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TWO NEW SPECIES OF *MUNIDOPSIS* (DECAPODA: ANOMURA: GALATHEIDAE) FROM THE WESTERN ATLANTIC OCEAN

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ABSTRACT

New galatheid squat lobsters, *Munidopsis glabra,* from the continental slope of the northwestern Gulf of Mexico, and *M. penescabra,* from continental slope areas of the northwestern Gulf of Mexico and the western North Atlantic off Georgia, are described and illustrated. *Munidopsis glabra* is closely related to western Atlantic *M. abbreviata* (A. Milne Edwards, 1880). *Munidopsis penescabra* has affinities with eastern Pacific *M. scabra* Faxon, 1893, and *M. tanneri* Faxon, 1893, and with closely related western Atlantic *M. sharreri* (A. Milne Edwards, 1880) and *M. kucki* Baba and Camp, 1988.

More species of galatheid squat lobsters from the Gulf of Mexico and the Caribbean Sea have become available since the reports of Pequegnat and Pequegnat (1970, 1971). The specimens came from the Texas A&M University R/V *Alaminos* collections, the National Marine Fisheries Service R/V *Oregon II* collections, and the LGL Ecological Research Associates/MMS Northern Gulf of Mexico Continental Slope Study. Two new species represented in material from these sources are described here.

Carapace length (scl) is measured from the level of the posterior orbital margin to the posterior carapace margin at the dorsal midline. Other measurements are of full length or width of the stated structure.

Type specimens of the new species are deposited in the National Museum of Natural History (USNM), Washington, D.C.

Munidopsis glabra, new species
Figs. 1, 2*a, b,* 4*a*

Type Material.—Holotype, USNM 251455, ovigerous ♀; allotype, USNM 251456, ♂: *Alaminos* Station 71A7–38, 27°35.6′N, 92°58.6′W, northwestern Gulf of Mexico, 510–622 m, 21 July 1971.

Diagnosis.—Medium- to small-sized, robust-appearing species with acutely triangular unarmed rostrum, dorsal surface of carapace lumpy and obscurely rugose but devoid of spines or ciliation, dorsal surface of abdominal somites unarmed, eyestalks with spine projecting over dorsal surface of cornea, epipods present on chelipeds and first 2 ambulatory legs.

Description of Ovigerous Female Holotype.—Rostrum simple, acutely triangular, exceeding eyestalks, weakly carinate dorsally, length slightly less than one-third scl. Carapace subrectangular, widest at midlength; obscurely rugose and unarmed dorsally, but with 2 low protuberances marking normal position of gastric spines on somewhat elevated gastric region; low meandering transverse ridge at level of posterior lateral tooth and posterior cervical groove, and transverse cardiac ridge present; frontal margin with short, blunt antennal spines; lateral margins each bearing 4 spines, including anterolateral spine tending to be bifid and lying on sagittal plane mesial to positions of following 3 spines; obsolescent transverse ridging posterolaterally on branchial regions; posterior margin unarmed. Sternum smooth, unarmed.

Abdominal somites transversely ridged but unarmed. Telson composed of 8 platelets.

Eyestalks movable, with divergent short conical spine projecting over upper surface of cornea.

Antennular peduncle with compressed basal article bearing 2 spines: sharp anterolateral spine followed posteriorly by smaller sharp dorsolateral spine.

Antennal peduncle with basal article bearing 3 distal spines: short flattened dorsal spine lateral to eyestalk, short blunt lateral spine, and stronger sharp mesial spine; second article with 2 short distal spines, lateral spine slightly longer than mesial one; third and fourth articles spineless.

Merus of third maxilliped having prehensile margin armed with 3 spines, posterior spine largest.

