

**Insects on the *Biodiversity Map of Poland*
– objectives and scope of the project**

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Is faunistics a science? Most field researchers and amateur naturalists would probably agree, whereas most molecular biologists would probably not. As long as there is no clear definition of faunistics, the ultimate answer cannot be given. Faunistics is a broad term, encompassing many types of science-related activities, from making notes during field trips to summaries of fauna at a regional or nationwide scale. Whatever it is, it has frequently been the beginning of great scientific adventures ending with the description of new species or the discovery of unusual properties of organisms useful in medicine or agriculture. Faunistics, even if narrowed down to the simple collection of information on the occurrence of species, has always been the first step for taxonomy, biogeography, ecology and many other disciplines, including those that neglect it today.

Over the past decades, faunistics in Poland has been treated as a marginal activity. Only recently, mostly due to the country's commitments to the European Union, has the level of faunistic activities increased. The increasing interest in faunistics can also be attributed to recent advances in informatics and technologies that have made it easy to document nature and share this information through computer networks, as well as (hopefully) to the growing awareness of the value and beauty of nature, and an understanding of the threats posed by civilization.

The knowledge accumulated over years of faunistic studies can be a huge source of valuable information, useful for both primary and applied sciences, at every level of biodiversity organization. The main obstacle is the limited access to data scattered over thousands of articles in hundreds of journals, millions of specimens in institutional and private collections, and tons of notes on paper that will never be published. However, thanks to biodiversity informatics, there are chances to change this and to refresh the image of faunistics by equipping it with new tools and capacities. The way to realize this is to integrate the data collected over decades and converting the single dispersed fragments into

a searchable source of information, increasing its usefulness with the amount of data available.

The Biodiversity Map (<http://www.biomap.pl>) is a scientific project conducted by the Polish Biodiversity Information Network (Krajowa Sieć Informacji o Bioróżnorodności (KSIB)), (PolBIN, <http://www.ksib.pl>). Its goal is to build up such a system for the integration of data on species distribution, using information accumulated in various sources: natural history collections, current research results, legacy data and bibliography. The initial stage of the project focuses on selected groups of fauna. The project now covers over 12 000 insect species – beetles, butterflies and moths, and true bugs, representing a substantial part of the country's biodiversity. Its outcome will be a universal tool for collecting and presenting biodiversity data, tested with a group of organisms that is very rich in species and biologically diverse. A particular subproject has been dedicated to each of the insect groups covered by the project: Coleoptera Poloniae (<http://coleoptera.ksib.pl>), Lepidoptera Poloniae (<http://lepidoptera.ksib.pl>) and Hemiptera Poloniae (<http://hemiptera.ksib.pl>), showing information filtered for each group, together with additional data and features.

The data collected during the project will also be accessible both through the PolBIN and the international Global Biodiversity Information Facility (GBIF, <http://www.gbif.org>). Aside from the basic visualization functions, the system interface (the Map) will also be a tool for information and educational purposes. The system should facilitate future scientific activities in macroecology, taxonomy and biogeography. It can also be useful for applications connected with nature conservation, landscape planning or the monitoring of pest and invasive species.

For its successful accomplishment, such an extensive project requires the support of scientific institutions and cooperation with a broad group of specialists. The current issue of the Polish Journal of Entomology provides a good example and a model for such an integrative approach. The authors of all the articles in this issue have agreed to share their primary data also in electronic form, as databases connected to the Biodiversity Map information system. All these datasets contain distribution data records linked to source bibliography and/or information about voucher specimens deposited in collections. Each dataset, linked to the bibliographic information pointing to the article and the current issue of PJE, will be available for browsing and querying through the project website. After georeferencing, all occurrence records comprised in the articles will be ready for display on maps via the GIS application. The project databases link distributional data with references and taxonomy, making it possible to query the system in any direction.

We trust that this example of cooperation between traditional paper publishing and linked databases will encourage entomologists to participate in transforming faunistics into a modern discipline.

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