LEPIDOPTEROFAUNA DE GUERRERO I: DISTRIBUCION Y FENOLOGIA DE LOS PAPILIONOIDEA DE LA SIERRA DE ATOYAC,

by Isabel Vargas Hernandez, Jorge E. Llorente Bousquets, and Moises Armando Luis Martinez.

1991. Publicaciones Especiales del Museo de Zoologia No. 2. Museo de Zoologia, Facultad de Ciencias, Universidad Nacional Autonoma de Mexico, Apartado Postal 70-399, Ciudad Universitaria, Mexico D.F., 04510, Mexico. 127 pp., softcover (21.3 x 27.3 cm).

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1991. Publicaciones Especiales del Museo de Zoologia No. 3. Museo de Zoologia, Facultad de Ciencias, Universidad Nacional Autonoma de Mexico, Apartado Postal 70-399, Ciudad Universitaria, Mexico D.F., 04510, Mexico. 119 pp., softcover (21.3 x 27.3 cm).

These two exciting recent publications on the lepidopteran fauna of two important states in Mexico will be reviewed together because of their similarity of approach, general subject matter, and the identical authorship. Jorge Llorente and his associates have provided an invaluable service to students of butterfly zoogeography and biodiversity studies with the publication of these two monographic studies. Llorente is already well known to students of tropical Lepidoptera through a series of important papers on new taxa, conservation biology, and biogeography of Dismorphiinae and other butterfly groups during the past decade. Now he and his associates, Isabel Vargas Hernandez and Moises Armando Luis Martinez, have provided an invaluable compendium of faunal knowledge and analysis in these two special publications of the Museum of Zoology at the Universidad Nacional Autonoma de Mexico.

In their analytical treatment of the distribution and phenology of the butterfly fauna of the Sierra de Atoyac in the state of Guerrero, the authors looked at an altitudinal gradient from 300 to 2,450 meters above sea level, with vegetation along this transect ranging from tropical forest in the lowlands to pine and oak forest at the top. They obtained a list of some 339 species in four families (Papilionidae, Pieridae, Nymphalidae, and Lycaenidae) of the superfamily Papilionoidea. Some 47 of these species represented new records for the state. The authors of this Guerrero monograph analyze the dietary preferences of the adults as well as the larvae of the 300-plus species, and give very detailed analysis of the seasonal distribution of each species. Trapping with bait traps was remarkably successful with 91 of the species, 8 of which were caught exclusively with that method. The best time for bait-trapping was from July to November. The work is entirely in Spanish and contains the following sections: geographical generalities about the study area (including biogeographic details, geology and topography, hydrology, edaphic features, climate and vegetation), materials and methods, and very extensive results and discussion sections, including lists of the species and their abundance, the larval foodplants, the use of the Van Someren-Rydon trap (with excrement and decomposing fruit as baits), altitudinal distribution, distribution by vegetational types, analysis of the various taxonomic groups at different altitudes, seasonal changes versus altitude, lists of species and their relative abundance, and a very short discussion on endemism, biogeography, and conservation. Included in the appendices are a list of the butterflies of the state of Guerrero and their distribution, summarizing records from major museums in Mexico and the United States.

The other volume included in the present review, analyzes the distribution and phenology of the true butterflies in the Sierra de Juarez of the state of Oaxaca. It is equal to the Guerrero book as a fascinating compendium of ecological data and biogeographic information. In the Sierra de Juarez mountain range, the authors studied an altitudinal transect between 100 and 2,800m above sea level, with vegetation ranging from a tall canopy perennial forest (at 100 to 700m elevation) up to pine and oak forest at the highest elevations (2,450-2,800m). On this transect they obtained a list consisting of 452 species in the four families of the superfamily Papilionoidea. Some 41 species were newly recorded for this mountain range, and 34 were sighted for the first time in the state of Oaxaca. In an analysis of the available literature and review of major collections, the authors found that the Sierra de Juarez is one of the most diverse areas of both the state of Oaxaca and the country of Mexico for butterflies. In this mountain range are represented some 59.1% of the species listed for Mexico, and 78.2% of those listed for the state of Oaxaca. As in their study mentioned above, species diversity fell off with increasing altitude. However, the *ecotone* between the mesophylic forest and the lowland perennial forest was the richest site in the Sierra, with 301 species. Again, the authors analyze in great detail the butterfly species and their altitudinal distribution in this mountain range, looking also at the distribution of types of vegetation, edpahic factors, climatic factors, and local geology. Many fine graphic illustrations present the details of their findings in a clear and understandable form. The first appendix to this present work includes a list of all the butterflies of the state of Oaxaca and their distribution, again, an invaluable feature to lepidopterists who want to know more about this incredibly rich country of Mexico.

These two works represent investigations that are part of a project by the science faculty at the Museo de Zoologia at UNAM, entitled "Insular Biogeography of the Fauna of the Humid Mountains of Mexico." The collections made as part of this study are being used for taxonomic and geographic analysis of the montane and submontane areas that contain mesic forest. The study of the biota of these mountain zones has great biogeographic importance because of the high number of endemic taxa that are encountered there among the plants and animals. Thus these two monographic works represent very important contributions to the biogeography of Mexico, and to our understanding of how tropical butterflies have evolved and dispersed to reach their present levels of diversity and endemism.

Studies such as these led by the biologists at the Museo de Zoologia are of crucial importance to conservation ecologists and others concerned with the preservation of good samples of our remaining world butterfly biota. Tropical lepidopterists with any interest at all in Mexico or in the biogeography and ecology of tropical Lepidoptera will want to secure these two publications as soon as possible. (I should note that each edition carries a notice on the back page as to its publication date and the number of copies. Special Publication No. 2 had 250 copies published in May 1991, and Special Publication No. 3 had 300 copies published in June 1991. Thus, prompt action to write the Museum with a request would be recommended for anyone interested in securing copies for their professional libraries.)

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