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A NEW SPECIES OF *HYP SOPH RYS* (DECAPODA:  
HOMOLIDAE) FROM THE STRAITS OF FLORIDA,  
WITH NOTES ON RELATED CRABS

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A crab taken in a 40-foot trawl during exploratory drags for royal red shrimp, *Hymenopenaeus robustus* Smith, by the then U.S. Fish and Wildlife Service, Bureau of Commercial Fisheries, R/V *Silver Bay* SW of Dry Tortugas, Fla., on 8 June, 1959, belongs to an undescribed species and is the first specimen of the genus *Hypsophrys* Wood-Mason, 1891, to be reported from the Atlantic. The two other known species in the genus, *H. superciliosa* Wood-Mason, 1891, and *H. longipes* Alcock and Anderson, 1899, are confined to the Indo-Pacific region (Alcock, 1900; Serene and Lohavanijaya, 1973). The well-preserved animal shows an external feature on the chelipeds that is also evident in the previously known species, represented by faded specimens preserved for over  $\frac{3}{4}$  of a century. The terminology of Ihle (1913), revised by Serene and Lohavanijaya (1973), is followed in describing features on the carapace.

Genus *Hypsophrys* Wood-Mason, 1891

To Alcock's (1900) definition of *Hypsophrys* the following should be added: palm of each cheliped with smooth, oval spot on inner and outer surface at base of fixed finger.

***Hypsophrys noar***, new species

Figures 1-12

*Holotype male*: Carapace ovate-oblong, tending toward quadrangular in dorsal aspect, flattened and deep; distinctly subdivided into regions;

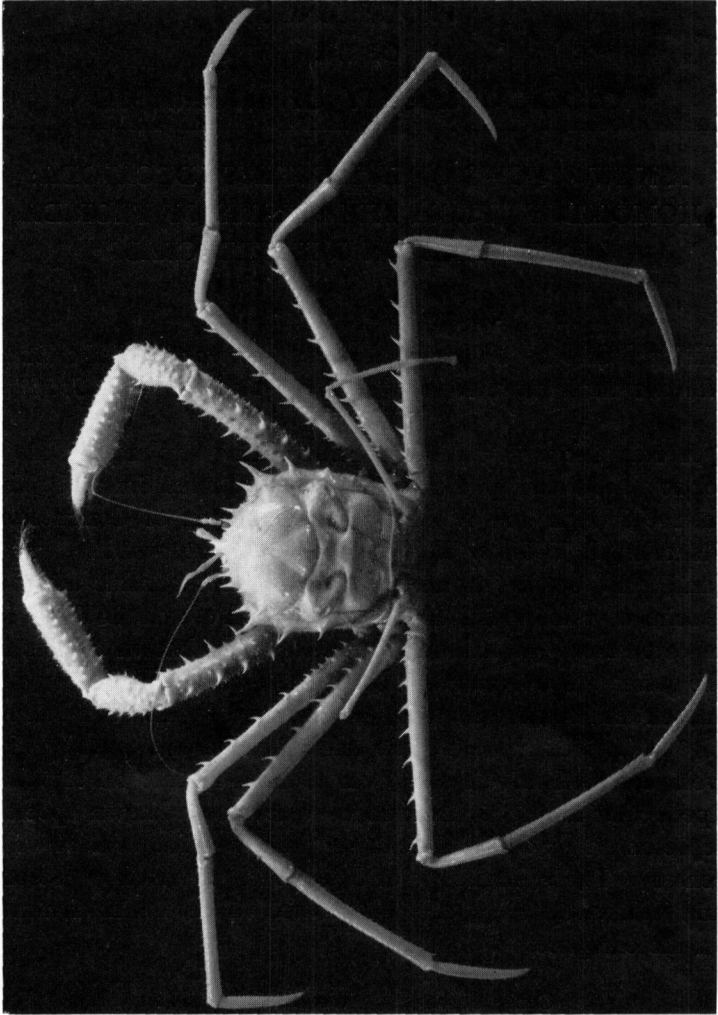


FIG. 1. *Hypsophrys noar*, dorsal view.  $\times 0.5$ .

median raised regions glabrous; remainder of body clothed with rather stiff pubescence of variable length and density.

