LITTORAL PENAEID PRAWNS FROM THE FIJI ISLANDS
WITH NEW RECORDS OF FOUR SPECIES

BY

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INTRODUCTION

No comprehensive study has hitherto been made of the littoral penaeid prawns from the Fiji Islands. A few species have previously been recorded or described by different workers at different times. The species already recorded are the following: Penaeus canaliculatus Olivier (by Bate, 1881 and 1888), P. monodon Fabricius and P. semisulcatus De Haan (by Doumenge, 1973), P. japonicus Bate (by Racek, 1973; Shigueno, 1975; and Holthuis, 1980) and P. merguiensis De Man (by Lichatowich, et al., 1978).

During 1979 a survey was carried out in waters around the island of Viti Levu, Fiji Islands with a view to recording and describing the species present, their distribution and abundance. The locations referred to in the text are shown in fig. 1. The present article deals with the taxonomic study of eight species of which four are new records for Fiji. Previous reports of Penaeus japonicus Bate being present in Fiji waters proved incorrect. The nomenclature has been revised in relation to recent changes with the introduction of the subgeneric concept by Pérez Farfante (1969). In each case a large number of specimens were collected; the sex ratio being approximately 1:1. Identifications and/or descriptions are based on both, freshly collected specimens and those which had been preserved in formalin for some time. The examined material is deposited in the collection of the School of Natural Resources of the University of the South Pacific.

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Penaeus (Penaeus) monodon Fabricius, 1798

Penaeus (Penaeus) monodon-Holthuis, 1949: 1051-1057; Dall, 1957: 152-154, fig. 5A-E; Racek & Dall, 1965: 10-11; Monod, 1976: 133, fig. 1.
Penaeus (Penaeus) monodon-Pérez Farfante, 1969: 466.
Material examined. — Carapace lengths range from 11.4 to 41.0 mm in males, and from 12.5 to 55 mm in females. Collected in Laucala Bay off Suva, the Navua and Ba River estuaries and adjacent mangrove channels.

Remarks. — The Fiji specimens have a vestigial exopodite on the fifth pereiopod and hence resemble the New Caledonian ones (Monod, 1976). Descriptions by other authors emphasize the absence of such exopodite on the fifth pereiopod. Previous surveys in deltas, muddy flats and mangrove channels recorded high density stocks of P. monodon around Viti Levu (Doumenge, 1973). Similar results were obtained during the present survey.

Fig. 1. Map of the Fiji Islands showing the locations referred to in the text.

Penaeus (Penaeus) semisulcatus De Haan, 1844

Penaeus semisulcatus De Haan, 1844: 191, pl. 46 fig. 1; De Man, 1911: 97-100; Racek, 1955: 218-219; Dall, 1957: 154-157, fig. 6A-E.

Penaeus ashiaka Kishinouye, 1900: 7-14.

Penaeus monodon-Bate, 1888: 250; Alcock, 1906: 8.

Penaeus (Penaeus) semisulcatus-Pérez Farfante, 1969: 466.

Material examined. — Carapace lengths range from 11.0 to 30.2 mm in males, and from 6.0 to 33.0 mm in females. Collected in Laucala Bay off Suva, Navua River and Ba River estuaries and adjacent mangrove channels.

Remarks. — High density stocks were recorded during the present survey. Braley (1979) discussed some aspects of the biology of P. semisulcatus from the Fangauta Lagoon, Tongatapu where it co-exists with Metapenaeus ensis.