

Gerhard Rambold and Derek Peřoh

Universität Bayreuth, Abt. Mykologie, Universitätsstraße 30 – NW I, D-95440 Bayreuth, Germany; gerhard.rambold@uni-bayreuth.de

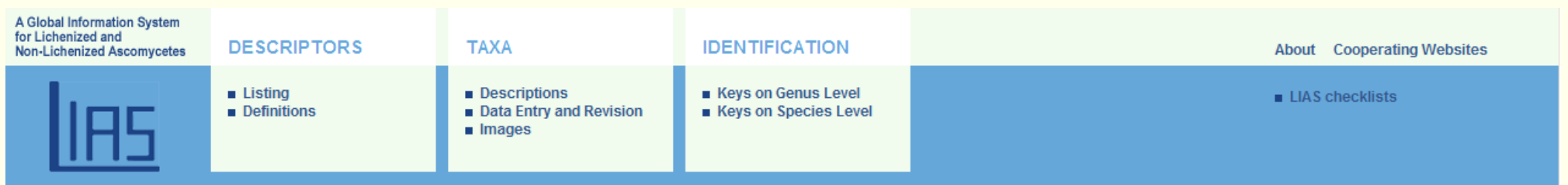
Introduction

LIAS is a multi-authored information system for the collection and distribution of descriptive and other biodiversity data on lichens and non-lichenized ascomycetes.

The goal is

- to establish a multi-authored worldwide database on descriptive data of all ascomycetes
- to design user-friendly web tools for an easier access and remote editing of database records via Internet
- to offer an online database system for multiple usage and therewith dissemination of expert knowledge, especially by providing public access to database generated identification keys and natural language description of ascomycetes
- to promote common standards on descriptive data connected with taxonomic names of ascomycetes to facilitate interoperability and data exchange

As part of umbrella project “German GBIF node for mycology”, LIAS will be enlarged by establishing a LIAS names server and expanding the Descriptors Workbench.



LIAS Lichen Names

Names of Lichens

Actually, the LIAS index of lichen names includes the names of all lichen genera and their type species with basionyms and synonyms. Names of further 3000 lichen species are included in the subproject “LIAS Light” (see poster BIOTA subproject S04). The name index will be restructured with a focus on the names of lichens of Germany. A web service “LIAS lichen names” is going to be built up to provide lichen names to other web-based applications. This service will especially support the lichen projects within the German GBIF node for mycology and facilitate access to LIAS content data in the context of the EU project Species 2000 europa.



LIAS light

Data set based on a restricted number of characters

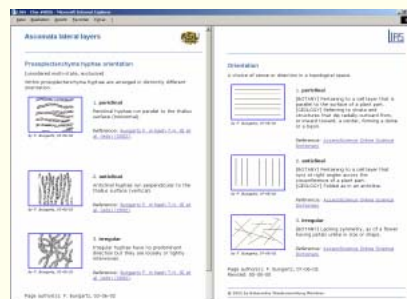
The restriction of this submodule to a set of only 70 characters allows a more rapid entry of descriptive data so that the majority of ascomycete species will be covered in the next years. Data selection is optimized for the identification of lichen groups. As for descriptive data of the LIAS core module (see below), Navikey and DAP are used as web interfaces as for the descriptive data of the LIAS core module (see below).



Descriptors

Definition of Characters (Descriptors)

LIAS includes a large character set (more than 700 descriptors) for ascomycete morpho-anatomical data. In accordance with DEEMY (see poster) these descriptors will be evaluated and decomposed into character states, renamed on the basis of a revised structure-property-state concept and reorganized in a hierarchical structure. Definitions, explanations and illustrations for all major descriptors will be given. In this context, the Diversity Workbench module DiversityCharacterDocumentation is going to be established and accommodated to other modules of the Diversity Workbench project under the same umbrella.



Identification

Web Interfaces Navikey and DAP

LIAS presents interactive keys for online identification of ascomycetes. For this purpose two web interfaces are under further development. The web interface Navikey, a Java-based application and DAP, which is a Perlscript. Currently a core key for all lichenized and lichenicolous genera (845) as well as various species level keys for 2000 species of 12 families of ascomycetes are available.



Descriptive data

Data entry, maintenance and natural language description output

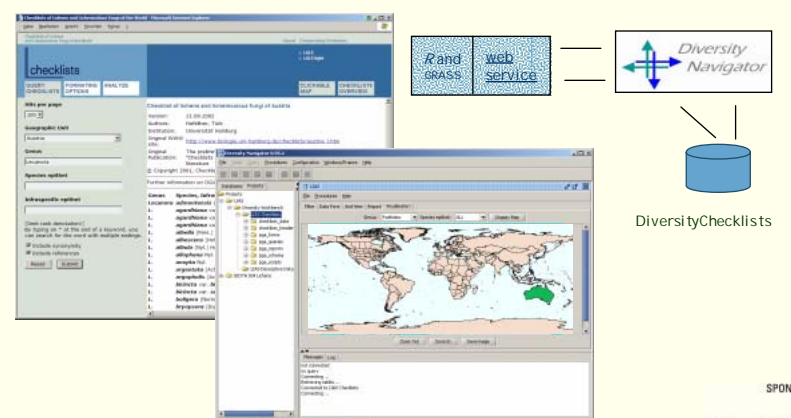
LIAS promotes the gathering, furnishing and administration of data by experts in a standard database system which allows an information deposit for individual use only (e. g. for revision) and – after agreement – the public access to the data via Internet. For the local administration the database system DiversityDescriptions, a module of the Diversity Workbench, is used. Data entry and revision is possible online via database-generated data entry forms in HTML. Database-generated text with natural language descriptions, e.g., for usage in floristic or monograph projects, is provided in HTML, RTF or PDF formats, as an additional service. These descriptions are accessible via Internet as well.



Checklists: Spatial data

Query and visualisation of checklist data of Lichens and Lichenicolous Fungi

The goal of the LIAS submodule checklists is to supply database access to spatial information on lichens and lichenicolous fungi of all 193 countries of the world and of 300 additional geographical units at the subnational level, e.g., islands and states of larger countries. The geographic division follows in part the World Geographical Scheme for Recording Plant Distributions as proposed by TDWG and the Getty Thesaurus of Geographic Names. The checklist information is based on literature data and actually restricted to Europe, continental African countries, South East Asia, North America, Australasia, and Antarctica. LIAS checklists shares layout standards and nomenclatorial compatibility with the LIAS core module. Data maintenance is possible using the database client Diversity Navigator (written in Java and developed within the frame of BIOTA S04). Visualization of taxon distribution is realized by a web service via SOAP protocol, using the GI system GRASS and the statistic package R for the generation of maps. (An example of the spatial distribution of descriptive, i.e. morphological, data is given on the poster of BIOTA subproject S04.)



Acknowledgements: Dieter Neubacher, Wiltrud Spiesberger, Dagmar Triebel, Markus Weiss, Alexandra Kehl, Volkmar Klatt, Tassilo Feuerer