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A NEW FRESH-WATER PRAWN OF THE GENUS MACROBRACHIUM (CRUSTACEA DECAPODA, CARIDEA) FROM MADAGASCAR

by

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Due to the kindness of Mr. Y. Therezien, Ingénieur-hydrobiologiste of the Centre Technique Forestier Tropical at Tananarive, Madagascar, the Rijksmuseum van Natuurlijke Historie received at several occasions fresh-water Crustacea from Madagascar. Two previous reports (Holthuis, 1964, 1965) dealt with the crayfishes and the atyid shrimps of these collections. Among the fresh-water Palaemonid prawns a new species of *Macrobrachium* was found, which is the subject of the present note. It is a great pleasure to dedicate this beautiful species to Mr. Therezien.

Macrobrachium therezieni new species

River of Maningory, Fénéric district, Tamatave province, eastern Madagascar; 16 February 1961; Y. Therezien, no. 9. — 1 adult male (holotype); Rijksmuseum van Natuurlijke Historie, reg. no. Crust. D. 21234.

Andevoranto, sous-préfecture Brickaville, Tamatave province, eastern Madagascar; 22 September 1963; Y. Therezien, no. 37. — 5 males (paratypes); Rijksmuseum van Natuurlijke Historie, reg. no. Crust. D. 21235.

Description. — The holotype, an adult male, has the carapace 25 mm long (including the rostrum); its total length is about 60 mm. In the paratypes, all of which are males, the carapace length varies between 25 and 30 mm, the total length between 56 and 63 mm.

The rostrum is rather high and straight; it reaches slightly beyond the antennular peduncle, but fails to reach the end of the scaphocerite. The midrib is curved slightly up at the end, but the upper margin of the rostrum is

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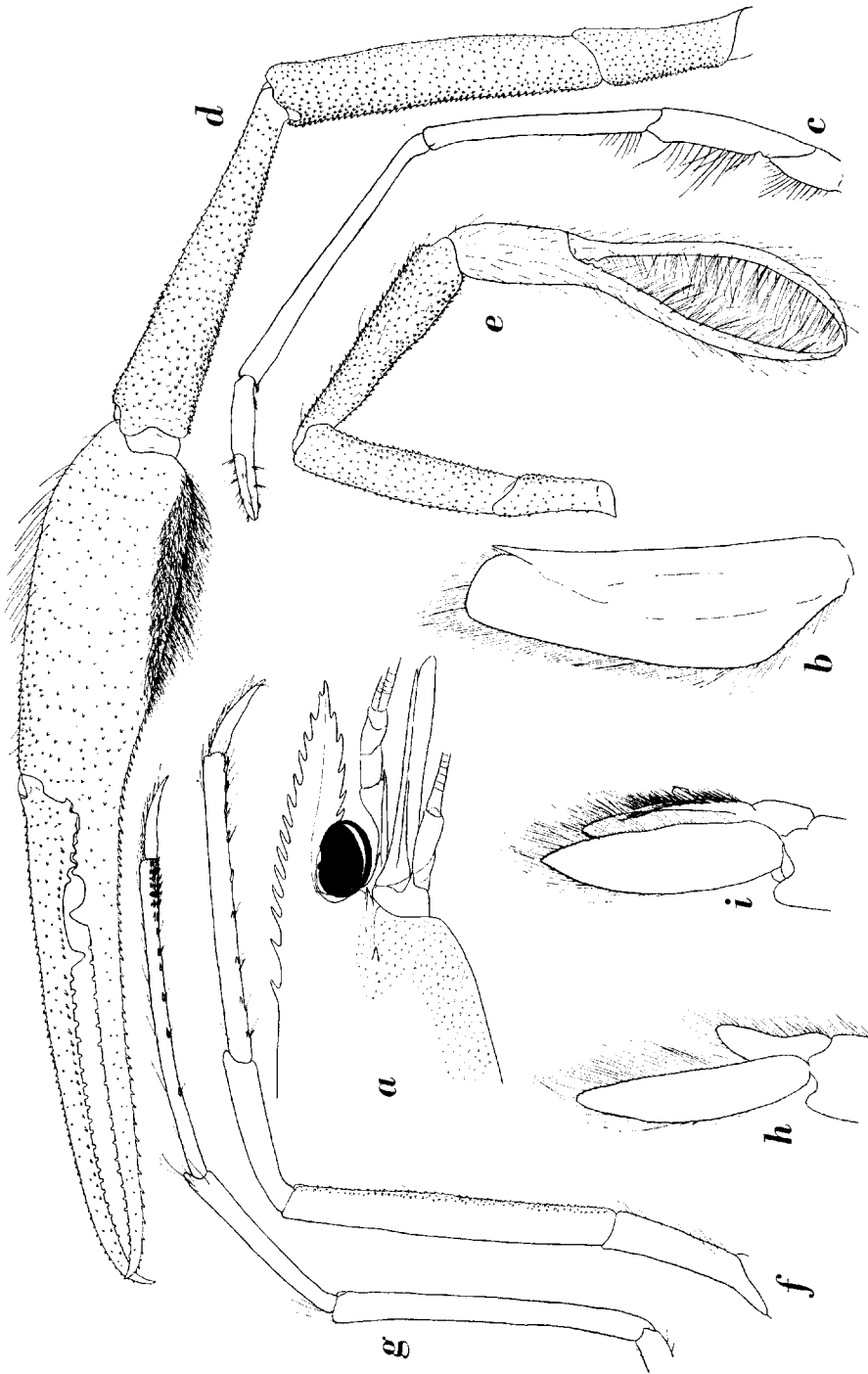


