

Manual to the synoptic identification key of *Favolaschia* species

Based on the data from the own investigations and the available data from the literature, a computer-based synoptic identification key for the genus *Favolaschia* has been created. It is the first key comprising all so far published 121 *Favolaschia* species names.

The installation of the program DELTA (Dallwitz 1974 and 1980, Dallwitz et al. 1993) is required

Intkey, a subprogram of DELTA, must be opened to use the key (fig. 1).

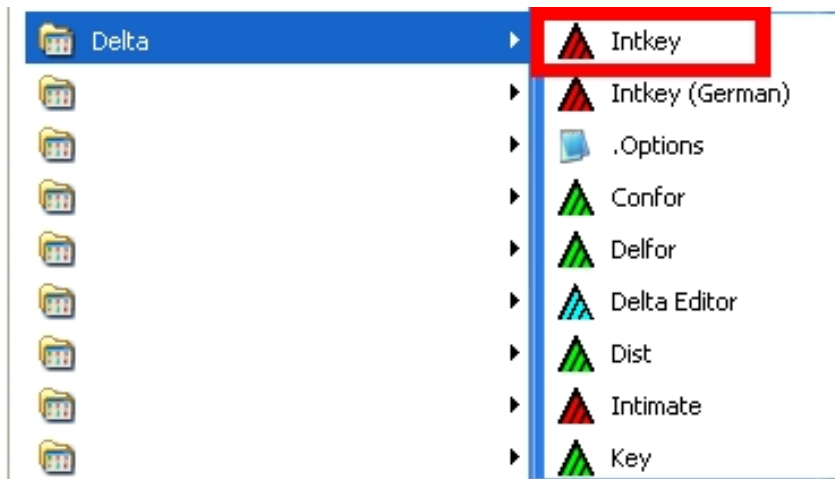


Fig. 1: DELTA: The subprogram Intkey (marked red).

Open the file “*Favolaschia* Key”. The title-page of the key pops up which disappears by a mouse click, and the user interface opens (fig. 2).

