

Czech EPBRS Meeting

World Biodiversity and the European Taxonomy

Strategies in taxonomy: research in a changing world

Lithuania

Eduardas Budrys, ebudrys@localhost.ekoi.lt
Institute of Ecology of Vilnius University

National reviews guidelines

The aim of national reports and e-conference is to bring together potential users of taxonomy in Europe. The EPBRS meeting under the Czech Presidency is designed to investigate what the users of taxonomic information see as the main issues that taxonomists should focus on. Encouraging taxonomy users to participate actively in the e-conference and the meeting itself might also help to strengthen the policy bit of the science-policy interface.

The following headings will be used to structure the work of the EPBRS in the e-conference and during the meeting.

1-Taxonomic Information: Strategy and Methods

Inventory and Identification: “What is it, and how does it fit among its relatives?”

1.1 Does your country use taxonomy-based tools for biodiversity assessments and policy making? What are these tools?

Yes, it does. For implementation of Natura2000 and monitoring for reporting to EU, a book describing the Habitat Directive Annex I habitats and a book with simple keys allowing identifying the Annex II and IV species present in Lithuania were published

1.2 Does your country have a national checklist? When they were last revised and updated? Is there any national assessment of which taxa in particular lack taxonomic information? Did you submit a response to the GTI questionnaire on these issues?

No, at the moment there are no official national check-lists, but a national database of records of protected species, managed by the Ministry of Environment, is in preparation. There are few online check-lists, maintained by NGOs : check-list of birds – by the Ornithological society; several checklists of invertebrates – by the Entomological society and by private persons.

Understanding Patterns and Change: “Where is it, what’s happening to it, and where is it going?”

Describe 1-2 flagship projects related to bullet points below and suggest some recommendations useful for meeting as a result from these projects:

1.3 Please outline any national taxonomy-based monitoring or surveys designed to establish the distribution, status and trends of any taxonomic group.

The national biodiversity monitoring program (a part of the national Environment Monitoring Program) includes monitoring of several taxa, mostly those included into the Habitat Directive Annex II, but also some exploited taxa (game animals, fish). Probably we may state that at least partly it is based on taxonomy.

1.4 Is there any coordinated effort in your country regarding bar-coding for identification or the assessment of biodiversity?

No

1.5 Are you aware of any major efforts (or projects) in your country to integrate morphological and molecular taxonomy?

No major efforts. Part of ongoing taxonomic research, fulfilled by national universities and research institutes and subsidised by national budget, includes elements of integration of morphological and molecular taxonomy.

2-Taxonomy as a basis for ecological research and sustainable management of the biodiversity

Ecological functions and services: “What does it do, and what does it interact with?”

How does taxonomic research contribute to better understanding of the functions and attributes of species, and to the management of biodiversity?

2.1 Do you know projects involving taxonomists in the understanding of ecological functioning, or the assessment of ecosystem services?

Yes, a couple of nationally funded research projects focused on functioning of lake ecosystems included elements of taxonomic research

2.2 What is the contribution of taxonomy in your country to the management of biological invasions?

The national check-lists of invasive and quarantine species were prepared by taxonomists; another taxonomist is working in the quarantine station, identifying pests and preventing biological invasions (if this standard activity may considered as a contribution of taxonomy to the management of invasions)

2.3 What is the contribution of taxonomy in your country to efforts to understand the status and trends of key functional groups such as pollinators?

There are published check-lists of pollinators, parasitic Hymenoptera (agents of pest control) and possibly some other functional groups, prepared on the base of taxonomic/faunistic research. Several research projects focused on function of key guilds in hydro-ecosystems (as phytoplankton, viral plankton, zooplankton, benthos, predators), containing elements of taxonomic research, have been fulfilled and supported from national funding sources.

Any organism has some ecosystem function, thus it may be considered that any faunistic/floristic/mycotic/microbial checklist contributes to understanding of status of functional groups. However, in Lithuania there is no major or nationally coordinated effort specially focusing on understanding of status and trends of key functional groups.

