



# PHYTOLOGIA BALCANICA

VOL. 21(2) • AUGUST 2015

ISSN 1310-7771

ON-LINE ISSN: 1314-0027

[www.bio.bas.bg/~phytolbalcan/](http://www.bio.bas.bg/~phytolbalcan/)

## CONTENTS

Köcke, V. & Uhl, D.

- 99 The leaf assemblage from the Early – Middle Miocene locality Sulzigtobel near Werthenstein (Canton Lucerne, Switzerland)

Güneş, F. & Çırpıcı, A.H.

- 111 *Lathyrus cassius* (L. sect. *Cicerula*, Leguminosae), a new species for the flora of Europe

Ostroumova, T.A. & Kljuykov, E.V.

- 117 Fruit structure and microsculpture in the annual species of the genus *Bupleurum*, section *Perfoliata* (Umbelliferae)

Bogosavljević, S.S. & Zlatković, B.K.

- 129 Two alien species of *Bidens* (Compositae), new to the flora of Serbia

Eftekharian, R., Sheidai, M., Attar, F. &

Noormohammadi, Z.

- 139 Genetic diversity and population structure

in *Senecio leucanthemifolius* subsp. *vernalis* (Asteraceae) in Iran

- Richards, A.J., Biel, B., Štěpánek, J. & Kirschner, J.  
149 *Taraxacum limnoticum* (Asteraceae) from the Aegean, Greece

Angelov, G.B.

- 155 Systematic relationships among four taxa of genus *Melica* (Poaceae) in Bulgaria: isoenzymatic survey

Asenov, A.I.

- 161 Systematic and phytogeographic analysis of the vascular flora of Mt Zemenska, West Bulgaria

Vladimirov, V., Dane, F., Matevski, V. & Tan, Kit

- 189 New floristic records in the Balkans: 27

*In memoriam*

221

PHYTOLOGIA BALCANICA

BULGARIAN ACADEMY OF SCIENCES  
INSTITUTE OF BIODIVERSITY AND  
ECOSYSTEM RESEARCH

# PHYTOLOGIA BALCANICA



VOL. 21(2) • AUGUST 2015

VOL. 21(2) • AUGUST 2015

The journal is covered in Biological Abstracts, BIOSIS Previews and EBSCO



# PHYTOLOGIA BALCANICA

International Journal of Balkan Flora and Vegetation

Volume 21 (2), Sofia, August 2015

## EDITORIAL BOARD

### Editor-in-Chief:

Dimiter Ivanov Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, **Bulgaria**

### Secretary:

Vladimir Vladimirov Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, **Bulgaria**

### EDITORS:

Mincho Anchев Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, **Bulgaria**

Hans-Jürgen Beug Institute of Ecology, University of Göttingen, **Germany**

Elissaveta Bozhilova Biological Faculty, Sofia University, **Bulgaria**

Carles Codina Faculty of Pharmacy, University of Barcelona, **Spain**

Gheorghe Dihoră Institute of Biology, Romanian Academy, Bucharest, **Romania**

Anna Ganeva Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, **Bulgaria**

Werner Greuter Herbarium Mediterraneum, Orto Botanico, Palermo, **Italy**

Nejc Jogan Department of Biology, University of Ljubljana, **Slovenia**

Tenyo Meshinev Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, **Bulgaria**

Zdenka Neuhauslova Institute of Botany, Czech Academy of Sciences, Prague, **Czech Republic**

Neriman Özhatay Pharmaceutical Faculty, University of Istanbul, **Turkey**

Dimiter Peev Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, **Bulgaria**

Dimitrios Phitos Botanical Institute, University of Patras, **Greece**

Vladimir Stevanović Institute of Botany and Botanical Garden, University of Belgrade, **Serbia**

Arne Strid Botanical Museum, University of Lund, **Sweden**

Tod Stuessy Faculty Center Botany, Institute of Botany, University of Vienna, **Austria**

Kit Tan Institute of Biology, University of Copenhagen, **Denmark**

Dimiter Terziisky<sup>†</sup> Department of Botany, Agricultural University, Plovdiv, **Bulgaria**

Pertti Uotila Botanical Museum, University of Helsinki, **Finland**

Jerzy Zieliński Institute of Dendrology, Polish Academy of Sciences, Poznan, **Poland**

