

## Lord Howe Island, a Riddle of the Pacific. Part II

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IN THE FIRST PART of this work (Paramonov, 1958), the general features of this island were dealt with. Now a summary of our knowledge about the fauna of the island is given. We will discuss the different groups separately.

### MAN

Up to the present date no trace of aboriginal man has been found on the island, which indicates that the isolation of the island was very strong, and that it was not part of a sunken continent once inhabited by man. Probably even the canoes of Polynesian people never visited this island, because once being visited it would have been populated, as excellent conditions exist there for maintaining human life.

### MAMMALIA

There are practically no mammals in the natural fauna of the island. Only some bats are reported: the little brown bat (*Vespadelus pumilus* Gray), and *Scotophilus morio* Gray = (*Chalinolobus tuberculatus* Forst.). Doubtless more species of migrating bats occur on the island but they have not yet been recorded, or have been recorded (for example, the flying fox) without support of preserved specimens. In any case, there are no endemic species of bats on the island, and there is no ground for expecting them. Generally these animals are rare on the island. Etheridge (1889) wrote: "We anticipated meeting with bats in the coral-rock caves at North Bay, one of the most favourable habitats for them on the whole island, but not the slightest trace was found." This statement is good evidence of the rarity of the bats.

The introduced mammal fauna consists now of rats, mice, goats, and pigs. The first two are practically domesticated, the latter two live in the wild state in the two high parts of the island,

separated by the intermediate low land occupied by man.

The absence of mammals indicates that the island was not part of a continent, otherwise the Australian marsupials would be represented in the island fauna.

### AVES

#### *The Extinct Birds*

1. The white swamp hen, *Notornis* or *Porphyrio albus* Gray, the most famous of the extinct Lord Howe Island birds:

E. S. Hill, in 1870, wrote: "With the exception of the skin in the Imperial collection at Vienna, there appears to be only one other in existence, which is said by Prof. A. Newton to be in the Derby Museum at Liverpool." Several original drawings are in existence, all made soon after the discovery of the island. From these paintings we learn that the species when young was entirely black, becoming bluish grey and finally entirely white with maturity. Some of the adult birds were tinged with blue, especially on the wings. Probably sexual difference was responsible for the different appearance of the birds. The feathers of the neck and breast possessed a yellowish tinge, those of the remainder of the body had a delicate indication of blue. The legs were yellow, the bill, forehead, and the iris of the eyes red.

This bird appears to have been first mentioned by Callam in 1783, and afterwards in "Phillip's Voyage to Botany Bay," (1789: 160), and again under the name of *Gallinula alba*, by White in his "Voyage to New South Wales" (1790: 238). Further mention of this bird will be found in von Pelzeln's paper, in "Ibis" (1871: 44), where its relationship to the genus *Notornis* was first pointed out; also a good figure of it will be found in "Ibis," 1873, pl. 10.

The genus *Notornis* is present in New Zealand, but is quite absent from Australia. This fact, however, does not speak in favour of a

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New Zealand origin of the species from Lord Howe Island, because on the mainland this fearless bird, which is also a poor flier, can be very easily destroyed. Only a few decades of the presence of man on the island was enough to cause the complete extinction of this bird. On the mainland it would have been practically helpless, therefore we cannot reject the idea that this genus was not also represented in the past on the mainland.

The presence on the island of a bird which is a poor flier suggests a continental origin of the species.

2. The Lord Howe Island pigeon, *Jantboenas godmanae* (Mathews):

This bird was larger than a domestic pigeon, its head and breast were of a purple-mauve tint, its throat was white, and the mantle or back of the neck was green, the rest of the body being brown. The Lord Howe Island pigeon was once so numerous and tame that, with the aid of a stick and string, the islanders could snare 20 birds from a flock without the others taking alarm. Surgeon Bowes and others, in 1788, merely knocked them over with sticks. Today there is not a skin in any museum in the world, and only two paintings are known, one dated 1790 and signed by George Raper, and the other, unsigned, in the Alexander Turnbull Library, Wellington, New Zealand. Several related species occur in New Caledonia, New Guinea, Timor, and other places. The species appears to have been exterminated about 1850.

3. The Lord Howe Island parrakeet, *Cyanoramphus novaezeelandiae subflavescens* (Salvadori):

In size it was somewhat smaller than a Rosella parrot, and was mostly bright green in colour, with patches of red on the forehead, sides of neck, and rump, and blue on the wings. A single pair was seen flying through the forest in 1869 (Hill: 1870). The species existed until about 1870, by which time it had been exterminated because of the damage it did to the crops of the settlers.

