

Shallow Lakes 2002

*International Conference on Limnology of Shallow Lakes*

# **Shallow Lakes 2002**

## **International Conference on Limnology of Shallow Lakes**

Balatonfüred, Hungary  
25–30 May 2002

### **Organisers:**

**Balaton Limnological Research Institute of the Hungarian Academy of Sciences, Tihany,  
Hungary**

**and**

**Department of Limnology, University of Veszprém, Veszprém, Hungary**

### **Scientific Committee:**

Chair: Sándor Herodek (Hungary)  
Members: Péter Bíró (Hungary)  
Ellen van Donk (The Netherlands)  
Alois Herzig (Austria)  
Anna Hillbricht-Ilkowska (Poland)  
Vera Istvánovics (Hungary)  
Erik Jeppesen (Denmark)  
Stephen Maberly (UK)  
Luigi Naselli-Flores (Italy)  
Judit Padisák (Hungary)

### **Organising Committee:**

Chair: Judit Padisák (Hungary)  
Members: László G. Tóth (Hungary)  
István Tátrai (Hungary)  
Lajos Vörös (Hungary)

# **Shallow Lakes 2002**

International Conference on Limnology of Shallow Lakes

Balatonfüred, Hungary  
25–30 May 2002

**ABSTRACTS**

Veszprém University Press  
Vp., 2002

Edited by Judit Padisák

ISBN 963 9220 93 0

Published by Veszprém University Press  
10 Egyetem str., P.O. Box 158, Veszprém H-8200  
Hungary

Phone/Fax: +36-88-422-022/4133

Email: [kiado@almos.vein.hu](mailto:kiado@almos.vein.hu)

Homepage: <http://www.vein.hu/kiado>

Chief Publisher: Tiborné Egyházy dr.

Executive Publisher: Miklós Golarits

Technical Executive: László Szabó

Technical Number: VE 22/2002.

## **Fish distribution in the open water and littoral of Neusiedler See (Austria): a matter of habitat structure and abiotic factors**

A. Herzig, J. Kubecka, G. Wolfram

*Biological Station Neusiedler See, Illmitz, Austria*

The shallow lake basin of Neusiedler See covers an area of 321 km<sup>2</sup>; the maximum depth is in the range of 2 m, the average depth is 1.2 m. A reed belt (*Phragmites communis*) encircles the lake, more than 50 % of the lake area is covered by reeds. In general the open water zone can be divided into two parts: the northern part which is less structured by islands and extremely wind exposed, submerged vegetation is confined to an about 1 km wide strip in front of the western reed fringe; in the southern part, on the other hand, numerous islands (*Phragmites* stands) create plentiful shelter for fish; submerged vegetation is growing all over. The reed belt is an extreme patchy habitat, very productive, and harbors diverse biota; i.e. reed stands of varying age, stubble pools, pools, lacunae, and channels. From 1996–1998 the fish standing stock of the open water zone was monitored by applying horizontal echosounding. The fish community of the open water zone mainly consists of *Alburnus alburnus* and *Pelecus cultratus*; *Abramis brama*, *Blicca björkna*, *Gymnocephalus cernuus* and *Sander lucioperca* also contribute to this community. The surveys revealed a relationship between the degree of structure within the lake area and the presence of fish. In the open part of the lake less and smaller sized fish occurred. More and larger fishes were found in wind protected areas and/or structured areas of the lake. The more strong winds prevail, the more fishes are detected within these structures. From 1994–1997 600 fish samples were taken by applying electrofishing. Along the ecotone reed-open water, several fish species use different parts of the reed habitat. *Sander lucioperca* and *Gymnocephalus cernuus* prevail. *Blicca björkna* prefers reed areas close to the open water zone, deeper in the reeds *Rutilus rutilus* and *Scardinius erythrophthalmus*, and in the brown water areas *Anguilla anguilla*, *Carassius gibelio*, *Pseudorasbora parva*, and *Lepomis gibbosus* prevail. In the ecotone regions (reedfringe, channels, pools with communication with the lake), fish biomass was highest, in central reed zones lowest. *A. anguilla* and *C. gibelio* contributed more than half to this standing stock. Structure of the habitat and water depth, water currents, and above all oxygen conditions are forces responsible for patterns of littoral fish species.