



Cover, Australia's fauna, 1938. Pamphlet.  
BOOROWA PRODUCTIONS

## CHAPTER 13

# FAUNA

LYNDALL DAWSON AND GRAEME PHIPPS

FIFTY OR SIXTY MILLION years ago, at the close of the Cretaceous period, Australia broke away from its mother continent, Gondwanaland, from the region we now call Antarctica, and began to drift northward. For more than 40 million years, before our continental plate reached the vicinity of the Asian plate, Australia was isolated, separated from other land faunas by vast tracts of ocean. This period of isolation, more than any other factor, has contributed to the evolution in Australia of a fauna which contains more endemic species (that is, species which evolved in Australia and are unique to it) than any other continent (Keast, 1981; Archer and Clayton, 1984).

The first Europeans to visit the continent in the seventeenth century came upon the strange phenomenon of black swans, a portent of what was to follow from the 1770s onward with the British discovery and settlement of the eastern part of the continent. Cook, Banks and their successors were confronted with a bewildering array of strange beasts and birds totally unlike the animals of Europe, Asia, the Americas and Africa, all of which were comparatively well known by that time. John Gould, speaking of his arrival in Australia in 1838 wrote, 'I found myself surrounded by objects as strange as if I had been transported to another planet' (Gould, 1863; facs, 1984).

The discovery of the unique Australian fauna and flora and its profound influence on the natural historians of Europe during the late eighteenth and early nineteenth centuries is the subject of two recently published books by C.M. Finney (1984) and by Stanbury and Phipps (1980). These books bring together a wealth of information from original sources and provide a fascinating early perspective for those who want to understand the fauna of Australia. Words such as bizarre, incredulous, alien, unique and amazing were frequently used by early writers about Australian animals, and to a large extent this sense of wonder and general fascination is felt even today by newcomers to Australia. It is usually engendered first by the larger and more colourful elements in the fauna—the spectacular parrots, the raucous kookaburra and the emu among the birds, and of course the marsupials which have become international symbols of Australia, the kangaroo and the koala. The platypus, that most incongruous of mammals, is also a uniquely Australian symbol. The Great Barrier Reef is a world-renowned faunal wonderland with a vast abundance of invertebrates and fishes, some of which are specific to that area. These examples represent only the most spectacular extremes of the diverse range of forms which make up the fauna of Australia.

Finney (1984) has identified the year 1829 as a watershed in the development of natural history, including zoology, in Australia. His book provides detailed information about the expeditions and men involved up to that time and about their philosophy and art. By that year an astonishing number of Australian animals, marine, freshwater and terrestrial, vertebrate and invertebrate, had already been described and named. The collectors were largely amateurs—explorers, soldiers, convicts—who had no scientific interest in their finds. They crammed the holds of small sailing ships with skins and preserved specimens and often with live animals to amaze and amuse the gentry of Britain and France. The animals were described by eminent British and French anatomists and zoologists. They grappled with the problems of classifying the most unusual forms, particularly the marsupials and the notoriously difficult platypus.

By the end of the second decade of the nineteenth century embryonic Australian societies and institutions were developing and better educated settlers added a local stimulus to the study of natural history in Australia.

In an overview of Australian zoology the entire nineteenth century was a period of intensely active collection and description. A sense of adventure and excitement at the new pervades many of the documents and articles relating to Australian zoology up to the turn of the century. Ronald Strahan's *Rare and curious specimens: an illustrated history of the Australian Museum, 1827–1979* (Sydney, Australian Museum, 1979) gives a masterly account of this period and some of the people involved in zoology at the time. Strahan describes how the Australian Museum, founded in 1827, was inextricably bound to the development of Australian zoology as a science in the nineteenth century. The National Museum of Victoria, founded considerably later in 1854, provided a similar focus for Victorian zoological collections and studies (Pescott, R.T.M. *Collections of a century: the history of the first hundred years of the National Museum of Victoria*, Melbourne, National Museum of Victoria, 1954). Nevertheless, during the nineteenth century and into the early years of the twentieth, the bulk of collections from Australia found their way to Britain, some as private collections, but most to be lodged in the British Museum. A useful guide to the European literature of the time is given by Strahan (1981), a small book of much greater scope and interest than its title suggests.

Towards the end of the nineteenth century the youthful Australian institutions began to publish their own catalogues and other results of Australian zoological research in such journals as *Records of the Australian Museum*, which first appeared in 1890, and the *J of the Linnean Society*, which began in 1876. Prior to the establishment of these journals much new information about Australian animals was published in local newspapers, such as the *Sydney Morning Herald*. D.F. Branagan, in 'Words, actions, people: 150 years of the scientific societies in Australia', *J and proceedings of the Royal Society of New South Wales* 104, 1972, 123–41, notes that the very small and shortlived Entomological Society, founded by William Macleay in 1862, helped to stimulate men such as Gerard Krefft and E.P. Ramsay, who became some of the most active and influential Australian zoologists of the nineteenth century.

The literature of nineteenth-century zoology in Australia is diverse. Apart from articles appearing in scientific publications—mainly catalogues and descriptions of new species—the popular literature consisted primarily of narratives of the travels and observations of the many explorers, amateur naturalists and private adventurers of the time. Several nineteenth-century travelogues and zoological books have been republished recently in their original form, an indication of their value as reflections on an exciting period of Australian natural history.