Birds very closely related to the Lord Howe Island parrakeet still exist on Norfolk Island, New Caledonia, New Zealand, and some associated islands.

*The Present Land Birds*

Very rare, curious, and stupid is the so-called wood hen, *Ocydromus (Nesolimnas) sylvestris* Sclat. Its plumage is of a brown colour tinged with green, which harmonises well with the dark-brown earth and the green foliage of the palm scrub in which it wanders about, turning over leaves and pebbles with its long grey bill, in search of food. The wood hen's wings are so small that it cannot fly but its strong legs have enabled it to ascend, for example, even the steep faces of Mount Lidgbird.

The bird deserves full protection because its curiosity is very strong, and to attract it and catch it one only needs to pick up pebbles and to tap them upon a tree trunk or a rock. McCulloch, 1921, writes: ". . . we saw the birds hastening towards us. Espying us within thirty yards or so, they advanced more cautiously, but, if we remained still, approached sufficiently close to be snared with a palm-leaf noose. I tethered one by the leg to a stone in order to take its photograph, and its efforts to escape attracted the attention of another which endeavoured to assist the captive by grasping its neck with its own long bill and pulling with all its strength."

These birds are now to be found only on the upper parts of the two mountains and in such inaccessible places as the Big and Little Slopes beneath the southern cliffs of Mount Gower. The only protection for this bird is its isolated habitat.

It is now the most remarkable animal of the island, and the duty of the islanders is to protect it by all means. First of all it is necessary to proclaim its *absolute* protection, only photography being permitted to visitors, and to impose a heavy penalty for breach of the proclamation.

The ouzel or doctor bird, *Turdus xanthropus vinitinctus* Gould, is another rarity. The general colour of this bird, which is thick set and some 9 inches in length, is a dark reddish brown. The vinous-tinted ouzel belongs to a large group of birds which includes the missel thrush, song thrush, and blackbird of England (the last one is introduced in Australia and New Zealand). Its nearest relative is a form living in New Caledonia. The genus is represented by species on most of the islands of the western Pacific, but

is absent from Australia. Hindwood (1938) regarded it as an extinct bird.

The Lord Howe Island starling, *Aplonis fuscus hullianus* Gould, is similar in size to the ouzel. It is blackish brown in colour, glossed with bottle green, the underparts being olive grey. Its nearest relative is a subspecies existing on Norfolk Island. It belongs to the genus with a wide distribution throughout the islands of the western Pacific. Hindwood (1938) regarded it as an extinct species.

Concerning the robust silver-eye, *Nesozosterops strenua* Gould, Hindwood (1938) wrote: "Until recently there existed on the island a big silver-eye, about half as large again as the grey-backed species at present living on Lord Howe Island. Birds similar to the now extinct robust silver-eye occur on Norfolk Island (2 species) and in the Solomons (1 species)." The author considers that the extinction of robust silver-eye needs to be confirmed.

The Lord Howe Island flyeater, *Gerygone insularis* Ramsay, is also called the "rain-bird" because it was active after rain, or the "pop-goes-the-weasel" on account of the supposed resemblance of its song to that air. It is the smallest of the birds on the island, and belongs to a group with a wide distribution in Australia, New Guinea, the Pacific islands, and New Zealand. Hindwood (1938) regarded this species as extinct.

The author is not quite sure that the data of Hindwood are correct. In 1955 and 1956, when the author visited the island, he saw *Gerygone insularis* as a rather common bird, although this species was regarded by Hindwood as extinct. It seems that some species were rare in 1938, but were not entirely exterminated. In 1955–56 the author found very good conditions for life of the birds: there were no wild cats, no wild dogs, very few rats; if from time to time some specimens of these animals destroy birds, the number of victims is probably very small. Again, man is not now interested in destroying birds. The evidence is that on the first day of arrival the author's assistant caught a ground pigeon by hand (after examination it was liberated); the author himself made attempts to catch this bird with an entomological net in the courtyard of the Guest House. If this bird is so fearless,

lying on its side on the ground, it is quite evident that conditions on the island are now such as to account for this.

