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**A NEW SPECIES OF HERMIT CRAB
FROM NATAL, SOUTH AFRICA
(DECAPODA, ANOMURA, PAGURIDAE)**

by

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While examining some molluscan material trawled off Durban, Mr. R. N. Kilburn of the Natal Museum found some hermit crabs in the shells of *Babylonia* sp. and *Tanea* sp. As the mollusc shells were unusual records, Mr. Kilburn submitted the pagurids to the South African Museum for identification. On examination, the hermit crabs were found to be an undescribed species of *Parapagurus*.

***Parapagurus kilburni* sp. nov.**

Description: Cephalothoracic shield wider than long, slightly longer than posterior thoracic region, measured in mid-dorsal line. No distinct rostral point present, but a slightly rounded longitudinal ridge. Eyes distally expanded, reaching to just beyond midpoint of second antennular peduncle segment. Ocular scale acute, spinose. Basal antennular peduncle segment with two spines on outer margin, single distal spine ventrally; second peduncle segment equal in length to basal segment; third segment elongate, distally slightly expanded, little more than twice length of second segment.

Antennal scale reaching slightly beyond base of flagellum, armed with six spines proximally, apex acute. Basal peduncle segment with ventral spine and shorter spine on inner distal angle; third peduncle segment equal to first and second segments together. Third maxilliped with endopodite longer than exopodite, of six segments, ischium

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with row of small spines near median face. Exopodite of three segments, median segment elongate, distal segment reflexed on second, bearing short flagellum.

Right cheliped longer and stronger than left, chelae variable, from one and a half times to twice longer than broad. Dactylus equal in length to length of inner margin of hand. Outer margin of hand and thumb bearing irregular double row of short spines. Inner margin of hand with irregular band, two to three spines wide. Outer margin of dactylus with single row of spines. Upper surface of hand and fingers smooth, with fine pile of setae; lower surface of hand with scattered granules. Tip of finger and thumb calcareous, overlapping slightly. Carpus half length of chela, distally broader than proximally, bearing scattered spines and fine silky hairs on upper surface, forming irregular band on inner margin; lower surface with scattered tubercles. Merus only slightly shorter than carpus, lower surface only bearing rounded tubercles. Left cheliped reaching to midpoint of hand of right chela two and two-thirds longer than wide. Inner margin of hand two-thirds length of fingers. Fine, silky hairs on palm and fingers. Outer margin of hand with few low tubercles. Carpus two-thirds length of chela, distal margin armed with three spines, single row of spines on upper surface, with long, fine, silky hairs. Merus with few scattered ventral tubercles.

Ambulatory pereopods two and three both extending beyond right cheliped. Dactylus slender, elongate, proximal two-thirds straight, bearing few stiff bristles, distal third ventrally curved, bearing cluster of more elongate bristles. Propodus three-quarters length of dactylus, twice as broad, with dorsal row of serrulations bearing short bristles in their axes. Carpus about half length of propodus, width two-thirds of length, with dorsal row of serrulations and single disto-dorsal spine. Merus twice length of carpus, bearing small, scattered ventral tubercles.

Fourth and fifth pereopods subequal, propodus of fourth with ventral margin formed by series of serrulations. Rasp on propodus of fifth pereopod covering less than half of outer surface.

First pleopod uniramous, proximally narrow, distally lamellar and slightly curved. Second pleopod biramous, exopodite represented by tiny triangular rudiment at distal end of elongate basis. Endopod equal in length to basis, leaf-shaped, twisted. Unpaired pleopods 3 - 5 biramous.

Left uropod twice length of right. Telson with right half suppressed, bearing several distal marginal spines; left half with two rows of marginal spines, long and short spines sometimes alternating.

Colour notes: Right cheliped with finger and thumb white, upper surface of hand pale pink, with orange-red flare at base of fingers. Merus with transverse orange-red stripe distally, and longitudinal stripe on inner surface. Left chela similar to right. Second and third pereopods with dactylus bearing slight orange-red stripe on outer surface. Propodus with two orange-red stripes on outer surface. Carpus with two strong longitudinal stripes.

