A Beautiful Collection of Australian Curiosities

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The first European settlers at Port Jackson were confronted by animals and plants that were, with few exceptions, different from anything they had known before. The names they gave to the strange flora and fauna were generally based on apparent similarities between these new forms and those with which they were acquainted in Europe, just as many of their place names reflected vague or fanciful similarities between their new homes and their old. The Australian Aborigines presented a culture so alien to the simple folk who made up the bulk of the first settlers (who in any case were preoccupied with survival) that few believed it worthy of either curiosity or record. Yet from the very beginning of the settlement, 'natural objects' were despatched to England in every returning ship; only the great naturalists of Europe possessed the literature or comparative collections needed to make sense of this strange new fauna and flora.

The field studies in natural history commenced by Sir Joseph Banks in 1770 were continued by such early explorer-naturalists as Robert Brown, Allan Cunningham, George Caley, John Lewin and the Macleay family. Their efforts were aimed largely at building up existing European collections, and were complemented by the French expeditions of d'Entrecasteaux and Baudin and later expeditions from Austria and Germany. Lodged principally in the collections of the British Museum in London and in the Muséum d'Histoire Naturelle in Paris, the animals of Australia began to be formally described in the scientific journals of Europe and slowly became more widely known to European science.

In the colony of New South Wales the concept, (and possibly the first specimens), of what was to become the Australian Museum may be traced to the early 1820s. A botanic garden had already been established and stuffed and preserved examples of many common animals of the region had been acquired for display. Yet by 1830 the *Sydney Gazette* was able to advise that 'the Sydney Museum, kept for the present in the old Judge Advocate's office has just received from the outstations some valuable additions to its stock of curiosities'.[1]

The early collections of the Museum were acquired solely for display. The colony lacked experienced naturalists to describe and study the diversity of new animals and other objects discovered by expanding exploration. Indeed, even if such experts had been resident in Australia, isolation from the burgeoning natural history literature of Europe would have effectively prevented them from keeping pace with the frenetic descriptive activities of the European naturalists. So, while a handful of stuffed birds and other curiosities were displayed in Sydney for public edification and entertainment, most natural history specimens still found their way to the museums of Europe, which were entering a phase of unprecedented acquisitiveness. A sense of intense national competitiveness was rife and, although an empire gave the British an edge over their competitors, even within England the British Museum itself had to compete, often unsuccessfully, with other institutions such as the Museum of the Zoological Society of London. Charles Darwin, writing in 1836 on the disposition of collections made during the voyage of the *Beagle,* stated that 'The Zoological Museum is nearly full, and upwards of a thousand specimens remain unmounted. I dare say the British Museum would receive them, but I cannot feel, from all I hear, any great respect even for the present state of that establishment'.[2]

William Holmes, the first head of the Australian Museum, was also the first of the collectors. He travelled extensively and was accidentally shot and killed while collecting at Moreton Bay in August 1831. Subsequent to his death, the Museum

was cared for by William Galvin, a messenger, later assisted by a prisoner, John Roach (Chapter 2).

