

NHM Darwin TU

**Plant Information and Technology
For
Nepal**

A joint project of
The Natural History Museum (London)
&
Tribhuvan University (Kathmandu)

Sponsored by

Darwin Initiative (U.K.)

Final Workshop
(Kathmandu, Nepal)
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Background

Data repatriation is an increasingly important issue in science. Under the aegis of the UK Government's Darwin Initiative, The Natural History Museum (London) and Tribhuvan University (Kathmandu) have joined forces to undertake a project to repatriate plant information and technology for Nepal.

Despite its small area, (about the size of England and Wales combined) Nepal has about 7000 species of vascular plants. 5% of the flora is endemic to the country and 30% endemic to the Himalayas. The range of natural vegetation in Nepal is very varied, from tropical lowland rain forest (sal forest), temperate forests of rhododendrons, oaks and conifers in the mid hills to dwarf scrubs and grasslands in the alpine zone with sterile rocks and ice fields.

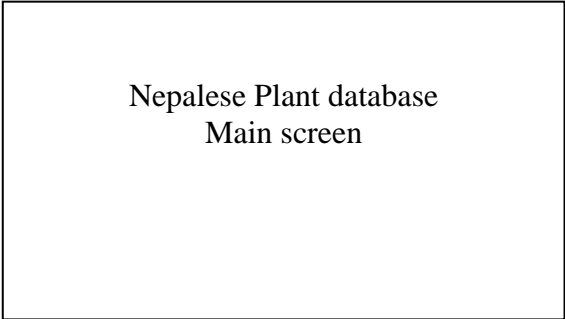
The documentation of Nepal's rich floristic diversity began as early as 1802 with collections by Buchanan-Hamilton, followed by Wallich in 1820-1821. Since then Nepal has played host to many explorers, naturalists and scientists who have collected large numbers of botanical specimens. Most of the specimens are housed in herbaria outside Nepal. Significantly, these holdings include many Nepalese type specimens. The early collections formed the basis of the first account of the flora, the *Prodromus Florae Nepalensis* (Don, 1825). More modern collections are included in *An Enumeration of the Flowering Plants of Nepal* (Hara *et al.*, 1978-82) and local floras (e.g. Malla *et al.* 1976-1986).

Building on long-established British/ Nepalese links, this project not only repatriates floristic data from specimens currently held in U.K. herbaria but also shares the expertise of UK staff with Nepalese researchers. The aim of the project is to strengthen the resources available to botanists in Nepal, especially data concerning historic and type specimens needed for taxonomic research. The mechanism for this has been to prepare the Nepalese Plant Database (NPD); a computerised information system based on the *Enumeration of Flowering Plants of Nepal*, with amendments and revisions and including a library of digital images. Additional interlinked databases include a Nepalese gazetteer and a bibliography related to the flora. The project involves researchers from Nepal working at BM as a part of a training programme that will support future research.

Meanwhile, the information gathered by this project, in the form of readily accessible CD-ROM and web-based databases, will be a key resource and paves the way for a new Flora of Nepal. The main elements of the databases are shown here.

Nepalese Plant Database (NPD)

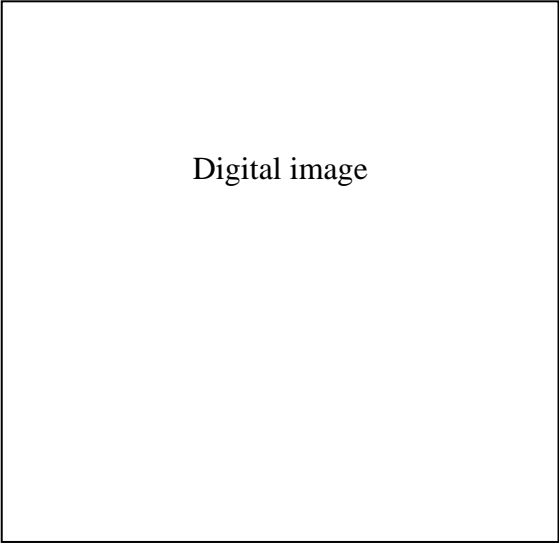
The main objective of the project is to prepare the Nepalese Plant Database (NPD), containing the latest information on flowering plants of Nepal. The database covers about 16,000 taxa of flowering plants (including accepted names and synonyms), with ca. 1750 species represented by types.



