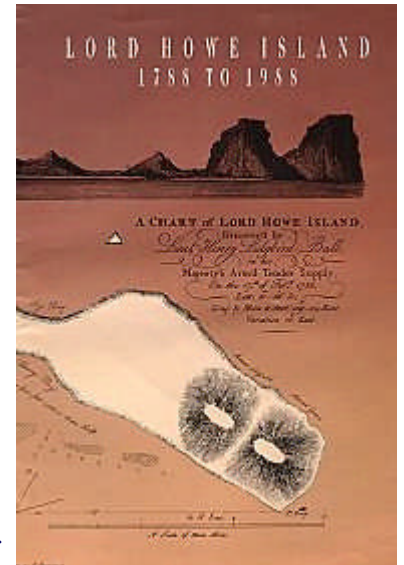


## SCIENTIFIC INTEREST

### - A Singular Island -

Almost without exception, the great voyages of world discovery during the 18th and 19th centuries carried naturalists who collected and sketched specimens for the purpose of scientific description, analysis and cataloguing. The ships of the First Fleet were no exception. When Governor Phillip despatched the armed tender 'Supply' to Norfolk Island, the ship had on board those men who would make the first written observations on the natural history of Lord Howe Island - which was discovered quite unexpectedly en route to Norfolk.



The diaries of men like David Blackburn abound with descriptions of the abundant bird and marine life on this newly discovered Island.

Artists George Raper and John Hunter painted some of the native birds including the Woodhen, White Gallinule and Lord Howe Pigeon. It is extremely fortunate that they did so as the latter two birds were soon hunted to extinction by sailors calling at the Island for wood, water and food.

In the early 19th century, the ships of many nations explored the Pacific Ocean. Russian and American expeditions both touched on Lord Howe Island. Between 1851 and 1854 the British ship HMS 'Herald', commanded by Captain Denharn, surveyed the waters around the Island. On board were naturalists Milne and Macgillivray who collected fish and plant specimens - the latter for the Royal Botanic Gardens at Kew in England. The ship's surgeon, Denis Macdonald, wrote papers on zoology for the Australian Museum.

In 1851 an early Island resident, Dr Foulis, was asked to supply a report to the colonial government of New South Wales which was considering the establishment of a penal colony there. His report included brief notes on the Island's plants and animals, its relief and geology. He even correctly identified some fossils as those of a turtle - much later identified as *Meiolania platytops*, a giant horned turtle extinct for more than 20,000 years. Perhaps fortunately, the government's proposal for a penal colony was quietly dropped.

In 1869, the government sent a water police magistrate, P. Cloete, to investigate an alleged murder on the Island. A number of scientists accompanied this expedition. George Masters represented the Australian Museum while Charles Moore and his assistant, W. Carron, represented the Sydney Botanical Gardens. Many new plant species were collected and forwarded to Ferdinand von Mueller in Melbourne, who had catalogued and published 195 species by 1875. Surveyor R.D. Fitzgerald, also along, was the first trained geologist to explore the Island. Fitzgerald made a further two trips to Lord Howe and vivid descriptions of all he saw are still oft quoted today.

The next major scientific expedition arrived in 1882 when the Colonial Secretary sent the Hon. J. Bowie Wilson to investigate complaints against the resident Government Official, Captain Armstrong. A team of scientists accompanied Bowie Wilson, including H. Wilkinson from the Mines Department, W.J. Condor Esq. from the Trigonometrical Survey, J. Duff from the Sydney Botanical Gardens and A. Morton Esq. from the Australian Museum. A great asset to this group was the presence of photographer J. Sharkey from the Government Printing Office, who took the earliest known photographs of Island scenes and local residents. The final report of the

expedition was entitled 'Lord Howe Island 1882' and it contains some fascinating descriptions of Island life at that time. (This report was reprinted by the Lord Howe Island Historical Society one hundred years later, and can still be purchased from the Island Museum today.)

These early expeditions were particularly significant in that they set the foundation for a long association between the Island and the Australian Museum, Sydney Royal Botanic Gardens and Kew Royal Botanic Gardens. This association remains unbroken to the present and all these institutions have contributed enormously to our understanding of the Island's natural history.

One institution, however, must receive the crown of laurel for its contribution to natural history research on Lord Howe - and that is the Australian Museum. So great was the Museum's interest in the Island, that it sent its very first official expedition there in 1887. The findings of the expedition members - Robert Etheridge, J.A. Thorpe and T. Whitelegge - were published in 'Memoirs No 2' of the Australian Museum, which is still considered today to be a classic in natural history.

It was not surprising, therefore, that in recent times, when the Island Board required a comprehensive survey to assess the impact of future development on the environment, it turned to the Australian Museum for help. Between 1969 and 1973, staff of the Museum, coordinated by Dr Harry Recher, completed the most extensive environmental survey ever undertaken on Lord Howe. The survey looked at plant communities, birds, land snails, spiders and the general ecology of the Island. The Recher Report, as it is now known, has been a fundamental document in environmental planning ever since.

Over the past century, so many valuable individual contributions have been made to the study of the flora, fauna, marine life and geology of the Island it is simply impossible to do justice to them in the space available. Only a brief summary of the Island's outstanding natural features is possible, along with a brief list of some of the dedicated scientists who have helped to unearth these treasures for our appreciation.

