

## MINUTES OF THE SEVENTH ANNUAL MEETING OF THE PACIFIC SLOPE SECTION OF THE LEPIDOPTERISTS' SOCIETY

The meeting was called to order at 10 A.M., 27 Aug. 1960, by Dr. J. W. TILDEN who presided at the opening session. Excellent facilities were provided in the Morrison Auditorium of the California Academy of Sciences in Golden Gate Park, San Francisco. FRED THORNE was elected Secretary-Treasurer *pro tem*. C. DON MACNEILL extended a cordial welcome on behalf of the California Academy of Sciences.

Dr. WALTER FORSTER, President of the Lepidopterists' Society, expressed his pleasure in being able to attend in person. His Presidential Message on the butterfly fauna of the Andean Cordillera appeared in the previous issue of the *Journal*.

The first invitational paper was presented by Dr. THOMAS F. LEIGH who told of basic field research for the University of California on the activities of *Colias eurytheme philodice* in response to physical environment. Flight occurs when body temperatures range from 70°F. to 95°F. as determined by thermocouples inserted through the anal end into the body. Air temperature, solar radiant energy, light intensity and relative humidity were all shown to influence field behavior of the butterflies. This interesting study was well conceived, using good instrumentation, and the results were ably presented with the help of colored slides and charts.

GEORGE T. OKUMURA, systematic entomologist with the California Bureau of Entomology, explained why specific determination of lepidopterous larvæ is essential in control programs. With a series of excellent diagrams he showed those particular morphological characters which are used to separate a number of families of Microlepidoptera, and those which can be used in distinguishing between closely related larvæ which infest fruit trees in California. He pointed out that the study of immature stages of Lepidoptera has attracted only a few serious students despite the usefulness of this information to economic entomologists and systematists, and urged greater interest in this work.

PAUL OPLER reported on a novel collecting arrangement with KEITH HUGHES and RAY STANFORD, who worked as a team. By covering different areas of the state and dividing the catch during the 1959 and 1960 seasons, these three collectors obtained some 90% of the species recorded from California. A chronological record of areas visited and species taken was given, with precise locality records for choice species. A fascinating commentary on how to select collecting areas brought

forth interesting discussion from the members present. There was agreement that liberal sharing of collecting information is most advantageous to all.

ELTON SETTE discussed the work that he and others have done on the various taxa in the genus *Mitoura* in southwestern United States. Efforts to find where *M. loki* and *M. siva juniperaria* may overlap have been fruitless thus far. *M. nelsoni mui* appears to replace the *siva* moiety in similar ecological situations in central California. A fine series of colored slides showed distribution, habitats and examples of the taxons under discussion. This stimulating talk resulted from careful observations and data secured on numerous field trips and points up the large amount of field work which may be necessary for future taxonomic studies.

STANLEY JEWETT JR. offered some preliminary ideas on the challenging genus *Euphydryas*. The *anicia*, *editha* and *chalcona* groups present the greatest difficulties, and this point was well presented and illustrated by colored slides. He pointed out that the problems cannot be fully appreciated unless the marked changes in habitats within short distances in the west are appreciated. Now that he has completed certain taxonomic work on the stoneflies, Mr. JEWETT plans to undertake extensive studies of this perplexing group.

The balance of the afternoon was spent in examining the extensive collections of Lepidoptera in the California Academy of Sciences entomology rooms. Mr. MACNEILL assisted members in finding any material of special interest to them.

A large group of members and their wives met for the annual banquet in one of the colorful restaurants in Chinatown, where everyone enjoyed this novel evening in exotic surroundings.

The program on the following day opened with the business meeting with Mr. SETTE presiding. Resolutions were passed thanking Dr. FORSTER for his attendance and the Program Chairman and his committee for an excellent program. The secretary was instructed to send letters of appreciation to Mr. W. LEVI PHILLIPS for his kind donation of the printed programs; to the California Academy of Sciences for the fine facilities provided; and to those whose papers were presented *in absentia*.

