

**A NEW SPECIES OF *HETEROSQUILLA* (CRUSTACEA :
STOMATOPODA) FROM INDIAN SEAS***

BY. S. L. SHANBHOGUE**

Central Marine Fisheries Research Institute, Mandapam Camp

FOR a detailed study of stomatopods from Indian Seas, collections were made from various localities along the coasts. This interesting *Heterosquilla* was identified amongst the crustacean specimens from the Minicoy Island (Laccadives) from the collections of Dr. S. Jones. Although two species namely *H. insignis* and *H. spinosa* of this genus have been recorded from Indian waters so far, the present material exhibited striking differences from these and had more similarities with *H. mccullochae* (Schmitt, 1940) which is known from Gulf of California.

***Heterosquilla jonesi*, sp. nov.**

(Plate 1)

Heterosquilla sp. Shanbhogue, 1969. p. 35.

Holotype : One male, collected at Minicoy Island (Laccadives) during 1965. Total length 54.5, carapace length 11.1, corneal width 2, corneal index 555, rostral plate length 2.8, width 3.2, abdominal width 13, telson length 6 width 10. All measurements are in mm. Total length and carapace length are both measured on the mid line. Corneal index is obtained by dividing the carapace length by corneal width and multiplying by 100. The abdominal width is measured at fifth abdominal somite. Deposited in the reference collections of the Central Marine Fisheries Research Institute, Mandapam Camp under No. CMFRI—AR. 330.

Etymology : The species is named after Dr. S. Jones, the former director of Central Marine Fisheries Research Institute who initiated and guided the author in his work on stomatopods and from whose collection the specimen was made available for this study.

Description : Dorsal surface of body smooth and polished. Carapace broad with greatest width near posterolateral corners and narrowest at anterolateral corners. Length of carapace equals its greatest width. Carapace smooth without carinae. Gastric grooves distinct extending from posterior to anterior margin of carapace and slightly converging anteriorly. Distance between two gastric grooves is $1/3$ and $2/5$ of carapace length in the anterior and posterior regions respectively. Cervical groove completely obsolete middorsally but faintly visible on sides. Anterolateral and posterolateral corners of carapace broadly rounded. Anterolaterals

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** Present address : Fisheries College, Mangalore.

slightly in advance of rostral base. Posterior margin of carapace concave exposing fifth thoracic somite.

Rostrum almost square in shape, platform like and very large in relation to size of carapace. Lateral margins slightly convex with greatest breadth in the midlateral region. Anterolateral corners rounded from which the margins ascend to a blunt median apex. Rostrum broader than long without any spines and smooth dorsally covering more than half of eyestalk. Cornea of eye broad, bilobed, and transversely situated overhanging the inner and outer borders of stalk. Ophthalmic somite including its dorsal process hidden by rostrum dorsally. Tip of cornea does not extend beyond middle segment of antennular peduncle. Antennular peduncle less than half as long as carapace. Dorsal process of antennular somite not visible dorsally. Antenna bears two mesial and two ventral papillae. Scale long and tip of endopodal peduncle extends beyond middle of scale. Tip of endopodal peduncle surpasses eyes and extends nearly till middle of last segment of antennular peduncle but the tip of antennal scale surpasses the tip of antennular peduncle. Ischium of raptorial claw unarmed; merus long, broad without any distolateral spine; dorsal carina on carpus absent but terminal spine is short, broad with blunt apex. Propodus broad without any outer distal spine with pectinations on inner margin; few proximal hairs and four large basal movable spines present with the distance between them unequal. Margin of propodus where the spines of dactylus enter while folded, sinuous. Dactylus broad at base, bears 4 teeth of increasing length with the last tooth very much longer than the preceding one and takes a curve. Outer margin of dactylus distinctly convex with two subequal lobes at base of which distal is more obtuse. Spines of dactylus minutely serrate. Dactylus clearly shorter than carapace. Mandibular palp present and composed of 3 segments. There are 5 epipodites of which first is large, and others nearly of same size. Propodus of 3rd and 4th maxillipedes large, stout and massive but of 5th small and of normal size. Basipodite of last maxilliped without any spine. Thoracic somites smooth and polished dorsally. Lateral margin of 5th somite indistinctly bilobed but almost covered by posterolateral corner of carapace. Ventral side without spine or lobe. Seventh somite nearly $1/3$ as long as broad and the breadth is clearly less than carapace length. Lateral margins of last 3 somites truncate. Distal segment of endopod of first walking leg quite elongated and oval; that of second more elongated and third very narrow and much elongated. Median ventral keel on 8th somite absent. Basal segments of walking legs without spines.

