



Article

A new species of the genus *Mallomonas* (Synurophyceae), *Mallomonas spinosa* sp. nov., from Vietnam

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Abstract

Mallomonas spinosa sp. nov. is described from Vietnam. This species has domeless scales with unique four-edged spines, and which are ornamented with papillae. *Mallomonas spinosa* belongs to the section Papillosae. The morphological characteristics of the scales of the new species are documented by scanning electron micrographs and discussed in detail, including a comparison with related species in the genus *Mallomonas*.

Introduction

The genus *Mallomonas* Perty (1852: 170) currently comprises about 180 species and infraspecific taxa (Kristiansen & Preisig 2007). Many *Mallomonas* species are now known to be cosmopolitan. Nevertheless about one-third of the taxa still have endemic status (Kristiansen 2008). Despite numerous floristic and ecological studies of synurophycean algae from warm areas there are still large gaps in our knowledge of their species diversity, ecology and geographic distribution (Neustupa & Řezáčová 2007). Recently several species of the genus *Mallomonas* have been described from the subtropics of Africa (Němcová *et al.* 2011) and Asia (Kim & Kim 2008, Kim & Kim 2010). Other unidentified species still remain undescribed (Dürschmidt & Croome 1985, Carty & Wujek 2003, Kim *et al.* 2009). Previously 13 species and a single variety of the genus *Mallomonas* have been recorded from Vietnam (Gusev & Thanh 2011). Among them there were two unidentified species with unknown types of scales. Here I describe one of these species as *Mallomonas spinosa* sp. nov.

Materials and methods

This paper is based on material from different parts of Vietnam (Fig. 1). The temporary forest pool in the Cat Tien National Park from which the specimens were collected (station 1) is located in the southern part of the country (11°24'26" N, 107°24'48" E, Dong Nai province, South Eastern Vietnam). It was sampled once in November 2010. The reservoir Cau Doi (Cầu Đồi) in Dien Khanh settlement from which the specimens were collected (12°15'45" N, 109°04'07" E, Khanh Hoa province, South Central Coast region of Vietnam) has been sampled in January 2008 and in September, October and November 2010 (station 2). The small pond from which the specimens were collected once in September 2010 (station 3) is located near Ninh Hoa settlement (12°30'27" N, 109°02'12" E, Khanh Hoa province, South Central Coast region of Vietnam). Both areas have a tropical monsoon climate. The average annual temperature ranges between 25–28°C, the relative humidity is between 80–94%, the annual precipitation is 1800–2100 mm, and the annual evaporation is 1000–1200 mm.