Pre-eminent among these are the works of John Gould on birds and mammals, which were first published between 1840 and 1863. His seven-volume *Birds of Australia* (1840–48; facs, 1972–76) is a classic, amazingly accurate and comprehensive in zoological information, but valued more highly now for the superb quality of the illustrations. Gould's three volumes on mammals, *Australian marsupials and monotremes*, *Kangaroos* and *Placental mammals of Australia* are equally beautiful. These too have been recently republished (1984), with a foreword and annotations by Joan Dixon of the National Museum of Victoria. Their scientific value remains high, as they contain the best illustrations and descriptions of the appearance and habits of many

species of mammals now extinct or highly endangered. Another recently republished work of zoological interest is George Bennett's (1860) *Gatherings of a naturalist in Australasia* (Sydney, Currawong Press, 1972).

Biographical and bibliographic information on many influential zoologists working in Australia during the nineteenth century, such as George Bennett (1804–93), John Gould (1804–81), Edward Ramsay (1842–1916), George Masters (1837–1912), Thomas Whitelegge (1850–1927), A.S. Olliff (1865–95) and John Ogilby (1853–1925) is to be found in Strahan (1981) and Whittell (1954), as well as the *Australian dictionary of biography*.

The year 1895 appears to mark the close of the major exploratory and descriptive era of Australian zoology. The effects of a major drought, the ensuing economic depression and World War I stifled exploration and scientific achievement in zoology until the 1920s. The only important books to appear in this period and to foreshadow the era to come were Froggatt's treatise on insects (1907) and Roughley's on fish (1916).

A new era began in the early 1920s and lasted until approximately 1960. This period was characterised by the publication of the first semipopular, comprehensive and educational books on several major groups of Australian animals. Some of these were to become classics, and a few endured as the prime authorities on their subject for the next forty or fifty years. Important books of this era included Le Souef and Burrell (1926), Wood Jones (1923–27; repr 1968) and Troughton (1941; repr 1965) on mammals, Burrell (1927; repr 1974) on the platypus, Caley (1931; repr 1984) on birds, McKeon (1936; repr 1952) on spiders, Kinghorn (1929; repr 1967) on snakes, Whitley (1946; repr 1980) on fish, Allen (1950; repr 1959) on shells, Radcliffe (1952) on termites, Clarke (1951) on ants and Rehn (1952–57) on grasshoppers and locusts.

During this period two comprehensive historic bibliographies appeared: Musgrave (1932) on insects and Whittell (1954) on birds. By their sheer size these publications dramatically illustrate the progress of the preceding century in zoological studies.

Books of this era indicate the 'state of the art' of Australian zoology up to the early 1960s. They all tried to present for the first time in one volume a resumé of known species, their distribution and basic information on their natural history (breeding season, food preferences, preferred habitat, and so on). From about 1960 onwards, the character of the literature of Australian zoology changed once again. Slowly during the 1960s, then with a great burst during the 1970s, more sophisticated books began to appear directed at a generally much better educated public. Many of them are characterised as composite works. The detailed knowledge now required for the presentation of a scientific overview of Australian fauna is beyond the capacity of individual scholars and the most reliable surveys contain contributions by many specialists.

Books of this modern era tend to fall into three categories. The first, field guides, are aimed at the active amateur who wishes to identify invertebrates, amphibians, reptiles, birds and mammals in their natural habitat and includes books such as Slater's field guides to birds (1970, 1974) and Common and Waterhouse's guide to butterflies (1981). A second category of educational, semiscientific books is written for the student, educated amateur and professional zoologist alike, for example, Strahan (1983) on mammals and Cogger (1979) on reptiles and amphibians. One of the most impressive among these to date is Archer and Clayton (1984) which is likely to remain for quite some time the standard work on the origins of Australian vertebrate fauna. The third category includes popular books generally characterised by excellent photography, accompanied by basic notes on natural history. Except for books in this latter group, which are too numerous to be dealt with in this bibliography, the modern zoological books almost invariably go beyond mere description of the animals concerned, adding a modern biological emphasis, often describing their past and present status, ecological, behavioural and physiological aspects of their biology, and including discussion of controversial aspects of taxonomic status.

Most major groups of animals are dealt with in books of this period. Notable among them are Hall and Richards (1979) on bats, Watts and Aslin (1981) on rodents, Strahan (1983) on mammals, Reader's Digest (1976) on birds, Griffith (1968) on echidnas, Cogger (1983) on reptiles

and amphibians, Lake (1978) and McDowall (1980) on freshwater fish, CSIRO (1970) on insects, and Clyne (1969) and Mascord (1970) on spiders. Many invertebrates are comprehensively dealt with in such books as Dakin's classic (1969), Allen (1959) and Smith and Kershaw (1979) on shells and molluscs, and Deas and Domm (1976) on corals.