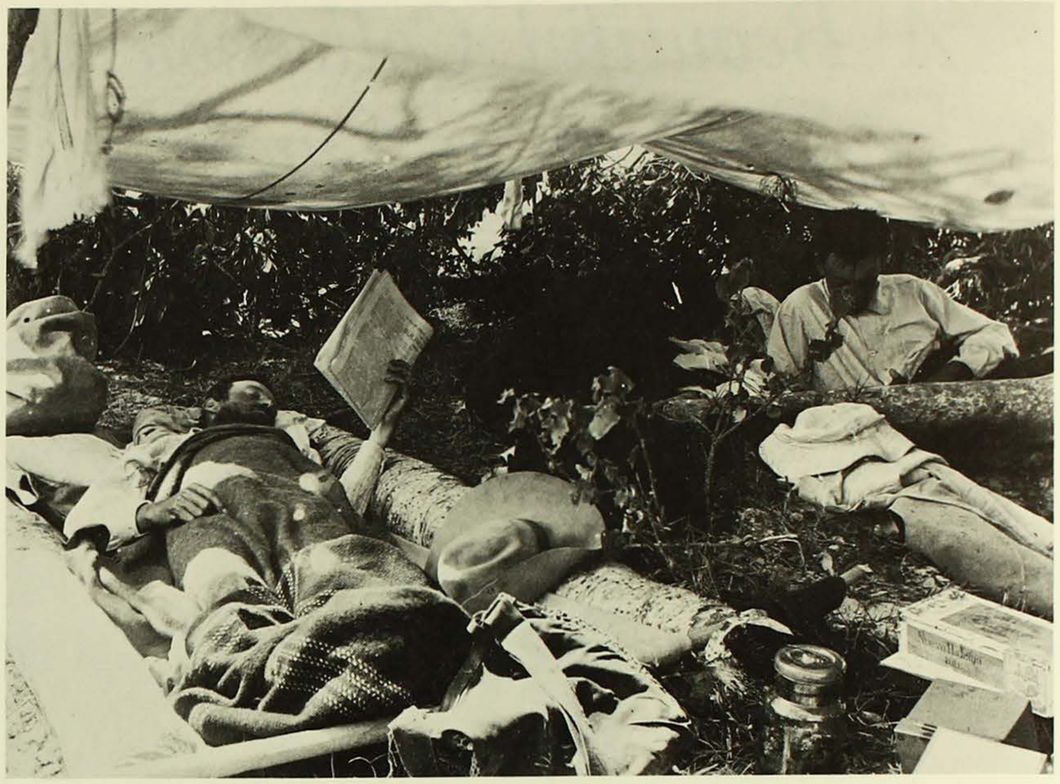
Roach, whose official title was 'collector and bird stuffer', undertook varied local field work. In 1834 he was sent to collect fish and shells at Botany Bay and Port Jackson, and in 1835 he was collecting specimens from Moreton Bay. In 1836 he joined Major Mitchell's expedition to the Darling and Murray rivers. Dr George Bennett wrote of Roach at the time to the anatomist Richard Owen: 'the present collector and bird stuffer I sent with Major Mitchell and hope he will not get speared by the natives like poor Cunningham' [a reference to the death in 1835 of Richard Cunningham, Colonial Botanist and explorer].[3]

Mitchell made but a few brief references to Roach in his journal: for example, on 18 October, a serpent 'died in his glory by a shot from Roach'. Perhaps Roach qualified as the Australian Museum's first herpetologist! Many of Mitchell's natural history specimens were subsequently lodged in the Australian Museum.

In 1840 William Sheridan Wall was appointed as collector. His brother Thomas was casually employed as a naturalist and field collector by the Museum. Wall was an active and competent naturalist but had little education. The Museum's first Memoir, *History and Description of a new Sperm Whale lately set up in the Australian Museum by William S. Wall, curator; together with some account of a new genus of Sperm Whales called Euphysetes* (1851) is often attributed to him but was probably written anonymously by William Macleay. Wall undertook several collecting trips, but few details are known. He made a collection at Wollongong in 1853, and there is a diary of his Sydney to Murrumbidgee Expedition in 1844-6. G. P. Whitley records that W. S. Wall nearly starved on this journey (see p. 19):

> One cannot visualise a modern museum director playing his violin at the roadside to make some money in the course of his field work. Yet something of the sort happened in the depressed 1840s when William Sheridan Wall, curator of the Australian Museum, journeyed from 'Sydney to the Murimbigi River in pursuite of specimens of natural history' with less than £2 in his pocket. Almost barefoot and starving, he wrote 'I have longily this last week for a potatoe and I put on a bold face and Begged a few on the Road,' and 'My Boots have no Souls so that I may lawfully say that I am doing pennance'. His equipment included one gun and ramrod, a bag of dustshot, powder, bullets and a bullet mould. When bailed up for tobacco by a 'Bush Rainger', the gun was hidden.[4]

After his forced retirement in 1859, Wall went to the Rockhampton district in Queensland where he made large collections of insects for the Australian Museum and for Sir William Macleay. Meanwhile his brother Thomas, although not employed by the Museum, supplied it with specimens. Thomas Wall joined Edmund Kennedy's expedition to the Victoria River (now Coopers Creek) in 1847 where he obtained four mammals, 155 birds, twenty-three shells, twelve minerals, 180 insects and thirteen ethnological specimens (Whitley, *in litt.*). He was temporarily appointed collector, between February and April 1848, to accompany Kennedy's overland expedition to Cape York, and died of sickness, privation and fatigue on 28 December 1848. His bones were subsequently collected and interred on Albany Island near the tip of Cape York Peninsula.



