

A NEW SPECIES OF *NEOPILUMNOPLAX* SERÈNE IN GUINOT, 1969
(DECAPODA, BRACHYURA, MATHILDELLIDAE) FROM THE
SOUTHWESTERN ATLANTIC

BY

MARCOS TAVARES¹⁾ and GUSTAVO A.S. DE MELO²⁾

Museu de Zoologia, Universidade de São Paulo, Ipiranga 04263-000, São Paulo, SP, Brazil

ABSTRACT

Neopilumnoplax lipkeholthuisi sp. nov. is described from the southwestern Atlantic. The new species can be easily separated from its congeners by a suite of carapace and appendage characters.

RÉSUMÉ

Neopilumnoplax lipkeholthuisi sp. nov. est décrite de l'Atlantique sud-occidentale. La nouvelle espèce se sépare aisément de ses congénères par divers caractères de la carapace et des appendices.

INTRODUCTION

Among the material collected during the cruises of the French vessels "CALYPSO" (Forest, 1966) and "PROF. W. BESNARD" from the Oceanographic Institute of the University of São Paulo in the southwestern Atlantic in 1961-1962 and 1968, respectively, were specimens of *Neopilumnoplax* Serène in Guinot, 1969, that resembled *Neopilumnoplax americana* (Rathbun, 1898). Comparison of these specimens with material of all known species of *Neopilumnoplax* (except *N. nieli* Ahyong, 2008, from New Zealand), showed that the southwestern Atlantic specimens belong to an undescribed species. That new species is named herein *Neopilumnoplax lipkeholthuisi* sp. nov.

¹⁾ Corresponding author; e-mail: mdst@usp.br

²⁾ e-mail: gasmelo@usp.br

Abbreviations used include: MNHN (Muséum national d'Histoire naturelle, Paris); MZUSP (Museum of Zoology of the University of São Paulo); USNM (National Museum of Natural History, Smithsonian Institution, Washington, D.C.); carapace length (cl), taken from the front to the posterior margin of the carapace; carapace width (cw), taken at the level of the fourth anterolateral tooth of the carapace; P1 cheliped; P2-P5, pereopods 2 to 5.

SYSTEMATIC ACCOUNT

Family MATHILDELLIDAE Karasawa & Kato, 2003

Neopilumnoplax Serène, in Guinot, 1969

Neopilumnoplax Serène in Guinot, 1969: 689 [footnote]. Type species: *Pilumnus heterochir* Studer, 1883, by original designation. Gender feminine.

Species included. — *Neopilumnoplax americana* (Rathbun, 1898); *Neopilumnoplax gervaini* Tavares & Guinot, 1996; *Neopilumnoplax heterochir* (Studer, 1883); *Neopilumnoplax lipkeholthuisi* sp. nov.; *Neopilumnoplax nieli* Ah Yong, 2008; and *Neopilumnoplax sinclairi* (Alcock & Anderson, 1899).

***Neopilumnoplax lipkeholthuisi* sp. nov.**

(fig. 1A-C)

Type material. — Holotype: female (cl 12.5 mm, cw 17 mm) (MZUSP 20502), “CALYPSO”, stn 170, 37°24'S 54°56'W, 126-132 m, 29 December 1961, leg. P.A. Coelho, 1972. Paratypes: 1 female (MZUSP 20503), 1 female (MNHN-B 32573), “CALYPSO”, stn 170, 37°24'S 54°56'W, 126-132 m, 29 December 1961, leg. P.A. Coelho, 1972; 1 young male (MZUSP 3436), 2 young females (MZUSP 12760), “PROF. W. BESNARD”, Brazil, Rio Grande do Sul, GEDIP, stn 458, 33°29'S 50°44'W, 207 m, 9 December 1968.

Non type material. — 1 damaged juvenile (MZUSP 3675), Brazil, Rio Grande do Sul, GEDIP, stn 458, 33°29'S 50°44'W, 207 m, 9 December 1968.

