

## PRESIDENTIAL ADDRESS.

### **A Review of the Organization of the Hawaiian Entomological Society and Brief Mention of Some of the More Notable Achievements in Hawaii by Its Members.**

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On this, the fifteenth, anniversary of the Hawaiian Entomological Society, it is fitting that the presidential address should be largely devoted to a review of the organization and to the significance of what has been done since the beginning. It is also appropriate that we should recall the objects which led to the formation of the society, and that we should review some of the more notable achievements by the pioneers in this field of labor in Hawaii, and by others who joined later to lend their energy and ability to the advancement of an all-important work.

It has been said, and with truth, that Hawaii has, in numerous instances, acquainted the world with new and valuable facts in the inexhaustible mines of entomological research, for these remote islands have been the laboratory of a remarkable series of intensely interesting and highly profitable experiments in the introduction of beneficial insects. When these successful tests, often fulfilled only after long and patient scientific field research, and at much expense, are considered in the aggregate, it is evident that Hawaii holds a most enviable record, and that the progress and practical results obtained by the entomologists in these islands more than equal anything of the kind that has so far been recorded from any other part of the world. The saving in money, to Hawaii's principal industry, cane sugar, is well nigh incalculable. Nor, heretofore at least, have Hawaii's entomologists ever taken the trouble to sound their own trumpets with regard to their achievements. Visiting scientists have remarked that, in their opinion, we are altogether too modest when we have something worth while boasting about. Hawaiian entomologists, it has

been remarked, have been inclined to confine their printed intelligence to the bare if not simple facts of technical description, avoiding what, in some fields of endeavor, would be a tendency to blare their triumphs to the world at large.

Three separate official staffs of entomologists were maintained in these islands at the time of the organization of the Hawaiian Entomological Society, the oldest of these staffs being the entomological division of the territorial Board of Agriculture and Forestry, which, as a matter of fact, dates back to 1893, in the days of the Provisional Government, when Mr. Albert Koebele was engaged by the administration to introduce lady-birds and other beneficial insects to prey on cottony-cushion and other injurious scales then existent in the islands, particularly in Honolulu.

It was in the early part of 1903, ten years later, that the territorial government organized the present Board of Agriculture and Forestry, its entomological division being made to include Albert Koebele, who was appointed to be superintendent, and Dr. R. C. L. Perkins, as assistant superintendent. Shortly afterwards, the late Messrs. G. W. Kirkaldy and F. W. Terry were added to the staff. As Superintendent Koebele was away on a search for beneficial insects, Doctor Perkins was in reality the head of the entomological organization, the work of which, more particularly, included the inspection, under new regulations, of all imported vegetable matter, the idea being to prevent, so far as possible, any further introduction of insect pests by way of the port of Honolulu.

As older members of this society will recall, Doctor Perkins and Messrs. Kirkaldy and Terry were appointed to the Board of Agriculture and Forestry under an arrangement with and mostly at the expense of the Hawaiian Sugar Planters' Association, and under this agreement much of their time was devoted to the study of insect pests affecting sugar cane, and to the search for and the introduction of beneficial insects to combat such pests. Due to the then recent ravages of the sugar cane leaf-hopper in all cane-fields throughout the islands, the

task set these scientists was not without many difficulties, and it was deemed essential to the successful conduct of the campaign against sugar-cane pests that the Sugar Planters' Association should establish and control its own entomological division, separate and independent of the entomological division of the territorial Board of Agriculture and Forestry. Therefore, assuming the whole expense, the Hawaiian Sugar Planters' Association, with the official co-operation of the Board of Agriculture and Forestry, assigned Messrs. Koebele and Perkins to undertake a search abroad for some effective enemy to prey on the cane leaf-hopper. Messrs. Kirkaldy and Terry remained with the Board of Agriculture and Forestry until the reorganization of the Sugar Planters' Experiment Station was complete, after which the late Mr. Alexander Craw was appointed to the Board of Agriculture and Forestry, as entomologist, to fill the position of superintendent in place of Mr. Koebele.

