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CARTOGRAPHIE DES RHOPALOCERA DE LA RÉGION AFROTROPICALE (INSECTA LEPIDOPTERA) I. PAPILIONIDAE, by Guy Mathot. 1990. Privately published (in French). Distributed by Guy Mathot, Pied Noir 7, Namur B5000, Belgium. 104 pp., 166 figs., 86 distribution maps. Soft cover, 21 × 30 cm, no ISBN number, \$49.00 U.S. (postpaid).

This is the first atlas in a planned series on the distribution of butterflies of the Afrotropical zone (=Africa south of the Sahara to the Cape of Good Hope and including Ahaggar, Air, Tibesti, Yemen, Aden, Oman, Madagascar, and many of the smaller islands off the African mainland). It treats 86 species of Papilionidae in all. A second atlas covering 157 species of *Charaxes* is in press, and Pieridae and Nymphalidae (in part) are in preparation.

Each papilionid species has its distribution represented by individual dots denoting specific localities plotted onto a standard base map of the region with country outlines and major rivers. Although each dot encompasses 7500 km², the method is highly commendable for its accuracy, precision, and uniformity, qualities all too often lacking in zoogeographic studies of this scale. Distributions were compiled selectively from the rich collection of the Musée Royal de l'Afrique Centrale (Tervuren, Belgium), by consultation with, and publications from, the National Museum (Paris) and The Natural History Museum (London), and from information supplied by R. H. Carcasson, E. C. G. Pinhey, G. Van Son, and others from African institutions. The resulting 86 maps are thus provisional, but eliminate many published errors (such as *Graphium kirbyi* Hewitson of "Lagos," *G. leonidas* Fabricius of "Cape Horn," etc.). The distributions given here largely represent the current state of knowledge.

A number of taxonomic changes are proposed, such as including *Graphium pelopidas* Oberthur in *G. leonidas*, *Papilio teita* van Someren in *P. desmondi* van Someren (= *P. magdae* Gifford), and *P. chitonensis* de Sousa in *P. bromius* Doubleday, etc. *Papilio interjecta* (recte *interjectus*) van Someren and *P. horribilis* Butler are accepted as true species. *Druryia* and *Iterus* are given subgeneric status, and Hancock's resurrection of the genus *Princeps* is not accepted. For the most part, subspeciation is not delimited, although *Graphium pylades* Fabricius is tacitly considered a subspecies of *G. angolanus* Goeze.

The three-page Introduction also discusses methods and taxonomy of the forthcoming *Charaxes* atlas and briefly documents range expansions, contractions, and extinctions of key indicator species of papilionids and *Charaxes* of the great equatorial forest which, sadly, has deteriorated during this century because of cyclic aridity and man's activities.

Following the Introduction, the 86 species are listed alphabetically under each genus with synonyms, author names, and year of publication. Only three genera occur in the Afrotropical zone: *Atrophaneura* (1 sp.), *Graphium* (33 sp.), and *Papilio* (52 sp.). The Afrotropical zone has the lowest number of papilionid genera of the world's biogeographic regions. All but nine of the 86 high-quality distribution maps, also arranged alphabetically in a separate section, are accompanied by an accurate black-and-white drawing or photograph or both of at least one adult, displaying the upperside and sometimes the underside for that species. Sometimes the geographical and individual variation is remarkable. For example, *Papilio dardanus* Brown is illustrated by 43 figures from various localities, showing geographic variants, female variation, morphotypes, aberrants, a sexual mosaic, and a gynandromorph! A partial Bibliography (excluding Lycaenidae and Riodinidae) lists 61 selected references from A through L.

About half the species are tropical with the remainder about equally divided between savanna and montane forest habitats. Eleven of the species are endemic to Madagascar and five are endemic to small Indian Ocean islands. Fifteen montane species are found mainly along the Rift Valley system, six of these clustering in the vicinity of Lake Victoria. Three species are very widespread (*Papilio dardanus*, *P. demoleus* Linné, *P. nireus* Linné) and six species are confined to the African east coast. Only a few of the tropical species have very restricted distributions.

