

REVIEWS

1. OPREA Ad., SÎRBU C., 2009, *Diversitatea floristică a Munților Stânișoarei (Carpații Orientali)* [Floristic diversity of Stânișoarei Mountains (Eastern Carpathians)]. Iași: Edit. Univ. "Alexandru Ioan Cuza" (ISBN 978-973-703-429-8): 422 pp.
2. OPREA Ad., SÎRBU C., 2009, *Munții Stânișoarei (Carpații Orientali). Studiu fitosociologic* [Stânișoarei Mountains (Eastern Carpathians). A phytosociological study]. Iași: Edit. Univ. "Alexandru Ioan Cuza" (ISBN 978-973-703-430-4): 219 pp.

In 2009, two romanian authors, dr. Adrian Oprea and dr. Culiță Sîrbu, from University „Alexandru Ioan Cuza” and, respectively, University of Agricultural Sciences and Veterinary Medicine "Ion Ionescu de la Brad", both of them from Iași, have succeed to written two valuable studies on a pretty large area (over 2000 km²) from Eastern Carpathians.

Stânișoarei Mountains are situated in the medio-marginal to East part of the Eastern Carpathians, on flysch geological substrate, showing a great diversity of relief forms, hydrology, soil, as well as the microclimats. They are divided in individualized regional structures (as the following ones: Suha Mountains, Sabasa Mountains, and Neamțului Mountains), with a medium altitude over 800 m, and long anthropogenic influences (as fields usage, lot of localities, many churches and monasteries, communication routes, and so on) presenting, also, a large floristic and a pretty rich phytosociologic diversity.

There are known, so far, only partial papers on the phytodiversity of the Stânișoarei Mountains, dealing with quite specific botanic aspects, like: chorology of some vascular plants, floristic contributions around the towns of Piatra Neamț, Gura Humorului, and Târgu Neamț, as well as over the surroundings of „Izvorul Muntelui-Bicaz” lake; in other papers there are some data on vegetation of counties Suceava and Neamț, or in a recently book on the vegetation of Moldavia region, it is presented some data of Stânișoara Mountains etc.

These books were written on the base of field surveys achieved along of four years (between 2005 and 2008) and numerous study hours in laboratories and libraries. These books showed, for the first time, a survey in assembly over the whole area of Stânișoarei Mountains, a floristic and in the same time, a phytosociologic study, both of them being synthetic and analytical, thoroughly, having, also, elements of conservation of the biodiversity and ecological reconstruction. Among the original contributions of these two books I shall emphasize the most important ones, as following:

- It is achieved, for the first time, an integrate conspectus of the vascular flora on the whole area of Stânișoarei Mountains, comprising thus 1408 plant species, irrespectively 44.9% of the vascular plants into the Romanian Flora. As a consequence of a critic analyses of the flora, the authors show that 100 taxa, previously quoted in this region in old papers, have not been identified again on the field, but, in turn, other 147 taxa were identified for the first time in Stânișoara Mountains. The floristic stock of the surveyed territory is reflected especially through the richness of some plant families, as the next ones: *Asteraceae* (185 plant species), *Poaceae* (108 plant species), *Brassicaceae* (72 plant species), *Lamiaceae* (71 plant species), *Rosaceae* (67 plant species), *Fabaceae* (66 plant species) etc. The authors confirm the presence for certain of the next two species:

Sparganium natans L. (*S. minimum* Wallr.) and *Crepis paludosa* (L.) Moench., on the territory of Moldavia.

