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**Project acronym: EDIT**

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# C5.107 Specification for ATBI application of EDIT geo-tools

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This report has been compiled by Dominik Mikiewicz of MIIZPAN with a generous input from Pere Roca Ristol, Bart Meganck, Andreas Kohlbecker and Alexander Kroupa.

## Introduction:

ATBI+M (All Taxa Biodiversity Inventory and Monitoring) is being established under the Work Package 7 - 'Applying taxonomy to conservation'. The idea behind it is to support the European integration of the taxonomic community and increase the capacity for efficient management of protected environments at international level.

Apart from building a base of specialists, specifying standards, etc, ATBI+M recognizes a need for efficient biodiversity assessment and monitoring, where the GIS tools come in extremely handy.

## EDIT geo-software:

There are two mapping tools being developed under Work Package 5.4: EDIT mapViewer and EDIT Map REST Service. Both are operational but undergoing a constant development in order to improve their functionality and stability.

A list of the offered capabilities of both tools is presented in the next section.

## Application of EDIT geo-software in ATBI+M activities

Since ATBI+M activities include creating biodiversity inventories, tools for visualisation of such data are needed. Scientists involved in ATBI may use mapViewer for mapping species distribution, performing basic spatial analysis or creating camera ready maps needed for reports or publications. On the other hand the Map REST service is a powerful visualisation tool for those involved in automated publication of the collated information. Below is a list of features offered by EDIT geo-tools that are particularly useful in the ATBI+M context:

1. EDIT mapViewer
   - developed as an easy to use simple GIS tool for taxonomists (no installation, web based)
   - offers a basic map navigation - zooming, panning, choosing layers
   - allows uploading of custom data (such as ATBI presence records), plotting, and printing maps showing custom species data
   - allows performing basic spatial analysis such as survey effort or species distribution in relation to administrative units and environmental layers
   - offers connecting to remote data servers allowing users to display their data on various background information (EDIT and other WMS servers)
   - allows creating camera ready maps for reports or publications; a wide range of formats is supported, including PDF
   - mark-up tools allow user to draw on the map in order to perform a free form selection or add a custom features to a generated map

2.  EDIT Map REST Service
    - offers similar functionality to mapViewer but is meant to be accessed in an automated way by exposing its map image representations as resources
    - offers a flexible array of graphic expression means allowing generating maps tailored to specific needs
    - allows combining, raster, vector, distribution, occurrences in one map
    - output is a map image that can be embedded into xhtml (it can also be used by the mapViewer)
    - output can be directly embedded into database driven web pages; it allows potential users to generate maps or illustrations based on their data sources
    - display of multiple species on one map is possible
    - can be used for incorporating map visualisation in remote application such us BioCASE, SYNTHESYS, and EDIT specimen and observation data portals
    - offers a detailed API documentation in order to enable developers to take a full advantage of the service

**Conclusion:**

The EDIT geo-tools are a good choice for taxonomists looking for means to enhance their publications, reports and websites. As they are developed they are likely to provide much wider functionality thus offer additional tools specific to taxonomy.

Currently geo-tools allow users to perform many tasks, such as: create camera ready maps with custom background layers, perform basic spatial analysis, automated generation of maps for either online or offline usage.
As the awareness of the tool increases it will likely be added to a standard taxonomist's toolbox.

Additional training materials will surely improve the tools' popularisation:

1.  There is a GIS Manual being prepared for the ATBI Summer Schools (M5.30). This material is to be an "Introduction to GIS' for those involved in ATBI+M activities and is targeted at people that do not have a wide GIS experience. Not only a general GIS information is to be included but also an explanation on how the EDIT geo-tools can be used as easy to use GIS tools for taxonomists.
2.  The information presented in the manual will be initially used to prepare GIS exercises (C5.71) for the "Joint Geospatial Training Course (GIS Intro)". The training will take place at the Gemer ATBI site and will be an excellent test for the prepared ATBI Manual and also for the EDIT geo-tools as the primary free GIS visualisation tools offered to ATBI.