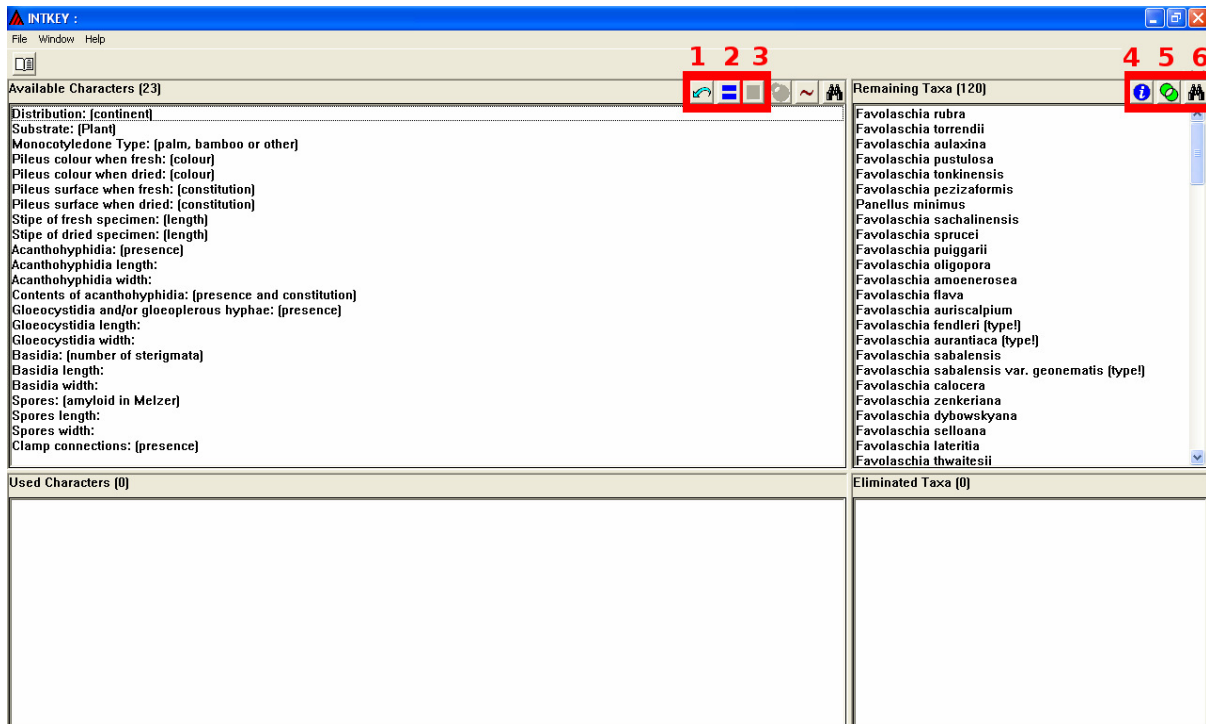


Fig. 2: Intkey: User interface of the key.

In the field “Available Characters” (top left) a list is displayed comprising the characters which can be used for the identification. Characters which already have been used are

displayed in the field “Used Characters” (down left). The field “Remaining Taxa” (top right) contains a list with all the species names which fit the characters entered by the user. In the beginning, all comprised 120 species names are listed here. Species names which do not fit the characters entered by the user are moved to the field “Eliminated Taxa” (down right). The most important functions of the user interface are indicated with red numbers (fig. 2).

- 1: “Restart identification”.
- 2: “Best order”: The characters are presented in an order which displays those characters in the top of the list which work most efficiently to distinguish species.
- 3: “Natural order”: The characters are presented in the order which the maker of the key chose. In the *Favolaschia* key, the order ranges from continent to substrate to macromorphology to micromorphology.
- 4: “Information about taxa”: Displaying information of selected species names from the list (short species descriptions and illustrations).
- 5: “Differences between taxa”: Displaying differences between two selected species names from the list.
- 6: “Find text in taxon names”: Finding species names in the list by entering a part of the or the whole species name.

The order of the identification can be chosen by the user. Characters can be skipped. By selecting one of the characters from the list “Available Characters” a window opens, in which appropriate character states can be selected. Fig. 3 shows the window which opens when clicking on the character “Distribution”. One or several continents can be chosen. In the list “Remaining Taxa” only those species are displayed which have been described from the selected continent(s).