Certain subjects of special fascination have attracted a diverse literature of their own. One is the Barrier Reef, basically a zoological phenomenon which includes in its fauna animals ranging through almost the entire invertebrate spectrum and on to fishes and dugongs among the vertebrates. Notable among the many books on the reef are those by Isobel Bennett (1981) and Endean (1982). From that other huge group, the insects, books and articles on butterflies are particularly prevalent. Moulds (1977) presents a bibliography of butterfly literature from 1773 to 1973. The dangerous and venomous animals of Australia also attract special attention, for example, Sutherland (1981) who deals with all dangerous animals from jellyfish to snakes.

Some mammals such as the kangaroos, the koala, the carnivorous marsupials and monotremes have been the subject of special scientific symposia. *Kangaroos and men* (1971), M. Archer (1982) and M.L. Augee (1978) were the published results of symposia held by the Royal Zoological Society of New South Wales, while T. Bergin edited the papers on the koala presented at a symposium held at Taronga Zoo, Sydney (1978) under the combined auspices of the Zoological Parks Board of New South Wales, the Royal Zoological Society of New South Wales and the New South Wales National Parks and Wildlife Service.

The impact of European civilisation on Australian fauna is now a subject of growing interest as it becomes increasingly apparent that many animal species have become extinct in the past 200 years, or are now seriously endangered. Awareness of this process is not new. In 1863 John Gould, foreshadowing the kangaroo preservation debate which still rages today, wrote:

The kind of country it [the red kangaroo] frequents being of the utmost value to the pastoral portion of the Australian community, it is diligently sought for and occupied as soon as found, for depasturing their immense flocks and herds, in the stockmen and keepers of which, aided by their fleet, powerful, and well trained dogs, the Red Kangaroo finds an enemy which at once drives it from all newly occupied districts, and which will ultimately lead to its entire extirpation, unless some law be enacted for its preservation; and to this point I would direct the attention of the present enlightened Governor and Assembly of New South Wales, who surely will not hesitate to make some provision for the protection of this noble animal, as well as for some other fine species of the family still inhabiting that Colony; in fact, if this be not done, a few years will see them expunged from the Fauna of Australia.

Gould's prediction regarding the red kangaroo did not come true (see Burbidge, 1977, Frith and Calaby, 1969) but the extinction, or extreme reduction in range and numbers, did eventuate for about 40 per cent of the smaller kangaroo and wallaby species illustrated in his books. Several modern books deal with wildlife conservation and list many of the endangered animals of Australia. These include the works of Frith (1973, revised 1979) and Ovington (1978), which deal with mammals, birds and reptiles, and attempt to define the factors which have led to the present situation. In his extremely readable book, Rolls (1969; repr 1984) makes it clear that the demise of many of the smaller species of marsupials, and many reptiles and birds, can be attributed to the predatory effects of introduced feral animals, and to the enormously destructive effects of rabbits and grazing animals on the natural habitats of a wide range of species.

The growing awareness in the community of the value of native fauna and the threats to its existence has promoted government support, through organisations such as the National Parks and Wildlife Service and the CSIRO, for research aimed at identifying means of conserving those species which are already endangered. Great progress has been made in recent years towards the establishment of national parks and wildlife refuges and reserves, in order to protect the habitats of a wide range of native fauna (for examples, see Haigh, 1980). Basic zoological research is conducted in all Australian universities, funded largely by research grants from the commonwealth government. A large proportion of the research interests of the major natural

history museums, such as the Australian Museum in Sydney and the National Museum of Victoria in Melbourne, is directed towards active investigation of the biology, taxonomy and status of Australian animals.

There are many Australian zoological journals of international standing, both general and specialised in scope. Outstanding among these are the *Australian J of zoology*, publishing a wide range of zoological research; *The emu*, the journal of the Royal Australian Ornithologists Union; *Australian mammalogy*, the journal of the Australian Mammal Society; the CSIRO's journal, *Australian wildlife research*; and the *Australian J of marine and freshwater research*. Taxonomic reviews and reports of basic taxonomic research are published in the journals of the state natural history museums, such as *Memoirs of the National Museum of Victoria* and *Records of the Australian Museum*. For the non-specialist, *Australian natural history* deals with both flora and fauna.

Under the auspices of the federal Bureau of Flora and Fauna the preparation of a zoological catalogue for Australia is now under way. When complete, this index will make available a summation of zoological taxonomic and bibliographic data in a series of volumes covering the entire animal kingdom of Australia. The catalogue will be based on a machine-readable data bank and will be published in at least ten volumes. Volume 1 of this series, *Amphibia and reptilia*, appeared in 1983, and it is expected that volumes 2-5, including the volumes on mammals, arachnids and several groups of insects, will be published during 1985. The objectives of the Australian Biological Resources Survey (ABRS), in compiling these data banks, are to stimulate research and publications on the taxonomy and distribution of Australian species and to provide a bibliographical directory for the professional taxonomist and research worker.

A second proposed project is the publication, by the Bureau of Flora and Fauna, of a *Fauna of Australia* to comprise ten volumes to cover all Australian fauna from Protozoa to Mammalia. These volumes, edited by D. Walton, will present a comprehensive account of the current knowledge of the biology, taxonomy, evolution and history of discovery of all animals that live in Australia, and serve as a reference text for students, scientists and amateur naturalists.

