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The Decapod Crustacea of the Royal Society Expedition to
Southern Chile, 1958-59*

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Abstract

THE Royal Society Expedition to Southern Chile 1958-59 collected 23 species of marine decapod Crustacea in the general areas of Isla Chiloé (42° S.), Puerto Edén on Isla Wellington (49° S.), and Isla Navarino (55° S.). Included are two species of Macrura, seven species of Anomura, and 14 species of Brachyura. The 14 species from Chiloé are reported for the first time from the outer coast of that island. Protandrous hermaphroditism is recorded in the macruran genus *Chorismus*. The phenomena accompanying latitudinal change are discussed.

INTRODUCTION

DURING the period from October, 1958, to February, 1959, an expedition sponsored by the Royal Society of London made a survey of southern Chile. Although the Expedition's work was largely ecological, numerous biological specimens were collected including the decapod Crustacea which are the subject of the present report. Specimens from Isla Chiloé, one of the three principal areas visited, proved to be of particular interest; the three anomuran and 11 brachyuran species obtained there are reported for the first time from the outer coast of the island. The Expedition's work was also concentrated at Puerto Edén on Isla Wellington, and at Isla Navarino near Cape Horn.

Only two of the 10 species of intertidal and sublittoral natants recorded from the coasts of Chile were taken by the Royal Society Expedition. Neither represented extensions to a species range, but in the case of the single species taken in the Fuegian region, the Magellanic and circum-Antarctic *Chorismus antarcticus*, the collections clearly demonstrated that this hippolytid is a protandrous hermaphrodite.

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This somewhat unexpected discovery underlines the importance of even small, but well-documented, collections from poorly-known areas. A preliminary announcement of this interesting record was made by Yaldwyn (1966).

Along the extensive littoral of southern Chile that stretches in a north-south direction through 13 degrees of latitude (from 42° to 55° S.) and for 780 nautical miles from Isla Chilóe to Isla Navarino, a number of changes take place that are reflected in the composition of the decapod fauna. One of these, the abundance of species as a concomitant of latitude, was sufficiently marked to have been noted in the field by Royal Society Expedition personnel and remarked upon in the Short Account of the Expedition with which each recipient of expedition material was provided:

"Crabs and Porcellanidae are very abundant [at Isla Chilóe, 42° S. Lat.], there being at least 6 species [actually three species] of the latter group and 10 [actually 11] of the former. Among the most interesting are the commensal Pinnotherids, a large species, up to 1½ inches in diameter being common in the cloaca of the common sea-urchin, and another in a large Holothurian, probably *Encyclus chilensis*. This Holothurian, which reaches over a foot in length is abundant in low tidal pools and crevices low down on the shore, and in the sub-littoral. A good series of the crab in this Holothurian, previously known only from 4 specimens, has been collected.

". . . When compared with the coasts of Chilóe one of the salient features of the southern region is the reduction which has occurred in the number of species present, e.g., at Chepu on the west coast of Chilóe Brachyura [and Anomura] (numbering about 15 species) were a conspicuous feature of the intertidal zone, whereas in the south [e.g., at Isla Navarino, Fuegia] only two species were found of which only a species of *Hymenosoma* was abundant."

The occurrence of an increasingly larger number of species (but fewer individuals of a given species) as the collector proceeds from the poles towards the equator is thus substantiated by the experience of Royal Society Expedition collectors. Less evident to them, but apparent in the laboratory once measurements are taken, is a cline in size of individuals of species ranging throughout this expanse of coastline, with the largest individuals occurring in the higher latitudes. This is best demonstrated by *Halicarcinus planatus*, and by ovigerous females, which show a corresponding increase in size at sexual maturity. Also occurring throughout this extensive range, *Acanthocyclus albatrossis* shows similar correlation with latitude in absolute size, although ovigerous females are lacking from Isla Chilóe with which to compare those from more southerly localities.

A third phenomenon that undoubtedly occurs is that of equatorial submergence, in which the same species, following a temperature gradient, is found at successively lower tidal levels as one approaches the tropics. Its counterpart, polar emergence, would be expected of such species as *Halicarcinus planatus* and *Acanthocyclus albatrossis* in the Fuegian region; however, the referral of their habitats to biotic zones, such as "*Chthamalus* zone", "*Lessonia* zone", or "*Durvillea* zone", which in themselves may show vertical displacement with latitude, rather than to absolute tidal measurements, tends to obscure this relationship for Royal Society Expedition specimens (cf. Garth, 1957, p. 111).

