



ISEA PAS

Data Management Plan

**Institute of Systematic and Evolution of Animals
Polish Academy of Sciences**

1. DESCRIPTION OF DATA, THEIR ACQUISITION/RE-USE

1.1 How data is obtained, produced or reused Institute of Systematic and Evolution of Animals Polish Academy of Sciences (hereinafter referred to as ISEA PAS), research data will be obtained as a result of field work and laboratory work using appropriate research equipment, computer hardware and software. The research process can also be carried out based on existing data, while maintaining all rights regarding their use.

METHODS OF OBTAINING RESEARCH DATA AT ISEA PAS		
FIELD RESEARCH	RESEARCH IN LABORATORIES AND STUDIES	USING EXISTING DATA
- collecting data in the field using techniques appropriate to the research process/experiment: collecting material (samples and specimens) for analysis in the laboratory; collecting data in the form of photos and videos; collecting data using various types of recorders, including: ultrasound, temperature, GPS location; data collection using standardized sheets and protocols	- data collection using appropriate research equipment/devices and laboratory techniques: light microscopy and other imaging methods, DNA sequencing, molecular techniques related to DNA and RNA processing; molecular techniques related to cytogenetics, morphometric techniques; other analytical techniques (e.g. mass, composition and density measurements); computer modeling; a collection of research data that does not require the use of research equipment	- obtaining data from existing national and international databases; obtaining data made available in scientific publications

1.2 Type of data acquired or produced

Data collected as a result of research conducted in the field and laboratories and obtained from databases will be used to prepare manuscripts of scientific publications, reports, expert opinions and to increase the substantive value of ISEA PAS scientific collections. The type of data will be adapted to the specificity of experiments/research processes that will be conducted in individual organizational units of ISEA PAS.

TYPE OF RESEARCH DATA	RESEARCH DATA FORMAT
Numerical data	.xls; .xml ; .ods ; .txt
Text files	.txt; .csv; .hundred; .rtf; .pdf; .doc
Audio, video and photo recordings	.bmp; .jpg; .tiff; .mp4; .avi ; .raw
Bioinformatics records	.fas; .fasta; .nxs; .bcl; ab1; .fasq; .fastq; .bam; .alone
Development data	.Rdate ; .dbfs
GIS data	.geotiff; .gml; .gpx; .kmz; .qgz; .shp

The volume of data collected will depend on the scale of the research being conducted and the form of its collection, and should be in the range of 200Kb - 10TB for a specific research task.

2. DOCUMENTATION AND DATA QUALITY

2.1 Methods of data documentation and metadata

Research data will be collected in accordance with the standards prevailing in biological sciences using methods used in taxonomic, phylogenetic, paleontological, biogeographic, ecological, evolutionary and related research. During the study of the research process/experiment, databases will be created, which will enable easy finding of specific information. Metadata files will contain appropriate identification, including: name of the database, author's details, research methodology used, time and place of data acquisition. Files and directories will be named and organized in accordance with the standard previously established by members of a given research team and will be fully accessible using computers and standard software used to read and modify them.

2.2 Quality Control Measures

Data obtained in the conducted research processes will be collected using specialized, appropriately calibrated research equipment, by trained research teams (groups of people involved in the process) operating within the organizational units of ISEA PAS and Partners (in the case of research consortiums). Data that do not require the use of specialized equipment will be collected with the utmost care and compliance with appropriate methodology and all procedures that will determine the receipt of high-quality data. The teams will constantly monitor the quality of the collected data and be responsible for improving data collection methods, which will translate into obtaining data of high accuracy and very good quality. The research will be carried out with appropriate repeatability in order to control its quality and reliability in obtaining final results. Teams will critically evaluate the results to determine their usefulness. All disks with collected data will be properly secured - an appropriate number of backup copies and locks against general access (password protection), which will minimize the possibility of their loss or takeover by unauthorized persons.