Comparative material. — *Neopilumnoplax americana* (Rathbun, 1898), holotype: male (cl 7.5 mm, cw 9.6 mm) (USNM 19652), 1 male, 2 females paratypes (USNM 19653), “ALBATROSS”, stn 2415, 30°44'N 79°26'W, 805 m, off Georgia, 1 April 1885; 1 female (USNM 68820), Biological Expedition to the Keys and West Indies, stn 62; 1 male (MZUSP 16943), Brazil, Canopus Bank, 120 miles off Fortaleza, coll. J. Coltro, November 2005; 1 male (MNHN-B 6815), Biological Expedition to the Keys and West Indies, stn 52, Key West, Florida, off American Shoal, 192-201 m; 1 male (MNHN-B 6816), “FISH HAWK”, stn 7301, 24°18'37"N 81°36'50"W, Gulf Stream, off Key West, Florida, 232 m, 4 March 1902. *Neopilumnoplax gervaini* Tavares & Guinot, 1996, 1 male (MNHN-B 24881), Caribbean Sea, West Indies, Guadeloupe, west coast of Basse Terre, Mission ORSTOM-IRPM-SMCB, “POLKA”, stn C32, 16°21'34"N 61°49'14"W, 350 m, April 1993. *Neopilumnoplax heterochir* (Studer, 1883), 1 male (cl 12.6 mm, cw 17.9 mm) (MNHN-B 6818) (ex South African Museum), locality unknown. *Neopilumnoplax sinclairi* (Alcock & Anderson, 1899), 1 female

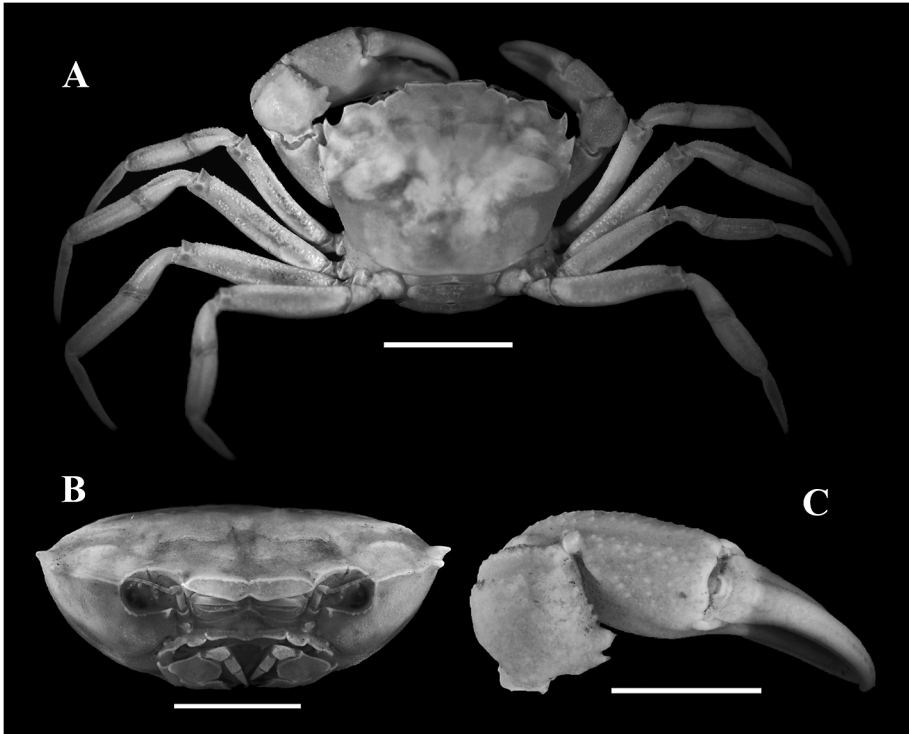


Fig. 1. *Neopilumnoplax lipkeholthuisi* sp. nov., female holotype (cl 12.5 mm, cw 17 mm) (MZUSP 20502). A, habitus, dorsal view; B, cephalothorax, frontal view; C, left cheliped, dorsal view. Scale bars: A, 4 mm; B-C, 5 mm.

(MHNH-B 12562), South Africa, stn 58, 34°25'S 18°08'E, 287 m, mud sand, 18 December 1929.

Etymology. — The new species is named after Professor Lipke B. Holthuis (Nationaal Natuurhistorisch Museum, Leiden), whose dedication to carcinology inspired all of us. This is but a small tribute to his carcinological oeuvre.