While as a matter of convenience and uniformity of treatment this report appears under joint authorship, it should be understood that each author is responsible for that portion dealing with his specialty: J. C. Yaldwyn for the macrurans, Janet Haig for the anomurans (excluding the Aeglidae, to be the subject of a separate report by Nivaldo Bahamonde N., and John S. Garth for the brachyurans. Since each of these sections of the Decapoda of Chile has been the subject of a recent comprehensive review, the Macrura by Holthuis (1952), the Anomura by Haig (1955), and the Brachyura by Garth (1957), reference is made to these reports for the complete synonymy of each species. The single measurement given for specimens in all three sections is length of carapace.

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STATIONS AT WHICH DECAPODA WERE COLLECTED

Isla Chiloé and vicinity

- Sta. 3. Punta Gaviota, S. side of Stack Rocks, S. of Río Chepu; 42° 03' 50" S., 74° 02' 50" W.; intertidal volcanic rocks, very exposed; hand collecting. *Petrolisthes laevigatus*, *Allopetrolisthes angulosus*, *Taliepus dentatus*, *Acanthocyclus gayi*, *A. albatrossis*, *Gaudichaudia gaudichaudii*, *Homalaspis plana*.
- Sta. 4. Punta Gaviota, intertidal boulder beach N. side of Stack Rocks, S. of Río Chepu; 42° 03' 50" S., 74° 02' 50" W.; hand collecting. *Allopetrolisthes angulosus*, *Taliepus dentatus*, *Pisoides edwardsii*, *Halicarcinus planatus*, *Pinnaxodes chilensis*, *P. silvestrii*.
- Sta. 7. Punta Pulga; 42° 06' 00" S., 74° 02' 55" W.; intertidal sandstone platform with pools and loose rock, exposed; hand collecting. *Petrolisthes tuberculatus*, *Allopetrolisthes angulosus*, *Taliepus dentatus*, *Pisoides edwardsii*, *Acanthocyclus gayi*, *Cancer polyodon*, *Gaudichaudia gaudichaudii*, *Homalaspis plana*, *Pinnaxodes silvestrii*.
- Sta. 8. Punta Pulga, S. end of Shelly Beach; 42° 06' 00" S., 74° 02' 55" W.; intertidal schist rocks, very exposed; hand collecting. *Taliepus dentatus*, *Acanthocyclus gayi*.
- Sta. 13. Río Chepu, intertidal estuarine rocks and loose boulders about 250 yards from the river mouth; 42° 03' 25" S., 74° 02' 50" W.; hand collecting. *Hemigrapsus crenulatus*.
- Sta. 14. Punta Choros, from the mouth of Río Chepu to a point 500 metres south; 42° 03' 25" S., 74° 02' 50" W.; intertidal schist rocks; hand collecting. *Hemigrapsus crenulatus*.
- Sta. 15. Estero Castro, N. of Castro; 42° 26' 50" S., 74° 45' 50" W.; intertidal shingle beach with sand and mud, very sheltered; hand collecting. *Acanthocyclus albatrossis*, *Hemigrapsus crenulatus*.
- Sta. 16. Punta Aguantao (mainland N. of Isla Chiloé); 40° 32' 50" S., 73° 34' 50" W.; intertidal sandstone platform and boulder beach, sheltered; hand collecting. *Acanthocyclus albatrossis*.
- Sta. 17. Rilán (mainland N. of Isla Chiloé); 40° 32' 40" S., 73° 34' 40" W.; intertidal sandstone platform, sheltered; hand collecting. *Petrolisthes laevigatus*, *Acanthocyclus albatrossis*, *Hemigrapsus crenulatus*.