3. STORAGE AND BACKUP COPIES DURING RESEARCH

3.1 How data and metadata are stored and backed up

Data and metadata will be stored electronically, in several independent copies on the computers of the teams conducting research at ISEZ PAN and in paper form - notes and drawings of field documentation, archived in the collections of the author (director) of the research. Backup copies will be created in accordance with the Principles of creating backup copies of scientific data at ISEZ PAN introduced by the order of the Director 021.14.2025 of 08.04.2025 and using appropriate online tools, including Dropbox, GenBank, Zenodo, GBIF, OneDrive, with a frequency adequate to the pace of research and the amount of data collected, characteristic of the experiments conducted.

3.2 Security and data protection

Data collected as part of the research will remain confidential until it is completed/manuscripts are created/accepted for review/published. Access to the data before publication will be available to members of a given team involved in individual research processes and persons authorized by the team to view the collected data. The data will be saved in several places, supervised by the team leader (the person in charge

of a given research task) and protected by a password. Regular backups will be stored in places dedicated to a given team.

4. LEGAL REGULATIONS

4.1 Processing of personal data

During the implementation of research/experiments at ISEA PAS, no personal data will be collected for scientific purposes. This type of data will be collected and processed only in the case of recruitment and employment of employees to carry out individual research tasks in teams. Recruitment processes will be supervised by the Employee Affairs and Payroll Department of ISEA PAS in accordance with international and national laws and institutional regulations.

4.2 Intellectual Property Rights

The owner of the data obtained during the implementation of individual research tasks will be the Institute of Animal Systematics and Evolution of the Polish Academy of Sciences as part of the type of work performed. In the case of research consortiums, ownership rights of research data will be determined by the provisions in the Consortium Agreements signed by the Leader and Partner(s). Intellectual property rights and data ownership will be regulated by national and international law and internal regulations, i.e. Regulations on *the use of the results of intellectual work* created at the Institute of Animal Systematics and Evolution of the Polish Academy of Sciences on April 9, 2015 and approved by the Scientific Council of ISEA PAS.

5. DATA SHARING AND STORAGE

5.1 Method of data sharing and possible restrictions

Data collected during the implementation of research tasks will be made available after the research processes are completed - at the preprint /review stage or the publication of their results. The data will be disseminated through scientific publications in Polish and international, peer-reviewed open access journals using the appropriate Creative Commons license and with possible financial support provided thanks to the planned costs of making data available in the form of Open Access, in the budgets of projects financed from external sources. If these costs are insufficient, in accordance with Order 021.19.2023 of the Director of ISEA PAS of June 30, 2023 on the *Principles of financing Open Access (OA) at ISEA PAS as part of Statutory Activities (DS) and as part of external financing*, they will be co-financed from funds Institute. Data will also be disseminated through participation in conferences, seminars and public speeches by members of the research team.

5.2 Data selection and place of long-term storage

The collected data that will be used to prepare manuscripts will be saved and stored electronically in publicly available databases, on external media, or as notes in paper form archived in the author's (research manager's) files. Additionally, all obtained data will be recorded on hard drives (for long-term storage) and will be stored at the Institute of Animal Systematics and Evolution of the Polish Academy of Sciences for a minimum of 10 years.

5.3 Methods/software to access and use data

Data sharing methods will depend on several factors, such as the type of data, its size, complexity and sensitivity. In each case, formats and software necessary to implement individual research processes will be used to store and process data. If commercial software is used during the work, the results will be converted to standard, publicly available formats.

5.4 Use of a unique and permanently assigned identifier

Data will be disseminated through scientific publications in international, peer-reviewed, open access journals indexed in the Journal Citation Reports (JRC), with Digital Object Identifier (DOI) numbers assigned to each article. The application of the DOI to the data produced will also be ensured by storing the data in online depositories that provide DOI identifiers to the files.

6. RESOURCES AND DATA MANAGEMENT

6.1 Responsibility for data management

The person in charge of a given research process will be responsible for collecting, managing and sharing research data. The team leader will be responsible for ensuring that all team members are aware of data ownership and who can access it and under what conditions. All collected research data will be the property of the Institute during and after the implementation of specific research tasks.

6.2 Data management with a guarantee of compliance with the FAIR principles

Each member of the research team will be obliged to follow the guidelines for collecting and storing data in accordance with the FAIR principles. The costs of data management will be included in the implementation of individual research processes. In addition, the use of free repositories does not generate the costs mentioned above.