The Role and the Purpose of National Biodiversity Data Infrastructures in between the Local and International Data Services

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Abstract

The FinBIF (Schulman et al. 2021) Research Infrastructure is a national service with a broad coverage of the components of biodiversity informatics. Data flows are managed under a single information technology architecture, services are delivered through an online portal representing an umbrella concept and one brand. Data is collated from all available sources (e.g., research institute's data management systems, national monitoring schemes, natural history collection management systems and citizen science projects). Where does it stand between the local and international data infrastructures?

The discussion among national stakeholders in Finland has been active under the themes of whether aggregating biodiversity data services would actually replace the local and organisation-level data services. The same discussion dwells on whether we need national level data aggregating services since we have the international infrastructures that provide, seemingly, the same services: data queries and data downloads. Through the years of agile development of FinBIF, since 2015, we have learned that all levels—local, national, and international data services—are very much needed since they all serve, in most cases, different purposes.

At the local or institutional level, the biodiversity data managing and providing services are very much tailored to serve the tasks set to meet the responsibilities of the individual organisations. They are often not planned even to be interoperable with other data infrastructures that may be using or providing similar data. They rarely have a masterplan or a strategy that would have taken the big picture into account. However, they are often user-friendly, simple, and satisfying the basic needs.

National level services, like FinBIF, on the other hand, have often a strategic approach to ensure data compilation and sharing with wide array of relevant users. Their challenge is the big number of potential users and their diverse needs and thus how to make a service so flexible that it would become useful for most.

International data repositories may be similar to national level data services but are often lacking some crucial information like restricted-use or sensitive data. They are good for big data; they improve data findability and also with most developed data managing systems, they serve as a source of inspiration for smaller scale services.

Finally, it became clear that the most important task, when serving all biodiversity data user groups, is to ensure the interoperability among the local, national, and international data infrastructures. Allowing uncomplicated data flows between different level data providers is a crucial step for the successful data FAIRification process.

Keywords

research infrastrucure, biodiversity data repository, FAIR

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Conflicts of interest

References

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