



Review: [Untitled]

Reviewed Work(s):

Proceedings of the Symposium on the Biology of the California Islands. by R. N. Philbrick
Daniel Janzen

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Review

Proceedings of the Symposium on the Biology of the California Islands.—R. N. Philbrick. Santa Barbara Botanic Garden, 1967, 363 pp. Price \$10.00.

As is customary for symposia with many contributors (27 with 19 papers), the Proceedings of the 1965 symposium on the Biology of the California Islands has only now been published. "The symposium was the natural consequence of continuing studies carried out by the Garden staff whose objective is the publication of a flora of the California Islands" (p. 1), and the preparation of the volume focused on 1) "what mechanisms best explain the evolution of the endemic plants and animals . . ." and 2) "what are the reasons for the very different number of species that occur on certain of these islands" (p. 4).

The degree to which these two goals were fulfilled is erratic, and rather directly proportional to the abilities of the contributors, as is to be expected in any compound effort about a small area. The effort is primarily botanical; it is, however, encouraging that the planners felt that "the evolutionary problems inherent in a study of the flora of the islands are closely related to those of other groups of organisms which have been similarly isolated," and thus zoological papers are included. Were I 1) looking for examples of species distributions among islands to apply McArthur and Wilson type analyses to, 2) planning to begin a thesis or other research endeavor on any organism associated with the California Islands, or 3) wishing for an example of traditional approaches to island biology, I could turn to this book for data sources.

This book should, perhaps, not refer to "Island Biology" but to the peculiarities of biology of organisms living on islands. That this is not an impertinent comment

is justified by the following observation. Were the biology of 590 square miles of mainland to be examined, the study would surely focus on community structure, competitive interactions, bioenergetics, and seasonal phenomena in addition to topics 1) and 2) in the first paragraph of this review; in this sense the Proceedings might better have been given a more descriptive title.

While the problems discussed are of broad application, most of the data will be primarily of interest to students of California floras and faunas (at least eight of the papers are purely descriptive), for they do not lend themselves readily to analogy with other systems of community isolates. A major interest in pines is obviously present among the contributors and this leads to perhaps one of the most interesting points and examples in the symposium (presented in the form of one of the four very welcome discussions of papers). The question is raised (p. 89) that, given a mainland population that differs slightly from the related island populations can it be generally accepted that the island population is the one that has changed? I am inclined to agree with those that favored a negative answer. In a stochastic sense, for obvious reasons divergence may be expected to occur on the island, beginning most likely with the original founder; however, to make the same judgement in a particular case would seem unwarranted. The same may be said of two isolated mainland populations (and of course isolation is the important point after all—not islands). It is perhaps unfortunate that there is a separate word "island" since this has led to the study of "island populations" (perhaps additional unfortunate artifacts are introduced by the general impassibility of water, and its being given the misleading name "geographic

barrier"). I fail to see the difference between 200 miles of water and 200 miles of forest if neither can be crossed. It is clear that a barrier is "what cannot be crossed," be it a rainy area, stream, river, lake or ocean; adding "geographic" adds nothing.

A most useful and enlightening survey of island areas and distances from the mainland is found inside the back cover (though its duplication on p. 6 and 7 is of doubtful necessity, as is giving both metric and English equivalents). "Floristics" used to be a list of the species of plants somewhere; now we find it to be a more interesting analysis of why there are a given number there.

As is expected in such a composite work, quality of reporting, information content of statements, and clarity of expression is highly varied. This is evident by the quote on p. 310: "To assume that insular condi-

tions originate new forms is to overlook what has taken place on the continents (W. A. Setchell, 1935)," which is, however, followed by a curious statement which does not, I believe, represent current evolutionary thought about selective pressures: "Although many plants moved across many degrees of latitude under the influence of changing territory climate, they generally did not change unless they were faced with the alternate of changing or becoming extinct."

In summary, this Proceedings appears to be a convenient statement of the art (and literature) of the California Islands; varied in style, information content, and rigor though it is, it would seem to be of great value to any student of California floras, be these floras isolated or on islands.—
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