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*Thomas Scott, Sketch of a tyger trap. Intended for Mount Morriston, 1823. Watercolour and pencil. Scott's drawing of a Tasmanian tiger is as rare as the animal itself. Unlike nineteenth-century prints circulated for commercial sale, in this personal sketch the fascination with bizarre and exotic wildlife is overshadowed by the instruments of the animal's subsequent destruction. The tiger, properly Thylacinus cyanocephalus, was probably the largest flesh-eating marsupial ever evolved. It is now almost certainly extinct.*

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## GENERAL

BENNETT, I. *The Great Barrier Reef*. Sydney, Lansdowne, 1981. 184 p, illus, maps.

Comprehensive in its coverage and still the best general work on the Great Barrier Reef. First published in 1971.

ENDEAN, R. *Australia's Great Barrier Reef*. UQP, 1982. 348 p, illus, maps.

A comprehensive survey of the families of animals and plants found on the Great Barrier Reef. Separate chapters on hard corals, worms, crustaceans, molluscs, echinoderms, coral reef fishes, and dangerous animals found on coral reefs.

FINNEY, C.M. *To sail beyond the sunset: natural history in Australia 1699–1829*. Adelaide, Rigby, 1984. 206 p, illus.

A beautifully illustrated book on the early history of discovery of the Australian fauna and flora.

FRITH, H.J. *Wildlife conservation*. A & R, 1973, 414 p, illus, maps.

An overview of conservation in Australia detailing aspects of wildlife, including the effects of habitat, hunting and commercialisation on animal populations.

HAIGH, C. ed, *Endangered animals of New South Wales*. Sydney, National Parks and Wildlife Service, 1980. 72 p, illus.

Describes the efforts of the NSW Parks and Wildlife Service, listing many species of reptiles, birds and mammals which are now extinct or threatened.

KEAST, A. ed, *Ecological biogeography of Australia*. The Hague, Dr WJunk, 1981. 3 vols, illus, maps. (Monographiae biologicae, v 41.)

A major work divided as follows: the development of the Australian environment; the flora of Australia; the terrestrial invertebrates of Australia; biogeography of inland fresh waters; biogeography of poikilothermic vertebrates; biogeography of homeothermic vertebrates; origin and ecology of Aborigines; and integration.

OVINGTON, J.D. *Australian endangered species: mammals, birds and reptiles*. Sydney, Cassell, 1978. 183 p, illus, maps.

Processes leading to the endangered status of species are examined, and conservation and recovery strategies are presented. Colour portraits of endangered species.

ROLLS, E.C. *They all ran wild: the story of pests on the land in Australia*. A & R, 1984. 546 p, illus.

Presents the effects of (mainly) introduced animals on Australian fauna. Case studies of species, including kangaroos, trace history of their development into what many people consider to be pest status. First published in 1969.

SERVENTY, V. *Wildlife of Australia* (rev edn). Melbourne, Nelson, 1977. 216 p, illus.

Mammals, birds, reptiles, amphibians, fishes and marine and terrestrial invertebrates are discussed in this valuable introduction to Australia's animals. First published in 1968.

STANBURY, P. AND PHIPPS, G. *Australia's animals discovered*. Sydney, Pergamon, 1980. 120 p, illus, maps.

Early reports on some fifty of Australia's most interesting vertebrate animals are recorded. Reproductions of contemporary illustrations help trace history of discovery of Australian fauna.

SUTHERLAND, S.K. *Venomous creatures of Australia: a field guide with notes on first aid*. OUP, 1981. 128 p, illus.

A useful guide, with clear photos, of Australian venomous snakes, insects, spiders and ticks, jellyfish and octopuses, stinging fish, stingrays, coneshells, the Port Jackson shark and glaucous.

WILLIAMS, W.D. *Life in inland waters*. Melbourne, Blackwell Scientific Publication, 1983. 252 p, illus, maps.

Deals with the animal and plant life of Australian rivers, streams, freshwater lakes and salt lakes. Chapters on invertebrates, fish, amphibians and reptiles, waterbirds and mammals.

## MARINE INVERTEBRATES

ALLAN, J.K. *Australian shells, with related animals living in the sea, in freshwater and on the land* (rev edn). Melbourne, Georgian House, 1959. 487 p, illus, maps.

Species of Australian molluscs, including land and shell-less forms are discussed; the scope is far wider than the term 'shell' would suggest. First published in 1950.

DAKIN, W.J. *Australian seashores: a guide for the beach-lover, the naturalist, the shore fisherman, and the student, by W.J. Dakin assisted by I. Bennett and E. Pope* (rev edn). A & R, 1969. 372 p, illus.

The classic work on Australian seashore life with chapters on sponges, coelenterates, bryozoans, crustaceans, molluscs, echinoderms and tunicates. First published in 1952.

DEAS, W. AND DOMM, S. *Corals of the Great Barrier Reef*. Sydney, Ure Smith, 1976. 127 p, illus.

The living coral colonies which form the Great Barrier Reef are illustrated with many colour photographs by Deas. Text by Domm discusses coral classification, biology, formation and types of reefs.

HEALY, A. AND YALDWYN, J. *Australian crustaceans in colour*. Sydney, Reed, 1970. 112 p, illus.

