

BOOK REVIEWS

Petrova, A., Vladimirov, V. & Georgiev, V. 2013.

Invasive Alien Species of Vascular Plants in Bulgaria

Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia.

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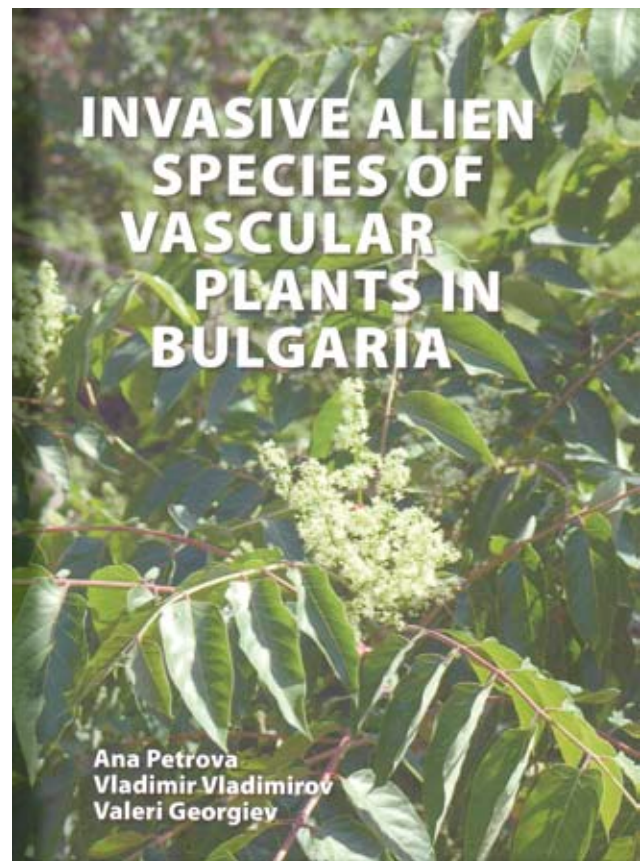
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IN THE FIRST HALF OF THE 20TH CENTURY, so to speak in the romantic era of the research into adventive (alien) plants, they used to say that the immigration of alien species is one of the ways of enriching the flora of an area. The fact is that then these plants generally were weed and ruderal plants which, with the exception of crops, were not considered too dangerous.

With time, however, it was shown for many of them that ruderal habitats and areas under cultivated plants were just starting hotspots from which they spread to the habitats of indigenous vegetation, especially where there a natural balance, and hence the resistance of the original flora and vegetation, was disturbed. Some of the species were spreading fast and were aggressive, and due to competitive advantage have conquered the new territories invasively. The classic example is the species *Ailanthus altissima*, which already has spread from urban and periurban areas to the natural forest habitats, damaging gravely the composition and structure of the original forest communities. It is known nowadays that the invasive alien species are one of the factors that could threaten seriously the natural diversity of the original flora and vegetation and thus their presence is not welcome at all.

Therefore, it is crucial not only for some of the countries but also for wider regions to investigate and analyze carefully, systematically and continuously the appearance in new areas and the behavior (trends, ways and dynamics of spreading) of any potentially



invasive alien species. The obtained data would allow the prediction of occurrence of these species in new localities and areas, and the timely implementation of appropriate preventive measures, as well as the early detection of these plants presence and eradication that is the most effective at that stage.