Cheliped relatively short (1.8 times scl),

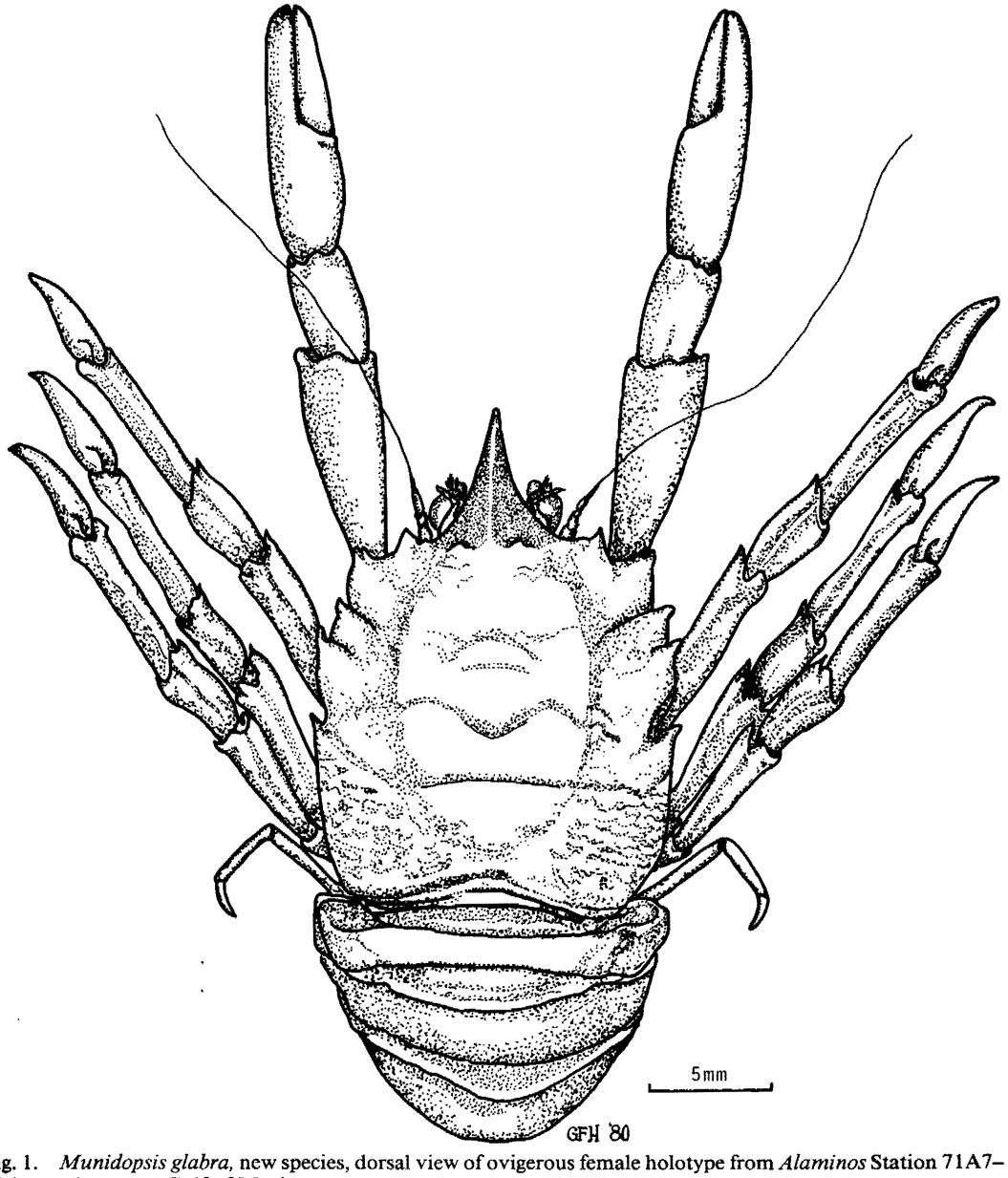

Fig. 1. *Munidopsis glabra,* new species, dorsal view of ovigerous female holotype from *Alaminos* Station 71A7–38 in northwestern Gulf of Mexico.

nearly devoid of spines or setae dorsally; 4 obscurely obtuse teeth on distal margin of carpus; distal margin of merus with low dorsal tooth, acute mesial and lateral spine, and acute ventral spine. Chela length 10 mm, with palm and fingers about equal in length; cutting surfaces straight throughout.

Ambulatory legs of approximately equal length, spineless except for distal margins of meri and carpi; meri each with dorsal longitudinal carina ending in distal spine, and with slight lateral rugosity; carpi and propodi each with 2 parallel longitudinal carinae on upper surfaces; dactyli with row of close-set movable corneous spines along flexor margin, progressively stronger and more widely spaced distally. Epipods present on chelipeds and first 2 ambulatory legs.

Male Allotype.—Similar to female holotype except anterolateral spines of carapace not bifid but slightly serrate on mesial slope; eyespines not prominent; chelipeds relatively longer, slightly more than twice length of carapace.

