

REVIEW

Y. IWANAMI, T. SASAKUMA & Y. YAMADA: Pollen: Illustrations and Scanning Electronmicrographs. Springer-Verlag, Berlin & Kodansha Ltd., Tokyo, 1988. VIII + 198 pp., 222 figs./pls. Hard cover. Price DM 120.—. ISBN 3-540-18833-9.

The aim of this book is stated as “to introduce the minute and mysterious world of pollen to as many readers as possible” and “to re-establish the morphological study of pollen taking into account newly accumulated phylogenetic information”. It provides introductory accounts on ontogeny, pollen morphology, pollination, pollen physiology, genetics of pollen, airborne pollen and pollinosis, and pollen analysis. Technically speaking it is a well-produced book, being bound in hard covers and neatly printed on good paper. Moreover, it is overwhelmingly illustrated. However, when looking and reading carefully through the book one gets a bit disappointed.

Let us first consider the illustrations, which take up at least three quarters of the book. In general, the line drawings are clear and instructive. I doubt however, whether in fig. 1.7 (microsporogenesis) the vegetative and generative nuclei are correctly indicated. As to the photographs, one can not deny them being attractive at first sight. 92 full-page Scanning Electron Microscope plates with micrographs of pollen grains, mainly from Japanese plants, form a kind of apocalyp at the end of the chapter on pollen morphology. Still, apart from revealing that “minute and mysterious world of pollen”, they are not functional, as in the text reference is made to only one of the approximately 175 micrographs. In all other cases the reader must guess at “the beautiful art work of nature”. Many of the micrographs have too high contrasts or show excessively magnified details (often a view of the whole pollen grain is lacking). And what about the plate on p. 60? The two polyads shown are actually identical, which is obscured however, by presenting one of them in a smaller size, turning it upside down, and cutting off some of the grains!

Apparently pollen morphology is not a strong point of the book. The tripartite nature of the exine, notably the occurrence of a columellate middle sublayer basic to nearly all angiosperms, is not mentioned or figured anywhere. A very aberrant conception of the perine is given. The ‘perine’ of *Mirabilis jalapa* is probably the tectum and that of *Abutilon megapotamicum* almost certainly pollenkitt. Perines only occur in spores of ferns and some mosses. Morphological terms are incorrectly used in several other places. Rather many errors occur in the spelling of Latin plant names. The biological significance of the so abundantly shown exine ornamentation is considered still a mystery (p. 123). Is the responsible author unaware of the large amount of recent literature on the relation between form and function in pollen? Many of these relations lend themselves very well to be illustrated by SEM photographs. Hardly anything is found of the promised “newly accumulated phylogenetic information.”

Concluding, this technically well-produced book reveals a rich variety of pollen grains. It is regrettable, however, that the text is often inaccurate, hardly refers to the numerous micrographs which illustrate the richness, and does not contain recent views on the function of exine ornamentation. It is obviously not a wholly reliable textbook and I am afraid that it is rather expensive for just being a nice picture book of pollen grains.

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