



A new pleurostomatid ciliate, *Amphileptus salignus* n. sp. (Protozoa, Ciliophora), from mangrove wetlands in southern China

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Abstract

The morphology and infraciliature of a new brackish water pleurostomatid ciliate, *Amphileptus salignus* n. sp., collected from mangrove wetlands in southern China were investigated using observations of live cells and the protargol impregnation method. *Amphileptus salignus* can be separated from its congeners by its large cell size, the presence of 4 left and 24–29 right somatic kineties, two kinds of extrusomes, the number and location of contractile vacuoles, and its habitat.

Key words: *Amphileptus*, brackish water ciliate, mangrove wetland, morphology, new species

Introduction

Pleurostomatid ciliates are characterized by their bilaterally flattened cell and the long, narrow oral slit along their body margin (Corliss 1979; Lin *et al.* 2005c). To date, over 30 species of the genus *Amphileptus* Ehrenberg, 1830 have been reported from various habitats (Kahl 1931; Canella 1960; Dragesco 1960; Borror 1963; Fryd-Ver-savel *et al.* 1975; Foissner 1984; Dragesco and Dragesco-Kernéis 1986; Lin and Song 2004; Lin *et al.* 2005a, b, 2007). The diagnostic features of this genus include: (1) the right somatic kineties form an anterior suture; (2) there are usually two rows of perioral kineties; (3) extrusomes are distributed along the oral slit, sometimes along the whole ventral margin, or form a group at the anterior end of the body (Song and Wilbert 1989; Song 1991; Foissner *et al.* 1995; Lin and Song 2004; Song *et al.* 2004; Lin *et al.* 2005a, b, 2007).

Recent faunistic studies have revealed a high diversity of ciliated protozoa in the coastal waters and mangrove wetlands of southern China (Liu *et al.* 2009, 2010; Shen *et al.* 2009, 2010; Jiang and Song 2010; Li *et al.* 2010; Pan *et al.* 2010). In this paper a previously unknown species of *Amphileptus*, isolated from mangrove wetlands in Shenzhen and Hong Kong, is described.

Materials and methods

Two populations of *Amphileptus salignus* n. sp. were collected from mangrove wetlands in southern China. Population I was collected on 1 April 2009 from Futian mangrove wetland, Shenzhen, where the water temperature was ~ 21°C, salinity ~ 14‰, and pH 7.5. Population II was collected on 3 November 2009 from Mai Po mangrove wetland, Hong Kong, where the water temperature was ~ 19 °C, salinity ~ 10‰, and pH 8.0.

Observations of living cells were carried out with bright field and differential interference contrast microscopy. The protargol impregnation method according to Wilbert (1975) was used in order to reveal the infraciliature. Living individuals were examined at 100–1000× magnifications; measurements of stained specimens were performed at a magnification of 1000×. Drawings of impregnated specimens were made with the help of a camera lucida (Lin *et al.* 2007). Terminology and systematics are mainly according to Foissner (1984) and Lin *et al.* (2005a, 2007).