

- Verrucaria maura* Wahlenb.
Cladonia pyxidata Hoffm.
C.coccifera Willd.
Leciographa parasitica Mudd. Parasitic on encrusting lichen
at North End.
Thermutis velutina Th.Fr. (?) Quarry Beach.
Nomenclature from A. Lorrain Smith, "British Lichens" 1921.

KEY TO ABBREVIATIONS :

CCH	Mrs. Clare Harvey.	LAH	L. A. Harvey.
EWD	E. D. Wiggins.	MG	Mary Goddard.
FD	Flora of Devon.	RJ	Ruth Jelley.
FREW	F. R. Elliston Wright.	WAG	W. A. Gliddon.
HGM	H. G. Morgan.	WBA	W. B. Alexander.
IFF	Ilfracombe Flora and Fauna.		

**MISCELLANEOUS NOTES ON TERRESTRIAL
INVERTEBRATES**

To the present, little systematic ecological work has been attempted on the land and freshwater habitats of Lundy. Several general surveys have, however, been made, and a considerable amount of collecting has gone on, some of it in systematic fashion, much of it desultory.

As a result of general observations on the Insecta in 1947, H. G. Morgan reported, not as a survey, but as a guide for future work :

- Apterygota, Thysanura.** Two or three species present.
Collembola. Fairly numerous, both on land and on the shore.
Dermaptera. Present.
Hemiptera, Heteroptera. Aquatic forms fairly numerous: surveyed in 1947 by H.G.M., land-living forms not numerous.
Homoptera. Aphides numerous: several species noted, and further work proposed by H.G.M. Hoppers numerous, and several species worth investigation.
Plecoptera. None noted.
Ephemeroptera. None noted in July and August; probably present.
Odonata. Several species noted, both adults and nymphs. This would be a compact and interesting group for ecological study.
Neuroptera. None noted; almost certainly present.
Mecoptera. None noted.

Trichoptera. Several species noted, both adults and nymphs. A promising group for a specialist.

Lepidoptera. Numerous species, both adults and larvae. Existing records are by no means complete even for commoner species. There is wide scope for both ecological and phenological work.

Coleoptera. An extensive list is given in the Ilfracombe Fauna and Flora, but there is probably still work to be done on the group.

Hymenoptera, Aculeata. Several species of ants present, on which ecological work might be interesting. Bees not plentiful, but several species of *Bombus*. Wasps scarce.

Parasitica. In fair numbers.

Cynipoidea. Present on *Quercus cerris*, *Rosa spinosissima* and *Rubus fruticosus*.

Symphyla. Present in small numbers, several species.

As a result of subsequent observations, the following additions and amendments may be made :

Thysanura. *Petrobius maritimus* is common from sea level up to at least 150 feet, particularly among loose slates, but also under granite rubble.

Orthoptera. Only one species of grasshopper has been found, the acridiid, *Chorthippus bicolor*. This occurs sparsely in colonies, on the roadside near the Black Shed, and in the grass on the top of the island, but it is much more numerous on the west sidings. Investigations into its ecological distribution and behaviour have been started, but no conclusions can yet be reported.

Hemiptera, Heteroptera. Aquatic forms were re-surveyed by H.G.M. in 1948, and a list of species lodged with the Secretary. The fauna is typical for a peaty locality near the sea.

Homoptera. A list of Aphides taken on an adhesive insect trap in 1947, identified by L. Broadbent, has been lodged with the secretary, with additional species collected on the spot by H.G.M. in 1948. There is no evidence that all of the former list breed on the island.

Ephemeroptera. It is possible that this order is not represented on Lundy. No specimens of either adult or nymph have been reported so far.

Odonata. No serious work has yet been done on the group. Species recorded are, *Coenagrion pulchella* (Van der L.), *Sympetrum vulgatum* (Steph) and *Ischnura elegans*.

Neuroptera. One species recorded, *Chrysopa perla* (L.).

Trichoptera. *Stenophylax permistus* McL., *Plectrocnemia* sp. and *Limnophilus* sp. have been recorded.