Abdominal somites well depressed with increasing breadth posteriorly from 1st to 5th. First 5 somites smooth, polished without any carinae or sulcus. Lateral margins of first 4 somites convex but of 5th slightly concave. Posterolateral corners of first 5 somites rounded. Length of 5th abdominal somite less than $1/2$ its breadth and the breadth distinctly more than carapace length. Middorsal region of 6th somite smooth, polished but separated from a lateral region near margin by a distinct groove running from anterior to posterior margin. Posterolateral corners produced into two long pointed slightly outwardly directed spines. On ventral side the anterolateral corners bear small lobes with blunt apex.

Telson broad semicircular in shape, dorsally convex with breadth slightly less than twice its length. Middorsal region smooth, polished and without carinae. A median slightly elevated rounded region is separated by two deep furrows and this lobe bears 3 distinct spines of which middle one is longer. On either side of this lobe there is a lobe separated by short furrow of which the left one bears 4 spines and right 3 spines. Outer to these lobes there are two spines separated by distinct

furrows. In all there are 14 spines on dorsal aspect of telson. Below lateral lobe a indistinct spinous lobe and a blunt spine present on each side. Posterior margin of telson with a shallow median sinus and on either side of midline there is curved row of slender spinous submedian denticles 5 on left side and 6 on right side. Submedian teeth slender and movable. On each side from submedian to intermediate there are 4 intermediate denticles of which first is short, broad, blunt; second, short spinous; third, very long, broad but blunt and fourth short spinous. Intermediate tooth long and pointed. Lateral tooth long pointed having a broad base with a single spinous denticle. Ventral surface of telson slightly concave with elevated anal region without any post anal spine and with a prominent obliquely situated carina on either side.

Dorsal surface of basal segment of uropod smooth with a well developed spine at the tip of inner margin. Basal prolongation ends in two long spines, inner spine broad curved and very much longer than outer. They are trefoil in cross section and the inner aspects concave and smooth. Behind these spines a short carina runs backwards ending in a blunt tooth. No spine present near articulation of endopod. Tip of inner spine extends till tip of endopod that of outer spine nearly till $1/3$ distance on distal segment of exopod. Distal outer margin of basal segment of exopod bears 7 flat, articulated, curved spines of increasing length and the last one slightly longer than the spine preceding it. Tip of last spine extends beyond middle of distal segment of exopod. Dorsal surface of basal segment of exopod swollen and on ventral side proximal inner margin bears setae and the distal has a distinct rounded lobe with setae. At the ventral apex of segment there is a spine. Distal segment of exopod clearly longer than proximal, oval in shape with setae on both aspects and bears prominent midrib on both sides which do not extend till tip. Length of segment more than twice its breadth but less than half the carapace length. Endopod long, broad with setae on both aspects, takes a slight curve inwards and anterolateral angle not folded. There are two carinae on dorsal surface of which outer is more prominent but the ventral surface is smooth. Length of endopod nearly $2/5$ the carapace length.

Specimen being observed after long preservation in formalin only faint black pigmentation is visible. Pigmentation almost similar to that of *H. mccullochae* (Schmitt, 1940). Faint patches visible on carapace. Five black spots are distinct. Patches on abdominal somites more prominent and are as in *H. mccullochae* but are nearly triangular on 5th somite. Two small spots on 6th somite are present in *H. jonesi* which are absent in *H. mccullochae*. Faint pigmentation also visible at anterolateral corners of 1st abdominal somite; posterolateral corners of 5th abdominal somite; centre of endopod of uropod; distal region of proximal segment and proximal region of distal segment of exopod.

DISCUSSION

Manning (1966, 1968) has given a useful review of the genus *Heterosquilla*. The species included in this genus fall into two distinct groups with either two or four intermediate marginal denticles on the telson. From Indian Ocean only two species of *Heterosquilla* namely *H. spinosa* (Wood-Mason, 1895) with two intermediate marginal denticles and *H. insignis* (Kemp, 1911) with four denticles are known. *Heterosquilla jonesi* possesses four intermediate denticles on the telson. *H. jonesi* differs from *H. insignis* in the following major characters. In *H. jonesi* carapace equals its greatest breadth; cervical groove faintly visible on sides; rostrum

