

The fish, being mainly pelagic forms, can be regarded as part of the Vema fauna only in the widest sense, while Penrith (1967) has recorded only one endemic species. The problem of recruitment of *Jasus tristani* is less simple, but with a planktonic life of several months, phyllosomata originating at Tristan would need to be transported in a north-easterly direction, perhaps by offshoots of the West Wind Drift encountering the north-flowing Benguela System, for successful colonization. This obviously happens, judging from the population discovered in the later 1950s. Since then, Vema's spiny lobster population has been heavily exploited. By 1967 Heydorn reported the summit almost denuded of *Jasus*, while the divers of the 1978 cruise did not see any lobsters, neither were any specimens of the grapsid crab *Plagusia chabrus* noted. This latter species was fairly commonly seen on the earlier visits. How long a time is required for this population to recover will probably be answered only by a theoretical exercise in population dynamics.

The isopods, with their strong South African affinity and lacking planktonic larvae for dispersal, perhaps reached Vema clinging to drifting kelp. The major alga of the summit is *Ecklonia biruncinata*, which also occurs off the southern Cape coast, and would provide ideal shelter for clinging animals.

Seventeen species of decapods are included in this brief discussion of zoogeography (the two mesopelagic species mentioned being excluded). Of these seventeen, six have been recorded from South Africa, including three from the east coast only (*Eualus ctenifera*, *Paromola alcocki*, *Lithodes murrayi*); *Pontophilus sculptus*, known from False Bay to Natal and also from the Mediterranean, north-western Atlantic, and Angola; *Pilumnus* sp. recorded as *P. hirsutus* from the east and south coast; and *Plagusia chabrus*, an essentially cold-temperate austral species known from South West Africa to Natal, Australia, New Zealand, Chile, and Juan Fernandez. *Lithodes murrayi* was previously regarded as an austral form, but has been recorded from deep water off Natal (Kensley 1977).

Pseudactaea corallina is a true Indo-Pacific species and has not been recorded from the east coast of South Africa.

The two new species described here, viz. *Pseudodromia cacuminis* and *Macropodia cirripilus*, are the only 'endemics'.

Five species have been recorded from West Africa; *Alpheus macrocheles*, *Synalpheus huluensis africanus*, and *Pagurus cuanensis* (also known from the Mediterranean) are regarded as true West African forms; *Paromola cuvieri* and *Eumunida picta* have a much wider range. *Pagurus chevreuxi* is known only from the Mediterranean.

With an age of eleven million years, it is not difficult to envisage colonization of Seamount Vema by West African/Mediterranean species. The species from the Indo-Pacific and the east coast of South Africa, however, must have been faced with greater problems of colonization. Perhaps the most feasible explanation is that planktonic larval forms of these species, present in southward-flowing Agulhas water, were caught in the pockets of Agulhas

water eddying northward in the South Atlantic as previously mentioned. The temperature regime in this series of events would not be a barrier to colonization. Although there is so-called upwelling of Antarctic Intermediate water in the vicinity of Vema, above the 75 m depth line the temperatures are fairly uniform (Welsh & Visser 1970: 2), being between 18° and 21° C, and comparable with east coast shallow-water temperatures.

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