Rostrum narrow, decurved, exceeding eyes, distinctly bifurcated, each short tip continuous with raised margin in turn continuing on carapace as raised orbital margin; reinforced ventrally by median keel fused with interantennular septum, but distinguished from it by suture line.

Orbital margins each interrupted by prominent intermediate spine and stronger supraorbital spine, and ending ventrally near still larger antennal spine.

Gastric region humped and prominent; obscurely subdivided into central subregion flanked by larger lateral subregions; pair of epigastric spines at each side diagonally in line with supraorbital spine, a low tubercle anterolateral to each; an eminence behind and to each side of rostral base surmounted by prominent tubercle with scattered smaller tubercles on slopes.

*Lineae homolica* originating near edge of orbit above antennal spine, passing around gastric region and continuing sinuously to disappear near posterior margin of carapace. Deeply inscribed cephalic groove separating gastric region from posterior carapace and, ventral to *linea homolica* on each side, separating hepatic region bearing 3 strong spines from more posterior somewhat triangular region bearing strong dorso-lateral spine and 2 tubercles in line below it. Post-cervical groove separating triangular from branchial region bearing strong posterolateral spine (broken on right) and smaller spines and tubercles behind it (more on right than left).

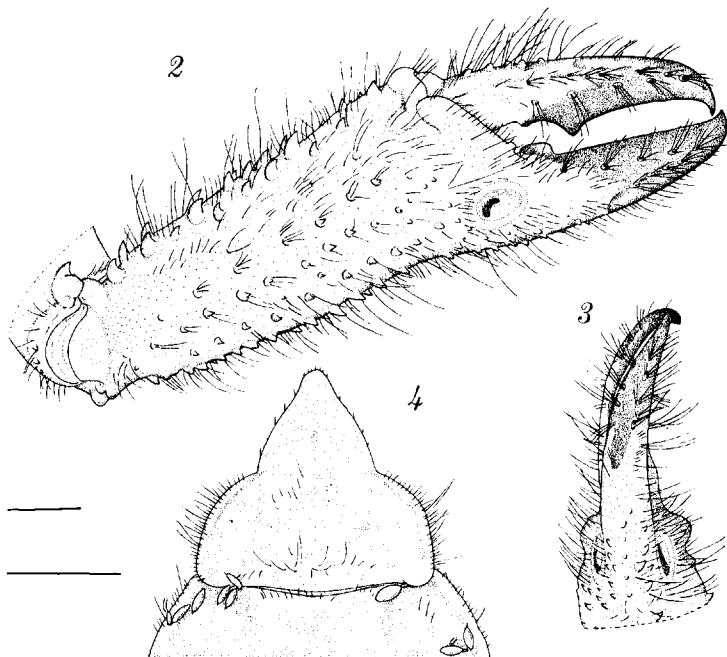
Eyes well developed.

Antennular peduncles with proximal article greatly inflated, much more slender distal articles nearly cylindrical, terminal article shortest.

Antennae longer than carapace; antennal peduncle with proximal article greatest in diameter, with spine at anterolateral corner; middle article longer but more slender and terminal article less than half length of middle one.

Pediform third maxillipeds lacking spines, setose, especially on prehensile surfaces.