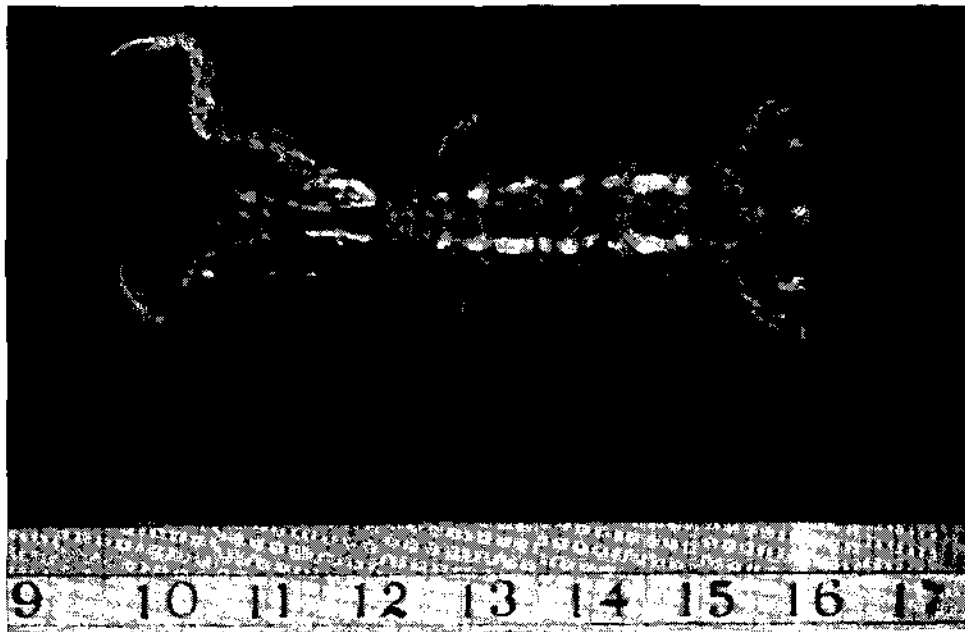


PLATE 1. *Heterosquilla jonesi*, sp. nov. male holotype. TL 54.5 mm., Minicoy.

almost square and broader than long; cornea transversely situated and bilobed; antennular peduncle less than half the length of carapace; raptorial dactylus with only 4 teeth and outer margin convex; angular dorsal elevation on sixth thoracic somite absent; basal segments of walking legs without spines; postero-lateral corners of 4th and 5th abdominal somites rounded; ventral side of peduncular segment of uropod without a spine at the articulation of endopod and distal outer margin of basal segment of exopod bears 7 spines. In *H. insignis* carapace longer than its greatest breadth; cervical groove absent; rostrum elongated narrow triangular more than one and a half times as long as broad; cornea obliquely situated and obscurely bilobed; antennular peduncle nearly half the length of carapace; dactylus of raptorial claw with 7 or 8 teeth and outer margin concave; sixth thoracic somite with angular dorsal elevation on either side near the anterior edge; basal segments of walking legs with sharp spines; postero-lateral corners of 4th and 5th abdominal somites end in sharp spines; peduncular segment of uropod bears a sharp spine on ventral side at the articulation of endopod and distal outer margin of basal segment of exopod bears 6 spines.

H. jonesi shows close resemblance to *H. mccullochae* (Schmitt, 1940) which is known from a single female collected at 30 fathoms off San Francisco Island, Gulf of California. However it has several characters in variance from *H. mccullochae*. Shape of rostrum is square and the lateral border is considerably more in *H. jonesi* than in *H. mccullochae*. Rostrum ends in blunt apex in the former but in pointed apex in the latter. While tip of antennal scale extends beyond the tip of antennular peduncle in *H. jonesi* it reaches proximal border of terminal segment of peduncle in *H. mccullochae*. Lateral margin of 5th thoracic somite plainly bilobed only in *H. mccullochae*. Telson less than twice as wide as long in present species while little more than twice the length in the Atlantic species. There are 11 submedian denticles in the former but 17 in the latter. Outer margin of basal segment of exopod of uropod bears 7 spines in *H. jonesi* but 6 in *H. mccullochae*. Peduncular segment of uropod not carinate in the former but carinate on outer and inner edges in the latter.

H. jonesi varies from *H. latifrons* (de Haan, 1844) and *H. brazieri* (Miers, 1880) in many important characters. In *H. latifrons*, rostrum produced into a flat acute spine; antennular peduncle slightly longer than half the length of carapace; dactylus of raptorial claw with 6 spines; dorsal surface of telson with 7 acute spines; 11-12 submedian denticles and presence of postanal spine. In *H. brazieri*, antennular peduncle slightly more than half as long as carapace; rostrum with apical long spine; raptorial claw with 6 teeth; telson with strong postanal spine and presence of ventral spine on basal segment of uropod at articulation of endopod.

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