

## REVIEW

AN INTRODUCTION TO A SCANDINAVIAN POLLEN FLORA VOL. II By G. Erdtman, J. Pragłowski and S. Nilsson. Pp. 1-89; 18 Text-figs; Pls. 58, 385, Photomicrographs. (STOCKHOLM, ALMQVIST & WIKSELL, 1963). Price Swedish Kr. 46.

THE first volume of 'An Introduction to a Scandinavian Pollen Flora' by G. Erdtman, B. Berglund and J. Pragłowski, issued in 1961, did not by itself, fulfill the needs of pollen-analysts. It was, therefore, only to be expected that a second volume was prepared following soon after the first volume. Even though there is one change in the authorship as compared with the earlier volume, the work emanates from the same famous Palynological Laboratory. A major part of the present volume is covered by J. Pragłowski's paper entitled 'Notes on the Pollen Morphology of Swedish Trees and Shrubs' (*Grana Palynologica*, 3 (2), 1962); its inclusion in the present volume, indeed, serves a very useful purpose. It is, infact, for the first time that the descriptions of pollen grains of trees and shrubs of a given region have been treated at such length at the species level. The data pertaining to finer pollen characters, obtained through improved modern techniques and electron microscopy are most commendable. Pragłowski has, however, made use of even such fine characters as the degree of the angle between sexine and nexine inside aspidotes in aspidote-type of pollen grains in order to differentiate the pollen of one species from the other. It is yet to be seen whether such characters do, infact, prove workable in the case of fossil pollen from Quaternary and Pre-Quaternary sediments.

One of the most significant features of this volume is the provision of pollen and spore keys for the identification of pollen and spores of about 460 genera (representing about 1200 species) by S. Nilsson. The first key (P. 28) deals with saccate pollen grains or spores united in groups. The second and main key (P. 30) comprises the pollen grains and spores in the first key and all non-saccate and single pollen grains and spores. It is based on the NPC-system (the number, position and character of the apertures). It is needless to say that pollen and spore keys, however, good have their own limitations; the authors themselves point out to this effect and remark that "those who use them should proceed with care: they may or may not find the right way on account of unavoidable difficulties (borderline cases between different characteristics, varieties in size, etc.)" The authors, thus propose to present these keys as a guide, not perfect but as useful as possible under the present circumstances pending elaboration of a more extensive and more detailed pollen flora.

Another important contribution to the volume is a note on 'Photomicrography in Palynology' by K. E. Samuelsson. The high quality of Samuelsson's technique in photomicrography can be clearly judged from the 385 excellent photomicrographs accompanying this volume. This chapter should be found extremely valuable by those interested in photographing pollen and spores.

The volume also includes a combined index to both parts of 'An Introduction' and this should be found quite useful.

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