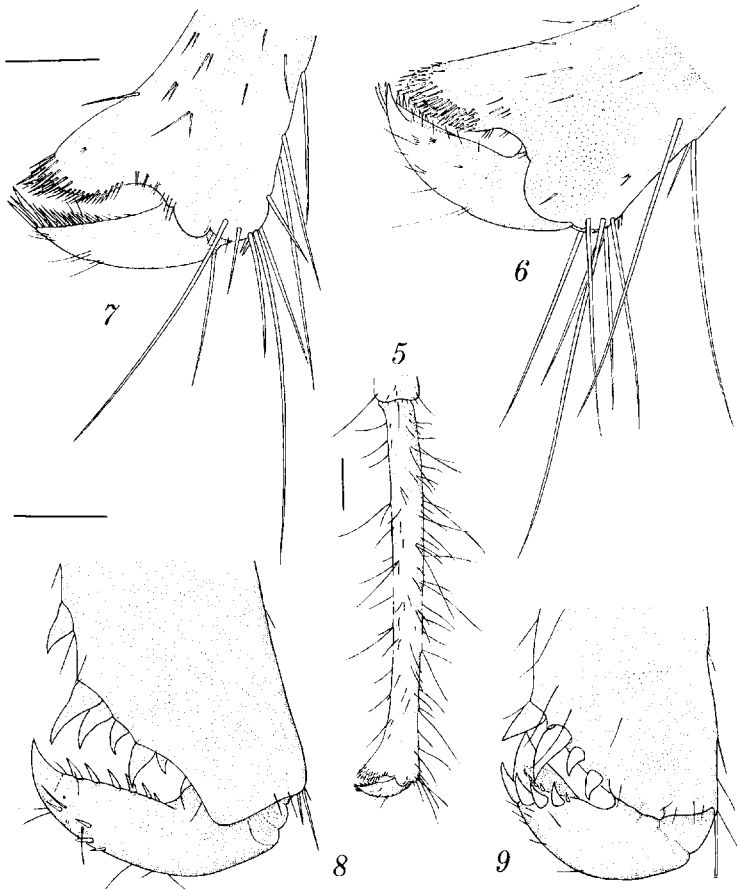
Chelipeds subequal, right slightly larger, elongate and spiny. Carpus and chela about equal in length to merus-ischium. Palm irregularly spiny, spines tending to be arranged in rows, lower border of palm with fixed finger offset obliquely at angle of about 5–8°; an ocellated, hairless, smooth, oval spot at base of fixed finger on both inner and outer surfaces (right chela, outer 3.50 × 4.25—inner 2.63 × 4.13 mm) having central partially darkened portion surrounded by lighter, irregular hyaline ring, and that in turn by wider white border. Fingers dark colored along opposed edges and portion of other surfaces; curving inward from origins to tips; opposed edges thin, sharp, and closely fitted with toothless shearlike edges distally but with alternately meshing teeth proximally. Fixed (propodal) finger with prominent, dark tooth near base and smaller light colored tooth proximal to it on distal edge of palm; dactyl longer than fixed finger and closing inside it, with subconical dark tooth closing distal to large propodal tooth, and proximally an inconspicuous tooth meshing between propodal teeth. Carpus irregularly spiny on upper surface; merus-ischium subcylindrical, with numerous short and sparser long spines tending to alternate in longitudinal rows.



FIGS. 2-4. *Hypsophrys noar*: 2-3, right chela, 2, external view, 3, ventral view of fingers showing paired spots at base; 4, telson and part of sixth abdominal segment with attached barnacles. Scales = 5 mm: upper, 2, 3; lower, 4.

Second, third and fourth legs similar to each other, longer than chelipeds, proximal articles oval in cross section, distal ones flattened; fourth leg having shorter coxal and basal articles than preceding legs; each merus bearing dorsal row of well separated, strong, acute, curved spines; propodi with pair of movable spines mesiodistally at articulation with dactyls; each dactyl slightly curved, with row of slender corneous spines along prehensile margin, ending in an acute corneous tip.