During the latter part of 1904, the Sugar Planters concluded the reorganization of their experiment station, adding thereto a division of entomology, taking over as members of the staff the entomologists above named, with the exception of Mr. Craw, who remained as superintendent of entomology with the Board of Agriculture and Forestry, and Mr. Jacob Kotinsky, a later appointee, who acted as assistant on the staff of the board, both of these gentlemen confining their work, in the main, to the inspection of imported plants and other vegetable matter, and to entomological inspection work around the city of Honolulu. At the same time, Mr. O. H. Swezey was specially engaged to assist in breeding parasites and in plantation inspection work, and Mr. Frederick Muir was engaged to continue further foreign entomological exploration on much the same lines as had been followed by Messrs. Perkins and Koebele.

In the meantime, the federal government, through the Bureau of Agriculture at Washington, had already established an agricultural station for the purpose of experimenting with and aiding diversified agricultural industries other than sugar cane,

and on its staff was an entomologist, Mr. D. L. Van Dine, who rendered valuable assistance to the small farmer in coping with fruit insect pests, and in aiding the local health authorities in mosquito control by the introduction of the top-minnows now so abundant and widely spread in our ponds and marshes.

So it will be seen that there were three separate staffs of entomologists in Honolulu—the staff of the Federal Experiment Station, the staff of the Planters' Association, and the staff of the Board of Agriculture and Forestry. Under the circumstances, it would not be remarkable if a certain amount of duplicating or overlapping should occur in entomological work, with the prospect of considerable waste of energy and time in future research, and for that reason, and because of the general interest taken in Hawaii's indigenous insect fauna, and the insect fauna of other countries which might be closely allied thereto, it appeared advisable that a society of entomologists be formed for the purpose of interchanging views on entomological subjects, to promote and encourage friendly relations among all who might in any way be interested in this particular science, and to engender the spirit of co-operation and co-ordination, in so far as was possible, among all the workers in Hawaii; and in the forming of this society all of the scientists above named became prominent pioneers.

When the society was organized, in December, 1904, it was practically understood, as now, that insects already in the Territory, and those from foreign countries closely allied thereto, whether of a beneficial or an injurious nature, should constitute the dominant feature of papers and discussions presented, or made the subjects of consideration at meetings of the society.

There were fifteen members at the time of organization, namely, R. C. L. Perkins, G. W. Kirkaldy, F. W. Terry, J. Kotinsky, O. H. Swezey, A. Koebele, Alexander Craw, W. M. Giffard, W. A. Bryan, D. L. Van Dine, R. S. Hosmer, C. F. Eckart, C. J. Austin, Brother Matthias Newell, and Mrs. O. H. Swezey. Of this number eight were entomologists who were actively engaged in professional work in the Territory, while

the others were interested in entomological work or allied scientific pursuits. Subsequently, Brother Matthias Newell and A. Koebele were elected honorary members. In 1909 this honorary membership list was increased to five by the addition of Dr. R. C. L. Perkins, Dr. David Sharp, and the Rev. Thomas Blackburn. Mr. Blackburn had been identified with our indigenous insect fauna in previous years, having been a resident of Honolulu from 1876 to 1882, during which period, in his leisure hours, he devoted much time exploring the forest regions in the vicinity of Honolulu, collecting and studying endemic insects, and later describing many of these. This pioneer work of Mr. Blackburn later led to the systematic scientific exploration of these islands by Dr. R. C. L. Perkins, engaged for the purpose, and the publication of the "Fauna Hawaiiensis" by a joint committee appointed by the Royal Society of London, and the British Association for the Advancement of Science. The Bishop Museum, of Honolulu, also rendered valuable assistance in making the publication possible.

Dr. David Sharp, a noted British entomologist, also had done pioneer work in connection with our indigenous insect fauna, having published his first paper in connection therewith as far back as 1878, and had since then contributed and edited many very valuable papers included in the "Fauna Hawaiiensis".

Within a year of the organization of the Hawaiian Entomological Society, the membership had increased from fifteen to twenty, without any solicitation on the part of original members, and from time to time there have been additions, as, at times, there have been deaths and resignations, so that, at this time the society has a membership of twenty-nine, and a dozen members are actively engaged in various branches of entomology.

The first and many of the subsequent meetings of this society took place in the library of the Board of Agriculture and Forestry, and it was there that the small band of enthusiastic entomological workers gathered to discuss and complete

organization, laying the foundation of what has developed into an institution peculiarly serviceable and desirable for the interchange of views, for important discussions, and for the presentation of valuable entomological information, bearing on local matters as well as matters of foreign import but related to Hawaiian entomological interests, all of which has gradually perfected a spirit of harmonious co-operation and co-ordination along certain lines of systematic research and labor, which, otherwise, might never have been possible.

