Chapter 11

Seamounts and cephalopods

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Abstract

The relationship between cephalopods and seamounts has been inadequately studied. Here, the work on seamounts is supplemented by collections made around oceanic islands with similar cephalopod communities and compared with sampling over the abyssal plain. Cephalopods differ from fish in several respects that make their populations resilient and their study particularly difficult. Nets sample only small numbers of juveniles or small species. Most adult cephalopods are adequately sampled only by their predators, and their presence is deduced from their predators' stomach contents. Fortunately, digestive processes leave their chitinous jaws ('beaks') intact. These can often be identified and body mass estimated from beak lengths. Some net collections of pelagic cephalopods from the NE Atlantic are compared, together with samples from predators' stomachs. The large majority of species which live clear of the bottom do not show any association with, or retention by, seamounts: only *Neorossia caroli* and possibly *Liguriella* appear restricted to seamounts. The results support six of the ecological groups of cephalopods considered by Nesis to occur on and around seamounts. Bottom octopods have been sampled globally, but speciation related to seamounts has not been detected. The importance of size and other structural features to cephalopods as predators and as prey is related to biomass considerations at seamounts. While there are formidable problems of investigation, it is likely that cephalopods play a major role in supplying energy to seamount ecosystems. By swimming or drifting to seamounts for spawning, or possibly feeding, cephalopods may provide accumulations of great attraction to passing fish, birds, seals and cetaceans. Seamounts may have a wide oceanic influence by fuelling such migrators.

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