Some of the atlas's island distributions should be updated: *Graphium angolanus*, *G. evombar* Boisduval, and *Papilio ephorbas* Boisduval are now known from the Comoro Islands (Turlin, B. 1984, *Papilio International* 1(4):86–88); *P. menestheus lormieri* Distant is found on Madagascar (Paulian, R. 1951, *Papillons Communs de Madagascar*, Publications de l'Institut de Recherche Scientifique, Tananarive-Tsimbazaza, 90 pp.); *P. bromius* occurs on Fernando Poo and Annobon, and *P. cypraeofila* Butler is known from Fernando Poo (Viejo, J. L. 1984, *EOS Revista Espanola Entomol.* 60:335–369). No papilionids have reached the Seychelles, although *P. phorbanta* Linné is recorded from there (a doubtful record). Sokotran *P. bennettei* Dixey was doubtless derived from mainland *P. demoleus* Linné (Ogilvie-Grant, W. R. 1903, pp. 310–311 in Forbes, H. O. (ed.), *The natural history of Sokotra and Abd-el-Kuri*, R. H. Porter, London, 598 pp.).

Mimicry in papilionids seems to be especially well-developed in the Afrotropical and Oriental regions. Afrotropical papilionids are likely derived from Southeast Asian ancestors and their dispersal to Madagascar was primarily from eastern Africa (Hancock, D. L. 1983, *Smithersia* 2:1–48). An isolated relic on Madagascar, *Atrophaneura antenor* Drury, is the only representative of Troidini in the entire Afrotropical zone and is directly related to Oriental *Atrophaneura* by facies, genitalia, larva, pupa, and pigments (Ford, E. B. 1944, *Trans. R. Entomol. Soc. London* 94:201–223; Corbet, A. S. 1948, *Trans. R. Entomol. Soc. London* 99:589–607; Munroe, E. 1960, *Can. Entomol. Suppl.* 17:1–51; Igarashi, S. 1984, *Tyo to Ga* 34:41–96). The Oriental to Afrotropical transfer of ancestral tropical papilionids likely occurred during, and not later than, Paleocene-Eocene times, based on evidence from paleobotany, the *Praepapilio* fossils, and seafloor spreading.

This book will be of particular interest to papilionid specialists, biogeographers, and conservationists.

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BEAUTIFUL BUTTERFLIES, A COLOURFUL INTRODUCTION TO NEPAL'S MOST BEAUTIFUL INSECTS, by Colin Smith (edited by Dr. T. C. Najupuria). 1990. Craftsman Press, Tecpress Service Ltd., 487/42 Soi Wattanasilp, Pratunam, Bangkok, Thailand. 32 pp., 74 color figs. Soft cover, 14 × 22 cm, no ISBN, \$10 U.S. (postpaid).

This fascinating little handbook, well-illustrated and with an English text, is an excellent introduction to the most attractive members of Nepal's butterfly fauna. It summarizes basic ecological information about Nepal and some of its most characteristic butterflies, information drawn from Smith's earlier book, *Butterflies of Nepal (Central Himalaya)* (Tecpress Service L.P., Bangkok, Thailand, 1989), which Oakley Shields and I reviewed in 1989 (*J. Lepid. Soc.* 43:255–257).

The author's stated purpose of this book is to "open the eyes of the reader to a wealth of hitherto unsuspected beauty to be found in nearly every corner of Nepal." This purpose the author definitely accomplishes. The introductory section divides the butterfly faunal regions of Nepal into three areas: below 1500 m (lowlands, including both grassland and jungle), between 1500 and 3000 m (mostly wooded Himalayan forest), and from 3000 to 5500 m (alpine pastures, mostly grassland). Over 5500 meters is land of perpetual snow. Butterflies of the lowest zone fly all year, but are in greatest abundance from February to November. The species in this zone are usually common and widespread; their primary zoogeographic relationships are with India and Malaysia. The butterflies of the middle zone fly mostly from March to September, and in many cases are endemic to the Himalayan region, with some being quite local in distribution. The butterflies of the highest zone (alpine pastures) fly principally from June to August, the height of the monsoon season,