Isla Wellington

- Sta. 19. Puerto Edén, point to the N. of the FACH base; 49° 08' 20" S., 74° 26' 55" W.; intertidal granitic gneiss rocks, sheltered; from *Macrocystis* fronds and holdfasts and sublittoral collection by diving. *Acanthocyclus albatrossis*.
- Sta. 21. Puerto Edén, opposite house; 49° 08' 30" S., 74° 26' 52" W.; 16–18m, grey sand; dredge. *Eurypodius latreillei*, *Pinnixa valdiviensis*.
- Sta. 22. Puerto Edén, off mouth of the river to the S. of the FACH base; 49° 08' 48" S., 74° 26' 48" W.; 6–8m, grey sand with small stones; dredge. *Pinnixa valdiviensis*.

- Sta. 23. Puerto Edén; 48° 08' 50" S., 74° 26' 40" W.; 15–18m, hard grey sand with small stones; dredge. *Pinnixa valdiviensis*.
- Sta. 24. Puerto Edén; 49° 08' 41" S., 74° 26' 48" W.; 10–12m, grey sand; dredge. *Pinnixa valdiviensis*.
- Sta. 25. Puerto Edén; 49° 08' 34" S., 74° 26' 54" W.; 6–7m, grey sand with rocks and shell; dredge. *Austropandalus grayi*, *Lithodes antarcticus*, *Pagurus forceps*, *Munida subrugosa*, *Eurypodius latreillei*.
- Sta. 27. Isla Carlos, Puerto Edén; 49° 09' 35" S., 74° 25' 24" W.; from *Macrocystis* fronds and holdfasts. *Halicarcinus planatus*, *Acanthocyclus albatrossis*.
- Sta. 28. Isla Eva, Puerto Edén; 49° 08' 49" S., 74° 24' 20" W.; intertidal granitic rocks, semi-exposed; hand collecting. *Acanthocyclus albatrossis*.
- Sta. 30. Puerto Edén, small bay to the N. of the FACH base; 49° 08' 24" S., 74° 27' 00" W.; 8–10m, sandy mud with stones and shell; dredge. *Pinnixa valdiviensis*.
- Sta. 31. Puerto Edén; 49° 08' 20" S., 74° 27' 04" W.; 4–5m, sandy mud; dredge. *Peltarion spinosulum*.
- Sta. 33. Puerto Edén, bay on the S. side of the peninsula facing the house; 49° 09' 28" S., 74° 26' 06" W.; 11–12m, sandy mud with *Mytilus* shell; dredge. *Austropandalus grayi*, *Lithodes antarcticus*, *Pagurus forceps*, *Eurypodius latreillei*, *Peltarion spinosulum*.
- Sta. 34. Puerto Edén, between peninsula and house; 49° 08' 29" S., 74° 26' 40" W.; 32m, hard grey sand; dredge. *Pinnixa valdiviensis*.
- Sta. 37. Puerto Edén, entrance to Caleta Lackawana; 49° 10' 32" S., 74° 25' 52" W.; 18m, sand, rock, shell; dredge. *Pinnixa valdiviensis*.
- Sta. 39. Puerto Edén, N. of Caleta Lackawana, W. side of Canal Sur; 49° 09' 52" S., 74° 26' 08" W.; intertidal boulder beach; hand collecting and collection from *Macrocystis* fronds and holdfasts. *Halicarcinus planatus*, *Acanthocyclus albatrossis*.
- Sta. 40. Isla Dulce and Isla Levinson, Puerto Edén; 49° 09' 02" S., 74° 25' 10" W.; intertidal and sublittoral granitic gneiss rocks; hand collecting. *Acanthocyclus albatrossis*.
- Sta. 41. Puerto Edén; 49° 07' 50" S., 74° 26' 03" W.; 12m, sandy mud; dredge. *Peltarion spinosulum*.
- Sta. 42. Puerto Edén; 49° 08' 08" S., 74° 26' 35" W.; 14–18m, grey sand; dredge. *Munida subrugosa*.
- Sta. 45. Isla Harewood, Puerto Edén; 49° 07' 35" S., 74° 24' 30" W.; intertidal granitic gneiss rocks; hand collecting. *Acanthocyclus albatrossis*.
Between Isla Wellington and Isla Navarino
- Sta. 47. Small island in the channel between E. side of Isla Guarello and Isla Madre de Dios; 50° 25' S., 75° 20' W.; intertidal limestone rocks; hand collecting. *Halicarcinus planatus*.
- Sta. 48. Leckey's Retreat, Isla Piazzzi; 51° 43' 13" S., 72° 52' W.; intertidal basaltic rock; hand collecting. *Halicarcinus planatus*.
- Sta. 49. Bahía Muñoz Gamero; 52° 20' S., 73° 32' W.; intertidal basaltic rock; hand collecting and collection from *Macrocystis* holdfasts. *Eurypodius latreillei*, *Halicarcinus planatus*, *Acanthocyclus albatrossis*.
Isla Navarino and vicinity
- Sta. 50. Puerto Williams, Isla Navarino, opposite house; 54° 55' 40" S., 67° 39' W.; intertidal boulder beach; hand collecting. *Eurypodius latreillei*, *Halicarcinus planatus*.

