

BOOK REVIEWS

EDITOR: K. T. KISS

CANTONATI, M., KELLY, M. G. and LANGE-BERTALOT, H. (2017): *Freshwater benthic diatoms of Central Europe*. – Koeltz Botanical Books, Germany, 942 pp. (ISBN 978-3-946583-06-6).

A great work that the reader holds in hand. A comprehensive data set comprising almost 11,000 samples from a range of freshwater habitats (springs, streams, large rivers) in diverse geological regions of Germany. According to the EU Water Framework Directive (EU-WFD) different biological components have to be considered in order to assess running and standing water habitats. Diatoms are proven indicators of the quality of freshwater environments and are successfully used for the assessment of organic pollution and trophic status, as well as of anthropogenic acidification and salinization. The EU-WFD requires, in the first instance, an assessment of the overall ecological quality that offers a comprehensive representation of the situation of freshwater environments by means of the integration of the relevant influencing factors. Because of the broadening taxonomic and ecological knowledge on the species there is a strong differentiation of the identification literature due to many new descriptions and revisions.

Consequently, there was a great need for a comprehensive study on recent accepted diatom taxa. This was provided by the German guide book of *Diatomeen im Süßwasser-Benthos von Mitteleuropa*. In order to facilitate use outside the German-speaking area, this work was decided to be translated into English but applied the update knowledge on the taxonomy and ecology. The 26 genera were included in the updated English edition of the book while in just three cases genera that were included in the first (German) edition have been removed. The 10 species have been added to the book, 27 more have been newly mentioned under 'Similar taxa', taxonomic concepts were clarified/updated for 36, and 39 were transferred from one genus to another. Furthermore, there is one species, which is new to the science (*Sellaphora saprotolerans* Lange-Bertalot, G. Hofmann et Cantonati nov. spec.).

The authors completed this version with information on the plastids to the description to the genera as well, furthermore, they improved the information on ecology and distribution for 22 species. More schematic profiles make the overview of the description of the species easy to read. LM morphological characters relevant for the identification, as well as distribution and ecological preferences are described. Moreover, the distinguishing characters of the most similar species are outlined, what can help the user to limit confusion. Complete name and authorities are always provided with the relevant synonyms at the beginning of the species descriptions. A 'Glossary' is provided for the descriptions of the valve characters where terms are explained. Figures on the species take place following the text in the book. The standard magnification for them is $\times 1,500$, where there are exceptions that are indicated. More girdle views – in contrast with older identification books – are depicted, as these can be fairly common in diatom mounts. ZS. TRÁBERT

COSTA, L. F., WETZEL, C. E., LANGE-BERTALOT, H., ECTOR, L. and BICUDO, D. C. (2017): Taxonomy and ecology of *Eunotia* species (Bacillariophyta) in southeastern Brazilian reservoirs. – *Bibliotheca Diatomologica*, Vol. 64. J. Cramer in der Gebrüder Borntraeger Verlagsbuchhandlung, Stuttgart, Germany, 302 pp. (ISBN 978-3-443-57055-2)

It is always a great help for the experts if a book guiding in the labyrinth of a diverse and complicated group of diatoms such as *Eunotia* come out. It is one of the largest genera of diatoms with an estimated species number of 1,500 described worldwide. This publication is a good and interesting completion for volume of *Diatoms of Europe* on the unique freshwater genus *Eunotia*. At the same time, it makes possible for a comparison between diatoms living in two continents with different environmental conditions. It is interesting to study whether which taxa live in different habitats of Brazil and Europe more thousands kilometres far from each other.

This work is restricted to a part of Brazil, to the State of São Paulo, nevertheless it provides an image-rich documentation of the morphology and ultrastructure of *Eunotia* species, besides their general ecology and distribution patterns. New species are formally described and discussed and some original materials described from South America restudied. The study area including 32 reservoirs with different limnological conditions (ultraoligo- to supereutrophic) also contributes to the variety of the genus and of this work, as a whole.

