

# **Mysid genus *Pseuderythropros* (Crustacea: Mysidacea: Mysidae) from Southeast Asian seas with a description of *Pseuderythropros megalops* n. sp.**

MASAAKI MURANO

*Institute of Environmental Ecology, Shin-Nippon Meteorological & Oceanographical Consultant Co. Ltd. (METOCEAN), 1334–5 Riemon, Ooigawa-cho, Shida-gun, Shizuoka 421–0212, Japan*

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**Abstract:** Two species of the genus *Pseuderythropros* are reported. The present occurrences of *Pseuderythropros gracilis* Coifmann, 1936, from the Sulu and Timor Seas extend the geographical distribution range of this species considerably eastward. A new species, *Pseuderythropros megalops*, the second species of this genus, is described. The new species is distinguished from *P. gracilis* by the large eyes, the shape of the antennal scale, the structures of the third thoracic endopod and fourth male pleopod, and the number of lateral spines on the telson. With the addition of the new species, the diagnosis of the genus is amended.

**Key words:** *Pseuderythropros*, Mysidae, Crustacea, taxonomy

## **Introduction**

The genus *Pseuderythropros* has contained only a single species since 1936 when the genus was established by Coifmann for *P. gracilis*. During a cruise to Southeast Asian seas by the R/V *Hakuho Maru* (KH-72-1), Ocean Research Institute, University of Tokyo, specimens of two *Pseuderythropros* species, one of which is new to science, were collected. In this paper a revised diagnosis of the genus, biological information on *P. gracilis*, and a description of the new species are introduced.

The type specimens are lodged in the National Science Museum, Tokyo (NSMT).

## **Genus *Pseuderythropros* Coifmann, 1936**

*Pseuderythropros* Coifmann, 1936, p. 83; 1937, p. 35–36.—Nouvel, 1959, p. 233–234.  
*Metamblyops* Ii (in pars), 1964, p. 343–345.

## **Diagnosis**

Anterior margin of carapace broadly rounded, without rostral projection. Carapace with deep depression on lateral borders just behind buccal mass region. Eye large, well developed, cornea spherical, ocular papilla absent. Antennular peduncle relatively slender, first segment

with outer distal corner not produced and armed with several setae, two of which grow laterally and then anteriorly; second segment shortest, with small lobe provided with bristles on anterior margin. Antennal scale with long apical lobe, spine of outer margin developed; peduncle consisting of 3 subequal segments. Mandibular palp with second segment narrow and bent in proximal portion. Endopod of third thoracic limb more robust than those of succeeding limbs, with distal subsegment of propodus armed with characteristic setae along inner margin. Endopods of fourth to eighth thoracic limbs slender; eighth endopod shorter than preceding ones. Endopod of uropod swelling in statocyst region, without spines. Telson entire, elongated triangular, with spines on distal half of lateral margins and apex, without apical plumose setae. Fourth pleopod of male with exopod longer than or equal to endopod, provided with modified setae on distal several segments. Marsupium composed of 2 pairs of oostegites.

#### Type species

*Pseuderythropros gracilis* Coifmann, 1936.

#### Remarks

The original diagnosis by Coifmann (1936) was brief because the observation was made on a single badly preserved immature female. Nouvel (1959) redefined the genus on the basis of material from the Red Sea. With the addition of the present new species, Nouvel's diagnosis is partly revised. The major correction involves the endopods of the thoracic limbs and the fourth pleopod of the male.

*Pseuderythropros* is easily distinguished from allied genera by the combination of frontal carapace margin without a definite rostral projection, the characteristic shape of the mandibular palp, the endopod of the third thoracic limb being different from succeeding ones, the shape and armature of the telson, and the exopod of the fourth male pleopod being armed with modified setae.

Ii (1964) thought that the genus *Pseuderythropros* might be a synonym of the genus *Metamblyops*, but as fully discussed by Pillai (1973), it must be recognized as a valid genus.