### **A Naturalists Paradise**

**Geology** Lord Howe Island and adjacent islets are the only known occurrence of a remarkable volcanic exposure, having mountains of oceanic basalt that tower to some 875 metres above sea level. There are also sedimentary rock deposits, known as calcarenite, containing many fossils - including the extinct horned turtle *Meiolania platytops*. Scientists who have contributed to our recent understanding of geological and fossil formations include J. Standard, I. McDougall, B. Embleton, D. Stone and E. Gaffney.

**Birdlife** The Lord Howe Group supports extensive colonies of seabirds, with fourteen species regularly nesting on the main Island and adjacent islets. These colonies include virtually the only known breeding location of the Providence petrel; probably the world's largest concentration of Red-tailed tropic bird; and the most southerly breeding location of the Masked booby, Sooty tern and Noddy tern. The Island also supports fourteen species of land bird, including four unique species and subspecies. One of these, the Woodhen, was considered to be one of the world's rarest birds - until brought back from the edge of extinction by a captive breeding programme between 1979 and 1983. Workers who are noted in this field are R. Bell, G. Mathews, K. Hindwood, J. Mckean, H.J. Disney, B. Miller, P. Fullagar and G. Fraser.



Researchers John Disney, Alan Morris and Peter Fullagar spent weeks on Mt Gowers summit in the 1970s

**Flora** Lord Howe Island has a rich flora, with an interesting mix of plant species related to those from Australia, New Zealand New Caledonia and Norfolk Island. Approximately one third of the flowering plant and fern species are unique to the Island, being found nowhere else in the world. Botanists who have studied the flora include W. Oliver, P.S. Green, A. Rodd and J. Pickard.

**Marine Life** The Island has the most southerly coral reef in the world, with an unusual transition between algal and coral reef types. Fish species include tropical and temperate species, with some 75% being inshore tropical species. A survey of fishes in 1973 recorded 447 species of which 4% were unique to Lord Howe and adjacent waters. Marine life has been studied by A. McCulloch, T. Iredale, J. Paxton, G. Whiteley, J. Veron, T. Done and N. Coleman.

***World Heritage Listing of “a unique and lovely form. . .”***

Because of its many outstanding characteristics, Lord Howe Island and adjacent islets were placed on the Register of the National Estate in 1978. Then in December 1982, following nomination by the Federal and State Governments, the Island Group was placed on the World Heritage List.

Lord Howe Island was considered to be 'of outstanding universal value. . .' because of its remarkable volcanic geology, its exceptional range of ecosystems, its rare collection of plants, birds and marine life that demonstrate independent evolution at work, and last, though by no means least, its exceptional natural beauty. World Heritage listing gives the Island the protection of a powerful and binding United Nations' Convention, which was ratified by Australia in 1974.

Other sites on the World Heritage List include the Grand Canyon in the USA, Serengeti in Tanzania and Sagamatha in Nepal (in which Mt Everest is located). The listing also includes the Pyramid Fields of Egypt, Chartres Cathedral in France, and the Convent of Santa Maria della Grazie in Italy where Leonardo da Vinci's 'Last Supper' is painted. At the time of Lord Howe's listing in 1982, only four other island groups in the world had been included on the list, one of these being Charles Darwin's famous, Galapagos Islands.



Bosun or Red-Tailed Tropic Bird  
*Phaethon Rubricauda*

By reference to these many extraordinary places, it is clear that Lord Howe Island is considered to be a priceless and irreplaceable part of the globe's natural heritage. Former state planning chief Nigel Ashton summed up the Island's significance perfectly when he wrote, 'The State, indeed Australia, should cherish this landscape and realise that it has here an

opportunity to show to the world what can be done to retain this Island in its unique and lovely form for the future, not just as one of its treasured possessions, but also because of its value to the future of mankind'. (Ashton plan of Management for Lord Howe Island P.16).

### **A Great Scientific Writer**

R.D. Fitzgerald was the first surveyor geologist ever to visit Lord Howe Island. He accompanied the scientific party that arrived on the 'Thetis' in 1869, and subsequently visited the island again in 1871 and 1876.

He is remembered in the name of a rare and lovely indigenous Island plant - *Dracophyllum fitzgeraldi* - which grows high on the slopes of the mountains. Below is a quote from Fitzgerald's report of 1869, in which he demonstrates a superb command of prose to describe one of the Island's botanical wonders - *Ficus columnaris* - known locally as the 'Banyan Tree'.



Banyan Trees

The splendid fig trees, some of which cover an acre - one look at them is compensation for all the horrors of "the middle passage," Arch on arch, fort3,.feet from the ground supported by straight strong stems that once were pendulous roots; on they spread among the palms, arch on arch, no central stern, no tree from which you could say they came, but a grand combination natural arches spanning the trees of the forest, and crowned with an evergreen foliage of their own; every new arched limb sending up a tree on the air, and cord-like tasselled root to the ground, to swell as soon as it touches it, into another strong buttress; and so on and on. arch on arch, till blending with others, they ,form grand amphitheatres of columns. arches and green foliage that fairly astonish and delight the naturalist.

- [Australian Museum](#)
- [Sydney Royal Botanic Gardens](#)
- [Kew Royal Botanic Gardens, Melbourne](#)