

A NEW SPECIES OF THE GENUS *KURCHATOVUS* (BONELLIDAE :
ECHIURA) FROM THE VENEZUELA BASIN

By

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INTRODUCTION

The author received a few echiuran animals for the purpose of identification from Dr. Kevin B. Briggs, Biologist, Department of the Navy, NSTL, Mississippi, USA. These animals were collected from the Venezuela Basin during the Department's NORDA cruise in the area between 13°30'—15°08'N and 64°45'—69°12'W of the region. Three small specimens of this collection and another small specimen of the collection of the Centre Oceanologique de Bretagne (COB), Brest, France during their deep sea missions in the Atlantic belong to the genus *Kurchatovus* DattaGupta. But these specimens are different in having single clawed sabre shaped ventral hooks from the only other species of the genus namely, *K. tridentatus* DattaGupta (1977) which has 3-clawed ventral hooks. The diagnostic features of the genus are, "fully grown females extremely small in size ; proboscis absent, a rudimentary semicircular collar surrounding the mouth dorsally ; two ventral hooks, distal end clawed ; single gonoduct, gonostome lateral" (DattaGupta, 1977). Also the species of the genus *Kurchatovus* happen to be the only echiurans which feed on matters of plant origin. The original description of the type species *Kurchatovus tridentatus* was on the basis of five specimens which were found in remnants of wood in Puerto Rico Trench ; in *Thalassa* rhizome in Cayman Trench ; and in coconut husk in Yucatan Basin of the Caribbean deep sea (4580—6780m) and their gut contents indicate that they feed on the plant material in which they live (Wolff, 1979). The present animals were collected in deep sea trawls and it is not known if the animals were found in remnants of plant material but, their gut contains material of plant origin. The animals conform with the diagnostic features of the genus and owing to their single clawed ventral hooks the species has been named *Kurchatovus epeudentatus* n. sp.

***Kurchatovus epeudentatus* n. sp.**

(Fig. 1, A—E)

Material : Holotype female, NORDA 334—Sta 63 ; collected 8.11.81 ; type locality coordinates 13°49'N 67°55'W, depth 5000m.

Paratypes : 1 female, NORDA 334—Sta 88 ; collected 25.11.81 : locality coordinates 13°30'N 64°45'W, depth 3453 m ; 1 female, COB collection—BENTHEDI DS 62 ; collected 29.3.77 ; locality coordinates 12°41, 8'S 44°66, 6'E, depth 750m.

