AFRICAN SPIDERS AN IDENTIFICATION MANUAL

By A. S. Dippenaar-Schoeman and R. Jocqué

Plant Protection Research Institute Handbook No. 9. 392 pages, 797 line drawings, 42 half-tones. 19 X 26 cm. Hard covers. Biosystematics Division, ARC-Protection Research Institute, Pretoria, South Africa. 1997. R195 (including VAT) in South Africa, US $70 (including surface mail) to other countries. ISBN 0-621-17544-7.

Who would want a book on African spiders if they neither have collected spiders from that continent, nor expect to get an opportunity to do so? Because this book contains so much of general interest about world spiders, I can recommend it unreservedly to anyone interested in spiders beyond British shores, especially tropical families. The authors are acknowledged experts on African spiders, and publish regularly in our Bulletin.

Seventy-one families of spiders occur in the region covered—sub-Saharan Africa—and the key to these families, which provided the impetus for the essential core to the book, is the most comprehensive for any continent. Previously, initial identification of African spiders relied on Simon's *Histoire Naturelle des Araignées* (1893). Now, with this book, the key takes you to family level, and then the bulk of the work consists of detailed summaries of all 71 families. Each summary gives the diagnostic characters, a long list of descriptive characters, distribution in the region, natural history and up-to-date systematics of the family. Each summary is illustrated by clear line drawings and photographs of typical genera of most of the main families. At the beginning of the book, the Introduction is followed by a chapter on Functional Morphology, and then a useful section on Morphology and Terminology, which helps the reader to follow the key. An Appendix lists all sub-Saharan African spider families and genera, and there is an extensive bibliography.

This book pleased me for a number of reasons. First, the key to African (and most tropical) families is useful for anyone needing to identify unusual spiders from far-flung places. Second, the family summaries, which form 70 per cent of the work, are useful cameos giving detailed morphological, ecological and systematic data as well as up-to-date references for further information. Third, the chapter on functional morphology forms a very interesting essay full of thought-provoking ideas about spider lifestyles. In this chapter, the authors discuss spiders as important predators. They present arguments which demonstrate that the use of silk in prey capture, whilst important in the evolution of spiders, has been lost in many more-derived genera. The largest spider family, and the most derived, the Salticidae, do not use silk to catch prey. Webs have numerous disadvantages, one being that they can attract spider predators. Another distinctive feature of spiders, the lack of extensor muscles in the legs, means that spiders which jump use a sudden increase in haemolymph pressure to perform leg extension. This is produced by musculature in the prosoma. Thus, jumping spiders such as salticids and oxyopids do not have large hind-legs as one might expect from an analogy with fleas, grasshoppers and kangaroos, but do have rather inflated prosomas. Digging spiders often show a similar prosomal inflation.

I have only some minor quibbles with the book. The drawings are very clear and some of the whole-spider illustrations are beautiful, but they have been drawn by a number of different artists, so the style varies. None of the illustrations have scales, so the reader unfamiliar with the spiders would need to consult the text to get an impression of the size of the feature. Black-and-white photographs fill otherwise wasted space at the end of family descriptions; in some instances a picture fills a space far removed from the family to which it refers, so a cross-reference is used to link the two. The family summaries are arranged in two sections: Mygalomorpha and Araneomorpha (*sic*), but within each section they are ordered alphabetically. This makes it easy to find a family, but I am used to the systematic order of Platnick's 'Catalogues' (e.g. 1997). These gripes, together with some spelling errors and the odd incorrect reference, pale into insignificance beside the interest, importance, and usefulness of this book, which will stand as the first reference for anyone interested in African spiders for years to come.

Paul Selden

THE ZOOLOGICAL RECORD: SECTION 12. ARACHNIDA AND SMALLER ARTHROPOD GROUPS

Volume 133 for 1996/97. 408 pages. Compiled by the staff of BIOSIS UK and edited by Marcia A. Edwards at the Zoological Society of London. 21 X 28 cm. Paper covers. Published by BIOSIS and the Zoological Society of London. 1997. US $165. ISSN 0144-3607.

In this, the latest volume of the Zoological Record, Section 12 has an extended title but the smaller arthropodan groups are no longer listed on the cover. References from July 1996 to July 1997 are included and are readily accessed from a series of indexes. Any entry can be traced if you know only one of the following: the author's name, the subject (even if no more than the name of a species), or a geographical location. This issue has 2,350 entries listed by author, of which only 77 are for the UK, with about four times as many from the USA (listed by State). It has 63 more pages than the previous edition, for 1995/96, and this is reflected in the price; the issue for1997/98 will be further increased—to $180. A copy of this invaluable publication is available for consultation in the Society's Library at Liverpool Museum.

J. R. Parker

STOP PRESS!

The Fortieth (Ruby) Anniversary Meeting (incorporating the 1999 A.G.M.) will be held at Flatford Mill Field Study Centre, near Colchester in Essex from 21st–23rd May (Friday afternoon to Sunday afternoon). This will essentially be a field and laboratory meeting, with perhaps a few short informal talks. Estimated cost is £80 (some bursaries may be available from the Ted Locket Memorial Fund). Accommodation in the Centre is limited, so please reserve your place as soon as possible by writing to the Meetings Secretary, Mr Michael Kilner at 58, Llandegfedd Way, New Inn, Pontypool, Gwent, NP4 0RG.

The spider genus Ancylotrypa Simon, 1889 cur-rently comprises 44 species widely distributed in Afri-ca from Cameroon and Ethiopia in the north to the southernmost tip of the continent [WSC, 2018]. Most of these species remain to be known only from the original descriptions made at the end of the 19th â€“ beginning of the 20th century.Â Baboon and trapdoor spiders of southern Africa: an identification manual // Plant Protection Research Institute Handbook. Agriculture Research Council Publications. Vol.13. 128 p.Â Dippenaar-Schoeman A.S., JocquÃ© R. 1997. African Spiders: An Identification Manual // Plant Protection Research Institute Handbook. Agriculture Research Council Publications. Vol.9. 392 p. Dippenaar-Schoeman A.S, Van den Berg A.M. 2010. ABSTRACT: Spider silk fibers of species of the genera Araneus, Gasteracantha, and Linothele sericata were studied. The fibers are composed of axial threads and lateral villi, allowing adhesion to surfaces. Raman spectroscopy was used to determine the surface and internal composition of the threads forming the structure. In the three species, the characteristic amino acid peaks of the spider web were found between 2871 and 2975 cm-1, which belong to L-glycine, L-alanine, L-glutamine, and L-proline. The threads are composed of a protective layer mainly composed of amides, alanine, and glycine. T The mites pose an altogether Previously, African Spiders, an Identification Manual by different challenge. Very little systematic work has been Dippenaar-Schoeman and JocquÃ© was the only reliable done on them since the 1970s, but the authors provide a reference work.Â superfamilies found throughout Africa that are associated possible. The focused nature of the present Guide makes with water. species-level identification possible. The chapter starts by addressing aspects of the groupâ€™s As the leading arachnologist in Africa, Dr AS Dippenaar- distribution, biology, external morphology and systematics. Schoeman introduces spiders in general, accounting for The detailed descriptions on the external morphology, in their biology and morphology.