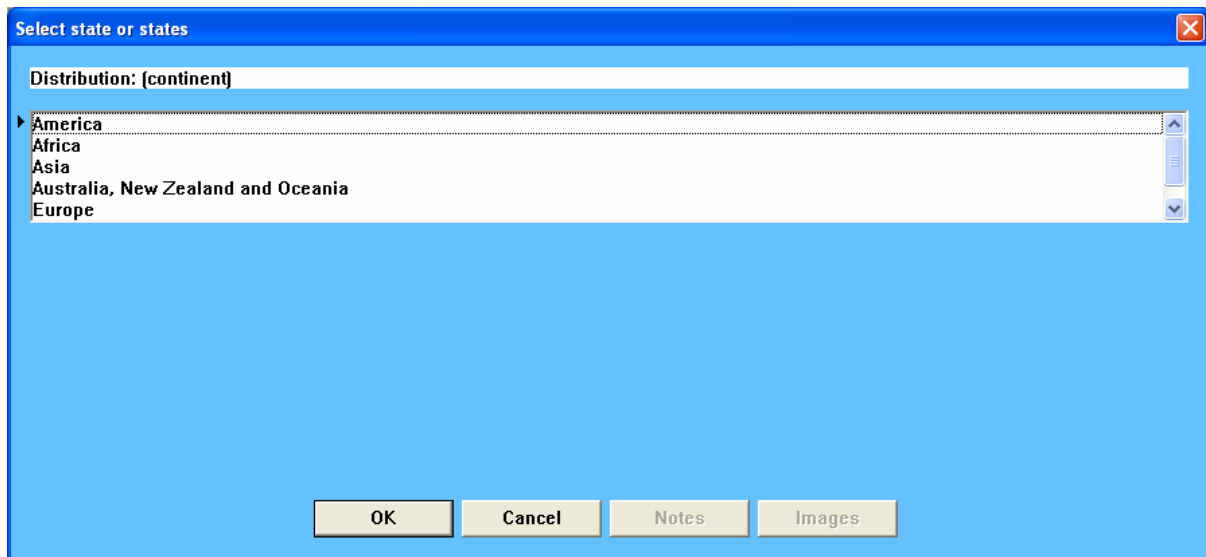


Fig. 3: Intkey: the character “Distribution”. Here, one or several continents can be chosen.

For some characters, numeric values have to be entered as i. e. the spore length and width. Values can be entered as round lots or as numbers with one decimal place.

Several characters are extended by illustrations and comments. Illustrated characters are the pileus surface, acanthohyphidia presence, contents of acanthohyphidia, and gloeocystidia. The illustrations are displayed by clicking on one of these characters. If comments are available, the font of the button “Notes” is coloured in black. Uncommon cell types as acanthohyphidia (fig. 4) and gloeocystidia (fig. 5) are provided with definitions.

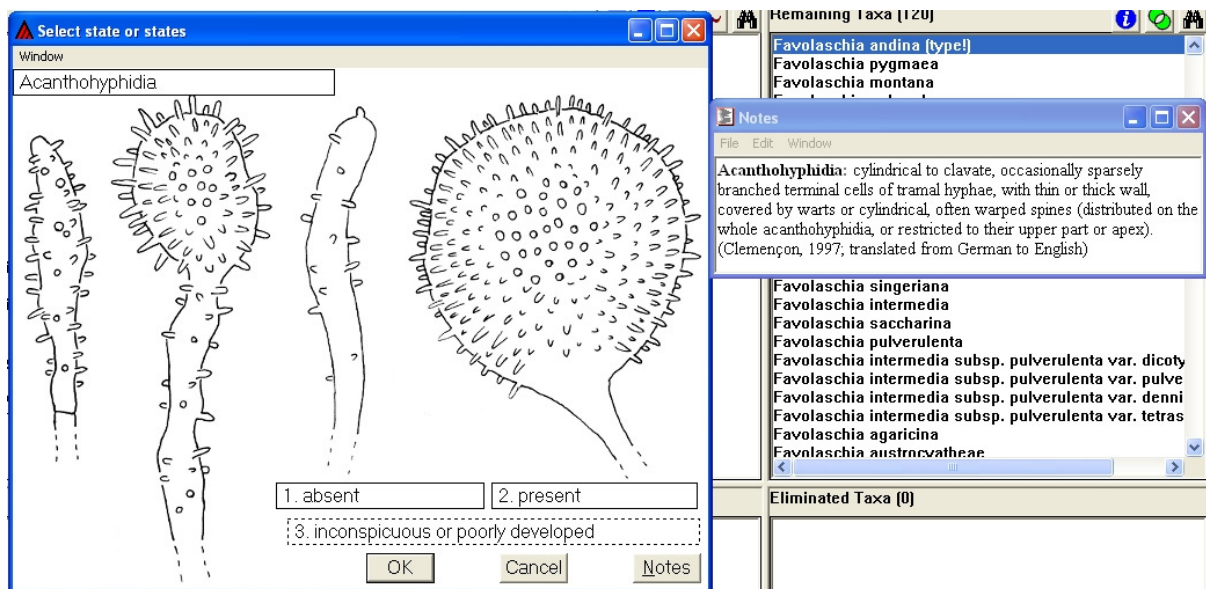


Fig. 4: Intkey: the character acanthohyphidia. Shown are different forms of acanthohyphidia. By clicking on “Notes” a window opens displaying a definition of this cell type.