Of the Lord Howe Island fantail, *Rhipidura flabellifera cervina* Ramsay, Hindwood (1938) wrote: "This bird was an insular form of the well-known grey fantail of Eastern Australia. It was exceedingly tame and would often enter dwellings and capture flies."

#### Introduced Birds

According to Hindwood (1938), "the grey-breasted silver-eye, *Zosterops lateralis* (Latham), was in danger of being exterminated, but a number of birds of the Australian race, and the Norfolk Island form as well, were introduced in 1924 and 1925, with the result that it appears to be increasing."

The author saw some silver-eyes during his visit to the island in 1955. The future naturalist must consider the fact that some birds were introduced. According to Hindwood, "certain introduced birds such as the Californian quail and the land rail have also been exterminated by the rats."

Another passage of Hindwood is interesting: "In an effort to check the increase of the rats almost one hundred owls of several kinds were sent to the island between 1922 and 1930." However, only *Ninox boobooc* Latham, which existed before the invasion of the rats, is now living on the island.

The number of rats destroyed is very interesting: in the year 1927, 13,771; in 1928, 21,214; in 1929, 10,175; in 1930, 17,803. These figures must represent but a small proportion of the total rat population, so it is difficult to understand how the whole bird population of the island was not totally destroyed, for rats can climb the trees and very easily destroy eggs and nestlings. Probably the high mountain areas served as sanctuaries for the birds. Now (1955–56) the rats are common only around dwellings of humans. During the five weeks the author was on the island he saw very few rats in the bush either on day or night trips.

According to M. Nicholls (1953) "the land rails liberated on the island about 1880 were supposed to have succumbed to the rats, but in February 1944, several were observed in a drain

at Robbin's Farm." Probably the land rails survived the rat invasion but, not being very numerous, escaped observation.

#### REPTILIA

The fauna of reptilia is extremely poor. Corrie (1878) stated wrongly that neither snakes nor lizards are known on the island; snakes are certainly unknown, but three species of *Lacertilia* are present.

There are two species of Geckonidae: *Phyllodactylus guentheri* Boulanger and *Gehyra oceanica* Grey. The first is also known to exist both on Norfolk Island and in northwest Australia, the second appears to be generally distributed throughout the South Pacific islands. The distribution of geckos is usually connected with the transportation of various tropical fruits in bunches, in which they often hide. More interesting from the zoogeographical point of view is the presence of the third species, *Lygosoma lichenigerum* O. Shaun. (Scincidae). The three species are also distributed on Rabbit (Goat) Island and the Admiralty Islets. They may be sought on dry stony ground, under stones, amongst dry leaves, and at the feet of low scrubby trees.

Of water chelonians there is no trace. Turtles are, however, known to frequent occasionally the shores of the island. In the early decades of the last century they were very numerous.

#### AMPHIBIA

Frogs, etc., are quite absent. The absence of amphibians may be connected with the absence of permanent fresh-water pools on the island.

The Evertebrata will be discussed in some detail later.

#### FRESH-WATER FAUNA

The fresh-water fauna of the island is very poor, but interesting. The poverty of this fauna can be easily explained by the absence of large permanent streams or water pools. In each large valley there are streams but they are not truly permanent. One of the bigger streams is situated at northern part of the settlement, but its estuary is usually filled with salt water which enters during high tide and extends rather far inland. There are also some isolated lagoons, but their fauna was not studied regularly.

However, there are some species with extremely peculiar distributions. For example, under stones in the several streams, anywhere from sea level, as in the Big Creek, to the mountain tops, there is living a tiny fresh-water crab, *Hymenosoma lacustris*. This species is the only fresh-water representative of a common marine genus. It was first recognised in New Zealand, later it was found in landlocked lakes in Victoria, Australia, and afterwards at Lord Howe and Norfolk islands. Its permanent associate is a fresh-water prawn, a *Paratya* (*Xiphocaris*) species.

How is it that these species appear in fresh water in such widely separated localities? It might be supposed that they spend some of their earlier stages in the sea and that later some individuals have drifted from one locality to another. However, this suggestion is discounted by the fact that they occur in landlocked lakes, and on Lord Howe Island on the top of Mt. Gower, to which access from the sea is impossible because the streams from the top disappear before they reach sea level.

We could suggest that the crab and the prawn are survivors of an ancient fauna which passed from one place to another by means of old land connections, long since disappeared. But this explanation is also unsatisfactory, because we must suppose a land mass including Victoria, Norfolk Island, Lord Howe Island, and New Zealand and the commonest animals and plants of all the above-mentioned areas are not preserved on Lord Howe Island.

