

## DESCRIPTION OF THE ISOPODA *AEGA PSORA* (LINNAEUS, 1758) INFESTING THE RED SEA PARROTFISH "*SCARUS FERRUGINEUS*" IN JEDDAH, SAUDI ARABIA

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### ABSTRACT

External examination of twenty five (25) parrotfish (*Scarus ferrugineus*) caught from the Red Sea at Jeddah, revealed that the gills of five fishes (20%) were infested with an isopod parasite belonging to the family Aegidea White, 1850 and Genus *Aega* Leach, 1815. The morphological characteristics of this species were discussed in details. Comparing the present specimens with the previously reported *Aega* sp. showed that the present material could belong to the type species of the genus: *Aega psora* (Linnaeus, 1758). This investigation represents the first record of *Aega* sp. on *S. ferrugineus* from the Red Sea at Jeddah.

### 1- INTRODUCTION

Isopoda parasitize freshwater and marine teleosts, as well as elasmobranchs. An approximate count estimates their number of about 430 species (Kabata, 1970). This author said: "It can be taken that the real number is much higher, and that numerous isopod species await discovery, particularly in the tropical and subtropical regions.

Szidat (1955) reported on numerous isopods of the genera *Braga*, *Conilera*, *Rocinela*, *Aega*, *Livoneca*, *Ichthyoxenus* and *Riggia*, living as parasites on the coastal fishes of South America. According to Szidat 1955, the distribution of the parasitic Cymothoidae shows an increase in numbers of species and genera from the temperate zones to the equator.

According to Reichenbach-Klinke (1957) one of the best known and most common species in the Mediterranean is *Anilocra physodes* (L.). This parasite lives on many different fishes, most commonly on *Maena samris* (Cuv.) and *Cupela rubescens* L., attached to the operculum, gills or the walls of the buccal cavity.

Wunder (1961) described the occurrence of *Nerocila orbignyi* Guerin – Meneville on *Tilapia galilaea* (Artedi) in a brackish lake in Egypt. This species has a particularly wide distribution area, occurring in European waters, in the tropical Atlantic, South Africa, Australia and New Zealand.

Mann (1970) stated that in the Atlantic and the North Sea the gadoid fishes are the main hosts for *Aega psora* (L.), *A. ventrosa* M. Sars, *A. stroemi* Lübben, *A. monophthalma* Johnson and *A. tridens*, though these isopods are also found on other fishes. The same is true of *Rocelina danmoniensis* Leach. *Cyscenus infelix* Harger is known from the Mediterranean, where it is also parasitic on the gadoids.

Avdeev (1979) described three new species of isopods (family Cymothoidae) from fishes of the Red Sea: *Meinerta venusta* from the flying fish *Parexocoetus brachypterus*, *Cymothoa selari* from *Selar crumenophthalmus* and *Irona cypselurus* from *Cypselurus* sp.

Bruce (1983) reported new data on Australian isopods (family Aegidae) of the genera *Aega*, *Rocinella* and *Alitropus*, described and figured three new species from Australian coasts, briefly re-described and

figured previously known species and resolved some new synonymies within the genus *Aega*.

Hiekal and El-Sokkary (1990) found an isopod, *Telotha* sp. (family Cymothoidae) from the wall of the gill chamber of *Oblada melanura* from the Mediterranean Sea at Alexandria. A similar *Telotha* sp. was also recorded by Imam and Abu Znada, 1990 from the gills of Red sea fish *Plecerobomus maeulatus* in Jeddah.

Badawy (1994) Found *Rocinella lethrini* (family Aegidae) infesting the gills of *Lethrinus nebulosus* from the Red Sea.

## 2- MATERIALS AND METHODS

Fishes used in this study were 25 terminal males of *Scarus ferrugineus* (Fig. 1), caught from the Red Sea at Jeddah. The fish was identified according to Randall (1983). Fishes were brought freshly to the laboratory and externally examined from any infestation with ectoparasites. Five fishes (20%) were infested each with an isopod in the gill chamber. The parasites were carefully removed, washed in saline, fixed and preserved in glycerine – alcohol. Dissection of appendages was done under dissecting microscope with fine dissecting needles. After dissection permanent slides were prepared by adding glycerine jelly. Identification of the parasite was carried out according to Bruce *et al.* (2002). Observations, measurements and drawings were made with the aid of a camera lucida under a high power microscope.

## 3- RESULTS AND DISCUSSION

*Aega* sp. (Figs. 2 and 3) was found on the gills of 20% of the examined *Scarus ferrugineus* from the Red Sea at Jeddah.