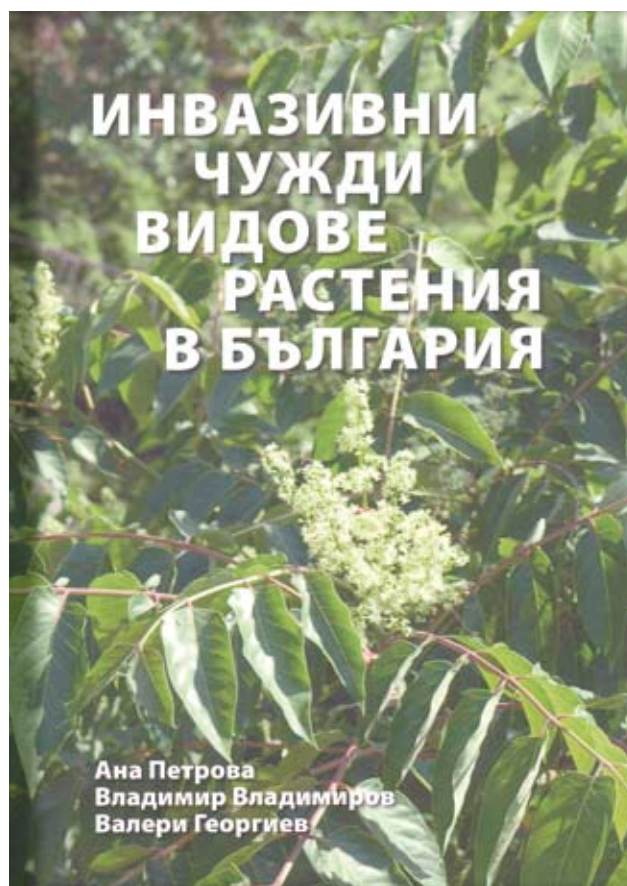
The book is the result of such approach of the authors and, therefore, it is a competent and referential scientific source of information on these species. However, its importance goes beyond the territory of Bulgaria, because the book is equally important for all the countries of the Balkan region, especially for those with which Bulgaria has immediate borders, such as Serbia, Macedonia, Greece, and Turkey.

The introductory text in which the authors give basic information about the alien species, the importance and way of their influence in the new environment, the ways of introduction, the international and national legislation, the history of studies in Bulgaria, etc., is followed by the main and most important part of the book. The chapter **Species Description** includes 256 of all 319 pages of the book, in which 60 alien species are presented.

The species are listed in alphabetical order by the names of the genus, and for each species the following data are given: morphological description, biology and ecology, origin and distribution, and control, as well as the most important literature sources.

The alphabetical arrangement of species is very convenient because it generally allows an easy navigation, especially for readers who are not familiar with botanical classification. The detailed and accurate description of the plants, completed with relevant photographs that visualize their characteristics, makes possible an easy recognition and identification of the living plants outdoor, even by those users of the book who are simply amateur botanists or nature lovers. This is very important because people who go to nature for personal reasons (recreation, hiking, photography, etc.) could possibly make a network of watchers who may signalize the occurrence of alien species in new locations. Data on the biology (time of flowering or fruiting, way of reproduction, etc.) and ecology of species (habitat types) are especially important for those who are officially involved in the suppression and eradication of these species, enabling them to implement the adequate measures at the right time of the vegetative period. Information about the species origin refers to some remote areas where these species are indigenous, and from where they have been brought to Europe and Bulgaria, consciously or unconsciously.

The most important data in the book are those of the species expansion in Bulgaria. The attached map is also very useful, because one could distinctly de-



termine the extent and level of their spread across Bulgaria, as well as their distribution, i.e. the territorial occupation and density and distribution of sites at which the species have been registered. This is particularly valuable for timely implementation of preventive measures, in order to stop a further spread of these species. The specific substances and methods of control and prevention listed for each of the species also present valuable information for the authorities engaged in destruction and eradication of the invasive alien species.

The chapter **References**, which encompasses more than 400 bibliographical entries, indicates that the authors have thoroughly used the literature on this group of plants. The titles and names of the authors show that the authors of the book have not limited themselves only to the national sources but have consulted also the literature of the Balkans and Europe, as well as the relevant electronic databases. Thus, the authors have analyzed and defined the national issue of invasive species in a much broader context, both in terms of territorial distribution of the species and in terms of experience, knowledge and data originating from

other areas. This shows that the authors are highly familiar with all aspects and methodology of botanical science dealing with the theoretical and practical studies of alien plant species.

In addition to the scientifically grounded and competently processed material, the book offers clear, precise and consequent text and a logically, consistently and distinctly organized structure, as well as some well-chosen photographs that contribute to the scientific data and knowledge, which could be understood by readers without botanical and biological education. This is another valuable aspect of the book, considering the fact that it is very important in addition to scientists and botanists to include also experts in the field of nature conservation, as well as the appropriate ministries, local governments and the broader community in solving the problem of invasive species.

