the plans of scientists who wished to visit the island so that their needs were met and no serious difficulty resulted from this arrangement, which will probably not have to be repeated.

Grateful acknowledgments are made to the governor of the Panama Canal, Colonel M. L. Walker, and to Colonel Harry Burgess, for their continued whole-hearted cooperation; also to Mr. Sam H. Heald, superintendent of the Panama Railroad, and to chief of police and the chief hydrographer, as well as to officers of the United Fruit Company, for many favors. The War Department, the governor of the canal, the United Fruit Company, and the Panama Railroad Steamship Company continue to make important concessions regarding the transportation of scientific workers from New York to and in and from the Canal Zone.

Dr. Frank M. Chapman, of the American Museum of Natural History, contributed $500 for a small new building suitable for living quarters and private laboratory which is available to other workers when Dr. Chapman is not using it. A substantial screened outdoor cage, 9 feet square by 7 feet high, suitable for sloths, monkeys, or other animals has been built back of the main laboratory. Five commercial firms have joined in building a new house, 16 feet by 16 feet, using lumber that had been treated to enable it to repel attacks of termites. Another building, 18 feet by 18 feet, has been built of redwood donated by the Little River Redwood Company of California, as an experiment to test the resistance of untreated redwood to termites. The Redwood Export Company of California has also contributed 15,000 board feet of redwood lumber and shingles with which to build other test buildings.

The clearing around the laboratory buildings has been considerably enlarged, trails have been extended and marked, and a channel wide enough for the station's large launch has been cut through the submerged forest all around the island, which makes it much easier for workers to explore the island shores, as well as easier to patrol the island against poachers. It is proposed to cut side channels from the main channel to each of the trails that open on the lake. The total length of the present trails is nine miles. They enable one to reach almost all parts of the island. The total coast line of the island exceeds 25 miles. The area of the island is 5.64 square miles.

The number of scientific workers and visitors on the island has been less perhaps than last year partly due to the closing of the station for a part of the year in order to make necessary repairs, but applications for places in the station for the coming summer are already numerous. The reports of workers who have visited the station in past years concerning the conditions for work and the ease with which the station may be reached are so uniformly favorable that the station is going to have difficulty in providing accommodations for the many who wish to come. However, the station officers will do whatever they can to take care of all applicants. Information regarding conditions of visiting and working at the station, and means of transportation, may be obtained from Dr. Thomas Barbour, Museum of Comparative Zoology, Cambridge, Massachusetts. On arrival at the station the visitor should learn details concerning the station's facilities for living accommodations and for work from Mr. James Zetek, resident custodian of the station. To consult with him in advance of arrival he should be addressed at Box 245, Ancon, C. Z.

The Barro Colorado Island Station is a success, but it needs help for extension and betterment. Universities and scientific organizations may help the station and at the same time help their own faculty members and advanced students interested in tropical biological research by subscribing for "tables" at an annual cost of three hundred dollars. This annual support will be of much use to the station, but a permanent endowment of from $100,000 to $200,000 is sorely needed. At present, the continued existence of the station is only maintained through the personal generosity of Dr. Barbour, Dr. David Fairchild and a few others. This is unfair and can not go on forever.

VERNON KELLOGG,
Permanent Secretary
NATIONAL RESEARCH COUNCIL

REPORT OF THE PRESIDENT OF THE ECOLOGICAL SOCIETY OF AMERICA ON THE QUESTIONNAIRE OF 1926

THE questionnaire sent out by your president with reference to research to the 602 members of the Ecological Society of America resulted in the receipt of slips from eighty-six members, or one seventh of the total membership. Twenty-six botanists, seven foresters and fifty-three zoologists returned the blanks filled out with many interesting details of their work and their hopes for future research. Space and time will not allow a complete analysis of the returns. The blanks will be kept by your president and will be accessible to members who may be interested in them.

The question, "Does your institution encourage research?" was answered by seventy-nine members. Fifty-eight persons unequivocally replied that the institution with which they were connected encouraged research. Six answered in the negative, one

that research was not directly encouraged; another member replied that his institution wished it, but that the work was too heavy to allow it, and another individual answered that his institution theoretically did.