Above right: Expedition to Masthead Island, 1905. Hedley on the left.

Below right: McCullough with collected artifacts, Lake Murray, New Guinea. Hurley expedition, 1927.

One of the Museum's most notable collectors was George Masters, who migrated to Tasmania from England in 1856 or 1857 and came to Sydney in 1860. After collecting natural history specimens for Dr Godfrey Howitt and Sir William Macleay, he joined the Australian Museum in June 1864. Masters then began an impressive series of field expeditions to collect specimens: to the interior of New South Wales (1864); Ipswich and Pine Mountains, Queensland (1865); the Flinders Ranges, South Australia (1865); King Georges Sound, Western Australia (1866); Tasmania (1866-7); Wide Bay, Queensland (1867); Western Australia (1868-9); Lord Howe Island (1869); and Maryborough, Queensland (1870). Masters' collections from Lord Howe Island began more than a century of work by zoologists of the Australian Museum on that beautiful island. He resigned from the Museum in 1874 to become curator of the growing private collection of Sir William Macleay.

Not until collections began to be acquired for local research rather than public display did fieldwork become the responsibility of scientists themselves. Previously it had devolved largely on the 'collectors'—usually trained taxidermists—to secure the specimens for display or for study by scientists in Europe. With a growing sense of nationalism in the colonies and the emergence of a primitive pre-Darwinian ecological approach to the natural sciences, it came to be realised that a proper knowledge of Australian animals and plants required an understanding not only of the environment in which they were found, but also of their habits and behaviour in that environment. Thus the vital nexus between the collections and field studies developed, the growth of one demanding the growth of the other.

This new approach was initiated by Gerard Krefft in 1860. Under his direction, the Australian Museum began to develop an international reputation as a scientific institution in its own right. Krefft's remarkable story is dealt with in Chapter 4 but his contribution to the establishment of the Museum's research collections warrants separate mention here.

He developed a strong interest in vertebrates, and although generous in gifts and exchanges of specimens with naturalists throughout Europe, began to build up research collections within the Museum and to describe many new animals in local and overseas journals. He produced *The Snakes of Australia*—the first definitive work on this group of Australian animals—but not without difficulty and personal sacrifice. Unable to find a publisher, he eventually paid the Government printer out of his own pocket—£225 for 700 copies. He had earlier (1864) compiled a catalogue of mammals in the Museum's collection and later (1873) prepared a catalogue of minerals and rocks.

Krefft probably set another record by combining fieldwork with his honeymoon; indeed it seems unlikely that he would have had a honeymoon at all but for the providential discovery of the remains of the large marsupial, *Diprotodon*, in the Liverpool Ranges New South Wales. In 1869, he wrote to John Edward Gray, keeper of zoology at the British Museum:

> I confess I have gone and done it; the best fun was however that nobody found me out for a good while as I was supposed to be the only person living in the Museum. Having made a clean breast of it to the trustees it happened very opportune that some ancient bones were found up at Murrurundi and it was moved seconded and carried that I should have a honeymoon at the same time to look after the bones. . .[5]

After leaving Mrs Krefft at Singleton he went to Murrurundi where he excavated and packed his *Diprotodon* bones before returning to his wife.

Until 1869 the specimens in the Museum's collections were individually labelled,

The seaplane, *Seagull*, at Kaimari, New Guinea. Hurley expedition, 1927.

The *Eureka*, base vessel for the Hurley expedition to New Guinea, 1927.

Hodge-Smith's expedition to the Hart Range, 1930.

Below: Expedition to Swain Reefs, 1962.

and most were placed on public display in 'cabinets of like objects'. As the collections increased, some systematic record was needed to keep track of them, so in 1877, E. W. Palmer (see p.49) was employed part-time to begin compilation of a *Register of Specimens.* All the existing collections were recorded in a single volume, and later acquisitions were also entered in catch-all volumes.

By 1886 it was evident that the acquisition rates were outstripping the universal registration system, and the first specialist registers were started, one for each major group of organisms or objects. Some invertebrates, however, could be collected in such large numbers that it was clearly impossible to catalogue individual specimens; insects, for example, now number more than five million specimens, and the task of storing and retrieving the immense volume of data associated with these specimens has reached gargantuan proportions. The growth of the collections in a selection of Museum departments is shown in the graph on p. 140.

