

MINUTES OF THE FOURTH PACIFIC SLOPE MEETINGS
OF THE LEPIDOPTERISTS' SOCIETY, 3 AND 4 AUGUST 1957

The meetings were held Saturday, August 3, and Sunday, August 4, 1957 at the Santa Barbara Museum of Natural History, Santa Barbara, Calif., U. S. A. Through arrangements generously made by NELSON W. BAKER, curator of the museum, an adequate room in the library wing was available for the meetings both days.

On August 3, the time from 9:30 to 11:00 a.m. was spent in registration of members and guests, with an ensuing get acquainted period. The actual meetings were called to order by Dr. J. W. TILDEN at 11:25. The first order of business was to elect a secretary-treasurer. FRED T. THORNE nominated ROBERT L. LANGSTON, who was elected unanimously. With this business quickly accomplished, Dr. TILDEN informally welcomed the members and guests and introduced the first speaker. Dr. ARTHUR S. COGGESHALL, Director of the Museum, gave a brief history of the Santa Barbara Museum of Natural History. From very humble beginnings, the museum has grown considerably, due in part, to gifts of close to \$2 million from Major FLEISCHMANN. With only one staff member up to a few years ago, the museum at present has 16 staff members, many new natural history displays, with the latest addition being a planetarium. Dr. ALEXANDER B. KLOTS, American Museum of Natural History, New York, was unable to attend, the Presidential Address being read by Mr. THORNE. The acceptance was made by Dr. TILDEN, Member, Executive Council.

Various arrangements and announcements were made at this time. Arrangements had been made by Mr. BAKER for the use of the Gold Room of the El Paseo Restaurant in downtown Santa Barbara for the dinner-banquet, with movies and an informal get-together to follow. LLOYD M. MARTIN briefly read a letter from Dr. J. A. COMSTOCK, who was in Jalisco, Mexico. At the time of arriving the area had almost continuous rain at night, and he hadn't really started collecting in earnest yet.

The meetings were adjourned to outside, where a series of group pictures were taken by Mr. and Mrs. FRANK P. SALA. This was followed by a buffet luncheon in the Junior Library, served by members of the staff of the Santa Barbara Museum.

At 2 p.m. the meetings were called to order by Dr. TILDEN. A symposium on the Origins and Distribution Patterns of Western Lepidoptera was held, with Dr. WILLIAM HOVANITZ as the moderator. Dr. HOVANITZ led the discussion with a talk on "Significant Phenomena Indicating Origins and Distribution Patterns." He stated that one cannot go back to paleontological records on insects. However, by morphology it is possible to go back to origins in terms of present distributional patterns. Hybridization often occurs where new populations have come in from different directions. The presentation included graphs projected on the screen, showing how latitude and elevation correlated with the distribution of numerous representative species from the following families: Papilionidæ, Pieridæ, Danaidæ, Satyridæ, Nymphalidæ, Riodinidæ and Lycaenidæ. A lively discussion followed about north-south, worldwide and circumpolar distributions.

"Ranges of the Genera in the Hesperiidæ" was the next subject, given by Dr. J. W. TILDEN. He gave a resumé of the morphology and biology of the immature stages. Taxonomically the adults are in the Rhopalocera, but the early stages are more similar to moths than to other butterflies. The larvæ are similar to certain Microlepidoptera, and some pupæ similar to certain Geometridæ. The family Megathymidæ appears to have no close relatives in either the moths or butterflies. Among the skippers, *Erynnis* and *Hesperia* are the largest and most confused genera in the U. S.

A short break was taken at 4 p.m., followed by Dr. R. H. T. MATTONI who spoke on "Polymorphism in *Leptarcia californiae*." It was stated that environmental variations in many cases parallel genic variations. There are quantitative variations which are heritable and are under genic control. Separate species generally build up large quantities of gene difference, a factor which makes it difficult to breed different species.

With qualitative variations a few genes make striking changes. A good example is *Leparctia californica*. A series of colored slides were shown of this and other species.

"Life History Observations of *Euphydryas editha bayensis*" by Dr. J. W. TILDEN was the final paper of the day. The suspected plantain food plant was confirmed, although the experiment included many other plants from the Bay Area of Northern California. Other aspects of the life history were worked out, including the fact that the larvae pass the winter in the third instar. Additional comments were given by FRED T. THORNE on *Euphydryas editha wrightii* which occurs in San Diego County and sparingly in parts of Riverside and Orange Counties. At 5:20 p.m. the meetings were adjourned for the day.

Members and guests met for dinner at the Gold Room of the El Paseo. Dinner was followed by movies of the Los Angeles County Museum Brazilian Expedition. Among the ornithologists, mammalogists, etc., it also featured Dr. FRED TRUXAL, curator of Entomology at the museum.

On August 4, the meeting was called to order at 10:15 a.m. by LLOYD M. MARTIN. A paper titled "The Value of the First Instar Larva in the Taxonomy of Lepidoptera" by CHARLES L. HOGUE of U.C.L.A., was read *in absentia* by Dr. MATTONI. The paper dealt with embryology, phylogeny and morphology. It was shown that the first instar larva is best to correlate with phylogeny. Each successive instar becomes more specialized. Conversely, the degree of similarity is much greater in the embryos of many species.

The business meeting was conducted at 10:30 a.m., with PADDY MCHENRY officiating. A motion was made for suggestions for a meeting place next year. Because of the successes in this and the previous meeting, the general preference was again for Santa Barbara. It was emphasized that this did not mean that it would be a permanent procedure to have it in the same place. A show of hands indicated a preference for the latter part of August. It was moved by Dr. HOVANITZ, and duly seconded, that the Fifth Pacific Slope Meetings of the Lepidopterists' Society be at the Santa Barbara Museum the last weekend in August.