The replies as to the amount of time which could be devoted to research were most varied. Nineteen, the largest number under any category, replied that they had little time for research except vacation. Ten replied that they could devote one fourth or one third of their time to original investigations. Ten said they could give full time to research, as the terms of their employment called for research. Eight answered that they could devote one half of their time to research. Three reported that they had one tenth of their time free and three that they used evenings and Sundays for research work and three that they could not give very much time. The above categories as to time include fifty-three members. The other categories reported by two members under each included twelve hours per week, six to eight hours weekly, vacations and one day weekly, three fourths of the academic year and all summer. The other items given below were answered by one member each: four hours per day, one day a week, eighteen hours per week, two hours per day, spare time only, 20 per cent. of time, whatever is left after routine duties, eight months on economic entomology, half time in March, April and May, full time in June, July and August and sometimes half a day, some time in vacation and sometimes two consecutive whole weeks.

As to library facilities, there were eighty-one replies out of eighty-six, the total number of returns. Forty-six reported the library facilities as good, twenty-five as poor and ten as fair. So that from the questionnaire one might glean the fact that the library facilities are fairly satisfactory.

The reply to the query No. 7, "How much money will it take to complete the piece of research on which you are engaged?" elicited the most interesting facts. The smallest sum suggested by any one person was five dollars and the largest twenty thousand ($20,000). One individual replied that $1,000,000 was needed, but he probably had in mind the needs of the institution with which he was connected and not individual requirements. I will deal here with totals. The total for twenty-six botanists was $26,900, or almost exactly $1,000 apiece. Two foresters, out of seven who replied, estimated that $14,000 would be desirable, and the fifty-three zoologists who replied, omitting the one million dollar item, asked for a total sum of $52,005, or about one thousand ($1,000) apiece. The total amount required by eighty-six ecologists was $92,905. It seems, therefore, after averaging the returns that one thousand dollars a year would be a fair amount to devote to research by the average research worker in the Ecological Society of America. As there are 602 members in the society, that would mean a yearly outlay of $600,000 for ecological research alone. If we capitalize that amount of money at 5 per cent. interest, it aggregates $12,000,000; in other words, if the Ecological Society of America were to grant $1,000 per year to each of its members for ecological research, it would mean the accumulation of an endowment fund of $12,000,000. Of course, the reply to this estimate would be that every member of our society would not require $1,000 a year for research, for contingencies arise which would prevent such active work on the part of each individual registered as members of the society. As ecologists should travel extensively, we might enlarge the purposes of the yearly allotment by saying that each member of the Ecological Society of America should have from $12,000,000 invested funds $1,000 for research and travel.

Finally, the character of the projects and research work vary as greatly as the number of individuals who returned the blanks. A few will be given to show the scope of the work undertaken by members of the Ecological Society of America. Some of the zoological items are as follows: Geography of regions north of 60°; mammal communities; life zones; habitats and associations of animals in Turkestan; life histories of snakes and salamanders; distribution and food habits of Ohio fishes; bird distribution with relation to life zones and faunal areas; biology of South American fishes; physiology and ecology of lamellibranch molluscs, especially oysters and teredo; systematic and distributional study of the water mites (Hydrocarina); oligochetes effect on crop plants; mites, or acarina called Orbatidae, living in moss and decaying vegetation or on living plants; hibernation and other aspects of biology of codling moth; cereal crop insects; protozoology, monograph of Ciliata; physiological aspects of animal ecology; influence of climatic conditions, especially upon man. Some of the problems which interest the botanists are: propagation of native plants of America; symbiosis, especially ectotropic mycorhizas; plant physiology; also ecological anatomy; hybridism and epharmonic response in the New Zealand floras; relative effects of soil acidity; ecology of alkali plants; influence of environment on diseases of beans; successional studies and problems in plant distribution; sphagnum bogs; plant ecology of the mountains of western North Carolina; grazing with successional studies and general ecological problems; growth and natural succession of aspen and paper birch in northern Minnesota, Wisconsin and Michigan in relation to environmental factors; relationship between weather and forest fire

danger; effect of forests on climate; streamflow and erosion. All of which is respectfully submitted.