A suggestion that western meetings be held alternately in southern and northern California was well received. It was further suggested that an informal headquarters, where members and their families could gather during the meetings, might be designated by the local arrangements chairman. After lengthy discussion the Natural History Museum in Santa Barbara was selected for the meeting place in 1961 on August

26 and 27. The secretary was instructed to send a letter of appreciation to the San Diego Society of Natural History Museum for their cordial invitation extended by Mr. HARBISON, to hold the 1961 meeting there. Mr. LLOYD MARTIN was unanimously elected as Program Chairman, and NELSON BAKER, Chairman of Local Arrangements.

A resolution was adopted unanimously that each person who participated in the program should furnish a brief summary of his paper to the secretary for inclusion in the minutes. The question of whether proceedings of the meeting should be published was discussed, but no action was taken, nor did any action result from a discussion about requesting that the annual meeting of the Lepidopterists' Society be held in the western area. A motion that ways and means be studied to increase the income of the Society through creation of a patron class of membership, rather than increasing dues, was passed, and the secretary was instructed to communicate with appropriate persons on this subject.

LLOYD MARTIN gave the first paper of the day on the noctuid genus *Acontia*. Species in this interesting genus of moths cannot be separated reliably on the basis of color or maculation, but the value of the genitalia for specific determination was shown in a series of remarkable slides. Besides giving a comprehensive report on the North American *Acontia*, Mr. MARTIN also explained some of the techniques used in making genital slides and photographing these.

Dr. WILLIAM HOVANITZ gave a preliminary report on some unusual studies where species of pierids were raised on food plants normally more favored by other members of the genus. Within a few generations initial mortalities in the range of 95% were reduced to 5%, showing rapid accommodation to host plants not normally accepted in nature. Several facets of this significant work were discussed.

Dr. WALTER FORSTER presided at the afternoon session which began with the reading by Dr. TILDEN of a paper prepared by Dr. E. L. TODD of the U. S. Department of Agriculture, Washington, D. C., on moths of the genus *Gonodonta*. These are economically important because of the unusual ability of the adults to pierce the skin of fruits, resulting in rapid decay. While most *Gonodonta* are Mexican, four species occur in Florida and two in Texas, one of which ranges to California. In addition to preparing this fine paper, Dr. TODD was also kind enough to furnish copies of his bulletin on this genus for distribution to members.

JERRY POWELL presented the final paper of the meeting on the bionomics of California Tortricinae. He gave a careful account of classification, seasonal life histories, food preferences, behavior, and other information on members of this subfamily which is represented by about 54 species

in the state. A series of excellent slides was used to show life histories, and other aspects of this economically significant group.

The meeting adjourned in late afternoon with Dr. FORSTER expressing appreciation to those who had participated in the program. Dr. TILDEN voiced the gratitude of the group to Dr. FORSTER for his attendance and participation in the meeting.

The following members were present:

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|-----------------|---------------------|-----------------|
| ROBERT ANDERSON | CHARLES HARBISON    | JOHN MONTGOMERY |
| WILLIAM BAUER   | RICHARD HART        | PAUL OPLER      |
| JOHN BUCKETT    | WILLIAM HOVANITZ    | DARRELL OWEN    |
| JOHN BURNS      | STANLEY JEWETT, JR. | JERRY POWELL    |
| THOMAS DAVIES   | NOEL LADUE          | ELTON SETTE     |
| J. R. EYER      | ROBERT LANGSTON     | JAMES SHIELDS   |
| WALTER FORSTER  | DON MACNEILL        | FRED THORNE     |
| WILLIAM HAMMER  | LLOYD MARTIN        | J. W. TILDEN    |

There were fifteen guests.

Respectfully submitted,  
FRED THORNE  
Secretary-Treasurer *pro tem.*

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#### POWELL COLLECTION

The California Insect Survey of the Department of Entomology and Parasitology, University of California, Berkeley, is now in the process of accessioning the JERRY A. POWELL insect collection, consisting of about 33,200 specimens. The collection, accumulated during the years 1946-1960, is primarily Lepidoptera, containing over 14,000 pinned and over 4,000 papered specimens of this group, in addition to some 1400 preserved larvæ associated with rearing data. It is particularly rich in California Microlepidoptera and butterflies and includes paratypes of nearly all species described by POWELL, as well as the material basis for papers published on Baja California Norte Lepidoptera.