



Data sharing and co-authorship

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This memorandum outlines the general co-authorship and data sharing principles of the Soil BON Foodweb Team (SBF Team, the consortium). Members of the consortium are *National coordinators* of the SBF Team and their representatives, including *Data providers* (dataProvider in the *Sample data template*), and the *Central team* at Senckenberg (<https://soilbon.org/associated-projects>) and iDiv (<https://soilbon.org/core-team>). List of *National coordinators*: <https://soilbonfoodweb.org/national-coordinators/>

General note

The SBF Team implements long-term monitoring of global soil animal biodiversity. The consortium follows the principles of open science (<https://www.unesco.org/en/open-science/about>; <https://www.nature.com/articles/sdata201618>), aiming to make all produced data in raw format accessible in the long term via publications and public data repositories. All *Data providers* retain authorship rights, but allow the consortium to use provided data (listed below as data in 'Data and materials ownership') in publications. If provided data, unpublished before, are used in publications or for other products, the *Data providers* must be informed and have a right to withdraw these data from a publication/other product. For published data, appropriate acknowledgements/citations must be given to the original *Data providers* (<https://creativecommons.org/licenses/by/4.0/>) - as detailed in 'Co-authorship' below. The *Central team* collects the data and oversees and implements its storage, processing, and use. If any conflicts arise, they are solved together with the *Central team*, and, if necessary, are openly discussed among all consortium members.

Data and materials ownership

The SBF Team collects and exchanges data in the following forms:

- **Sample data tables** containing data about sampling sites and samples taken according to the *Sample data template*. The data are produced and owned by the *Data providers* (people who organised and conducted the data collection).
- Images of sampling sites, soil profiles, and scans of soil invertebrate communities. The **images and scans** are produced and owned by the *Data providers*.
- Training library of **image annotations** representing coordinates of individual specimens on the images and scans. The library is produced by the *Central team* and is owned by both the *Data providers* and the *Central team*.
- **Community spreadsheets** containing the numbers, sizes, and taxonomic information about collected invertebrates. Produced by the *Central team* and the *Data providers*. Owned by both the *Data providers* and the *Central team* (in case the latter contributes to the data production).

The SBF Team collects and exchanges the following materials:

- **Physical animal collections** (e.g. specimens fixed in ethanol). Owned by the *Data providers*, who should include collectors of the material.

Data providers have sole responsibility for compliance with, and any violation of, legislation while collecting the data.

Data sharing

All members of the consortium have access to data for information (i.e. tables, images, scans and other information listed as data in Data and materials ownership). In exceptional circumstances, *Data providers* may indicate that access to specific aspects of their provided data should be restricted, giving reasons (e.g. sensitive data), and this will be respected. This process is overseen by the *Central team*. All physical animal collections can be shared only following additional agreements.

Beyond the consortium, sharing of unpublished data can be done only after explicit consent of the corresponding *Data providers*, should it be possible to contact them via email. However, each *Data provider* is free to share and use their own data, as far as they are permitted by any other data owners of the contributed data, and by law, for any purposes beyond the consortium.

Data analysis and publications

Analysis and publication of unpublished data from the consortium can be suggested and implemented by a member of the consortium or an external researcher suggested by a member of the consortium and approved by the *Central team*. All relevant *Data providers* must be informed about the publication plan and topic in a timely manner (before the manuscript is drafted), and have a right to withdraw their unpublished data from the publication. The *Central team* is expected to lead, coordinate and facilitate data analyses and publication processes and be responsible for mediating conflicts along these processes. Publication process is implemented in the following steps:

1. **Initial discussion** of the idea in a small group, some preliminary data analyses
2. **Announcement** and presentation to the entire consortium in text/visual format
3. Agreement on the **roles** (*First author*, *Senior author*, *Core group*, *Co-authors* – as detailed in ‘Order and role of the authors’)
4. All relevant *Data providers* are **informed** and invited to contribute as co-authors; they are also given opportunity to withdraw their data
5. Data analysis and manuscript **writing** (*First author*, *Senior author*, *Core group*)
6. **Editing** by all co-authors, submission

Legal obligations related to animal collection and data sharing should be accounted for in the publication process. For example, collection/research permits need to be listed in appropriate sections in case it is required by the local authorities.

Co-authorship

The consortium generally follows the good practices of scientific authorships (<https://www.councilscienceeditors.org/2-2-authorship-and-authorship-responsibilities>). If a person uses unpublished data of other *Data providers* in the consortium in the analysis, corresponding *Data providers* must be invited as co-authors of the outcoming product. If they choose to decline this invitation, they will not be listed as co-authors, but their data contribution will be acknowledged.

Once the data is openly published, the original publication needs to be cited. *Data providers* can be invited to secondary publications if their further contribution and expertise, e.g. in the taxonomy and ecology, is relevant for the particular study.

Synthesis and data publications coming from each sampling campaign (every three years) will include all *Data providers* as co-authors. Data produced in every new sampling campaign are considered as unpublished and all the points above apply.

Order and role of the authors

As a general rule, the consortium organises the following order/roles of the authors:

1. *First author* responsible for coordination, analysis, and writing.
2. *Core group* of 2-6 people (depending on the *First author's* preferences), responsible for critically revising the idea and co-writing the first manuscript version and/or helping with statistical analyses
3. *Co-authors* – all *Data providers* are included here; they all revise advanced drafts of the manuscript
4. *Senior author* – responsible for overseeing the process and supervision/working together with the *First author*. Can help at all stages of the process. It can be e.g. a direct supervisor (PI) of the *First author*, or a *National coordinator*.

The default order of the authors is: *First author*, *Core group*, *Co-authors*, *Senior author*. Within the *Core group* and *Co-authors*, authors with a particularly significant contribution, based on the quantity and quality of data or insights, are ranked first. Subsequently, the order is alphabetical. In special cases (e.g. significant data contribution), an author can claim to be promoted in the order, which is discussed and approved by the *First author* and the *Senior author*. The rules for the ordering can be modified after agreement among the *Core group*, *First author* and *Senior author* if another scheme is more appropriate for a particular study.

The *First author* of the manuscript should not use the data if they are aware of any violation of legislation while collecting the data. The *First author* and *Senior author* are both responsible for implementing the publication process in accordance with this memorandum.