- Sta. 51. Puerto Williams, 3 miles E. of settlement; 54° 55' 30" S., 67° 34' 30" W.; intertidal argillite rock; hand collecting and collection from *Macrocystis* fronds and holdfasts. *Paralomis granulosa*, *Eurypodius latreillei*, *Halicarcinus planatus*.
- Sta. 52. W. side of Puerto Robalo, Isla Navarino; 54° 55' 50" S., 67° 41' 40" W.; intertidal argillite rock; hand collecting and collection from *Macrocystis* fronds and holdfasts. *Halicarcinus planatus*.
- Sta. 54. Puerto Grandi, Isla Bertrand; 55° 12' S., 67° 55' 30" W.; boulder beach; intertidal hand collecting. *Halicarcinus planatus*, *Acanthocyclus albatrossis*.
- Sta. 57. Caleta San Martín, Isla Hermite; 55° 51' S., 67° 32' W.; intertidal granitic rock; hand collecting. *Halicarcinus planatus*.
- Sta. 59. Puerto Toro, Isla Navarino; 55° 4' S., 67° 4' W.; intertidal granitic rocks; hand collecting. *Pagurus forceps*, *Halicarcinus planatus*, *Acanthocyclus albatrossis*.
- Sta. 64. Puerto Williams; 54° 55' 20" S., 67° 55' 35" W.; 7–8m, sandy mud among *Macrocystis*. *Chorismus antarcticus*, *Eurypodius latreillei*.
- Sta. 65. Puerto Williams; 54° 55' 30" S., 67° 36' 50" W.; 6–10m, grey mud; dredge. *Peltarion spinosulum*.
- Sta. 66. Puerto Williams; 54° 55' 35" S., 67° 36' 50" W.; 2–4m, grey mud with boulders; dredge. *Chorismus antarcticus*, *Eurypodius latreillei*.
- Sta. 68. Puerto Williams; 54° 55' 40" S., 67° 36' 50" W.; 0–5m; collection by diving. *Eurypodius latreillei*, *Halicarcinus planatus*, *Peltarion spinosulum*.
- Sta. 73. Seno Grandi, small island opposite Puerto Grandi; 55° 15' S., 67° 56' W.; collection from *Macrocystis* fronds and holdfasts. *Chorismus antarcticus*, *Halicarcinus planatus*.
- Sta. 74. Seno Grandi, peninsula on Isla Navarino opposite Puerto Grandi; 55° 11' 20" S., 67° 56' W.; from *Macrocystis* fronds and holdfasts. *Chorismus antarcticus*, *Pagurus forceps*, *Halicarcinus planatus*.
- Sta. 75. Seno Grandi, point on Isla Navarino E. of Río Grande; 55° 11' 20" S., 67° 52' 30" W.; intertidal volcanic rocks, sheltered; hand collecting. *Eurypodius latreillei*, *Halicarcinus planatus*, *Acanthocyclus albatrossis*.
- Sta. 77. Puerto Grandi, Isla Bertrand, to the W. of the wharf; 55° 12' S., 67° 55' 30" W.; intertidal granitic rocks and boulder beach, semi-sheltered; hand collecting and collection by diving among *Macrocystis*. *Pagurus forceps*, *Halicarcinus planatus*, *Acanthocyclus albatrossis*.

SYSTEMATIC ACCOUNT

MACRURA

Family PANDALIDAE

***Austropandalus grayi* (Cunningham)**

Hippolyte grayi Cunningham, 1871, p. 496, Pl. 59, fig. 8.

