



OXFORD LUNDY EXPEDITION 1962

SUMMARY OF THE EXPEDITION REPORT SUBMITTED TO THE LUNDY FIELD SOCIETY ON 3RD JUNE 1963

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The Work of the Expedition

We spent a considerable amount of time planning and discussing the work during the six months prior to the Expedition. When we arrived on the Island therefore, we were able to settle down to work immediately. This enabled us to complete an extensive programme during our three weeks in the field.

The weather was 'mixed'. Although this did not interfere with most of our projects, the dim light and hazy conditions which we experienced for most of our stay, severely limited photography. The making of a sea-bird film was, however, the only one of our major projects which was not completed.

Census of Sea-birds

Until 1962, the last complete count of Lundy's sea birds was made in 1939, although there have been surveys of selected areas and of individual species since.

To ensure that the 1962 census was as accurate as possible, complete circuits of the Island were made both on land and in a boat. In this way no colony on the cliffs could escape detection. Extra visits were paid to every sizeable colony as an additional check. A full account of the distribution of the colonies and the methods used in census, is given in the Expedition Report.

The following table gives the full results of the census :

Manx Shearwater	...	Present in small numbers, but no proof of breeding.
Fulmar	...	32 pairs, in two colonies.
Cormorant	...	None were seen.
Shag	...	62 nests found, a further 30 birds were seen that could have been either breeders or non-breeders.
Greater Black-backed Gull	...	49 pairs (less numerous than was rumoured).
Lesser Black-backed Gull	...	69 pairs.
Herring Gull	...	1000 plus pairs, an accurate count of this species is impossible in late June owing to dispersal.
Kittiwake	...	760 breeding pairs, no count of non-breeders.
Razorbill	...	2,130 individuals, } these counts include both
Guillemot	...	3,560 individuals. } breeders and non-breeders.
Puffin	...	93 pairs, special emphasis was placed on obtaining an exact count.

G.R.S.

The Variation in Leg-colour of Kittiwakes (*Rissa tridactyla*)

Previous work on this subject has been published by Ralph Stokoe (*Brit. Birds* 51, pp. 398-99) and Dr J. C. Coulson (*Brit. Birds* 52, pp. 189-96).

Further to these observations, we found that the 'normal' leg-colour of the birds after their first summer is not a fixed black-brown. There was a seemingly continuous variation in leg-colour in the population of full grown birds ranging from red-brown through brown, black-brown and black to pale grey. Black-brown was the commonest leg-colour with red-brown and pale grey rare, intermediate colours having intermediate frequencies.

Nesting Kittiwakes had pale grey legs, whereas Dr Coulson finds them dark grey, or even black, in the North of England.

A complete report of this work has been published (*Brit. Birds*, 56, 110)

J.J.D.G.

First-flighting in Auks

A study was made of the way in which young Guillemots (*Uria aalge*) leave the nesting ledges. A few observations were also made on the Razorbill (*Alca torda*). Most previous accounts of the process have been superficial and contradictory. The more careful work of recent years has been limited in usefulness by the small numbers of first-flightings observed by authors. We watched over thirty take place and were able to observe the behaviour of the birds on the ledges before they left as well as the actual descent to the sea.

The chicks descended to the sea between sunset and nightfall. We considered it highly unlikely that any descended during the hours of darkness, nor did they leave between first light and sunset.

The chicks and their parents performed various activities on the nesting ledges before jumping into the sea. This behaviour had only been observed in detail on one or two occasions previously.

On jumping into the water the chick swam out to sea with its parent. At this stage many were attacked by Great Black-backed Gulls (*Larus marinus*) which were successful in about half the attacks they made. The failure rate for first-flighting chicks was about twenty-five per cent. Much of this was not directly due to predation, but to breakdown of the behaviour of the Auks. Such breakdown tended to be higher earlier in the evening, as did predation. The last fact confirms the view that the chicks descend in the evening so that visual predators are less successful than they would be in bright daylight.

Razorbills had similar first-flighting behaviour to Guillemots, though the chicks tended to descend a little earlier in the evening and the failure-rate was probably lower.

Papers on this work have been read at the British Ornithologists' Union Annual Conference (1963). Further work on the problem is to be done on Handa this summer.

J.J.D.G.

Botany

The main study was one of the bryophyte flora. Among the species of which the identification has been verified already are thirty-one (25 mosses, 6 liverworts) hitherto unrecorded on the Island (see the lists in the *Lundy Field Society Reports* for 1950 and 1959-60).

As much as possible of the Island was covered to get a general picture of the flora of the various areas, so that comparisons, e.g. of the bryophytes on the west and east sides of the Island (the prevailing winds being westerly) could be made to determine the effect of environmental factors.