Again, we could imagine also that the eggs were transported upon the feet of wading birds, but if so, why do these crabs and prawns not live in all the lakes of Australia, but only in some of them in Victoria?

It is necessary to add that in addition to the crabs and prawns there are tiny eels (*Anguilla*). Their occurrence on the summit is more easily explained, for young eels can migrate for considerable distances along streams and over moist surfaces. Although their occurrence on the summit can be accepted it is not possible to imagine where they would find conditions suitable for development to maturity.

Thus, the distribution of these animals is mysterious. R. Etheridge, Jr. (1889: 32) also

recorded a specimen of water scorpion, *Belostoma indicum* Les., the presence of which on so isolated an island is not easy to explain.

#### THE RECENT HISTORY OF THE FAUNA

In order to understand the composition of the fauna it is necessary to know what elements of the fauna have arrived on the island with man (since about 200 years ago). Therefore, we will trace the most important moments in the recent history of the island.

The island was discovered by Lieutenant Lidgbird Ball on 17 Feb. 1788, but the first landing took place on 13 March 1788. Ball has written in his journal: "... sent a boat to examine the isle, and found abundance of turtle. ...". The next notice on 14 May 1788: "Hoisted the jollyboat out and sent her on shore."

Gilbert noticed in his journal on 16 May: "... he (Capt. Ball) informed me that the island

afforded plenty fine turtles, fowls, fish, coconuts and cabbages," and further:

At the head of the bay grew a fine long grass, and the whole island appeared to be covered with trees, among which mangroves and coconuts were conspicuous. There was a very thick undergrowth of a vine resembling ratten, which crept along the ground and greatly impeded us in the pursuit of birds. The surface of the island in centre was composed of sea sand, mixed with marine shells, and most parts were covered with trees. The island seemed to be about 16 miles long. Great numbers of gannets, very large and fat, were about, showing less fear than geese in a farmyard. We found many nests in the long grass at the head of the bay. On entering the woods I was surprised to see large fat pigeons of the same plumage and shape as those in Europe. They were so tame as to be knocked down with little trouble. Partridges, likewise, in great numbers ran along the ground. Several of these I



FIG. 1. Lord Howe Island. The mountainous southern part of the island as seen from northwest. At right Mt. Gower, at left Mt. Lidgbird. In foreground, Rabbit Island. The slopes of both mountains are densely afforested. Photo: Miss Zenta Liepa.

knocked down and placed near me as I sat under a tree. Five or six dozen of the same kind came up, and I was able to take nearly the whole lot. The only traces of people we saw were those made by the 'Supply's' crew when they were first here. Among the different kinds of birds we met were some as big as a large fowl, and quite white. They had long yellow legs and a very strong red beak. I caught six of these by running them down among the low bushes. The cock birds were very beautiful; their white feathers were tinged with azure blue. I saw also several birds that were not unlike peacocks, but caught none of them. At noon I returned to the beach and found the crew had collected coconuts, cabbages, birds, and a great quantity of fish.

From these reports it is quite evident that the landings were very short and that nothing was transported ashore. From 1788 to 1830 there is not much information available, with only whaling vessels probably stopping there to get wood and water.

In 1833 or 1834 the first actual settlement was made: three white men, two women, and two Maori boys. After several years' stay the whole party returned to New Zealand. These first settlers had the opportunity to transport some domesticated animals to the island.

The first survey was done by H. J. White, 1835 (report of 1853); in the report we can read: "There are residing on the island four men, three N. Z. women and two children, subsisting upon birds and fish, which are caught in great abundance."

In the report from 1853, Capt. Denham writes that since 1843 three families (total community 16 people) cultivated 44 acres on the island. This was practically a second colonisation, this time from the mainland of Australia.

Dr. Foulis in his report of 1851 states: ". . . sixty to 80 whaling vessels per year have called for provisions. . . ."

M. Nicholls (1938-1953) in the different editions of his history of Lord Howe Island gives a lengthy report about vessels visiting the island from 1788 to 1949.

The development of culture on the island since 1788 has had a very slow progressive destroying influence on the native fauna, but in 1918 there was a calamity which changed the

whole face of the original fauna: in 2-5 years it became very poor and uniform, and many species of animals, including insects, became extinct.