A general illustrated introduction to Australian marine and freshwater crustaceans.

UNDERWOOD, A.J. *Barnacles: a guide based on the barnacles found on the New South Wales coast*. Sydney, Reed Education, 1976. 32 p, illus.

The barnacles of the NSW coast are easily identified using this booklet. All technical terms are explained and illustrated by line drawings.

WILLAN, R.C. AND COLEMAN, N. *Nudibranchs of Australasia*. Sydney, Australasian Marine Photographic Index, 1984. 56 p, illus.

The first comprehensive checklist of Australian nudibranchs; includes geographical distribution and their natural history, biology, classification, collection and preservation.

WILSON, B.R. AND GILLET, K. *Australian shells: illustrating and describing 600 species of marine gastropods found in Australian waters* (Rev edn). Sydney, Reed, 1974. 168 p, illus, map.

Covers 35 families of marine gastropods or snails. First published in 1971.

-edn). Sydney, Reed, 1974. 168 p, illus, map.

## LAND INVERTEBRATES

AUSTIN, A. *Spiders*. Melbourne, Longman Cheshire, 1980. 37 p, illus.

The common families of Australian spiders are easily identifiable using this illustrated guide.

BROWN, R.H. *A bibliography of Australian plant nematology, 1890–1974*. Melbourne, Victorian Plant Research Institute, 1976. 53 p.

Lists over 460 papers on all aspects of nematology in chronological order.

CLARK, J. *Formicidae of Australia*. Vol 1. *Subfamily Myrmeciinae*, Melbourne, CSIRO, 1951. 1, 220 p, illus.

Covers aspects of taxonomy and natural history of Australian ants, as well as keys for identification of species. No other volumes published.

- CLYNE, D. *A guide to Australian spiders: their collection and identification*. Melbourne, Nelson, 1969. 168 p, illus.  
Sections on spider biology introduce some 80 pages of colour photographs of 236 specimens.
- COMMON, I.F.B. AND WATERHOUSE, D.F. *Butterflies of Australia* (rev edn). A & R, 1981. 682 p, illus.  
An identification manual and a synopsis of knowledge on the species including immature stages, food plants and biology. Supersedes the 1972 edition.
- COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION. Division of Entomology. *The insects of Australia: a textbook for students and research workers*. MUP, 1970. 1029 p, illus, maps.  
A comprehensive and profusely illustrated textbook. A 146-page supplement was published in 1974.
- FROGGATT, W.W. *Australian insects*. Sydney, Brooks, 1907. 449 p, illus.  
A classic early work now available only in major libraries. Many interesting early references.
- GOODE, J. *Insects of Australia with illustrations from the classic The insects of Australia and New Zealand by R.J. Tillyard*. A & R, 1980. 260 p, illus.  
Based on Tillyard's original 1926 text, this volume is aimed at the young collector or field naturalist as an aid to identification of all the common insects.
- GRIGG, J.N. *Insects*. Sydney, Reed Education, 1976. 47 p, illus.  
A basic key to identification of Australian insects. Well illustrated, and each family is photographed in colour. Good selection on projects with insects.
- HEALY, A. AND SMITHERS, C. *Australian insects in colour*. Sydney, Reed, 1971. 112 p, illus.  
A popular account of some of the more common insects found in Australia. Sixteen families are discussed and natural history notes match more than one hundred photographs.
- McCUBBIN, C. *Australian butterflies*. Melbourne, 1971 xxxi, 206 p, illus.  
A beautifully produced volume illustrated by paintings from life with backgrounds of host plants.
- McKEOWN, K.C. *Australian spiders: their lives and habits*. A & R, 1952. 274 p, illus.  
A popular narrative account of the most common spiders and ticks of Australia with illustrations. It is a revised edition of his *Spider wonders of Australia* published in 1936.
- MASCORD, R. *Australian spiders in colour*. Sydney, Reed, 1970. 112 p, illus.  
Some 200 colour photographs are arranged systematically to illustrate 24 families. Species accounts matching the photos are adequate, but a key to identification should have been included.
- MOULDS, M.S. *Bibliography of the Australian butterflies (Lepidoptera: Hesperoidea and Papilionoidea) 1773-1973*. Sydney, Australian Entomological Press, 1977. 239 p.  
A detailed bibliography covering the literature to the end of 1973. Takes Musgrave (1932) as the starting point, but adds many earlier items.
- MUSGRAVE, A. *Bibliography of Australian entomology, 1775-1930: with biographical notes on authors and collectors*. Sydney, Royal Zoological Society of NSW, 1932. 380 p.  
A comprehensive literature survey.
- RATCLIFFE, F.N. *et al*, *Australian termites: the biology, recognition and economic importance of the common species*. Melbourne, CSIRO, 1952. 124 p, illus.  
Standard work.
- REHN, J.A.G. *The grasshoppers and locusts (Acridoidea) of Australia*. Melbourne, CSIRO, 1952-57. 3 vols.  
An aid to identification as well as a textbook for students and professional zoologists.
- SMITH, B.J. AND KERSHAW, R.C. *Field guide to the non-marine molluscs of south-eastern Australia*. ANUP, 1979. 285 p, illus, maps.  
A handbook for the identification of terrestrial and freshwater molluscs found in Vic, Tas and the southern parts of NSW and SA.
- ## FISH
- COLEMAN, N. *Australian sea fishes, south of 30°s*. Sydney, Doubleday, 1980. 302 p, illus, maps.
- COLEMAN, N. *Australian sea fishes north of 30°s*. Sydney, Doubleday, 1981. 297 p, illus, maps.  
These two books illustrate in colour almost 600 sea fish found in Australian waters. The illustrations come from the files of the Australasian Marine Photographic Index.
- LAKE, J.S. *Australian freshwater fishes illustrated: an illustrated field guide*. Melbourne, Nelson, 1978. 160 p, illus, maps.  
Includes details on distribution, breeding, food and general comments on 144 species. The coloured illustrations are an advance on his 1971 *Freshwater fishes and rivers of Australia*.
- McDOWALL, R.M. ed, *Freshwater fishes of south-eastern Australia (New South Wales, Victoria and Tasmania)*. Sydney, Reed, 1980. 208 p, illus, map.  
A valuable reference book. Extensive details are recorded about the 29 fish families considered. A useful chapter on how to study fish.
- MARSHALL, T.C. *Fishes of the Great Barrier Reef and coastal waters of Queensland*. A & R, 1964. 566 p, illus.  
A superb scholarly work dealing with some 1500 species. The author explains all terms, and includes details on how to use the identification keys.
- ROUGHLEY, T.C. *Fish and fisheries of Australia* (rev edn). A & R, 1966. 328 p, illus, maps.  
Fish, some marine crustaceans and molluscs of economic importance or sporting value are described either as individual species or as families. First published in 1951.
- STEAD, D.G. *Sharks and rays of Australian seas*. A & R, 1963. 211 p, illus.  
Surveys sharks and rays, with an appendix showing their classification. A select bibliography by G.P. Whitley.
- WHITLEY, G.P. *G.P. Whitley's handbook of Australian fishes, ed by J. Pollard*. Sydney, Jack Pollard Publishing, 1980. 629 p, illus.  
Combined and revised version of three earlier books by Whitley. Compiled for the angler and interested student, to answer the question 'What fish is that?', it includes scientific information and some illustrations not available in the original works.
- ## REPTILES AND AMPHIBIANS
- BARKER, J. AND GRIGG, G. *A field guide to Australian frogs*. Adelaide, Rigby, 1976. 229 p, illus, maps.  
A guide to 150 species of frogs and aspects of their biology. Chapters on evolution and on the collecting, keeping and photography of frogs.
- BUSTARD, H.R. *Sea turtles: natural history and conservation*. London, Collins, 1972. 220 p, illus.  
Although his work covers the world's seven species of sea turtle it has an Australian bias and is based on his research on the Great Barrier Reef.

