

FIRST FINDING OF THE FAMILY  
TRISCHIZOSTOMATIDAE LILLJEBORG, 1865  
(AMPHIPODA: GAMMARIDEA: LYSIANASSOIDEA)  
IN THE CARIBBEAN SEA

Carlos Varela<sup>1</sup> & Heather D. Bracken-Grissom

Department of Biological Sciences, Biscayne Bay Campus,  
Florida International University. USA. varela06@gmail.com <sup>1</sup>

ABSTRACT

The first record of an amphipod belonging to the family Trischizostomatidae from the Caribbean Sea is presented.

*Keywords:* Crustacea, Amphipoda, Gammaridea, Trischizostomatidae, *Trischizostoma*, ectoparasites.

PRIMER HALLAZGO DE LA FAMILIA TRISCHIZOSTOMATIDAE LILLEBORG, 1865  
(AMPHIPODA: GAMMARIDEA: LYSIANASSOIDEA) EN EL MAR CARIBE

RESUMEN

Se presenta el primer registro para el Mar Caribe de una especie de la familia Trischizostomatidae.

*Palabras clave:* Crustacea, Amphipoda, Gammaridea, Trischizostomatidae, *Trischizostoma*, ectoparasitos.

INTRODUCTION

The family Trischizostomatidae contains only the genus *Trischizostoma* Boeck, 1861, which has 18 species of pelagic or bathypelagic amphipods inhabiting depths ranging from 22 to 3 655 meters. This group of amphipods is characterized by its stiliiform mouthparts and the first gnathopod with the propodus inverted in the adult state for attachment as ectoparasites of fish and sharks (Freire and Serejo, 2004; Winfield *et al.*, 2016).

The distribution of these species includes the Pacific Ocean, with 8 species, Indian Ocean with 5 species and Atlantic Ocean with 8 species, of which only *Trischizostoma richeri* Lowry and Stoddart, 1994 and *T. denticulatum* Ledoyer, 1978 are present in the Pacific and Atlantic Oceans and Indian and Atlantic Oceans, respectively (Ledoyer, 1978; Lowry and Stoddart, 1994; Freire and Serejo, 2004).

OBJECTIVE

-This study documents the first record an amphipod belonging to the family Trischizostomatidae in the Caribbean Sea.

## MATERIAL AND METHODS

The material studied was a product of the exploratory voyages of the R/V John Elliot Pillsbury of the University of Miami to the Caribbean Sea in the 1970s. Samples were collected using an Otter trawl. The specimen obtained was examined under a stereoscopic microscope and the drawings were made with the help of the camera lucida. The material is deposited in the Marine Invertebrate Collection of the University of Miami.

## RESULTS

### *Trischizostoma nicaense* (Costa, 1853) (figs. 1-2)

*Material examined.* Male. Dominican Republic. Station (P-1269) 18° 00' N and 72° 00' W, 1550 meters depth, collected 18.vii.1970. Catalog number UMML 32.9012.

*Diagnosis.* Male 39 mm total length, with rostrum of almost the same length as the first article of peduncle of the first antenna. Eyes present. First antenna almost half the length of second antenna, with first article of the peduncle at least more than two times longer than the articles 2-3 together; accessory flagellum with three articles, almost half the length of first article of primary flagellum. Primary flagellum with nine articles, first article the longest, articles 2 and 3 with a long seta, callynophore strong with a field of brushes in its inner surface. Second antenna with 4-segmented peduncle; first article is produced downwards in a laminar lobe, second article, the smallest, as long as wide; fourth article almost half of the length of the fifth article; flagellum 36-articulate (fig. 1A). Upper lip elongate, deeply hollowed, apex entire and produce forward (fig. 1E). Lower lip divided at the tip into two lobes (fig. 1F). Mandible with distal incisive, palp with three articles and with marginal setae (fig. 1B). Outer plate of first maxilla elongate with five teeth distally, second maxilla with outer plate broad and rounded distally with three setae apically and one seta in the inner side. Outer lamina of the maxilliped longer than the inner plate, palp with four articles and longer than the external plate (fig. 1C). First gnathopod strongly subchelate, first coxa reduced and partially covered by second coxa, propodus almost as long as wide (fig. 2A). Second gnathopod with coxa with rounded anterior margin, basis twice the length of the ischium; carpus larger than twice the length of the propodus, dactyl reduced (fig. 2B). Third coxa wider than long. Third and fourth pereopod with basis twice the length of the carpus, carpus subequal to the propodus and longer than the merus. Pereiopods fifth to seven with coxa wider than long, basis longer than width with posterior lobule, merus subequal in length to the carpus and to the propodus dactilo as long as half of the length of the propodus.