On the other hand, Pillai (1973) strongly suggested *Gibberythropros philippinensis* Tattersall, 1951, to be a member of *Pseuderythropros*. I reexamined the type specimens of *G. philippinensis* on loan from the U. S. National Museum. They are in rather poor condition and evidence that they are referable to *Pseuderythropros* could not be obtained through the reexamination. They bear some characteristics of *Pseuderythropros*, such as the lobe on the second segment of the antennular peduncle, the narrow mandibular palp (Fig. 1A), and the fourth male pleopod with the exopod longer than the endopod and probably armed with modified setae (Fig. 1B). Some characteristics which differ from those of *Pseuderythropros* are as follows; the first segment of the antennular peduncle is not armed with the characteristic setae, the external spine of the antennal scale is rather small, the third thoracic endopod is similar to succeeding ones, and the endopod of the uropod is armed with a single feeble spine in the statocyst region, although Tattersall (1951) described that no spines existed. A conclusion on the status of this species should be postponed until future examinations are made in detail on new specimens from the type locality.

#### ***Pseuderythropros gracilis* Coifmann, 1936 (Fig. 2)**

*Pseuderythropros gracilis* Coifmann, 1936, p. 83; 1937, p. 36.—Nouvel, 1959, p. 234–239.—

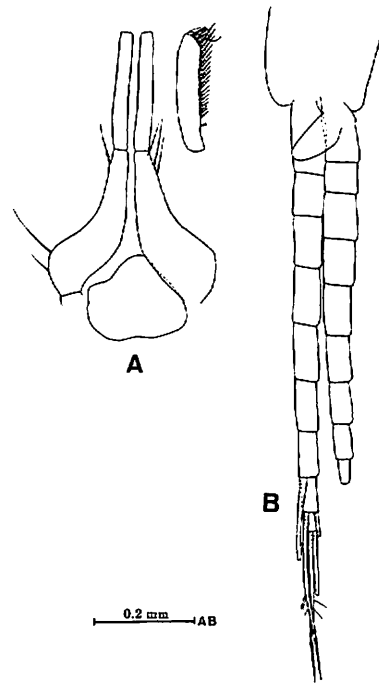


Fig. 1. *Gibberythrop philippinensis* (Tattersall, 1951). A. Labrum and mandibular palps. B. Fourth pleopod of male.

Pillai, 1964, p. 25–26; 1965, p. 1707; 1973, p. 91–94.  
*Metamblyops gracilis*, Ii, 1964, p. 346.

