

**A NEW GENUS AND SPECIES OF PORTUNID CRAB
(CRUSTACEA: DECAPODA: BRACHYURA) FROM NEW CALEDONIA,
SOUTH-WEST PACIFIC**

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ABSTRACT. – A new genus and species of portunid crab, *Richerellus moosai*, is described from five specimens collected in the New Caledonian lagoon, at depths of 15-20 and 50 m. The closest genus to *Richerellus* is *Carupa* Dana, 1851, and thus *Richerellus* is included in the subfamily Carupinae Paulson, 1875. *Richerellus* differs from *Carupa* by several characters of which the most remarkable are the number of anterolateral teeth of the carapace and the cheliped length.

KEY WORDS. – New Caledonia, Crustacea, Brachyura, Portunidae, *Richerellus*, new genus, new species, taxonomy.

INTRODUCTION

During the French program Lagon devoted to the study of the New Caledonian lagoon and conducted between 1984 and 1992 by IRD (Institut de Recherche pour le Développement) Center of Nouméa, a total of more than 1300 dredgings and trawlings were made throughout the lagoon. The fauna thus collected is very varied and abundant, but only partially studied until now. In the samples collected, five specimens of the family Portunidae were found to represent a new genus and species and are described herein.

MATERIAL AND METHODS

The measurements given in the text are of carapace length (l) followed by width (w). All measurements are in millimetres. The specimens are deposited in the Muséum national d'Histoire naturelle, Paris (MNHN) and in the Zoological Reference Collection, Raffles Museum, Singapore (ZRC).

TAXONOMY

FAMILY PORTUNIDAE RAFINESQUE, 1815

SUBFAMILY CARUPINAE PAULSON, 1875

Richerellus, new genus

Type Species. – *Richerellus moosai*, new species.

Diagnosis. – Carapace slightly oval transversally, smooth, without well defined regions. Front broad, bilobed, without distinct inner orbital lobes. Anterolateral margins of carapace with four prominent teeth, the posterior ones sharp and slender. Basal antennal segment slender, twice as long as broad. Antennal flagellum entering orbit. Third maxilliped merus slightly longer than wide, with the antero-external angle barely produced. Ocular peduncle short and thick, lacking tubercle on anterodistal border in front of cornea. Chelipeds large, unequal, longer than other pereopods, lacking pronounced carinae; merus long, bearing 2-4 strong, sharp teeth on anterior border; carpus with 2 spinous teeth; outer surfaces of chelae without teeth. Pereiopods 2-4 slender, long. Pereiopod 5 with propodus and dactylus widened, flat, forming swimming paddle. Male abdomen triangular; third to fifth segments fused. First male pleopod rather stout throughout its length, sinuous, with a slightly bilobed distal part.

Etymology. – The genus is dedicated to Bertrand Richer de Forges (IRD), in recognition of over 20 years of work that immensely improved our knowledge of the marine fauna of the South West Pacific.

Remarks. – Although I classify without hesitation the species described herein in the family Portunidae and think it necessary to create a new genus, *Richerellus*, for it, the placement of this new genus in one of the present subfamilies of the family Portunidae is less evident.

Amongst the portunid genera, *Richerellus* seems closest to *Carupa*. It shares with it the general shape of the carapace,

transversally oval, smooth, without pronounced regions and with dentate anterolateral margins; the wide front; the antenna with the basal segment slender, twice as long as broad and a flagellum entering the orbit; the ocular peduncle without tubercle; the general shape and ornamentation of the chelipeds; the slenderness and the length of the second to fourth pereopods; the paddle-shaped fifth pereopod; the general shape of the male abdomen; and the first male pleopod remaining rather stout along all its length.