Fig. 1. *Macrobrychium theresieni*, new species. a, anterior part of body in lateral view; b, scaphocerite; c, first pereopod; d, larger second pereopod, inside view; e, smaller second pereopod; f, third pereopod; g, fifth pereopod; h, first pleopod, ♂; i, second pleopod, ♂. a, c, d, holotype ♂; b, e-i, paratype ♂. a, d, e, × 3; b, c, f, g, × 4; h, i, × 6.

straight or slightly convex. The dorsal margin of the rostrum bears 12 to 15 teeth, the first four of which are placed on the carapace behind the orbit. The first tooth is placed in the anterior third of the carapace; it is separated from the second by a distance distinctly larger than the intervals between the other teeth. These other teeth are rather regularly divided over the upper margin, up to the tip of the rostrum. The lower rostral margin is convex and bears 3 to 5 teeth, the first of which is placed below the ninth or tenth dorsal tooth. The lower orbital angle is broadly rounded. The hepatic spine is somewhat smaller than the antennal and stands on a slightly lower level. The antero-lateral part of the carapace in the males is scabrous by the presence of small but distinct spinules.

The abdomen is smooth. The pleura of the first four somites are broadly rounded, the tip of the fifth is about rectangular. The sixth somite is less than 1.5 times as long as the fifth. The telson is about 1.5 times as long as the sixth somite. The anterior of the two dorsal pairs of spines lies in the middle of the telson, the posterior pair is placed about halfway the anterior pair and the posterior margin of the telson. This posterior margin ends in a distinct sharp triangular median point which is flanked by two pairs of spines, the inner of which are about three times as long as the outer and overreach the tip of the telson. Between the inner spines numerous hairs are implanted on the posterior margin of the telson.

The eyes are large. The cornea is kidney-shaped and broad, it is distinctly broader than the stalk. A distinct ocellus is present.

The stylocerite is short and acute. The antero-lateral tooth of the basal segment of the antennular peduncle attains about the middle of the second segment, which is somewhat shorter than the third.

The scaphocerite reaches somewhat beyond the rostrum. It is practically three times as long as broad. The outer margin is straight or slightly concave and ends in a strong tooth, which is distinctly overreached by the lamella. The anterior margin of the lamella is somewhat truncated, being broadly rounded at the inner angle.

