

# **Australasian Arachnology**

Price \$3  
ISSN 0811-3696

Number 82  
August 2011



Newsletter of the Australasian Arachnological Society

## THE AUSTRALASIAN ARACHNOLOGICAL SOCIETY

[www.australasian-arachnology.org](http://www.australasian-arachnology.org)

Acari – Araneae – Amblypygi – Opiliones –  
Palpigradi – Pseudoscorpiones – Pycnogonida –  
Schizomida – Scorpiones – Uropygi

The aim of the society is to promote interest in the ecology, behaviour and taxonomy of arachnids of the Australasian region.

### MEMBERSHIP

Membership is open to all who have an interest in arachnids – amateurs, students and professionals – and is managed by our Administrator (**note new address**):

Volker W. Framenau  
**Phoenix Environmental Sciences**  
**P.O. Box 857**  
**Balcatta, W.A. 6914**

Email: [volker.framenau@phoenixenv.com.au](mailto:volker.framenau@phoenixenv.com.au)

Membership fees in Australian dollars (per 4 issues):

	*discount	personal	institutional
Australia	\$8	\$10	\$12
NZ/Asia	\$10	\$12	\$14
Elsewhere	\$12	\$14	\$16

There is no agency discount. \*Discount rates apply to pensioners, students and the unemployed (please provide proof of status).

Cheques are payable in Australian dollars to “Australasian Arachnological Society”. Any number of issues can be paid for in advance, and receipts can be issued upon request.

Members will receive a **PDF version\*** of the newsletter *Australasian Arachnology*, with hard-copies available for libraries and societies. Members will be notified by email when their subscription has expired.

**\*NOTE. PDF-only as of Issue 80**

## ARTICLES

The newsletter *Australasian Arachnology* depends on the contributions of members. Please send articles to the Editor:

Michael G. Rix  
Department of Terrestrial Zoology  
Western Australian Museum  
Locked Bag 49, Welshpool DC, W.A. 6986  
Email: [michael.rix@museum.wa.gov.au](mailto:michael.rix@museum.wa.gov.au)

Articles should be typed and saved as a Microsoft Word document, with text in Times New Roman 12-point font. Only electronic email (preferred) or posted CD-ROM submissions will be accepted.

Previous issues of the newsletter are available at <http://www.australasian-arachnology.org/newsletter/issues>.

## LIBRARY

For those members who do not have access to a scientific library, the society has a large number of reference books, scientific journals and paper reprints available, either for loan or as photocopies. For all enquiries concerning publications please contact our Librarian:

Jean-Claude Herremans  
P.O. Box 291  
Manly, New South Wales 1655  
Email: [jclh@ihug.com.au](mailto:jclh@ihug.com.au)

Professional members are encouraged to send in their arachnological reprints as they become available.

### COVER ILLUSTRATION

Pseudoscorpion (family Pseudogarypidae):  
*Neopseudogarypus scutellatus* Morris, 1948  
from Cataract Gorge, Launceston, Tasmania.  
Image by **Mike Rix**

## EDITORIAL...

Welcome to Issue 82 of *Australasian Arachnology*. The last six months have been extremely productive for the Australasian Arachnological Society, with nine new members and numerous new papers being published by existing AAS members. It is wonderful to see such a dynamic and growing membership, and to witness the continuing fascination elicited by our remarkable arachnid fauna. Indeed, since the beginning of 2011, over 50 new species of arachnids have been described from Australasia, including pseudoscorpions and numerous spiders in the families Selenopidae, Archaeidae, Amaurobiidae, Tetragnathidae and Araneidae. The sheer diversity of undescribed arachnid species in Australasia has always posed a challenge to systematists and ecologists, but major attempts are being made to document the fauna. Take, for example, *Pinkfloydia*, a new genus of Tetragnathidae recently described from Western Australia!

Continuing on the research front, and several members attended the American Arachnological Society Conference in Portland (Oregon) in July, which proved to be an excellent meeting full of interesting research and discussions. Since the last edition of the newsletter there have also been some significant review or general discussion articles published by our members, including papers on fire ecology, subterranean biology, short-range endemism and conservation biology. A detailed list of these and other papers published since the last edition is available at the end of the newsletter.