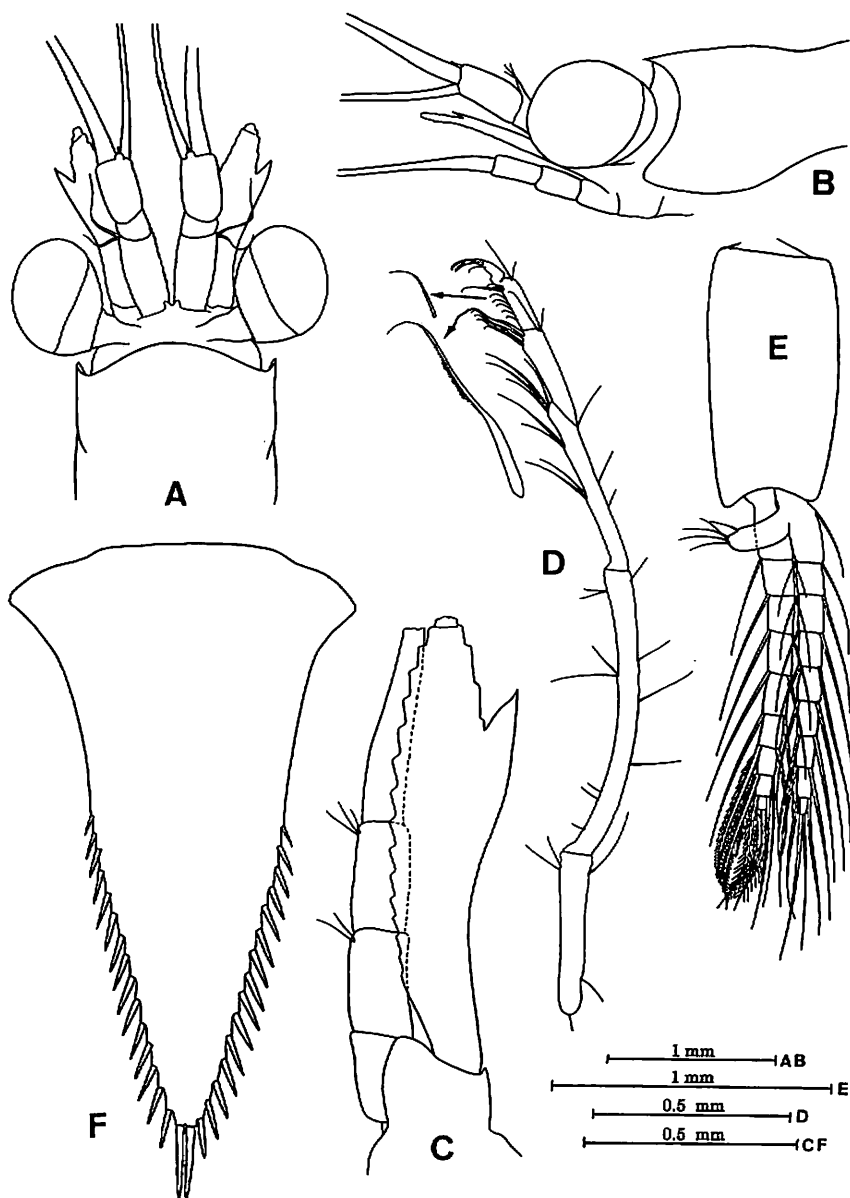
#### Material

One adult female (damaged), 1 adult male (10.4 mm), 10 immature females (up to 8.9 mm) and 8 immature males (up to 8.6 mm); Sulu Sea, 08°12.7'N, 117°59.6'E to 08°11.8'N, 117°58.4'E; 285–306 m; plankton net installed in mouth of 3-m beam trawl; 26 May 1972. One immature female (8.6 mm) and 1 immature male (damaged); Sulu Sea, 08°12.0'N, 117°58.3'E to 08°12.5'N, 117°58.7'E; 318 m; bottom-net; 26 May 1972. Two adult females (10.9 mm), 1 immature female (damaged) and 1 immature male (damaged); Timor Sea, 09°34.4'S, 128°06.0'E to 09°33.5'S, 128°03.4'E; 295–296 m; plankton net installed in mouth of 3-m beam trawl; 19 June 1972.

#### Remarks

The original description and illustrations given by Coifmann (1936) were brief, but later, Nouvel (1959) and Pillai (1964, 1973) gave a detailed redescription accompanied with good illustrations. The present specimens agree well with their redescriptions apart from a few points. In the present specimens, the exopod of the fourth male pleopod is almost equal to the endopod in length, 9-segmented, and has modified setae on the distal 4 segments (Fig. 2E), while the exopod of Nouvel's specimens is slightly longer than the endopod, 8- or 9-segmented and bears modified setae on the distal 6 segments, and that of specimens of Pillai (1973) is slightly longer than the endopod, 8-segmented, and has modified setae on the distal 4–6 segments.

The endopod of the third thoracic limb is furnished with 5 short, curved, naked setae along the inner margin of the distal propodal subsegment in the present specimens (Fig. 2D). With



**Fig. 2.** *Pseuderythroptus gracilis* Coifmann, 1936. **A.** Anterior end of adult female, dorsal view. **B.** Anterior end of adult female, lateral view. **C.** Antenna. **D.** Endopod of third pleopod of male. **E.** Fourth pleopod of male. **F.** Telson.

respect to this character, Nouvel (1959) and Pillai (1964, 1973) gave no description, and Pillai (1964, 1973) did not draw these setae. Nevertheless he provided a detailed illustration of this endopod (Pillai 1973: Fig. 49D, E).

The distal suture of the antennal scale was found near distal end in the present specimens (Fig. 2C), while Nouvel (1959) and Pillai (1973) illustrated it to be located in the middle of the distal lobe.

## Distribution

Hitherto, this species has been recorded from the Red Sea (Coifmann 1936, 1937; Nouvel 1959), the Arabian Sea (Pillai 1964, 1973) and the Indian Ocean south of Sri Lanka (Pillai 1973). The present records from the Sulu and Timor Seas, therefore, extend the geographical range of this species considerably eastward. This species is a hyperbenthic form found at depths of about 300 m.

## ***Pseuderythropus megalops* n. sp. (Figs 3, 4)**

### Material

Holotype (NSMT-Cr 12151), adult female (8.9 mm); allotype (NSMT-Cr 12152), adult male (8.6 mm); paratypes (NSMT-Cr 12153), 6 gravid females (7.3–10.2 mm), 1 adult female (9.6 mm), 1 adult male (6.7 mm) and 1 immature male (8.8 mm); South China Sea, 06°51.6'N, 108°47.2'E to 06°51.6'N, 108°48.9'E; 132–137 m; plankton net installed in mouth of 3-m beam trawl; 10–11 July 1972.