Bruce (1983) stated that Aegidae is a family with many taxonomic and nomenclatural problems and the largest genus *Aega* contains an abundance of named species that have been established with brief descriptions that needs subsequent identification of the species.

Brusca (1983) discussed the history and taxonomy of the genus, gave diagnosis of the genus and catalogued all species within it.

The following description is based on five collected specimens. Body dorsoventrally flattened, measured from 4.25 mm. to 4.92 mm. in length, with maximum width 1.75 mm. anteriorly and 1.12 mm. posteriorly.

### Head

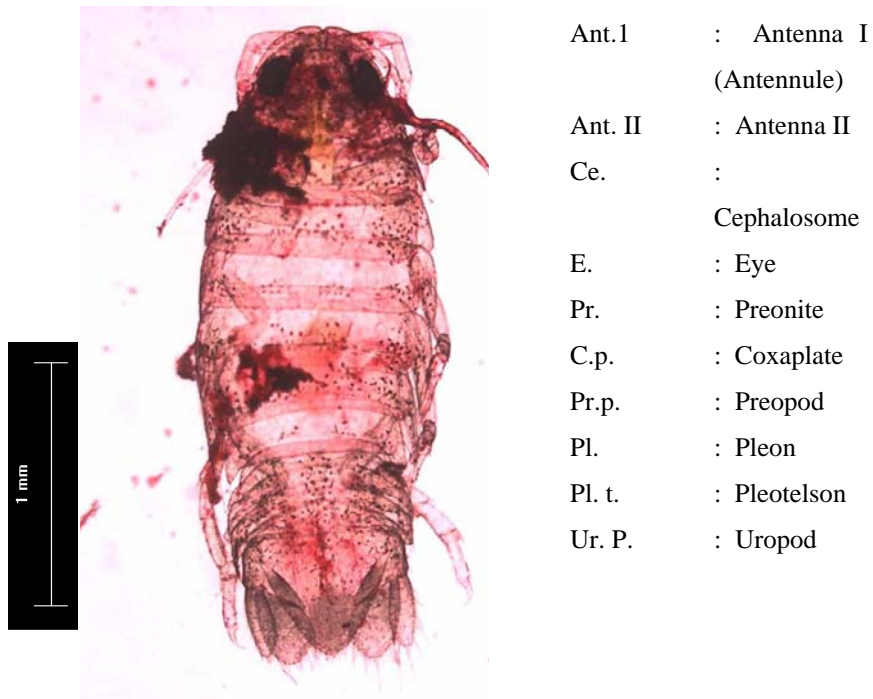
Head fused with first thoracic segment forming cephalosome. No carapace. Eyes large, sessile widely separated. Antenna 1 and 2 well developed, peduncle and flagellum clearly differentiated. Antennule peduncle 3-articulate, 4<sup>th</sup> fused terminal article present on article 3, article 3 about as long as the combined length of articles 1 and 2, flagellum extending to pereonite 1, composed of 8 articles. Antenna peduncle article 1-3 short, article 4 slightly longer than 2, article 5 distinctly longest, flagellum composed of 12 articles, extending to pereonite 3. Mandible palp with stiff setae on lateral margin of terminal article. Maxillule with 4 broad terminal spines on exopodite. Maxilla with single straight spine on endopodite and 2 hooked spines on exopodite. Maxilliped palp 5 articulate, article 5 small, lobe-like, articles 3, 4, 5 with hooked spines and setae.

Genus *Aega* has generally been distinguished from others of the family by the presence of 5 articles to the maxilliped palp. The frontal lamina is relatively large when compared to other genera, and usually there is a posteriorly directed rostral process that lies between the antennule bases (Bruce, 1983).