Size in mm.—Female holotype, short carapace length (scl) 14.5 (18.5 with rostrum); greatest carapace width (w) 14.0; length of cheliped (lch) (left) 27.0, chela 9.5, palm 4.3, fingers 5.2. Male allotype, scl 8.5 (11 with rostrum); w 9.0; lch (left) 20.0, chela 7.5, palm 3.5, fingers 4.0.

Distribution.—Known only from the type locality in the northwestern Gulf of Mexico at 510–622 m depth.

Remarks.—Similar to *Munidopsis abbreviata* (A. Milne Edwards, 1880) except for the following: rostrum shorter and not upturned dorsally; eyespine present; absence of ciliation on carapace and appendages; frontal margin of carapace armed with pair of antennal spines; absence of spines on abdomen; 4 instead of 2 spines on lateral margin of carapace.

The holotype, illustrated several years ago, now lacks articles of the left first ambulatory leg distal to the basis; the right cheliped is detached.

Etymology.—From the Latin, *glaber,* smooth or hairless, describing the condition of the carapace.

Munidopsis penescabra, new species
Figs. 2*c–e,* 3, 4*b*

Type Material.—Holotype, USNM 251457, ♂; allotype, USNM 251458, ovigerous ♀: *Oregon II* Station 11716, 30°52′N, 79°39′W, western North Atlantic, off Georgia, 576 m, 21 January 1972; paratype, USNM 251459, ♂ 8.3 mm scl, LGL/MMS–NGOMCS Station WC9, 27°42′47″N, 91°15′17″W, northwestern Gulf of Mexico, 807–695 m, May 1985; paratypes, USNM 251460, 2 ♂♂, 6.4 and 8.4 mm scl, ♀ (cephalothorax only), 5.8 scl, LGL/MMS–NGOMCS Station WC6, 27°42′44″N, 91°32′55″W, northwestern Gulf of Mexico, 543–783 m, May 1985.

Diagnosis.—Small species characterized by spinous carapace and narrowly triangular carinate rostrum; eye with small divergent conical spine on upper surface; chelipeds long, slender, spinous; no epipods on legs.

Description of Male Holotype.—Rostrum narrowly triangular, nearly horizontal, with well-marked dorsal carina, minutely serrate on lateral margins. Carapace subrectangular, greatest width at approximately midlength, slightly less than short carapace length; dorsal surface covered with numerous squamous setiferous tubercles arranged in irregular transverse rows and tipped with spiny points; gastrohepatic region bearing approximately 26 spines, most prominent in anterior row of 6 spines and decreasing in size posteriorly; anterior margin bearing acute, forward-pointing antennal spines, no supraorbital spines; lateral margins armed with 6 or 7 spines, including anterolateral spine, decreasing in size posteriorly; posterior margin armed with 15 forward-pointing sharp spines of varying sizes. Sternum smooth throughout.

Abdominal somites transversely ridged and unarmed. Telson composed of 7 platelets.

Eyestalks movable, bearing laterally divergent conical spine emerging from center of upper surface.

Antennular peduncle with basal article moderately inflated, terminating in long, acuminate anterolateral spine followed by widely separated, slender, dorsolateral spine; anterior border minutely serrate mesially and ventrally.

Antennal peduncle with basal segment bearing sharp lateral spine and broad, blunt mesial spine; second article with stout lateral spine and blunt submarginal mesial tooth; third article with small, broad-based triangular lateral tooth, similar middorsal tooth, and narrower mesial tooth; fourth article with small mesial tooth and short middorsal spine.

Merus of third maxilliped armed on proximal half of prehensile edge with 2 robust, sharp spines and on distolateral edge with short, gently curved, sharp spine.

Cheliped slender, length about 3 times scl; spines strongly developed along mesial and dorsal surfaces of merus, carpus, and propodus, poorly developed on lateral margins; merus with row of 6 well-developed spines on mesial margin, 8–10 on middorsal line, and 5 on midventral line; carpus with 3 lateral spines, 6 middorsal spines, and 5 mesial spines plus triangular dorsomesial spine on distal margin; propodus with mesial row of 12 variable spines (8 robust, 4 minute) and dorsolateral row of approximately 10 weakly developed irregular spines; fingers slightly shorter than palm; cutting