Description. — Carapace subhexagonal, wider than long; dorsal surface finely granular; regions poorly defined; protogastric region low; mesogastric, hepatic, epigastric regions slightly swollen; cardiac region almost flat; protogastric, hepatic, epibranchial ridges well-defined, granular; mesogastric ridge obsolete. Front truncate in dorsal view, bimarginate; transverse anterior groove rather smooth; margins converging abruptly laterally, faintly granular, distinct median notch. Supraorbital margin low, demarcated from front by deep sinus, margin with V-shaped notch. Exorbital (first anterolateral) tooth showing as low, truncate lobe. First, second anterolateral teeth fused together, separated by incipient emargination. Second anterolateral tooth slightly longer than

first, blunt, rounded distally. Third anterolateral tooth strong, spiniform, larger than fourth, curved inward. Fourth tooth strong, acute, directed forward. Fifth tooth obsolete, showing as acute tubercle. Suborbital margin strongly granular; with strong blunt inner tooth, not visible dorsally. Eyestalks with dorsal, oblique row of granules near cornea. Suborbital, pterygostomian and subbranchial regions finely granular. Posterolateral carapace margin with minute acute granules directed forward. Thoracic sternum minutely granular anteriorly. Sternal suture 2/3 distinct; suture 3/4 only discernible laterally; sutures 4/5, 5/6 medially interrupted; sutures 6/7, 7/8 complete. Sternites 7, 8 with well marked median suture. Female gonopore (vulva) on sternite 6, vulvar cover present; lunulate-shaped orifice. Male abdomen with 6 completely free, movable somites plus telson; surface smooth. Somite 1 slender, shortest medially, lateral margins reaching base of P5 coxae. Somite 2 convex laterally. Somite 3 laterally expanded to cover penis. Sternite 8 not visible laterally between somites 2, 3. Somites 4-6 becoming progressively narrower and longer. Telson semicircular. Female abdomen broad, with 6 free somites plus telson; lateral margins convex; surface minutely granulated. Somite 1 broad, slender, shortest medially, lateral margins not reaching base of P5 coxae. Somite 2 subrectangular, with incipient lateral rounded projections. Somite 3 widest, lateral margins with angular projections. Somite 2 partially covering space between P5 coxae, sternite 8 not visible. Somite 4 transversally similar to somite 5. Somite 6 longest. Telson semi-circular. Third maxilliped minutely granular; merus distinctly smaller than ischium; ischium with submedian sulcus; exopod not reaching to distal margin of merus. Endostomial ridges two, oblique; lateral ridge reaching to distal edge of endostome; medial ridge much shorter. Chelipeds distinctly unequal. Merus trigonal; dorsal margin with convex granular ridge; surfaces coarsely granular ventrally. Carpus with 2 distinct teeth on inner distal margin; distal tooth showing as acute lobe; surface coarsely granular, with deep transverse subdistal sulcus. Major palm stout, surface coarsely granular; dorsal margin shorter than fingers; fingers with slight gap; cutting edges bluntly dentate; fingers pigmented brown throughout length in preserved specimens. Minor palm heavily granular, more pronounced dorsally; cutting edges bluntly dentate; fingers pigmented brown throughout length in preserved specimens. Ambulatory legs (P2-5) long, slender, relative lengths $P4 > P3 > P2 > P5$; P4 longest; segments sparsely setose, coarsely granular, more pronounced dorsally, becoming serrate distally. Dactyli sparsely setose, ventral margins with corneous robust setae, dorsal margins with few small, corneous setae, apex corneous. P2-5 dactyli elongated, laterally flattened; relative lengths $P4 > P3 > P2 > P5$.

Remarks. — *Neopilumnoplax* Serène in Guinot (1969) includes five described species: *N. americana* (Rathbun, 1898) (central southwestern Atlantic), *N. gervaini* Tavares & Guinot, 1996 (Caribbean Sea), *N. heterochir* (Studer, 1883) (southwestern Africa), *N. nieli* Ahyong, 2008 (New Zealand), and *N. sinclairi* (Alcock & Anderson, 1899) (Indian Ocean) (Guinot, 1969; Soto, 1986; Melo, 1996; Tavares & Guinot, 1996; Ahyong, 2008; Ng et al., 2008). *Neopilumnoplax lipkeholthuisi* sp. nov. is the third western Atlantic species. It resembles *N. americana* (Rathbun, 1898) in the dorsal aspect of the carapace but can be easily separated by: 1) first and second anterolateral teeth fused basally, demarcated by gentle emargination; second tooth noticeably longer than first (fig. 1A) (first tooth markedly longer than second in *N. americana*, fig. 2A); 2) bimarginate front with margins converging abruptly