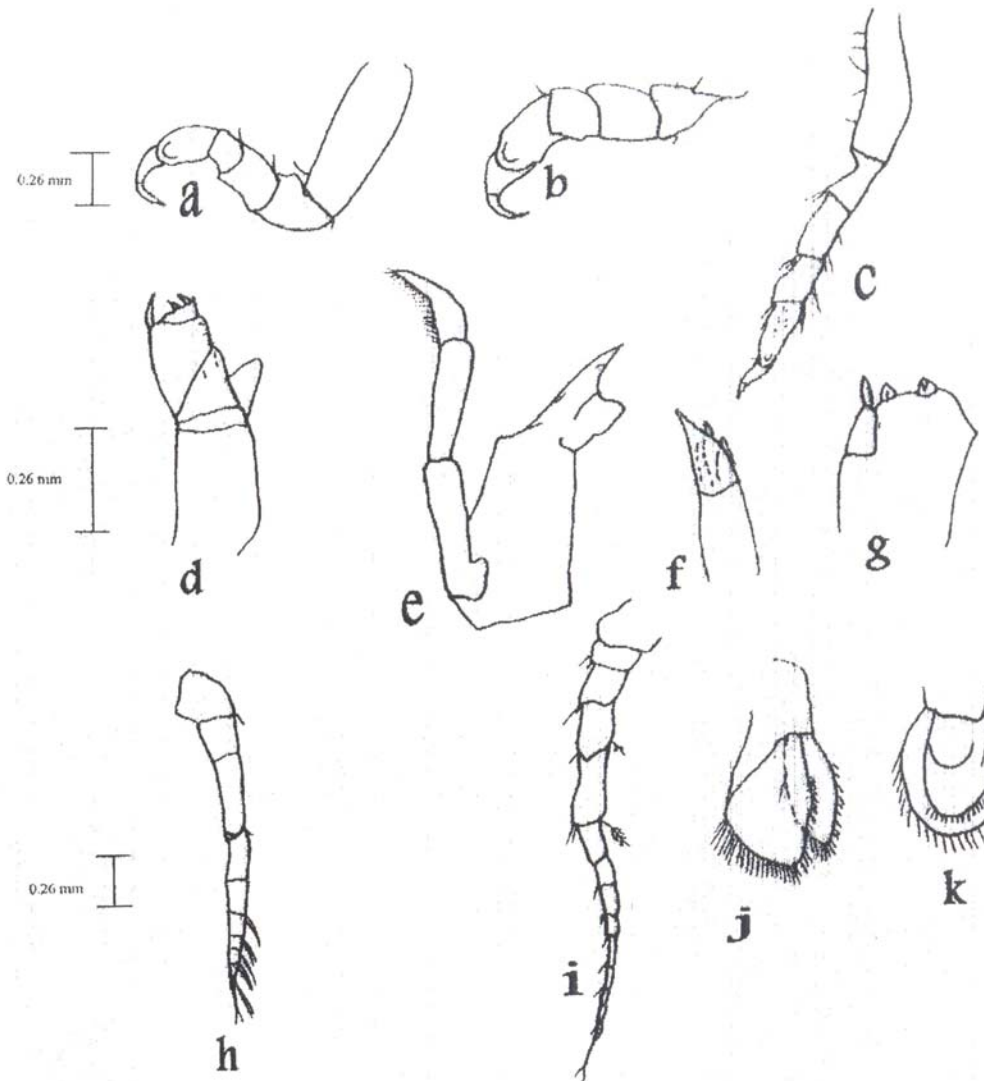
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**Fig. (1): The parrotfish, *Scarus ferrugineus*, caught from Red Sea at Jeddah**



**Fig. (2): *Aega* sp., holotype, dorsal view**



**Fig. (3) : *Aega* sp.: (a) preopod 1; (b) preopod 2; (c) preopod 7; (d) maxilliped ; (e) mandible; (f) maxillule; (g) maxilla; (h) antennule; (i) antenna; (j) uropod; (k) pleopod.**

### Pereon

Pereon consists of 7 free, distinct pereonites. Paired uniramous legs present on each pereonite (pereopod), each consisting of 7 articles. Coxae extending ventrally and laterally to overhang the coxa-basis articulation of pereopod. Pereopods 1-3 similar, without spines; dactylus strongly recurved (sharp claw). Pereopod 7 has somewhat long setae and spines.

### Pleon

Pleon consists of 5 distinct pleonites. Pleonite 5 subequal to or shorter than any of pleonites 1 – 4. Presence of 5 pairs of biramous pleopods with all rami setose.

### Pleotelson

Pleonite 6 fused with telson forming pleotelson, subtriangular in shape. Uropods are reaching apex of pleotelson. Exopodite with both margins convex, endopodite lateral margin nearly straight, both rami heavily spinosed with short spines.

The morphological characters of the present isopod parasite collected from the gills of the infected Scarid fish, *S. ferrugineus* coincide with diagnostic characters of family Aegidae White 1850 reported by Keable *et al.*, (2002) and with those of genus *Aega* Leach, 1815 reported by Bruce (1983).

Comparing the present specimen with the previously recorded *Aega* spp. it was found that our material showed great similarity with the type species "*Aega psora* (Linnaeus, 1758)".

This investigation represents the first record of *Aega* sp. on *Scarus ferrugineus* from the Red Sea at Jeddah.

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