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Assessments, changes, challenges, and solutions

Edited by

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SASSCAL Photo Guide to Plants of Southern Africa

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Numerous plant species — but limited tools for identification

Southern Africa is home to a rich flora, with Germishuizen & Meyer (2003) listing 24,035 taxa. To date, the number of printed publications that can be used to identify species is still limited, and there is a need to develop new tools for identification.

This was the starting point for developing the *Photo Guide to Plants of Southern Africa*. The photo guide serves as a tool that enables experts and non-scientists to make photos of identified plants available and, in return, access the identified photographs of plants that have been submitted by other experts. Thus, the photo guide has become a well-structured online database facilitating the identification of plant species, saving manpower and time.

The photo guide enables the viewing of taxonomic groups such as genera or families. Series of photos display different aspects of plants, ranging from the entire plant to details of leaves or flowers as well as information about habitat.

At the moment, 18,439 photographs of 2,589 species are represented in the photo guide.

Currently, Namibia and the western parts of South Africa are best covered, and a growing number of photographs of the other SASSCAL countries Angola, Botswana, and Zambia are being added gradually.

Free online access

The website http://www.southernafricanplants.net offers basic information regarding the current content (how many photographs, how many species) and a dialog box that allows researchers to find species by inserting only a few characters of a plant's name. For example, if pictures of *Gorteria diffusa* are wanted, it is sufficient to type 'gor dif'. The search displays first three overview images of this species and presents additional taxonomic information (family, full species name with author), along with an indication of whether more photographs are available in the database. With only one click, a species-specific overview provides further information. All photographs in the photo guide's overviews are of low resolution and show only thumbnails, but another click on a thumbnail leads to a higher-resolution version of the selected photo so that the user can see each detail of the plant in question.

Access via external applications and offline version PhotoGuide ToGo

It is possible to access species in the photo guide directly by extending the URL by genus and epithet of the species in question:

http://www.southernafricanplants.net/plantdata main.php?extern crit=Genus.Epithet

For example, if you are interested in Gorteria diffusa, the following URL is used:

http://www.southernafricanplants.net/plantdata_main.php?extern_crit= Gorteria.diffusa

The software for managing vegetation monitoring data, BIOTABase (Muche et al., 2018), uses this functionality to display photos of the species stored in its database. For field work or work in regions with bad Internet coverage, we developed the PhotoGuide ToGo. The PhotoGuide ToGo has the same functionality as the online version but must be updated manually if the online version changes.

Call for participation

Any botany expert can participate in completing the collection and filling in gaps. Photos, either individually or in a batch, can be sent to the webmaster. The photos should be accompanied by information on taxonomy, the place of observation, and the recording time as well as the name of the photographer. When the photos are inserted into the online database, the photographer can edit his or her records in an internal area of the website. We cordially invite skilled photographers, scientists, and interested institutions to contribute to the photo guide in order to make species information available to African students, scientists, and the wider public for education, planning, and conservation purposes. The photo guide is also to serve as an online discussion platform for identifying errors in plant species identifications.

References

Germishuizen, G. & Meyer, N.L. (eds.) (2003) Plants of southern Africa: an annotated checklist. *Strelitzia*, **14**, National Botanical Institute, Pretoria. Muche, G., Schmiedel, U., Finckh, M. & Jürgens, N. (2018) BIOTABase – a unique software to handle complex biodiversity observation data and environmental data. This volume.

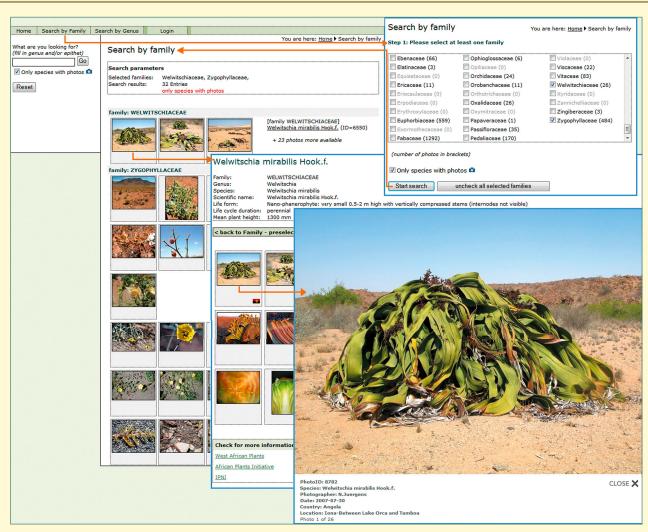


Figure 1: Search feature of the photo guide.



Figure 2: Gorteria diffusa Thunb. South Africa/Namaqualand/ Soebatsfontein. Photo: U. Schmiedel.



Figure 3: *Juttadinteria alba* (L. Bolus) L. Bolus. Photo: S. Rügheimer et al.