http://biology.num.edu.mn
http://mjbs.100zero.org/
Volume 12(1-2), 2014

Mongolian Journal of Biological Sciences

ISSN 1684-3908 (print edition)
MJBS
ISSN 2225-4994 (online edition)

Short Communication

Plants of Mongolia – A Virtual Approach: E-taxonomy, Virtual Herbarium and Digital Key

Ulrike Najmi[1]*, Sabrina Rilke[2], Martin Schnittler[2], Anne Zemmrich[2], Bernd Bobertz[3], Jörg Hartleib[3] and Reinhard Zölitz[3]

[1]*Computer Center, University of Greifswald, Germany*
[2]*Institute of Botany and Landscape Ecology, University of Greifswald, Germany*
[3]*Institute of Geography and Geology, University of Greifswald, Germany*

Abstract

This work is based on the long-term research experience between Mongolia and Germany, which resulted in extensive plant collections in both countries. One goal is to provide information access via the Internet to the herbarium specimens available in German plant collections. Up to now, 16,403 records (a finding of a species documented by images and/or vouchers) for 1,533 out of 2879 Mongolian vascular plant species are included in the database. For half of the species described for Mongolia scans of herbarium specimens are available. The plant database is searchable for family, scientific name, habitat, growth form as well as distribution, and other parameters such as the red list status or the endemic status.

Key words: digital information system, digital multi access key, flora of Mongolia, herbarium collection, plant database, WebGIS.

Article information:
Received: 23 Oct. 2013
Accepted: 21 Dec. 2014
Published: 15 Apr. 2015

Corresponding*:
ulrike.najmi@uni-greifswald.de

Cite this paper as: Najmi, U., Rilke, S., Schnittler, M., Zemmrich, A., Bobertz, B., Hartleib, J. & Zölitz, R. 2014. Plants of Mongolia – A virtual approach: e-taxonomy, virtual herbarium and digital key. *Mong. J. Biol. Sci*., 12(1-2): 53-56.

Reliable determination of plants is a basis of ecological research

Long dichotomous keys are a valuable resource for botanists, but they are difficult to use for non-specialists and often unsuitable for field work. However, often comprehensive plant identification skills are needed for applied projects that can be compensated by a variety of selected plant images as demonstrated in FloraGREIF – the Internet-based plant database for Mongolia.

This project is based on the long-term research experience between Mongolia and Germany, which resulted in extensive plant collections in both countries. One goal is to provide information access via the Internet to the herbarium specimens available in German plant collections.

Plant Determination online

Species descriptions are more and more available online (Flora of China, 2013; Australian Virtual Herbarium, 2013). Virtual Herbaria (specimens and photos online) are being developed in several countries, for example BGBM (Digital specimen images at the Herbarium Berolinense, 2013), NYBG (The C.V. Starr Virtual Herbarium), AVH (Australian Virtual Herbarium) and others. Digital interactive keys for plant determination online, such as Visual Plants online (Visual Plants online, 2013), are not widespread yet and often refer only to a limited set of taxa only (e.g. a genus or a family).

A plant information system including a digital key to the species is useful for scientists in applied