Conclusion

The book presents a well conceived, sophisticated, thorough and up-to-date review of the knowledge on alien plant species on Bulgarian territory.

In relation to the subject, it is extremely important, both from the theoretical and from practical

point of view, because of the detailed and accurate information on botanical classification, taxonomy, nomenclature, synonymy, morphology and distribution, as well as biology and ecology, and the measures and methods of control and prevention of alien plant species.

Therefore, it presents a very good basis for further taxonomic, floristic and chorological studies of the composition, structure and distribution of alien species in Bulgaria, as well as in the Balkan countries and Europe. The book is also a valuable source of information and recommendations necessary for the timely implementation of preventive measures for combating the further spread, as well as appropriate methods for eradication of undesirable species.

In terms of topicality of the theme, not only in Bulgaria but also in the Balkans and Europe, in terms of the concept of content and structure, as well as of the quality and quantity of scientific data and knowledge, and the processing and presentation of the theme, the book *Invasive Alien Species of Vascular Plants in Bulgaria* is a remarkable contribution to botanical science and especially to the knowledge of alien species, which exceeds the borders of Bulgaria.

Polatschek, Adolf & Neuner, Wolfgang. 2013.

Flora von Nordtirol, Osttirol und Vorarlberg, vols. 6 & 7

Hardback. Tyroler Landesmuseum Ferdinandeum, Innsbruck.

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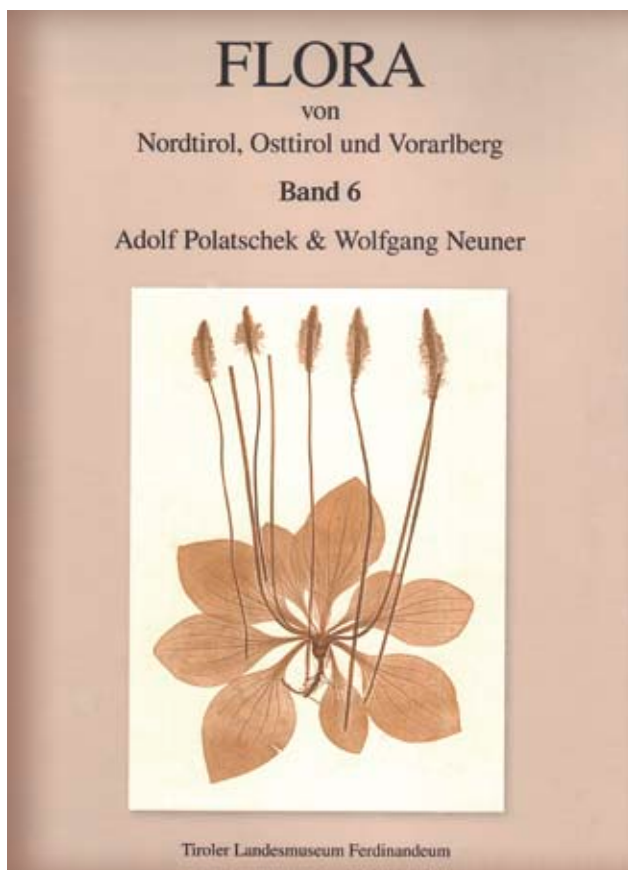
IT IS MY PLEASANT duty after the review of the five-volume monograph *Flora von Nordtirol, Osttirol und Vorarlberg*, vols 1 to 5 (Phytol.Balkan. 12(1) 2006) to present the last two volumes of this ambitious publication, namely vol. 6 and vol. 7. Prior to summarizing their content I would like to say some words in retrospect.

The Introduction to *Flora von Nordtirol, Osttirol und Vorarlberg* presents the geographic regionalization, the main physical and geographic characteristics

of the region, its contemporary relief and geological base as a foundation to understanding the composition and structure of the vegetation cover.

The taxonomic structure of the *Flora* follows *Liste der Gefäßpflanzen Mitteleuropas* (Ehrendorfer & al. 1973). The taxonomic and chorological information follows the systematic order of the large taxonomic units, and within each of them the families, genera and respectively species and subspecies have been arranged in an alphabetical order. *Flora von Nordtirol, Osttirol und Vorarlberg* has no determination keys and morphological descriptions. It acquaints the reader with the taxonomic composition by offering detailed information about ecology, localities and distribution of the taxa.