It is an easy-to-use guide book because it follows the conventional sectioning of the identification books according to which after a short review of the introduction and the studied area in material and method section results and discussion are shown with detailed on the other hand transparent information about the taxa, and then, of course, the photo tables come. Eighty-seven *Eunotia* species are illustrated with light and scanning electron microscopy on 108 plates and compared with other similar taxa. Among these, 13 taxa are reported here for the first time in Brazil, and 15 new taxa are described. Morphometric features of all taxa are described and compared with data from literature.

This work is a useful help for the diatomists, algologists, students who would like to get to know better these diverse group of diatoms.

Zs. TRÁBERT

KULIKOVSKIY, M. S., GLUSHCHENKO, A. M., GENKAL, S. I. and KUZNETSOVA, I. V. (2016): *Opredelitel' Diatomovykh Vodoroslei Rossii*. (Identification book of diatoms from Russia). – *Filighran*, Yaroslavl, 803 pp. (ISBN 978-5-906682-72-7)

The authors start their book with a kind sequence in the introduction: “You hold this monography entitled “*Opredelitel' Diatomovykh Vodoroslei Rossii*” in your hand”. Later they add that the former book with similar title was published in 1951. In this way they emphasise that it was high time to write a new volume summarising recent knowledge. Their aim is to provide an overall view of the diatoms of freshwaters of the enormous Russia. As there are hardly any countries having such numerous geographic regions. In the European and Asian areas of Russia several climate zones can be found with very many types of standing and running waters, instancing the ranges of tundra, Holarctic, temperate zone or high-altitude or the dry moreover desert areas or the Baikal region.

The authors aimed to present preferably all of the Russian diatom genera along with the most frequent species. They attempted to involve the more important species and endemic taxa completing the description of the diatoms of the country in their book. In this

way they intend to help both the Russian speaking experts, researchers and everyone who would like to get to know the diatom flora of Russia.

In order to enable beginners to embark on such researches, the authors start their book with a methodological chapter: sample preparation for microscopy studies; basics of light and electron microscopy (TEM, SEM); diatom systematics considering new genera recently described (in case of pennate genera type species and the related references are summarized in a very long table).

In the next chapter we can find the short description of 767 genera and the presentation of characteristic species of these genera. Microphotographs are provided for every species. More than 3,000 photos can be found on 195 plates, most of them are LM images. Morphological features of several pennate genera are showed on separate SEM plates. The language of the volume is Russian, however, nomenclature and species index are in Latin. Descriptions contain systematical and floristical information, basionyms, synonyms, ecology and distribution.

We warmly recommend this book to everyone who would like to get acquainted with the diatom flora of Russia. Readers can gain a lot of new information about various centric and pennate diatoms from a wide range of environments. M. DULEBA and K. T. KISS

PEETERS, V. and ECTOR, L. (2017): Atlas des diatomées des cours d'eau du territoire bourguignon. Volume 1: Centriques, Araphidées. – Direction Régionale de l'Environnement, de l'Aménagement et du Logement Bourgogne-Franche-Comté, 309 pp. (ISBN: 978-2-11-152091-2)

More than 15 years of sampling and identification of diatoms is now summarized in the newly available guide for three, morphologically and geologically distinct watersheds of Burgundy, France. In this first volume on diatoms of Burgundy, almost one hundred diatom taxa are presented with very well-detailed taxonomic descriptions including morphological characteristics, references, high-quality photographs taken by LM and TEM, as well as additional information on autecology. In the light of diatom-based ecological assessment approaches required by the Water Framework Directive, we recommend this highly valuable work from Peeters and Ector for diatom taxonomists independently of their stage of carrier, or motivation of interest. Present diatom atlas is a great contribution to the diatom flora of France; and follows high-quality standards in diatom taxonomy made accessible generously by the authors on other territories of France formerly: Alpes-Maritimes and Provence-Alpes-Côte d'Azur (2010), Rhône Alpes (2013), Languedoc-Roussillon (2013), Ile de France (2014), Bretagne and Pays de la Loire (2015). A. ABONYI