Richerellus differs from *Carupa* by the bilobed front (instead of quadrilobed), the inner orbital lobes indistinct (instead of faintly distinct), the anterolateral margin of the carapace cut into 4 teeth (instead of 7 teeth); the chelipeds elongated, longer than the other pereopods, smooth, without pronounced carinae (instead of being shorter than the other pereopods, stouter and with carinae more pronounced); the second abdominal segment with a carina along all its breadth (instead of uncarinated); the first male pleopod sinuous (instead of straight in its basal part, then regularly curved) and slightly bilobed in its distal part.

On these characters, *Richerellus* seems to belong to the subfamily Carupinae Paulson, 1875 (see Apel & Spiridonov, 1998: 170), which currently includes three genera *Libystes*, *Catoptrus* and *Carupa*, although these seem too different from one another to be placed in the same subfamily (see Serène, 1966). However this is a difficult question and it is not in our intention to treat it here.

***Richerellus moosai*, new species**

(Figs. 1-5)

Material examined. – Holotype – 1 male holotype, 11.5 x 16.8 mm (MNHN-B 22837), New Caledonia, east lagoon, program Lagon, stn 672, 21°41.4'S, 166°23.2'E, 15-20 m, oyster shells with mud, 8 Aug.1986.

Paratypes – 1 juv., 4.7 x 6.2 mm (MNHN-B 22839), New Caledonia, east lagoon, program Lagon, stn 656, 21°49.1'S, 166°32.5'E, 30-40 m, coarse sand and mud, coral rubble, foraminifers, 8 Aug.1986; 1 male, 10.3 x 14.4 mm (ZRC2003.0595), New Caledonia, east lagoon, program Lagon, stn 662, 21°44.0'S, 166°32.0'E, 50 m, coarse sand, coral, 8 Aug.1986; 1 female, 10.6 x 14.2 mm (MNHN-B 22840), New Caledonia, east lagoon, program Lagon, stn 663, 21°42.2'S, 166°30.5'E, 38-40 m, 8 Aug.1986; 1 male, 8.6 x 11.7 mm (MNHN-B 22838), New Caledonia, east lagoon, program Lagon, stn 851, 20°43.7'S, 165°08.3'E, 31 m, mud, stones with red algae, gorgonians, 11 Jan.1987.

Size. – The largest specimen known is the male holotype (11.5 x 16.8 mm).

Description (based on holotype). – Carapace (Fig. 2A) wider than long ($w/l = 1,46$), slightly convex longitudinally and transversally, smooth to naked eye, without pronounced regions or transverse rows of granules; a small and low protuberance at posterior part of protogastric regions and on each lateral side of urogastric region; a low weak groove along anterior and inner parts of branchial regions; another very weak groove joining the 2 protuberances of urogastric region; branchial and cardiac regions slightly swollen.



Fig. 1. *Richerellus moosai*, new genus, new species, male holotype 11.5 x 16.8 mm (MNHN-B 22837).

