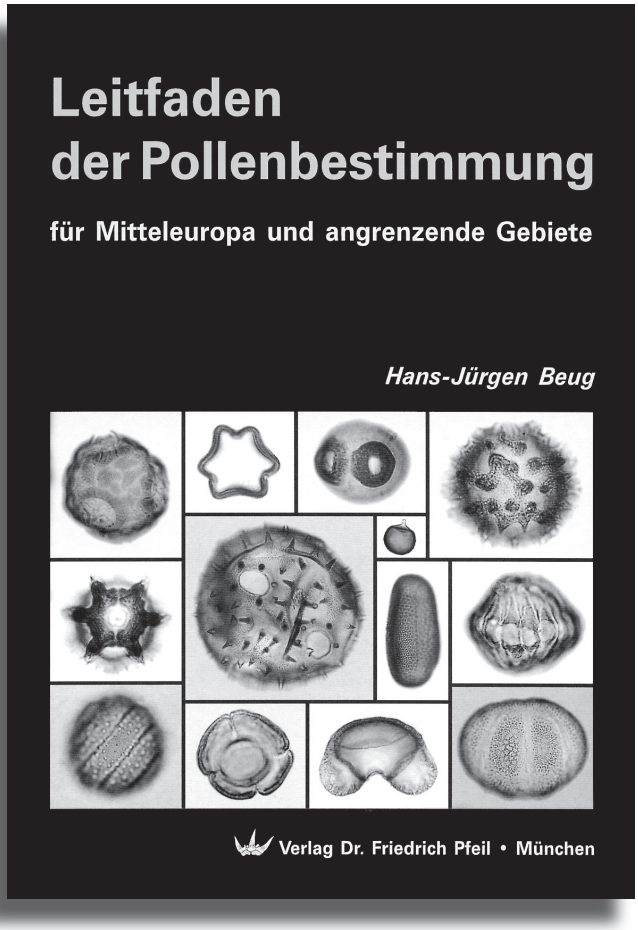
Beug, Hans-Jürgen. 2004. Leitfaden der Pollenbestimmung für Mitteleuropa und angrenzende Gebiete. Verlag Dr. Friedrich Pfeil, München, 542 p. ISBN 3-89937-043-0

Dimiter Ivanov

Institute of Botany, Bulgarian Academy of Sciences, Acad. G. Bonchev St., Bl. 23, 1113 Sofia, Bulgaria, e-mail: dimiter@bio.bas.bg

Pollen analysis expanded vastly the scopes of its application in the last several decades. Sediment complexes from the Arctic to the Antarctic became object of investigation, covering in terms of age almost the entire geochronological table. The importance of this method for melissopalynology, aeropalynology (including allergology), and criminology is past dispute. Pollen analysis is closely connected with paleoecology and paleoclimatology: scientific domains that in recent years have been increasingly focusing the interest of the scientific community in its quest for adequate models of the future development of global climate and vegetation on the Earth, now strongly affected by human activities. Reconstruction of climate dynamics in the geological past greatly relies on the reconstruction of fossil vegetation and its ecological specificities with the help of pollen analysis.

All these multifarious aspects of application of the pollen analysis require a high degree of knowledge of the pollen, of its morphological characteristics and characteristic diagnostic features and, respectively, of its proper identification, in order to achieve a high degree of reliability in the interpretations and conclusion. The efforts of a number of specialists are now concentrated in the field of pollen morphology and numerous scientific publications and books are dedicated to it. Few publications, however, are intended specifically for the needs of pollen analysis, with detailed keys for pollen identification and precise characterization of the pollen types. The latest book of Prof. Beug is a valuable contribution along these lines, compiled with the undisputable erudition and high scientific qualification of the author in the field of pollen analysis.



The manual starts with an author's introduction, followed by concise instructions for users, technique for making pollen preparations, microscopic study and microphotography. German-speaking users will avail themselves of the glossary of basic terms in pollen morphology. Attention is also paid to the major nomenclature problems related to the correct usage of such terms as *pollen type, species, genus, family* in naming the identified pollen.

The main part of the book is dedicated to description of pollen types, keys for their identification and their illustration. The high quality of microphotographs should be strongly commended here, as well as illustration of the respective pollen with a sufficient number of microphotographs in different position of the pollen grains and on various focus levels. A total of 568 pollen types are presented in 120 plates. Some palynologists maintain that the best way to identify the fossil pollen is to compare it to the contemporary pollen in standard collections. Without disallowing such a view, I would like to emphasise that the use of high-quality microphotographs considerably facilitates and speeds up the process of pollen identification and, respectively, the work of palynologists. The use of standard collections should be reduced only to final clarification and specification. Another advantage of the presented book is the listing of species that fall within the range of the respective pollen type.

Until recently, palynologists, and especially those with geological education, have maintained that botanical identification of the fossil pollen was possible only for Quaternary sedimentations. In order to extract as much paeloclimatic and paleoecological information as possible, botanical identification of the pollen from earlier formations is increasingly resorted to. In this respect the book of Prof. Beug facilitates those who deal with these aspects of palynology, comprising information on the pollen not only from Central Europe, but from South Europe, North Africa and Asia Minor, as well as on contemporary pollen of species occurring in the Pliocene sediments of Central Europe.

I would like to mention in conclusion that *Leitfaden der Pollenbestimmung für Mitteleuropa und angrenzende Gebiete* is a valuable guide and practical manual for a wide range of users: biology and geology students, novice palynologists, specialists in biostratigraphy, paleoecology, history of vegetation, melissopalynology, aeroplaynology and all other fields of application of the pollen analysis.