VANGJELI, J. (2017): Flora Albanica Atlas. Vol. 1. Pteridophyta – Apiaceae. – Koeltz Botanical Books, Schmitten-Obereifenberg, IX+933 pp. (ISBN 978-3-946583-08-0)

The volume provides distribution maps nominally for 1,700 species, on 876 pages, planned to be the first part of a series. The maps, the main part of the work, are preceded by a rather brief introductory part: preface (1 page), the abbreviations applied (4 pages), the description of IUCN categories (this part is literally copied from the IUCN red list website, including the figures) and a map with the districts of Albania (disregarding the administrative changes in the county in 2015). The maps are followed by indices (33 pages) and references (4 pages). The systematic treatment of the present (and planned) volume(s) is

missing, it was found that pteridophytes, conifers and a part of dicots are included (probably following Engler's system from Salicaceae to Apiaceae).

Comments on the structure of the Flora Albanica Atlas. In the preface, some notes are mentioned about the background, but the used material, the methods and e.g. acknowledgements are missing. According to the preface, the maps are based on a database including the records of the material of the TIR Herbarium and literature sources. On the maps, only one type of symbols is used, not distinguishing old and recent records (if any). The lack of any information about the nativity of taxa is deceptive for readers not familiar with the Albanian flora, moreover, IUCN categories are assigned even to cultivated taxa (there are no remarks that *Salix babylonica* [p. 48], *Broussonetia papyrifera* [p. 79], *Morus alba* [p. 79], *Morus nigra* [p. 80], *Maclura pomifera* [p. 80], etc. are only cultivated in the country).

The method of ascertainment of red-list categories for all taxa is unclear using simply (mostly?) old herbarium and literature data without any recent research. Likely this ranking is not country-specific, but the same as given on the IUCN website. Nomenclatural references, taxonomic system and order are not given, the order of families, genera and species is unknown (even not alphabetic).

For all taxa some basic information (synonyms, life form, floristic element, flowering time, habitat code and two numbers linked with + sign), a map and a colour photograph are provided. The source of the photos is not specified, the reader might suppose that those are the author's own photographs, but after a short query those can easily be found on the Internet. Some examples from the first half of the book: *Botrychium matricariifolium* (p. 8, https://de.wikipedia.org/wiki/%C3%84stiger_Rautenfarn), *Cedrus deodara* (p. 35, http://www.conifers.org/pi/Cedrus_deodara.php), *Rumex nivalis* (p. 109, <http://labs.eeb.utoronto.ca/barrett/Istehlik.html>), *Kochia prostrata* (p. 138, <http://botany.cz/cs/kochia-prostrata/>), *Silene bupleuroides* (p. 193, <http://photos.v-d-brink.eu/Flora-and-Fauna/Asia/Iran-Central-Western/i-9pXFsjq/>), *Silene cretica* (p. 207, <http://mthymettosgreece.com/en/portfolio/silene-cretica/>), *Dianthus scardicus* (p. 221, <https://garden.org/plants/view/387959/Dianthus-Dianthus-scardicus/>; the first hit by google for the species), and so on. In some cases even the original watermark still exists on the photo (see *Helianthemum apenninum*, p. 770). As a strange idea, the photo of *Chamaecytisus ciliatus* (p. 499) was copied from our museum's website, without any permissions or requests as well.

