

FOLIA MALACOLOGICA

Folia Malacol. 29 (1)

ISSN 1506-7629 • eISSN 2300-7125

www.foliamalacologica.com



An International Quarterly Journal of Malacology



Published by
The Association of Polish Malacologists

in co-operation with:
Faculty of Biology, Adam Mickiewicz University in Poznań
Bogucki Wydawnictwo Naukowe

Poznań, March 2021

PUBLISHED BY

The Association of Polish Malacologists

Uniwersytetu Poznańskiego 6, 61-614 Poznań, Poland, phone +48 61 829 5550, +48 519 340 503
President – ELŻBIETA ŻBIKOWSKA (Nicolaus Copernicus University in Toruń, Faculty of Biological and Veterinary Sciences, Lwowska 1, 87-100 Toruń, e-mail: Elzbieta.Zbikowska@umk.pl)

in co-operation with

The Faculty of Biology, Adam Mickiewicz University in Poznań, Uniwersytetu Poznańskiego 6, 61-614 Poznań, Poland, phone +48 61 829 5553

Bogucki Wydawnictwo Naukowe
Górna Wilda 90, 61-576 Poznań, Poland,
e-mail: bogucki@bogucki.com.pl

EDITORIAL BOARD

Editor-In-Chief

ANDRZEJ LESICKI

(editor in physiology, cell biology, molecular genetics)

Department of Cell Biology, Faculty of Biology, Adam Mickiewicz University, Poznań, Uniwersytetu Poznańskiego 6, 61-614 Poznań, Poland, e-mail: alesicki@amu.edu.pl

Editors

BEATA M. POKRYSZKO

(editor in evolutionary biology, phylogenetics, taxonomy, systematics), Museum of Natural History, University of Wrocław, Sienkiewicza 21, 50-335 Wrocław, Poland, e-mail: bepok69@gmail.com

ELŻBIETA KUŹNIK-KOWALSKA

(editor in ecology, biology), Department of Invertebrate Systematics and Ecology, Institute of Biology, Wrocław University of Environmental and Life Sciences, Koźuchowska 5b, 51-631 Wrocław, Poland, e-mail: elzbieta.kowalska@upwr.edu.pl

MAŁGORZATA PROCKÓW

(editor in ecology, behavioural & developmental biology), Museum of Natural History, University of Wrocław, Sienkiewicza 21, 50-335 Wrocław, Poland, e-mail: malgorzata.prockow@uwr.edu.pl

Language Editors

BEATA M. POKRYSZKO

Museum of Natural History, University of Wrocław, Sienkiewicza 21, 50-335 Wrocław, Poland, e-mail: bepok69@gmail.com

ROBERT A. D. CAMERON

Department of Plant and Animal Sciences, University of Sheffield, Sheffield S10 2TN, United Kingdom, e-mail: r.cameron@sheffield.ac.uk

EWA STWORZEWICZ

(editor in palaeomalacology, systematics, biogeography), Institute of Systematics and Evolution of Animals, Polish Academy of Science, Sławkowska 17, 31-016 Cracow, Poland, e-mail: stworzewicz@isez.pan.krakow.pl

ANNA SULIKOWSKA-DROZD

(editor in ecology, biology, hydrobiology), Department of Invertebrate Zoology and Hydrobiology, Faculty of Biology and Environmental Protection, University of Łódź, Banacha 12/16, 90-237 Łódź, Poland, e-mail: anna.drozd@biol.uni.lodz.pl

Statistical Editor

MARIA KOZŁOWSKA

Department of Mathematical and Statistical Methods, Poznań University of Life Sciences, Wojska Polskiego 28, 60-637 Poznań, Poland, e-mail: markoz@up.poznan.pl

Technical Editor

JAROSŁAW BOGUCKI

Bogucki Wydawnictwo Naukowe, Górna Wilda 90, 61-576 Poznań, Poland, e-mail: jarek@bogucki.com.pl

ADVISORY BOARD

STEFAN W. ALEXANDROWICZ (Chairman) · Polish Academy of Arts and Sciences, Cracow, Poland

RAFAEL ARAÚJO · National Museum of Natural Sciences, Madrid, Spain

ROBERT A. D. CAMERON · University of Sheffield, Sheffield, United Kingdom

ZOLTÁN FEHÉR · Hungarian Natural History Museum, Budapest, Hungary

DILIAN G. GEORGIEV · University of Plovdiv, Plovdiv, Bulgaria

MICHAL HORSÁK · Masaryk University, Brno, Czech Republic

JOHN HUTCHINSON · Senckenberg Museum of Natural History, Görlitz, Germany

PAOLA LOMBARDO · University of L'Aquila, L'Aquila / Limno Consulting, Rome, Italy

BARNA PÁLL-GERGELY · Plant Protection Institute, Budapest, Hungary

ANDRZEJ PIECHOCKI · University of Łódź, Łódź, Poland
HEIKE REISE · Senckenberg Museum of Natural History, Görlitz, Germany

Folia Malacologica is published on-line: www.foliamalacologica.com

This paper version is treated by editorial board as a reference source.

Copyright © The Association of Polish Malacologists 2021

Printed in Poland

Publication date of this issue: March 25th, 2021