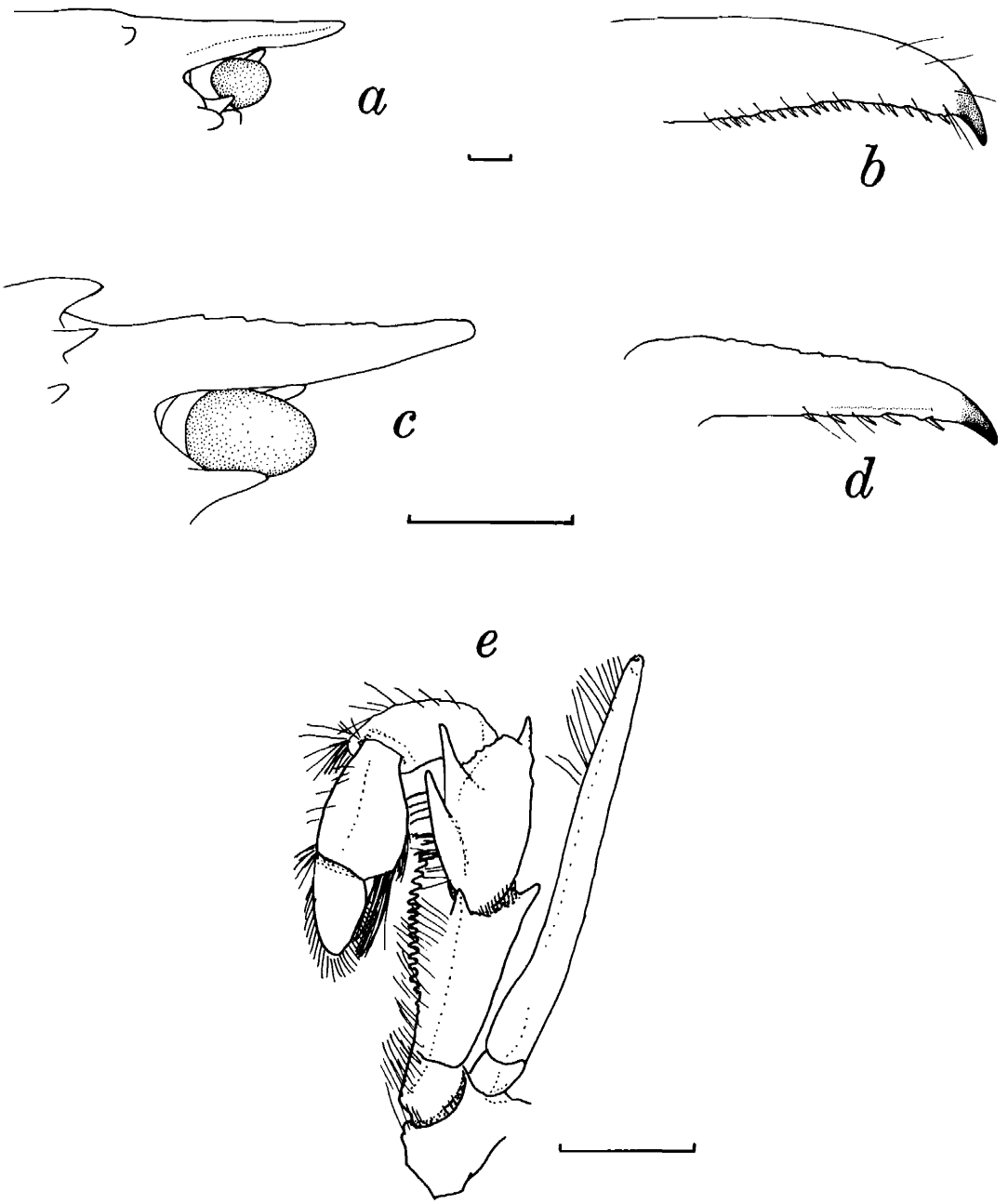

Fig. 2. *Munidopsis glabra,* new species, female holotype: *a,* rostrum, adjacent anterior carapace and eyestalk, lateral view; *b,* dactyl of first ambulatory leg. *Munidopsis penescabra,* new species, male holotype: *c,* rostrum, adjacent anterior carapace and eyestalk, lateral view; *d,* dactyl of first ambulatory leg; *e,* left third maxilliped, ventral view. Scales = 1 mm.

edge of fixed finger serrate, divided into 2 areas, proximally concave and distally flat, separated by triangular prominence.

