

M.S.64. SUSEELAN, C.—Studies on the deep-sea prawns off south west coast of India—Dr. E.G.Silas.

A detailed study of the deep-sea prawns of the continental shelf and upper continental slope (100-450 m depth) along the southwest coast of India between Cape Comorin and Bhatkal (Lat. 7°N-14°N) has been carried out based on the catches of exploratory fishing conducted by the Government of India exploratory fishing vessels during 1965 to '79. A total of 22 species of prawns belonging to thirteen genera representing six families, namely, Solenoceridae, Aristeidae,

Penaeidae, Uplophoridae, Pasiphaeidae and Pandalidae collected from the deep-sea catches have been described. Keys for the identification of the species have been provided. *Plesionika williamsi* Forest, one of the large size pandalids reported to have commercial significance in tropical west Africa, is recorded from the Indian Ocean for the first time. Three species, namely *P. ensis* A.M. Edw., *P. sindoi* Rathbun and *Heterocarpus sibogae* de Man are reported as new distributional records to the Arabian Sea. The identity of *Solenocera melantho* de Man and *Aristeus semidentatus* Bate previously reported from the Indian waters has been critically examined and changed to *Solenocera halli* Starobogatov and *Aristeus alcocki* Ramadan respectively.

The occurrence and quantitative distribution of deep-sea prawns in different latitude zones have been studied depthwise and productive areas mapped out based on the catches of 1187 hauls of bottom trawl. It has been found that the area lying between 100 and 200 m depth on the continental shelf of this coast is not significantly productive for prawns to support any commercial fishery. Relatively high concentration of prawns has been noticed in the 'Quilon Bank' at 301-375 m depth and in slightly deeper areas off Ponnani on the upper continental slope. In the northern latitude zones the maximum density is observed between 201-300 m depth along the Malabar coast. Seasonal distribution of catch-per-effort returns from Quilon Bank indicates peak abundance of the resource during December to February.

The deep-sea prawn catches are multispecies in character, the bulk of the fishery being constituted by *Heterocarpus woodmasoni* (38.5%), *H. gibbosus* (6.4%), *Parapandalus spinipes* (18.6%), *A. alcocki* (9.0%) and *Penaeopsis jerryi* (9.9%). A comparison of the species assemblage in different latitude zones shows that the fishery is chiefly supported by pandalid prawns Cape Comorin and Cochin and by penaeid and aristeid prawns between Cochin and Bhatkal. Depthwise comparison of catch composition indicates predominance of *Metapenaeopsis coniger* at 100-150 m, *P. jerryi* at 151-200 m, *P. jerryi* and *P. spinipes* at 201-300 m, *H. woodmasoni* at 301-400 m and *A. alcocki* at 401-450 m depth.

The spatial distribution and abundance, size composition, sex ratios, maturity, fecundity, breeding, food and feeding habits and length-weight relationship of major species have been dealt with. None of the species indicate sex reversal as exhibited by many species of deep-sea prawns of the arctic and temperate waters.