

# RECORDS OF THE HAWAII BIOLOGICAL SURVEY FOR 1994 Part 1: Articles

## Introduction

The Hawaii Biological Survey (HBS), established by the Hawaii State Legislature in 1992 as a program of the Bishop Museum, is an ongoing natural history inventory of the Hawaiian Archipelago. It was created to locate, identify, and evaluate all native and non-native species of flora and fauna within the State and maintain the reference collections of that flora and fauna for a wide range of uses. In coordination with related activities in other federal, state, and private agencies, the HBS will gather, analyze, and disseminate biological information necessary for the wise stewardship of Hawaii's biological resources.

Soon after its founding in 1889, Bishop Museum established programs to study and document the plants and animals of Hawaii and that effort has become the largest single source of information on Hawaiian organisms. Virtually all definitive published treatments and manuals of Hawaiian organisms, beginning with *Fauna Hawaiiensis* in 1890, have been produced by the Museum or in close collaboration with the Museum. There are approximately 15,000 terrestrial, 300 freshwater, and 5,500 marine species of plants and animals in Hawaii. Bishop Museum has the world's largest biological collections for Hawaii (about 4,000,000 specimens). In 1992, the Hawaii State Legislature recognized the Bishop Museum's past and current activities by designating it as the Hawaii Biological Survey.

Each year, the Bishop Museum publishes the *Records of the Hawaii Biological Survey*, which provides a medium for dissemination of short notes and records of range extensions, first state or island records, or other pertinent information on the biota of the Hawaiian Islands. The *Records* provide a venue to collect and publish significant new data on Hawaiian organisms that might otherwise not be published in any standardized, retrievable and citable manner. In addition to these shorter notes, this first volume of *Records* includes some longer papers, which contain information essential to the Hawaii Biological Survey and substantially augment our current knowledge of the status of our State's biota. The updates to the 1990 *Manual of the flowering plants of Hawai'i* are especially significant.

The *Records of the Hawaii Biological Survey for 1994* were compiled with the assistance of Allen Allison (vertebrate zoology), Walter Appleby (botany), Robert H. Cowie (malacology), Lucius G. Eldredge (invertebrate zoology, marine zoology), and Gordon

M. Nishida (entomology), who acted as editors for papers in their disciplines; and was partially supported by a grant from the John D. and Catherine T. MacArthur Foundation.

We encourage authors with new information concerning flora or fauna occurring in the Hawaiian Islands to submit their data to us for consideration of publication in the next *Records*. Information on submission of manuscripts and guidelines for contributors may be obtained in writing from: Hawaii Biological Survey, Department of Natural Sciences, Bishop Museum, P.O. Box 19000A, Honolulu, Hawaii 96817-0916, USA; or by electronic mail: [hbs@bishop.bishop.hawaii.org](mailto:hbs@bishop.bishop.hawaii.org).

—Neal L. Evenhuis and  
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