
Frey W., Frahm J.-P., Fischer E. & Lobin W., revised and edited by T. Blockeel

The liverworts, mosses and ferns of Europe

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After more than ten years, the significantly revised edition of the 4th volume of Gams's *Kleine Kryptogamenflora* has been issued in the first English translation, edited by the prominent English bryologist Tom Blockeel. The previous German edition by Frey et al. (1995) has in the meantime become a nearly indispensable standard of an identification guide for everybody, who is faced with the need for a quick reference of a European bryophyte or pteridophyte. *Kleine Kryptogamenflora*, founded by H. Gams in 1940, combines classical dichotomous keys with diagnostic characters, basic habitat preferences and a sketchy distribution outline into a concise key, supplemented with line drawings of diagnostic characters and/or habits of a significant part of the treated taxa (mostly no more than one per species). Despite obvious shortcomings of such a solution, which essentially requires a perfect correlation of simple and easily contrasting characters with the delimitation of genera, families and higher units for the perfect identification result (duplicate entries, especially at the generic and specific level, are only rarely included), the expanded keys are working in many cases surprisingly well and are especially useful, when one is just looking for a possibility of additional taxa for consideration in an unfamiliar region.

The previous German edition was translated to English and updated by the original authors and (then?) revised and edited by Tom Blockeel. It is thus hard to guess, which updates were introduced by the authors and which by the English editor (but it seems that Tom's contribution was substantial and he could be regarded a valid fifth co-author); the result is nevertheless better than were our expectations. The revision includes a slight expansion of the geographic coverage (for bryophytes to include northern Macaronesia, for ferns to include even Georgia, Caucasus, Turkey, Cyprus and Cape Verde Islands), the addition of newly described or discovered taxa, correction of many author citations and their standardization, addition of many illustration plates (fern section) and reworking of numerous keys (again more obvious in the fern section), and finally the significant expansion of the 'References and further reading' section. The "small taxa" plus occasional useful taxonomic comments are now graphically better apparent following a • sign and sometimes mentioned infraspecific taxa are now systematically indented. The systematic arrangement remained principally unchanged, adhering to traditional European concepts (some of the sporadic novelties introduced being e.g. the former *Barbella strongylensis*, moved to *Rhynchostegium* from Meteoriaceae, *Ochyraea tatrensis* removed from Hypnobartlettiaceae or *Psilotum* placed within the true ferns of the subclass *Pterididae*). The fern section was further improved by the addition diagnostic characters and more distribution details to all taxa; dichotomous keys are now used for all non-monospecific genera.

There are just a few points, which we could reproach: in the moss part, the decision to completely give up the Blom's new delimitation of taxa in *Schistidium apocarpum* complex (only *S. flaccidum* and *holmenianum* are mentioned) is difficult to understand, given the acceptance of comparable changes in other, in part even closely related genera (*Schistidium platyphyllum* is recognized in the *S. rivulare* group, as are various 'small' taxa within *Racomitrium* or *Grimmia*). A few omissions of the published taxa include e. g. *Asplenium trichomanes* subsp. *hastatum*, published from the West, Central and East Europe or *Asplenium septentrionale* subsp. *caucasicum* known from Caucasus. In many cases, the distribution data have not been updated despite the existence of new facts, sometimes even cited in the references. Generally, there seems to be an unbalanced attitude to the published data from the West, North and South Europe, which have been obviously carefully explored in contrast to data from Central and East Europe, and partly also Macaronesia. For instance, *Didymodon johansenii* is still only reported from Svalbard, despite the published occurrences (Kučera 2000, cited in the references section) in the Alps and Tatras, omitted is the occurrence of *Notholaena marantae* in Central Europe (the Czech locality is known since 1858), while *Cystopteris sudetica*, cited from the Czech Republic is there more than 65 years extinct, contrary to Slovakia, which is not mentioned among occurrences. Occurrences of some ferns on Canaries are neglected (*Adiantum raddianum*, *Deparia peterseni*, *Doodia caudata*, *Christella dentata*) despite recent publications (Ackers 1997, Zamora et al. 2002).

To sum up, we believe that the English translation and major revision of the reviewed European pocket cryptogam flora for bryophytes, ferns and their allies is a great and perfectly realized idea. It is able to fully accomplish the aim targeted and can be warmly recommended to everybody who needs an 'extended memory' for preliminary recognition or general up-to-date outline of treated groups of cryptogams throughout Europe and adjacent regions.

References:

- Ackers G. (1997): Field identification of three ferns occurring in Macaronesia. – *Pteridologist* 3: 79–84.
 Frey W., Frahm J.-P., Fischer E. & Lobin W. (1995): Die Moos- und Farnpflanzen Europas. – In: Gams H. (ed.), *Kleine Kryptogamenflora*, Bd. 4, Ed. 6, G. Fischer Verlag, Stuttgart, Jena & New York.
 Zamora I., Esquivel J. L., Pérez M. N. & Hernández M. (2002): Lista de especies silvestres de Canarias (hongos, plantas y animales terrestres) 2001. – *Consejería de Medioambiente y Ordenación Territorial, Gobierno de Canarias*.