A NEW GAUSSIA (COPEPODA, CALANOIDEA, METRIDINIDAE) FROM THE NORTH PACIFIC

BY

DANIELLE DEFAYE
Muséum national d'Histoire naturelle, Laboratoire de Zoologie (Arthropodes), 61, rue de Buffon, F-75005 Paris, France

ABSTRACT

A new species of Metridinidae, belonging to the genus Gaussia, is reported from the North Pacific. The description focuses on the similarity of Gaussia intermedia n. sp. to both G. asymmetrica Björnberg & Campaner, 1988 and G. princeps (T. Scott, 1894). These three species, of the four Gaussia species known at present, all occur in the Pacific Ocean, G. princeps being the most widespread.

INTRODUCTION

The family Metridinidae G. O. Sars, 1902 comprises three genera: Gaussia Wolfenden, 1905, Metridia Boeck, 1864, and Pleuromamma Giesbrecht, 1898. In studying metridinid specimens for a comparison of female genitalia (Cuoc et al., in press), we found Gaussia specimens belonging to a new species, Gaussia intermedia n. sp., which is described in this paper. Recently redefined by Björnberg & Campaner (1990), Gaussia is a mesopelagial genus comprising three species from the Pacific, Atlantic, and Indian Oceans: Gaussia asymmetrica Björnberg & Campaner, 1988, Gaussia princeps (T. Scott, 1894), and Gaussia sewelli Saraswathy, 1973 (cf. Razouls, 1995). Most metridinids are known to be able to produce bioluminescence (Herring, 1988). In Gaussia, this property is particularly evident in G. princeps (cf. Barnes & Case, 1972) and...
G. asymmetrica (cf. Björnberg & Campaner, 1988). The new species is similar to G. asymmetrica in having the same type of glands.

Abbreviations used: P1 to P5: first to fifth natatory legs; Exp: exopodite; Enp: endopodite.

**Gaussia intermedia n. sp. (figs. 1-5)**

Material examined. — Holotype: female deposited in the United States National Museum of Natural History, Washington, D.C., under the registration number USNM 278217. The specimen has been partly dissected: the body is preserved in toto; the dissected appendages and the body have been preserved in ethanol after examination. Allotype: male, also deposited in the United States National Museum of Natural History, Washington, D.C., under registration number USNM 278218; treatment and preservation as for holotype. Other material: 2 female and 2 male paratypes, deposited as above under registration number USNM 278219; 6 females treated for SEM observations.

All material collected from the North Pacific, Sta. 8295, 33°16'-33°25'N 118°36'-118°50'W, 1262-1271 m depth, 09 Nov. 1962, California-Offshore program.

Some specimens of G. princeps (T. Scott, 1894) were also examined, for comparative purposes.

Description. — The following description is based on the material designated respectively as holotype and allotype.

Female: length without furcal setae: 10.4 mm.

Body (fig. 1A) robust with a fusiform cephalothorax and slightly compressed urosome. Head with anterior margin forming an obtuse angle. Last thoracic somite prolonged on each side into sharp wings, almost symmetrical, barely one third length of genital somite. Urosome composed of three somites. Genital somite (fig. 1A, D, E) almost symmetrical in dorsal view, except anterior right-lateral edge which is elongated into a spiniform process. Ventrally (fig. 1E), proximal half of urosome with paired, crescent-shaped gonopores; distal half with two ventrolateral, brown, rounded masses corresponding to spermatophores. The complete structure of the female genitalia will be detailed in a separate paper (Cuoc et al., in press). Second urosomite short, widening posteriorly. Anal somite (fig. 1A, E) three times broader than long at its greatest width, bearing a lateral line of long hairs, and an oblique posterior extension on each side. Furcal rami dorso-ventrally flattened and more or less rectangular in dorsal view. Both rami with six setae, exterior seta inserted close to lateral expansion of anal somite, the innermost thin, and shorter that the others. Five main furcal setae plumose, hairs also present on each side of the ramus, near the basal insertion. Pores of putative luminous glands present on anal segment, particularly at the end of the postero-lateral expansions and on the furcal rami (fig. 1A, E), occurring in the same pattern as described for G. asymmetrica (cf. Björnberg & Campaner, 1988).