On 14 June 1918, the vessel "Makambo" struck a rock in the area of Admiralty Islands. Many cases of fruit and tons of copra were thrown overboard and this was the means by which rats got ashore. It was a tragedy especially for the birds. Within two years this paradise of birds had become a wilderness, and the quiet of death reigned where once all was melody.

After a few months' time rats began to visit the houses and soon spread over the whole island, even to the tops of the mountains, destroying all that was edible. The smaller land birds soon disappeared and then it was found that the rats were attacking the palm seeds, which were at that period the basis of the most important industry of the island.

A bonus of 6d a tail was paid for several years, but was reduced later to 4d per tail. For the year 1936 about 20,000 tails were handed in. At the present time rats are not rare on the island, but their numbers have been reduced to an acceptable level. However, this was too late. The destruction of the birds was terrific, and their recovery from the rat invasion has been very slow.

Another factor changing the fauna, although not directly, was the presence of wild goats and pigs. The year when goats were first brought to the island has not been recorded, but it must have been at a very early date, probably around 1830. The damage caused by these animals was not very extensive, but the pigs, destroying the roots of some plants, are suspected by botanists to be the cause of the great rarity (and probably extinction) of some plants. Naturally, with the destruction of the plants, those animals biologically closely connected with them were destroyed too.

Today the goats and pigs do not play an important role. They are very shy and avoid the presence of man as much as possible.

It is necessary to note that the fauna does not have a strictly permanent character. From time to time some animals, especially water birds, visit the island and stay some time, for example, one species of parrot, the Indian turtle dove, black swan, crow, etc., but sooner or later, gen-

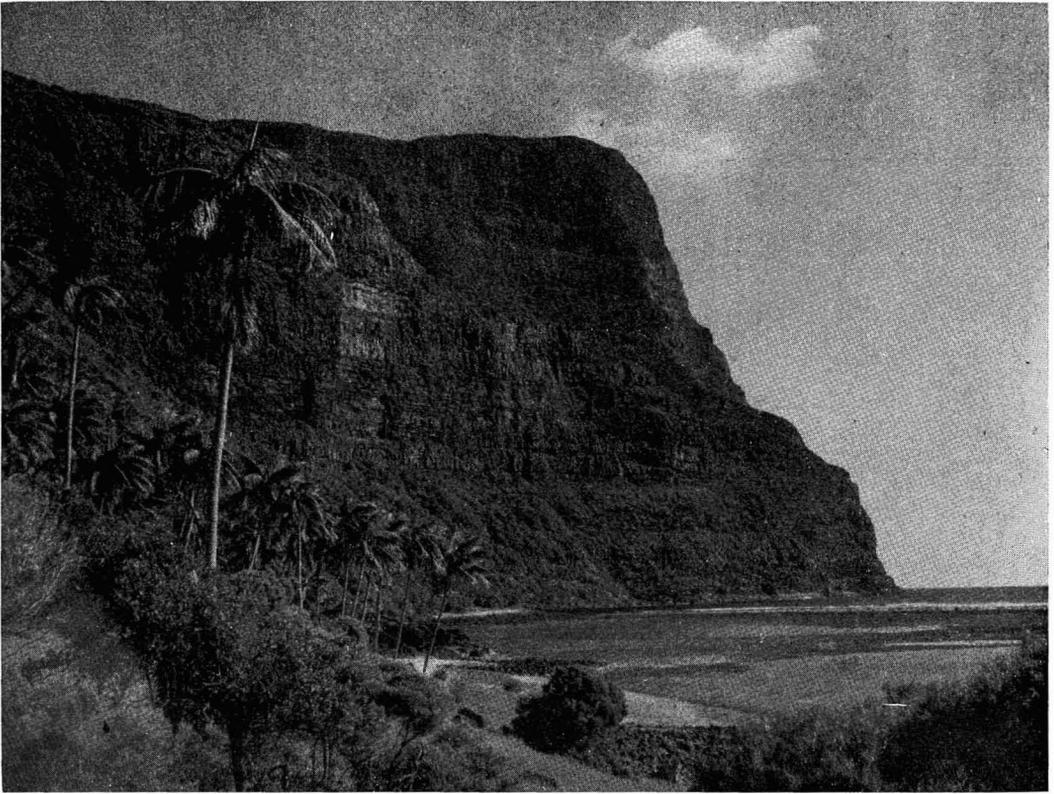


FIG. 2. Mount Gower. Showing the nearly vertical slope and type of vegetation along the shore. Photo: Miss Zenta Liepa.

erally after the presence of only some months, they disappear (for more details see M. Nicholls, 1953).

