

5. A NEW GENUS AND SPECIES OF OPHIACANTHID BRITTLESTAR (ECHINODERMATA: OPHIUROIDEA) FROM THE KERGUELEN ISLANDS, WITH NEW TAXONOMIC, BIOGEOGRAPHIC AND QUANTITATIVE DATA ON THE ECHINODERM FAUNA

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SUMMARY

Forty-two species have been sampled on the continental shelf of Kerguelen islands during MD04/Benthos cruise of M.S. "Marion-Dufresne" (March 1975). Among the species, the taxonomic position of a few animals is still uncertain. Four ophiuroids however, allow interesting taxonomic and biogeographical comments: a new genus and new species in the family Ophiacanthidae, *Ophioparva blochi*, is described; *Ophiomisidium speciosum* Koehler was known previously only from the tropical deep Atlantic; *Ophiocten hastatum* Lyman and *Ophiocten amitinum* Lyman are placed in the genus *Ophiura*. The fauna has a generally wide antarctic and sub-antarctic distribution, but a few species are endemic to the Kerguelen province. *Ophiura hastata* and the newly recorded *Ophiomisidium speciosum* are also known from the deeper parts of the sub-tropical Atlantic.

On the continental shelf, the average density of echinoderm individuals is 52.8 m⁻² at depths between 10 and 180 metres. In fjords, the density of individuals is high but the number of species is low. On the contrary, outside of the fjords in open sea, the density of individuals is low but the specific diversity is high. Around the Kerguelen islands, the specific and quantitative composition of the echinoderm fauna is correlated with hydrological conditions, in particular with the west wind drift.

INTRODUCTION

The Kerguelen islands are located approximately 50°S latitude, 70°E longitude, at the limit of the antarctic convergence, in the southern part of the Indian Ocean, half-way between South Africa and Australia. The bionomic and physiographic characteristics of the continental shelf of the archipelago, as well as the fjords and interior gulfs and bays, have been the subject of several publications (Desbruyères and Guille, 1973 and 1977; Guille and Soyer, 1976; Guille, 1977a and b; Murail, David and Panouse, 1977).

Since 1972, an intensive programme of bionomic and biological research has been in operation on the benthic fauna of the continental shelf of the Kerguelen islands, in particular on the echinoderms. After the study of the qualitative and quantitative composition of the echinoderm fauna of the Morbihan gulf, virtually an enclosed sea with distinct hydrological and substrate conditions (Guille, 1977a), a similar study has been carried out on the open sea, on the continental shelf surrounding the archipelago, during the MD04/Benthos cruise of "Marion-Dufresne" (Guille, 1977b). Before the present programme, the echinoderm fauna of Kerguelen was essentially known through the major expeditions at the turn of the century and shore collections by Rallier du Baty published by Koehler (1917). More recent studies have encompassed a wider geographic area and added to our taxonomical understanding of related faunas, Hertz (1927), Mortensen (1936), Madsen (1955), and A. M. Clark (1962). The only ecological data, pertaining to the Kerguelen echinoderms, has been given by Arnaud (1974) and Cherbonnier and Guille (1974).

The collection studied here concerns only the samples of the MD04/Benthos cruise taken by an Okean grab with a 0.5 m² opening. In fact, of the many kinds of benthic samplers used in Australian Museum Memoir No. 16, 1982, 67-87.