As not all the specimens have been identified to the species, a full report with the exact habitats of the various species, distribution and possible conclusions cannot yet be written. However, it is possible to divide the Island into several

areas according to the bryophyte flora, which is correlated with environmental factors :

- (a) The West side.
- (b) The East side, with two special areas, the disused granite quarries, and the wooded area of Millcombe.
- (c) The relatively flat top of the Island, which comprises roughly three areas ; south end to Quarter Wall, Quarter Wall to Three-quarter Wall and Three-quarter Wall to North end.

The following lists the new species (as recorded previously) in these areas—a full account being given in the Expedition report.

- (a) *Funaria obtusa*.
Brachythecium plumosum.
Fissidens eurnowii.
- (b) *Polytrichum aloides*—the Quarry area.
Polytrichum commune.
Fissidens Curnowii.
Tortula muralis.
Grimmia trichophylla.
Rhacomitrium heterostichum.
Rhacomitrium aquaticum.
Mnium punctatum.
Ulota crispa.
Isopterigium elegans.
Chiloscyphus polyanthus.
Microlejeunia ulcina.
Anthoceros (Husnotii ?).
Tortula laevipila—Millcombe.
Bryum inclinatum.
Orthotrichum diaphanum.
Hookeria lucens.
Eurhynchium riparioides.
Eurhynchium confestum.
Lejeunia cavifolia.
Microlejeunia ulcina.
Conocephalum conicum.

The Royal Fern (*Osmunda regalis*) was found on the banks of the quarries and on the shaded banks of the quarry path : the location of each individual found was noted. The fern was much more common and luxuriant in the large gullies below the quarries, from sea-level to the cliff tops—mainly on the north facing sides. These gullies are sheltered and many have small streams running down them. Only one *O. Regalis* plant was found other than on the east side—on a sheltered bank by the Pondsburry stream on the west side.

- (c) *Amblystegium serpens*.
Barbula tophacea.
Cirriphyllum crassinervum.
Drepanocladus exannulatus var. *rotae* (new species to N. Devon).
Epiphygium Tozeri.
Grimmia maritima.
Tortella flavovirens.
Cephalozia media.

A.J.B.

The Habits of the Sika Deer

In the past three species of deer were introduced to Lundy—Red (*Cervus elephas*), Fallow (*Dama dama*) and Sika (*Cervus nippon*). Only the latter has survived.

The greater number of the animals spent the hours of daylight in the tall bracken on the east side of the Island. Some of them, however, could be seen

during the day in the open towards the north end. These were generally single or in groups of one sex only, though groups comprising a few hinds with a single stag were seen occasionally.

At night the animals moved out of cover to feed and were even seen well south of the Quarter Wall. Herding habits seemed the same at night as during the day.

In sharp contrast to Sika on the mainland the beasts on Lundy were not at all timid. They were easy to stalk and if they saw the stalker they would often stand watching him for some time before moving off, slowly. On two occasions a stag actually moved towards the stalker on sighting him, seemingly in order to get a better view.

The stags had antlers in velvet as would be expected, but no trace of calves was seen.

J.J.D.G.

Small Mammal Survey

Aims

The investigation was aimed principally at the study of the status and distribution of the Brown (*Rattus norvegicus*) and Black Rat (*Rattus attus* forms) with intent to discern any relation of the species to sea-bird predation. In addition, the status of the Island's only other small mammal, the Pygmy Shrew (*Sorex minutus*) was to be examined.

Procedure

Trapping was carried out for twenty days, using the following traps : Fifty Break-backs set at ten yard intervals, always at the south end of the Island.

Twenty-five Tunnel traps set at twenty yard intervals, placed alternately in the sea-bird colonies.

Thirteen Longworth traps set at forty yard intervals, used in the Lighthouse Field, Millcombe and the Beach Road.

Twenty-eight Jam jars set at forty yard intervals, from the Old Light to Quarter Wall.

In all, fifteen trap rounds were established for different periods of time with one of the four types of trap. The exact details of trap sites have been recorded and are available by reference to the Mammal Society literature.

The problems and results of our trapping procedure were outlined in a paper entitled 'Rat Traps for Field Use' which was read to the Mammal Society at their Annual Conference (1963). This drew the following conclusions : Break-backs are preferable with regard to cost, bulk, weight and trapping efficiency but are of little use if skulls are required. The main disadvantage of the break-back was its need for firm anchorage—otherwise the rat walks off with it ! The tunnel traps suffered disadvantages by reason of their bulk, weight, conspicuousness to Soay sheep and wild goats, and owing to the persistent nature of a rat in its desire to gnaw its way out, they should be visited every twelve hours.

A very full programme was necessitated to set and re-bait the fifty break-backs each evening, check and unspring them each morning before continuing the same on the Longworths, jam jars and tunnel traps—a daily walk of ten miles up 2,000 ft of cliff.