The Hawaiian Entomological Society is not only to be congratulated on the harmonious relations which have always existed among the active members, but it is to be most heartily congratulated because of the important and far-reaching results which have been achieved by many of the men who have been most actively engaged as members of this society.

Working in their official capacities, members of this society have, during the fifteen years of the organization, scored numerous entomological achievements of far-reaching economic importance. One of the principal reasons for so much entomological work having been undertaken may be found in the fact that the ravages of the hopper on sugar cane, from 1902 to 1904, called for strenuous and continuous action. One might say that the society owes its existence to the leaf-hopper. To this cause, and the fear of further introductions of insect pests, and the paramount necessity of inspection and the control of all importations of plants and other vegetable matter, must also be attributed the formal organization of the Board of Agriculture and Forestry and its various divisions, including that of entomology. The excellent results accomplished in the work of controlling the cane leaf-hopper by the practical use of its natural enemies are too well known by the members of this society, and others, to require any detailed review in an address of this nature. The immense monetary saving to the sugar plantations during 1905 and 1906, and in the years following, has won the appreciative acknowledgment of the

sugar planters, than which there could be no more eloquent testimony to the success of our entomologists.

In 1906 Mr. Muir undertook an exploration in search of a parasite on the sugar-cane borer. He discovered one in 1908, introducing it in Hawaii two years later. Such was the success in breeding and establishing this parasite that the cane-borer pest has decreased to a very considerable extent, the sugar yield on affected plantations greatly increasing, and the losses, which for years had been large, have been minimized. Practically the same procedure was observed with reference to the *Anomala* beetle, which was affecting some Oahu plantations, the importation of a predatory wasp having so far controlled the situation.

There are many other achievements in economic entomology in which prominent active members of our society might be mentioned. There are the introductions, by Professor F. Sylvestri, D. T. Fullaway and J. C. Bridwell, of fruit-fly parasites from Africa and India. In 1913 it was very difficult to secure Hawaiian-grown fruit and cucurbits that were not affected by the fruit-fly, but now we are enabled to enjoy a good percentage of these. Mr. H. T. Osborn discovered a parasite on the corn leaf-hopper, in the Philippines, which was introduced into Hawaii and bred and distributed by D. T. Fullaway. This pest is now being very effectively reduced. Many parasites on scale and other insect pests affecting agriculture and horticulture have been searched for, discovered, and introduced into Hawaii by many members of our society in their several official capacities. Many of these beneficial insects have proven of appreciable value to the Territory as a whole.

In a general way the society has derived much benefit from the work of all our active members and has frequently enjoyed the advantage of many valuable papers and observations contributed by them from time to time. These papers have been, in most part, on subjects of our endemic insect fauna, and quite naturally so, as the studies and life histories

of the native insects of Hawaii have to most of our members formed a great part of their relaxation from the duties of official routine, and in addition thereto are one of the chief purposes of the organization of our society.

Thus it will be seen that during the past fifteen years our members, while engaged in their official duties, or otherwise, have performed notable work and have accomplished results that reflect great credit to themselves, to the society, and to the organizations by which they are employed. These islands, and the organizations involved, have been and are now fortunate in having such efficient workers.

It would be impossible to estimate the full measure of good, to our members and to entomology in Hawaii, that has grown out of the friendly co-operation, the earnest fraternizing for discussion and consultation, and, occasionally, the enthusiastic parties made up for excursions into the forests in quest of specimens of native insect life. Much of this is welcome relaxation from the often tiresome routine of daily official duties. In this manner our society has contributed toward the very friendly feeling, one for another, that characterizes its membership.

A few statistics will assist in conveying some idea of what the society has been doing. Since the time of its organization, fifteen years ago, 171 regular meetings have been held, and, up to the end of 1918, members have contributed 221 technical papers, covering 1113 printed pages, dealing altogether or in part with allied Hawaiian and foreign entomological subjects. These are to be found in the volumes of the society's proceedings. We are now entering upon the publication of the second part of Volume IV, the volumes as a whole having covered 1262 pages of print, exclusive of the illustrations.

It is also interesting to note, in this connection, that our association is the only entomological society this side of the Rocky Mountains that regularly publishes proceedings and descriptive matter.