Lepidoptera. L. H. Hart's collections have continued to provide the greater part of the records for this order, and there is room for considerable extension of this work. In particular it is becoming apparent that Lundy may have its own island races of some resident species. A total of nearly fifty specimens of the Meadow Brown butterfly, *Maniola jurtina*, all appear to be smaller and brighter than those of the mainland, while a group of ten specimens of the Northern Rustic moth, *Ammogrotis lucerneae*, are considerably darker than those from North Devon or Wales. It is very desirable to obtain more extensive data of this nature, not only relative to Lepidoptera, but also to other animals, both vertebrate and invertebrate.

As on the mainland, 1947 was a remarkable year for migrants. *Colias croceus* was very numerous during August, and one specimen of either *C. hyale* or *C. croceus* var. *helice* was also seen. *Vanessa atalanta*, *V. cardui*, *Macroglossa stellatarum* and *Plusia gamma* were very prominent, and many *M. stellatarum* may have survived the winter, the species being reported as again frequent in 1948. The butterflies were however far less numerous, fewer *Vanessas* and no *Colias* being reported.

It will be many years before a comprehensive list of the Lepidoptera can be presented. Material is however being accumulated and listed by Major A. B. Gay at the R.A.M. Museum, Exeter, and may be inspected on application either to him or to the Secretary.

Coleoptera. Only desultory observations have been made on this group, and two species not hitherto recorded have been added to the list, namely, *Dascillus cervinus* (L.) and *Cantharis (Telephorus) lituratus* Fall.

Hymenoptera, Aculeata. J. E. Treherne, assisted on the botanical side by Miss Mary Goddard, carried out a survey of the ants during August 1948, and a detailed report has been lodged with the Secretary. The distribution of ant populations was investigated in relation to vegetation types and in various localities, the colonies being mapped by a combination of quadrat and transect methods. The vegetation types fell roughly into three categories: (1) tall bracken, (2) coarse grass and tall vegetation, (3) short grass and heather. Of these (1) was only colonized successfully by *Myrmica ruginodis*, (2) and (3) were colonized equally by *Formica fusca*, with *M. ruginodis* only dominant in (2). The only two nests of *Acanthomyops mixta* occurred in habitat (2), while *A. flavus* and *A. niger* were only common in (3), *A. flavus* even colonizing bare slopes. Discussion of the possible microclimatic features and their influence on different species can only be speculative in the absence of specific data.

The list of species found includes :

Acanthomyops flava.

A. niger.

A. mixta.

Myrmica ruginodis.

M. scabrinodis.

Formica fusca.

F. fusca glebaria.

Tetramorium caespitum.

Symphyta. A few species collected by H.G.M. in June 1948 have been identified by Mr. L. H. Woollatt as :

Selandria serva (F.) Female. West Side.

Priophorus varipes (Lep.) Female. Old Light.

Euura saliceti (Fall.) Quarter Wall.

Pontania pedunculi (Hart.) Female. Quarter Wall.

Pteronidea pavida (Lep.) Female, bred from larva. Quarter Wall Quarry.

Diptera. A few desultory records have been made, mostly through L. H. Hart's collections. They may be seen with the Secretary.

OTHER INVERTEBRATES.

Myriapods. A small collection of myriapods made by L.A.H. from under stones and similar habitats has been identified by Dr. F. A. Turk :

Diplopoda.

Cylindrojulus oweni (Bollmann) Female juv.

Glomeris marginata (Villers).

Chilopoda.

Cyrtops hortensis Leach.

Geophilus carpophagus Leach.

Lithobius variegatus Leach.

Also present in these habitats is the false scorpion, *Chthonius ischnocheles* (Hermann) and the following land molluscs (identified by Mr. G. G. Vickers) :

Trichia subviridescens (Bellamy) Gannets' Combe.

Goniodiscus rotundatus (Muller) Widespread.

Clausilia rugosa Draparnaud Quarry Bay, Black Shed.

Retinella parva Alder Widespread.

Cepaea sp.

Oxychilus lucidus (Drap.) Dead shell only. Black Shed.

Cochlicopa lubrica (Muller).

Lauria cylindracea (Da Costa).