Mr. THORNE had a surplus of \$20.50 from last year's registration fees, as the printer of the programs, W. LEVI PHILLIPS, donated their cost to the Society. ROBERT LANGSTON, secretary-treasurer, disclosed that another \$20 had been received from registration at the current meetings. It was suggested by FRANK SALA that the money be turned over to the Santa Barbara Museum as a contribution, considering the availability of their facilities, luncheons, etc. However, NELSON BAKER preferred that the money be deposited to the account of the society to cover future needs (printed programs, postage, reservations of banquet rooms and other arrangements). Mr. BAKER was appointed treasurer, and was put in charge of arrangements, as it had already been decided to hold the 1958 meetings in Santa Barbara.

A discussion followed on the field trip to southeastern Arizona that was proposed last year. The general consensus at this time was that the Arizona field trip would be cancelled, as there were too many of the members that would not be able to attend.

It was moved, seconded, and passed that the Santa Barbara Museum of Natural History be thanked formally by the Society for its wonderful hospitality. It was recommended that Mr. LANGSTON, as Secretary, send letters of thanks to Dr. ARTHUR S. COGGESHALL, Director of the Museum, and to NELSON W. BAKER, curator. Nominations were opened for Program Chairman for 1958. R. H. T. MATTONI was nominated and elected.

PADDY MCHENRY was nominated by FRED THORNE to take care of the correspondence in constitutional matters. A motion by LLOYD MARTIN was passed that FRED THORNE take over the resolutions and the suggestions in the lively discussion that followed. The following resolutions are hereby brought up before the Society:

Whereas this Fifth Meeting of the Western Group marks a modest achievement and

Whereas the results of these meetings have been both beneficial and rewarding to those who have attended and

Whereas these meetings could not have been held without the Lepidopterists' Society

Therefore be it resolved that we extend our thanks to those men of foresight who organized the Lepidopterists' Society, and to those men whose diligence has brought it to a state of eminence in its field.

And be it further resolved that we recommend to the members of the Society in other areas their consideration of the benefits which arise from regional meetings.

The business meeting was duly closed at 11:30 a.m.

The next subject was "Insect Photography Methods and Equipment" by ALFRED RENFRO of Santa Barbara. He showed a series of slides that were taken in series showing life cycles from egg to adults, and demonstrated some of his equipment — Exakta camera, tripods and other tricks of the trade. Shortly after noon the meetings were adjourned for a group luncheon at the El Paseo.

The afternoon session was called to order at 1:50 p.m. by LLOYD M. MARTIN, at which time he went right into his talk on "Use of Black Lights in Collecting." He started with a brief dissertation on light collecting as noted in the literature, with mention of street lights, gas and Coleman lanterns. He stated that "black light" is actually a true ultra-violet, and is a method that can give fabulous results. The equipment can be secured commercially, and consists of a tube similar to a fluorescent tube with starter, transformer, etc. One 15 inch tube is equal to about 5 Coleman lanterns — not in total illumination, but in moth attracting capacity. An important disadvantage is that the moths come in so fast, and are more jumpy and harder to catch. A gray sheet might be better than white, as it is thought that the moths will come in slower with not so much reflection. In most moths the response is to light in the ultra-violet range, but there are several zones of response. Ultra-violet is also very attractive to Coleoptera.

"Notes on Daily Periodicity of Moth Flight" was given by JERRY POWELL, in which he mentioned that some of the variables were minimum temperatures, moonlight, and the quality, intensity and location of the light source within an area. The main topic was time of night that certain species fly. In general, Noctuidæ fly late into the night. With some species of Tortricidæ the flight peak is shortly before dawn. However, within each family there are exceptions, with some flying early and others late.

Colored slides illustrated the subject of "Insect Diapause" as given by FRANK P. SALA. Diapause in Lepidoptera occurs in the egg, prepupa, pupa and all except one larval instar. Diapause in the fourth larval instar was not known to the speaker. All the other phases of diapause were illustrated with examples of each. The terms diapause, aestivation, hibernation and overwintering were treated, these being correlated in time with seasonal phases.

Before adjournment, Mr. THORNE suggested that as many as possible become Sustaining Members of the Society. With no more old or new business, the meeting was adjourned at 4:00 p.m.

The following members registered for the meetings:

R. ANDERSON, N. W. BAKER, C. HARBISON, W. HOVANITZ, C. W. KIRKWOOD, R. L. LANGSTON, R. LEUSCHNER, L. M. MARTIN, R. H. T. MATTONI, P. MCHENRY, W. D. OWEN, W. PATTERSON, J. A. POWELL, W. A. REES, R. H. REID, F. P. SALA, J. C. SPENCER, F. T. THORNE, J. W. TILDEN and W. L. WHEATON.

Guests attending all or part of the meetings on the two days included:

Dr. A. S. COGGESHALL, Dr. D. DAVENPORT, RICHARD FALL, RICHARD HART, Mrs. HOVANITZ, Mrs. LANGSTON, Mrs. LEUSCHNER, CHARLES LOGUE, Mrs. MATTONI, Mrs. POWELL, ALFRED RENFRO, Mrs. SALA, Dr. SMYTHE, BOB TAYLOR and RUSS YOEMANS.

Respectfully submitted,
ROBERT L. LANGSTON,
Secretary *pro tem*.