REVIEW

A DICTIONARY OF BOTANY. George Usher. 404 pp. D. Van Nostrand Company, Princeton, New Jersey, 1966. $10.00.

This book was written and printed in Great Britain. That it ever left its insular birthplace is regrettable. It is certainly one of the shoddiest biological productions that has crossed the Atlantic. Doubtless a candidate for the year's finest example of understatement is Usher's assertion that "Inevitably in a book of this nature, mistakes will have crept in . . . ." Mistakes—factual and editorial—have indeed crept in and have almost overwhelmed the book.

When I began my examination of this odious opus, I soon concluded that some sort of error could be found on every page, but further study convinced me that there are some pages with which I am unable to find fault—at least among the terms I know (I did not bother to check the others). Such error-free pages, however, are not to be found under "C," the letter I chose at random for extra careful perusal of its entries. Of the 48 pages of "C's" *not one page* is without fault. Of the *circa* 950 "C" entries, 150 have been marked by me as having something wrong with them.

The myriad faults in this lexicon are of every conceivable kind. Most appalling, of course, are the many definitions that are wrong, unclear, or meaningless. After the reader notes such definitions given for words he *knows*, he certainly cannot trust definitions of words he does *not* know. The book is rife with misspellings, both of words being defined and of words used in the definitions. Many entries in the singular are defined as if they were in the plural, and vice versa. Some nouns are defined as if they were adjectives. Subjects frequently disagree in number with their verbs. The spelling of many words and of plural forms is not consistent throughout the book. The antecedent of many pronouns is not clear. Many definitions are so constructed that it is uncertain which phrase or clause modifies which noun. Commas are used overabundantly where they are not needed but are often omitted where their use could have increased clarity. Entries in the dictionary are not even always in alphabetical order. Past tense is used in the definitions of some fossil taxa but not in others. Some fossil taxa are not even indicated as being fossil. On page 102 we read: "CYANOPHYCEAE = MYXOPHYCEAE"; on page 244 we read: "MYXOPHYCEAE = CYANOPHYCEAE."

Many words are defined in one way and then used elsewhere in the book in a way not consistent with the definition. For example, "epigynous," "hypogynous," and "perigynous" are defined as describing flowers but are often used in definitions to describe sepals, petals, and stamens; "flower" is defined as being an angiosperm structure but is often used in definitions of gymnosperms; "leaf" and "stem" are defined as being structures produced by vascular plants, but these terms appear in

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many definitions of bryophytes (sometimes in quotation marks, sometimes not). "Dioecious" is defined as applying to plants but is frequently used to describe flowers. "Monoecious" is "Bearing unisexual flowers on the same plant," an enigmatic statement indeed.

Knowledge of angiosperm morphology is obviously not one of Usher's strong points. After learning that the endosperm of Anonaceae is "ruminant," I was relieved to discover that the endosperm of Magnoliales is "not ruminant." A "capsule" is "A dry indehiscent fruit . . . ," thus being deprived of one of its major attributes, dehiscence. A pollen tube now contains at least three male gametes: "A tube . . . that carries male gametes to the egg, and one to the central fusion nucleus . . . ." "Central fusion nucleus" is not defined in the book. "Embryo sac" is defined as "The female gametophyte (megaspore) of angiosperms." "Megasporocyte" is "The female gametophyte of angiosperms." "Microsporocyte" is "A male gametophyte in the Angiosperms." Under "Angiospermae" the term "ovules" is equated with "female gametophytes," and "pollen-grains" is equated with "male gametophytes." Under "carpel" we learn that "The total of the carpels in a flower is the ovary." A "gamete" is "A haploid cell taking place in sexual fusion."

Among the most futile portions of the book are Usher's attempts to define families and higher taxa of plants. Most of these "definitions" are hopeless potpourri of data from Bentham and Hooker, Engler and Prantl, and Hutchinson. They constitute a cross-section of the editorial and factual errors that plague this book, and so just a very few of them will be cited here (comments in brackets are mine).

ACANTHACEAE: "Found in the tropics and sub-tropics." [What about the Acanthaceae in the range of *Gray's Manual of Botany*?] ACERACEAE: "Confined to the temperate areas of the Northern Hemisphere." [*Acer* crosses the equator in Malaysia.]; "Maple, Sycamore, Sugar Maple." [Sycamore, to North American users of this book, is *Platanus,* not *Acer*.] ALISMACEAE: "perianth of two whorls of three, calyx-like lobes." [Certainly not applicable to any alismaceous plant known to me.] AMARANTACEAE: "The fruit is a berry or not." [i.e., nut.] ANCISTROCLADACEAE: "The ovary has one loculus and contains one ovary." [A good trick, if one can do it.] ANTONIACEAE: "the fruit is a capsule which usually dehisces into 7." [7 what? Note that 7. It will be back in the most unusual places.] BACILLARIOPHYCEAE: "having a cell-wall . . . containing cilia . . . ." [i.e., silica.] BIGNONIACEAE: "The capsule is 7-septate . . . ." [It is not. Here's the 7 again.] BUDDLEIACEAE: "There are usually many ovules in each ovule . . . ." [Another good trick.] CABOMBACEAE: "There are 3 sepals and petals." [There are three of *each*.] CAMPANULACEAE: "The bisexual flowers are . . . in fives . . . ." [The flower *parts* are in fives.] CANNACEAE: "The androecium consists of 1 stamen, which has one loculus, the rest are petalloid." [?] CASUARINALES: "These are tree shrubs . . . ." [??] CUSCUTACEAE: "These are leafless, parasitic herbs, with thin,

climbing." [???] DATISCACEAE: "These are trees of herbs . . . ." [????]; "The . . . calyx lobes . . . may be free or untied . . . ." [i.e., united.] ELATINACEAE: "The fruit is a capsule, which breaks into seven." [Once again, that persistent 7—this time spelled out.] GENTIANACEAE: "The calyx have usually 5 imbricate fused petals." [*Really*, Mr. Usher!]; "The fruit is usually a capsule with 7 cavities . . . ." [Not so. Anyway, here's another 7.] LEMNACEAE: "usually with no leaves . . . ." [Has Usher ever seen a duckweed *with* leaves?] NYSSACEAE: "These are shrubs . . . ." [A *Nyssa sylvatica* with a trunk 3 feet in diameter is hardly a shrub.] PINACEAE: "These are mostly monoecious having perfect cones." [Elsewhere in the book, "perfect" is defined as applying to flowers; you will recall that Usher defines "flower" as being an angiosperm structure. But no matter how you look at it, Pinaceae do not produce "perfect" cones.] TROPAEOLACEAE: "These are usually climbers with a sensitive petiole." [Just one?]; "the Pseeds have no endosperm." [The "P" is silent, of course, even if it *is* upper-case.] And so this dictionary's definitions go—for page after page after page.

It is almost incomprehensible to me that a leading scientific publisher could (1) accept for publication such a poorly done work as this and (2) publish it. Do not publishers have an obligation to the purchasers of their books to have manuscripts reviewed by competent reviewers? Such review was not done in the case of this dismal dictionary—or else the reviewers were not competent or did not do their job conscientiously. Do not publishers have an obligation to have their books carefully edited and proofread? Careful editing and proofreading did not play a part in the construction of the Usher dictionary—or else the editors and proofreaders were not worth their pay. Von Nostrand has disgraced itself—and has insulted the botanical fraternity—by publishing such a trashy work, a work with but one saving grace: it has only 404 pages.

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