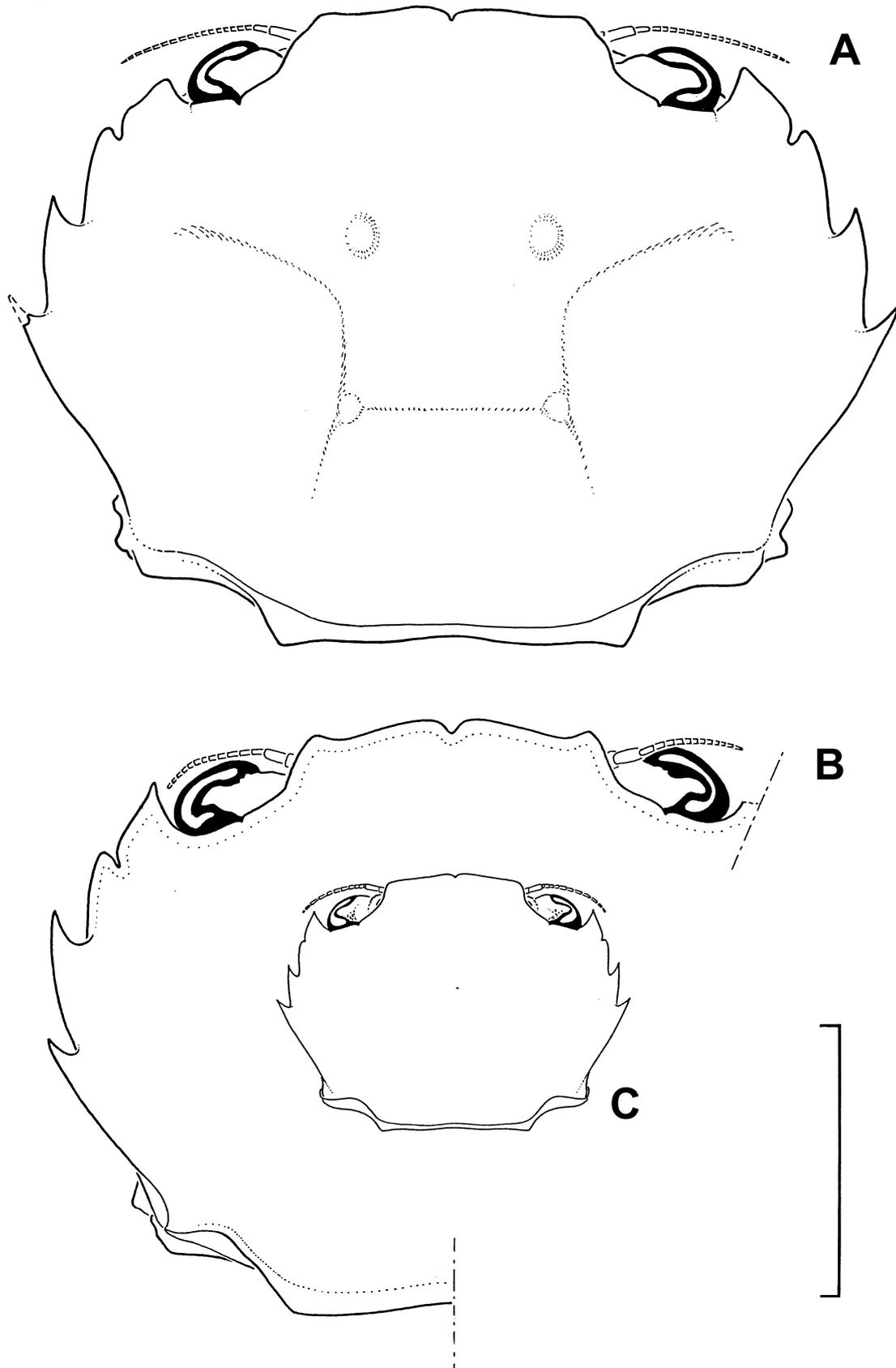


Fig. 2. *Richerellus moosai*, new genus, new species. Carapace: A, male holotype 11.5 x 16.8 mm (MNHN-B 22837); B, female paratype 10.6 x 14.0 mm (MNHN-B 22840); C, juvenile paratype 4.7 x 6.2 mm (MNHN-B 22839). Scale = 1 mm.

