EDIT Success Story

Using the EDIT Platform for Cybertaxonomy to elaborate and disseminate complex floristic information

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A Flora provides a complete survey of the plant diversity in a certain area like a country or a geographic region. It usually includes detailed and complex information about each plant species. Why are Floras important? Often, Floras are the first available overall treatment of plant diversity, especially for tropical regions. These publications are necessary to determine the names of plants and to obtain high quality information on the morphology, ecology and distribution of the species. Floras provide essential data for research in biodiversity, nature conservation and ecology, including many of the urgent issues of global change.

Where does the information necessary to compile Floras come from? Collections of dried plant specimens (herbaria), observation data and a wealth of literature sources and databases are scattered in institutions all over the world and constitute the building material for Floras. This material is usually reviewed by researchers that are experts for certain plant groups. Those experts form a small geographically distributed community. This often results in slow progress in the elaboration of Floras. Therefore, many tropical regions Floras are still incomplete or unavailable to this date or the available accounts are outdated and do not take into account all currently available information.

With the start of the computer era the organization of floristic information has changed fundamentally and new options of data storage, analysis, and presentation as well as new opportunities to foster collaboration between experts from remote locations came up. Furthermore, the dissemination of floristic information online has the potential to make it more readily available to potential users and to make it more rapidly updatable as new information arise.

The editors of two tropical Floras, Flore d'Afrique Centrale and Flora Malesiana, decided to collaborate and use state of the art computer software for their work. A close collaboration with the EDIT Platform for Cybertaxonomy as the most promising technical solution to handle the complex data included in Flora publications was initiated.

The EDIT Platform for Cybertaxonomy is a suite of software tools that support the taxonomic workflow in all its different phases from retrieving data during fieldwork and editing it with modern tools to the point of publishing the results in a printed or online publication.

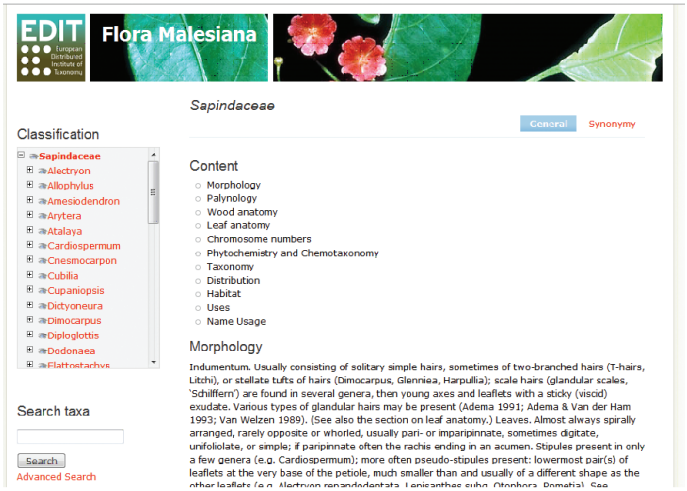

Fig.1. Draft version of the Flora Malesiana Portal. The EDIT Data Portal software is highly configurable, so the data portals that will be established for all participating Floras will have their individual design.

The Platform offers a wide range of data exchange capabilities and supports multiple import and export formats. One of these is a format for scanned text data which enables the user to easily import originally printed data, e.g. from existing Flora publications, into a database, publish it on the web and make it available for further data processing with modern IT tools. Volume 11 (3) (Sapindaceae – soapberry family) with 352 accepted taxa and 966 synonyms as well as volume 13 of Flora Malesiana have been imported already. 10824 taxa and 15926 synonyms were imported from Flore d'Afrique Central.

The software constituting the EDIT Platform for Cybertaxonomy comes in three different flavors depending on the kind of intended collaboration: (1) an easy to install individual installation suitable for taxonomists working alone on a project; (2) a local installation suitable for taxonomists collaborating on a project in a local network, e.g. an institute; and (3) a community

installation allowing collaborative work through the internet and thus enabling scientist teams spread all over the world to work on the same data simultaneously. The latter is an important feature to facilitate the elaboration of Floras from scattered data sources by a distributed expert community.

The EDIT Platform for Cybertaxonomy uses a wide array of software components that can be installed on local computers and services that are available via an internet connection. The core tool for entering and editing data, the taxonomic EDITor, can be used as a local installation or it can be accessed via a web browser in a community setting (see above). Hence, the tool is also usable for scientists working in remote areas or countries with limited internet access.

Different types of online services are part of the Platform and publicly available for everyone. For example, geographic maps showing all kinds of distribution data for a given species can be generated on the fly from the data in a user database. This allows users to publish up-to-date distribution maps for print or online publication without the need to understand the complex technology behind it. Also the creation and handling of identification keys to identify species in certain areas is well supported by the Platform. Identification keys are one of the core features for users of floras and therefore a must-have for software supporting the management of e-floras With all this functionality the EDIT Platform for Cybertaxonomy meets the requirements of both Floras for a future oriented data management system allowing to reuse existing data easily, to publish up to date information online directly from an underlying database and to foster collaboration among remote experts to create missing treatments of plant families.

In the course of this exemplar group collaboration, additional European botanical institutions have expressed their interest to use a similar approach for their Floras.

FACT BOX

Flora exemplar groups using the EDIT Platform for Cybertaxonomy: National Botanic Garden of Belgium (Meise, Belgium), Netherlands Center for Biodiversity Naturalis (Leiden, The Netherlands), Royal Botanical Gardens Kew (Kew, United Kingdom), Botanical Garden Botanical Museum Berlin-Dahlem (Berlin, Germany)

More than 20 major European institutions with a research focus on botany have expressed interest.

EDIT Platform for Cybertaxonomy:
http://wp5.e-taxonomy.eu/

Flore d'Afrique centrale (Democratic Republic of Congo, Rwanda, Burundi):
http://www.jardinbotanique.be/RESEARCH/DATABASES/FOCA/index.php

Flora Malesiana (Indonesia, Malaysia, Singapore, Brunei, Darussalam, the Philippines, Papua New Guines): http://floramalesiana.org/