- As concerning the live's form (bioforms) one can see that the hemi-criptophytes are prevalent in region, in terms of number of species (with 46%); the 2nd large category is represented by the therophytes and hemi-therophytes plants (25.8%); the 3rd category is represented by the geophytes (11.7%), which reflect, in general, a correspondence with the existing data of the whole region of Moldavia (Eastern part of Romania). In comparison with the situation from Suceava and Neamț counties, it is showed a slow growing of phanerophytes (0.6-0.8%) and hydato-helophytes (2.5%).
- The areal-geographic structure of flora in Stânișoarei Mountains illustrate the base stock of this, being dominated by the eurasian elements (34%), european elements (26%), and circumpolar elements (10%); to this is added other elements, in a much more reduced proportions, but having a major significance as concerning their chorology; 12 endemic taxa, ex.: *Asperula carpatica*, *Centaurea pinnatifida*, *Erysimum witmannii*, *Helictotrichon decorum*, *Hepatica transsilvanica*, *Hesperis oblongifolia*, *Primula elatior* subsp. *leucophylla*; 20 endemic taxa as pan-carpathians, ex.: *Achillea oxyloba* subsp. *schurii*, *Aconitum moldavicum*, *Campanula carpatica*, *Campanula serrata*, *Cardamine glanduligera*, *Centaurea phrygia* subsp. *melanocalathia*, *Dianthus spiculifolius*, *Dianthus tenuifolius*, *Hieracium pojoritense*, *Poa rehmanni*, *Ranunculus carpaticus*, as well as a series of subendemics (so-called Dacian) taxa, ex.: *Cirsium furiens*, *Centaurea phrygia* subsp. *indurata*, *Dianthus collinus* subsp. *trifasciculatus*, *Melampyrum bihariense* etc.
- In the same time, the most recent data on the indigenuous flora show a pretty high proportion of the alien and cosmopolite species; all of the invasive plant species represent an alert sign concerning the vulnerability of the natural habitats, as they are: *Acer negundo*, *Amaranthus retroflexus*, *Ambrosia artemisiifolia*, *Conyza canadensis*, *Echinocystis lobata*, *Impatiens glanduligera*, *Reynoutria × bohemica*, *R. japonica*, *Robinia pseudacacia*, *Xanthium orientale* subsp. *italicum*, *Xanthium spinosum* etc.
- Using ecological indexes of the vascular plants (Light - L, Temperature - T, Humidity - U, Reaction of the soil=pH - R, Nitrogen value of the soil - N) allowed the authors to make an ecological spectrum of the whole surveyed area, putting into evidence the sub-heliophyllous (Lm=7), meso-thermophyllous (Tm=6), mesophyllous (Um=5), neutrophyllous (Rm=7) and moderately nitrophyllous (Nm=5) characteristics of the vascular flora in Stânișoarei Mountains.
- Those details linked by the variability of the ecological factors were putted into evidence by the existence of important variations among the species into the territory, namely: there are sciophile plant species (e. g. *Epipogium aphyllum*), typical heliophilous species (e. g. *Erysimum witmannii*, *Galium anisophyllum* etc.), thermophyllous species (e. g. *Achillea setacea*, *Asyneuma canescens*, *Cotinus coggygria*, *Stipa lessingiana* etc.), micro-thermophyllous species (e. g. *Festuca carpatica*, *F. nigrescens*, *Centaurea pinnatifida*, *Silene zawadzki*, *Saussurea discolor* etc.), hygro-hydrophyllous species (e. g. *Cirsium rivulare*, *Potamogeton natans*, *Veronica beccabunga*, *Lemna minor* etc.), calciphyllous species (e. g. *Androsace lactea*, *Arabis alpina*, *Scorzonera purpurea* subsp. *rosea*), acidophyllous species (e. g. *Nardus stricta*, *Lycopodium annotinum*, *Vaccinium myrtillus*, *Veronica officinalis*) etc.