Other material, 10 adult females, 2 adult males, 15 immature females and 6 immature males; collection data same as in type specimens.

### Description

Body slender (Fig. 3A). Carapace short anteriorly, completely leaving antennular peduncles and eyes uncovered; anterior margin broadly and evenly rounded with narrow, somewhat up-turned rim; anterolateral corner narrowly rounded; posterior margin emarginate, leaving last 2 thoracic somites uncovered (Fig. 3A–D).

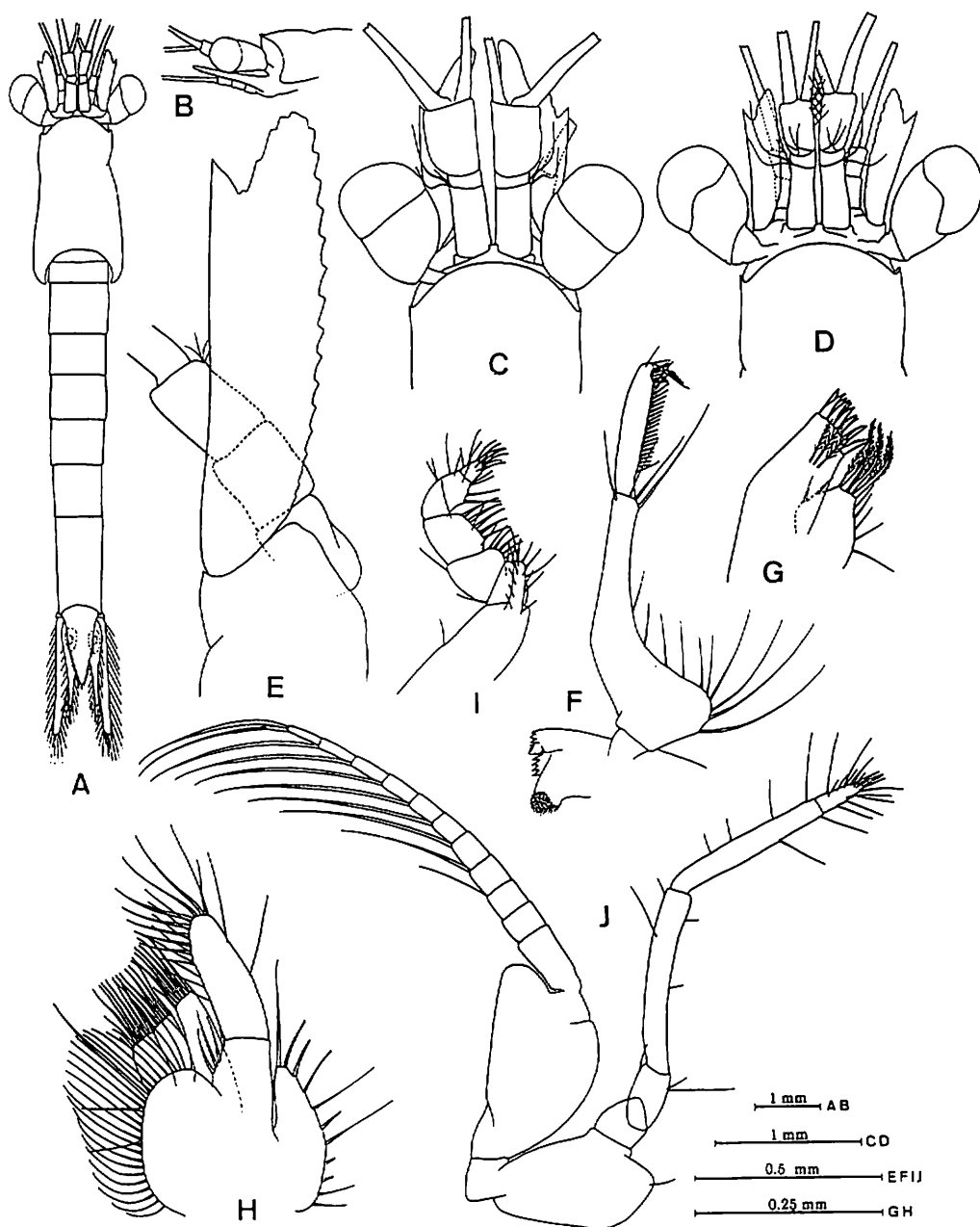
Eye very large, extending beyond middle of third segment of antennular peduncle; cornea occupying half of whole organ, globular, slightly wider than eyestalk; no ocular papilla on eyestalk (Fig. 3A, B).

