



Book of Abstracts



Shallow Lakes 2017

Across the Latitudes: Advances in Shallow Lakes Research

The IX International Shallow Lakes
Conference, Merida (Mexico)

February 19-24, 2017

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Abstracts

IX International Shallow Lakes Conference, Merida (Mexico)
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Composition of cladoceran (Crustacea) and chironomid (Diptera: Chironomidae) and assemblages from surface sediments of Central American lakes.

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The composition of chironomid and cladoceran assemblages of Central American lakes is only poorly known and requires comprehensive survey. Here, we present the results of the study on the taxonomic structure of subfossil Cladocera and Chironomidae from the surface sediments of Central American lakes (Guatemala, El Salvador and Honduras). Ekman grab samples were taken in autumn 2013 from lakes representing broad environmental conditions situated along a 3000 m long altitudinal gradient from lowlands to mountain regions. Cladocera were represented by 31 species belonging to 3 families (Bosminidae, Daphniidae, Chydoridae) that included both planktonic and littoral forms. The most species-rich family was Chydoridae (24 species) while Bosminidae and Daphniidae were the most abundant. In the studied sediments we found cosmopolitan species as well as species typical for the tropics, such as *Anthalona verrucosa*, *Euryalona orientalis*, *Disparalona dadayi*, *Ephemerophorus hybridus*, *Ovalona glabra* and *Coranatella monacantha*. In total, 56 chironomid taxa of 3 subfamilies were present in the surface sediment samples. The subfamily Chironominae dominated with 38 taxa, followed by Tanypodinae (12 taxa) and Orthocladiinae (6 taxa). The average number of taxa per lake was 10, taxon richness of particular lakes varied from 3 to 19. The most common taxa were *Ablabesmyia* sp. (71% of all lakes) and *Goeldichironomus* sp. (59%) followed by *Labrundinia* sp., *Procladius* sp., *Chironomus anthracinus*-type, *C. plumosus*-type, *Cladotanytarsus mancus*-type, *Cladopelma lateralis*-type and *Dicrotendipes nervosus*-type being present in more than 30% of the surveyed lakes.

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Keywords: paleolimnology, subfossil Cladocera and Chironomidae, Central America, surface sediments
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Taxonomic composition of subfossil Cladocera and Chironomidae from freshwater lakes of Central America.

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Here, we present the taxonomic composition of subfossil Cladocera and Chironomidae found in surface sediments of 29 lakes in Central America (Guatemala, El Salvador and Honduras). The studied material was collected in autumn 2013 by means of Ekman grab from lakes located in lowland, highland and mountain regions. A total of 31 Cladocera species (5 planktonic and 26 littoral) were identified. Planktonic Bosminidae and Daphniidae were the most abundant Cladocera families. Daphniidae were restricted to water bodies in mountain regions, whereas Bosminidae were widely distributed in lakes with different abiotic conditions. Moreover, Bosminidae species also occurred in highly mineralized waters ($> 900 \mu\text{S cm}^{-1}$). The great majority of the identified Cladocera species belonged to the littoral family Chydoridae. *Chydorus* cf. *sphaericus* was the most common species (found in 20 lakes), which probably reflects its tolerance to a wide spectrum of habitat conditions. A total of 56 Chironomidae taxa of 3 subfamilies, Tanytopodinae, Orthocladiinae and Chironominae were present in the surface sediment samples. Taxa richness of particular lakes varied from 3 to 19. The most common taxa were *Ablabesmyia* sp., *Procladius* sp., *Cladopelma lateralis*-type and *Goeldichironomus* sp. being present in more than 40% of the surveyed lakes. The study revealed high variability in the qualitative and quantitative composition of subfossil Cladocera and Chironomidae assemblages.

The project was funded by the National Science Centre, Poland, 2014/13/B/ST10/02534 (Cladocera) and 2015/19/P/ST10/04048 (Chironomidae) and the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 665778.

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