First and second uropods with peduncle subequal in length to the external rami, internal rami slightly longer than the external rami (fig. 2, C-D). Third uropod with peduncle slightly smaller than half of the external rami, external and internal rami subequal in length, and external rami biarticulate with basal article is five times the length of the distal article (fig. 2E). Telson entire, rounded distally.

*Distribution.* This species has been recorded for the Skagerrak, Norway (North Sea), Gulf of Biscay, Spain (North Atlantic); North, West and South coast of Norway (North Atlantic and Arctic Ocean), South of Nantucket Shoals, USA, North Atlantic and Mediterranean Sea (Stebbing, 1906; Sexton, 1908; Diviacco and Ruffo, 1989 and World Amphipoda Database). This is the first occasion in which a species of the family Trischizostomatidae is recorded for the Caribbean Sea.

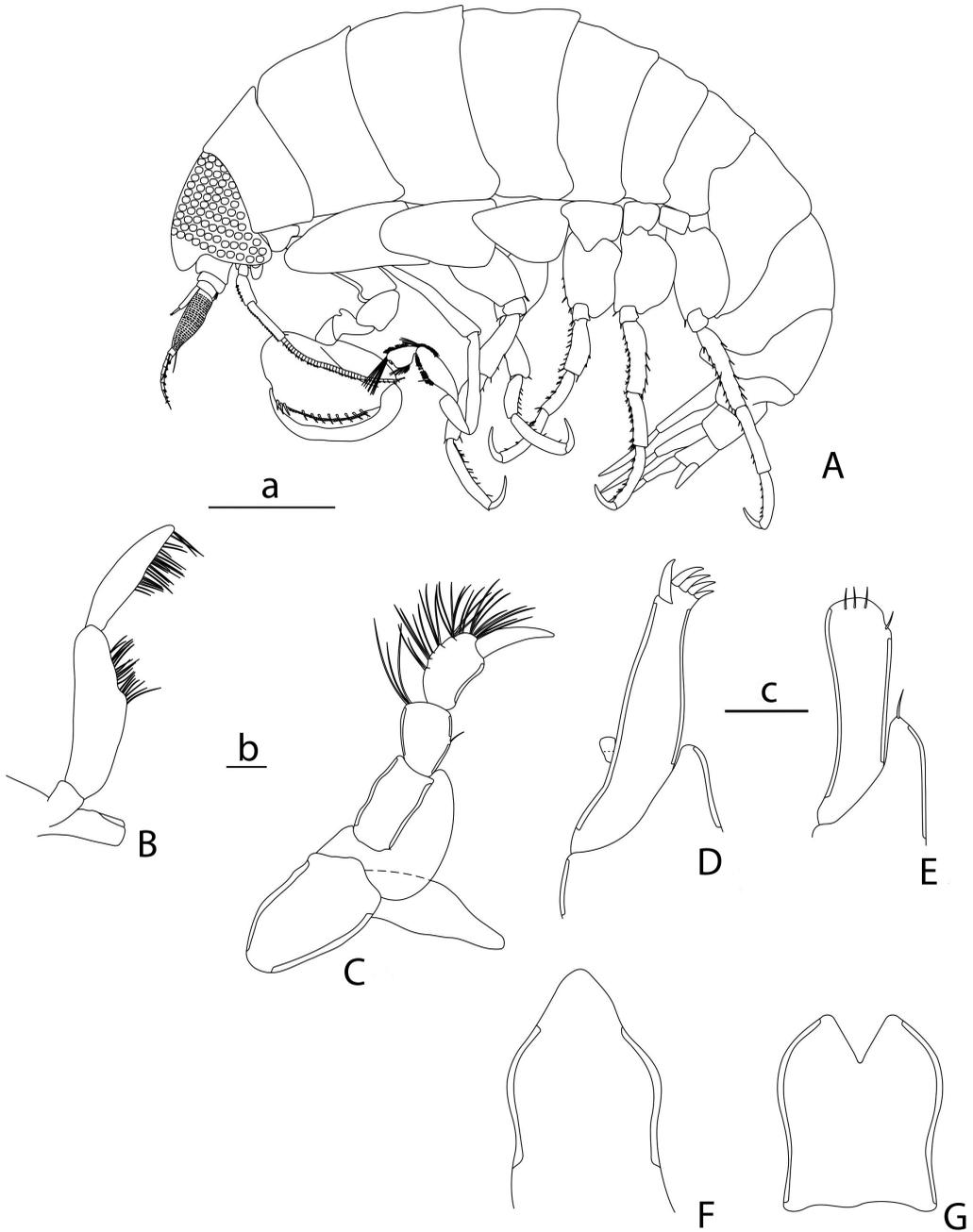


FIGURE 1. *Trischizostoma nicaeense*. A, lateral view (a); B, mandible (b); C, maxilliped (b); D, maxilla 1 (b); E, maxilla 2 (b); F, upper lip (c); G, lower lip (c). Scale a: 5 mm, b-c: 0.5 mm.