Austropandalus grayi, Holthuis, 1952, p. 16, text-figs. 3–4 (synonymy).

LOCALITIES:

Sta. 25, Puerto Edén, Isla Wellington, 19.xii.1958, 1 ♀ ovig.

Sta. 33, Puerto Edén, 17.xii.1958, 1 ♀ ovig.

MEASUREMENTS: Oviparous females, 7 to 8.5mm (carapace length).

RANGE: Firmly recorded from Calbuco, Llanquihue, southern Chile to Isla Wollaston off southern Tierra del Fuego. Records from northern Chile and from near Rio de Janeiro, Brazil, are discussed by Holthuis (1952). Recorded depths 5 to 225 metres (3 to 124 fathoms).

REMARKS: The lack of exopods on the third maxillipeds, the presence of arthrobranchs and epipods on the first four pereopods, the presence of dorsal immovable teeth on the rostrum, and the truncate posterior lobe of the scaphognathite place these pandalids in the genus *Austropandalus* Holthuis. Expressing the number of dorsal teeth on the carapace behind the orbit first in parenthesis, followed by the number of dorsal rostral teeth, then with the number of ventral teeth to the right of the stroke, both specimens have a rostral formula of (3)+4/4, and the extensive unarmed portion of the dorsal rostral margin between the small subapical tooth and the next rostral tooth so characteristic of this species (see Holthuis, 1952, fig. 3). The systematic position of *Austropandalus* is discussed by Yaldwyn (1960, p. 28) in connection with the related southern genus *Notopandalus*. Both are monotypic, the latter consisting of *N. magnoculus* (Bate) from the New Zealand shelf and continental slope.

Family HIPPOLYTIDAE

Chorismus antarcticus (Pfeffer)

Hippolyte antarctica Pfeffer, 1887, p. 51, Pl. 1, figs. 22-27.

Chorismus antarcticus, Holthuis, 1952, p. 59 (synonymy).

LOCALITIES:

Sta. 64, Puerto Williams, Isla Navarino, 21.i.1959, 2 ♀.

Sta. 66, Puerto Williams, 22.i.1959, 4 ♂, 3 intersex, 5 ♀.

Sta. 73, Seno Grandi, Isla Navarino, 5.ii.1959, 1 ♂.

Sta. 74, Seno Grandi, 5.ii.1959, 1 ♀.

MEASUREMENTS: Males, 6.5 to 10mm; intersex, 10 to 10.5mm; females, 11 to 13mm (carapace length).

RANGE: Puerto Bueno, Canal Smith, southern Chile, through Strait of Magellan and Antarctic circumpolar (see Holthuis, 1947, p. 13; Yaldwyn, 1965). Recorded depths 0 to 900 metres (0 to 492 fathoms).

REMARKS: The lack of arthrobranchs and supraorbital spines, the presence of an incisor process and a three-segmented palp on the mandible, as well as the 10- to 12-segmented carpus of the second pereopods, identify these hippolytids with the genus *Chorismus*. The rostral formulae of the 16 specimens varied within the limits (1-2)+3-5/5-7, but the characteristic rostral shape (relatively short and broad with reasonably evenly spaced dorsal teeth) and profile of the third abdominal segment (pronounced bend but no dorsal tubercle) confirm their identification as the Magellanic and Antarctic *C. antarcticus*.

In the specimens from Sta. 64 the body was "olive brown with blue spots".

One female specimen, with a carapace length of 13mm, had a large parasitic isopod within the right branchial chamber.

Protandrous hermaphroditism in *Chorismus antarcticus*:

An examination of the Sta. 66 sample clearly establishes that *C. antarcticus* is a protandrous hermaphrodite. There are four males with carapace lengths between 6.5 and 10mm. These have a relatively large appendix masculina on the

second pleopod (subequal to the appendix interna in the smaller specimens but much shorter in the larger) with several slender, terminal spines, and functional male genital openings on the bases of the fifth pereopods. The three intersex specimens, with carapace lengths of 10 and 10.5mm, have a very small to vestigial appendix masculina, but no genital openings on the fifth pereopods. The five females, with carapace lengths of 12 to 13mm, have no trace of an appendix masculina, and, though not ovigerous, have deeper abdominal pleura than those of the males.

