

Firefly Encyclopedia of Reptiles and Amphibians

Edited by Tim Halliday and Kraig Adler. 2002. Firefly Books, Willowdale, Ontario. 240 pp., Illus. \$40

All of the world's more than 13 000 species of amphibians and reptiles are profiled in this clearly written and wonderfully illustrated book. Well, not every species is mentioned, but every family and representative species from each family are portrayed.

The book is divided into two main parts, with the first half of the book dedicated to amphibians and the second half to reptiles. Each part begins with an introductory essay discussing the biology of the group as a whole. A series of brief (1-2 pages) essays then covers key issues. The amphibian section includes essays on taxonomy, metamorphosis, parental strategies, amphibian decline, and conservation. The reptile section features essays on dinosaurs, thermoregulation, conservation, and temperature dependent sex determination. Following these essays there are sections of various lengths on each of the main taxonomic groups (generally orders). For amphibians there are features on caecilians (unfortunately only 4 pages in length), salamanders, and anurans. The reptile part has sections on turtles, lizards, worm-lizards, snakes, tuatara, and crocodilians. Many of these sections feature other short essays on key topics. For example, there are essays on salamander courtship, the Asian turtle crisis, lizard adaptations to deserts, and snake bites.

Within every section there are profiles of each of the families. Each profile provides handy tidbits on each of the families including a map of the global distribution of the family, the number of species and genera, a list of representative species, range of size within the family, as well as the number of species which are globally at risk. The book concludes with a detailed glossary and bibliography.

In order to have the most up to date information Halliday and Adler have solicited contributions from

36 experts on various topics and species groups. While most of the contributors are from the USA there are experts from a total of 7 different countries. This brings a greater depth of knowledge about the subjects in general, but occasionally results in minor contradictions. For example, on page 27 we correctly learn that female Mudpuppies guard their eggs, while on page 52 it is stated that the male guards the eggs.

The book is also profusely illustrated with exceptional colour photos on almost every page. The editors should also be commended for their use of colour illustrations. For example, pages 48-49 illustrate 12 different species of salamanders from 7 of the 10 families. The grouping of so many species together brilliantly displays the diversity of form and colour within salamanders.

There are a few minor things to gripe about: while the editors are generally good about providing both common and scientific names, they don't always do this. The editors have also adopted an odd habit of only capitalizing the first word of common names of species. They do this whether it is a proper noun or not. And occasionally they don't capitalize any part of the common name. They also sometimes switch back and forth from the species name (e.g. Eastern Newt) to the subspecies name (e.g. Red-spotted Newt). These are minor quibbles when considering the daunting task of summing up the global knowledge on such diverse life forms. Overall, this is a highly readable and thoroughly fascinating introduction to the biology, diversity, and conservation of amphibians and reptiles.

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Enjoying Moths

By Roy Leverton. 2001. T & A D Poyser Ltd, London, GB. 276 pp., illus.

This book is a comprehensive introduction to the fascinating world of moths, and general guide to the moths of Britain. Filled with intriguing and useful information, stunning colour photographs, and plenty of illustrations, maps, and drawings, *Enjoying Moths* is a valuable addition to the library of any Lepidoptera enthusiast.

Author Roy Leverton covers an impressive range of information, including, among other things, a general introduction to moth life cycles, colours, and shapes, and details on moth identification, moth lures and traps,

moth photography, and moth conservation. His writing is amiable, easy to read, and enjoyable.

What makes this book a delight the author's personal touches. These include anecdotes about, for example, his experiences with cannibalism among moth caterpillars he orders by mail, and his successful efforts to revive an adult moth trapped in a pool of frozen melt water. Leverton also shares private feelings like an instinctive, scalp-prickling sense of danger at approaching a pair of mating Lunar Hornet moths (which look and behave like large wasps) although he knows them to be harmless. And he reveals humorous quirks like his tendency to consume nutritious moth sugar lure

leftovers on nights when he is far from home and has stayed out later than expected.

