



Basic Pattern of Lepidoptera Diversity in Southwestern Africa

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BASIC PATTERN OF LEPIDOPTERA DIVERSITY IN SOUTHWESTERN AFRICA by Wolfram Mey. 316 pages, ca. 270 line drawings, 25 black and white plates of genitalia photographs, 15 color plates of adult moths. Esperiana, Buchreihe zur Entomologie, Memoir 6, series editor Hermann H. Hacker, ISBN 3-938249-02-4. Hardbound. Copies of Esperiana can be ordered from the homepage at www.esperiana.net. 125 Euro (~ \$164). Publication date: December 2011.

The Ethiopian Region has seldom received the attention it deserves in most areas of Lepidoptera, particularly in the more primitive, usually smaller species generally referred to as Microlepidoptera. This lack of attention, of course, is largely due to the paucity of researchers focused on this enormous region. The pioneering works by A. J. T. Janse over many years on the South African Lepidoptera and the more recent Catalogue of the Lepidoptera of southern Africa (Vari, et al 2002) have provided valuable introductions to this fauna. The latest effort to increase our knowledge of the Ethiopian Region was initiated by Wolfram Mey of the Museum für Naturkunde, Humboldt Universität, Berlin, Germany, and several collaborators with a multiyear entomological survey of one of the most poorly known areas of southwestern Africa, a largely arid and semiarid region between Angola and Capetown. The high endemism of Lepidoptera in this area reflects the unique vegetation present in the Desert, Nama Karoo, Succulent Karoo, Fynbos, and dry Savanna biomes. Prior to this survey, Mey and his colleagues had focused on the Lepidoptera of the Brandberg Massif in Namibia (Mey 2004, 2007, Davis 2008).

For several years a major biological survey of southwestern Africa, involving cooperating institutions from Germany, Namibia, and South Africa, has been the focus of the German BIOTA [an acronym for Biological Transect Analysis] of South Africa Project. The primary purpose of the project was to investigate the relationship between different land use systems and biodiversity. With the publication of a three volume monograph, "Biodiversity in southern Africa", the initial phase of the project was completed. However, the taxonomic results from this major survey were excluded from the series. Consequently, efforts are now being conducted to complete this portion of the study, with the present volume representing a first step toward this goal.

Memoir 6 on the basic patterns of Lepidoptera diversity is divided into eight sections, including a brief introduction and a final section of references. Section 2 on Materials and Methods summarizes the 109 collecting sites (Table B), accompanied by a map showing these locations extending

along the northern border of Namibia south to Capetown. Section 3 on the Study Area provides climatic and topographic details of the area as well for the entire African continent. Section 4 treats the Lepidoptera diversity from the light trap samples representing 36 localities included in Table B of Section 2. Numerous tables are included which list the species by family for each locality as well as a list of the most common species encountered. Enumeration of the tables in this section is according to the locality number listed in Table B from Section 2. Each of the 36 localities is typified by 1-2 unlabeled color photographs. Although butterflies were not one of the target groups of this survey over the last few years, Section 5 includes a summation of the faunistic data for about 100 species of butterflies gathered from irregular collecting efforts over southwestern Africa. Tables are provided which lists the species and their collection data. Section 6 discusses the basic pattern of Lepidoptera diversity in southwestern Africa. Tables are also included here to help summarize species diversity according to annual rainfall and/or the five biomes surveyed. Attention is also given to relative host specificity according to plant biomes. Finally, Section 7 discusses the "New and little known species of Lepidoptera of southwestern Africa". The great majority of those species described within the 28 families treated represent new taxa (118) of mostly Microlepidoptera. One of the most interesting discoveries reported was that of the first African record for the small, homoneurous family Acanthopteroctetidae, a primitive family previously known only from North America, Peru, and the Crimea. Approximately 270 line drawings, 25 half tone plates of genitalia illustrations, and 15 colored plates of adults supplement the species descriptions in this section.

From his thorough review of current and previous work in southwest Africa, the author of this volume has established an excellent foundation for future reports on the Lepidoptera fauna of this interesting region. We look forward to seeing the continuation of this series and the new discoveries resulting from these surveys.

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