Curation of the Collections

Migration of the Plant Records Dataset to IrisBG®

Ben Lyte

The definition of a botanic garden is a documented collection of living plants for the purposes of scientific research, conservation, display and education (Wyse Jackson, 1999). The documentation so important to this definition is the maintenance of a database that stores information about the material in the collections. In 2020, RBGE migrated the data from BG-BASE™ (Walter & O'Neal, 1885–2020) to IrisBG® (Rustan & Ostgaard, 2017). This migration involved the transfer of tens of thousands of records, the highlights of which are recorded in Table 1.

The migration was carried out over a 12-month period by a working group overseen by the Plant Records Officer and a team of BG-BASE™ users. As the project developed, a Data Migration Officer was recruited to assist with staff training, data preparation and the development of workflows.

The first phase of migration took just over six weeks, by which time the data set was sufficiently robust to open it up to a wider user group. Initially, these users were given training sessions, followed by a period of practice during which no changes could be made. When users were confident about using the system, they took a short test to assess their understanding and then were given full access. Access levels have been set to allow different levels of functionality dependent on user requirements.

The second phase of the process was the introduction of a mobile app. The app allows teams to make records and updates directly into the database while out in the garden. This mobility enables mapping, photography and stocktakes to be done alongside everyday updates.

Completion of the next phase is planned for the end of April 2022. More data connected to accessions will be uploaded, enabling access to 70,000 images, renewed mapping of garden beds and assets, and the introduction of the Garden Explorer website (Compositae, 2021). Garden Explorer will provide the public with greater access to the collections through a web-based resource, and so the benefits of this migration project will be felt not only by staff but also by visitors, with whom engagement is such an important part of fulfilling RBGE's mission.

Table 1 Migration statistics.

Data migration statistics
Genera = 11,233
Taxa = 124,479 scientific names from 86,245 taxa
Accessions (past and present) = 391,214
Locations = 1,725
Library references = 18,261 associated with taxa and accessions
Localities (accession origin) = 40,512 linked to 106,385 accessions

References

COMPOSITAE (2021). IrisBG Web Explorer (web resource). Available online: https://www.gardenexplorer.org/ (accessed July 2021).

Rustan, Ø. & Ostgaard, H. (2017). IrisBG® – Botanical Garden Collection Management, version 3.6.4.17114 (software). Available online: www.irisbg.com (accessed July 2021).

Walter, K.s. & O'neal, M.j. (1985–2020). BG-BASE™ (Collection Management Software). BG-BASE Inc. & BG-BASE (UK) Ltd. Available online: www.bg-base.com (accessed July 2021).

Wyse Jackson, P. (1999). Experimentation on a large scale – an analysis of the holdings and resources of botanic gardens. *Botanic Gardens Conservation News*, 3(3): 27–30. Available online: http://www.jstor.org/stable/24753880 (accessed July 2021).