Taxonomy, biodiversity and its conservation: “How to manage it in sustainable way?”

Describe 1-2 flagship projects related to bullet points below and suggest some recommendations useful for meeting as a result from these projects:

2.4 Are there also non-professional organisations recording biodiversity data collections (e.g. ornithologists) involved in the decision process of land use planning etc.?

No. The national biodiversity monitoring program used to involve the societies for implementation of monitoring, but after start of Natura2000, most of biodiversity monitoring became a duty of professionals (basically staff ecologists of protected territories). The societies like Lithuanian ornithological and entomological society accumulate and publish the biodiversity data, but the latter are not directly involved in the decisionmaking process of land use planning.

2.5 Are there some indicators (or red-list species) either for monitoring Natura 2000 sites or for delimitation and management of nature reserves used in your country?

Yes. Usually presence of populations of red list species (which include also nearly all Habitat Directive Annex II and IV species present in Lithuania) are used for monitoring of Natura2000 sites, including nature reserves (nearly all of them are Natura2000 sites), delimitation of the reserves and sometimes for management of them.

2.6 Which taxonomy-related research (standardized taxonomic metadata, delivery of checklist building tools, building expertise network) in developing non-European biodiversity-rich countries is supported by policy-makers from your country based on your national expertise and experience?

None. Some Lithuanian taxonomists are involved in taxonomic research in Mongolia and Peru, funded from international funds, but this research is not supported by policymakers from our country.

2.7 Is there a National Needs Assessment of GTI in your country? If yes, what are your specific needs, e.g. for conservation, protected areas, CITES/customs, dealing with invasive species etc?

No

3- Taxonomy, potential users and capacity building of experts

Open access to information: “How to find out about it?”

How does taxonomic information get from where it resides to where it is needed elsewhere in the world?

3.1 To what extent is taxonomic research in your country contributing to international biodiversity initiatives and projects (e.g GTI, GBIF, PESI, EOL)

Our institute is a partner of PESI (as a part of former Fauna Europaea network). To my knowledge, the other mentioned initiatives are not represented in Lithuania

3.2 What is the state of the art in biodiversity informatics in your country? (e.g. e-taxonomy and e-science tools)

Some scientists maintain taxonomic databases used for their research. Having in mind that Lithuania is one of the few European countries having no one endemic species (except few “pseudoendemes” – the species described from Lithuania and not yet identified in other countries due to the lack of actively working taxonomists there at the moment), this country does not face special taxonomic problems to be solved nationally and prefers to use results of taxonomic research done in other countries :)

3.3 Has there been a national assessment of best practices for taxonomic data quality and validation?

No

3.4 Do you have any national guidelines on how to approach the proof of absence?

No

3.5 What are the taxonomic standards used in the databases (TDWG, Darwin core, COL, PESI, etc...)?

The only known by me standard fixed in the “instructions for authors” in some national scientific publications is the Fauna Europaea online database

3.6 Could you identify the major digitization efforts for biodiversity data (e.g. collections, observations, species checklists, etc...)?

The collection data are digitised in process of research by scientists keeping these collections (herbaria – in universities and Institute of Botany; vertebrate collections in the Tadas Ivanauskas zoology museum; invertebrate collections in universities and Institute of Ecology)

3.7 Is there any effort in your country to make taxonomic information especially identification services easily accessible and useful to practitioners?

No special effort. Taxonomy is considered a part of research in the field of biomedical and environmental sciences. A part of products of this research are monographs (e.g. series “Fauna of Lithuania”) and other publications with identification keys, field guides etc.

Capacity building in biodiversity-rich countries and worldwide:

What is the state of training and education in systematics and are there any gaps in capacity?

3.8 Are there any policy initiatives in your country to orient capacity building in taxonomy?

No

3.9 Are there any sources of finance or policy actions in your country dedicated to applied taxonomy (e.g. identification tools, training for parataxonomists, i.e. field-trained biodiversity collection and inventory specialists recruited from local areas)?

No special actions. The applied taxonomy is financed as a part of scientific research in universities and research institutes.