

BOOK REVIEW

OF PUBLICATIONS RELATED TO BOTANICAL WORK IN THE NETHERLANDS

HOWARD J. DITTMER, *Phylogeny and Form in the Plant Kingdom*. D. Van Nostrand Co., Ltd. (Princeton, N.J.) New York-Toronto-London 1964. VIII + 642 pages, illustrated. Price (U.K.) 87/6.

It is unfortunately common practice among a large group of taxonomic botanists to identify a typological or phenetic system of classification with phylogeny as if phylogeny is inescapably and invariable inferred from typology. The title of DITTMER's book, accordingly, promises much more than it gives. 'Phylogeny' means the evolution of taxonomic groups, so that in a textbook that professes to deal with plant phylogeny one may at least expect a good coverage of the fossil groups and a comprehensive account of some leading phylogenetic theories. In this respect the contents of the book fall far short of the minimum standard.

Not only is the title decidedly misleading, but, it also misrepresents some rather generally held views, quite apart from containing some glaring mistakes.

A few examples: The definition of a 'telome', as given in the glossary, is inadequate and rather beside the point. It is doubtful whether the 'Thalassiphyta' hypothesis of the evolution of the Cormophytes has so many adherents nowadays as the author suggests (p. 347); especially the evolution of an independent (and large) sporophytic generation *before* the adaptation to a terrestrial habitat has been questioned in several recent papers. The use of the name '*Pteropsida*' is surely old-fashioned. The author seems to be under the impression that *Cycadeoidea* and *Bennettites* are two different genera (p. 471-472). The text (p. 471-473) also suggests differences between the female reproductive organs of *Bennettites* and those of *Williamsonia*. Furthermore, it is stated (p. 473-474) that the fructification of the latter genus consists of 'a conical receptacle bearing long-stalked ovules and club-shaped interseminal scales (stamens)'—certainly a most heterodox interpretation of the scales! On p. 489 it says: "*In the Cycadofilicales and the Bennettiales the number of ovules per megasporophyll was usually six or more, . . .*" which is extremely confusing (to put it mildly), the more so since the author fails to indicate clearly what structures he considers to represent the megasporophylls of these groups. FLORIN's very important contributions towards the morphology and the phylogeny of the reproductive organs of *Cordaites* and fossil Conifers should at least have been mentioned in some detail, but one finds instead some vague, obsolete or dubious statements, such as the suggested but completely outdated derivation of *Taxaceae* from *Araucariaceae*, and (on p. 514) the peculiar remark (on whose authority?) that the sterile bract scale of a female coniferous cone is supposed to be the homologue of the microsporophyll of the male cones. This is only a selection, and the criticism is not only restricted to the parts dealing with the Higher Cormophytes: the systematic position of the bacteria and the *Cyanophyceae* is conventional rather than phylogenetic (they are classified rather far apart, the first associated with the fungi, the second heading the algae); the name of the hymenophyllaceous genus *Trichomanes* is consistently miss-spelled (as *Trichomones* on p. 419, p. 431, p. 439, and in the glossary, and once, on p. 431 even as *Trichomonas*!), etc.

The literature cited is almost exclusively Anglo-Saxon (and predominantly

American at that). One wonders how many of the relevant non-English papers were actually consulted by the author, because there are so many obvious omissions. This is, incidentally, a frequent and regrettable evil in American text-books of this caliber.

The merits of this book lie chiefly in the concise and copiously illustrated taxonomic treatment of the lower groups (the figures are nearly all borrowed, adapted or re-drawn, by the way). That is why it can, with some diffidence, only be recommended as a text and reference book for certain elementary and practical courses dealing with the non-spermatophytic and non-fossil groups. It is not better than several other older and recent books on the subject, however. The quality of the printing is good, the price reasonable.

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