

**MIOSTEPHOS LEAMINGTONENSIS, A NEW SPECIES
OF COPEPOD FROM BERMUDA**

HARRY C. YEATMAN

The University of the South
Sewanee, Tennessee 37375

ABSTRACT

A new species of calanoid copepod, *Miostephus leamingtonensis*, is described from male and female specimens collected in Leamington Cave, Bermuda. It differs from *M. cubrobex* Bowman in structure of the fifth legs of both sexes and in body size.

INTRODUCTION

On 11 August 1955, males and females of a tiny undescribed species of hyperbenthic calanoid copepod were collected by dragging a fine mesh plankton net through the large pool in Leamington Cave, Bermuda. Examination of these showed them to be in Family Stephidae, but they were unlike any described genus. They were put aside for future study. On the collection date, water temperature was 28.1°C. and salinity was 25.5‰ in the collecting pool.

Bowman (1976) described the new Genus *Miostephus* and new species *Miostephus cubrobex* from Cuban collections. The Bermuda specimens resemble this species in having a three-segmented female urosome and a five-segmented male urosome and in having the male right fifth leg rudimentary, the male left fifth leg elongate, and both female fifth legs symmetrical and rudimentary. The Leamington Cave specimens differ from *M. cubrobex*, as described below, but are sufficiently similar to be included in the Genus *Miostephus*.

Miostephus leamingtonensis, new species

SPECIMENS EXAMINED. Three males and two females were mounted in glycerine jelly on slides and drawn with a camera lucida. One male has been designated the holotype, USNM 171268; one female and two males the paratypes, USNM 171269. One female was lost after dissection and examination.

FEMALE. Body length is 0.54 to 0.55 mm., not including caudal setae. Metasome (prosoma of some authors) is oval in outline, is four-segmented, and without rostrum. Urosome is tubular and three-segmented. Caudal rami are about twice as long as broad and each bears four long terminal setae and a short inner seta (1).

First antenna reaches slightly beyond metasome and is twenty four-segmented (3).

Second antenna, mandible, first maxilla, second maxilla, and maxilliped are like those of other species of Family Stephidae.

The segmentation and armature of the swimming legs are like those of other species of Stephidae, but are so useful for identification of the family, they are described below.

The first leg terminal exopod segment bears a short outer

ACKNOWLEDGEMENT

The author wishes to thank Dr. William H. Sutcliffe, Jr., former Director of the Bermuda Biological Station, for privileges of the laboratory and for obtaining permission to collect in Leamington Cave. He also wishes to thank Dr. Thomas E. Bowman, Curator of the Division of Crustacea, Smithsonian Institution for furnishing literature.

seta and four long setae. Its middle exopod segment bears a short outer seta and a long inner seta, but its basal exopod segment is devoid of armature (4). Its endopod is one-segmented with a characteristic lobe-like process and five setae. Its basipod bears an inner seta (4).

Legs two, three, and four bear four spines and four setae on each terminal exopod segment. The middle and basal exopod segments each bear an outer spine and an inner seta (5, 6, 7). The endopod of leg two is two-segmented and of legs three and four is three-segmented. The terminal segment of the endopods of legs two, three, and four bears five setae and the other endopod segments (whether two or one) each bear an inner seta (5, 6, 7).

The fifth legs are rudimentary, symmetrical and three-segmented, the terminal segment narrowing to a spine-like point (8). The proximal segments differ from those in *M. cubrobex* by being very elongate and fused only by a narrow bridge.

MALE. Body length is 0.50 to 0.55 mm., not including the caudal setae. Body shape is like that of the female, but the urosome is more elongate and composed of five segments (2). First antennae are symmetrical, not geniculate, and are like those of the female.

Second antennae, mouthparts, and swimming legs are like those of the female.

The right fifth leg is rudimentary and three-segmented. Its proximal segment is stump-like and fused to the proximal segment of the left fifth leg. The distal segment bears a small inner spine, a long apical seta or flexible spine, and two lateral spinules (9 and 10). This segment therefore differs from the unarmed distal segment of the right fifth leg of *M. cubrobex* and the distal segments of the female fifth legs.

