



## Morphological studies and molecular data on a new marine ciliate, *Apokeronopsis sinica* n. sp. (Ciliophora: Urostylida), from the South China Sea

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### Abstract

The morphology of a new marine urostylid ciliate, *Apokeronopsis sinica* n. sp., collected from the Clear Water Bay, Hong Kong, was investigated. Additionally, the SSrRNA gene was sequenced in order to make a comparison at molecular level. Based on both morphological and molecular data, descriptions and comparisons with its congeners are provided. *Apokeronopsis sinica* is characterized by: body size about 150–200 × 50–65 µm *in vivo*; two kinds of cortical granules; about 20 cirri in frontal area which form the non-typical bicorona; 2 frontoterminal, ca. 4 buccal and 10 transverse cirri; midventral complex consists of 21–32 pairs of cirri; on average 35 right and 30 left marginal cirri; about 50 membranelles; invariably 3 dorsal kineties. A key to the identification of the known *Apokeronopsis* species was suggested. The small subunit rRNA gene sequence differences between *Apokeronopsis sinica* and its congeners range from 1.64% to 3.72%.

**Key words:** Clear Water Bay; infraciliature; key; protozoa; 18S rRNA

### Introduction

The urostylid genus *Apokeronopsis* was established by Shao *et al.* (2007), which is characterized by the following features: one row of 2 or more buccal cirri in ordinary position; midventral complex composed of two distinctly separated rows; number of transverse cirri high, usually more than 10; caudal cirri absent and frontoterminal cirri present. Up to now, five species have been assigned to this genus, *A. crassa*, *A. antarctica*, *A. bergeri*, *A. wrighti* and *A. ovalis* (Shao *et al.*, 2007; Li *et al.*, 2008; Long *et al.*, 2008; Shao *et al.*, 2009). Among them, *A. crassa* and *A. antarctica* were transferred from the genus *Thigmokeronopsis* Wicklow, 1981 by Shao *et al.* (2007), and *A. ovalis* was transferred from the genus *Pseudokeronopsis* Borror & Wicklow, 1983 by Shao *et al.* (2009).

During a recent survey of the marine ciliate fauna in the coastal waters of the South China Sea, several new ciliate species have been found (Long *et al.*, 2008; Shen *et al.*, 2008). In the winter of 2007, we isolated an unknown urostylid ciliate from coastal waters off Hong Kong. Subsequent observations and studies demonstrated that it represented a new member of the genus *Apokeronopsis*. Detailed descriptions of its morphology and sequence information of small subunit rRNA (SSrRNA) gene are documented as follows.