
A Dictionary of Zoology. A. W. Leftwich. D. Van Nostrand Co., Inc., Princeton, N. J. vii+319 p., Second Edition, 1967. \$6.50.

Most zoological dictionaries and glossaries cover a particular field of zoology; this one attempts to cover the entire field. It includes names of structures, organs, life stages, zoological processes and phenomena, laws and theories, descriptive terms, and a great many animal groups (phyla, classes, orders, suborders, and families). There is no indication of word derivations, but a large number of Greek and Latin roots are included in the entries. There are two appendices, one on classification and nomenclature, and one on the transliteration of Greek words. The second edition is essentially similar to the first, except that it contains a supplement (p. 283-311) of about 450 additional definitions. Throughout the dictionary there are many alternate names (of structures, processes, and animal groups), given in parentheses following the main entry.

The author states (p.v) that he "has endeavoured to be as complete and unambiguous as possible"; he has succeeded in this very well. However, for a few terms that have different meanings in different fields of zoology, only one definition is given; e.g., *radius* lacks the definition of a vein in the wing of an insect, though *costa* and *cubitus* are both included in the entries, and *lorum* is defined as "a V-shaped cuticular plate" in a bee labium, though its application to a sclerite in the head of a homopteran is not mentioned. The families included appear more complete for the vertebrates than for the invertebrates; many common insect families (e.g., Lampyridae, Dermestidae, and Muscidae) are not included. Perhaps the most serious omission in this dictionary is information on the pronunciation of the terms and names listed; the author might at least have included (perhaps as another appendix) some general information on the pronunciation of scientific names.

This dictionary is designed primarily for high school and university students, naturalists, and others interested in zoology; though it has some shortcomings, it should prove very useful to all these people.

DONALD J. BORROR

BOOK REVIEWS

The Monocotyledoneae, Cat-tails to Orchids. *E. Lucy Braun*, with Gramineae by Clara G. Weishaupt, original drawings by Elizabeth Dalvé and Elizabeth King. The Ohio State University Press, Columbus. 1967. 464 p. \$10.00.

This work is identified as Volume One (of a series to be prepared and published under the auspices of The Ohio Academy of Science) of *The Vascular Flora of Ohio* on a page preceding the half-title, but not on the title-page, half-title, binding, or dust jacket. While readers in more distant parts may therefore overlook the geographic limitation of the volume, those in the region where it will prove most useful will simply welcome the long-awaited appearance of a guide with the same format and authority as Dr. Braun's *Woody Plants of Ohio*. The excellent illustrations and maps are in part by the same artist and the text has, again, the same originality and freshness which come from firsthand field and herbarium experience with the plants themselves. Surely the naturalist, taxonomist, ecologist, or anyone else who wants to know the status of a monocot in Ohio, or how to identify it, can confidently rely upon this thorough and usable presentation.

With few exceptions, all native species of Ohio monocots, and only these, are illustrated and their known distributions (based on actual specimens) mapped by counties. But introduced and adventive species (and even a few erroneously reported from Ohio in the past) are included in the keys and descriptions. "Over 650" species of monocots are treated, the largest genus of which is *Carex* (140 species in Ohio). The aid of numerous specialists was enlisted to ensure accurate identifications. Records are based largely on material from 11 of the institutional herbaria in Ohio, plus the author's personal herbarium.

While one can always, if space and inclination allow, quibble over some details of any flora, it will be harder to do so for this than for most. Although the volume covers, thus far, probably somewhat less than a fourth of Ohio's vascular plants, it stands, as far as it goes, beside the monumental state floras of Deam (Indiana) and Steyermark (Missouri)—although in its own way unique (better in some respects than other floras, less detailed in other respects). It is one of the very few regional floras which include all three major features: good keys, illustrations, and distribution maps. Miss Braun and her co-laborers have set a standard which, while it is expected of them, will be a challenge to maintain in subsequent volumes of *The Vascular Flora of Ohio*.

