



# 2015 Aquatic Sciences Meeting

Aquatic Sciences: Global And Regional Perspectives — North Meets South

22-27 February 2015 — Granada, Spain

Sponsored by — Association for the Sciences of Limnology & Oceanography

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## ABSTRACT

### INVASION OF *DOLICHOSPERMUM LEMMERMANNII* (CYANOBACTERIA) TO THE DEEP LAKES SOUTH OF THE ALPS: AN UNUSUAL COLONIZATION FROM NORTH TO SOUTH?

The deep lakes south of the Alps contribute more than 80% (over 122 km<sup>3</sup>) of the surface freshwater resources in Italy. In this lake district, extended surface blooms of *Dolichospermum lemmermannii* (Nostocales) were recorded for the first time in Lake Garda in 1990/91. Since then, blooms of this species were documented in lakes Iseo (1990s), Maggiore (2005), and Como (2006). In Lake Garda, the understanding and impact of the invasion were studied adopting a wide multidisciplinary approach. The morphological identification of the available strains was supported by phylogenetic analyses based on 16S rRNA and *rpoB* genes. Selected isolates did not produce quantifiable amounts of anatoxin-a and microcystins (LC-MS) so far. Experiments of germination of fossil akinetes buried in the sediments allowed estimating the beginning of the colonization of *Dolichospermum* between the 1970s and 1980s. The causes of the recent spread of this species south of the Alps do not seem to be related exclusively to modifications in the trophic status. The cyclical seasonal development is strongly linked to high water temperatures and intense stratification, suggesting a stronger link with climatic factors.

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#### DETAILS

Oral presentation

Session #:034

Date: 2/23/2015

Time: 11:15

Location: Room D (Floor -3)

Presentation is given by student: No