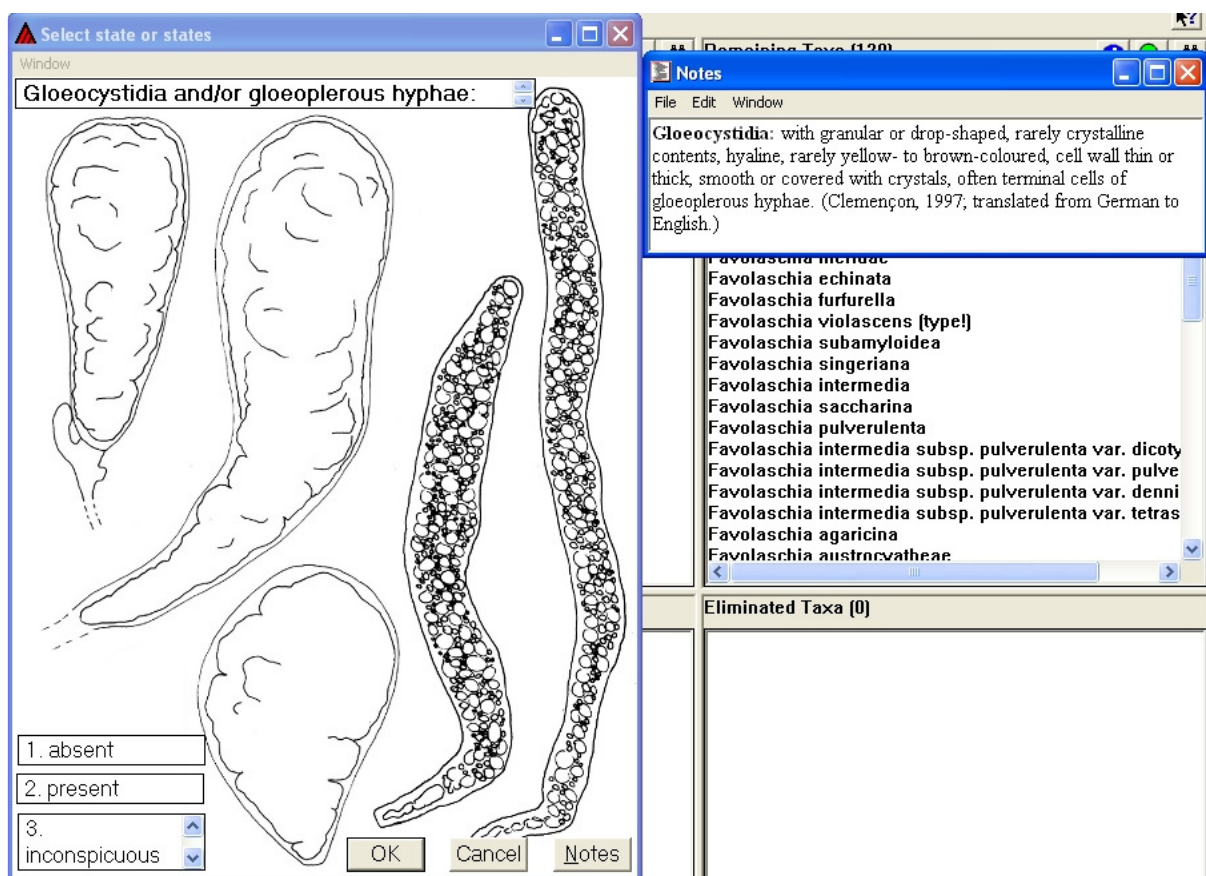


Fig. 5: Intkey: the character gloeocystidia. Shown are different forms of gloeocystidia and a definition.