CANN, J. *Tortoises of Australia*. A & R, 1978. 79 p, illus.

A concise coverage of characteristics, ecology, collection and care in captivity of tortoises.

COGGER, H.G. *Reptiles and amphibians of Australia* (rev edn). Sydney, Reed, 1983. 680 p, illus, maps.

A comprehensive work discussing over 700 species of frogs, lizards, snakes, crocodiles and turtles. Details of identification, distribution, conservation, collection and captive maintenance are included. First published in 1975.

COGGER, H.G. *Snakes*. Melbourne, Longman Cheshire, 1980. 36 p, illus.

A guide to identification with notes and line drawings.

COGGER, H.G. *et al*, *Amphibia and reptilia*. AGPS, 1983. 313 p, map. (Zoological catalogue of Australia, vol 1.)

Contains the name and original reference for every known Australian species of reptile and amphibian, with synonymy, literature citations, location and status of the type, and geographic distribution of the species. First volume of the Australian Biological Resources Survey.

GOW, G.F. AND SWANSON, S. *Snakes and lizards of Australia*. A & R, 1977. 88, 80 p, illus.

A combination of Gow's *Snakes of Australia* and Swanson's *Lizards of Australia*. Chapters on management in captivity and species descriptions, with a section on photographing lizards. Two hundred and two excellent colour photographs.

KINGHORN, J.R. *The snakes of Australia*. A & R, 1929. 198 p, illus.

Provision of diagrams, a key to identification of some snake genera and species and coloured illustration of anatomical details make this small book a useful field guide. Includes a bibliography. Revised edition published in 1964.

TYLER, M.J. *Frogs*. Sydney, Collins, 1982. 256 p, illus, maps.

An extensive work on the amphibians of Australia, New Guinea and neighbouring islands. Includes aspects of frog biology and a review of herpetology in Australia. First published in 1976.

WORRELL, E. *Reptiles of Australia: crocodiles, turtles, tortoises, lizards, snakes; describing their appearance, their haunts, their habits*. A & R, 1970. 169 p, illus.

Covers description and distribution for every Australian reptile. Over 330 illustrations make this a useful handbook, if now a little dated. First published in 1963.

## BIRDS

BERULDSSEN, G.R. *A field guide to nests and eggs of Australian birds*. Adelaide, Rigby, 1980. 448 p, illus.