### Address:

*Phytologia Balcanica*

Editorial Office

Acad. G. Bonchev St., bl. 23

1113 Sofia, Bulgaria

### Internet Addresses:

e-mail: phytobalcanica@abv.bg

phytolbalcan@gmail.com

<http://www.bio.bas.bg/~phytolbalcan/>

ISSN 1310-7771

On-line ISSN: 1314-0027

© Institute of Biodiversity and Ecosystem Research

Bulgarian Academy of Sciences, 2015

### Printed by:

Prof. Marin Drinov Publishing House

of Bulgarian Academy of Sciences

Acad. G. Bonchev St., bl. 6, 1113 Sofia, Bulgaria

### English Language Editor:

Lydia Shvedova

### Design of the cover page:

Krassimir Apostolov

### Print design:

Simeon Simeonov

### Cover illustration:

*Cypripedium calceolus* (left)

Photo: A. Popatanasov, Bulgaria

*Orchis militaris* (right)

Photo: A. Popatanasov, Bulgaria

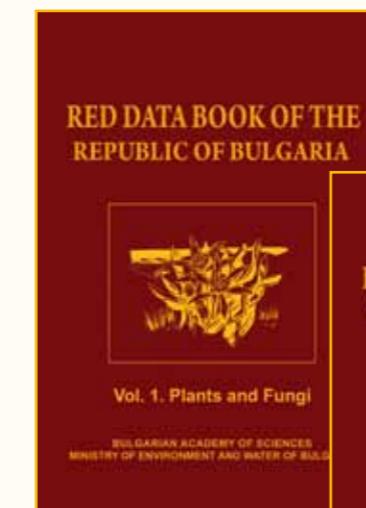
### This issue is financially supported by the



National Science Fund,  
Ministry of Education and  
Science, R Bulgaria

## RED DATA BOOK OF THE REPUBLIC OF BULGARIA HAS JUST BEEN PUBLISHED!

It consists of three volumes issued in Bulgarian and English:



### vol. 1. PLANTS AND FUNGI

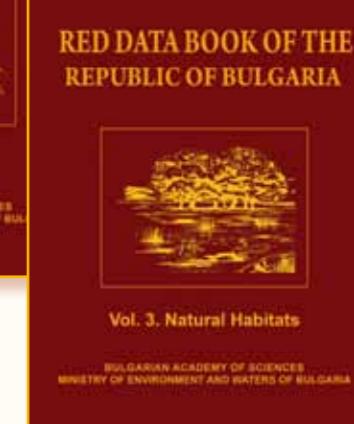
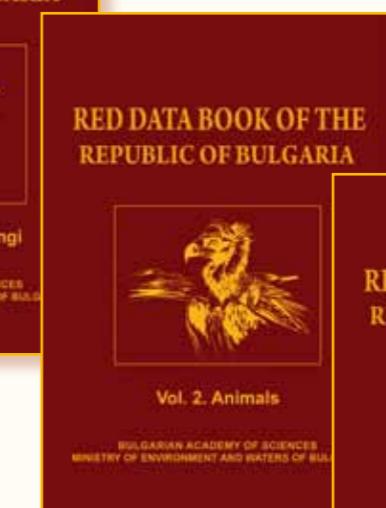
(2<sup>nd</sup> enlarged and revised edition);

### vol. 2. ANIMALS

(2<sup>nd</sup> enlarged and revised edition), and

### vol. 3. Natural Habitats

(1<sup>st</sup> edition).



Peev, D. & al. (eds). 2015. Red Data Book of the Republic of Bulgaria. Vol. 1.

Plants and Fungi. BAS & MoEW, Sofia [English ed.: ISBN 978-954-9746-21-1 (IBER – BAS), 978-954-8497-17-6 (MoEW)].

Golemanski, V. & al. (eds). 2015. Red Data Book of the Republic of Bulgaria. Vol. 2.

Animals. BAS & MoEW, Sofia [English ed.: ISBN 978-954-9746-22-8 (IBER – BAS), 978-954-8497-18-3 (MoEW)].

Biserkov, V. & al. (eds). 2015. Red Data Book of the Republic of Bulgaria. Vol. 3.

Natural Habitats. BAS & MoEW, Sofia [(English ed.: ISBN 978-954-9746-23-5 (IBER – BAS), 978-954-8497-19-0 (MoEW)].