Development of the natural sciences in Australia until the 1870s had been a laborious process, with many setbacks. The first scientific societies—starting with the Philosophical Society of Australasia founded in 1821—were little concerned with natural history. However the Tasmanian Society (founded in 1838) and the Royal Society of Victoria (founded in 1856 as the Philosophical Institute of Victoria) soon began to publish papers on natural history topics. In Sydney, Sir William Macleay founded the Entomological Society of New South Wales—forerunner of the Linnean Society of New South Wales—in 1862, so that by the 1870s there was a new climate of endemic scientific enquiry in Australia.

Aided by improvements in the volume and reliability of transport, by an expanding missionary activity in New Guinea and the islands of the western Pacific, and by an unprecedented national affluence, biological collecting activities were boosted to new levels.

New Guinea, especially, offered great treasures for the biologists and ethnologists of the day. In 1875 Sir William Macleay, with a crew including George Masters, undertook an expedition to the south coast of New Guinea in the barque *Chevert.* The following year, in the steam launch *Neva,* provided by the New South Wales government, Luigi Maria D'Albertis travelled more than 800 kilometres up the Fly River on a spectacularly eventful expedition. Despite correspondence between the Museum and D'Albertis prior to the latter's departure, no material of any import ever seems to have reached the Museum. D'Albertis' expedition, although an organisational shambles, collected much important new zoological material, most of which found its way to the Natural History Museum in Genoa, Italy. Similarly, most of the material from Sir William Macleay's expedition to New Guinea went to his private collection rather than to the Australian Museum.

The Australian Museum, too, was entering a new era of field studies and expanded collecting activities. Alexander Morton was employed by the Museum as a collector from the late 1870s to the 1890s. Virtually nothing is known of his background but in 1877 he accompanied the explorer Andrew Goldie on an abortive expedition to New Guinea. Although Goldie failed to carry out his travels—being confined to the coast near Port Moresby by ill-health and disorganisation—Morton made important collections, principally of birds, in the environs of Port Moresby and Yule Island. In 1878 he collected at Port Darwin, and in 1881 he visited the Solomon Islands. The following year he visited Lord Howe Island, and subsequently, until his last recorded fieldwork at Seal Rocks in 1892, he is known to have collected in Queensland and Victoria.

The curatorship of E. P. Ramsay, which spanned twenty years until his resignation in 1894, saw several major additions to the Museum's research collections. Ramsay's interests were wide-ranging, and he collected throughout many parts of New South Wales and Queensland. His interest in birds resulted in the addition of nearly 18 000 specimens to the collections. He continued the work of his predecessors by studying the rich Pleistocene vertebrate fauna of the Wellington Caves, New South Wales.

One of his greatest contributions to the Museum, however, was his acquisition of the Day collection of Indian fishes. Francis Day, who for many years was Inspector-General of Fisheries in India, fell out with Albert Gunther, ichthyologist at the British Museum (Natural History), who publicly criticised Day's work in a series of devastating remarks in the *Zoological Record* over the period 1869-71. Day's reaction was to dispose of his collection elsewhere and, on meeting Ramsay at the International Fisheries Exhibition in London in 1883, he arranged to sell a significant part of it, including many type specimens, to the Australian Museum.

After a spate of field activities in the 1880s and 1890s—including expeditions to the Ellice Islands in 1896 and to New Caledonia in 1897 by the Museum's malacologist, Charles Hedley—an economic recession at the turn of the century put a stop to field work for many years. Indeed, not until the end of World War I and the return of a healthier economic climate were new expeditions launched. The 1920s saw field expeditions to New Guinea, the Kermadec Islands, and Santa Cruz in the Solomons, as well as to many parts of Australia—Lake Eyre and Lake Callabonna, the Nullarbor Plain and the northwest coast of Australia.

Several members of the Museum's staff participated in the 1928-9 Great Barrier Reef expedition, part of a year-long British Expedition based at Low Isles at the northern end of the Great Barrier Reef.

The recession of the 1930s again resulted in a dramatic cutback in field work. Except for the participation of the Museum's palaeontologist, H. O. Fletcher, in Madigan's crossing of the Simpson Desert by camel in 1939, field work was largely curtailed until after World War II.