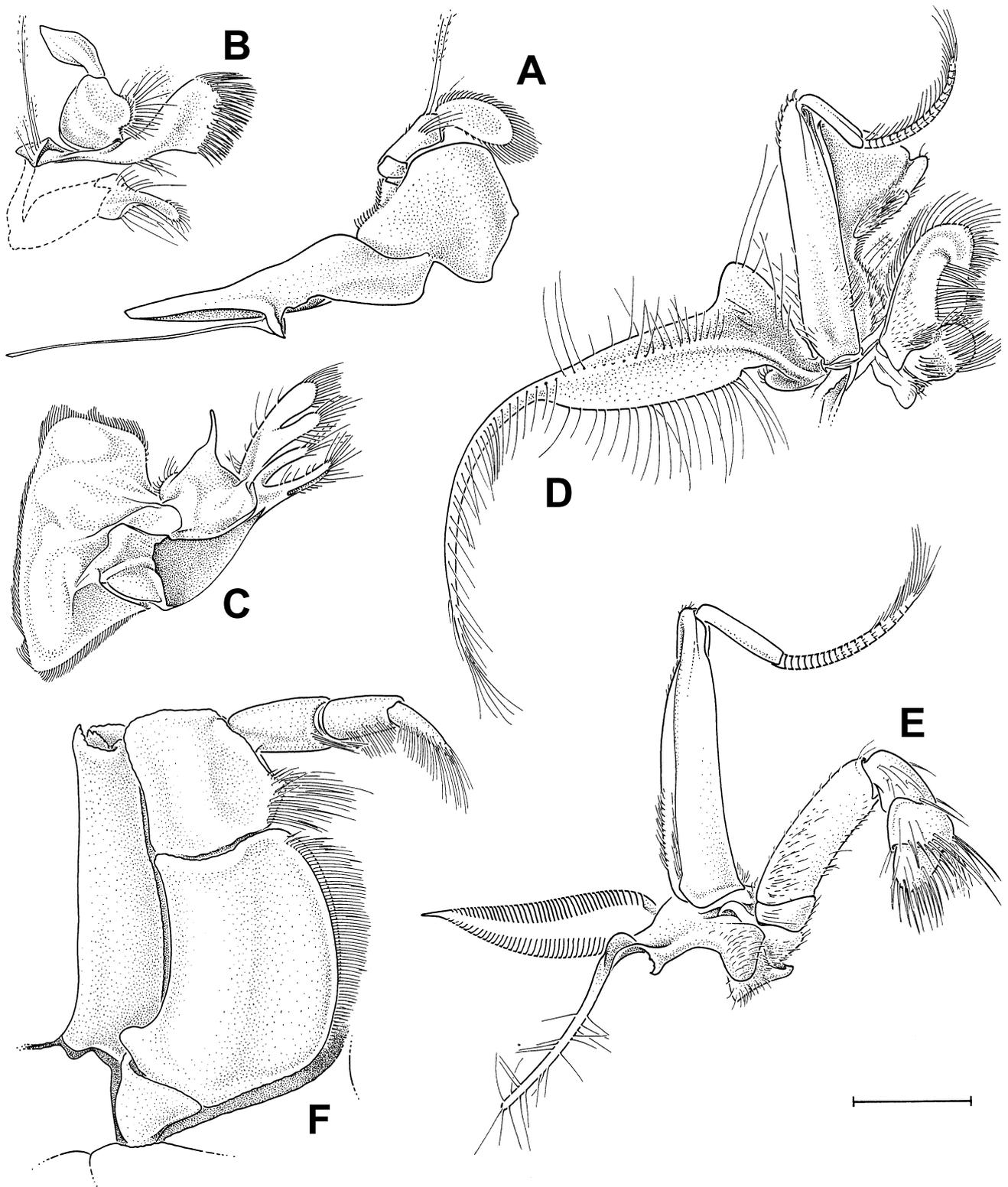


Fig. 3. *Richerellus moosai*, new genus, new species, male paratype 8.6 x 11.7 mm (MNHN-B 22838). A, right mandible (with the tendon of inner adductor muscle); B, right maxillula; C, right maxilla; D, right first maxilliped; E, right second maxilliped; F, right third maxilliped (podobranch and epipodite not represented). Scale = 1 mm.

