

**PTEROKROHNIA ARABICA, A NEW GENUS AND NEW SPECIES  
OF CHAETOGNATHA FROM THE ARABIAN SEA**

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ABSTRACT

The material was collected in the meso-pelagic layers of the Arabian Sea, during the oceanographic expedition cruises of the Indian Navy Ship DARSHAK. The specimen is described and compared to closely related species of the genus *Heterokrohnia*.

INTRODUCTION

RECENT studies on the plankton samples from the deep waters of the Antarctic Ocean by Kapp and Hagen (1985) and Hagen and Kapp (1986) have brought to light three more species of *Heterokrohnia* Ritter-Zahony (1911), viz. *H. fragilis*, *H. longidentata* and *H. longicaudata*, in addition to the already known three species *H. mirabilis* Ritter-Zahony (1911), *H. bathybia* Marumo and Kitou (1966) and *H. involucrum* Dawson (1968). Further, four more species *H. murina*, *H. davidi*, *H. heterodonta* and *H. curvichaeta* and a new genus and species *Archeterokrohnia rubra* were described by Casanova (1986 a, b). All these discoveries show that the meso- and bathy-pelagic waters of the oceans are not fully explored and a thorough search may reveal the occurrence of several unknown species.

In this account, a new genus *Pterokrohnia* and a new species *P. arabica* is described. Although it is not advisable to describe a new species based on one specimen, due to the particular morphological features, the fact that the specimen is in excellent condition, matured and the morphometric and meristic characters are markedly distinct from the known genera of the Phylum Chaetognatha, it is considered the description should be published.

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MATERIAL AND METHODS

The holotype measuring 11 mm was collected during the oceanographic expedition cruises of the Indian Navy Ship DARSHAK on 16th February, 1974 at station 13 / 07, position 23°30'N; 63°00'E (Srinivasan, 1981). The type specimen is deposited in the Indian Museum of the Zoological Survey of India, Calcutta, India. The depth of haul was 900 m to surface and the depth at station was 4000 m. The sample was collected with Indian Ocean Standard net (Currie, 1963). The time of collection was 0630-0700 hrs. Altogether 123 specimens of chaetognaths belonging to the species *S. deciptens* Fowler (9 specimens), *S. enflata* Grassi (101), *S. neglecta* Aida (10), *Pterosagitta draco* (Krohn) (2) and *Pterokrohnia arabica* new genus and new species (1) were found in this sample.

*Pterokrohnia* gen. nov.

Body firm, opaque with strongly developed

cell complex absent; lateral fins very broad, wing like and originate far ahead of the ventral ganglion; well developed pigmented eyes pre-