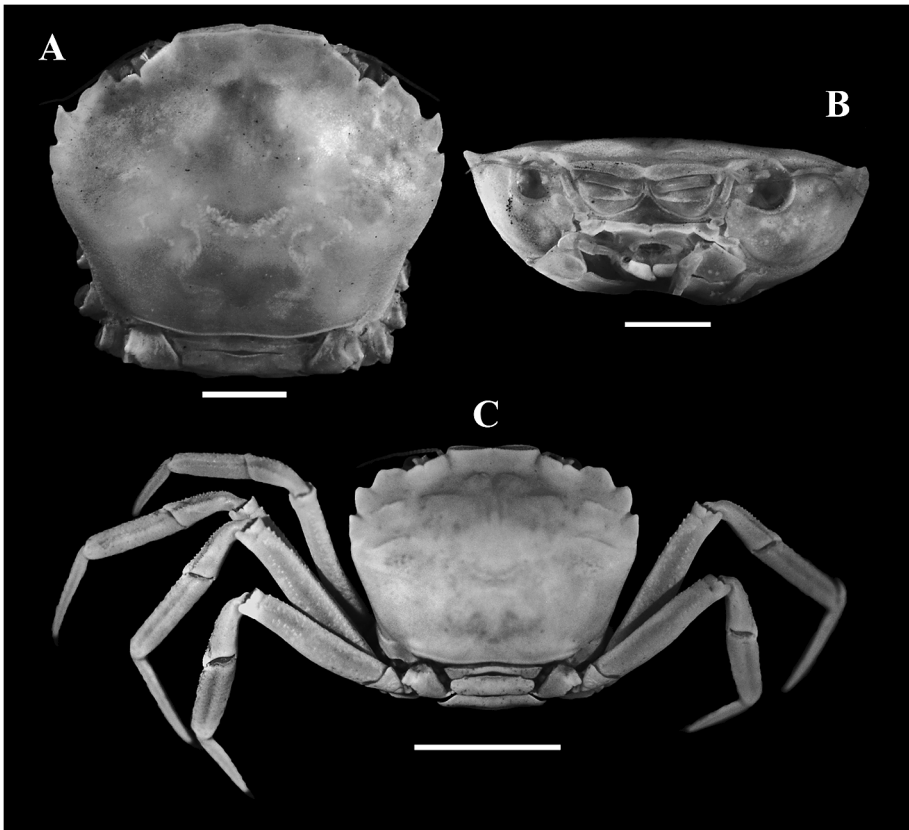


Fig. 2. *Neopilumnoplax americana* (Rathbun, 1898), male holotype (cl 7.5 mm, cw 6 mm) (USNM 19652). A, carapace, dorsal view; B, cephalothorax, frontal view; C, *Neopilumnoplax heterochir* (Studer, 1883), male (cl 12.6 mm, cw 17.9 mm) (MNHN-B 6818), habitus, dorsal view. Scale bars: A-B, 2 mm; C, 9 mm.

laterally (fig. 1B) (frontal margins converging gently laterally in *N. americana*, fig. 2B); 3) epibranchial ridge well-defined (fig. 1A) (obsolete in *N. americana*, fig. 2A); 4) front and inner orbital tooth demarcated by deep sinus (fig. 1A) (demarcation between front and inner orbital obsolete in *N. americana*, fig. 2A); 5) P2-5 strongly serrated both dorsally and ventrally, serration most pronounced on dorsal margins (fig. 1A) (finely granular both dorsally and ventrally, becoming finely serrate distally in *N. americana*); P1 carpus coarsely granular dorsally, granules spiniform (finely granular in *N. americana*). *Neopilumnoplax lipkeholthuisi* differs from *N. heterocheir* in having the third anterolateral tooth showing as a strong, anteriorly recurved spine (tooth blunt, apex rounded, subtruncate in *N. heterocheir*, fig. 2C); the upper outer surface of the palm of the major cheliped with scattered granules (upper outer surface of the palm strongly tuberculated); the upper margin of front divided medially by distinct notch (cleft absent in *N. heterocheir*); and the frontal transverse groove rather smooth (distinctly granular in *N. heterocheir*). *Neopilumnoplax lipkeholthuisi* can be easily distinguished by *N. sinclairi* and *N. nieli* by the coarse granular cheliped (smooth in *N. sinclairi* and *N. nieli*) and the comparatively lower epibranchial ridge. *Neopilumnoplax lipkeholthuisi* can be distinguished from *N. gervaini* by the obsolete last anterolateral tooth (tooth strong in *N. gervaini*), coarse granular cheliped (smooth in *N. gervaini*) and P2-P5 distinctly shorter.

Distribution. — Presently known from southern Brazil and northern Argentina, between 126 and 207 meters depth.

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