It is evident that the niches on the island suitable for them are too small for their survival.

#### THE MAIN GOAL OF THE NATURALIST'S EXPLORATION

The most interesting parts of the island, the summits of Mt. Lidgbird and Mt. Gower, are practically unexplored. Only a few naturalists have reached the summits, and their visits were mostly of a tourist character. Nobody has stayed in these areas very long, visits usually being confined to only a few hours, so naturally we have a very insufficient and superficial knowledge of the fauna and flora, which are quite different from those of the lower part of the island.

Especially interesting is the summit of Mount Gower, which is very different from that of Mt.

Lidgbird. The top of Mt. Gower is a comparatively flat area several hundred acres in extent, whereas the summit of Mt. Lidgbird consists practically only of slopes.

Two "runs" on the summit of Mt. Gower converge and disappear over the sheer cliffs, falling perhaps a thousand feet into the Erskine Valley. The water trickling down them is supplied direct from the clouds which so commonly envelop the mountain tops. Investigation of this area can produce extremely interesting data. For example, there is the record of a nymph of the family Pelorididae (Homoptera), the species of which are distributed in Patagonia, Tierra del Fuego, New Zealand, Tasmania, and the eastern part of Queensland. The representatives of this family belong to the genus *Hemidoecus* China: 2 species from Australia: *H. veitchi* and *H. wilsoni*, 2 species from Tasmania: *H. leai* and *H. fidelis*. *Xenophyes cascus* Bergr.

is distributed in New Zealand, and *Peloidium hammoniorum* Br. in Patagonia and Tierra del Fuego.

This area has a very humid atmosphere: mosses, lichens, and climbing ferns of many kinds cover the trunks of almost all the trees, while the ground is completely hidden under a thick growth of sphagnum. The tree fern, *Dixonia antarctica*, plays here an important role in the landscape.

Nobody has collected insects in light traps, or by other sorts of traps (carrion, fermented sugar juice, etc.). We can expect extraordinary results if these methods of collecting are used.

Another object for exploration is the so-called "Ball's Pyramid"—a pinnacle rising 1,800 feet into the sky, yet only a mile in circumference at its base (Fig. 4). It is located 11 miles to the southward (other data state 18 miles) from Lord Howe Island. Its upper slopes remain "terra

incognita," as none but a few surveyors have ever landed upon the rocks around its base, and nobody has collected animals on this huge rock. It has some bushes, but exploration can be accomplished only with the help of alpinists' equipment. It is quite evident that some land birds can nest there, insects are also doubtlessly present, but they are absolutely unknown.

#### SOME USEFUL DATA FOR THE VISITING NATURALIST

Regular connection of Lord Howe Island with the mainland is maintained now only by flying boats (run by Ansett Airways), flying from Sydney one or two times a week. The flight takes about three and a half hours; in bad weather the flight is usually postponed till the weather improves. The flying boats land in the lagoon near a jetty, all passengers and their goods being transported to the jetty by motorboats. Thirty-



FIG. 3. Slopes of Mt. Lidgbird, showing the type of vegetation in the middle zone, about 800 feet above sea level. Photo: Miss Zenta Liepa.