In the end of an identification process the list “Remaining Taxa” ideally shows one species name. Often, however, several species names are remaining in the list. This happens due to numerous species descriptions from earlier publications which are only short and restricted to macromorphology. By double-clicking on a species name another window opens. On the left, “Full description” can be chosen which shows a species description that was generated automatically by Intkey. If illustrations are available, a list of them is shown in the field “Illustrations” (right). By clicking on the text, the particular illustration is displayed. The

illustrations were created in this work and/or taken from other relevant publications (reference(s) indicated). Fig. 6 shows the short species description and available illustrations for *Favolaschia pantherina*.

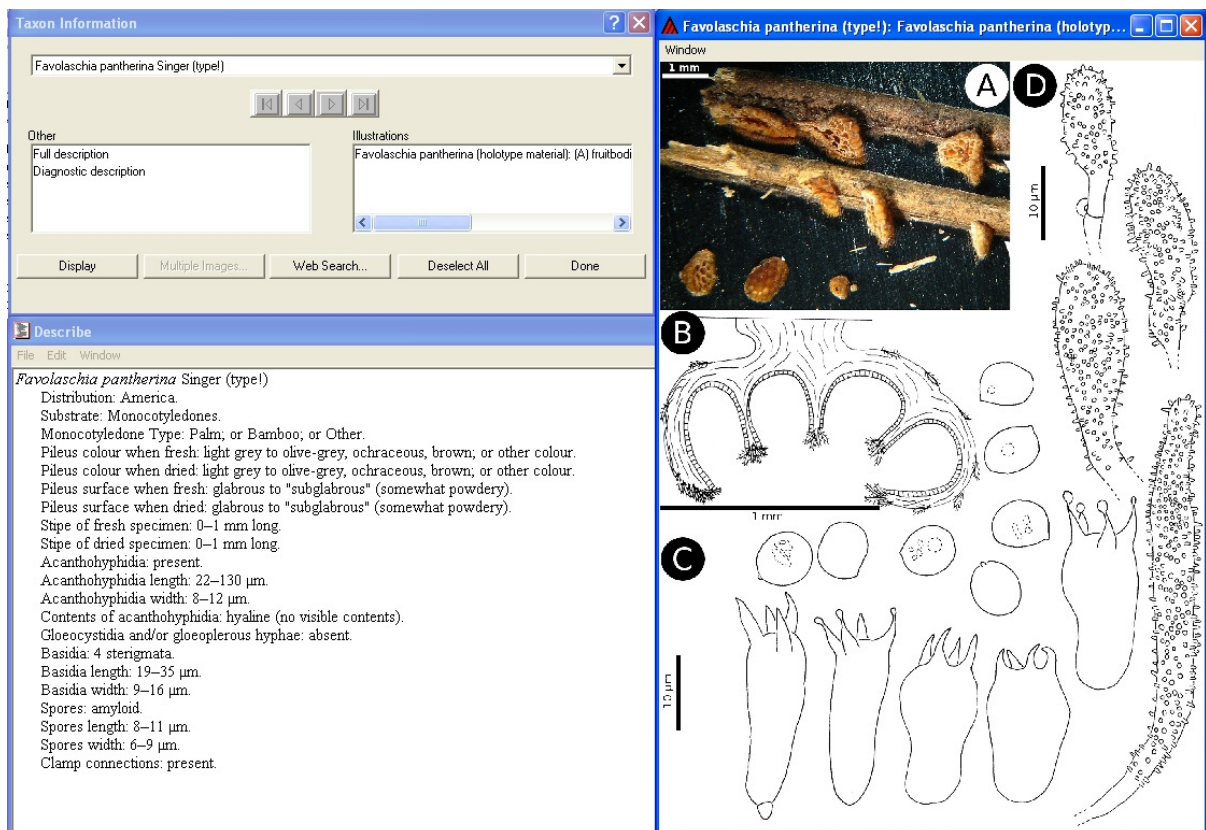


Fig. 6: Intkey: species description and illustrations for *Favolaschia pantherina*.

Due to the fact that the key comprises descriptions for each species and numerous illustrations, it can also be used as a data base.