The first pereopods are slender. They reach with about $1/4$ of the carpus, or somewhat less, beyond the scaphocerite. The fingers are slightly shorter than the palm. The carpus is twice as long as the chela, about 1.2 times as long as the merus, and about twice as long as the ischium. In the adult male the second pereopods are very unequal. The larger leg reaches with the carpus and chela beyond the scaphocerite. The fingers are very long and slender, they are 1.2 to 1.8 times as long as the palm. The cutting edge of the dactylus has 3 or 4 short blunt teeth in the extreme basal part, the distal of these teeth is smaller than the one behind it. Before these teeth the edge

is unarmed for some distance; this unarmed portion anteriorly ends in a large triangular tooth, beyond which the edge is provided with regularly and rather widely spaced small blunt teeth, about 23 to 25 in number, which extend all the way to the tip of the dactylus. The large tooth is placed in the distal part of the basal third of the cutting edge; in one specimen this tooth is abnormal in being quite small. The cutting edge of the fixed fingers shows an arrangement of teeth similar to that of the dactylus. However, the distal of the basal teeth is the largest and resembles the large triangular tooth, being only smaller; it is placed just before the distal of the basal teeth of the dactylus. The large triangular tooth of the fixed finger is placed over the middle of the unarmed space of the cutting edge of the dactylus. The palm and the fingers, as well as the rest of the cheliped, are beset with horny spinules, which in some places are more dense than in others. The outer surface of the palm is covered with a dense pubescence of long and soft hairs, except for the extreme distal fourth which is naked. The inner surface is naked, except for the extreme lower part where the pubescence of the outer surface continues. Some scattered long and rather stiff hairs may be observed on the palm. The carpus is slender, it is as long as or slightly longer than the palm and tapers regularly proximally. Apart from a few stiff hairs, the carpus is naked. The merus is slightly shorter than the palm and about twice as long as the ischium. The shorter second leg reaches with only part of the carpus, though the larger part, beyond the scaphocerite. The fingers are twice as long as the palm, they are curved and gape strongly, only the tips meet. The gap between the fingers is filled by strong and stiff hairs, but these are not so numerous that they entirely obscure the cutting edges of the fingers. These cutting edges show 2 or 3 small teeth in the extreme proximal part, but are without teeth for the rest of their length. The carpus is about 0.6 times the length of the chela, it is slender and about 1.2 times as long as the merus. The ischium is about half as long as the merus. The leg bears horny spinules and scattered stiff setae. In the not full-grown specimen the left and right second chelipeds are not very different from each other; in the smaller leg the fingers do not yet gape, but are closed, while also the pubescence is far less conspicuous. The third leg reaches with part of the propodus beyond the scaphocerite. The propodus is three times as long as the dactylus; its posterior margin bears about 9 spinules. The carpus is half as long as the propodus, while the merus is somewhat longer than the latter segment. The posterior surface of the merus shows numerous small horn-tipped spinules similar to those found on the large cheliped. The ischium is about half as long as the merus. The fifth leg reaches about to the end of the scaphocerite. The dactylus is about $1/3$ to slightly more than $1/4$ as long as the propodus.

The distal part of the posterior margin of the propodus has the usual transverse rows of setae, while spinules are placed along the entire posterior margin. The carpus is more than half as long as the propodus. The merus is about as long as the propodus, and shows no spinules. The ischium is about half as long as the merus.

The pleopods and uropods are normal. The appendix masculina is much longer than the appendix interna and is provided with many stiff bristles.

Colour. — In the preserved specimens hardly a trace of the original colour is left. Only the fingers of the large chela are bluish grey with larger and smaller spots of whitish.

Native name. — Mr. Therezien noted on the field label of the holotype, that the vernacular name of the species is "orana".

Remarks. — This new species is most closely related to *Macrobrachium grandimanus* (Randall) and *M. joppae* Holthuis. The general shape of the body of these three species is very similar, the differences being mainly those of the chelipeds of the second pair. In *M. therezieni* the larger second leg is far more slender than in *M. grandimanus*, in the latter species the fingers are at most slightly longer than the palm, the larger tooth being placed slightly before the middle of the dactylus. The carpus is shorter than the palm. The chela is also higher in *M. grandimanus*. From *M. joppae* the new species differs in the dentition of the fingers of the large second leg: in *M. joppae* the large teeth of the fixed finger and the dactylus are placed opposite one another, so that the untoothed portion of the two cutting edges together form a distinct gap when the chela is closed. The palm in *M. joppae* is relatively longer and the pubescence of its outer surface is restricted to a very small basal area.

Macrobrachium grandimanus is known from the Hawaiian Archipelago and the Ryukyu Islands, while *M. joppae* has so far only been reported from the island of Nias off the westcoast of Sumatra.

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