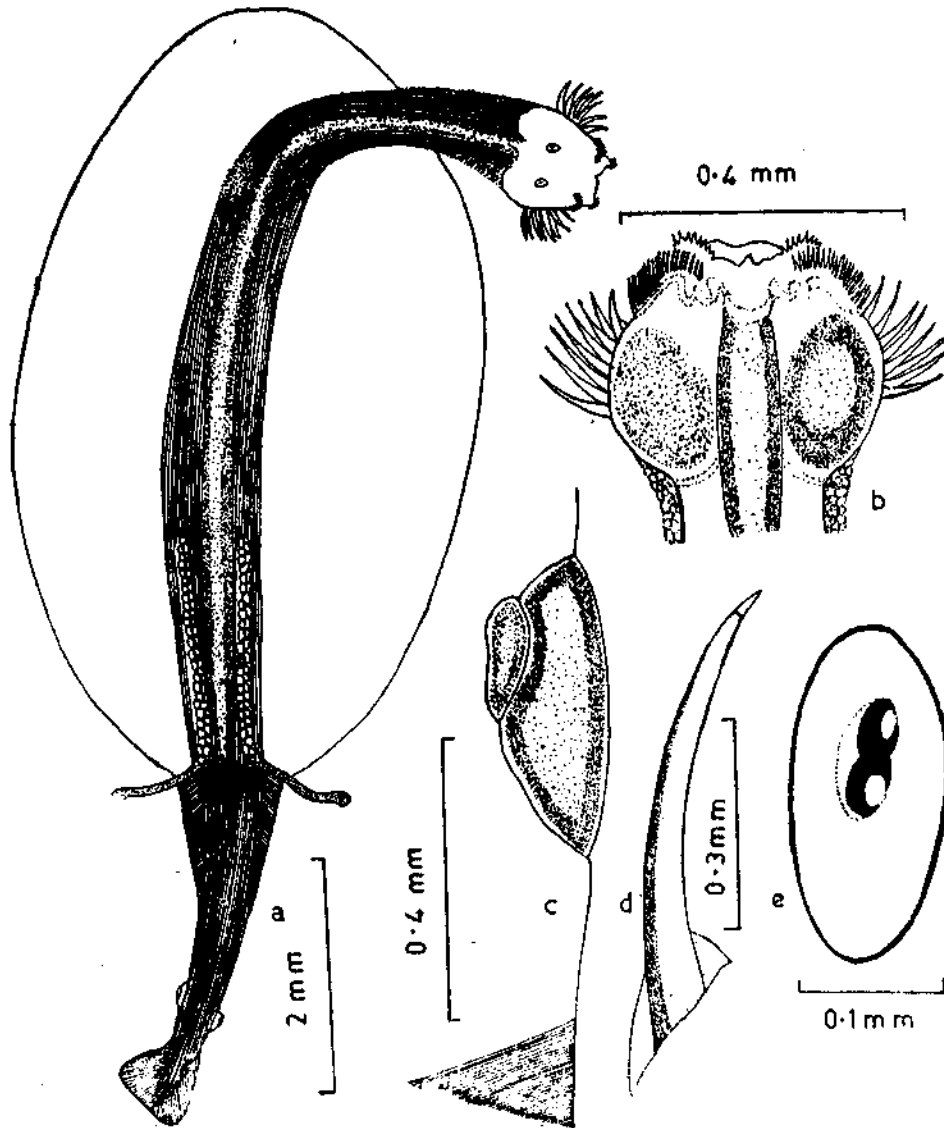


Fig. 1. *Pterokrohnia arabica* n. gen. and n. sp. : a. dorsal view, b. ventral view, c. seminal vesicle, d. hook and e. eye.

Longitudinal muscles; transverse muscles absent on the trunk and tail segments; apical gland

sent; thick collarete present between the head and the start of the lateral fins.

*Etymology* : The generic name is based on the broad wing-like aspect of the fins and the specific name is after the type locality.

*Pterokrohnia arabica* sp. nov. (Fig. 1)

*Number of specimens examined* : one (1). *Body* : firm, opaque, brick red colour. *Total length* : 11 mm (without tail fin). *Lateral fins* : one pair extending slightly from behind the neck region to the middle of tail segment; the fin portion behind the tail septum are rayed. Fins very broad, wing-like; no other chaetognath except *Krohnia subtilis*, when in perfect condition of preservation has such a broad fin. *Tail fin* : spade shaped, fully rayed, starts slightly below the seminal vesicles. *Head* : as wide as long, with deep lateral folds and apical part slightly prolonged. *Anterior teeth* : 8 at each side, conical with broad base. *Posterior teeth* : 20 at each side, slender, closely arranged. *Hooks* : 7-8 at each side, slender; tips gently curved; as the specimen is a matured one the serrations on the hooks are not present. *Eyes* : oval; longitudinal axis parallel to the longitudinal axis of the animal, with pigment pattern arranged in three branches, two longitudinal and one transversal. *Apical gland cell complex* : absent. *Vestibular organ* : not prominent, with heterogeneously distributed two or three papillae. *Collarlette* : prominent, between neck and beginning of lateral fins. *Corona ciliata* : not observed.

*Gut* : not transparent; orange colour. *Ventral ganglion* : found at 1/4 distance, from anterior end of the animal. *Intestinal diverticula* : absent. *Longitudinal musculature* : thick, well developed throughout the trunk and tail segments as in *H. longicaudata*. *Transverse musculature* : not seen in any part of the body. *Ovary* : slender, reaching less than half way between the tail septum and ventral ganglion. Ova, round, small, irregularly arranged as in *H. mirabilis*. *Seminal vesicles* : prominent, oval, located away from the lateral fin. *Oviducts* : seen protruding in front of the transversal wall separating the trunk and tail segments. Probably it is expanded due to sharp change in pressure.

*Remarks*

This new genus *Pterokrohnia* can easily be differentiated from the closely related genus *Heterokrohnia*, by the following characters :

- absence of transverse muscles on the trunk and tail.
- absence of apical gland cell complex.
- presence of well developed pigmented eyes.
- presence of thick collarlette between neck and the start of lateral fins.
- presence of wide, wing-like lateral fins, starting well ahead of the ventral ganglion.

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