Zootaxa 1092: 1–20 (2005)
www.mapress.com/zootaxa/

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

1092

New species of Thyasiridae from a methane seepage area off Concepción, Chile

P. GRAHAM OLIVER[1] & JAVIER SELLANES[2]

[1] *Department of Biodiversity and Systematic Biology, National Museum of Wales, Cathays Park, Cardiff, CF10 3NP, Wales, UK. E-mail: graham.oliver@nmgw.ac.uk*

[2] *Universidad Católica del Norte, Facultad de Ciencas del Mar, Larrondo 1281, Coquimbo, Chile. E-mail: jsellane@udec.cl*

Abstract

A new species of *Thyasira (T. methanophila* n. sp.) is described from a methane seepage area off Concepción, Chile (~36ºS) at bathyal depths. This species shows affinity with other southern ocean species placed in the subgenus *Maorithyas*. The gross anatomy of the type species of *Maorithyas*, *M. marama* Fleming, 1950, is described for the first time. There are no gross anatomical differences in the ctendia, foot and gut, between the above taxa, which suggest that there are no differences anatomically between species living at seeps and species living in other environments. Furthermore, wider comparison of the shells suggests that the subgenus *Maorithyas* cannot be supported, as the differential characters grade into those of *Thyasira*.

Scanning electron microscopy of the ctenidium, of *T. methanophila*, revealed filaments with closely packed bacteriocytes each with dense aggregations of small rod shaped bacteria each about 0.5 μm in length. The bivalve is assumed to be highly dependent on the symbiotic relationship.

A second thyasirid was recorded from worn valves only and is assigned to the genus *Conchocele*. The material is too fragmentary to describe but was compared with *C. bisecta* and *C. novaeguinensis.*

Key words: Thyasiridae, morphology, methane seep, Chile, new species

Introduction

Chemosynthetic communities, associated with cold seeps and vents, are now known to be widely distributed throughout the world's oceans (Sibuet & Olu 1998), but until recently were not recorded from the southwestern Pacific (Ramirez *et al*. 2003). Gas hydrate fields extending between 35ºS and 45ºS have been reported for the Chilean margin by Morales (2003). Evidences of methane seepage and associated fauna was reported by Sellanes *et al*.

Accepted by D. Geiger: 8 Oct. 2005; published: 8 Dec. 2005