Flora von Nordtirol, Osttirol und Vorarlberg, vol. 6 & vol. 7, supplements the five volumes of monograph already regarded as a “scientific contribution of the century” to the flora of these regions in Austria. Preparation and publication of the last two volumes was necessitated by the great volume of newly accumulated data from various sources. Including chorological data supplied by the contemporary floristic investigations and inventories of the flora of the so far poorly studied genera and geographical regions, as well as unpublished data from various herbaria and, above all, from the restored herbarium of the Tyroler Museum Ferdinandeum, Innsbruck (which was flooded in 1985). The presentation of taxonomic and chorological information was modeled on the first five volumes, with some concise new information on the distribution and chromosome numbers of the species in that flora. Many chorological data have been supplemented and updated, especially for the *Red Lists of the Threatened Ferns and Flowering Plants in North Tyrol, East Tyrol and Vorarlberg*.

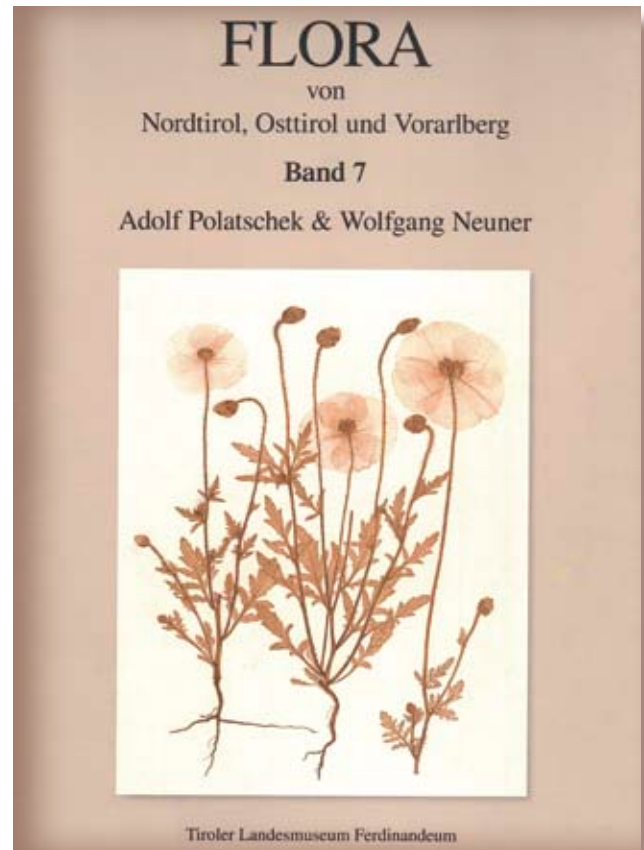


Mention deserves the conclusion drawn in the Introduction to the *Flora von Nordtirol, Osttirol und Vorarlberg*, vol. 6 about the increasing migration of neophytes penetrating into the high-mountain vegetation of the region and considerable thermophilization of that vegetation (GLORIA-EUROPE Programme). This process is considered a grave threat to the autochthonous flora.

A *New Red List of the Threatened Ferns and Flowering Plants in North Tirol, East Tirol and Vorarlberg* (Polatschek & Neuner, 679-720) is included after the systematic section in vol. 7. The *New Red List* is updated in line with the summarized additional information. The taxa are alphabetically arranged according to the genera, species and subspecies and are referred to six categories: Extinct, Critically Endangered, Endangered, Vulnerable, Potentially Endangered, Not Threatened. Quantitative participation of the different groups of threatened taxa in *North Tirol, East Tirol and Vorarlberg* is presented in three histograms.

The *Flora von Nordtirol, Osttirol und Vorarlberg*, vol. 7: 721-794 contains an Addendum with more than 80 names of botanists and natural history scholars, who have contributed to the investigation of that flora. Volumes 6 & 7 have Indexes of the Latin and German Names of the Taxa.

Thus, after publication of volumes 6 & 7 of the *Flora von Nordtirol, Osttirol und Vorarlberg* that re-



gion of Central Europe has now contemporary floristic documentation at its disposal, ready to serve as a foundation to future researches.