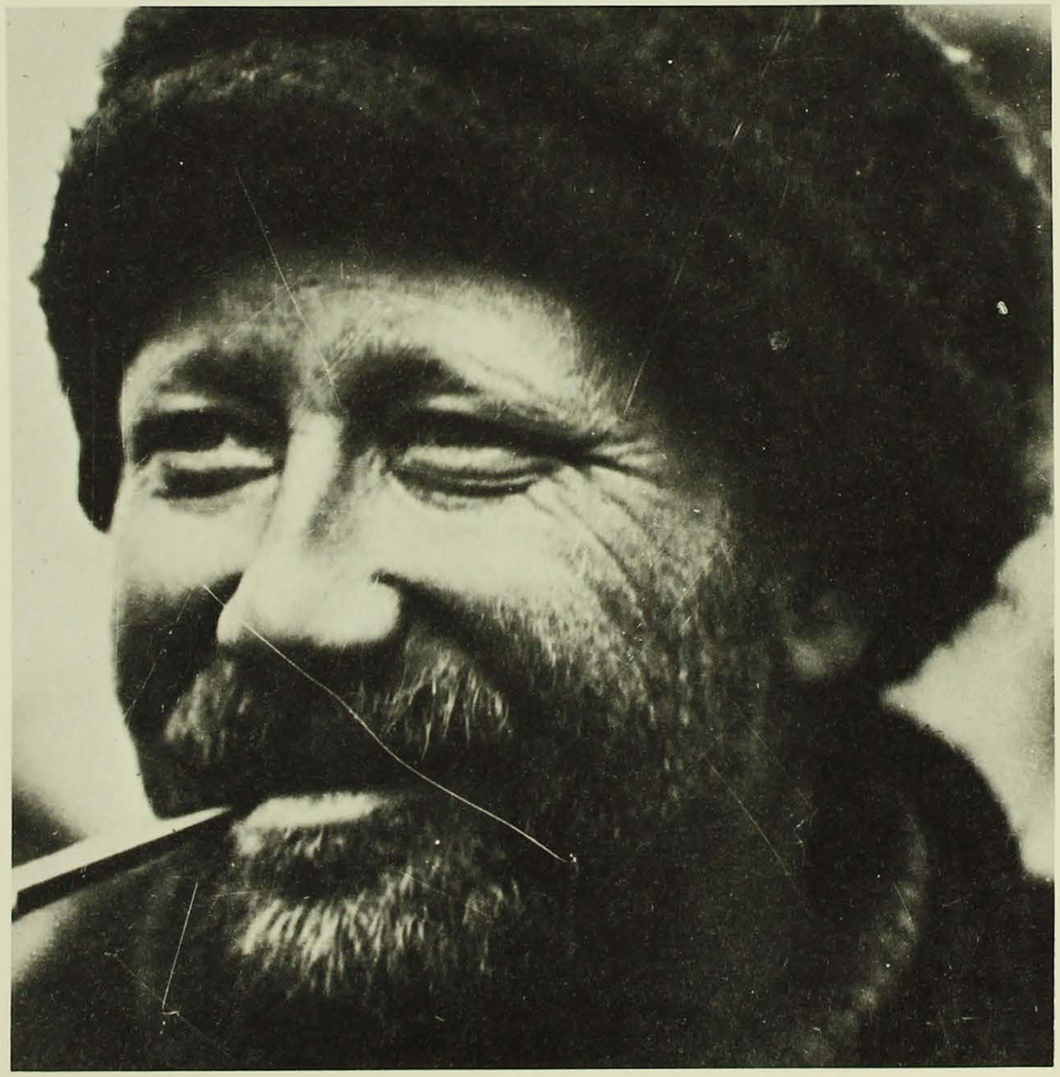
In 1948 the Museum's anthropologist, F. D. McCarthy, joined the National Geographic Society—Commonwealth Government—Smithsonian Institution year-long expedition to Arnhem Land. Since that time, members of the Museum's staff have participated in a number of major international expeditions in the Australian region.

In 1952 the Museum mounted what was, up to that time, its most ambitious expedition. Crossing central Australia to the Kimberleys, and returning via the Northern Territory and Queensland, a team of several scientists and preparators travelled for four months in two vehicles. Such trips are now commonplace, but the collections made at the time provided a major stimulus to taxonomic research on vertebrates.