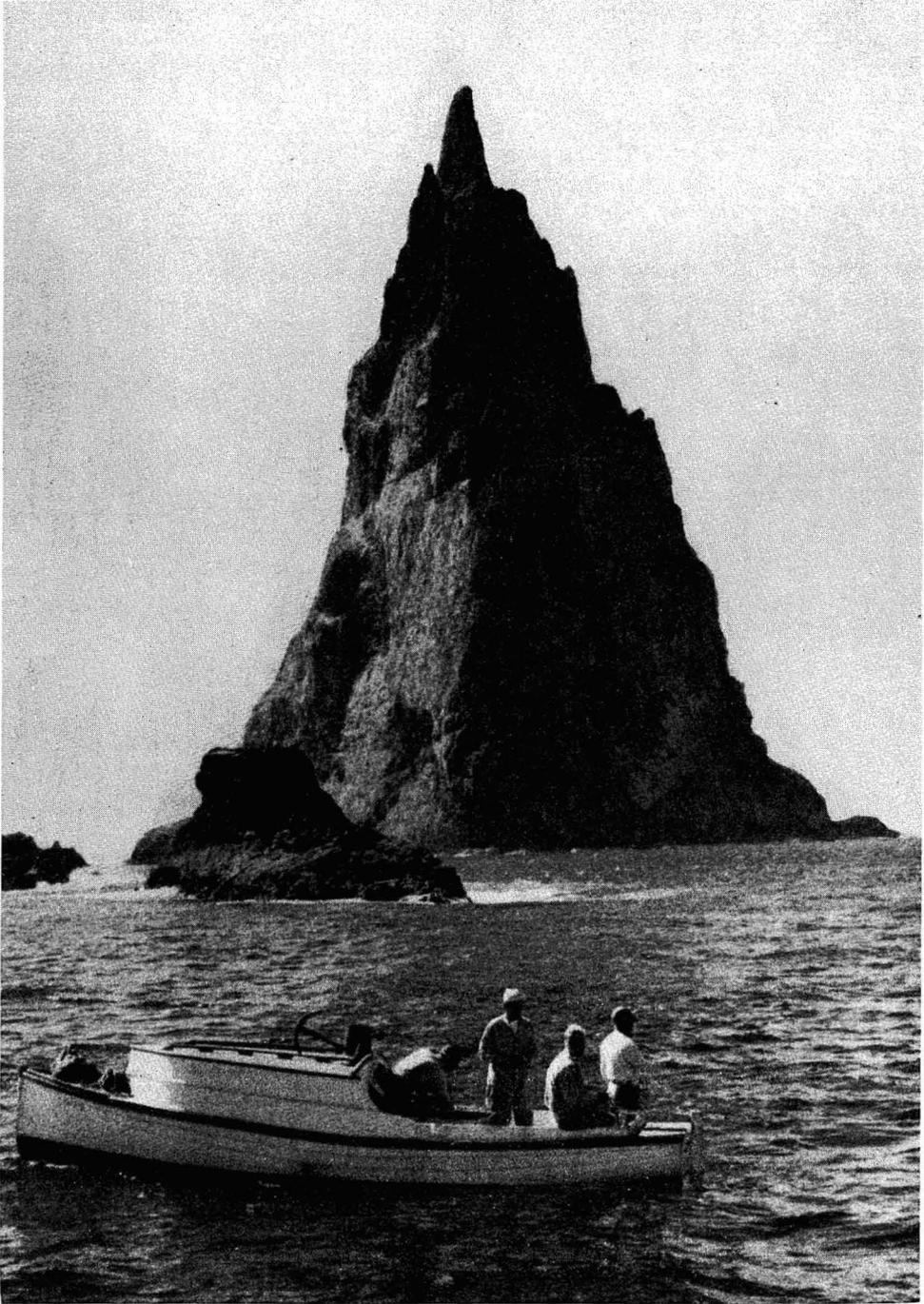


FIG. 4. Ball's Pyramid, about 11 miles southeast of Lord Howe Island. The surface of this gigantic rock is unexplored. Its circumference is 1 mile, height 1,800 feet. Photo: R. Morris.

five pounds of luggage are carried free, cameras, binoculars, etc., not being included in the weight of the luggage. Excess luggage or freight costs 6d per pound.

On the island there are four hotels and guest houses with conditions similar to those on the mainland; some private houses also accommodate visitors (with full board). There is electric light. There are some privately owned trucks which can be used for transportation of heavy loads along the two or three main roads on the island. Bicycles are also available for hire for shorter trips on the island. There are three shops on the island in which the traveller can buy clothes, shoes, groceries, etc. Several tearooms serve refreshments and light meals.

Radio telegrams may be sent from any post office to the island or to any part of the Commonwealth from the island at 12 words for 2/6. The Commonwealth Savings Bank has an agency at the local post office. Visitors coming to the island can have their signatures forwarded by their own branches and can operate their accounts within certain limits laid down by the Head Office of the Bank.

Ordinary size films are available and a good developing and printing service is available at approximately city prices. There is no chemist's shop, but a small hospital and a dispensary is available; there is one doctor and a trained nurse.

Beer and spirits are now available on the island.

Professional guides for climbing the mountains are not available, but a number of experienced islanders are available for hire as mountain guides. Heavy loads can be transported by motorboats to areas nearer to the mountains.

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