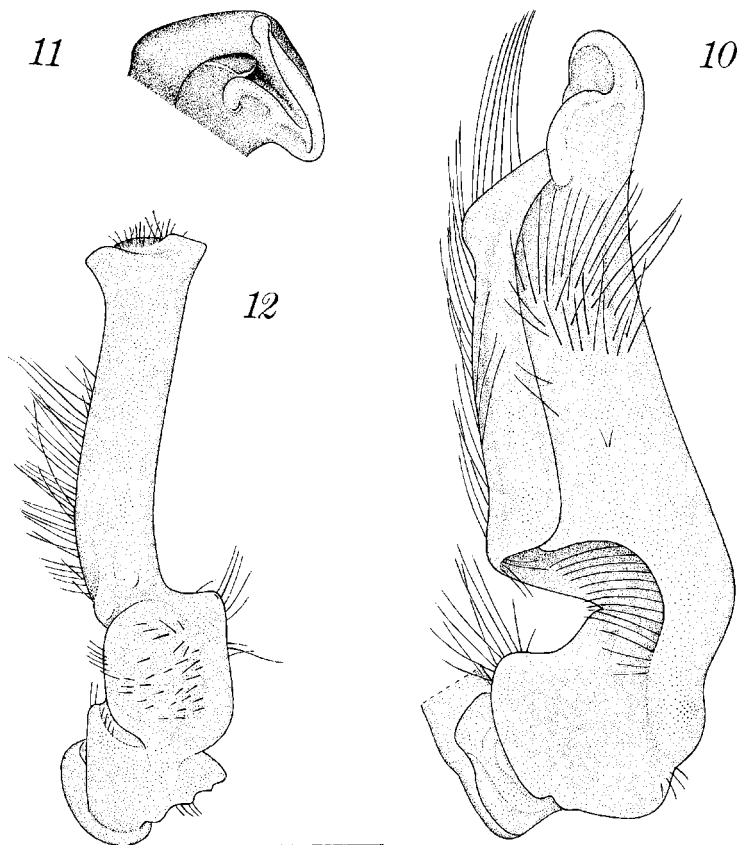
Fifth legs dorsal in position, much more slender and shorter than preceding legs; carpus and propodus about equal in length and together about as long as merus; propodus branching into shallow, asymmetrical Y-shape terminally, one branch bearing dactylar condyle, other terminating in densely spined, setose, spooned pad forming stationary member of subchela opposing extremely short, curved, clasping dactyl; dactyl closing at about 90° to axis of leg, length twice width of propodus (left detached), bearing row of closely arranged, strong, curved, corneous spines on ventral edge and tip.



FIGS. 5-9. Subchela of fifth leg: 5, *Hypsophrys noar*, distal articles of right leg in dorsal view; 6, same, subchela enlarged; 7, left, ventral view; 8, *H. longipes*, left, ventral view, syntype ♀, BMNH 1899.1.20.14; 9, *H. superciliosa*, same, ♀, USNM 42696. Scales: 5 = 2 mm; 6, 7 = 1 mm; 8, 9 = 0.5 mm.

Abdomen large, ovate in outline, composed of 6 free segments; first segment dorsal and quite narrow; fifth segment broadest and longest. Telson large, essentially triangular, but almost trilobate with slightly mucronate naked terminal lobe and rounded proximolateral lobes having setose margins.

First and second pairs of gonopods large and conspicuous. First gonopods diverging tangentially distolaterad from articulation as stout, flat-



FIGS. 10-12. *Hypsophrys noar*, male gonopods: 10, first, caudal view; 11, same, terminal aspect of tip; 12, second, cephalic view. Scale = 2 mm.

tened plate, but becoming aligned with central axis of body and rolled into tube progressively flattened distally and drawn into low, shoulder-like, somewhat corneous distomesial ridge angling distolaterally into prominent and more membranous distolateral lobe; secondary lobular shoulder on distocaudal aspect, and (concealed from view caudally but visible terminally) a small central triangular lobe folded in from cephalic surface and nestled among other terminal foliations; suture line on caudal surface marking edge of rolled tube; short, dense setae on lip of broadly open proximal aperture, and longer setae distally.

