,378	—
Australian Museum Society	10,000	—
Commonwealth Bank of Australia	824	—
Debtors (\$16,549 less Provision for Doubtful Debt \$5,000)	11,549	8,892
National Employment Scheme for Aborigines — Grant	5,354	—
Lizard Island Research Station — Debtors	7,115	—
Lizard Island Research Station — Fees	10,900	—
	<u>63,667</u>	<u>8,892</u>

**20. Cash at Bank, including cash advances, comprised:**

	1987	1986
	\$	\$
Australian Museum Trust	(55,497)	74,974
The Australian Museum Society	17,099	6,055
Coffee Shop	(1,428)	8,727
Peter Rankin Trust Fund	982	1,040
	<u>(38,844)</u>	<u>90,796</u>

**21. Creditors and Accrued Expenses:**

	1987	1986
	\$	\$
Audit Fees	8,000	14,600
Exhibition Expenses — Mineral Gallery	—	20,779
Australian Museum Society — Mineral Gallery Sponsorship	10,000	—
Tourism Commission of New South Wales	1,051	—
	<u>19,051</u>	<u>35,379</u>



22. Lizard Island statement of Revenue and Expenditure Summary as at 30 June 1987.

	1987 \$	1986 \$
<b>Revenue</b>		
Supporting Institutions		
Fees	25,000	28,365
Sales	130,598 (i)	73,829
<b>Donations</b>	29,944	19,608
— Lizard Island Reef Research Foundation		
— Australian Museum, including NSW Government Subsidy	129,015	85,000
	<u>64,508</u>	<u>47,000</u>
	<u>379,065</u>	<u>253,802</u>
<b>Expenses</b>		
Salaries and Fees	141,426	115,344
Running Expenses	14,301	18,599
Maintenance	100,297	29,133
Fuel	21,069	19,110
Other	44,370	24,432
Capital Works	<u>71,976</u>	<u>45,786</u>
	<u>393,439</u>	<u>252,404</u>
surplus/deficit	<u>(14,374)</u>	<u>1,398</u>

(i) The amount shown as received by way of bench fees excludes \$10,770 due in respect of Lizard Island Research Station 88 Fellows.

23. MUSEUM SHOP TRADING ACCOUNT FOR THE YEAR ENDED 30 JUNE 1987

	1987 \$	1986 \$
<b>Sales</b>	539,158	467,019
Opening Stock (i)	109,850	125,194
Purchases	<u>356,754</u>	<u>294,253</u>
	466,604	419,447
Closing Stock (i)	<u>102,384</u>	<u>109,850</u>
Cost of Sales	<u>364,220</u>	<u>309,597</u>
Gross Profit	174,938	157,422
Operating Costs —		
Part time wages (ii)	—	19,048
<b>Surplus (iii)</b>	<u>174,938</u>	<u>138,374</u>

Notes

- (i) Stock is valued at cost.
- (ii) Salaries totalling \$59,285 (1986 \$52,000) for a Shop Manager and two Salespersons, who are within the permanent staff establishment, were met from Consolidated Fund.
- Part time employee salaries totalling \$29,808 were paid from Consolidated Fund temporary assistance. Prior to this year part time employees were paid from Trust Funds.
- (iii) The difference of \$7,466 between the surplus (\$182,404) of revenue over expenses on account of the Museum Shop as outlined at Note 8 and the surplus (\$174,938) as shown in the above trading accounts represents the difference between the opening and closing stocks:

	\$
Opening Stock	109,850
Closing Stock	<u>102,384</u>
	<u>7,466</u>



24. COFFEE SHOP TRADING ACCOUNT FOR THE YEAR ENDED 30 JUNE 1987

	1987	1986
	\$	\$
<b>Sales</b>		
	297,723	258,961
Opening Stock (i)	5,291	2,057
Purchases	125,289	126,730
	130,580	128,787
Closing Stock (i)	5,798	5,291
Cost of Sales	124,782	123,496
Gross Profit	172,941	135,465
Operating Costs		
Salaries	94,546	81,733
Durables	2,530	2,756
Sundry	10,784	9,502
	107,860	93,991
	65,081	41,474
Add: Other income —		
Interest on Investments	272	493
<b>Surplus (ii) and (iii)</b>	<b>65,353</b>	<b>41,967</b>

Notes

- (i) Stock is valued at cost.
- (ii) Surplus funds are distributed equally between the Museum and the Australian Museum Society.
- (iii) The difference of \$507 between the surplus (\$64,846) of revenue over expenses on account of the Coffee Shop as per the statement of financial operations and the surplus (\$65,353) shown in the above Coffee Shop Trading Account represents the difference between the closing and opening stock:

	\$
Closing Stock	5,798
Opening Stock	5,291
	<u>507</u>

— END OF AUDITED INFORMATION —



## RESEARCH ASSOCIATES

Crown Prince Akihito

I. Bennett, MSc

R. O. Chalmers, ASTC

H. J. de S. Disney, MA

J. W. Evans, MA, ScD, DSc

H. O. Fletcher, MSc

B. Goldman, BSc, PhD

J. D. Hollis, PhD

P. Kailola, BSc

K. Khoo

M. Moulds

E. C. Pope, MSc, PhD

S. Rainer, BSc, MSc, PhD

C. N. Smithers, MSc, PhD

N. Tait, PhD

G. Theischinger

I. W. B. Thornton, PhD

J. P. White, MA, PhD

J. C. Yaldwyn, MSc, PhD

M. Archer, PhD

J. B. Burch, PhD

C. E. Chadwick, BSc

W. Dawbin, DSc

B. Egloff, MA, PhD

J. Forshaw

K. Huffman, BA (Hons), Dip. Enth.

F. D. McCarthy, Dip. Anthrop.

J. E. Marlow, BSc (Hons)

T. R. New, PhD

J. Pickett, MSc, DPhilNat

L. R. Richardson, MSc, PhD

W. Starck, PhD

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

A. G. Thorne

M. J. Whitten, BSc (Hons), BA, PhD, FTS

## ASSOCIATES

B. Bertram

A. Chapman

G. Daniels

H. Goodall

V. Kessner

T. R. Lindsay

D. F. McMichael, CBE, MA, PhD

K. Meguro

H. Paxton, BA (Hons)

A. B. Rose

R. Steene

L. Wilson

K. Carnaby

N. Coleman

J. Frazier

A. Healy

R. Kuiter

N. W. Longmore

W. McReaddie

R. Morrison

N. W. Rodd, BSc

D. Scambler, BSc

M. Tuckson



**Australian Museum**  
6-8 College Street  
Sydney NSW 2000  
Phone (02) 339 8111

---

Tues-Sun & holidays 10am-5pm  
Monday noon-5pm  
Admission is free