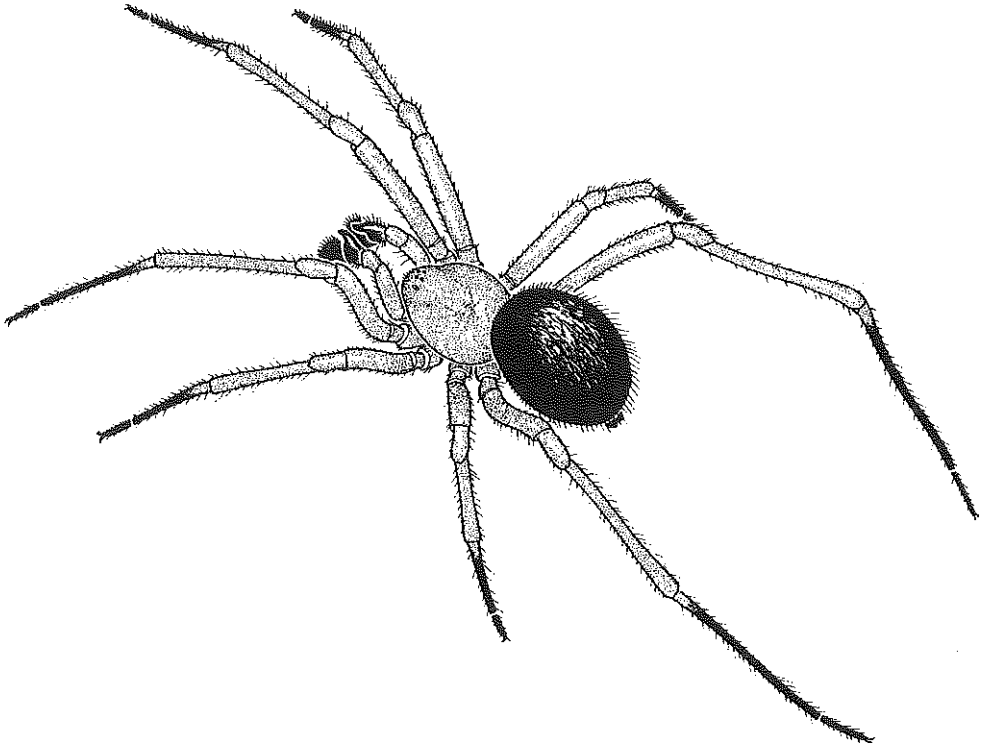


AUSTRALASIAN ARACHNOLOGY



Number 53: September 1997

Price \$1
ISSN 0811-3696

THE AUSTRALASIAN ARACHNOLOGICAL SOCIETY

The main aim of the society is to foster interest in arachnids in the Australasian region.

MEMBERSHIP

Information concerning membership may be obtained from the Administrator:

Richard J. Faulder
Agricultural Institute
Yanco, New South Wales 2703,
Australia
Email faulder@agric.nsw.gov.au

All membership enquiries (subscriptions, changes of address, etc.) must be directed to the Administrator.

Membership fees for residents in Australia:

Australian individual:	\$3
Australian institutions:	\$4
Other Australasian individuals:	A\$4
Other Australasian institutions:	A\$6
Non-Australasian individuals:	A\$5 (Airmail A\$10)
Non-Australasian institutions:	A\$8

Cheques should be made payable to "The Australasian Arachnological Society", and should be in Australian dollars. More than one year's subscription may be paid for at a time.

Receipts are not issued unless requested. The Status box on the mailing label indicates the number of the last issue for which you have paid.

BACK ISSUES

Back issues are available from the Administrator at \$1 per issue.

LIBRARY

Members who do not have access to a scientific library can write to our Librarian

Jean-Claude Herremans
P.O. Box 291
Manly, New South Wales 2095,
Australia
Email jcl@eagles.bbs.net.au

He has a large number of reference books, scientific journals and scientific papers available, either for loan or as photocopies. He also asks our professional members to send him a copy of any reprints they might have.