The distribution of plants are outlined in two ways: on the dot maps and with the listed localities (but without the source of information) apparently providing redundant information, but the two sets are usually not in line: Mati district is listed at *Polygonum alpinum* (p. 104), but no dot is marked there on the map, Prespa Lake is listed in Kolonja district but mapped (correctly) in Devolli district (p. 105), etc. In some cases, the maps are systematically dotted and the dots cover the whole country; again without an agreement between the listed localities and the map, e.g. 119 localities are listed at *Pteridium aquilinum* and 286 dots are marked on the map. The same method was applied for e.g. *Helleborus odoratus*, *Dorycnium pentaphyllum* and *Hypericum perforatum* (p. 749) while dots only in the approximate centre of all administrative districts are marked at *Morus alba* (p. 79), *Ficus carica* (p. 81), *Pelargonium zonale* (written mistakenly as 'zonalle', p. 653), etc.

Comments on the scientific quality of the Flora Albanica Atlas. For colleagues not familiar with the Albanian flora, the most striking can be the frequent case, when clearly not the discussed plant can be seen on the attached (copied) photos, e.g. at *Selaginella selaginoides* (p. 2), *Polygonum longipes* (p. 97), *Papaver argemone* (p. 282), *Alyssum corymbosum* (p. 338), *Berteroa obliqua* (p. 345), *Clypeola johnthlaspi* (p. 349), *Lens nigricans* (p. 545), *Lathyrus pannonicus* (p. 549), *L. pallascens* (p. 549), *Bupleurum commutatum* (p. 844), etc.

According to the preface, the distribution maps are based partly on published records. In the references altogether 62 items are listed (of which at least 10 not include chorological data), however, altogether more than 400 works includes chorological data of vascular plants from Albania. The inclusion of the records of these works into the atlas/database is questionable, as e.g. the cited work about the distribution of *Sedum amplexicaule* (Barina and Pifkó 2008) listed 26 records of the species, while the present atlas includes only three localities (p. 392). The presented maps are not in accordance with the published records neither of *Lathyrus pannonicus*, *L. pallescens*, *L. saxatilis*, *Ononis pusilla*, etc.

The maps usually insufficiently interpret the present knowledge of the distribution of the discussed taxa. A single locality is listed for *Asplenium septentrionale*, the characteristic species of serpentine and volcanic rocks over the mountains (cf. Barina 2017) and the number of published localities by Hayek (1924), Kümmerle (1926) and Markgraf (1927) are disregarded. Similarly, *Scandix australis*, distributed in S and SE Albania, has a single locality in the atlas.

The records in the database were uncritically mapped without the slightest sign of any revision, consequently, a remarkable number of records are clearly erroneous (the maritime *Pseudorhiza pumila* from Thate Mts, p. 876, etc.). For example, a single locality is given (likely erroneously) from the Albanian Alps for *Anogramma leptophylla*, a Mediterranean species of lower altitudes along the coast. *Isoetes histrix* was collected and reported once from coastal habitats of SW Albania, its map includes a single locality from the mountains of NE Albania. Evidently, there are no suitable habitats for this Mediterranean wetland (coastal) plant on the xerophytic limestone hills of Mt Pashtrik and cannot occur on 2000 m there (as written in the book), as the highest point of the mount is 1986 m a.s.l. The herbarium records were not revised, thus a high number of erroneously identified plants are mapped, as *Crataegus nigra* (p. 481), *Bupleurum longifolium* (p. 840, its vouchers are *B. subovatum*), etc.

The distribution of some conifers clearly reflects the uncritical mapping of records: from the frequently visited Llogara locality all fir species (*Abies alba*, *A. borisi-regis* and *A. cephalonica*) are 'reported' due to the different identifications of the same population by different authors. Similarly, three *Pinus* species are mapped in Çikës Mts, identifying the young specimens of *P. nigra* and/or *P. leucodermis* erroneously as *P. mugo*.

The source of further records is unknown, as *Alnus cordata* has no specimens in TIR herbarium and has only a single (erroneously interpreted) record from Fusha Kruja, but two localities from S Albania are listed in the atlas. *Linum punctatum* is known to be a rare plant of serpentine outcrops around and above 2000 m (Shuka 2008), all its known localities are missing in the atlas and three 'new' ones are marked from the limestone areas of the Albanian Alps (the plant is restricted to serpentine substrates along its whole area).

