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**DIAGNOSIS OF A NEW SPECIES OF *PARALOMIS*
(CRUSTACEA, ANOMURA, LITHODIDAE)
FROM NEW ZEALAND**

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**INVERTEBRATE
& ZOOLOGY
Crustacea**

ABSTRACT

A NEW stone crab, *Paralomis zealandica* n.sp., known from a male taken in 350fm (640m) on the Chatham Rise, is characterized and distinguished from the 15 species of *Paralomis* previously recognized. It is morphologically close to the southern Indian Ocean *P. aculeata* Henderson taken in a comparable depth (310fm: 566m).

INTRODUCTION

Three different stone crabs (family Lithodidae) are now known to occur in the New Zealand region. *Lithodes murrayi* Henderson was recorded from the western approaches to Foveaux Strait in 382fm (698m) by Yaldwyn & Dawson (1970). *Neolithodes brodiei* Dawson & Yaldwyn was described from a specimen taken on the Campbell Plateau in 455fm (832m) (Dawson & Yaldwyn, 1970). Another lithodid, belonging to the genus *Paralomis*, has been taken on the western end of the Chatham Rise in 350fm (640m). It is clearly distinct from the 15 known species of the genus and a preliminary description of this specimen is given here.

Genus *Paralomis* White, 1856*Paralomis zealandica* n.sp.

A large stoutly-built, uniformly spined stone crab with strongly-spined legs. Rostrum simple and acute with two pairs of dorsolateral spines and an unpaired dorsal median spine at its base; ventral edge with a distinct swollen lobe in the midline bearing several small flat tubercles laterally. Dorsal surface of carapace with numerous, subequal, conical, bluntly-pointed, short spines. External orbital spine strong, acute and larger than any other spine on hepatic margin. Scaphocerite (acicle) with two long lateral spines, a single, somewhat shorter, terminal spine and two, still shorter, median spines. Colour in life creamy-white with pink spines.

Holotype: Male, NZOI Stn E423, New Zealand Oceanographic Institute, Reg. No. H121.

Dimensions: Length of carapace (including rostrum) 111mm, (to base of orbit) 96mm. Width of carapace (excluding lateral spines) 101mm.

Type locality: NZOI Stn E423, Lat. 44°18'S, Long. 174°31'E. Chatham Rise, 350fm (640m), fine sandy mud, medium Agassiz trawl, *Slope Benthos Cruise*, M.V. *Taranui*, 15 October 1965.

DISCUSSION

Paralomis zealandica, with its spiny carapace, can be distinguished immediately from all those species lacking spines on the dorsal surface of the carapace, viz., *P. aspera* Faxon, 1893, *P. dofleini* Balss, 1911, *P. granulosa* (Jacquinot, 1853), *P. investigatoris* Alcock & Anderson, 1899, *P. japonica* Balss, 1911, *P. longipes* Faxon, 1893, *P. papillata* (Benedict, 1895), and *P. verrilli* (Benedict, 1895). These forms may possess a variety of carapace ornamentation such as granules, verrucosities or tubercles (which may be papilliform, vesiculous, pustulous, conical or obtuse). The New Zealand species differs from *P. formosa* Henderson, 1888, *P. indica* Alcock & Anderson, 1899, and *P. spectabilis* Hansen 1908, in having a uniformity of carapace ornamentation (i.e., the dorsal surface bears spines only, rather than having spines mixed with other forms of ornamentation), and from *P. multispina* (Benedict, 1895), in lacking both an enlarged median gastric spine and a spine on the ventral edge of the rostrum.

The presence of an unpaired dorsal median spine at the base of the rostrum separates *P. zealandica* and *P. aculeata* Henderson, 1888 from *P. bouvieri* Hansen, 1908 and *P. cubensis* Chace, 1939. *Paralomis aculeata*, described from Challenger Station 145A, off Prince Edward Island, southern Indian Ocean, in 310fm (566m) where it was taken with *Lithodes murrayi*, differs from the New Zealand species in the following features: the ventral edge of the rostrum is uniformly curved and does not bear any lobe or tubercle; the external orbital spine appears shorter than at least one of the spines on the hepatic margin, and the scaphocerite has three lateral spines, a terminal spine (the longest) and one median spine.

The New Zealand *Paralomis*, with its uniformly-spined carapace, swollen ventral lobe on the rostrum and distinctive scaphocerite is, therefore, a clearly-distinguishable member of the Southern Ocean lithodid