Antennular peduncle of female slender; first segment as long as following 2 segments together, armed on outer distal corner with several setae, two of which are longer and extending laterally, and then anteriorly; second segment short, 1/5 of first segment in length; third segment somewhat wider than preceding segment (Fig. 3D); of male, more robust than that of female, third segment as long as first, much wider than preceding one (Fig. 3C).

Antennal peduncle consisting of 3 segments being nearly same length, extending to distal end of second segment of antennular peduncle. Antennal scale slightly overreaching distal margin of antennular peduncle, twice as long as antennal peduncle, 4 times as long as broad; outer margin nearly straight, naked, terminating in large triangular thorn; apical lobe slightly longer than width at its base, 2.5 times longer than terminal thorn of outer margin (Fig. 3E).

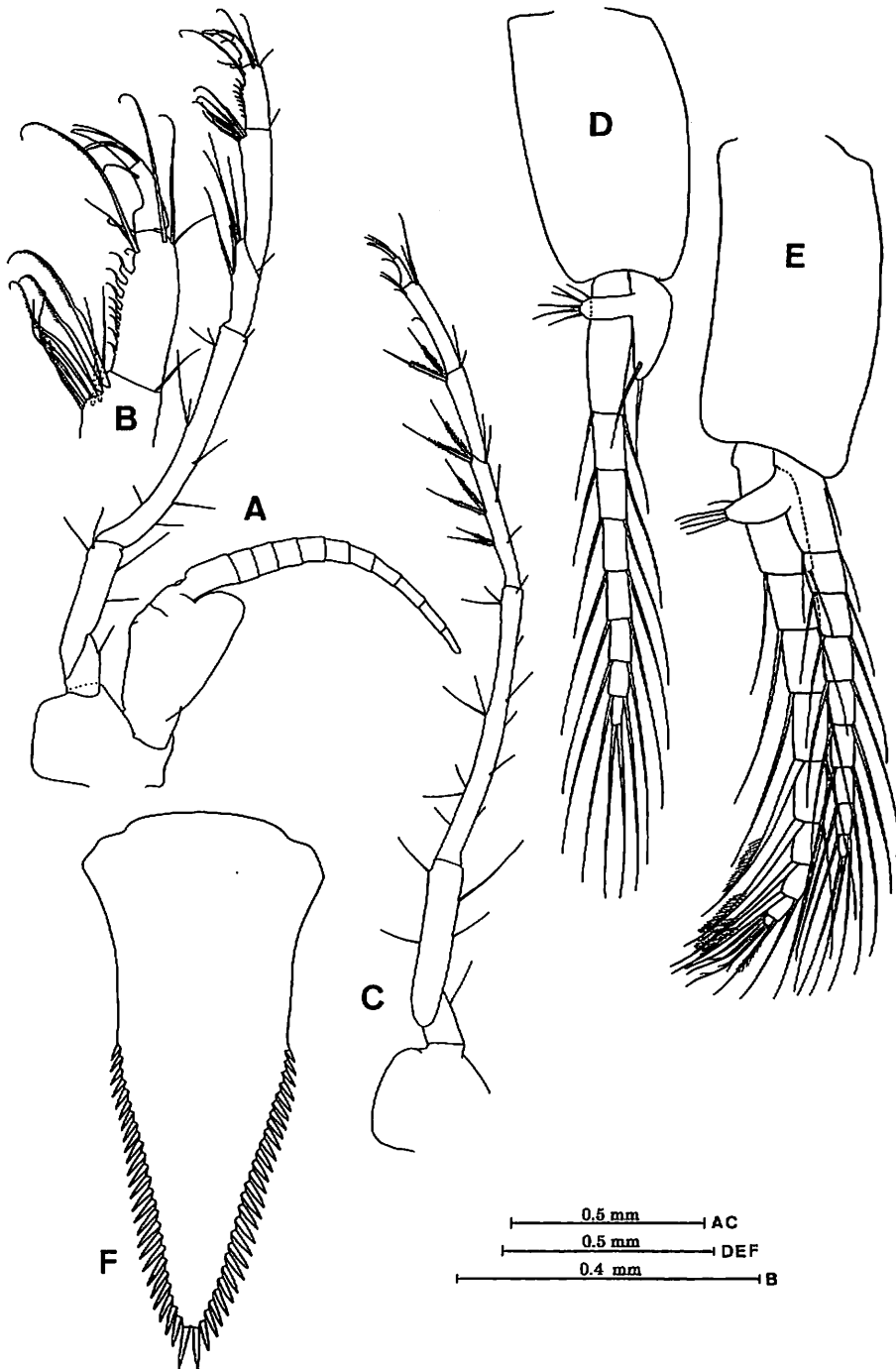
Mouth parts and first and second thoracic endopods allied to those of *P. gracilis* (Fig. 3F–J). Labrum wider than long, with rounded frontal margin.

