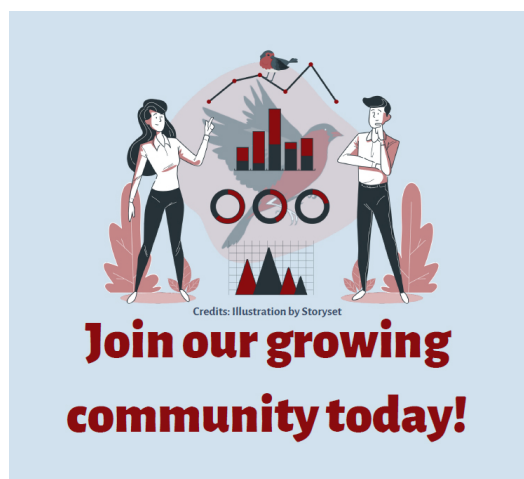# SPI-Birds Newsletter

Welcome to the April 2023 edition of the SPI-Birds newsletter. In the past period we have been working on a range of projects and activities and developing ideas for the future. In this newsletter we update you on: (1) the latest version of the standard data format, (2) the standardisation of metadata, and (3) past and ongoing grant applications.

Latest version of the standard data format

After several rounds of feedback in 2022, the start of 2023 saw a final push towards releasing the latest version of SPI-Birds' standard data format: version 2.0.0[1]. This new version includes three major changes: (i) the increase from four to six standard data tables, (ii) the introduction of utility functions, and (iii) a change in vocabulary such that our standard can be better linked to other commonly used data standards.

New standard data tables

The standard format includes two additional data tables:
(1) **Measurement data table**. This data table combines measurements of individuals (previously recorded in the Capture data table), and measurements of locations (previously not stored). This approach is more flexible and allows for easier incorporation of different types of measurements.
(2) **Experiment data table**. This data table describes experimental manipulations referred to in the Brood data table or Capture data table.

Utility functions

In version 2.0.0 of the standard format, we make a structural distinction between observed variables (i.e., variables directly recorded in the field, such as clutch size) and derived variables (i.e., variables obtained from observations, such as averages or age). Derived variables that were previously an integral part of the standard format will now be supplied through *standard utility functions*. These functions follow a standard method (i.e., standard in our community) to determine or calculate a derived variable as well as offer the flexibility to adjust the calculation to the user's liking.

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[1]In earlier correspondence this version may have been referred to as version 1.2.0.

Change in vocabulary

To improve the link of SPI-Birds to other databases and data repositories we have updated some variable names in our data standard to the ones used in the Darwin Core standard. Darwin Core is a commonly used standard for recording biodiversity data, which is, for example, used by the Global Biodiversity Information Facility (GBIF). This way we strengthen the position of SPI-Birds and broaden SPI-Birds' user base.

Standardisation of metadata

Metadata (i.e., data that describe data sets) are essential to find and understand a data set, as well as link a data set to other data. Well-documented and well-structured metadata provide the opportunity for researchers to identify studies they may wish to collaborate with. We updated SPI-Birds metadata format to a standard that is widely used for ecological research data: the Ecological Metadata Language (EML). This standard is flexible and evolves to meet the needs of the community, much like our data standard. We have now developed an online form that makes it easier for data contributors to enter and update the metadata of their study and, at the same time, standardise the metadata according to EML.

> *Through this new online form, we hope to reach a new wave of researchers that wish to join the SPI-Birds Network, particularly from areas (both geographical and taxonomic) that are underrepresented in the network. For this, we need your help – please circulate the attached SPI-Birds promotion flyer!*

Grant applications

At present, there is no grant to employ somebody to work on SPI-Birds so all work is now done on the edges of other projects. Luckily, Anne Charmantier has written a few postdoc months for SPI-Birds work in her recently award project, through which Amélie Fargevieille will help developing pipelines. Yet, clearly, obtaining funding is a key priority. In the past year, multiple sets of SPI-Birds members have sought to secure funding for SPI-Birds, whether for continuing our main activities, doing scientific research, or branching out into new directions. Here is an overview of successful, unsuccessful, and ongoing applications.

> *If you are aware of other grants we could apply for to support our activities, please get in touch.*

NLBIF 2022 - successful

NLBIF, the Dutch node of GBIF, has a yearly call that supports the scientific use of data hosted at GBIF, or the standardisation and mobilisation of data to GBIF. In 2022, Stefan Vriend, Marcel Visser, and Antica Culina were successful in securing funding for a 5-month project, which includes the standardisation of metadata to EML (as described above) and the development of a pipeline to mobilise bird summary information as occurrence data to GBIF.

Biodiversa+ 2022 - unsuccesful

In the autumn of 2022, a dozen SPI-Birds members have put their heads together to submit a preproposal to the Biodiversa+ call "Improved transnational monitoring of biodiversity and ecosystem change for science and society", in which they proposed (i) the expansion of SPI-Birds as a global network of avian biodiversity, (ii) the integration and harmonisation of critical individual-level data that are currently underrepresented in biodiversity science (including SPI-Birds), and (iii) the creation of standardised data processing and data analysis tools for addressing biodiversity questions. Despite the heaps of effort by the team they were not invited to submit a full proposal.

CHIST-ERA ORD 2022 - ongoing

In that same autumn, another group of SPI-Birds members and IT specialists at the University of Warsaw got together to answer the CHIST-ERA ORD call to tackle the challenge of open and reusable data and software. The proposal revolves around the idea of leveraging SPI-Birds' foothold in the long tail of science to move towards a transparent research life cycle. The main objectives of the proposal are threefold: (i) create a FAIR data repository for the SPI-Birds Database, (ii) extend SPI-Birds' user base, and (iii) create a software library which allows its data processing and analysis tools to be linked to data and resulting publications. Proposals are currently evaluated; decisions are made in June.

Open eScience 2023 - ongoing

In spring this year, the Netherlands eScience Center opened a call to support innovative scientific research with the development of advanced research software. The SPI-Birds team saw this as a good opportunity to propose the development of analytical and visualisation tools for quantifying and predicting biodiversity dynamics based on data hosted at SPI-Birds. Through this project, we hope to call attention to the value of individual-level data as a dimension of biodiversity. Our proposal made the list of projects invited to submit to a full proposal, which is due early June.

Publications

On the SPI-Birds website we list scientific articles that use data hosted at SPI-Birds. If you have published any articles that include data hosted at SPI-Birds or know of any, please let us know so we can add them to the list.