ARTICLES

Articles should be sent to the editor:

Mark S. Harvey
Western Australian Museum
Francis Street
Perth, Western Australia 6000,
Australia
Email harvey@museum.gov.wa.au

and should be typed or legibly written on one side of A4 paper. Submission via email or on computer disk would vastly simplify publication. Don't forget to indicate the word-processing language used (e.g. WordPerfect 6.0, Word for Windows, MacWrite). The disk will be returned only upon request.

THE HUNTSMAN SPIDER - *ISOPEDA MONTANA*

by John de Souza-Daw

Kurnai College-Churchill Campus,
PO Box 177, Churchill,
Victoria 3842, Australia

Isopeda montana was described by Hogg in 1902. The species is found widely throughout Southern Victoria and in the far south-east of South Australia. This particular huntsman spider is the most common huntsman where I live in eastern Victoria. For a year I studied the species in the wild and in captivity for my 1996 BHP Science Award project.

Isopeda montana is a large flat-bodied huntsman with paired markings on its abdomen and often has banded markings on its legs. This huntsman is a nocturnal bark dwelling species. The species adapts well to disturbed habitats and often ventures into homes and out-buildings.

Sometimes I found more than one adult *Isopeda montana* under the same piece of eucalypt bark. Occasionally another species of huntsman- *Delena cancerides* used bark of the same tree to shelter. Several *Isopeda montana* found in the wild had parasitic red mites (*Leptus* sp.) attached to their leg and body joints.

Both male and female *Isopeda montana* live solitary lives. During the active months males and females behave differently. Males tend to be wanderers and females are territorial. *Isopeda montana* appear to enter torpor when the minimum daily temperature is consistently around 6°C or less. While in torpor, the huntsman spiders are inactive and usually rest on a vertical surface with their head facing downwards. The local *Isopeda montana* appear to be in torpor from around mid-May to September.

Isopeda montana prey on live soft-bodied insects and other spiders including spiders of its own species. Adult females keep their distance from each other and are very aggressive towards other females. On one occasion a female took 21 hours to consume another female. Generally females tolerate the presence of males. On average it took around 9 hours for an adult huntsman to consume a meal-worm. Prior to May, *Isopeda montana* and particularly the females put on weight, presumably to store food to survive during the cooler winter months.

Silk is used by *Isopeda montana* for several purposes. When resting, climbing and guarding egg-sacs, the species uses a silk anchor. The anchor is secured to enable huntsman spiders to draw-out silk from their spinnerets. The species uses silk to construct egg-sacs, attachments for egg-sacs, brood-sacs and safety lines.

During my observations of *Isopeda montana*, eggs were laid from October to January. *Isopeda montana* lays around 250 to 300 eggs in a white papery disc egg-sac which is secured to the substrate by several strands of silk. I estimate about 90% of the eggs hatched into spiderlings. The eggs were a light glossy green and on emerging from their egg-sac the spiderlings were a light green. The females



Figure 1. "Mavis", a female *Isopeda montana* guarding her egg-sac. Photograph by Christain Cueff.

guarded their unopened egg-sacs for 6 to 8 weeks. When guarding, the females nearly always placed one pair of legs underneath her egg-sac. The majority of females in captivity constructed a white mesh silk brood-sac which was placed in position three days before the spiderlings emerged from their egg-sac. Most of the huntsman spiderlings stayed (with their mother) inside the brood-sac for a week after emerging from their egg-sac. After 4 to 6 weeks from emerging, the spiderlings dispersed independently of each other. *Isopeda montana* spiderlings appear to have their first moult inside their egg-sac and their second prior to dispersing.

Isopeda montana are short sighted and have a maximum range of vision of 125mm. The huntsman spiders appear to have a limited sense of hearing but are inclined to react to high pitch sounds. Their sense of smell appears to be limited. The species in captivity demonstrated a well developed sense of touch and reacted quickly to vibration and changes in temperature and wind speed.

In January 1997, the huntsman spiders remaining in captivity were returned to the wild.