Material: 5 ♂♂ trawled from about 270 m depth, off Durban.

Cat. No.	mid-dorsal length of cephalothora- cic shield	length of right chela	width of right chela
Holotype A13185	7,5 mm	17,2 mm	9,4 mm
Paratype A13186	7,5 mm	17,6 mm	10,0 mm
Paratype A13186	6,0 mm	12,8 mm	7,2 mm
Paratype A13186	7,0 mm	12,9 mm	5,5 mm
Paratype A13186	6,2 mm	missing	missing

Discussion: The obsolescent rostral point, spiniform ocular scale, unequal chelipeds, calcareous chela tips, elongate dactyls of pereopods two and three, the telson suppressed on the right side, the first and second pleopods paired, and three unpaired pleopods on the left side in the male, and a non-protruding vas deferens, all place the present material in the genus *Parapagurus* Smith (Barnard, 1950: 450).

The present material is closely related to *P.gracilipes* (A. Milne-Edwards, 1891) which has been recorded from Morocco, the Cape Verde Islands, and the Açores, at depths of about 800 m. In the character of the ambulatory pereopods, and especially in the dactyli, and in the first and second pleopods, the present material agrees well with the Atlantic species. Several differences found in all five specimens of the present material, do exist. The antennal scale extends beyond the base of the antennal flagellum, as in *Parapagurus macrocerus* Forest, from off the Congo coast. From Forest's table (1955: 104), this does not occur in *P.gracilipes*. There are further similarities between the Congo species and the present material.

The form of the right cheliped in the present material is variable, three specimens agreeing well with Forest's figure of *P. macrocerus* (pl. 3, fig. 1), while the fourth is close to the more elongate form of *P. macrocerus* (pl. 3, fig. 7) or that of *P. gracilipes* (pl. 3, fig. 8). None of the four specimens resembles Milne-Edwards & Bouvier's figures (1894, pl. 9, figs 24, 25) of the right cheliped of *P. gracilipes*, which does not appear to have as spinose a chela or carpus as the present material.

The telson of the present material differs from both the aforementioned species, having more numerous and smaller spines than *P. macrocerus*, and being more asymmetrical than *P. gracilipes*. The first and second pleopods are identical to those of *P. gracilipes* as figured by Forest (1955, pl. 3, figs 9 and 10), especially in the possession of a rudimentary exopod, which is lacking in *P. macrocerus*. The third to fifth pleopods do not resemble those of *P. gracilipes*, having a more elongate exopod, and a much shorter endopod. The fifth pereopod rasp covers a larger surface area than in *P. gracilipes* but does not reach the proximal third of the segment as in *P. macrocerus*.

The present species, together with the two Atlantic species, would seem to form a species-complex needing much more investigation. With three known isolated populations represented by a very few specimens, the present state with three separate species is probably the most satisfactory. Further collecting may reveal that three species do indeed exist, or that one or more variable species are involved.

ACKNOWLEDGEMENTS

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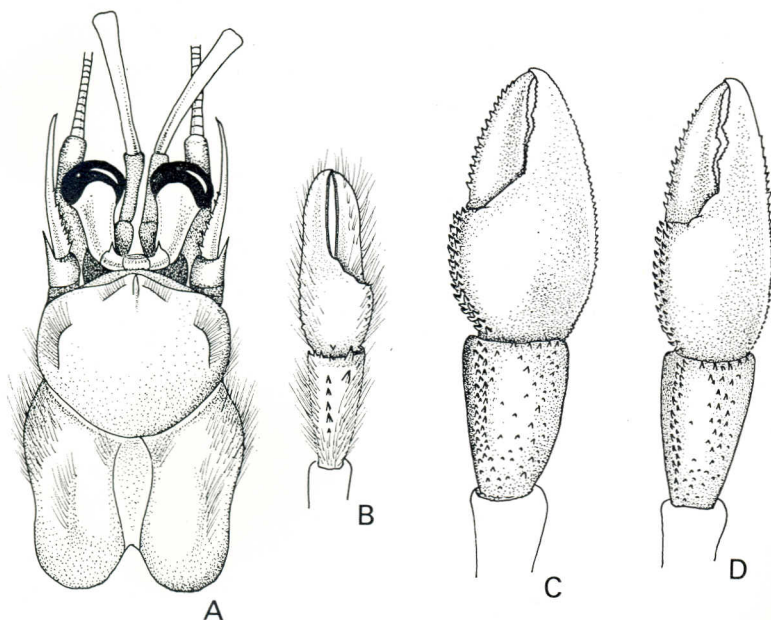


