ABSTRACTS OF MEMOIRS

RECORDING WORK DONE IN THE PLYMOUTH LABORATORY

GIBBS, P. E., 1974. Notes on *Uca burgersi* Holthuis (Decapoda, Ocypodidae) from Barbuda, Leeward Islands. *Crustaceana*, **27**, 84–91.

Notes on the ecology, sex ratio and 'handedness' of the fiddler-crab *Uca burgersi* Holthuis on Barbuda, Leeward Islands, are presented together with an analysis of biometrical data.

PINGREE, R. D. & GRIFFITHS, D. K., 1974. The turbulent boundary layer on the continental shelf. *Nature, London*, **250**, 720–2.

Detailed temperature measurements on the continental shelf in the Western Approaches to the English Channel have defined an extensive bottom region of tidal mixing. The temperature profile maintains the adiabatic rate for nearly 100 m off bottom. Current measurements in this region show the frictional stress on the bottom, that maintains the turbulence, has an elliptical friction velocity with semi-major axis, 1·5 cm/s, and semi-minor axis, 0·9 cm/s.

FORSTER, G. R., 1974. The ecology of *Latimeria chalumnae* Smith: results of field studies from Grande Comore. *Proceedings of the Royal Society of London*, B, **186**, 291–6.

Deep-water line-fishing off the coast of Grande Comore during 1972 produced a much lower catch rate than similar fishing from other Indian Ocean islands in 1970. Echo-soundings showed mainly uniform steep slopes between 100 and 500 m depth except off Iconi where a large steeply ridged shoulder at 300–400 m was revealed. The probable limitation of *Latimeria* to the coastal areas of Grande Comore and nearby Anjouan is discussed in relation to these findings, to the published catch records, and to possible environmental factors.

HOLME, N. A., 1974. Recording schemes for benthic macrofauna. *ICES C.M. Papers and Reports*, No. C.M. 1974/K:17, [8 pp.].

Data on the distribution of the more readily identifiable species of the macrofauna, particularly molluscs and echinoderms, are continually obtained during the course of benthic investigations, but the results often remain unpublished. Such data are valuable for tracing distribution patterns and for assessing population changes in the benthos. Formerly, data on the occurrence of species were incorporated into published papers or into fauna lists, but there is today a need for making readily available up-to-date records of occurrence, which include data which would not normally be published. A number of computerized recording schemes have been proposed or are in use for this and related purposes, but there is uniformity neither in the method of recording nor in the nature of the data recorded. Although a uniform system is probably unattainable, and is certainly undesirable at this stage, much could be gained by agreement on the Latin names to be ascribed to species for recording purposes. A system for computerized recording of benthic species in the English Channel is outlined, and a mapping grid based on I.C.E.S. statistical rectangles proposed.

HOLME, N. A., 1974. Squid in the English Channel. *ICES C.M. Papers and Reports*, No. C.M. 1974/K:16, [10 pp.].

Several species of squid occur in the Channel, but of these only *Loligo forbesi* is of commercial importance. This species spawns in the western Channel in winter, the young squid first appearing in the bottom trawl at 8–10 cm mantle length in late May. Subsequent growth is rapid, the squid spawning and dying in the winter of the same year. During the summer *L. forbesi* tends to move into the warmer waters of the eastern Channel and southern North Sea, but in autumn returns to the western Channel. *Loligo* may be taken in bottom trawls by day, but appear to leave the

bottom at night. Attempts to catch them in a pelagic trawl have so far proved unsuccessful. *Loligo* has been used for bait but is increasingly marketed for human consumption. Figures are given for landing at ports in south-west England over the past five years.

WHITFIELD, M., 1974. The ion-association model and the buffer capacity of the carbon dioxide system in seawater at 25 °C and 1 atmosphere total pressure. *Limnology and Oceanography*, **19**, 235–48.

The ion-association model of Berner has been extended to calculate the contributions of the various ion-pair formation reactions to the buffer capacity of the carbon dioxide system in seawater. These reactions are shown to make the major contribution to the equilibrium buffer capacity at pH values greater than 8. However the indifference of the pH to quite large changes in solution composition arises, not from any pH-statting effect, but because the metal-carbonate ion-pairs form only a small proportion of the total cation concentration under normal conditions.