revealing their internal structure still remains unwritten.

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Fish Stories. By CHARLES FREDERICK HOLDER and DAVID STAR JORDAN. New York, Henry Holt and Co. American Nature Series.

A most readable book indeed is this by Holder and Jordan, interesting alike to the lover of angling, the lover of nature and the lover of good stories. A few short historical chapters, by way of introduction, put us in touch with the tellers of "fish stories" from Jonah down to John Hance, including such famous raconteurs as Pliny, Olaus Magnus, Sir John Mandeville and Izaak Walton, while a selection of the best of the classical yarns leaves the reader in a proper spirit of appreciation for the modern ones that follow.

But it must not be supposed that the book is entirely a record of prevarication. On the contrary, it contains much more of perfectly good natural history, told in such a manner that the unscientific reader can easily grasp it, yet losing nothing in scientific accuracy thereby—a rather unusual combination in nature books. The untruths which serve as a spicing for the work, are such "whoppers" that even the most guileless and credulous reader will have no difficulty in distinguishing them as fiction.

Instructive and entertaining chapters treat of the occurrence, life histories and habits of the various trouts and salmons, the seal, the deep-sea fishes, coral-reef fishes, etc. In discussing the flying fishes, the authors support the view that the propelling force comes from the movements of the tail just as the fish is leaving the water, and that the paired fins act after the manner of an aeroplane. The scientific world is by no means agreed upon this point, as the authors admit, and many good observers are equally as insistent that the fins are moved in flight so rapidly as to deceive the eye ordinarily.

There is much information on the larger fishes of the sea that will clear up the hazy notions of the uninitiated, and a chapter is well devoted to the sea-serpent. This classical animal, which has given rise to more misunderstanding and downright prevarication than perhaps any other animal, is shown to be, under certain circumstances, a figment of the imagination induced by over-indulgence in the favorite "bait" of fishermen. The other class of stories is shown to be due to the misconceptions of untrained observers upon obtaining a partial view of various marine animals. The great "oar fish" (*Regalecus*), a long ribbon-like form with a high frill-like dorsal fin, which reaches a length of at least 22 feet, and occurs in both the Atlantic and Pacific oceans, is no doubt largely to blame for these stories. The much smaller sea-snakes, and perhaps some other elongated forms may also be responsible in part.

While the authors give us the benefit of their experience in angling for various sorts of fishes, they at the same time protest strongly against the practise of "pot-hunters" among fishermen, who take large numbers for the sake of a record, and, being unable to make use of them, allow them to rot on the bank. "Trout-hogs, we call them, but in doing so we owe apologies to the relatively well-behaved swine."

We can not help wishing there were more such books treating authoritatively of other animals in this delightful manner, imparting so much reliable information and at the same time affording the reader so much pleasure.

R. C. O.

The Freshwater Aquarium and its Inhabitants. By OTTO EGGELING and FREDERICK EHRENBERG. New York, Henry Holt and Co.

Some idea of the popularity of the standing aquarium as an object of study and means of recreation is afforded by the number of recent books bearing on the subject. The reviewer is aware of something like a dozen such issued within the past decade. The most recent of these, and the one under discussion, is largely a compilation simplified for the beginner, and professes to be "a guide for the amateur aquarist."

There is some good advice to the beginner concerning the form, placing, bottom, planting

and stocking of the aquarium, and also on the feeding and care of its inmates. These portions of the book appear altogether too brief, however, and it would seem that Mr. Eggeling, with his long experience in these matters, might have given us more of the benefit of it. He has chosen instead to devote three fourths of the book (or to be exact, 280 of the 352 pages) to descriptions and figures of aquarium plants and animals.

The figures are generally excellent with only a few of the old stereotyped sort and nearly all of them are from good photographs. The descriptions apparently suffer from too great an attempt to popularize—at any rate they are loosely written and often fail to give enough diagnostic characters to distinguish a species from its relatives. The few sunfishes mentioned, for example, could hardly be identified among the many others which are found in our streams and ponds and which thrive equally well in aquaria. Such descriptions can have no particular use except to acquaint the reader with the general characters of the group rather than the individual kind.

The authors would have done well to submit their scientific names to the scrutiny of a specialist before publishing them, and thus have avoided the use of antiquated nomenclature. This is especially true of the fishes, where a cursory examination reveals nearly a score of scientific names no longer regarded as correct. A number of cases of mis-spelling occur among these names also—*e. g., Cotostomus* for *Catostomus, Rhinichtys* for *Rhinichthys, Amiurus* for *Ameiurus, Etheostoma cœrulea* for *E. cœruleum, Pomotis elongatis* for *P. elongatus.* The parasitic fungus *Saprolegnia* also appears as *Saprolegnies,* and the word "milt" as milk!

The invertebrates are very inadequately treated, only aquatic insects and snails receiving mention. The dragonflies are omitted entirely from the former, though they are among the most interesting of aquatic larvæ and are easily kept and reared. Neither is any mention made of the crayfishes or other fresh-water crustacea—an unfortunate omission.

To make amends for some of these deficiencies there is a considerable amount of interesting natural history matter on the habits of the various forms in the aquarium.

The publishers have seen fit to make the volume about twice as large and heavy as necessary by the use of thick glazed paper and wide margins. But in spite of its many faults the book will no doubt be of real service to many amateurs in this alluring field of study, and will be useful in creating interest in the home aquarium and its inhabitants.

R. C. O.

SCIENTIFIC JOURNALS AND ARTICLES

The *Journal of Experimental Zoology* for July contains the following articles: E. Newton Harvey, "The Mechanism of Membrane Formation and other Early Changes in Developing Sea-urchins' Eggs as bearing on the Problem of Artificial Parthenogenesis," with two figures; William M. Wheeler, "The Effects of Parasitic and other kinds of Castration in Insects," with eight figures; A. M. Banta, "A Comparison of the Reactions of a Species of Surface Isopod with those of a Subterranean Species," Part II.; A. H. Estabrook, "Effect of Chemicals on Growth in Paramecium," with one figure; G. H. Parker, "Olfactory Reactions in Fishes."

OPINIONS RENDERED BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE[1]

This comprises a history of the commission; method to be followed in submitting cases for opinion; list of cooperating committees on nomenclature; personnel of the commission; references to places of publication of the International Code; opinions 1–25. The first five are republished from Science.[2] Twenty of the opinions are here published for the first time. As the brochure will have a rather restricted distribution, a résumé of these opinions is here presented. The intro-

[1] Smithsonian Institution, Washington, Publication No. 1938, July, 1910, 8vo, pp. 61.

[2] Vol. XXVI., October 18, 1907, pp. 522, 523.