The same sequence of changes is described in detail by Yaldwyn (1960, pp. 24–26) when the Australasian, archibenthal slope species *Campylonotus rathbunae* Schmitt was shown to be a protandrous hermaphrodite. This record was the first for the family Campylonotidae, though the phenomenon is well known in the northern commercial pandalids and has been recorded in the hippolytid genus *Lysmata*. Thus *Chorismus* is the second hippolytid genus in which protandry has been recognised. (For summary of sex reversal in Decapoda see Carlisle, 1959, p. 494.)

ANOMURA

Family LITHODIDAE

Lithodes antarcticus Jacquinot

Lithodes antarctica Jacquinot, 184–, Pl. 7; Pl. 8, figs. 9–14.

Lithodes antarcticus, Haig, 1955, p. 13 (synonymy).

LOCALITIES:

Sta. 25, Puerto Edén, Isla Wellington, 19.xii.1958, 1 ♂.

Sta. 33, Puerto Edén, 17.xii.1958, 1 juv.

MEASUREMENTS: Male, 60.8mm; juvenile, 20.6mm.

RANGE: N. end of Isla Chiloé southward, around southern end of South America and through the Strait of Magellan to Tierra del Fuego. Shore to 150 metres (82 fathoms).

REMARKS: These olive green or rose-coloured crabs were dredged between 6 and 12 metres.

Paralomis granulosa (Jacquinot)

Lithodes granulosa Jacquinot, 184–, Pl. 8, figs. 15–21.

Paralomis granulosa, Haig, 1955, p. 14 (synonymy).

LOCALITY:

Sta. 51, Puerto Williams, Isla Navarino, 25.i.1959, 1 ♂.

MEASUREMENTS: Male, 65.0mm.

RANGE: Paso Tenaun (E. coast of Isla Chiloé) southward, around southern end of South America and through the Strait of Magellan to Tierra del Fuego and Falkland Islands. Shore to 100 metres (55 fathoms).

REMARKS: The single specimen of this species was collected intertidally in the *Lessonia* zone. It was reddish purple mottled with white, and with tips of legs and claws black.

Family PAGURIDAE

Pagurus forceps H. Milne Edwards

Pagurus forceps H. Milne Edwards, 1836, p. 272, Pl. 13, fig. 5.

Pagurus forceps, Haig, 1955, p. 19 (synonymy).

LOCALITIES:

Sta. 25, Puerto Edén, Isla Wellington, 19.xii.1958, 1 ♀.

Sta. 33, Puerto Edén, 17.xii.1958, 3 ♂, 3 ♀.

Sta. 59, Puerto Toro, Isla Navarino, 14.i.1959, 1 ♂.

Sta. 74, Seno Grandi, Isla Navarino, 5.ii.1959, 2 ♀.

Sta. 77, Puerto Grandi, Isla Bertrand, 7.ii.1959, 1 ♂.

MEASUREMENTS: Males, 9.8 to 12.2mm; females, 5.8 to 7.7mm.

RANGE: Coquimbo southward, through the Strait of Magellan and around the southern end of South America to Tierra del Fuego and Falkland Islands. Shore to 320 metres (175 fathoms).

REMARKS: The specimens were collected intertidally, by diving among *Macrocystis*, and by dredge in depths between 6 and 12 metres. A male and a female from Sta. 33 were parasitised by *Peltogaster*.

Family GALATHEIDAE

Munida subrugosa (White)

Galathea subrugosa White, 1847, p. 66.

Munida subrugosa, Haig, 1955, p. 38, text-fig. 10 (synonymy).

LOCALITIES:

Sta. 25, Puerto Edén, Isla Wellington, 19.xii.1958, 1 ♀.

Sta. 42, Puerto Edén, 16.xii.1958, 1 ♀ ovig.

MEASUREMENTS: Non-ovigerous female, 16.5mm; ovigerous female, 22.1mm.

RANGE: Seno de Reloncaví southward, through the Strait of Magellan and around the southern end of South America, and northward on the Atlantic coast to Montevideo, Uruguay; Falkland Islands; also New Zealand and its subantarctic islands, and south of Australia. Shore to about 1,095 metres (600 fathoms).