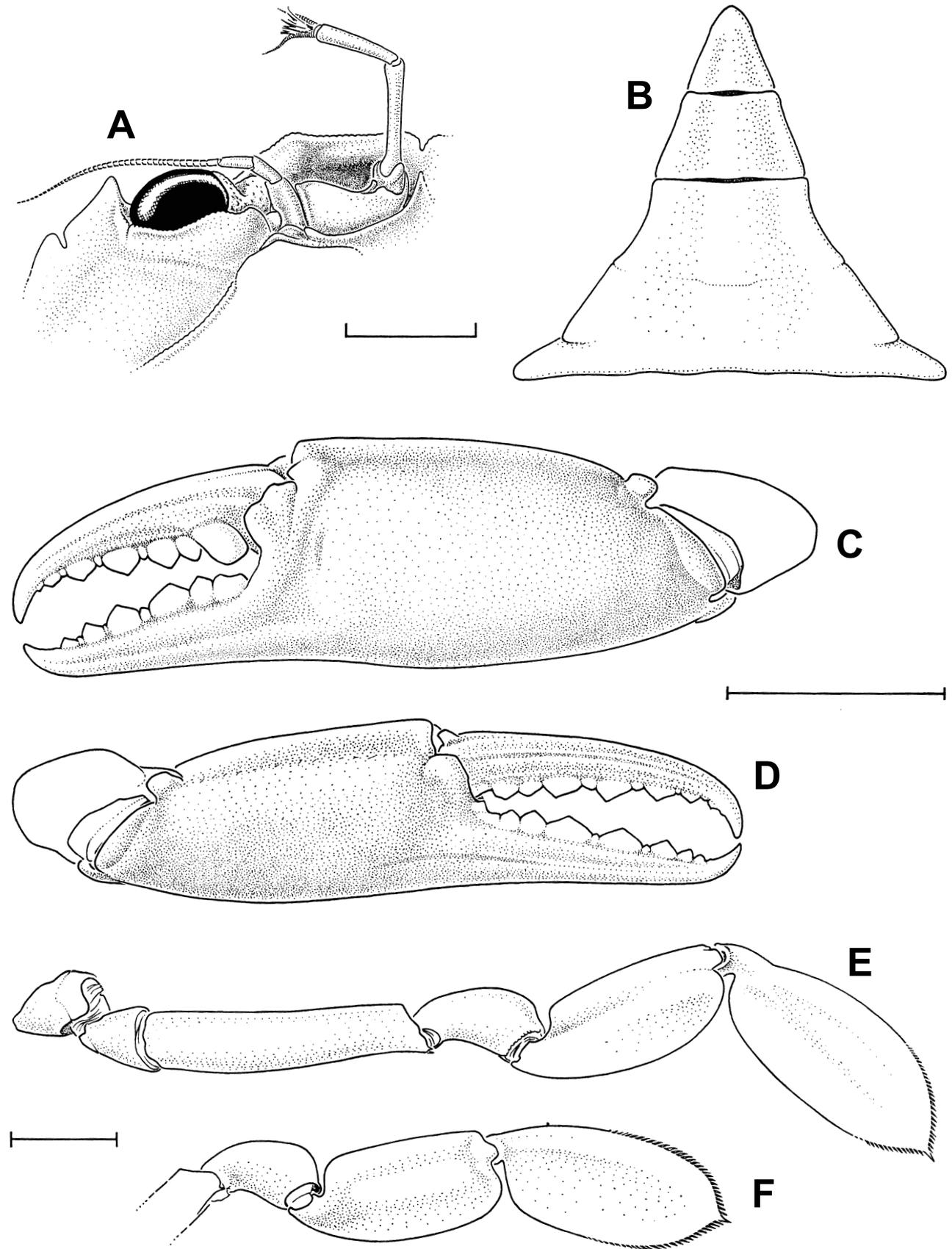


Fig. 4. *Richerellus moosai*, new genus, new species. A-E, male holotype 11.5 x 16.8 mm (MNHN-B 22837); F, female paratype 10.6 x 14.2 mm (MNHN-B 22840). A, antennula, antenna and orbit, ventral view; B, abdomen; C, left chela; D, right chela; E, right P5, dorsal view; F, right P5, carpus, propodus and dactylus, dorsal view. Scales: A, B = 2 mm; C, D = 5 mm; E, F = 2 mm.

