Book Review

Here we present recently published books that might be relevant for grassland scientists and conservationists, both specific grassland titles and faunas, floras or general books on ecology and conservation biology. If you (as an author, editor or publisher) would like to propose a certain title for review, or if you (as an EDGG member) would like to write a certain review (or reviews in general), please contact the Book Review Editor (anyameadow.ak@gmail.com).

Fayvush, G.M. & Aleksanyan, A.S. 2016. Habitats of Armenia. - 360 pp., National Academy of Sciences of the Republic of Armenia, Institute of Botany, Yerevan, ISBN: 978-9939-1-0347-1

The Convention on the conservation of European wildlife and natural habitats, better known as the Bern Convention (adopted in 1979 in Bern, Switzerland), opened up new prospects for the protection of biodiversity on a supra-organismal level that has value on a European scale. At present this Convention has been signed by 40 states. One of these countries is Armenia, despite the fact that geographically it is located in Asia, but politically it is close to Europe. The signing and ratification of the Bern Convention by Armenia has set the task of habitat inventory before Armenian biologists. It should be noted that this country, with its very small area (less than 30,000 km^2), is characterized by an extremely high level of biodiversity. In this area, about half of all the species of vascular plants of the Caucasus (about 3,800), 428 species of algae, 399 bryophytes, 4,207 fungi, 464 lichens, 549 species of vertebrates and a number of invertebrate species estimated at about 17,200, have been recorded. The flora and fauna of the country have very high levels of endemism (142 narrowly local endemic species of plants and 479 species of invertebrates). The level of endemism is quite comparable with that of islands, although Armenia is not an island and generally there are no barriers that could restrict the distribution of narrowly local species. In Armenia, all the main ecosystem types of the Caucasus are represented (excluding humid subtropics) - deserts and semi-deserts, steppes, meadow steppes, forests and woodlands, subalpine and alpine vegetation and intrazonal ecosystems. The study of Armenian habitats had not been undertaken until recently and actually started after the signing and ratification of the Bern Convention, according to which the country made a commitment to the development of the Emerald Network, which should be based on the most valuable habitats themselves, as the habitats of rare flora and fauna species. As the authors note, initially they faced difficulties because the classification of habitats in Europe is based on the principles of the French-Swiss (phytosociological) school, while Armenian vegetation has been studied mainly according to the Soviet school. Therefore, as a basis for developing habitat classification, they chose the EUNIS classification, which is generally accepted in Europe. In the introductory section, the authors give information about the natural conditions of Armenia: orography and geomorphology, climate, hydrography, soil, vegetation and floristic zoning. A separate chapter is devoted to a brief overview of the history of research and classification of vegetation of natural ecosystems of the country. Then the principles of the EUNIS classification are considered with an explanation of basic concepts such as "habitat", "habitats of species", "biotope" and "ecosystem." The classification itself and description of habitat types is constructed so that they first provide the overall characteristics of the EUNIS habitats classification at the first level, including those that are absent in Armenia. For the categories of classification levels 1-3, the graphical keys are provided. In these keys, which were proposed by European specialists, all types of European habitats are indicated, including those missing in Armenia, though these are not mentioned in the following texts. Instead, the classification included a number of habitats that do not occur in Europe, but are represented in Armenia (which are indicated by the addition of the letters "AM" to the habitat code).

A detailed explanation is provided for each graphic key. The book presents about 750 habitats of different levels, 228 of which are new to science, occur in Armenia only and are lacking in the original EUNIS classification scheme.
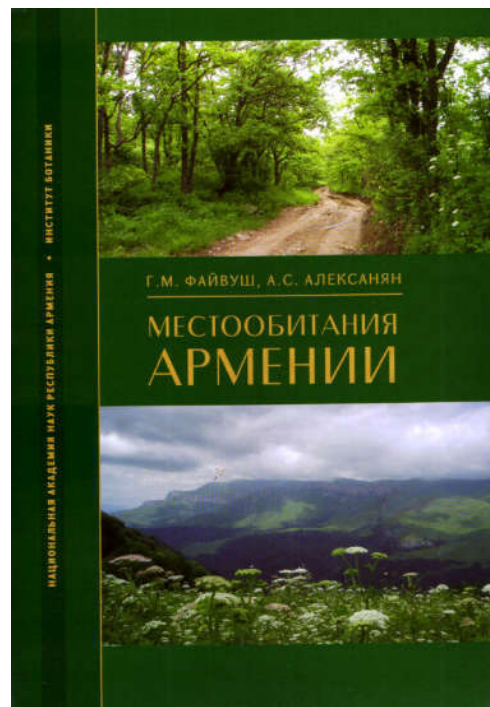
The final part of the book provides information on how this refined habitat classification is used for the protection of biodiversity of Armenia. The key botanical areas, that have been identified based on GIS maps showing the largest concentration of narrowly local endemics and species listed in the Red Book of Armenia with the categories CR, EN and VU, are characterized separately. This indicated 29 key botanical areas of Armenia, of which eight are unprotected. Eighteen key ornithological areas, based on inventories of nesting and rest areas of migratory birds, were also identified. All the data were used in the development of the Emerald Network of Armenia. Armenia now has eight species of plants, 129 species of vertebrates and 9 species of invertebrates that are listed in Resolution 6 of the Berne Convention, and 26 habitat types listed in Resolution 4 of the convention. Currently Armenia has selected 31 areas (sites) for the Emerald Network that significantly overlap with the previously selected key botanical and ornithological areas. The book gives maps of all such networks.

It should be noted that this peer-reviewed book differs from many similar publications by the clarity of it's methodical approach to the selection and identification of habitat types, including graphical keys and detailed explanations of them and thus provides a high level of objectivity and impartiality in determining the major habitat types.

The book is made attractive by it's high-quality printing and beautiful illustrations. Overall, the book is written in Russian, but most of the information is duplicated in English, as a result of which it is also useful for English-speaking readers.

I believe that this book adds much knowledge about the diversity of habitats of the Caucasus and may be of interest not only for specialists involved in the development of the habitat classification, working to develop the Emerald Network, but also to everyone interested in biological and landscape diversity.

Anna Kuzemko, Uman, Ukraine

anyameadow.ak@gmail.com

Pulsatilla pratensis at "Skalka" Reserve, Kirovohrad region, Ukraine. Photo: A. Kuzemko.