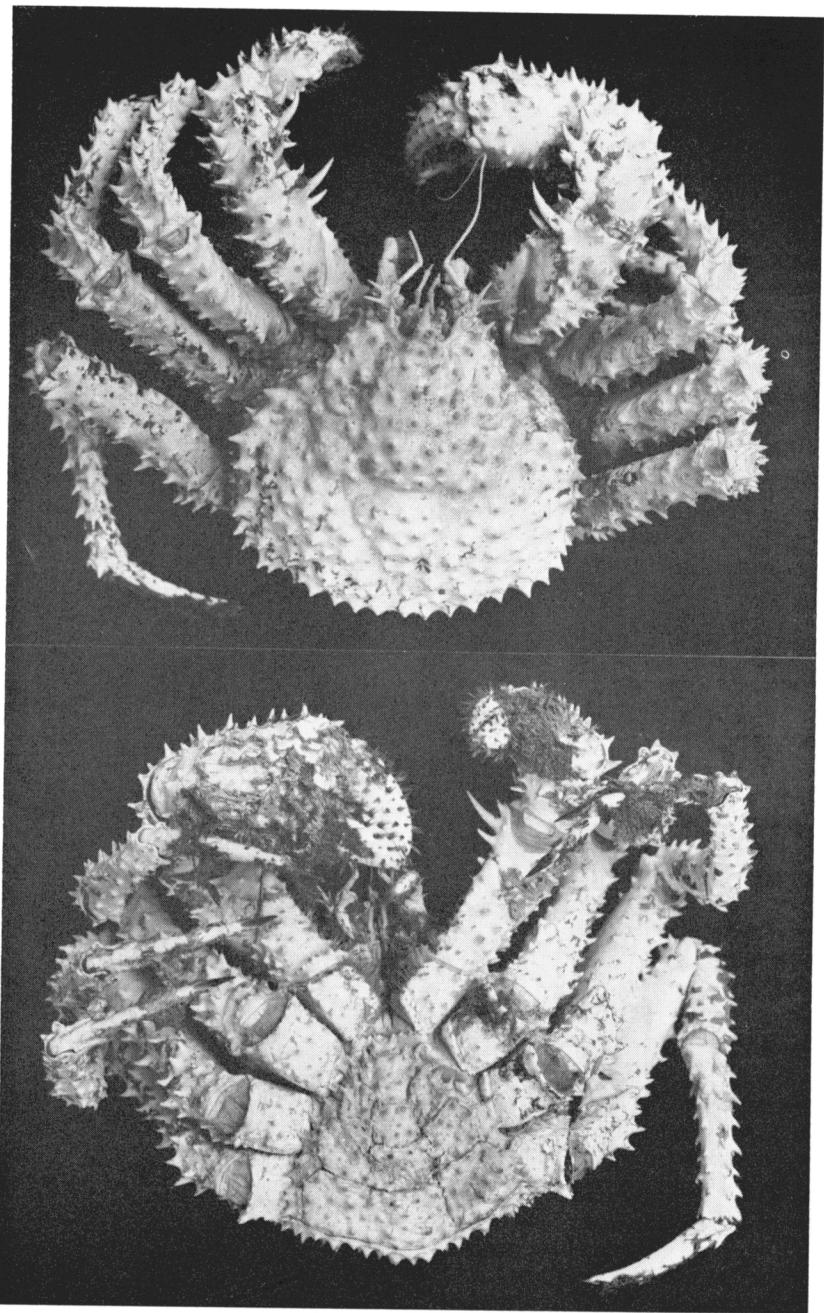


Fig. 1. (Top) *Paralomis zealandica* n.sp., holotype, male, from Chatham Rise in 350fm. (NZOI Stn E423); dorsal view (front of carapace tilted slightly upwards). (Bottom) holotype; ventral view.

Photographs: J. J. Whalan, D.S.I.R.

fauna. It can be separated readily from both *P. aculeata* Henderson and the other Southern Ocean *Paralomis*, *P. spectabilis* Bouvier. The latter was first described from Greenland waters but has been recorded recently from off Scott Island in the Ross Sea by Birshtein & Vinogradov, 1967.

Further discussion of *P. zealandica* will be contained in a systematic account of the New Zealand Lithodidae now in preparation.

The name *zealandica* indicates the New Zealand occurrence of this species although its range may indeed be more extensive (cf. *Lithodes murrayi* Henderson—see Yaldwyn & Dawson, 1970: 280). The depth at which this new species of *Paralomis* was collected is within the known range of the 15 previously described species in the genus.

LITERATURE CITED

- BIRSHEIN, YA. A. and VINOGRADOV, I. G., 1967. Nakhozhdenie *Paralomis spectabilis* Hansen (Crustacea, Decapoda, Anomura) v Antarktike. Rezultaty biologicheskikh issledovaniya Sovetskoi Antarkticheskoi Ekspeditsii (1955-1958 gg.), 3. *Issledovaniya Fauny Morei IV* (XII): 381-388, figs. 1-3 [1968, English transl.: Occurrence of *Paralomis spectabilis* Hansen (Crustacea, Decapoda, Anomura) in the Antarctic. *Explorations of the Fauna of the Sea IV* (XII). Biological results of the Soviet Antarctic Expedition (1955-1958), 3: 390-398, figs 1-3. Israel Program for Scientific Translations, Jerusalem].
- DAWSON, E. W. and YALDWYN, J. C., 1970. Diagnosis of a new species of *Neolithodes* (Crustacea: Anomura: Lithodidae) from New Zealand. *N.Z. Jl mar. freshwat. Res.* 4 (2): 227-236.
- YALDWYN, J. C. and DAWSON, E. W., 1970. The stone crab *Lithodes murrayi* Henderson: the first New Zealand record. *Rec. Dominion Mus.* 6 (17): 275-284, 3 figs.