



Review: [Untitled]

Reviewed Work(s):

The Galapagos. by R. I. Bowman

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Reviews

The Galápagos.—R. I. Bowman, University of California Press, 1966, 318 pp. Price \$10.00.

The Galápagos Islands are repeatedly mentioned in the classical observational literature of evolution and speciation and are much loved by Darwinophiles, but it is only with the publication of this Proceedings of the Galápagos International Scientific Project that a single compendium of the biological and physical knowledge of the Galápagos is available. This collection of 40 short papers, delivered as symposia to the participants of the Project at Berkeley and on shipboard before their short stay in early 1964 on the Galápagos, contains 58 pages of "General Scientific Studies" and 234 pages of "Specialized Scientific Studies" (The Physical Environment, Marine Biology, Terrestrial Biology and Applied Biology). As is clearly stated by the editor, the great majority of the papers and paragraphs are review works, compiled from the literature by specialists without previous experience in Galápagos. Following the expedition, these authors had the opportunity to "revise their papers so as to include some of their first-hand impressions resulting from the field work but not, in general, to elaborate upon details of their research findings, which are to be reported on elsewhere."

The negative aspect of this latter circumstance has destroyed a great deal of the potential pertinence of this book to biologists wishing to know both what has been done on the Galápagos and what remains to be done; we are not even provided with a list of the papers in press and publications that have resulted to date from the 1964 expedition. It is of obvious use to have the literature reviews that are presented in the "Specialized Scientific Studies" collected under one heading, but as one reads these

papers one quickly realizes that their new ideas, information content, and relevance to the Galápagos is closely related to the amount of revision made after the expedition. While the editor notes quite correctly that to have included actual research data would have resulted in further delay and a larger tome, it is doubtful that the world would have felt penalized to have waited another year (making a total of three years) for what would constitute a great increase in value of the publication.

Throughout the volume, the stress is laid on the uniqueness of the Galápagos as a research area in evolutionary biology. While such stress should be especially pleasing to Darwinophiles, granting agencies, and those people supporting the establishment of the very worthwhile Charles Darwin Research Station on the Galápagos, there is little in the volume under consideration to justify such stress. I think that were a similar amount of effort and money spent on study at a single location in the continental New World lowland tropics by such a group of evolutionary biologists, a considerably greater diversity of interesting evolutionary thinking would have been brought to light. The simplicity of the Galápagos terrestrial ecosystem is of course very attractive from some standpoints, and all the more because of its tropical geographic placement. However, I would respectfully submit that the present volume gives precious little indication of new questions that have not already been examined in some detail. It appears that the most promising line of terrestrial research left to be attempted on the Galápagos is the ecology of species-poor communities receiving a high solar energy input, with and without adequate water; it is notable that no papers in this volume are addressed specifically to this topic, although numerous bits of back-

ground data on this topic are scattered through various papers.

The editor and authors must receive much credit in this publication for minimizing redundancy in the generalized discussions of island and Galápagos biology. The papers are easily read but leave one with a miscellaneous feeling. A general summation paper, longer than most and prepared after the expedition, would have been highly desirable. This would have been the place for a general description of the community types present and general questions indicating why it is worth the effort to go to the Galápagos for evolutionary research rather than some more accessible continental area.—DANIEL H. JANZEN

Marine invertebrates of Scandanavia, number 1, Tunicata Ascidiacea.—R. H. Millar. Universitets Forlaget, Oslo, London, and Boston, 1966, 123 pp. Price \$5.95 (= 35 N. kr.).

In this, the first of a series of 35 papers dealing with the Scandinavian marine invertebrate fauna, a quite complete treatment of the ascidians is presented by Dr. R. H. Millar, Deputy Director, Marine Station, Millport. The series will be restricted geographically to an area roughly circumscribed by the eastern coasts of Great Britain and Greenland, 80° North latitude, 30° East longitude, and the European coastline, from Norway to the Straits of Dover; it includes Iceland, the Faeroes, Jan Mayen Island, and the Spitsbergen group, as well as the North Sea and the Baltic. The series is not merely historical literature reviews of the various taxonomic groups, but will be based primarily on the unworked collections presently held in the Scandinavian museums participating in the series.

Dr. Millar's treatment of the Ascidiacea is both methodical and thorough. A short introductory section gives an illustrated review of the morphological characters used throughout the paper and a glossary of terms; it is followed by a faunal list (arranged according to the classification of

Berrill) and a key to the families considered. There are diagnoses for all families, sub-families, and genera, and bibliographic citations for original descriptions, as well as indications of type species, are given for all genera.

All but two of the 85 species treated are represented by line drawings showing the general aspect of individual zooids and/or colonies and detailed views of key morphological characters. For each species, there is a bibliographic citation to the original description, a listing of commonly applied synonyms (where applicable), a note of the present location of type material, and an indication of type locality. Species descriptions are detailed and appear to be thoroughly adequate for the determination of specific identities; these are followed by notes on natural history, comments on previous systematic judgments, and distributional data, both for the circumscribed study area and the remainder of the world. Finally, each species entry is accompanied by two maps, one showing the distribution of the species in the Scandinavian region, with indications as to whether these are based on museum material at hand or on literature records, and the other showing a more general distribution throughout the northern Atlantic and Pacific and the polar areas.

At first glance, it might be felt that this publication is overpriced at \$5.95. However, for the interested ascidian worker and the zoogeographer, the prospect of having so much detailed important information in one place makes the price more palatable.

This soft-bound publication is a harbinger of a series of papers that will be welcomed by many biologists: by zoogeographers, for the bringing together of scattered information; by ecologists, for a rather straightforward taxonomic treatment of invertebrate groups, with the possibility of making preliminary identifications; and by graduate students, for a good solid point of departure for beginning research, as well as an aid in understanding various of the invertebrates.—MEREDITH L. JONES