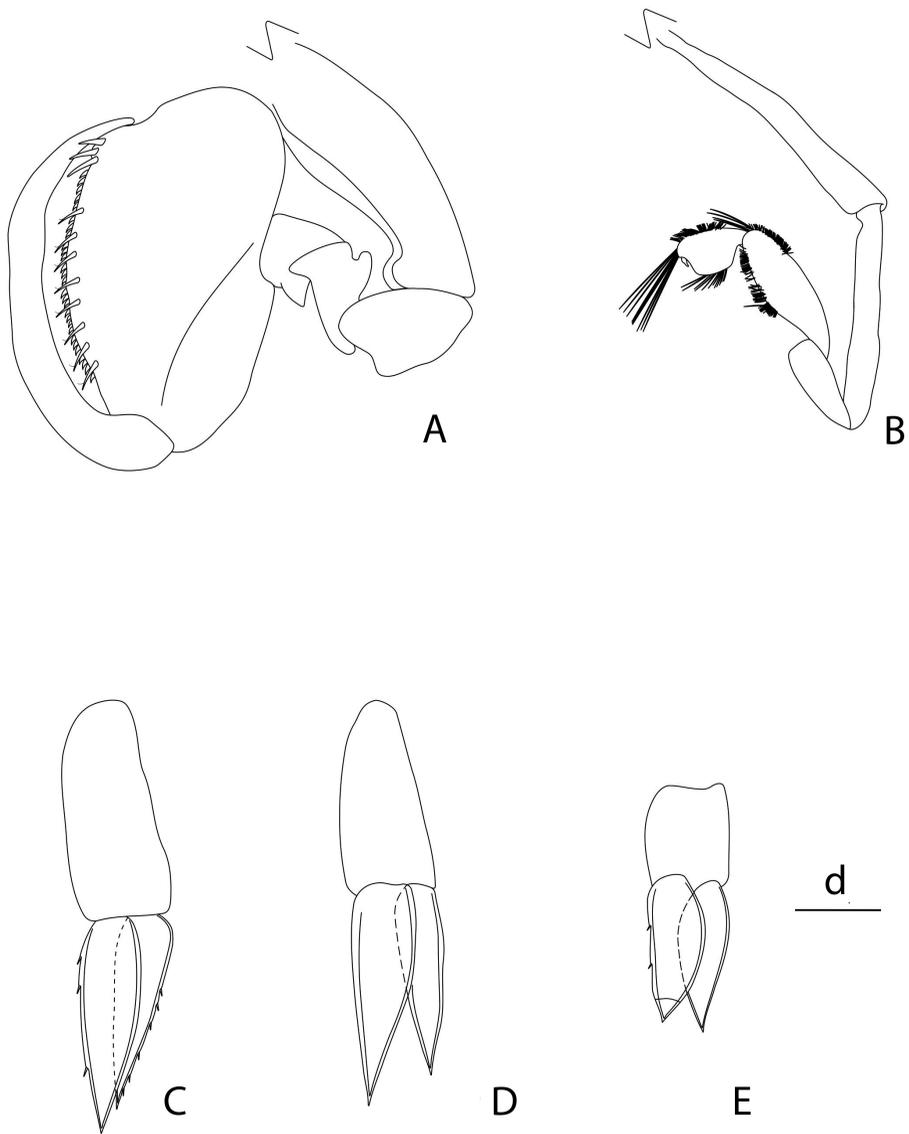


FIGURE 2. *Trischizostoma nicaense*. A, gnatopod 1 (d); B, gnatopod 2 (d); C, uropod 1 (d); D, uropod 2 (d); E, uropod 3 (d), d: 10 mm.

## ACKNOLEWGEMENTS

We would like to thank Research Professor Emeritus Nancy Voss, Curator of the Museum of Marine Invertebrates of RSMAS (University of Miami), for allowing us to study the material deposited in the collection. To the anonymous reviewer who with his suggestions helped to improve this publication. This is contribution #48 of the Marine Education and Research Center in the Institute for Water and Environment at Florida International University.

## LITERATURE CITED

- Diviacco G. & S. Ruffo, 1989. Family Lysianassidae In: Ruffo, S. (editor) The Amphipoda of the Mediterranean part 2 Gammaridea (Haustoriidae to Lysianassidae) Memoires de l'Institut Oceanographique Fondation Albert Ier, Prince de Monaco: 469-576.
- Freire, P. R. & C. S. Serejo. 2004. The genus *Trischizostoma* (Crustacea: Amphipoda: Trischizostomidae) from the Southwest Atlantic, collected by the REVIZEE Program. Zootaxa, 645:1-15.
- Ledoyer, M. 1978. Contribution a l'etude des amphipodes gammaridiens profonds de Madagascar (Crustacea). Tethys, 8: 365-382.
- Lowry, J. K. & H. E. Stoddart. 1994. Crustacea Amphipoda: Lysianassoids from Philippine and Indonesia waters. In: A. Crosnier (ed.) Resultats des campagnes MUSORSTOM, vol. 10. Memoires du Museum national d' Histoire Naturelle, 156: 155-109.
- Stebbing, T. R. R. 1906. Amphipoda. I. Gammaridea. Das Tierreich. 21: 1-806.
- Sexton, E. W. 1908. On the genus *Trischizostoma*. Proceedings of the Zoological Society of London, 1: 370-402.
- Winfield, I., M. Hendrick & M. Ortiz. 2016. A new deep-water species of *Trischizostoma* (Crustacea: Amphipoda: Gammaridea: Trischizostomidae) from western Mexico NE Pacific Ocean. Journal of the Marine Biological Association of the United Kingdom, 1-9.
- World Amphipoda Database. Accessed through: World Register of Marine Species at <http://www.marinespecies.org/aphia.php?p=taxdetails&id=102745> on 2017-04-24.