In this issue I have introduced a new column format called '**Arachnid Research In Focus...**', which will be used to present the results of recently published papers, and to highlight research currently being conducted on Australasian arachnids. Each column will illustrate and describe an arachnid taxon

featured in a new publication, with details of its taxonomy and distribution listed alongside a short précis detailing the results of the paper. It is hoped that this format will allow non-professional members to 'access' more of the scientific literature, and also act as an historical record of research being undertaken. In this issue, two spider families – the Selenopidae and Archaeidae – are in focus after two monographic revisions of Australian species were recently published. Volker Framenau also tells a remarkable story of mass dispersal in young wolf spiders, Robert Whyte introduces the concept of 'arachno-tourism' after a recent trip to New Zealand, and Julianne Waldock and Sharon Zuiddam provide book reviews on the *Spiders of Bendigo* (Bendigo Field Naturalists Club, 2001) and *Spider Silk* (CSIRO Publishing, 2011).

I wish all members the very best for the rest of 2011, and please consider contributing articles for inclusion in future editions.

Cheers,

*Mike*



Juvenile female Bolas Spider (*Ordgarius monstrosus* Keyserling, 1886; family Araneidae) from Brisbane, Queensland. Note the silken bolas, used to capture male moths lured by deceptive chemical mimicry.  
Image by Robert Raven.

## MEMBERSHIP UPDATES

### New Members:

**Steve Andrew**  
Ridgewood, Western Australia 6030

**John Crutchfield**  
Hesket, Victoria 3442

**John Douglas**  
Kings Meadows, Tasmania 7249

**Philip Edwards**  
Croydon, Victoria 3136

**Ryan Ellis**  
Beckenham, Western Australia 6107

**Jess Marsh**  
Kingscote, South Australia 5223

**Mathew Mundackatharappel**  
Vennala, India 682028

**Jürgen Otto**  
St Ives, New South Wales 2075

**Frank Schneider**  
Ludwigshafen, Germany 67067

---

## General Announcements

Michael Augee, editor for the Linnean Society of New South Wales, has announced that the *Proceedings of the Linnean Society of New South Wales* will now be published electronically online. Volume 132 will be the last issue of the *Proceedings* to be published in hard copy format. The Linnean Society of NSW will, starting with Volume 133, offer rapid publication of **fully refereed papers**. At present the Society does not plan to charge users for access to any of its material. Full details will be published in Volume 132 and on the Society's web page, see:

[www.linneansocietynsw.org.au](http://www.linneansocietynsw.org.au).

---

## Arachnid Research *In Focus...* **Flatties (Selenopidae)**

Crews, S.C. and Harvey, M.S. (2011). The spider family Selenopidae (Arachnida, Araneae) in Australasia and the Oriental Region. *ZooKeys* 99, 1-103.



Male *Karaops jarrit* Crews & Harvey, 2011  
from Perth, Western Australia.  
Image by Volker Framenau.

### Taxonomy:

Family Selenopidae; genus *Karaops* Crews & Harvey, 2011 (includes 24 described species from Australia).

### Distribution:

Mainland Australia.

### Précis:

This paper presents a taxonomic revision of the selenopid spiders or 'flatties' of Australasia and the Oriental region. Flatties are small to medium-sized araneomorph spiders, with a crab-like gait and extremely flat bodies. Most species occur under tree bark or rocks, and all run very quickly when disturbed. *Selenops australiensis* L. Koch, 1875 is transferred to the new endemic Australian genus *Karaops*, and an additional 23 new species are described from throughout mainland Australia. This is the first taxonomic revision to document the diverse Australian selenopid fauna, providing keys and diagnostic illustrations to all known species. **See:**

<http://www.pensoft.net/journals/zookeys/issue/99/>.

---

## Arachnid Research *In Focus...* Assassin Spiders (Archaeidae)

Rix, M.G. & Harvey, M.S. (2011). Australian Assassins, Part I: A review of the Assassin Spiders (Araneae, Archaeidae) of mid-eastern Australia. *ZooKeys* 123, 1-100.



Juvenile *Austrarchaea raveni* Rix & Harvey, 2011 from Mount Glorious, Queensland.  
Image by Greg Anderson.

### Taxonomy:

Family Archaeidae; genus *Austrarchaea* Forster & Platnick, 1984 (includes 22 described species from Australia).

### Distribution:

Mainland eastern and south-western Australia.