First ambulatory leg little longer than remaining ambulatory legs and three-fourths as long as cheliped; legs with middorsal row of spines on all articles except dactyli; most prominent spines on distal margins of merus and carpus; dactyli with row of corneous spines along distal two-thirds of flexor mar-

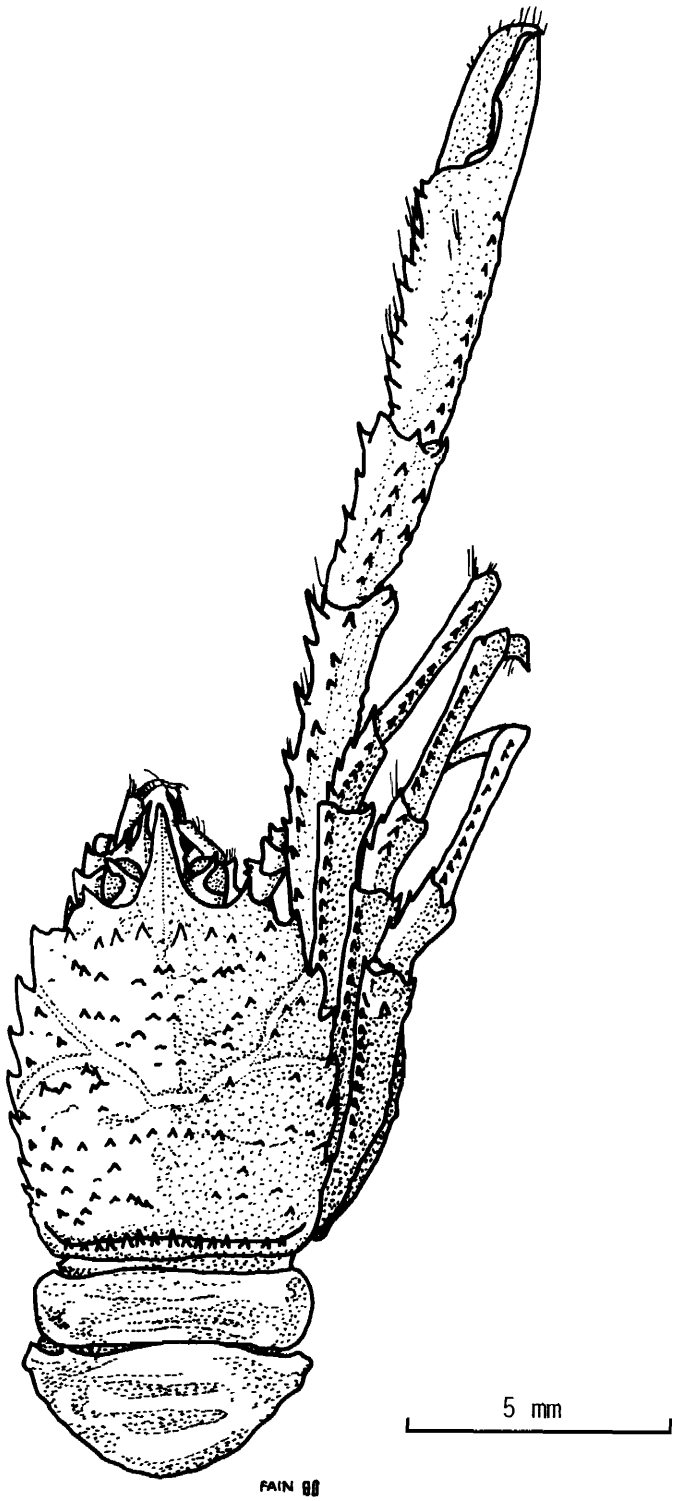

Fig. 3. *Munidopsis penescabra*, new species, dorsal view of male holotype from *Oregon* Station 11716 off Georgia.

