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Nomenclatural priority of the diatom name *Fryxelliella sepulvedana* over *Fryxelliella pacifica* (Triceratiaceae, Bacillariophyta)

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Abstract

In 2008 two new species belonging to the genus *Fryxelliella* were described: *F. sepulvedana* and *F. pacifica*. They were based on material collected in the Pacific Ocean and were both different from *Fryxelliella floridana*, the type species of the genus. Examination of holotype and additional material for *F. sepulvedana* and *F. pacifica* was carried out. Comparisons confirmed that *F. sepulvedana* and *F. pacifica* are both the same species. Only one valid name can be assigned to any taxon and reasons are given to demonstrate that the valid name should be *Fryxelliella sepulvedana.*

Key words: diatom, *Fryxelliella*, nomenclature, ocelli, Pacific Ocean, priority, synonymy

Introduction

The genus *Fryxelliella* A.K.S. Prasad, K. Riddle & Livingston (1997: 306) was erected by Prasad *et al.* (1997) for two species of diatoms they considered similar to *Eupodiscus* Bailey (1851: 39). Until 2007 *Fryxelliella* was monotypic as one of the two species, *Fryxelliella inconspicua* (Rattray) A.K.S. Prasad in A.K.S. Prasad, K. Riddle & Livingston (1997: 309; basionym: *Eupodiscus inconspicuus* Rattray 1888: 911), had been removed to *Praetriceratium* P.A. Sims (2001: 404). Subsequently, Prasad & Nienow (2008) provided an emended description of *Fryxelliella* and in 2008 two further species were described from the Pacific Ocean, Salina Cruz coast in the Gulf of Tehuantepec, Mexico: *F. sepulvedana* Meave, Zamudio & Fernandez (Meave *et al*. 2008: 179) and *F. pacifica* Hernández-Becerril & Barón-Campis (Hernández-Becerril & Barón-Campis 2008: 150).

In *Fryxelliella sepulvedana* the position and size of the ocelli was noted as the most distinctive character that differentiated it from *Fryxelliella floridana* A. K. S. Prasad (1997: 306), the type species of the genus. Other characters, such as the structure of cribra, density of the sub-triangular apertures, and continuity of the sipho marginalis were also mentioned (Meave *et al*. 2008). *Fryxelliella pacifica* was differentiated from *F. floridana* by the size and shape of the cell, size location and morphology of ocelli, shape and density of the sub-triangular marginal apertures and the external morphology of rimoportulae (Hernández-Becerril & Barón-Campis 2008). These data justified the creation of a new species different from *F. floridana* but they describe one species not two. As both *F. sepulvedana* and *F. pacifica* were published in the same year, neither set of authors was aware of the duplication. This paper reviews the evidence and type material of both *Fryxelliella sepulvedana* and *F. pacifica*.

Material and methods

Type material of *Fryxelliella sepulvedana* and *F. pacifica* is present in MEXU (National Herbarium at Biology Institute of Autonomous National University of Mexico).

Slides were observed using a compound microscope (Olympus BX50) in bright field and phase contrast with integrated digital camera (light microscopy = LM). Photographs were obtained at 40x and 100x magnifications. Measurements were made with a calibrated ocular at 10x, 40x and 100x in a compound microscope (Zeiss).

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