### Précis:

This paper presents a taxonomic revision and preliminary phylogenetic analysis of the assassin spiders of 'mid-eastern' Australia, encompassing those species known from south-eastern Queensland and eastern New South Wales. Assassin spiders are specialist predators of other spiders, with a remarkable 'pelican-like' morphology and spear-like chelicerae used to impale their spider prey. Seventeen new species are described, each diagnosed with morphological and molecular characters, keys and colour illustrations. This is the first taxonomic revision to document the Australian assassin spider fauna, highlighting the great diversity of species known from the rainforests and wet sclerophyll forests of the Great Dividing Range. **See:**

<http://www.pensoft.net/journals/zookeys/issue/123/>.

## Gossamer Extraordinaire!

by Volker Framenau<sup>1</sup>, Meri Macpherson<sup>2</sup>  
and Dave Munro<sup>3</sup>

<sup>1</sup>Phoenix Environmental Sciences, P.O. Box 857, Balcatta, Western Australia 6914

<sup>2</sup>[meri@iprimus.com.au](mailto:meri@iprimus.com.au)

<sup>3</sup>[dlmunro@bigpond.com](mailto:dlmunro@bigpond.com)

Many spider species disperse by ballooning, which means young spiderlings drift through the air, carried by the wind on a thin strand of their own silk, the "gossamer" thread (Bell *et al.*, 2005; Decae, 1987). This behaviour is well-studied in a number of spider groups and sometimes also occurs in larger adult spiders (Schneider *et al.*, 2001). Representatives of many spider families are known to balloon, especially smaller species of Money Spiders (Linyphiidae) (Weyman, 1995) and Comb-footed Spiders (Theridiidae) (Valerio, 1977). Many Wolf Spider species (Lycosidae) also balloon (Richter, 1970) and this behaviour, in addition to mobile brood care, may contribute to the ecological success of the family. For example, wolf spiders are usually among the first colonisers after volcanic eruptions (Crawford *et al.*, 1995; Edwards and Thornton, 2001).



**Figure 1.** A field of gossamer threads near Lake Linlithgow, Victoria (September 2010).  
Image by Meri Macpherson.

Spiders often have a life cycle that is synchronised with the seasons, especially in temperate environments (Schaefer, 1987).



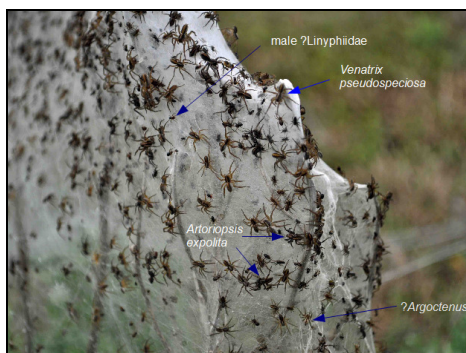
Certain life stages within the same species often occur at exactly the same time within a population and often at the same time each year, although the mechanisms that govern this tight synchronisation are unknown for many species (Framenau and Elgar, 2005). Ballooning of juveniles (in combination with life cycle synchronisation) appears to be responsible for a spectacular phenomenon that could be observed at Lake Linlithgow and Bryans Swamp near Grampians National Park, south-western Victoria, in September 2010 (Figs 1-2). What is remarkable in this mass emergence of juvenile spiders is not only the scale at which it occurred – leading to a dense cover of silk on low vegetation (Figs 1-2) – but also that the gossamer event was driven by a diverse array of spider families and species that apparently didn't show much aggression towards each other, even in close proximity. Wolf spiders from different genera and species appear to have driven the event, although other spider families shared the precious free space on the extensive sheet of webs (Fig. 3).



**Figure 2.** A field of gossamer threads near Lake Linlithgow, Victoria (September 2010).  
Image by Meri Macpherson.

Unfortunately, it is not possible to accurately identify the spider assemblage based on the photos alone. Most of the spiders, in particular the wolf spiders, were immature, and species identification is almost impossible for juveniles. However, at least two species of Wolf Spiders were present and based on known distribution

patterns, these were most likely the Eastern Lawn-Runner (*Venatrix pseudospeciosa* Framenau & Vink, 2001) and the Polished Wolf Spider (*Artoriopsis expolita* (L. Koch, 1877)) (Fig. 3). Both species are abundant in low vegetation near water and are often observed on well-watered lawns in suburban gardens and parks (Framenau, 2007; Framenau and Vink, 2001). Other taxa joined the gathering, and Figure 3 indicates that at least two other families were present, the Spiny-leg Spiders (Zoridae; possibly a juvenile *Argoctenus* Koch), and the Linyphiidae.



**Figure 3.** Lycosid and other spiders amassing on gossamer threads near Lake Linlithgow, Victoria (September 2010).  
Image by Meri Macpherson.