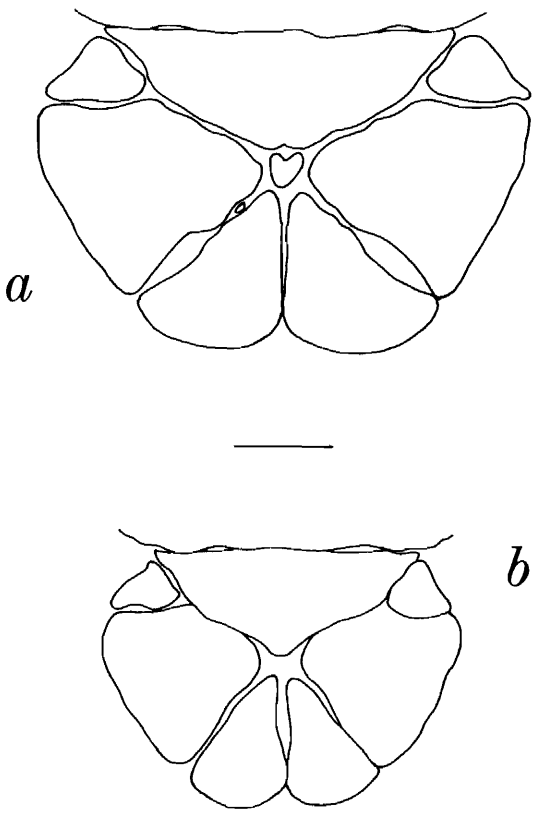

Fig. 4. Telson, showing arrangement of platelets; *a, Munidopsis glabra,* new species, allotype male; *b, M. penescabra,* new species, allotype female. Scale = 1 mm.

gin. No epipods on chelipeds or ambulatory legs.

Female Allotype.—Similar to male holotype except rostrum slightly downcurved, propodus of cheliped with no dorsolateral row of weakly developed spines, and with mesial row of 10 spines instead of 8, distal 2 spines recumbent.

Size in mm.—Male holotype, short carapace length (scl) 6.5 (8.5 with rostrum); greatest width (w) 6; length of cheliped (lch) (right) 20.0, chela 9.0, palm 5.0, finger 4.0. Female allotype, scl 7.5 (9.5 with rostrum); w 6.5, lch (left) 21, palm 5.5, finger 4.5.

Distribution.—Northwestern Gulf of Mexico in depths of 543–807 m and western North Atlantic off Georgia in 576 m.

Etymology.—From the Latin, *pene,* almost, nearly, referring to the close relationship to *M. scabra.*

Remarks.—*Munidopsis penescabra* is closely related to *M. scabra* Faxon, 1893, an eastern Pacific species, but differs from it as follows: rostrum less recurved distally; no small accessory eyespine at base of primary eyespine; merus of third maxilliped with 2 long spines on prehensile edge instead of 3 or 4 decreasing in size distally; only 6 or 7 lateral spines on carapace instead of 8–10; lateral edges of rostrum and rostral carina not lightly denticulate, but minutely serrate; ambulatory legs less spinose; all legs less setose, especially chelipeds; cutting edges of chela not straight.

Munidopsis penescabra is also related to another Pacific species, *M. tanneri* Faxon, 1893, but differs from it in that the carapace is more spinose, especially in the cardiac region and on the lateral and posterior margins. In *M. tanneri* the carapace is widest in the posterior half, whereas in *M. penescabra* it is widest at midlength. *Munidopsis penescabra* has spines on the lateral margin of the chela less well developed. Two spines are present on the prehensile margin of the merus of the third maxilliped of this species, compared to three in *M. tanneri,* and a spine on the distolateral aspect of the merus is present, but lacking in *M. tanneri. Munidopsis penescabra* and *M. tanneri* are similar in the small size and shape of the eyes, the eyespines, size and orientation of basal antennal spines, rostral carina, relative size of antennal spine, lack of spines on sternal plates, and lack of epipods on chelipeds and ambulatory legs.

In the western Atlantic, the closest relative to *M. penescabra* appears to be *M. sharreri* (A. Milne Edwards, 1880), but *M. penescabra* may be distinguished by the shortness of its ocular spines and substantial development of spiny-pointed tubercles on the carapace, in addition to longer and more spinous chelipeds and differences in spination on the merus of the third maxilliped, i.e., no small spines on the lateral margin of this article proximal to the slender curved spine on the distal margin.

Another close relative to *M. penescabra* in the western Atlantic is *M. kucki* Baba and Camp, 1988, from off St. Augustine, Florida, in 227-m depth. The following characters of *M. kucki* differentiate it from *M. penescabra*: (1) lateral margin of carapace armed with four similar spines (compared

to six or seven lateral spines decreasing in size posteriorly in *M. penescabra*); (2) posterior margin of carapace lacking spines, but with fine denticles discernible under high magnification; and (3) merus of third maxilliped with three mesial spines on the prehensile margin, proximal two very strong, distalmost small (compared to *M. penescabra* with only two prehensile marginal spines, both very strong).

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