Second gonopods shorter and more compact than first pair, bent tangentially mesad from flattened basal portion and formed into thick nearly cylindrical plunger terminating in asymmetrical, flared, truncate

head tilted mesially; central concavity of head membranous and furred with short, soft setae; longitudinal mesial tuft of longer setae on cylindrical distal portion.

*Measurements in mm:* Carapace: length from rostral notch to posterior margin, 39.7; width excluding spines, 37.7; height, 20.4; maximum height of body, 24.3. Length of right hand, 42.2; left, 40.9. Average length of articles in legs 2-4: merus, 50; carpus, 19; propodus, 40; dactyl, 25.

*Type-locality:* SW of Dry Tortugas, Fla., 24°11'N, 83°21.5'W, 400 fm (732 m), Silver Bay Stn. 1196.

*Material studied:* The holotype deposited in the U.S. National Museum of Natural History (150816) is the only known specimen of this species. It was compared with specimens of *H. superciliosa* and *H. longipes*.

*Name:* The name is a noun in apposition from the Greek "noar" meaning phantom or specter, referring to the fancied appearance of the crab (Liddell and Scott, 1940, p. 1177).

*Remarks:* *Hypsophrys noar* is larger than reported specimens of *superciliosa* (ov ♀, cl 19 mm) but about the same size as *H. longipes* (ov ♀, cl 38 mm) (Alcock, 1900). In both *H. longipes* and *H. noar* the rostrum is bifid, and the carapace conspicuously spined; *H. superciliosa* has a simple rostrum, and the body is somewhat less spiny. *Hypsophrys longipes* has spines on the third maxillipeds but the other species lack these. The body in *H. superciliosa* is smooth and nearly devoid of setae except for a few long ones; *H. longipes* has a sparse covering of very short setae in addition to a larger number of longer ones, and *H. noar* has a dense coat of short setae and still more numerous longer ones. The oval spots on the chelae are concave in *H. longipes* and *H. superciliosa* but flat in *H. noar*. Superficial structure suggests that these spots may be photophores.

The specialized subchela on each fifth leg is distinct in the 3 species (Figs. 6-9). Unlike that in *H. noar*, the propodus is not Y-shaped distally in either *H. superciliosa* or *H. longipes*, but its mesial edge is angled so that the dactyl must swing through an arc of nearly 135° to close. In both, the propodus has strong spines bordering the surface against which the dactyl closes. In *H. superciliosa* the dactyl bears a few curved corneous spines ventrally on the occlusal surface, as well as some opposed fringing setae on the propodus, but in *H. longipes* the dactyl has only a strong corneous tip and row of weak spines on the edge of the occlusal surface. In specimens of *H. longipes* and *H. superciliosa* examined, the *linea homolica* extends nearly to the posterior edge of the carapace.

The species of *Hypsophrys* can be distinguished by the following key:

1. Rostrum simply pointed ..... *superciliosa*.
- Rostrum bifid ..... 2

2. Propodus of last legs as long as carpus; third maxillipeds without spines ..... *noar*.  
 Propodus of last legs much shorter than carpus; third maxillipeds with spines on ischium and merus ..... *longipes*.

Fastened to setae on the abdomen and left cheliped of the holotype of *H. noar* are a number of small pedunculate barnacles, *Poecilasma inaequilaterale* Pilsbry.

## ACKNOWLEDGMENTS

I am indebted to Henry B. Roberts who first recognized *H. noar* as a probably undescribed species, provided the photograph for Fig. 1, and helped with other details of study. R. W. Ingle, British Museum (Natural History) (BMNH), and V. K. Premi Kumar and K. K. Tiwari, Zoological Survey of India, loaned specimens from their institutional collections for comparative study, and William A. Newman identified the commensal barnacle. Fenner A. Chace, Jr., and Isabel Pérez Farfante critically read the manuscript, and María M. Diéguez prepared the drawings.

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