

tempted to wonder whether the dull pink colour of the soft abdomen had protective value in a red algal habitat. In smaller numbers in the *Maoricolpus* shells was the hermit *Pylopagurus cooki*, characterised in the field by its deep blue maxillipeds. A single specimen was taken at Glory Cove of a vermilion hermit crab with mauve first antennules (species as yet unnamed). This is the commonest offshore shelf hermit crab species in Otago waters.

Eunice australis was the most conspicuous polychaete, coming up either free or in flaccid shelly tubes. The tiny tan chiton *Terenoichiton inquinatus* and the small pink trochid *Micrelenchus micans* were both generally abundant. The red-shelled chlamys *Chlamys radiata*, at times with the purple sponge *Iophon laevistylis* on one valve, was conspicuous amongst the epifauna. Infaunal lamellibranchs of "cockle" type shell were *Paphirus largillierti* and *Tawera spissa*. Although both were present in the majority of catches, neither was taken in great density. Other infaunal lamellibranchs were *Tellina huttoni*, *Leptomya retiaria* and *Diplodonta globus*, the last coming up in a dense, khaki-coloured covering of fibrous material.

Crabs other than hermits included the small camouflage crab *Notomithrax minor* and a little hymenosomid. A large apricot-coloured amphipod, *Maera inaequipes*, was abundant. Several smaller species were present in limited numbers.

Ascidians were not at all in general evidence, with the exception of an orange compound species. This was abundant both on algae in one trawl haul, and on rock and tins below the jetty. A stout apricot nemertine about 5cm long was in the majority of hauls, and a larger wine-coloured species was taken at one station. A single live brachiopod, *Magasella (Terebratella) sanguinea*, was taken. No coelenterates were seen sublittorally. Infaunal polychaetes seemed relatively sparse. This was probably partly due to the sampling methods used, though even allowing for this they certainly did not show the density met with in some New Zealand benthic habitats.

Of fish, spotties (the wrasse *Pseudolabrus celidotus*) were seen in numbers during diving and from the vessel, their near-absence from catches reflecting their quick escape response rather than their sparseness. *Acanthoclinus trilineatus* and *Syngnathus blainvillianus* were not infrequent. Both were of the dull red colour of the dominant *Lenormandia*. Several species of Tripterygiid abounded. Pending formal descriptions of New Zealand sublittoral *Tripterygiidae*, Mr J. Moreland's manuscript names have been used for them.

COMMENTS

No obvious correlations were apparent between slight differences in bottom sediments and the species occurring at given stations. Rather, the picture shown by the data is of a relatively uniform sandy-mud environment, with a number of species occurring repeatedly in samples. This suggests that a reasonably typical picture is given of the sea bottom of Glory Cove. Deeper-sampling gear would doubtless have revealed more polychaetes and lamellibranchs, whilst finer sorting would have increased the species list of small animals. Aqualung diving would be expected to show which species are particularly associated with the probably patchy algal covering; and also which are entirely on the substrate, which totally or partially buried. Concurrent Otago studies by several workers, using an assortment of methods, are showing what very different pictures of benthic ecology emerge when different sampling techniques are used.

It does not seem useful at this juncture to compare the results obtained here with the very few other New Zealand benthic ecology studies that have been published to date, as so much more work is at present under way. The particular impression gained in the present instance is of the unusual wealth of echinoderms at Glory Cove.