A guide to identification including keys to and colour plates of nests and eggs. Information provided on colony breeding, parasitism and introduced species.

BLAKERS, M. *et al*, *The atlas of Australian birds*. MUP for Royal Australasian Ornithologists' Union, 1984. 738 p, illus, maps.

Comprises a species by species annotation and distribution map. The annotations, supplementary maps and bibliography provide considerable historical information.

CAMPBELL, A.J. *Nests and eggs of Australian birds including the geographical distribution of the species and popular observations thereon*. Sheffield, England, The Author, 1900. 2 vols, illus, maps.

Written when egg-collecting was fashionable; now largely of historical interest because of the limited number of eggs available to the author for description. Facsimile edition, Melbourne, Wren, 1974.

CAYLEY, N.W. *What bird is that? A guide to the birds of Australia*. A & R, 1931. 319 p, illus.

The standard field guide to Australian birds, arranged according to habitat. All species illustrated in colour, plus black and white photos of habitat. Enlarged edition, revised by T.R. Lindsey, published in 1984.

GOULD, J. *The birds of Australia*. London, The Author, 1840-48. 7 vols, illus.

A supplement was added 1851-69. The classic work on Australian birds. Facsimile edition, Melbourne, Lansdowne, 1972-76. A smaller edition, selected and annotated by A.H. Chisholm and V. Serventy, published by Lansdowne, 1984.

MACDONALD, J.D. *Birds of Australia: a summary of information*. Sydney, Reed, 1973. 552 p, illus, maps.

Essentially a handbook, arranged systematically. Illustrated with line drawings and 24 colour plates by P. Slater. Distribution maps and identification keys are included.

THE READER'S DIGEST *complete book of Australian birds*. Sydney, Reader's Digest Services, 1976. 615 p, illus, maps.

Contains details on all native and introduced birds. For each species there is information on nesting, distribution and characteristics for identification. Behavioural and ecological notes are also included. Illustrations are based on photographs from National Photographic Index of Australian Birds.

PIZZEY, G. *A field guide to the birds of Australia*. Sydney, Collins, 1980. 460 p, illus, maps.

An excellent guide to all our birds in one volume, with 88 colour and black and white plates drawn by Ron Doyle. Distributional maps provided as an appendix.

SLATER, P. *A field guide to Australian birds: non-passerines*. Adelaide, Rigby, 1970. 428 p, illus, maps.

A guide to identification of birds of Australia and its territories in the field. Distributional maps for all species plus pen and ink sketches of some of the less distinct forms.

SLATER, P. *A field guide to Australian birds: passerines*. Adelaide, Rigby, 1974. 309 p, illus, maps.

Approximately half the bird species in Australia are passerines or perching birds. A companion to the author's non-passerine field guide. Does not cover species in Australian territories.

WHITTELL, H.M. *The literature of Australian birds: a history and bibliography (1618-1950) of Australian ornithology*. Perth, Paterson Brokensha, 1954. 788 p, illus.

This large compilation includes biographies of authors, collectors and others.

## MAMMALS

ARCHER, M. ed, *Carnivorous marsupials*. Sydney, Royal Zoological Society of NSW, 1982. 2 vols, illus, maps.

Mainly for the professional zoologist; significant reviews and original research papers on all aspects of the biology of carnivorous marsupials.

ARCHER, M. AND CLAYTON, G. eds, *Vertebrate zoogeography and evolution in Australasia: animals in space and time*. Perth, Hesperian Press, 1984. 1203 p.

A readable, reference text characterised by the various authors' enthusiasm and sense of fun. Likely to remain a prime source book for many years.

AUGEE, M.L. ed, 'Monotreme biology: proceedings of a symposium held in Sydney, May 1978', *Australian zoologist* 20, 1, 1978, 1-257.

Papers on the biology of the platypus and echidna.

BERGIN, T.J. ed, *The koala: proceedings of the Taronga symposium on koala biology, management and medicine, Sydney, 11th and 12th March, 1976*. Sydney, Zoological Parks Board of NSW, 1978, 239 p, illus, maps.



