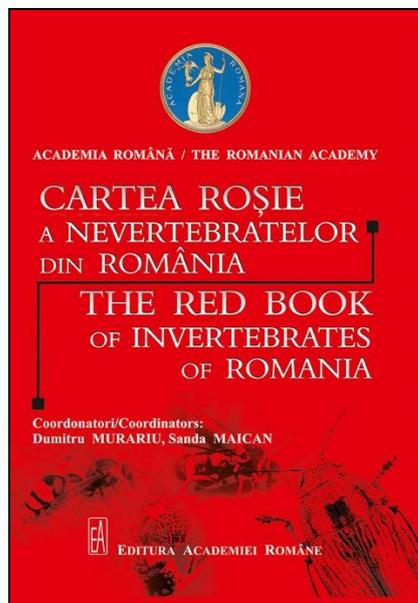


CARTEA ROȘIE A NEVERTEBRATELOR DIN ROMÂNIA / THE RED BOOK OF INVERTEBRATES OF ROMANIA

- REVIEW -

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Murariu, D., Maican, S. (coord.,) 2021 – The Red Book of Invertebrates of Romania. Romanian Academy Publishing House, Bucharest, 451 pp.

The red book is a first important step in biodiversity conservation. Efforts were undertaken in the last decades and valuable data was retrieved from museum collections, field observations and sampling by various specialists. In many European countries the red books are available for many years.

Therefore, the existence of such tool was mandatory. The former Chairman of the Commission for the Protection of Natural Monuments, Dr. Dan Munteanu, was the first initiator of this project. Following Dr. Dan Munteanu's death, Dr. Dumitru Murariu took the lead of this project and gathered specialists from Romania and from abroad and built up a team for this purpose. Many invertebrate groups were covered, and a general list of species was compiled.

Within this huge number of species, a second list was retrieved and widely accepted for the species that, up to now, are worthy of being placed in a red book of invertebrates.

The present red book consists of data on 364 species of terrestrial and aquatic invertebrates which belong to 16 Classes, 44 Orders and 115 families. As expected, most of the assessed species are insects, 260 species belonging to 7 orders and 56 families.

Within the Class Insecta, the most abundant taxons are beetles (Coleoptera – 33.5%), butterflies and moths (31.2%) and wasps, bees and ants (Hymenoptera – 20%).

Based on the expert opinions, available published literature, personal observations, and unpublished data, the 364 species were classified into several conservation categories that are according to the international standards of the IUCN. Thus, 38.2% of the species are vulnerable (VU), 31.6% are endangered (EN) whereas 17% are critical endangered (CR). The red book also contains data on data deficient (DD) species, and near threatened (NT) or least concern taxons (LC).

The book consists of species files written in Romanian and English with data on distribution, habitat and ecology,

population data, threats, and conservation measures.

Moreover, a species photo and a distribution map are provided also.

However, certain groups, such as Diptera, are underrepresented in the work – in our case, a single species, *Satanas gigas* (Eversmann, 1855), is exemplified. This fact can be explained by the historical gaps in the research of this insect group in Romania. The lack of information on the diptera fauna in Romania prevents the inclusion of a larger number of species, due to the impossibility of identifying their degree of conservation, as well as the threats they are facing. Diptera is not the only underrepresented insect group; Hemiptera, Neuroptera and Blattaria and others insects are also missing from the list. Among invertebrate categories, spiders are also absent. However, a future edition of the book could fill these knowledge gaps.

Also, for some species, the number of observations presented on the maps, which represent populations known in our country, is relatively low or poorly represented in certain areas of the country. Of course, some species have restricted ranges or data on their distribution are missing; however, diversifying the sources of data, such as citizen science platforms (e.g. iNaturalist or other dedicated forums),

would have allowed for better coverage of the actual distribution of species across the country. This method is not applicable to all species, given the cryptic behavior of some of them, but for the more visible, frequently observed species, the method has a high utility.

Photos and book format are also very important components in the production of a book. In the present paper, the images showing the species, the habitats occupied, and the map of the the distribution in Romania by them is located on the top of the page, next to the scientific name.

Those photos can be enlarged and aligned for a better estetic. A change in the format of the paper, to a more suitable landscape format, at least in future editions, could solve this inconvenience and allow the general public a better visualization of the species.

All in all, the Red Book of Invertebrates of Romania remains a project of outstanding national importance in the knowledge and conservation of threatened species, we salute the efforts involved in the making of this usefull conservation tool and we consider it indispensable in preserving biodiversity in Romania, especially in the context of climate change and the anthropogenic pressure that threatens life on Earth as we know it.

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