The maps and records of a lot of species reported (and vouchered) from Albania can be looked for in this work in vain, e.g. *Astragalus sesameus*, *Bupleurum aequiradiatum*, *Bupleurum subovatum*, *Clematis recta*, *Eranthis hyemalis*, *Malabaila graveolens*, *Melilotus graeca*, *Reseda tymphaea*, *Ridolfia segetum*, *Silene supina*, *Silene uniflora*, *Teline monspessulana*, and even frequent species, as *Potentilla micrantha*, are missing.

The orthography of plant names do not follow the rules of the Botanical Code (McNeill 2012), e.g. at *Viola košaninii* (p. 764, instead of *V. kosaninii*), *Alyssum Markgr.ii* (p. 897), *Paliurus spina-Christi* (p. 916), etc.

Comments on the technical quality of the Flora Albanica Atlas. In average 2–6 mistakes can be found per page. The inconsistent use of space and tab (missing or superfluous), punctuation and formatting causes mostly esthetical problem, as the causeless chang-

es in font size (e.g. p. 40, 46), but the spelling mistakes makes the text hard to understand, especially in abbreviations (Lul instead of Jul, Julurbin instead of Kurbin, etc.) and changes the sense, e.g. *Oxytropis pilosa* was published from an altitude of 1863 m (Barina *et al.* 2009), but in the present work 1683 is written. Similarly, *Lagoecia cuminoides* was reported from S Albania "150 m S of the village Leushë" at an altitude of 541 m (Barina *et al.* 2009), this record appears as "150 m above sea level" in the atlas.

Sometimes hyphens, signs and figures turn up unexpectedly in inappropriate places (see p. 203 or p. 481 with small maps within the photo, superfluous semicircle on p. 610, a blue plot on p. 470, etc.).

The maps are of different height and width even on the same page, are of different quality from the likely digitally edited ones to the scanned-like and blurry ones and the totally pixelated and obscure ones (e.g. on p. 203, p. 716). The dots are usually black on the maps, but sometimes brown (p. 776, 784, 796, etc.).

The photos are frequently distorted, sometimes rotated (e.g. *Linum strictum* is lying on its side on p. 665, also *Haplophyllum coronarium*, p. 690, *Hypericum olympicum*, p. 743), in some cases have a frame (p. 754, 784, 791, 796, etc.). The photos are frequently of low resolution, unsuitable for printing (e.g. *Viola gracilis* and *V. speciosa* on p. 760, *V. aetolica* on p. 762, *V. kosaninii* on p. 762, *Helianthemum lavandulifolium*, p. 768) and are fit to the space available at the species, thus every fourth-fifth photos are malformed.

Summarising the above comments this work is an uncritical compilation of data of uncertain origin. The published literature records and the material of TIR herbarium alone are inadequate to outline the distribution of plant species in Albania; moreover, even the use of these two sources are rather incomplete and messy: a number of records/species were missed or mistakenly and imperfectly interpreted and the records were not revised. Consequently, the distribution maps are rather incomplete and include a high number of obviously erroneous records and mistakes making the work botanically harmful, unreliable and much outdated. The printing quality is impeccable, however, the technical editing is rather poor. The use of a database without specifying its authors (and contributors) and using photos collected from the Internet without permissions and without mentioning the sources and proprietors make this work ethically strongly condemned. Disregarding copyright laws in a printed and widely distributed book is sanctioned by law in every countries, so it is an unprecedented case of robbing a number of botanists and institutes, its consequences can be instructive.

Although this book has been published and is distributed by a noted publisher, unfortunately it is full with several kinds of mistakes, which confirms that the manuscript was not peer-reviewed by adequate experts.

Fortunately, a book with detailed authentic colour photographs of Albanian plants (Pils 2016) and an atlas with the distribution of all vascular plants in Albania (Barina 2017) are already available, thus there is a choice for those who are interested in the flora of Albania.

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