**JOHN DE SOUZA-DAW:
1996 BHP SCIENCE STUDENT
AWARD FINALIST**

by **Mark S. Harvey**

Western Australian Museum, Francis Street,
Perth, Western Australia 6000, Australia

The above article was based upon John de Souza-Daw's entry in the 1996 BHP Science Student Awards. John, then a Year 6 student at Churchill North Primary School in Victoria, was a finalist in these awards based on a submission entitled "The life of Huntsman



Figure 2. John de Souza-Daw observing huntsman spiders. Photograph by Christian Cuff.

Spiders". This submission is a detailed examination of the daily patterns of several species of huntsman spiders found within a short distance of John's home in Churchill. He kept these spiders in captivity for several months (see the accompanying photograph), giving them names such as Margaret, Manfred, Cathy and Casper. I have lodged a copy of John's submission in the society's library.

I was particularly impressed by the originality of the research, and highly commend John for his patient observations of these fascinating spiders. I am sure I speak on behalf of the entire Australasian Arachnological Society when we congratulate John on his outstanding achievement as a finalist in the 1996 BHP Science Student Awards. I hope he continues to pursue his interest in spiders and wish him well in the future.

BOOK REVIEW:
SPIDERWATCH: A GUIDE TO
AUSTRALIAN SPIDERS
BY BERT BRUNET, 1997,
REED BOOKS AUSTRALIA

by Richard J. Faulder

Yanco Agricultural Institute, Yanco, New
South Wales 2703, Australia

This book appears to me to aim at members of the general public taking up an interest in spiders. Its coloured drawings and photographs, and black-and-white diagrams, attract the eye and support the text. The colour-tabling of the various sections is a good idea, and the pages are well laid out.

A welcome inclusion for people operating at this level of knowledge is the section on internal and external anatomy, supplemented with the glossary at the end of the book. This is also true for the sections on reproduction and growth, and on the fossil record. The sections on collecting spiders and maintaining them in captivity has advice for those interested in spiders at many levels, as do the sections on drawing, photographing and making notes.

The section on Making Notes ends with a remark from Winston Churchill: "We must beware of needless innovations, especially when guided by logic alone". Unfortunately this is what Bert has done in his decisions not to append "spider" to each common name, in contrast with the usual practice, and the erection of a number of new common names, which will also cause confusion to members of the general public attempting to use this book in conjunction with others. In particular I refer to the "Apprentice Weavers", (which implies that they are more primitive than "Master Weavers"), "Wheel Weavers" (usually Orb-weavers) and Gum-footed (usually Comb-footed) [spiders].

I am afraid that I found myself uncomfortable with the book from the time I opened it at the initial KEYGUIDE, with classification apparently based on behaviour (except for the so-called "Primitives", a concept largely outmoded except for the "living fossil" *Liphistius*). This could appear to someone unfamiliar with biological classification that families being broken and the fragments lumped with those of other families. This, I feel, works against coming to grips with the characters which enables a spider to be placed in one of the spider families, which is not explained explicitly anywhere in the book.

It is a good idea to have a section on dangerous spiders close to the front of the book, since this is what usually is of most concern to the general public. However, I would have expected the two known killers - the male Sydney Funnelweb spider and the female Red-back spider, at the front of the section. I was intrigued to note that the only spiders in Australia unequivocally known to cause necrotising arachnidism, the Fiddleback spiders, are only noted as "highly venomous".

Since I have done extensive work on the genus *Missulena* I feel I should make specific comments in this regard. Aside from the fact that my data leads me to conclude that *M. occatoria* and *M. insigne* are the same species I have never seen anyone suggest that the difference between the two is one of size, neither Cambridge (1877) who originally described it or Womersley (1943) who redescribed it. The claim that "Mouse spider burrows are not lined with silk" is contrary to the experiences of both Dr Barbara York Main and myself, who have dug out the silk linings of a number of Mouse spider burrows.

