

# INFOBOT: Compositae Types in German Herbaria

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## INFOCOMP

### Project Overview

The Compositae are the largest family of seed plants with an estimated 25,000 species (Heywood 1993). They are found in all places colonised by higher plants on all continents and often form significant parts of the most diverse ecosystems (Heywood et al. 1977). They are not only scientifically interesting but also have economically important representatives.

Nomenclatural types are the reference sheets of pressed plants laid down in herbaria. These are directly and permanently connected to their plant names and allow species to be unambiguously identified and underpin even the most modern research techniques (see Hind et al. 1995). The more traditional and larger a herbarium, the richer it will be in types. For historical reasons, many types originate from developing countries and have attained value through European botanical research. With this project it is now possible to contribute to data repatriation by making this information globally available to scientists.

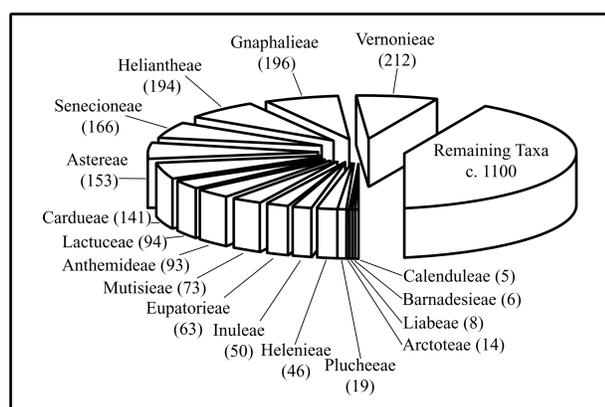
### Project Organisation

The INFOCOMP project was established primarily as a pilot scheme for the digital recording of essential components of German herbaria. The project is supported by three graduate scientists and, from time to time, a Database/Network administrator and the current excellent co-ordination of the staff has greatly increased the speed of progress in recent months. With the experience gained, digital imaging in targeted spheres can now be rapidly and successfully completed.

Initial teething problems have now been resolved and image format and quality standardised. On average, five images per type are taken: the original label(s) [necessary when determining provenance and authorship of older sheets], the entire sheet, relevant habit detail, and macro images of taxonomically important features - usually the capitulum(a). Special emphasis is placed upon the correct and accurate citation of the protologue.

