



**ASATRYAN A., FAYVUSH G. IMPORTANT PLANT AREAS REPRESENTING THE RARE AND THREATENED HABITAT TYPES OF ARMENIA. — YEREVAN, 2013. — 78 pp.**

The book by Anna Asatryan and George Fayvush contains valuable information about the current state of rare and endangered natural habitats of Armenia, risks to their existence, and recommendations for their conservation. These habitats have been identified by the authors as «Important Plant Areas» (hereinafter, IPAs). This study is one of the results of the project on development and implementation of the IPAs network in Armenia. It was started in 2003—2004 with financial support from the Rufford Small Grants Foundation. Later (2006—2007, 2011—2013) the project was continued with the aim to search for and evaluate the areas that meet criteria «B» and «C» according to the established standards (Anderson, 2002).

Definitely, the investigations of our colleagues are relevant because plant diversity in Armenia is very rich. Today it counts about 3600 species of vascular plants within the area of less than 30 000 km<sup>2</sup>. Such a high indicator of floristic richness is closely related to diversity of natural conditions, geological history, and peculiarities of the geographical position of Armenia. Besides, according to N.I. Vavilov, the territory of Armenia is located within the borders of the West Asian centre of species diversity and the origin of crops (cultivated plants).

Also, the flora of the country is characterized by a great number of crop wild relatives (CWR), as well as by numerous rare and endemic species. However, essential transformation and deterioration of natural ecosystems progressed in Armenia since the beginning of the 20<sup>th</sup> century as a result of the increasing influence of anthropic factors (grazing, forest cutting, melioration, development of mining industry, and others). Therefore, the active development of the modern nature conservation initiatives in the region is quite understandable, and the book under review shows the results of one of the examples of such initiatives.

The monograph of Armenian scientists is bilingual; it is published in both Armenian and English. The book starts with an introduction (pp. 5—8), which tells the history of the development of IPAs networks in Europe in general and in Armenia in particular. Also, the importance of the research in the context of implementation of the Global Strategy for Plant Conservation is emphasized. The authors further report about their plans to continue this exciting project and note that their next task is to prepare a generalized list of all Armenian IPAs, with an appropriate electronic database. The introductory part of the book ends with a short list of printed and electronic resources (p. 9) used during the research and in compilation of the obtained results.

The main part of the monograph (pp. 10–75) begins with a list of 16 specific IPAs with unique habitats that are endangered in Armenia, as well as a map of the country with the relevant objects being mapped. Further detailed descriptions of each of the 16 mentioned IPAs are given. The structure of the description includes the name of the object, its location, data about area of occupancy, characteristics of vegetation, botanical significance, the list of species included in the «Red Data Book of Armenia», the official conservation status (nature reserve, natural monument, or other), the present condition, threats and recommendations for conservation. Then the habitats representing the greatest value in each of the IPAs are described more specifically in the following order: habitat type, habitat type and code by the EUNIS classification, distribution in Armenia, occupied area, description, threats, protection, and bibliography. It is important to note that the bulk of the text and the book as a whole are well illustrated with photographs of relevant habitats, rare plant species, and maps.

Among the IPAs selected by A. Asatryan and G. Fayvush, three territories represent different types of desert and semi-desert habitats of the Ararat Valley, which were much more common in Armenia in the past, but are rare now. Steppe habitats that have undergone significant anthropic influence in the 20<sup>th</sup> century and are now threatened with extinction are represented in two IPAs, «Erebuni Wild Wheats» and «The Relict Steppe of Jajur Pass». The greatest number of IPAs (7) was allocated in unique and diverse forest habitats now under threat of total destruction or severe transformation. Rare and endangered heath habitats occurring at altitudes of 1400 to 2400 m above sea level are presented within the borders of two IPAs, «Rhododendron Heaths of Margahovit» and «Urtsasar Heaths with *Gypsophila aretioides*». There is also information about two IPAs selected to protect the unique wetland habitats.

It should be noted that the special attention in some of the selected IPAs representing rare and endangered habitat types in Armenia is paid to the conservation of populations of species which are also shared with the Ukrainian flora; they often have a conservation status in our country. For example, one of the species causing the uniqueness of «The Relict Steppe of Jajur Pass» IPA is *Asphodeline taurica* (Pall. ex M. Bieb.) Endl. The plant communities with domination of *Triticum boeoticum* Boiss. were found in the «Erebuni Wild Wheats» IPA. Besides, *Carex bohémica* Schreb., *Frankenia pulverulenta* L., *Halocnemum strobilaceum*

(Pall.) M. Bieb., *Nymphaea alba* L., *Pistacia mutica* Fisch. & C.A. Mey., *Potentilla erecta* (L.) Rausch., *Salvinia natans* (L.) All., *Utricularia intermedia* Hayne, all included in the «Red Data Book of Armenia», occur within the borders of the 16 aforementioned IPAs.

The table on the last two pages of the monograph (p. 76–77) allows comparing the value and importance of IPAs described in the book with the previously selected «Important Bird Areas» in some of these locations. Also the map of floristic regions of Armenia according to K. Tamanian and G. Fayvush (2010) is published.

Perhaps the only drawback of this publication is the absence of conclusions summarizing the results of the work done by researchers. However, this fact does not diminish the value of the book under review. We thus highly appreciate the valuable monograph by Anna Asatryan and George Fayvush. We are certain that the scientists have made a significant contribution to the nature conservation activities in Armenia, and the book can be regarded a good example and suitable model for similar research and publications being planned in other countries.

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