REMARKS: The two specimens were dredged between 6 and 18 metres on sand bottoms. The ovigerous female from Sta. 42 was infested with a parasitic isopod.

Family PORCELLANIDAE

Petrolisthes tuberculatus (H. Milne Edwards)

Porcellana tuberculata H. Milne Edwards, 1837, p. 256.

Petrolisthes affinis, Haig, 1955, p. 50, text-fig. 12 (synonymy).

Petrolisthes tuberculatus, Haig, 1960, p. 66, text-fig. 3(2), Pl. 24, fig. 4 (synonymy).

LOCALITY:

Sta. 7, Punta Pulga, Isla Chiloé, 10.x.1958, 2 ♂, 3 ♀ (2 ovig.).

MEASUREMENTS: Males, 17.7 and 20.6mm; non-ovigerous female, 11.4mm; ovigerous females, 18.4 and 21.8mm.

RANGE: Bahía de San Juan, Peru, south to Isla Chiloé. Littoral.

REMARKS: Collected on a sandstone platform from under stones and in pools, mid-littoral and lower upper-littoral. This species was reported only once from Isla Chiloé, without a more specific locality; the above record shows that it is established on the outer coast of the island.

Petrolisthes laevigatus (Guérin)

Porcellana laevigata Guérin, 1835, p. 115.

Petrolisthes laevigatus, Haig, 1955, p. 45 (part; not all synonymy).

Petrolisthes laevigatus, Haig, 1960, p. 97, Pl. 28, fig. 2 (synonymy).

LOCALITIES:

Sta. 3, Punta Gaviota, Isla Chiloé, 3.x.1958, 2 ♂, 3 ♀ ovig.; Oct. 1958, 2 ♀.

Sta. 17, Rilán, 20.xi.1958, 1 ♂, 3 ♀.

MEASUREMENTS: Males, 7.1 to 24.7mm; non-ovigerous females, 13.4 to 14.2mm; ovigerous females, 11.7 to 18.0mm.

RANGE: Península de Coquimbo south to Canal Messier. Littoral.

REMARKS: Collected intertidally; at Punta Gaviota on the under side of rocks in the lower limit of the *Iridea* zone. The Punta Gaviota record is the first for this species on the outer coast of Isla Chiloé.

Allopetrolisthes angulosus (Guérin)

Porcellana angulosa Guérin, 1835, p. 115.

Petrolisthes angulosus, Haig, 1955, p. 46 (synonymy).

Allopetrolisthes angulosus, Haig, 1960, p. 180, text-fig. 6(1), Pl. 35, fig. 4 (synonymy).

LOCALITIES:

Sta. 3, Punta Gaviota, Isla Chiloé, 5.x.1958, 8 ♂, 5 ♀ (4 ovig.).

Sta. 4, Punta Gaviota, 11.x.1958, 2 ♂, 2 ♀ ovig.

Sta. 7, Punta Pulga, Isla Chiloé, 10.x.1958, 4 ♂, 2 ♀ ovig.; 11.x.1958, 3 ♂ (juv.), 3 ♀ (juv.).

MEASUREMENTS: Males, 4.0 to 18.8mm; non-ovigerous females, 3.6 to 10.2mm; ovigerous females, 7.3 to 15.7mm.

RANGE: Paita, Peru, south to Calbuco and north end of Isla Chiloé. Shore to 18 metres (10 fathoms).

REMARKS: Collected intertidally; at Punta Pulga on a sandstone platform from under stones and in pools, mid-littoral and lower upper-littoral. The southernmost point from which this species has been reported is Península Laqui on the northern end of Isla Chiloé, at 41° 47' S. The Punta Gaviota and Punta Pulga records extend the known range southward, and are the first of the species' occurrence on the outer Chiloé coast.

BRACHYURA

Family MAJIDAE

Eurypodius latreillei Guérin

Eurypodius latreillei Guérin, 1828, p. 354, Pl. 14, figs. 1-11.

Eurypodius latreillei, Garth, 1957, p. 19 (synonymy).

Eurypodius latreillei, Boschi, 1964, p. 27, Pl. 1, fig. b; Pl. 5, fig. 1.