### Results

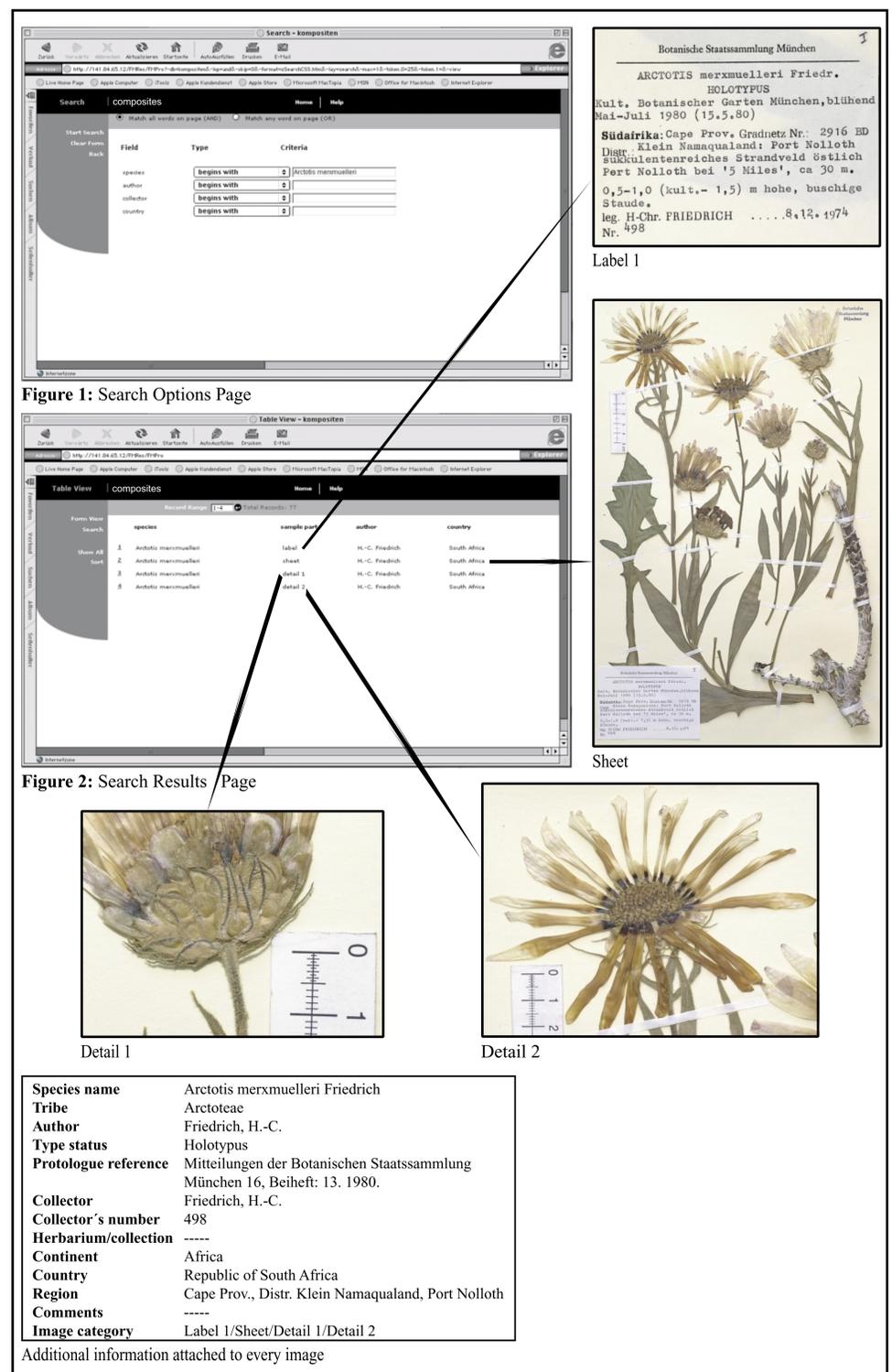
Types from all seventeen of the Compositae tribes have been recorded. In total 350 genera and 1,533 types have been photographed, forming a database of over 7,600 images. The diagram below illustrates the number of types photographed to date arranged by tribe.



**Diagram 1:** Number of Compositae types in Munich (M) photographed (as of Sept. 2001) arranged by tribe (after Bremer 1994).

Currently, a fully functional interface for image storage and retrieval in the database system SYNTAX does not exist. As an alternative, the software "iView MediaPro" has been used for the simple organisation of the image and text data, retaining flexibility for other software options. The database software "Filemaker Pro" (with an integrated web interface) allows direct access to the database using TCP/IP from a browser (URL <http://141.84.65.??> user id. ----; password ----).

The following diagram (Diagram 2) describes how the collected information will be presented for Internet access. From the start page it will be possible to find a search options page (Figure 1). There will be several fields to choose from: Species, Author, Collector, and Country. For example, the type name "*Arctotis merxmuelleri*". The resulting search will display all images registered in the database under this name (Figure 2). Each photo category is linked to its image (here link marked with a black arrow). Example images of "*Arctotis merxmuelleri*" are shown on the right. Lastly, each image is accompanied by additional text information (only given once here).



**Diagram 2:** Demonstration showing how to use the INFOCOMP database over the Internet.

### Conclusions

It is anticipated that the work in Munich, including the preparation of the information for Internet access, will be completed during the next year

### References

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 Hind, D.N.J., Jeffrey, C. & Pope, G.V. (Eds) 1995 Advances in Compositae Systematics. Royal Botanic Gardens, Kew.