I learned a lot from this book – the first, and most surprising, discovery being estimates that butterflies make up only 10 to 12% of known Lepidoptera species, with moths filling in the rest! It was also interesting to learn about moth-plant interrelationships, moth lures, and the potential effects of climate change on moth populations.

I especially appreciated the first two chapters – on moth life cycles, colours, patterns and shapes. Yet I must confess that by the time I finished them and came

to Chapter 3: Numbers and Distribution, I was becoming dissatisfied with the constant references to species, regions, and habitats unfamiliar to me. I yearned for details relating to my own experience.

It would be helpful if the book's title were a little more specific – something along the lines of *Enjoying the Moths of Britain* – to identify it more accurately.

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BOTANY

Ainsworth and Bisby's Dictionary of the Fungi

Edited by P. M. Kirk, P. F. Cannon, J. C. David, and J. A. Stalpers. 2001. CAB International, Wallingford. 9th edition. xi + 655 pp., illus.

This is an extremely useful reference book for those studying fungi and lichens. The fact that this is the ninth edition attests to the *Dictionary's* value.

The Preface gives an overview of three major areas emphasized in the new edition; i.e., revision of the classifications of both the Ascomycota and the Basidiomycota; and, third, the integration of the fungi lacking the sexual stage (these are known as the anamorphic fungi, conidial fungi, and/or imperfect fungi) into the overall fungal classification. Thus after each of the nearly 4000 genus names for anamorphic fungi there is a phrase giving its placement; e.g., for the anamorph genus name *Botrytis* the entry is "anamorphic *Botryotinia*." This integration is, unfortunately, not reflected in the Systematic Arrangement of the genera of fungi (an 86 page appendix) where anamorphic names are grouped in an alphabetical list.

A one-page User's Guide helps the user get the maximum benefit from the entries. The paragraph headed Generic names gives the web site where the place of publication of the names can be found. This site is useful but complex and I could not find the database containing the places of publication. Following the User's guide 10 family and nine order names are validly published. There are 41 figures in the book, mostly ink drawings illustrating the differences between, for example, hyphal types, cystidia, predilescence asci, synnema, hyphidia, and septa. Figures also illustrate life cycles, metabolic pathways, ascus and ascospore development, growth forms, thallus structure in lichens, etc.

The majority of the entries are the taxonomic names, such as genera, families, orders. Most prevalent are the generic names where each entry is composed of the name, the name(s) of the author(s) that described that name, the year the description was published, the major taxonomic group that the name belongs to, the number of species worldwide, and one or a few perti-

nent references, especially those containing keys to the identification of the species.

Several terms have nearly a page devoted to, in addition to the definition, the history, procedures, current status, and pertinent literature. For example, under the entry "Authors" there are about 200 names of taxonomic mycologists with their birth and death dates, and herbaria where most of their collections can be found. The contribution of these mycologists is, for most, summarized in the text. The heading "Mounting media" includes 11 common fluids used to make slides for examination under the microscope and the formulae for mixing them. Following "Media" there are three pages of evaluation and formulae for the cultivation of fungi in the laboratory. Nearly a page is devoted to the term mycopesticides. Mycorrhiza (that symbiotic association between a fungus and the roots of a green plant), mycetism (poisoning by larger fungi), mushroom cultivation, allergy, air spora, air pollution, predacious fungi, and antibiotics are just a few of the dozens of terms that receive extended treatment. The Lichens have a three-page discussion that includes fungal partners, algal partners, structure, reproduction, establishment, nomenclature, and literature. Unfortunately Brodo, Sharnoff, and Sharnoff's (2001) *Lichens of North America* is not cited, although lichenologists were aware that publication of this significant lichen book was imminent. For other groups of fungi, there were references that I expected to see but did not find, e.g., under Polyporaceae the two volumes titled *European Polypores* (1994) by Ryvarden and Gilbertson are not cited.

This book is a technical reference volume that contains a wealth of information on all aspects of the fungi. One of its strengths are the leads provided to the current literature and more detailed treatments of taxa, methods, phylogeny, etc.

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