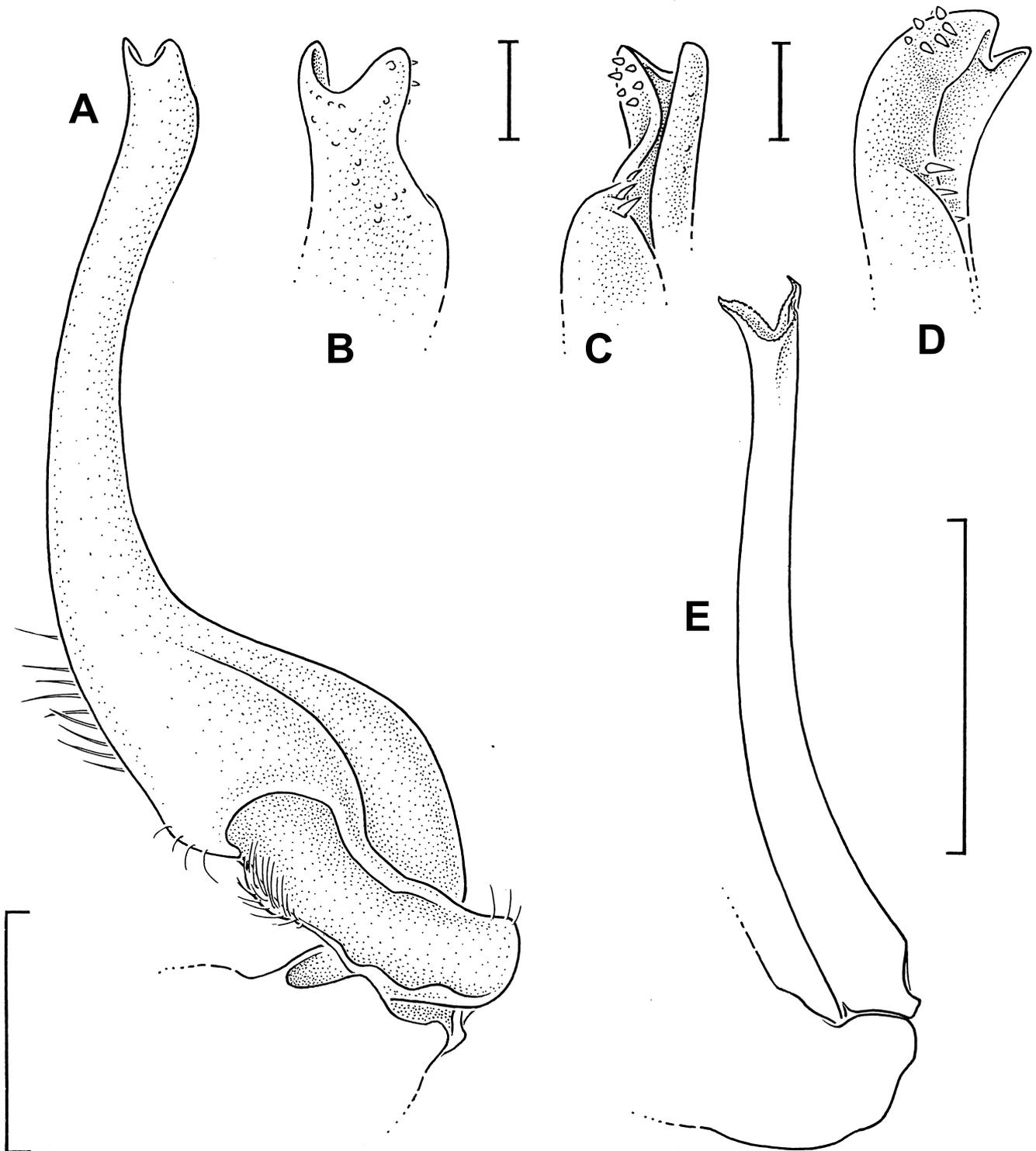


Fig. 5. *Richerellus moosai*, new genus, new species, male holotype 11.5 x 16.8 mm (MNHN-B 22837): A, right first male pleopod, ventral view; B-D, distal part of the same; E, right second male pleopod, ventral view. Scales: A = 1 mm; B-D = 0.2 mm; E = 1 mm.