- The results of a symposium and scientific reports on the koala to improve the quality of its management and to aid conservation policies.
- BURRELL, HJ. *The platypus*. A & R, 1927. 226 p, illus.  
This was the first book to deal with all aspects of the natural history of the platypus. New edition published in 1974.
- DAWSON, T.J. *Monotremes and marsupials: the other mammals*. London, Edward Arnold, 1983. 87 p, illus.  
Presents in a clear manner the latest biological information on monotremes and marsupials, and compares their biology with placental mammals.
- FRITH, HJ. AND CALABY, JH. *Kangaroos*. Melbourne, Cheshire, 1969. 209 p, illus.  
Extensive coverage of macropods—kangaroos, wallabies, rat-kangaroos. Includes details of discovery, evolution, distribution, abundance and behaviour; detailed bibliography.
- GOULD, J. *The mammals of Australia*. London, Taylor & Francis, 1845–63. 3 vols, illus.  
A major treatment of all native mammals then known. In the facsimile edition Gould's notes are supplemented by J.M. Dixon, making it a valuable survey of Australian mammals. Facsimile edition, Melbourne, Macmillan, 1984.
- GRANT, T. *The platypus*. Sydney, UNSWP, 1984. 76 p, illus.  
Written for the professional biologist, the student and the lay reader, this book incorporates the most recent research.
- GRIFFITHS, M. *Echidnas*. Oxford, Pergamon, 1968. 282 p, illus.  
A textbook which deals solely with echidnas and covers all aspects of their anatomy and biology.
- HALL, LS. AND RICHARDS, G.C. *Bats of eastern Australia*. Brisbane, Qld Museum, 1979. 66 p, illus. (Qld Museum booklet, 12.)  
Intended as a field guide; contains simple keys and distribution maps.
- HAIGH, C. ed, *Kangaroos and other macropods of New South Wales*. Sydney, NSW National Parks and Wildlife Service, 1982. 64 p, illus.  
A collection of articles on the distribution and ecology of the kangaroos and wallabies found in NSW. Well illustrated and provides most recent information.
- 'KANGAROOS and men: a symposium of the Royal Zoological Society of New South Wales and held at the Australian Museum on July 4, 1970', *Australian zoologist* 16, 1, 1971, 1–100.  
Series of papers concerned with kangaroo exploitation, economics and conservation.
- LE SOUEF, AS. AND BURRELL, H. *The wild animals of Australasia* . . . London, Harrap, 1926. 388 p, illus.
- First broad popular coverage of native mammals of Australia, New Guinea and New Zealand with keys to identification. Chapter on bats by E.L. Troughton. The photographs are generally of museum specimens.
- LYNE, AG. *Marsupials and monotremes of Australia*. A & R, 1967. 72 p, illus.  
An overview of the platypus, spiny anteater and a selection of pouched mammals; line sketches of the species, plus illustrations of anatomical parts of systematic importance.
- RIDE, W.D.L. *A guide to the native mammals of Australia*. OUP, 1970. 249 p, illus, maps.  
Over 280 species of native mammals are discussed in groups, with distribution and identification details for each species. Chapters on status and conservation. Appendices with details of interest to biologists.
- STRAHAN, R. *A dictionary of Australian mammal names: pronunciation, derivation and significance of the names with biographical and bibliographical notes*. A & R, 1981. xxiii, 196 p, illus.  
A book of wider scope than its name implies. It includes a simple account of the principles and practice of animal nomenclature, derivations and pronunciation of names, and notes on the people who have described Australian mammals.
- STRAHAN, R. ed, *The Australian Museum complete book of Australian mammals*. A & R, 1983. 530 p, illus, maps.  
Behavioural and ecological information provided on some 250 native and introduced mammals. Most species illustrated with colour photographs from the National Photographic Index of Australian Wildlife.
- TROUGHTON, E. Le G. *Furred animals of Australia*. A & R, 1941. 374 p, illus.  
For many years a standard reference to native Australian mammals. Historical details in introduction. New edition published in 1965. An abridged edition was published in 1973.
- TYNDALE-BISCOE, H. *Life of marsupials*. London, Edward Arnold, 1973. 254 p, illus, maps.  
This review of marsupials explores aspects of relationships and origins; reproduction and development; ruminant-like and non-ruminant herbivores; small marsupials, and marsupials and humans.
- WATTS, CHS. AND ASLIN, HJ. *The rodents of Australia*. A & R, 1981. 321 p, illus, maps.  
An account of the distribution, habitat and biology of Australia's native rodents. The range of species is described and notes and drawings provided to assist in their identification.
- WOOD JONES, F. *The mammals of South Australia*. Adelaide, 1923–25. 458 p, illus.  
Comprehensive work on Australian mammals, including keys for identification and illustrations of diagnostic features of the anatomy, information on natural history and distribution. Facsimile edition, Adelaide, Government Printer, 1968.



# IV ABORIGINES



48 *A Native Family of New South Wales sitting down on an English Settler's Farm.*

Augustus Earle, A native family of New South  
Wales sitting down on an English settler's farm, c1827.  
Watercolour. This poignant and sinister image conveys the  
unhappy relationship between black and white  
Australians over the past 200 years.

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**T**HIS SECTION examines the literature on Australian Aborigines. It consists of two essays and one consolidated list of references. The first essay provides a general introduction to the literature on Aborigines and a commentary on the anthropological writings. The second is concerned with the historical perception of Aboriginal society by European writers from the early nineteenth century onwards. The list of references that follows the essays is divided into nine parts:

- Bibliographies and sources
- Prehistory, biology and demography
- Languages and tribes
- Ethnographies
- Aspects of socio-cultural life
- General histories and documents
- Specialist histories
- Aboriginal historical perspectives
- Writings since 1945

The assistance of the library staff of the Australian Institute of Aboriginal Studies (AIAS) in compiling this bibliography is gratefully acknowledged.



*W.A. Cawthorne, 45 natives driven to police court by the police for trespassing, 1845. Watercolour 31.8 × 45.7 cm. Cawthorne's poignant watercolour reflects his sympathy for the Aborigines, although it is doubtful if he would have seen the irony of the title. An amateur artist and schoolteacher who emigrated to South Australia in 1841, Cawthorne typifies an educated response to the Aborigines.*

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