Third thoracic endopod more robust than succeeding ones; merus longest, curved inwardly, sparsely setose; carpus short, jointed obliquely with propodus; propodus 2-jointed, proximal subjoint much longer than carpus, with 6 long setae on inner distal margin, distal subjoint half as long as proximal, armed along inner margin with 8 short, characteristic setae becoming longer distally; dactylus short, with strong, hook-like claw distally (Fig. 4A, B). Fourth to eighth thoracic endopods slender, without characteristic setae on distal subjoint of propodus (Fig. 4C). Eighth endopod considerably shorter than preceding ones.



**Fig. 3.** *Pseuderythropus megalops* n. sp. A. Adult female, dorsal view. B. Anterior end of adult female, lateral view. C. Anterior end of adult male, dorsal view. D. Anterior end of adult female, dorsal view. E. Antenna. F. Mandible and mandibular palp. G. Maxillule. H. Maxilla. I. Endopod of first thoracic limb. J. Second thoracic limb.

Abdomen slender, sixth somite twice as long as fifth, twice as long as broad (Fig. 3A). Male pleopods well developed, natatory; first pleopod with unsegmented endopod and 8-segmented exopod (Fig. 4D), second to fifth pleopods with 9-segmented endopod and exopod. Exopod of fourth male pleopod extending beyond distal end of endopod for distal 3 segments, each of fourth to seventh segments armed at outer distal corner with stout seta plumed on dis-



**Fig. 4.** *Pseuderythrops megalops* n. sp. **A.** Third thoracic limb. **B.** Extremity of endopod of third thoracic limb. **C.** Endopod of fourth thoracic limb. **D.** First pleopod of male. **E.** Fourth pleopod of male. **F.** telson.

tal half except for apical short naked part, eighth segment with slender setae, terminal segment with 2 rather short, spinose setae; endopod without modified setae (Fig. 4E).

Uropod slender; endopod overreaching telson for its distal 1/4, without spines in statocyst

region; exopod 1.3 times longer than endopod (Fig. 3A).

Telson shorter than last abdominal somite (Fig. 3A), slightly more than twice as long as broad at base, elongate triangular with narrow apex armed with pair of spines, which are longer than those on lateral margins; lateral margin concave and smooth in proximal 2/5, armed on distal 3/5 with about 25 spines of equal length except for several short proximal ones (Fig. 4F).

### Etymology

The species name "*megalops*" refers to the big eyes of this species.

### Remarks

The new species resembles *Pseuderythrops gracilis* Coifmann, 1936, in general form but differs in the following respects. (1) In the new species the carapace has a narrow, upturned frontal rim, while in *P. gracilis* this rim is not present. (2) In the new species the eye extends beyond the middle of the third segment of the antennular peduncle, while in *P. gracilis* it extends only to the proximal margin of the third segment. (3) The external margin of the antennal scale is nearly straight in the new species, while it curves sigmoidally in *P. gracilis*. (4) The carpus of the third thoracic endopod is shorter than the proximal subsegment of the propodus in the new species, while it is much longer in *P. gracilis*. (5) In the new species the exopod of the fourth male pleopod is considerably longer than the endopod, while in *P. gracilis* it is only slightly longer than or subequal to the endopod. (6) The number of lateral spines on the telson is about 25 in the new species compared to 14–15 in *P. gracilis*.

*Pseuderythrops megalops* is a hyperbenthic species inhabiting depths of about 100–150 m.

### Acknowledgments

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