EDWARD G. VOSS

A Dictionary of Flowering Plants and Ferns. *J. C. Willis* (7th ed. revised by H. K. Airy Shaw). Cambridge University Press, New York. 1967. 1214 p. \$18.50.

This seventh edition is completely rewritten and is a vitally needed reworking of the 'Willis' 1931 edition. The author, H. K. Airy Shaw, has kept the botanical student and amateur in mind, and has attempted to include every published (valid or not) generic name from 1753 to date and every published family name from the appearance of *Genera Plantarum* of Jussieu in 1789. Although many generic entries have descriptive information, most entries are without any description except for the authority, family, and number of species. In all, about 40,000 entries are included. With the exception of the Pteridophytes, references to the literature have been omitted. Reductions to synonymy are usually given, although many are conspicuously absent. Intergeneric hybrids are included and, where these represent artificially produced horticultural crosses, the authority for the name is merely given as 'Hort.' Variant generic names are listed, but unfortunately no attempt has been made at complete coverage. Family descriptions are relatively complete and are especially useful. A synopsis of families, based on the Bentham-Hooker and Engler-Prantl systems, is included.

The over-all coverage seems quite complete and, coupled with the information on synonymy, makes this dictionary extremely useful to the plant taxonomist.

T. RICHARD FISHER

Systematics of the Salamander Genus *Cyrinophilus*. *Ronald A. Brandon*. Illinois Biological Monographs. 35, [6]+86 p., 23 fig., 1 tab., 1966. Cloth \$5.50, paper \$4.50.

This revision of the purple salamander genus is adapted from the author's doctoral dissertation, done at the University of Illinois under the guidance of Hobart M. Smith. It is a careful but not exhaustive study of approximately 1450 specimens from throughout the range of these salamanders in eastern United States. In addition to the taxonomic discussions of the genus,

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two species, and seven subspecies, it contains sections on geographic variation (trunk vertebrae, ventral pigmentation, teeth, choanal diameter, and tail length), neoteny, and zoogeography. The bibliography contains about 150 entries, including most of the primary literature of the genus. Illustrations include photographs of living specimens, some very poor sketches, and a variety of maps and diagrams. Printing, paper, and binding are excellent; typographical errors are virtually absent.

The strength of this work lies in the extensive discussion of various geographically variable characters, and the associated maps and graphs. Variation in *Gyrinophilus* is extreme and complex, and for the first time many of the details are clarified. The taxonomy is sound; all transformed populations are placed in one species, *Gyrinophilus porphyriticus* (Green), with four subspecies, *prophyriticus*, *dummi*, *danielsi*, and *duryi*. The neotenic populations form the only other species, *Gyrinophilus pallescens* McCrady, with three subspecies *pallescens*, *necturoides*, and *gulo-lineatus*. The major problem in this arrangement is *Gyrinophilus porphyriticus duryi* which in some areas appears to be specifically distinct, while in others intergrades extensively and loses its identity; this problem needs additional study.

There are a number of conflicting statements, inconsistencies, and factual errors in this work; some may be due to the unreasonable delay of several years between completion and publication. The result is that some maps and graphs disagree with the text. For example, on page 40, maximum choanal diameter is discussed as follows "Hocking Co., Ohio, specimens did have the largest choanal diameter, but those of New York specimens were only slightly smaller". However, reference to figure 13 on the same page, which presents choanal diameter in various populations, shows the largest diameter to be in Alabama material, while New York specimens are significantly smaller and Virginia specimens (not New York) are only slightly smaller "than those from Hocking" County. Other criticisms concern the absence of *Gyrinophilus pallescens* from the zoogeographic discussion, and the absence of a complete distribution map for the same species. In general, this is a good, useful revision, which will inform readers of our present knowledge about this salamander genus, provide much new data, and stimulate some to even more intensive investigation.

BARRY D. VALENTINE

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