Front about one-third carapace width, slightly sinuous, with a small notch medially. Internal orbital lobe indistinct. Upper orbital border with 2 fissures, very discrete, particularly the external one. Anterolateral margins of the carapace divided into 4 teeth; the first (exorbital angle) and the 2 following, directed forward, increasing in size distally; distal part of first tooth not very sharp, that of second slightly rounded, that of third very sharp; fourth tooth directed anterolaterally, smaller than third, more slender and acuminate. Posterior margin of carapace about three-quarters carapace width.

Lower orbital border sinuous with a fissure at base of external orbital angle and 2 low lobes on internal part (Fig. 4A). Basal antennal segment slender, twice as long as broad; antennal flagellum entering orbit.

Mouthparts represented on Fig. 3. Anterolateral angle of third maxilliped merus slightly produced.

Chelipeds elongate, unequal (left one strongest), slightly longer than other pereiopods, smooth to naked eye, without granules except on anterior border of merus which bears 4 curved, sharp teeth that increase in size and interval from base to extremity of border. Carpus with 2 spiny teeth, one, strongest, at antero-internal extremity of upper surface, other at antero-external angle of lower surface. Chelae with no ornamentation on palm except for a very faint carina on external border of upper surface; fingers about four-tenths length of large chela and half length of small chela, with a longitudinal groove on external and internal surfaces; external groove of fixed finger extending slightly behind base of finger; dactylus (mobile finger) with a very faint, partial longitudinal groove; cutting margins of fingers with contiguous triangular teeth of variable sizes; a molariform tooth at base of dactylus.

Second to fourth pereiopods elongate (slightly shorter than chelipeds), smooth, glabrous, slender. Dactylus about 1.1 length of propodus.

Fifth pereiopod with propodus-dactylus modified as swimming paddle. Propodus and dactylus respectively 2.25 and 2.5 times as long as wide. Dactylus with a distal denticle.

Male abdomen triangular with a strong transversal carina on first and second segments. Greatest part of first segment hidden. Third to fifth segments fused, suture between them almost invisible. Lateral borders of sixth segment very slightly sinuous, strongly converging forward; ratio of anterior to posterior margin length 0.6. Telson triangular, as long as wide at base, as long as sixth segment, with lateral borders straight and distal part rounded (Fig. 4B).

First male pleopod not very long, sinuous, not becoming very slender distally; without setae but with some spinules in its bilobed distal part (Fig. 5A-D).

Second male pleopod smaller than first, slightly sinuous, with bifid extremity (Fig. 5E).

Coloration. – Orange brown with anterior half of carapace slightly darker than posterior one, and with a straight narrow clear median line. On pereiopods large transversal bands separated by short clearer ones. Fingers of chelae distally whitish.

Variation. – The paratypes agree well with the holotype in most characters. However, the front of the female paratype is more sinuous (Fig. 2B), the first tooth of the anterolateral margin of the carapace is sharper in the juvenile and the female paratype, and no external orbital lobes are visible in the specimens smaller than the holotype. On the other hand, in the juvenile, the second tooth of the anterolateral margin is not well separated from the first (Fig. 2C).

Etymology. – This species is dedicated to Mohammad Kasim Moosa, from Pusat Penelitian dan Pengembangan Oseanologi, LIPI in Djakarta, who has written many papers on the Indonesian Crustacea and, when staying at the Muséum national d'Histoire naturelle in Paris in 1994, recognized several of the specimens studied here as meriting interest.

Distribution. – New Caledonia: East lagoon at depths of 15-20 and 50 meters on muddy or coarse sandy bottoms with many blocks and occasionally gorgonians or coral.

Remarks. – Taking into account the large number of samples collected in the lagoon, it is surprising to note that the species described here was found in only five samples, all from the same small area, on substrates which seem quite common in the lagoon.

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