The left fifth leg is well-developed and is six-segmented. Its proximal segment is very short and fused to the proximal segment of the right fifth leg. The second segment is elongate, but shorter than the third segment, which is shorter than the fourth segment (9, 10). The fifth segment is about the same length as the second segment, whereas, the fifth segment in *M. cubrobex* is the longest segment in the male left fifth leg. The terminal segment is very short as in *M. cubrobex*, and bears a thin flexible spine instead of the stiff, thick spine of *M. cubrobex*.

REMARKS. This species agrees with Bowman's (1976) description of his Genus *Miostephus*, except that the right rudimentary fifth leg differs from the female fifth legs in bearing terminal segment appendages. It differs from *M. cubrobex* in size (*M. leamingtonensis* 0.05 to 0.55 mm. and *M. cubrobex* 0.36 to 0.40 mm.), in the proportions of the fused proximal segments of the female fifth legs, in the terminal segment of the male right rudimentary fifth leg, and in the lesser elongation of the fifth segment of the male left fifth foot, and the thinness of the spine on the terminal segment of this leg in *M. leamingtonensis*.

This new species was collected from near the bottom of a dark zone pool of the cave, for which it is named. It is not known if it is confined to caves (troglotic) or if it is nocturnal outside caves.

LITERATURE CITED

Bowman, Thomas E. 1976. *Miostephus cubrobex*, A New Genus and Species of Copepod from an Anchialine Pool in Cuba (Calanoida: Stephidae). Proc. Biol. Soc. Wash. 89(11): 185-190.

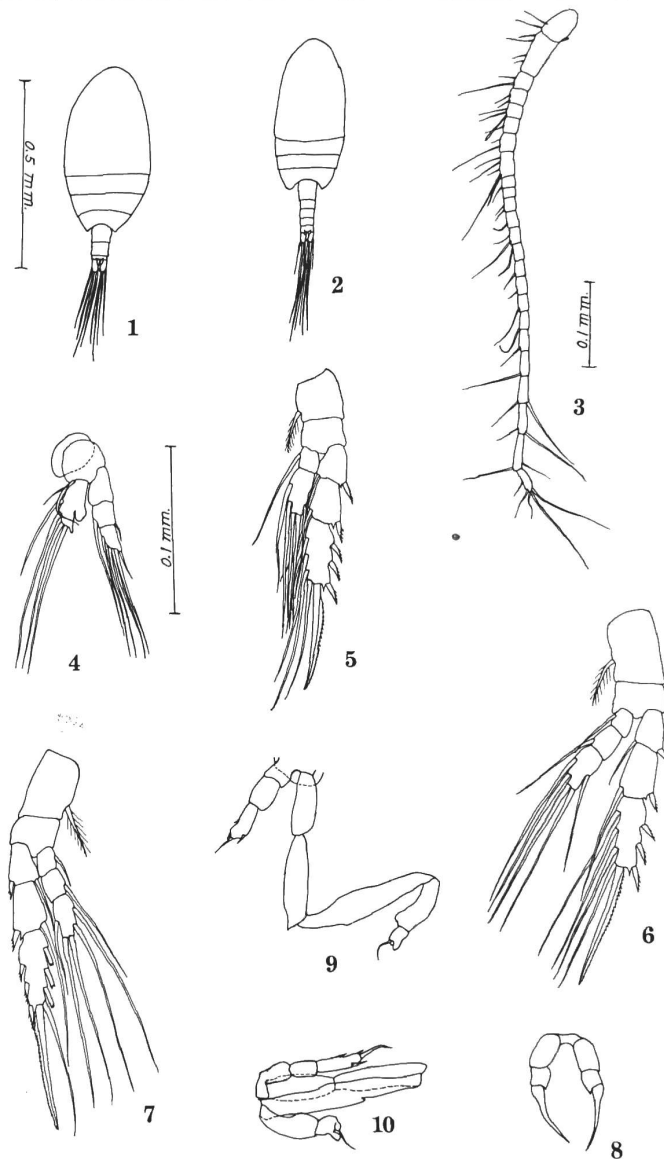


FIG. 1: *Miostephus leamingtonensis*, new species. 1. Female, dorsal view. 2. Male, dorsal view. 3. First antenna, male. 4. First leg. 5. Second leg. 6. Third leg. 7. Fourth leg. 8. Fifth legs, female. 9. & 10. Fifth legs, male.