To continue with figures : we totalled 1,770 trapping nights in twenty days, of which 719 were break-back and 413 tunnel trap nights. Including two escapes, we caught thirty rats and have preserved twenty-three skins, including specimens of *R. norvegicus* and the three forms of Black Rat (*R.r. frugivorus*, *alexandrinus* and *rattus*). A selection of these skins were given to the British Museum. Skulls were preserved when possible (eleven cases) as were the stomachs (twenty-two cases). The break-backs caught twenty-four specimens, giving a trapping success of 3.2 per cent and the tunnel traps five specimens,

giving a 1.2 per cent success rate. The Longworths yielded one immature Black Rat (*R.r. alex-rattus*?) and a Pygmy Shrew. The jam jars caught nothing except water!

Five site records of rats were noted all within the vicinity of the Landing Beach or Millcombe, after dusk (2100 hours G.M.T.). One Pygmy Shrew was heard near the Quarter Wall, also at dusk.

Conclusions

1. An efficient method of trapping is yet to be found.
2. From a detailed examination of 'Sprung and disturbed' trap records, the population of rats at the southern end of the Island would appear little different from that north of the Three-quarter Wall.
3. Statistical proof is lacking, owing to our small catch: thus a full analysis yields suggestions rather than fact:
 - (a) The Black Rat is present in larger numbers over a wider area than the Brown Rat—thus dispelling the widely held view of the dominance of the Brown Rat (*R. norvegicus*). This may well be accounted for by the presence of two brown-grey forms of the Black Rat (*R.r. alexandrinus*) and (*R.r. frugivorus*).
 - (b) The Black Rat dominates the sea shore, especially Rat Island and the Landing Beach.
 - (c) The Black Rat showed no tendency to gravitate towards human habitation which is a marked feature of the known habits of the Brown Rat on Lundy.

A.D.P.

Butterflies

A collection of Meadow Browns (*Maniola jurtina*) was made for the Genetics Laboratory of the Oxford University department of Zoology. The frequency distribution of spotting on the underside of the hind-wings of the female butterflies was the same as that found over most of southern England, not that found in West Devon, Cornwall and the Isles of Scilly.

J.J.D.G.

Photographic

A collection of 300 slides has been made on the occasions of this Expedition and the earlier Devonport High School Field Club Expedition in 1961. This record covers the different Island habitats; the breeding sea-birds, including variation in leg-colour of the Kittiwake; our mammal work; some interesting features of the Island's geology; and the botanical studies. The latter was obtained by Billings and remain in his possession, the remainder have in some cases, been duplicated, allowing each member a set of twenty-five for lecturing purposes, whilst these can be supplemented from the original collection.

A.D.P.

Accounts

A full statement of our accounts will appear at the end of our report. The latter may be obtained at a cost of 1s. from: Oxford Lundy Expedition 1962, Jesus College, Oxford.

Acknowledgements

We are indebted to Mr Harman for allowing us to work on the Island, and to numerous members of the Lundy Field Society as well as to Mr Gade and all who made our stay on the Island such a pleasant one. In addition we would like to acknowledge the considerable financial and material support given to the Expedition by the numerous organisations listed in our Report.

In Conclusion

From the start much opposition was raised to the suggestion that an Oxford Expedition should visit an island so near to home—and to stay at an observatory was adding insult to injury.

Our reason was simple: first year expeditions should serve as a basis for future exploration by initiating an understanding of expedition organisation and field research, combined with a minimum expenditure. The sea-bird breeding season is limited in extent and to make the best use of the three weeks, we reduced camp work to a minimum by having a cook and using the Observatory as our tent. As a result, we often spent eighteen hours in the field and in three weeks covered the average ground of a six week expedition.

The material gain is obvious in the sea-bird census and the botanical work, whilst further investigation of the variation in Kittiwake leg-colour has shown its limitations. Perhaps of greater importance is the stimulus induced for further work in the field of auk first-flighting and an attempt to produce a film portraying the underlying motives of sea-bird existence.

A. D. PEARSON.



ARCHAEOLOGICAL INVESTIGATIONS ON LUNDY 1962

By K. S. GARDNER

Introduction

The Reports of this Society for 1960 and 1961 contain preliminary papers on the Dark Age and Medieval ecclesiology of the Island. The results of the various known investigations prior to 1962 can be briefly summarized as follows:

(i) In the mid-nineteenth century over a dozen human burials were accidentally discovered. Two of these, alleged to be of abnormal size, were in slab-lined cists possibly covered by a mound, and in association with them were a number of glass beads, three of which survive in the Dark Age case in Bristol Museum. The site is known as the Giants Graves (SS/137.442).¹

(ii) In 1928 and 1933 excavations in the paddock west of the Giants Graves revealed further burials, one at least of which appeared to have been inserted through a midden which contained sgraffito ware and coin of Edward II (ob. 1327). This paddock is known as Bulls Paradise (SS/137.443).

¹ Ordnance Survey National Grid Reference.