Cambridge, O.-P. (1877). On some new genera and species of Araneidae. *Annals and Magazine of Natural History* 19(4): 26-39 [29-31] pl. 6-7: figs. 1-10 [pl. 6: figs. 1-5]

Womersley, H., (1943). A revision of the

spiders of the genus *Missulena* Walkenaer 1805. *Records of the South Australian Museum* 7: 249-269, text-figs. 1-6

**BOOK REVIEW:
'BEHAVIOURAL ADAPTATIONS
OF DESERT ANIMALS'**

by **Donald S. Horning**

Tumblegum Research Laboratory, RMB 902,
Loomberah via Tamworth, New South Wales
2340, Australia

Costa, G. (1995). *Behavioural Adaptations of Desert Animals*. Springer-Verlag, Berlin. 198 pp. ISBN 3-540-58578-8. DM 198.00 (about A\$50.00).

This book forms part of a series 'Adaptations of Desert Organisms' edited by the highly respected J.L. Cloudsley-Thompson. There are nine chapters, the first being a short introduction and which sets the scene for the following chapters. Chapter 2 provides a very good background to the biotope and vegetation features. Definitions and classifications of deserts and an extensive coverage of these types of deserts, biotope features climatic factors and characteristics of desert vegetation are well presented. Chapter 3, "Desert Zoocenosis", discusses the main animal groups found in deserts. These include invertebrates from protozoans to arachnids to insects and vertebrates including fishes, amphibians, reptiles, birds and mammals. This latter group is covered the most extensively of any of the animals found in desert communities.

Chapter 4 includes a most interesting review of thermohygric regulation in desert animals. Extreme and wide variations of temperatures together with minimal and unforeseeable precipitation, impose special adaptive responses from animals that survive in arid

environments. Chapter 5, "Self-Protective Mechanisms", and chapter 6, "Patterns of Movement", are very interesting and have good examples of invertebrates, but unfortunately there are only a few general references to arachnids.

"Exploitation of Food Resources" is the subject of chapter 7. It is divided into three sections: herbivores, carnivores and detritivores. There is a passing reference to mites in the herbivore section (page 106), some interesting information combined with references to several groups of arachnids in the carnivore section and only a small general reference to mites in the detritivore section. There are some interesting references to scorpions and spiders in chapter 8, "Reproductive Regulation". Chapter 9 gives a reference to some behaviour of the seven-stone spider, *Ariadna* sp. in a chapter entitled "Social Behaviour".

The list of references is extensive and comprehensive. The subject index is complete and includes precise topics such as scientific names and general topics like pseudoscorpions and tardigrades. There is no need to search beyond this index to get information on various topics. An interesting aspect to the index is that most often, common names are given in brackets after a name, eg, pseudoscorpions (false scorpions), Trombididae (velvet mites) and uropygids (whip scorpions).

The covers, binding, illustrations, print style and general presentation of the book are excellent. It is very sturdy and should last a long time, even with heavy use, such as in libraries. The publishers, Springer-Verlag, and their associates are environmentally friendly and the pages in the book are low- or non-chlorine pulp and are acid free.

This book provides an excellent source to learn about the general background of behavioural adaptations of desert animals.

Invertebrates and vertebrates alike are treated, though with emphasis on vertebrates. There is not a lot of information on arachnids but it would be a worthwhile book for those who are interested in this group to have on their shelves. The very high price for the book (about A\$190.00) may exclude it from the bookshelves of non-sponsored research scientists.

A NEW SOCIETY - SOCIETY OF AUSTRALIAN SYSTEMATIC BIOLOGISTS

A new Society has been formed in Australia to represent and foster the interests systematics and systematists. It encompasses the broad interests and activities of those working in the areas of taxonomy, phylogenetics, biogeography and evolutionary biology, of all groups of organisms and with specific reference to the Australasian Region. The Society operates only by email and has NO MEMBERSHIP FEES.

To join please send your Full Name, Postal Address, Taxon group/Interests, E-mail Address, Phone No. and Fax No., to the Society's Secretary, Dr David Morrison (davidm@iris.bio.uts.edu.au). Details about the Society and its inaugural Conference, to be held in Adelaide 29 Sept - 3rd October 1997, can be found on the Society's Home page (<http://www.science.uts.edu.au/sasb/>).

LIBRARY NEWS

Many thanks to Bruno Condé, Wilson Lourenço and Ilse Bartsch who have recently donated reprints to our ever-increasing reprint collection.