Four of our most respected and most active members have



passed away from mortal associations, but their work remains. Their valuable contributions of papers to this organization remain as monuments to their memory. Though departed from these visible fields of research in which we labor, their services to the enrichment of science will ever be of benefit to those engaged in entomological study, and their accomplishments will remain fresh not only in the minds of those who worked here with them, and in the thoughts of their associates, but they will also shine in the annals of scientific history. I refer to Messrs. Kirkaldy, Terry, Craw and Blackburn.

For the past few years ill-health has deprived us of the presence of Doctor Perkins, whose knowledge of Hawaii's indigenous insect fauna was of paramount assistance to many of our members specializing along this line. Albert Koebele has also been obliged to leave us because of failing health, and his genial presence and hearty co-operation have been greatly missed.

In concluding this address, I feel moved to say a word concerning the future. If we may build our expectations of what is to come, on our experiences and accomplishments of the fifteen years of our progressive existence as an organization, we may go forward with confidence and every encouragement. But we must not forget that, in order to maintain our good record, and in order to attain to still greater achievements, we must never lose sight of the chief essential to the success of any society, and that is earnest co-operation. For example, all duplication and over-lapping of work among the members should be carefully avoided. Sometimes this cannot be helped, but if we agree among ourselves that the families or groups of insects to be studied shall not be taken up by two men at the same time, we shall save much valuable time, energy and patience.

I would like to suggest that more illustrations or figures accompany the papers contributed to this society. Not so many, of course, as would make it financially impossible to publish them all, but enough to facilitate the reader's ready

grasp of the subject-matter. A timely figure frequently conveys to some minds at a glance what would require several minutes to be conveyed by means of words. Also, let us remember to continue to assist one another with material for study, whenever opportunity offers. Constantly one is coming across material for which one may not have immediate use, but which may prove most welcome to some other who has, perhaps, been looking for that very material.

It was but a generation ago that very little scientific ambition was exhibited in the agricultural world, but once curiosity and enthusiasm were aroused by pioneers in research work, and it gradually came to be realized that vast fortunes could be saved through the development and application of knowledge, economic entomology began to take long strides, until, when the Hawaiian Entomological Society was organized, this science was beginning to surprise the world with its successive wonders, and, as already intimated, Hawaii, since her needs were urgent and her promoters were men of resource and imagination, welcomed the immense benefit, sparing neither time nor expense to free herself of insect pests.

At this point it is not inappropriate to remark that the financial assistance of the Hawaiian Sugar Planters' Association has played no small part in the success of our society, a fact that is thoroughly appreciated by this organization, and the Planters' Association, I am sure, has our most sincere thanks.

There is an immense interest in economic entomology in these busy days of rapid scientific advancement along all lines of human endeavor. Hawaii will do her part in the future, as she has done her part in the past. The world is forging ahead, and, at the same time, impatiently clamoring for solutions to a host of problems—social, economic and industrial. As marvellous as have been achievements in the realm of economic entomology, still greater problems invite solution, and already we may be on the threshold of some startling discoveries. Trained intellects are today more in demand than ever before.

and I am sure you will agree with me when I say that truly effective entomological work demands minds very carefully prepared along particular lines. Yes, there are greater developments close ahead of all workers in entomology, and, without bragging for the Hawaiian Entomological Society, I feel confident that Hawaii will continue to maintain her most creditable position in the scientific race, and that her entomologists will not fail to secure their share of the honors in whatever advancement is recorded.

There are still many entomological problems of importance facing Hawaii today which can only be solved by the most careful study and patient scientific research. The purpose of this address is not to go into detail as to such problems, but they are well known to our most active members. It suffices to say that the solution of one or more of any of these by our entomologists cannot but bring additional credit to them, to the Society and benefit to the Territory. The Society also continues to feel the necessity of further research and biological work in connection with our endemic insect fauna, and whilst considerable has been done on these lines in past years by our members, there still remains much left undone and a part of which it is hoped will be undertaken in the near future.

I very much regret that I have been prevented by illness, and by absence from the Territory, from presiding more often at our meetings during the past year, and I want to take this opportunity to express my thanks to Vice-President D. L. Crawford for taking my place and assuming the duties of the office, whenever it was necessary during that period. These same circumstances have compelled me to very hurriedly and, perhaps, somewhat disconnectedly, deal with the present subject as the presidential address for the year, and I therefore ask the kind indulgence of the members because of any important omissions I may have made.