With the directorship of John W. Evans in 1954, field studies gathered new impetus. Combined with an influx of new staff, and later with the Museum's access to additional funds from various granting agencies, the diversity of field studies—ranging from simple collecting trips to long-term ecological research—began an exponential growth that is impossible to document within these few pages. However a selection of photographs from this period indicates the diversity of subjects and localities involved.

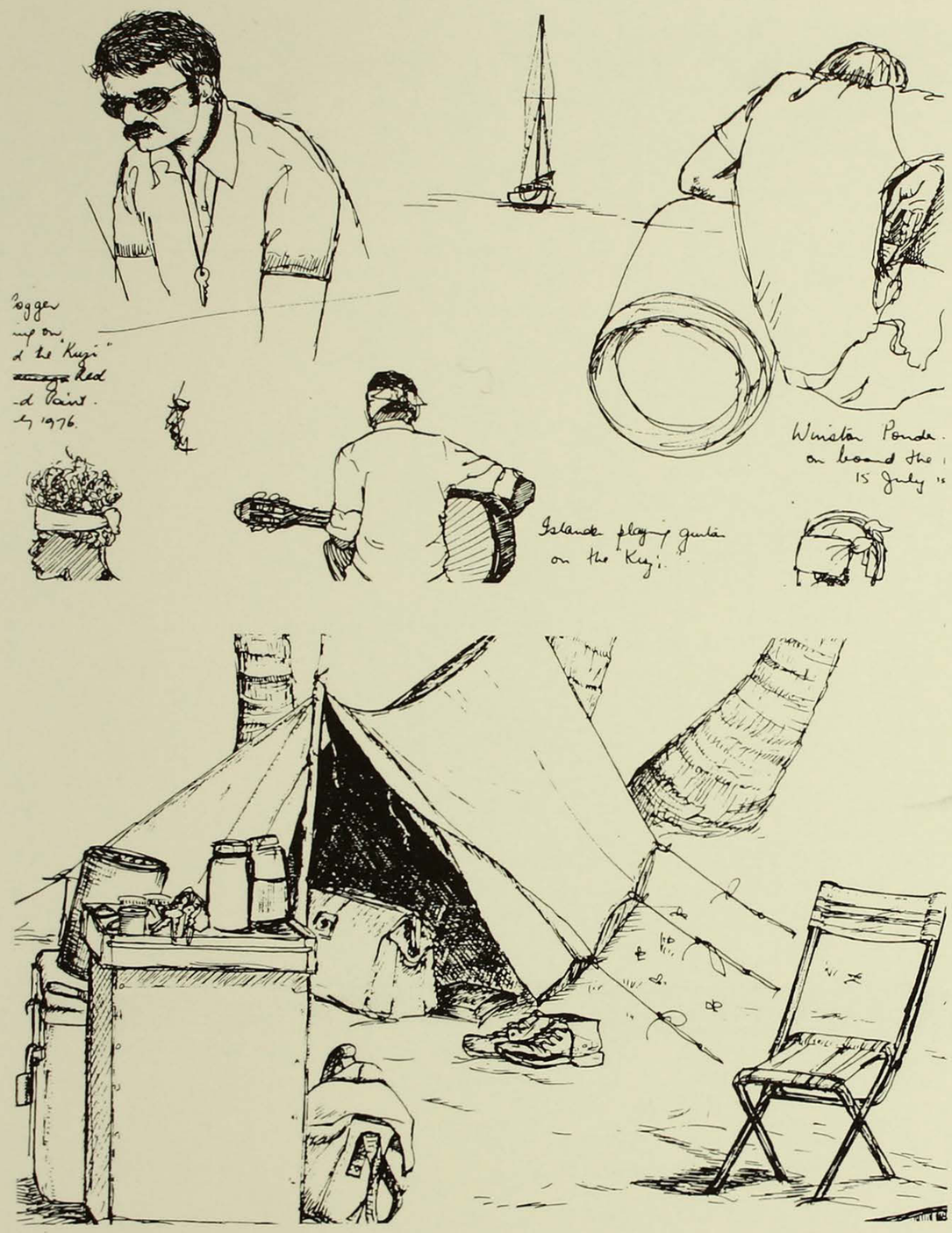
Right: Hodge-Smith on his expedition to the Hart Range, 1930. An inadequate diet led to scurvy, which is why his hands are bandaged.