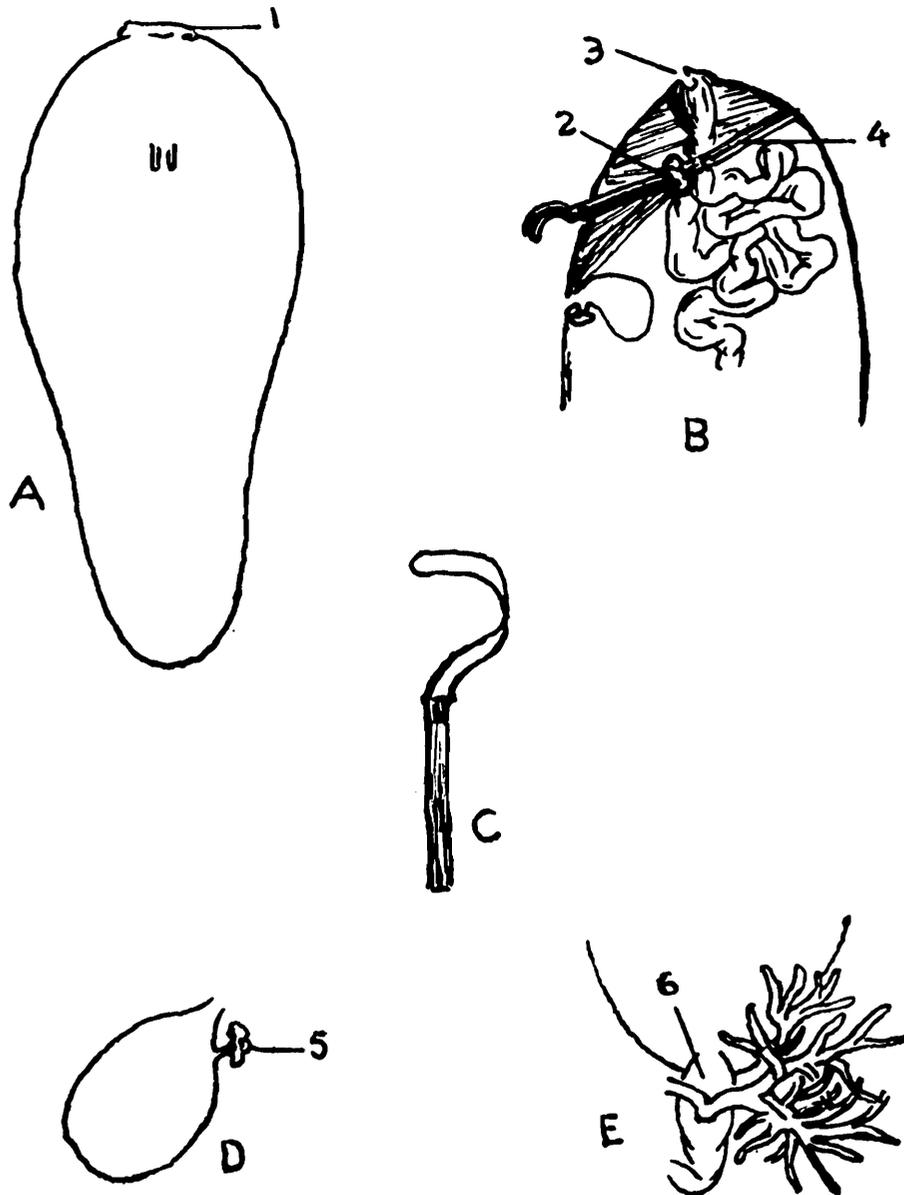


Fig. 1. A, *Kurchatovus epeudentatus*, ventral view $\times 10$; B, internal anatomy of the anterior part of the body $\times 10$; C, Ventral hook $\times 10$; D, gonoduct ; E, anal vesicle. 1-Collar, 2-interbasal muscle, 3-mouth, 4-pair of muscles, 5-gonostome, 6-cloacal chamber.

Holotype and one paratype dissected, and deposited in the Indian Museum. Accession No. P 3255/1 Holotype and P 3256/1 paratype (NORDA). Paratype BENTHEDI specimen, Natural History Museum, Paris. Accession No. AS 773.

Description : Holotype and the two paratypes are sandy grey in colour in the preserved state. Holotype measures 6.5 mm in length and about 3mm across the broadest part. The paratype of NORDA collection is around 8.5mm in length and 3mm across the broadest part.

The paratype of BENTHEDI collection is 3mm in length and 1mm in breadth. The animals are somewhat sausage shaped with thick body wall and conspicuous papillae which are rough and irregular. Mouth is dorsally surrounded by white semicircular collar. Closely ventral to the mouth 2 ventral hooks emerge through the body wall. The bent tip of the hooks is flattened and golden brown in colour. The hook shaft is soft and flexible and yellowish white in colour. Single genital aperture is located posterior to the ventral hooks; the body wall surrounding the aperture is devoid of papillae.

Internally, the intestine is much convoluted and long; the foregut is relatively short, the pharynx and foregut is firmly attached with the body wall by a large number of mesenterial bands. Intestine is filled with organic matter of plant origin reddish brown in colour. The foregut is relatively short and the neurointestinal is single throughout. The shaft of the ventral hooks are long; strong radiating muscles connect the shafts with the ventral body wall. A strong interbasal muscle is present. Besides, a pair of stout muscles connect the tips of the shafts with the dorsal body wall. Single gonoduct is oval in shape and filled with gonads; gonostome is lateral, gonostomal lip is anular and petaloid. The anal vesicles are in the form of a few tubular branches emerging from a common duct; the two ducts join before opening into the cloacal chamber ventrally.

Remarks: Both *K. epeudentatus* and *K. tridentatus* are deep sea bonellids. Many oceanographic expeditions have reported on the occurrence of remains of terrestrial plants in the deep sea. The remnants of plant material are ultimately transported by various means to the great depths of canyons or trenches (Wolff, 1979) from where the two species of the genus *Kurchatovus* have been collected. Echiuran animals are detritus feeders and it does not exclude the possibility of their feeding on decomposed plant material. The author had the opportunity of examining many echiuran animals none of which have been found to feed on plant material except the two species of the genus *Kurchatovus* which could be regarded as an instance of specialization in this group of deep sea echiurans.

SUMMARY

Kurchatovus epeudentatus n. sp. has been described. The species belongs to the family Bonellidae of phylum Echiura and the animals have been collected by the biological team, Department of the Navy, NSTL, Mississippi, USA from the Venezuela Basin. The species of the genus *Kurchatovus* are small in size, lack a proboscis, and with

single gonoduct with basal gonostome. The species *epeudentatus* is characterised by single clawed sabre shaped ventral hooks in which respect the species differs from *tridentatus*, the only other species of the genus which has 3-clawed ventral hooks. The two species are the only known echiurans which feed on vegetable matter.

ACKNOWLEDGEMENTS

Sincere acknowledgements are made here to Dr. Kevin B. Briggs, Biologist in the Department of the Navy, Naval Ocean Research and Development Activity, NSTL, Mississippi, USA and to Dr. Michel Segonzac, Chief of the CENTOB, Brest, France for the material which is the basis of this article.

Grateful acknowledgements are made to the Director General of the Council of Scientific and Industrial Research, New Delhi, for the grant of an Emeritus Scientistship to the author and to the Director, Zoological Survey of India, Calcutta, for laboratory facilities.

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