



The epizoic marine diatom *Sceptronema orientale* (Licmophoraceae, Licmophorales): epitypification and emendation of specific and generic descriptions

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Abstract

Sceptronema orientale was found epizoic on the harpacticoid copepod *Euterpina acutifrons* (Dana) collected from several locations along Bahía Anegada, Province of Buenos Aires, Argentina. Material was examined with light and scanning electron microscopy and new data about the morphology of the chloroplast and ultrastructural details of the girdle, valves, apical slit fields and rimoportulae pattern were obtained. Based on this new knowledge the descriptions of the species and of the monotypic genus *Sceptronema* are emended. Considering that in the protologue three pictures were designated as iconotype, the material from Ría del Jabalí is chosen as an epitype to serve as the interpretative type of *Sceptronema orientale*. A comparison with the morphologically similar genera *Licmophora* and *Gato* was conducted and the inclusion of *Sceptronema* in the Family Licmophoraceae, Order Licmophorales is proposed.

Keywords: epizoic araphid marine diatom, *Euterpina acutifrons*, morphology, *Sceptronema orientale*, taxonomy

Introduction

Sceptronema is a monotypic genus of araphid marine diatoms described by Takano (1983: 26). It is characterized by the formation of linear colonies and narrow, obovate, heteropolar valves, with a broad head-pole and a slender foot-pole. The sternum is straight and apical slit fields are found on the valve mantle. This genus was included by Takano (1983) in the Sub-Order Araphidineae, Family Diatomaceae. Subsequently, Round *et al.* (1990) recognized the araphid pennates (old Sub-Order Araphidineae of Simonsen 1979) as Class Fragilariophyceae Round, Subclass Fragilariophycidae Round. The Subclass was subdivided into 12 Orders and 14 Families and 54 Genera were listed there. However, *Sceptronema* Takano was not included in their classification scheme although it was listed in the *Index nominum genericorum*.

Sceptronema orientale Takano, type species of the genus by original designation, was found epizoic on the harpacticoid copepod *Euterpina acutifrons* (Dana 1848: 153) from coastal waters off Shimoda City, Shizuoka Prefecture, Japan. The species was analysed only with scanning electron microscopy (SEM) and transmission electron microscopy (TEM) and figures 15, 19 and 20 in the protologue were designated as iconotypes. No slide was designated as holotype.

The species was subsequently reported from inshore waters of the Mediterranean coast of Israel by Kimor *et al.* (1992), who considered the selective relationship between it and an unidentified harpacticoid copepod as strictly seemingly neutral in nature. It was also collected from coastal waters of Port Olímpic, Barcelona, Spain (41.22° 775'N, 02.13° 150' E), NW Mediterranean Sea by Skovgaard & Saiz (2006), who described the association between *Sceptronema orientale* and *Euterpina acutifrons* as an extreme case of host specificity. As part of a large survey examining toxigenic microalgae and toxins in shellfish in coastal waters of Bahía Anegada, Province of Buenos Aires, Argentina, we found *Sceptronema orientale* epizoic on *Euterpina acutifrons*.

The study of this material allowed us to provide new information regarding the cytology and morphology of *Sceptronema orientale* beyond that found in the original description.

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