JOHN W. HARSHBERGER,
President for 1926.

RESOLUTION BASED ON RETURNS OF THE QUESTIONNAIRE

Resolved by the Ecological Society of America in session at Philadelphia, Tuesday, December 28, 1926, that through its individual members the following minute be submitted to the boards of control of the institutions represented by its membership; the society advocates that men or women engaged in active research work be allowed to devote one fourth or one half time to such investigation, and where they can show that money is needed for such investigation, that $1,000 be allotted to them in the budget of that institution for research and travel and that the library and research facilities of the institution be made commensurate with the original investigations presented therein.

SCIENTIFIC EVENTS

THE RUSSIAN ACADEMY OF SCIENCE

THE Soviet Union Information Bureau sends the following account of the annual public meeting of the Academy of Science in the U. S. S. R., which took place in Leningrad on February 2. The opening speech was made by A. P. Karpinsky, the president of the academy. The permanent secretary, S. F. Oldenburg, made the report for 1926. The meeting was attended by numerous representatives from scientific institutes in Leningrad and other parts of the Soviet Union.

Dr. Oldenburg in his review of the activity of the academy during the past year pointed out that the basic task consisted in the attempt to intensify systematized work in scientific institutes, which was especially necessary in order to bring about the successful industrialization of the country. Work along these lines is being carried on not only within the Soviet Union, but also on an international scale. To this end, scientific conferences are being held throughout the Soviet Union. Further, fifteen academicians went abroad during the past year; six associate members and twenty-one scientific assistants. The academicians during their investigations abroad negotiated for mutual exchange of scientific specialists who should deliver lectures on their specialties and also for the dispatch of young scientists to work in scientific institutes. The question of systematic exchange of scientific reference literature was also raised and is being carried on very successfully in France; already a considerable exchange of books has taken place. The academicians were particularly impressed by the interest displayed abroad in Russian scientific activities.

Despite the fact that during the past year much time has been devoted to organization work, more than three hundred articles and books have been published and over four hundred lectures delivered by the academicians in various institutes and societies.

The library of the academy, which has been transferred to new premises, added during the past year 141,389 volumes to its collection and circulated 150,000 books.

The scientific institutes of the academy are divided into the following groups: four scientific institutes, two independent laboratories, seven museums and auxiliary institutes; fifteen permanent scientific commissions and in addition one biological station and one institute outside Leningrad.

In addition to these institutes here mentioned a number of commissions also function. During the past year a new commission was formed: the research committee for the investigation of Soviet and Autonomous Republics; there is a commission for research into Yakut U. S. S. R. under the control of this commission. The expeditions undertaken during the past year, which covered a considerable portion of the territory in the Soviet Union, were most successful.

The academy was especially active in publishing work during the year under review, when 132 books were published, whereas in 1925 99 books were published. As regards circulation of academic publications, 89,333 were sold in 1926 as compared with 52,000 in 1913.

OPENING OF THE UWEKAHUNA OBSERVATORY

DURING the visit to Kilauea of the Pan-Pacific Conference on Education and Recreation recently held in Honolulu, Dr. Hubert Work, U. S. Secretary of the Interior, on April 19 opened to the public the new Uwekahuna Observatory and Exhibition Room of the Hawaiian Volcano Research Association.

Dr. Jaggar made a short address, mentioning the fact that for 11 years past it has been the hope of the workers at the Hawaiian Volcano Observatory that some sort of a trailside museum might be provided for which would make it possible to explain to travelers in an appropriate setting the fascinating mechanism of volcanoes, and at the same time show them pictures of recent activities and maps or diagrams illustrating the relation of the Hawaiian volcanoes to the surface features of the globe. Thanks to the liberality of congress in creating the volcanology section of the Geological Survey in 1926, the