MEMBERSHIP

Changes of Address

Dr T. Evans, CSIRO Division of Entomology
GPO Box 1700, Canberra, ACT 2601

Jan Green, Department of Entomology, The
University of Queensland, Queensland 4072,
Australia

Email: J.Green@ctpm.uq.edu.au

Phil Taylor, Entomology, Agriculture, Hebrew
University of Jerusalem, P.O. Box 12,
Rehovot 76-100, ISRAEL

New members

Mr J.S. (Sam) Beam, 2/9 Cassandra Crescent,
Labrador Queensland 4215, Australia

Peter Branwhite, 196 Olive Street, Albury
New South Wales 2640, Australia

Dr Paul Gill, Regional Veterinary Laboratory,
Wollongbar Agricultural Institute, Wollongbar,
New South Wales 2477

Email: gillp@agric.nsw.gov.au

Dr Daiqin Li, Cooperative Research Centre
for Tropical Rainforest Ecology &
Management, James Cook University, PO Box
4870, Cairns, Queensland 4870, Australia
Email: Daiqin.Li@jcu.edu.au

Mrs Lynne Kelly, 2/66 Serell Street, East
Malvern, Victoria 3145, Australia

Email: lkelly@mgs.vic.edu.au

David F. King, 8 Traum Street, Port Arlington
Victoria 3223, Australia

Email: kingd@mail.austasia.net

Chris Smith, 26 Palm Drive, Mooloolaba,
Queensland 4557, Australia

James Woodman, 30 Reginald St, Bendigo,
Victoria 3550, Australia

Email addresses

Jean-Claude Herremans
jcl@eagles.bbs.net.au

**RECENT PUBLICATIONS
ON AUSTRALASIAN
ARACHNOLOGY**

Halliday, R.B. (1997). Revision of the Australian Ameroseiidae (Acarina: Mesostigmata). *Invertebrate Taxonomy* 10: 179-201.

FORTHCOMING CONFERENCES:

**XIV INTERNATIONAL CONGRESS
OF ARACHNOLOGY AND THE
22ND ANNUAL MEETING OF THE
AMERICAN ARACHNOLOGICAL
SOCIETY**

The XIV International Congress of Arachnology will be held in conjunction with the 22nd Annual Meeting of the American Arachnological Society at the Field Museum, Chicago, Illinois, U.S.A., on 27 June to 3 July 1998. For details contact:

Petra Sierwald, Insects, Field Museum, Roosevelt Road, Lake Shore Drive, Chicago, Illinois U.S.A. 60605 (Email: SIERWALD@FMPPR.FMNH.ORG)

**XTH INTERNATIONAL CONGRESS
OF ACAROLGY**

The Xth International Congress of Acarology will be held in Canberra, Australia, from the 6-10 July 1998. For further details contact:

Bruce Halliday, CSIRO Division of

Entomology, GPO Box 1700, Canberra, A.C.T. 2601, Australia

**AUSTRALIAN ENTOMOLOGICAL
SOCIETY 28TH AGM AND
SCIENTIFIC CONFERENCE**

The 28th Annual General Meeting and Scientific Conference of the Australian Entomological Society will be held in The University of Melbourne, Victoria, on 28 September - 3 October 1997. For further details contact:

Nancy Endersby, Institute for Horticultural Development, Agriculture Victoria, Private Bag 15, South Eastern Mail Centre, Victoria 3176, Australia

Telephone: (03) 9210 9222
Facsimile: (03) 9800 3521
Email: endersbyn@knoxy.agvic.gov.au

**SOCIETY OF AUSTRALIAN
SYSTEMATIC BIOLOGISTS
NATIONAL CONFERENCE**

The inaugural meeting of the newly formed Society of Systematic Biologists will be held in Adelaide, South Australia, on 29 September - 3 October 1997. For further details contact:

Robyn and Bill Barker, The State Herbarium of South Australia, Botanic Gardens, North Terrace, Adelaide, South Australia 5000, Australia

Telephone: (08) 8228 2348, (08) 8228 2303
Email: rbarker@btg.lands.sa.gov.au
bbarker@btg.lands.sa.gov.au