FIGURE 1

Parapagurus kilburni, sp. nov.

- A. Holotype; cephalothorax in dorsal view.
 B. Left cheliped.
 C. and D. Right chelipeds, showing variation in proportions.

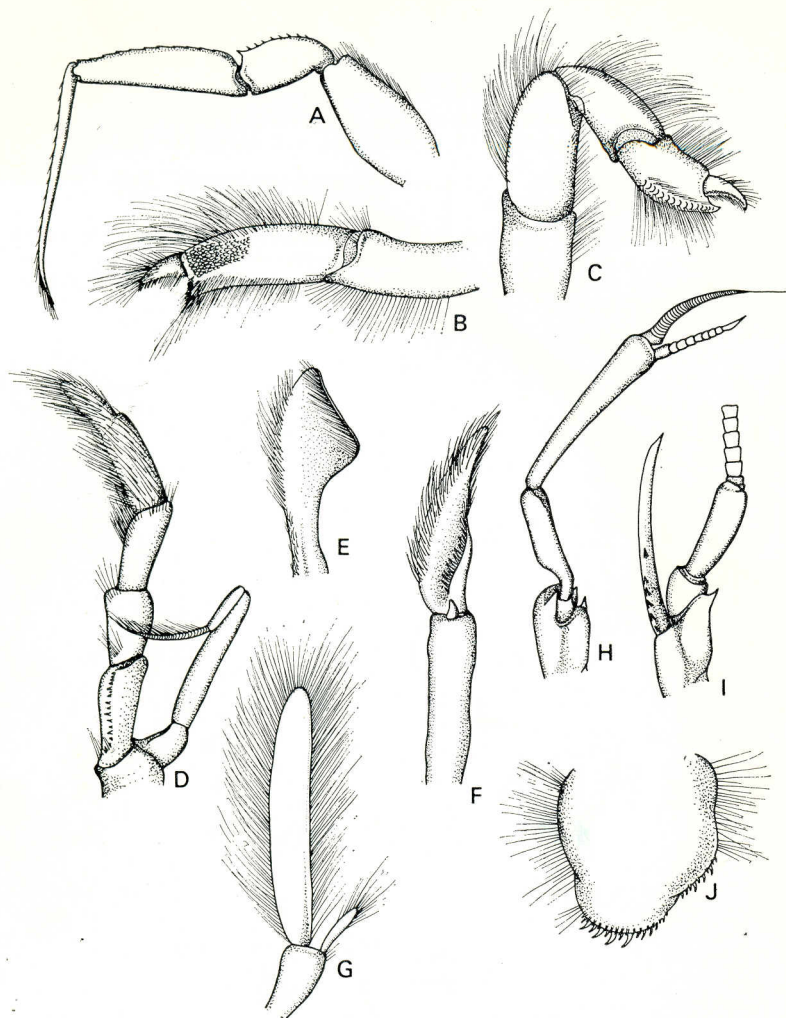
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FIGURE 2

Parapagurus kilburni, sp. nov.

- | | |
|---------------------|-------------------|
| A. Second pereiopod | F. Second pleopod |
| B. Fifth pereiopod | G. Third pleopod |
| C. Fourth pereiopod | H. Antennule |
| D. Third maxilliped | I. Antenna |
| E. First pleopod | J. Telson |