- The original contributions of authors is demonstrated in the most pregnant mode, by their ideas in preservation of those indigenous plant species of Stânişoarei Mountains. Thus, they have identified and characterized 152 taxa as being the rarest vascular plants on the surveyed area; the authors distributed them into different categories as the most vulnerable ones, as follow: 105 taxa are registered under the „Global Red List” (sensu IUCN, 1997), 98 taxa are registered under the „Red List of the Vascular Plants in Romania” (Oltean & al. 1994), 23 taxa are registered under various international regulations and directives concerning plants and natural habitats conservation (ex. Habitat Directive 92/43/EEC, Bern Convention, 1979), other 18 taxa being protected by various laws in force in Romania. Analyzing table no. 9 from the 1st book one can see there are needed immediately measures in order to preserve all of those endangered taxa by designation of other SCI sites (SCI = Sites of Community Importance on European Union level), which could assure the conservation at least the rarest plants in Stânişoarei Mountains, as they are: *Adenophora lilifolia*, *Angelica palustris*, *Asplenium adulterinum*, *Campanula serrata*, *Cypripedium calceolus* and so on. Nowadays, on the whole surveyed territory there is existing only a single SCI site, namely „Parcul Natural Vânători Neamţ”, which is a part of the pan-European Network 'Natura 2000'. Improving of this situation is much more important now, thanks to the fact on the area of Stânişoarei Mountains, there are some important plant species special designated under Bern Convention (1979) to be protected on the whole territory of Europe, as they are: *Abies alba*, *Achillea oxyloba* subsp. *schurii*, *Angelica palustris*, *Campanula patula* subsp. *abietina*, *Centaurea phrygia* subsp. *melanocalathia*, *Cirsium decussatum*, *Cirsium furiens*, *Cypripedium calceolus*, *Campanula carpatica*, *Helictotrichon decorum*, *Leucanthemum rotundifolium*, *Tanacetum macrophyllum*, *Typha schuttelworthii*.

In order to preserve the mountain flora and mountain natural habitats in an effective manner, the authors calls on for the first time in Romania to the method so called "conservation effectiveness indicator" (cf. Nowak, 2006), giving thus a series of new elements for a proper substantiation as well as for a biological diversity preservation in Stânişoarei Mountains region.

Having in mind the above mentioned elements, we can say those two books on flora and vegetation of Stânişoarei Mountains achieve a first botanic synthesis of this region, giving new and original data in this domain, applying a modern methodology; this way, we are glad to say that those two books could be considered as real monographies in the same series of „Alexandru Ioan Cuza” University Publishing House in Iaşi. By the scientific data, the elevated style, and a suitable manner of approaching, these studies will fill a gap into the specialty literature in Romania.

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ȘESAN Tatiana Eugenia, TĂNASE C., 2009, *Fungi cu aplicații în agricultură, medicină și patrimoniu* [*Fungi with importance in agriculture, medicine and patrimony*], University of Bucharest Press (ISBN 978-973-737-677-0): 305 pp.

The study *Applied Mycology I* appeals particularly to biology students, agronomists, human and veterinary medicine, as well as other readers who are interested in knowing different aspects about directions of fungi application. This study is designed in dissertation mode, being made by interuniversity collaboration; the authors have original contribution recognized on both national and international level. The same authors have collaborated to publish the following studies: *Ghid de recunoaștere a ciupercilor comestibile și toxice* [*Identification guide of edible and toxic mushrooms*], which has been published in 2004, at GEEA Press from Bucharest (ISBN 973-7982-11-8); *Concepte actuale în taxonomia ciupercilor* [*Actual concepts in the fungal taxonomy*], which has been published in 2006, at “Alexandru Ioan Cuza” University Press (ISBN 973-703-144-X; 978-973-703-144-0), Iași: 510 pp., *Mycobiota – sisteme de clasificare* [*Mycobiota. Classification systems*] published in 2006 at “Alexandru Ioan Cuza” University Press (ISBN 973-703-177-8; 973-703-177-6), Iași: 251 pp. and *Ciuperci anamorfe fitopatogene* [*Anamorph phytopathogenic fungi*], University of Bucharest Press (ISBN 978-973-737-360-1): 265 pp., published in 2007.

The authors are professors of Mycology course in Faculty of Biology from University “Alexandru Ioan Cuza” Iasi and University of Bucharest. Experience from didactic and research activity is materialized in original aspects in this study focused on target methods of fungi selection and fungi characterization with socio-economic impact.

The Ist Chapter is about aspects regarding *Edible mushrooms culture* emphasizing their importance as well as aspects on their biology, ecology and technology of culture.

The IInd Chapter approaches actual problems on biodeterioration of materials. There are references about deterioration on wood, paper, parchment, pictures, inorganic substances, stone, glass, metals, soft materials, rubber, paints, adhesives and oil due to fungi. Also, there are references about species of fungi which destroy pieces of art and patrimony.