Nepalese Plant database
Main screen

Digital Images

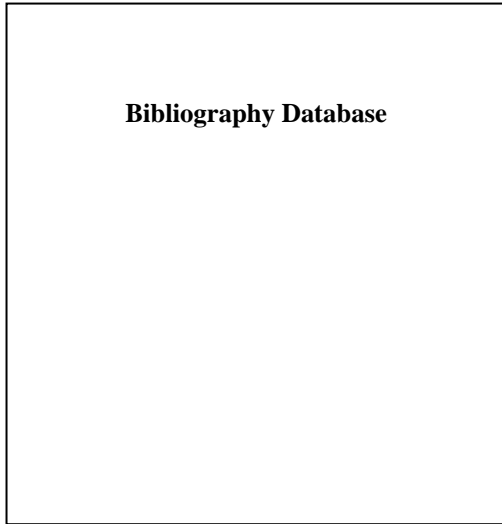
Most of the Nepalese type specimens are housed in the U.K. and Japan. Access to these type specimens is always a major problem, so preparing digital images is a major focus of the project. The image reference library holds electronic images of about 1000 type specimens from U.K. (BM, E, K, K-W), Japan (TI, KYO), and Switzerland (G-DC).



Digital image

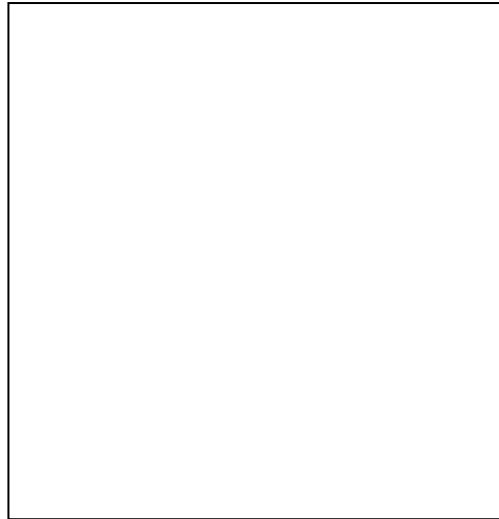
Bibliography Database

The Bibliography database is prepared in the ENDNOTE 2 Plus version. The bibliographic details include a brief abstract whenever possible. Of 900 references processed so far, more than 700 references relate directly to the flora of Nepal.



Plant Collectors in Nepal

Detailed information (e.g. full and abbreviated name, nationality, year of collections, collection routes, number of specimens collected, holdings in herbaria, and references, etc.) on all major collectors and many minor ones is recorded.



Nepalese Type Specimens in the World Herbaria

A synopsis of the Nepalese type specimens housed in various herbaria of the world indicates that approximately 74% type specimens are housed in the U.K., followed by Japan (13%).

	Holotype	Lectotype /Neotype	Syntype	Type (ND)	Isotypes *
BM	486	19	19	173	151+25
K-W	14	17+2	32	271	102+16
K	59	11+3	9	32	45+24
E	37	-	-	-	88+18
TI	112	1	-	-	39
KYO	74	-	-	-	8
KATH	13	-	-	-	36
G-DC	66	8	2	47	22+1
G	9	-	1	-	18+4
CAL	8	1	1	3	7+1
Others	22	2	-	33	68+7

* isotypes also include iso-lectotypes and iso-syntypes.

Nepalese Gazetteer Database

About 1100 locality names (based on specimens and literature) are recorded in the Nepalese Gazetteer. The Gazetteer provides geographic information on precise locality, latitude, longitude, and elevation ranges, whenever possible.



Bryophyte Database of Nepal

The Bryophyte Database of Nepal has a format similar to that of the Nepalese Plant Database. Less comprehensive, it focuses on specimen information from collections held in BM and E.



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