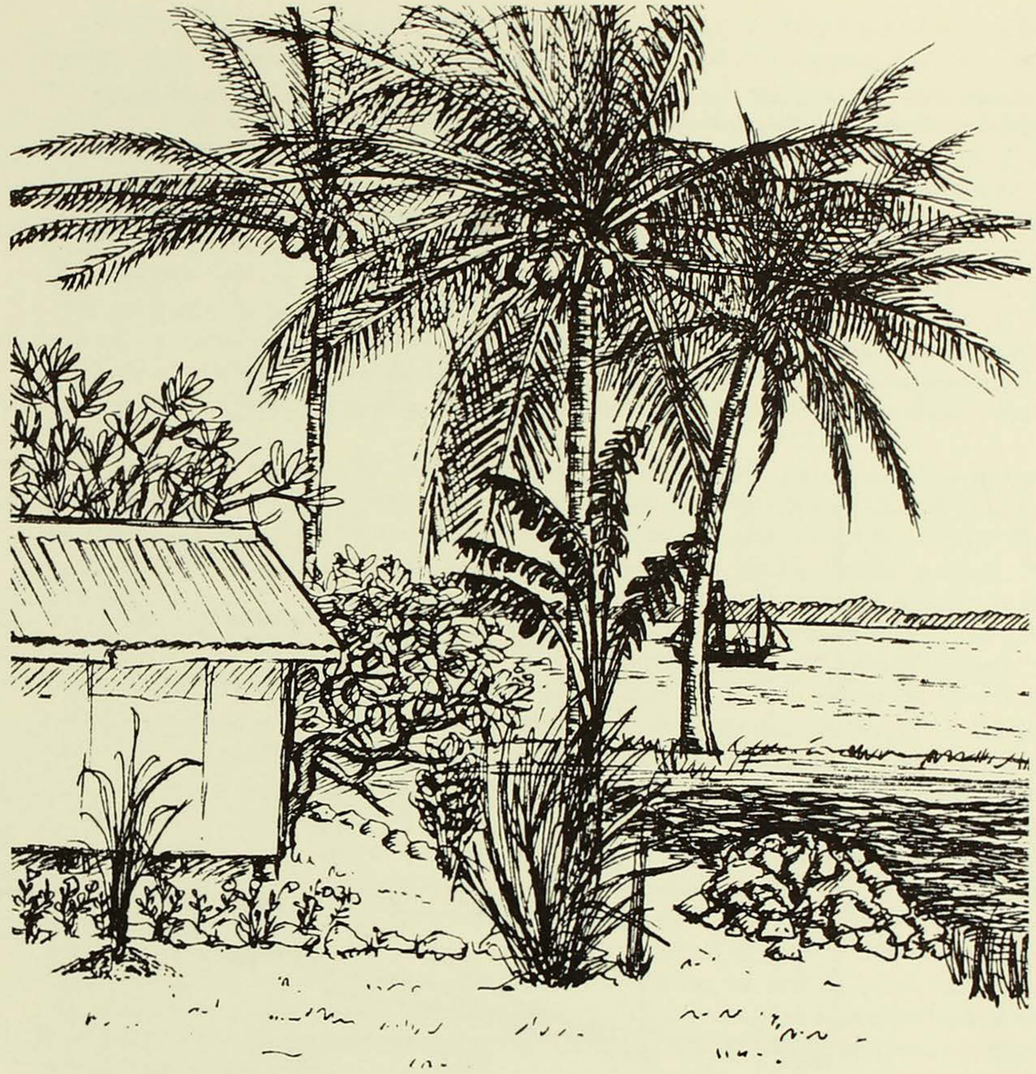
Two activities merit special attention. First is the long association of the Australian Museum with Lord Howe Island. The earliest zoologists became enamoured of this beautiful island, with its many endemic animals and plants, and it received visits from Museum collectors and scientists in 1869 and 1882. In 1887 it was the subject of the Museum's first interdisciplinary study, culminating in a special volume of the Museum's *Memoirs* issued in 1889. Subsequently, it was the subject of two dioramas in the Museum's Long Gallery, for which material was collected and paintings were made in 1921. In the following forty years it was visited regularly by various Museum specialists—sometimes officially but more often during their holidays, so tight were official funds—culminating in a vigorous decade of research from about 1965. Studies were made of the reptiles (1966), birds (1965-75), butterflies (1969-77), fishes (1973, in a major expedition funded primarily by the National Geographic Society) and a general ecological survey was undertaken in 1971 to make recommendations



Above: *Hippocampus zebra,* a new species of sea-horse discovered by Whitley on the Swain Reefs expedition, 1962.