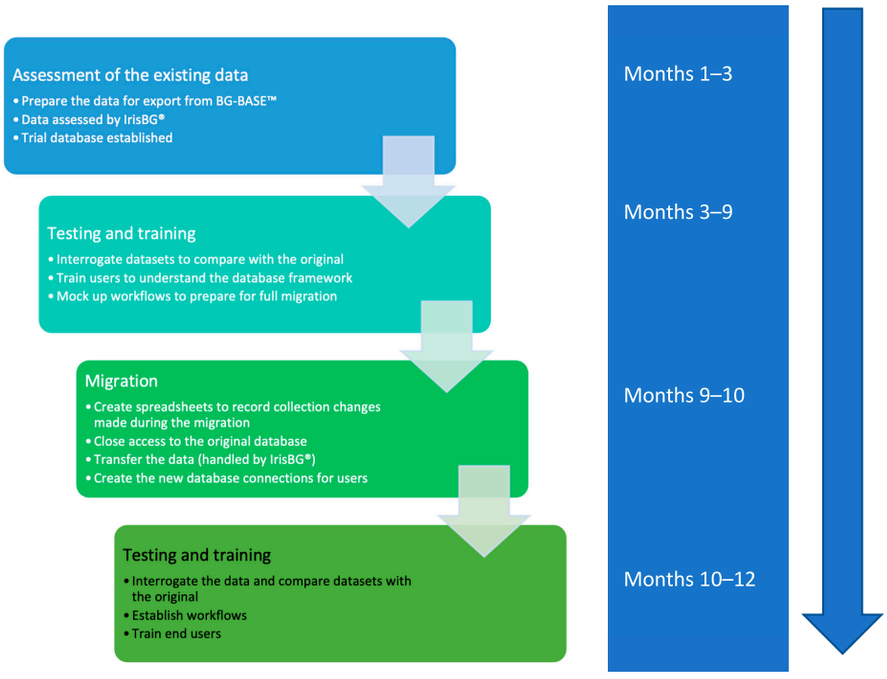

Fig. 1 Migration process and timeline.

Sources of Plants and Trends in the Living Collection

David Knott

The plants added to the living collection since 2012 reflect RBGE's active research, fieldwork and collaborative programmes, and include species from over 100 countries. The greatest representation has been from Asia (particularly China, Japan, Nepal, Tajikistan and Vietnam), South America (mostly Chile), North America, Australasia and the UK, particularly Scotland.

The most notable species introduced to the living collection include those collected as part of RBGE projects on UK and Scottish natives, such as *Cicerbita alpina* (alpine blue sow-thistle), known from only four sites in the mountains of east-central Scotland, and *Woodsia ilvensis* (oblong woodsia), found primarily in the mountains of North Wales, northern England and east-central Scotland.

Conservation of conifers through the Internal Conifer Conservation Programme is represented by significant introductions of Chilean conifers including *Prumnopitys andina* and *Fitzroya cupressoides*, and species from central Japan including *Picea koyamae*, *P. torano* and *Sciadopitys verticillata*. Extensive introductions of *Taxus baccata* have been made for the Yew Hedge project. This project has conserved material made of wild collections from across its geographical range and cutting material from UK heritage plants. Collections of *Pinus* species have also been made from the Pacific North West of the USA and of *Picea obovata* and *Microbiota decussata* from the Russian Far East. Wild collections of cedar species, *Cedrus atlantica* from North Africa and *C. libani* from Lebanon, have also been brought in.

The indoor research collections have seen significant introductions of *Begonia* spp. from Southeast Asia, Gesneriaceae from Tanzania and Southeast Asia, and Zingiberaceae from Southeast Asia. Ferns both temperate and tropical continue to be propagated and these collections form an important element of the living collection both under glass and outside at all four Gardens.

Fieldwork in China, Japan, Nepal and Vietnam has also seen new introductions of woody plants, particularly rhododendrons. Many genera from Vietnam that have previously been considered too tender to cultivate outdoors in the UK can now be successfully grown in sheltered areas at Logan and Edinburgh including *Schleffera* sp., *Polyspora* sp. and *Schima* sp. Many alpine and bulbous species from Tajikistan resulting from fieldwork linking with capacity-building programmes have been added to the collection in genera *Iris*, *Fritillaria* and *Eremurus*.

Since October 2014, when the Nagoya Protocol entered into force, there has been a necessary change in the regulation of collections made during fieldwork. All collections must be fully compliant with international conventions first established with the Convention on Biodiversity in 1993. RBGE works in partnership with collaborators in the countries where collections are made, usually with other botanic gardens and research institutes. Where desired and possible a training and capacity-building element is included. The requirement for biosecurity due to the increasing spread of novel pests and diseases with global plant movement means that all collections entering the Garden, whether of seed or vegetative material, are subject to more scrutiny than ever before.

Fig. 1 *Eremurus stenophyllus* on the Ishkashim Range by the Panj River, Tajikistan. Seed was collected and plants are growing in the Rock Garden at Edinburgh. Photo: John Mitchell.