

The site is approximately $\frac{1}{4}$ mile in a straight line from the shell deposit previously described by one of the authors (An Oyster Shell Deposit near Galway. *Irish Naturalists' Journal*, 15: R.K., 1965).

Situated immediately under the turf at the cliff-top and about 13 metres above mean-sea-level, the deposit is 0.7 to 0.5 metres in thickness and 12 metres in length, along its exposed part.

Shells of *Ostrea edulis* make up the bulk of the deposit. The majority are practically undamaged, many with both valves in place and they rest on the large valve, as in life. *Mytilus edulis*, *Patella vulgata*, *Chlamys opercularis* and *Littorina littorea* shells are also found. Together they make up less than ten per cent. of the total deposit. With the exception of *Littorina* shells all are mainly broken and abraded.

In addition fragments of "organized" carbon or charcoal were found and a number of pebbles which are definitely not beach pebbles. Many of these pebbles are of granite which has a well cracked appearance and has been decomposed to some extent. It seems probable that they have been exposed to intense heat.

Consequently, in spite of the layered attitude the closed valves and the "position of life" of many of the oyster shells, we conclude that the deposit is a midden.

Radio-carbon dating was carried out by Drs Jacques Labeyrie and Claude Lalou of C.N.F.R. Gif-sur Yvette, Paris, giving a date of 2,560 years B.P. \pm 110 years. We wish to thank Professor Frank Mitchell, F.R.S., of Trinity College, Dublin, for his comments on the deposit.

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LICHOMOLGUS ACTINIAE D.V.: AN ASSOCIATED COPEPOD NEW TO IRISH WATERS

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Lichomolgus actinae D.V. is a cyclopoid copepod belonging to the large family Lichomolgidae. It is associated with the sea anemones *Anemonia sulcata* (Pennant) and *Actinia equina* L. and has previously been reported off the Adriatic coast, the west coast of Italy (Naples), the Golfe du Lion (Banyuls), at Roscoff on the coast of Brittany, and, recently at Plymouth, Great Britain (Briggs and Gotto, 1973).

In June 1973 *L. actinae* was found associated with *A. sulcata* collected at Ardkeen, a very sheltered inlet of Strangford Lough, Co. Down. From seventy-five anemones, seven males and thirteen females were obtained. The average length of the copepods was 2.4 mm for the females and 2.0 mm for the males. Six of the females were ovigerous. These examples agree closely with the figures and description supplied by Stock (1960), who showed that the copepod described by Claus (1889) as *Lichomolgus anemoniae* was identical to that previously described by Della Valle (1890) as *Lichomolgus actinae*.

Another copepod found associated with the same batch of *A. sulcata* was *Paranthessius anemoniae* Claus, which has already been recorded in our waters (Gotto and Briggs, 1972). On several occasions the same anemone was infected by both species of copepod, *P. anemoniae* showing a preference for the column and *L. actinae* for the tentacles.

It is surprising that *L. actinae* has not been discovered before in Strangford Lough, since current work on *P. anemoniae* has involved the examination of several hundred specimens of *A. sulcata* over an eighteen month period.

However, *A. sulcata* have not previously been examined during the months of June, July or August, and it is thus possible that *L. actinae* shows numerical fluctuations, and may be at a low ebb during the winter months in this area. Monthly sampling will test this theory. It is of course also possible that *L. actinae* has only recently colonized Irish waters.

Stock (*loc. cit.*) reports slight morphological variation in *L. actiniae*, while host transfer experiments by Carton (1963) suggest a degree of sub-speciation, at least at a physiological level, between mediterranean and armorican examples. Host transfer and choice chamber experiments with locally obtained copepods show that they have a strong preference for *A. sulcata* over *A. equina*. No *A. equina* collected, as yet, have had copepod associates. These observations indicate a relationship to the armorican examples studied by Carton.

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ZOOLOGICAL NOTES

DERMOCHELYS CORIACEA (L.) TAKEN OFF CORK COAST

I wish to report the capture of *Dermochelys coriacea* (L.) the Leatherback Turtle on the week ending the 24th June. It was taken in a heavy trawl off the Sovereign Islands, which are quite close to the entrance to Kinsale Harbour. The specimen was approximately 6 feet in length and weighed about 5½ cwt.

Andreas, Hettyfield, Douglas, Cork.

L. S. ATKINS.

Earlier records were reported in this *Journal* by Atkins and others in Vols. 13: 13 and 189, and 14: 82. Two off Cork and one stranded on the northwest Donegal shore. Ed.

HORSE-SHOE BATS IN CO. CLARE

The literature on the lesser horse-shoe bat *Rhinolophus hipposideros* (Bechstein) in Ireland is summarized in Moffat (*Proceedings of the Royal Irish Academy*, 44B: 65-66, 1938). It is confined to the south-west maritime counties and was first recorded in Ballyallia Cave, Co. Clare (Grid. Ref. R 3581) in March 1859. As there are only three records for this century, the following may be of interest.

On 17th May 1969 I visited Ballyallia Cave and, although no living bats were there, discovered a dead and partly decayed lesser horse-shoe bat on the cave floor. Recently, on 18th January 1973, I again entered the cave and found a total of five individuals hanging from the roof. Three were 4 m, and the remainder 10 m, from the entrance. The animals were enfolded by their wings but it was still possible to see the nose-leaf on three specimens without disturbing them. The presence of a nose-leaf, or indeed the direct suspension by the toes, is sufficient to identify the species in Ireland. Furthermore, the only other horse-shoe bat in the British Isles, *R. ferrumequinum* (Schreber)—confined to England and Wales, is considerably larger. As the animals were only present at the winter visit and the original record was for March, Ballyallia Cave is quite probably only used for hibernation. It is well known that many bats have distinct summer and winter quarters.

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THE IRISH BIOLOGICAL RECORDS CENTRE—LEPIDOPTERA COURSE

The IBRC is organising a Lepidoptera Recording scheme with the BBC to fill some of the gaps in the *Provisional Atlas*: assistance with this Survey would be welcome.

On 22nd-24th June 1973, Mr John Heath and Mr Michael Skelton of Biological Records Centre, Monks Wood, ran a most successful Lepidoptera course at Townley Hall, Co. Louth. This was designed for those taking part in the survey of distribution of Irish Lepidoptera which is being organised at the moment by the Irish Biological Records Centre