Left: Fletcher, on Mawson's last expedition to the Antarctic, 1930-1. Fletcher was released from the Museum to accompany the expedition as assistant biologist and taxidermist.





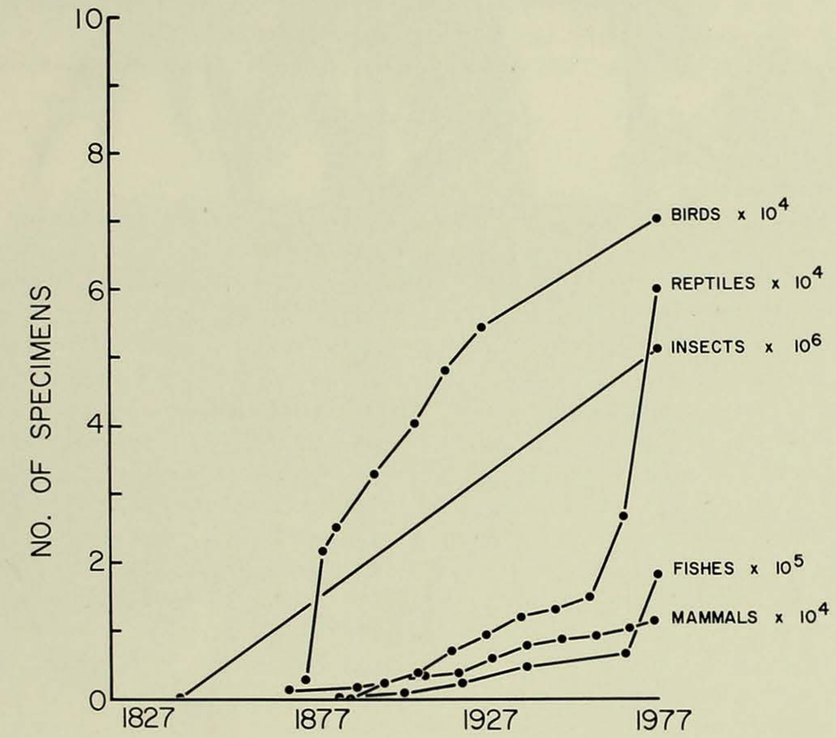
Torres Strait Islands expeditions by Museum. Sketches by Elizabeth Cameron.
Above: Expedition members and islanders, 1976.
Below: Murray Island camp, 1974.
Right: Saibai Island, 1975.

that resulted in the publication of a lengthy report on the conservation needs of the island.

Second is the establishment in 1966 of the Australian Museum's first field station on One Tree Island in the Capricorn Group of islands at the southern end of the Great Barrier Reef. Under the guidance of the director, Dr Frank Talbot, the magnificent reef at One Tree Island became the site of a wide range of ecological and related studies into coral reef fishes and invertebrates.

In 1973, a new field station was established on Lizard Island at the northern end of the Great Barrier Reef where, under the supervision of a resident director, the facility is being used by large numbers of visiting scientists. In 1975 the One Tree

Growth of the collections. Note that the curves are on different scales. Insects are plotted in millions, fish in hundreds of thousands, and reptiles, birds and mammals in tens of thousands.



Island facility was handed over to the University of Sydney.

In 1977 the monetary value of the collections ran into many millions of dollars yet, because so much of the material is irreplaceable, the value is beyond any meaningful estimate. Far more important than their monetary value, the collections represent a massive data bank in which a vast store of information about our natural resources and cultural heritage is available to the scientific and general community. The collections can be properly regarded as a continuing and growing investment of public money. Today, computer-based catalogues that can retrieve information quickly on a wide variety of criteria have been established for one or two departments and will eventually encompass large parts of the collections.