In the IIIrd Chapter, species of fungi which are important in human and veterinary medicine are characterized. We remark the novelty of this information with applications in diagnoses of diseases and also in healing them.

The IVth Chapter is about Aerobiology and the role of spores in breath diseases which bring in the vision of specialists numerous medical diseases hard to be healed.

The Vth Chapter presents species of macromycetes responsible of poisoning, but also frequently confusions between edible and poisoning mushrooms. For all the species, there are presented biological, ecological and biochemical aspects as well as their macroscopic and microscopic characteristics habit and seasonal dynamics. Of great importance are comparative tables regarding similarities and differences between edible and toxic species. The nomenclature of fungi mentioned in this book is under international rules and uses the latest classification of these organisms, with the permission of *CAB International Press*.

The VIth Chapter approaches subject of great actuality: *Mycotoxins and toxic mushrooms*. We remark the amount of information of great interest and write about original results obtained in different research projects.

We consider that by the subject focused on, this book responds to all the demands in this domain which came to complete a gap in the mycological literature and bring all the attention for specialists actually researches from countries with tradition in applied mycology domain. The work developed by Professor PhD Tatiana Eugenia ȘESAN and Professor PhD Cătălin TĂNASE is highlighted by a great documentation and approaches the majority of subjects in a modern vision which is closed to actually demands in this domain.

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TĂNASE C., BÎRSAN C., CHINAN V., COJOCARIU Ana, 2009, *Macromicete din România [Macromycetes from Romania]*, "Alexandru Ioan Cuza" University Press, Iași (ISBN 978-973-703-442-7): 563 pp.

Living organisms known as mushrooms or fungi, are spread all over the world, occupying the most various ecological niches (soil, air, water, living organisms or without life etc.), especially in wet and warm areas. The number of species is appreciated over 100.000, recently over 300.000.

They have been framed in the vegetal reign; recently they are framed in two or more reigns of organism. Usually, on practical appearance, they were divided in microscopic mushrooms (micromycetes), and macroscopic (macromycetes).

In Romania the micromycetes have been well studied in true specialty schools at Bucharest, Iasi, Cluj etc. There are many monographs and other publications in this area.

The group of macromycetes and especially edible and poisonous mushrooms were less studied and therefore publications in this area are in small number.

The analyzed work comes to complete a big empty in the specialty literature for the knowledge of macromycetes species, while more Romanian citizens collect and consume big mushrooms, with flashy consistency of natural ecosystems.

In the last years were reported serious cases with poisoning mushrooms especially at children and elder people in different areas of the country. In most cases it was about unknown edible mushrooms and the confusion that can be made with the poisonous mushrooms. Also, there weren't known some features of mushrooms, in part biological, chemical, biochemical, ecological etc.

Some edible species in youth state become toxic at maturity, others contain complex substances which can oxidize, becoming toxic if they aren't consumed fresh or immediately after they had been cooked. The mushrooms can assimilate toxic elements from the soil, which came indirect or direct of pollution, caused by man (with heavy metals, isotopes of some radioactive elements or toxic substances which were used in fight against animal pests in forests etc).

The study of Catalin TANASE, Ciprian BARSAN, Vasilica CHINAN and Ana COJOCARIU explains most of the problems reported by us.

We appreciate that authors have succeeded to explain most of the problems related with the importance of mushrooms in human nutrition, chimichal composition, prevention of accidents which can happen after consumption of some toxic mushrooms or which contain harmful substances etc.

We hope that this study, realized by specialists with high qualification, great masters on this group of organisms, through it's publication, will contribute to reduce at maximum the undesirable events caused by consumption of mushrooms.

Both text and illustration (original color photos) are exceptional at great authors' personalities.

The book appeal to biological students, ecologists, biochemists, agronomists, foresters, teachers, all the students and those who would like to know and to use this natural richness of Romania.

We underline once more the value of this study and necessity to be published soon and to be made in numerous editions.

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