

Krienitz, L., Bock, C, Kotut, K. & Luo, W. 2012. *Picocystis salinarum* (Chlorophyta) in saline lakes and hot springs of East Africa. *Phycologia*, 51: 22–32.

Abstract

The occurrence of *Picocystis salinarum* in saline inland waters of East Africa was investigated using a polyphasic approach of small-subunit (SSU) rDNA phylogeny and light microscope observations. Recent studies have found that *Picocystis* occasionally replaces the dominant cyanobacterium (*Arthrospira fusiformis*), which is the main food resource of Lesser Flamingos, in soda lakes of Bogoria and Nakuru. This article discusses the consequences of a high abundance (maximum cell numbers of > 3 billion cells l^{-1}) of *Picocystis* on food chains of African saline waters. During the study, we found a new morphotype of *Picocystis* characterized by larger cell sizes and absence of lobes in hot springs near Lake Magadi. SSU rRNA genes of *Picocystis* strains and uncultured field clones collected from Lake Nakuru were subjected to phylogenetic analyses together with other picoplankton from field and culture samples from saline, marine or freshwater. *Picocystis salinarum* from saline inland waters represents a link between marine and freshwater habitats from both an ecological and a phylogenetic point of view and is therefore of great interest.

Key Words

[Hot springs](#), [Lake Magadi](#), [Lake Nakuru](#), [Picocystis](#), [Picoplankton](#), [Prasinophytes](#), [Saline lakes](#), [SSU rRNA gene](#), [Uncultured clones](#)