All activity appeared to be on the south-west, west and north-west shorelines up to a distance of ca. 3-4 km from the shore. After an initial visit to Lake Linlithgow on 2 September, when spider activity appeared to be high, about two weeks later, on 17 September, all webs were empty and degraded except for one area in the north-west of the lake where there was still some activity, limited solely to wolf spiders.

The dense carpets of spider silk were probably not just made up of the remainder of the gossamer threads after the spiders landed on the vegetation. Ground living spiders are known to produce 'draglines', i.e. they deposit a strand of silk when they walk. These may serve as

'security threads' by which they can pull themselves back in case of danger, but they also attract mates as these draglines have been shown to contain pheromones, at least in wolf spiders (Holler and Persons, 2009; Tietjen and Rovner 1980, 1982). Once the ground is covered in silk, later arrivals from the air may not have a chance to move lower into the vegetation where they normally live, therefore contributing to the growing carpet of silk.

The senior author remembers a conversation a few years ago with Liz Turner from the Tasmanian Museum and Art Gallery, who reported on a mass dispersal event of wolf spiders, most likely species of *Artoriopsis*, in Tasmania. In recent years local naturalists have also reported a similar event from Pic Swamp, in south-eastern Australia (personal communication to D. Munro). Although not seen very often, especially in our modified cultural and agricultural landscapes, mass emergences of spiders may occur fairly regularly when conditions are right, i.e. life cycles of a number of species overlap and gossamer events are synchronised.

## References

- Bell, J.R., Bohan, D.A., Shaw, E.M. and Weyman, G.S. (2005). Ballooning dispersal using silk: world fauna, phylogenies, genetics and models. *Bulletin of Entomological Research* **95**, 69-114.
- Crawford, R.L., Sugg, P.M. and Edwards, J.S. (1995). Spider arrival and primary establishment on terrain depopulated by volcanic eruption at Mount St Helens, Washington. *American Midland Naturalist* **133**, 60-75.
- Dectae, A.A. (1987). Dispersal: ballooning and other mechanisms. In: Nentwig, W. (ed.) *Ecophysiology of Spiders*. Springer Verlag, Berlin, pp. 357-370.
- Edwards, J.S. and Thornton, W.B. (2001). Colonization of an island volcano, Long Island, Papua New Guinea, and an emergent island, Motmot, in its caldera lake. VI. The pioneer arthropod community of Motmot. *Journal of Biogeography* **28**, 1379-1388.
- Framenau, V.W. (2007). Revision of the new Australian genus *Artoriopsis* in a new subfamily of wolf spiders, Artoriinae (Araneae: Lycosidae). *Zootaxa* **1391**, 1-34.
- Framenau, V.W. and Elgar, M.A. (2005). Cohort dependent life-history traits in a wolf spider (Araneae: Lycosidae) with bimodal life cycle. *Journal of Zoology, London* **265**, 179-188.
- Framenau, V.W. and Vink, C.J. (2001). Revision of the wolf spider genus *Venatrix* Roewer (Araneae: Lycosidae). *Invertebrate Taxonomy* **15**, 927-970.
- Holler, R.L. and Persons, M.H. (2009). Dragline deposition patterns among male and female *Hogna helluo* (Araneae, Lycosidae) in the presence of chemical cues from prey. *Journal of Arachnology* **37**, 97-100.
- Richter, C.J.J. (1970). Aerial dispersal in relation to habitat in eight wolf spider species (*Pardosa*, Araneae, Lycosidae). *Oecologia* **5**, 200-214.
- Schaefer, M. (1987). Life cycles and diapause. In: Nentwig, W. (ed.) *Ecophysiology of Spiders*. Springer Verlag, Berlin, pp. 331-347.
- Schneider, J.M., Roos, J., Lubin, Y. and Henschel, J.R. (2001). Dispersal of *Stegodyphus dumicola* (Araneae, Eresidae): they do balloon after all! *Journal of Arachnology* **29**, 114-116.
- Tietjen, W.J. and Rovner, J.S. (1980). Trail-following behaviour in two species of wolf spiders: sensory and etho-ecological concomitants. *Animal Behaviour* **28**, 735-741.
- Tietjen, W.J. and Rovner, J.S. (1982). Chemical communication in lycosids and other spiders. In: Witt, P.N. and Rovner, J.S. (eds) *Spider Communication: Mechanisms and Ecological Significance*. Princeton University Press, Princeton, pp. 249-279.
- Valerio, C.E. (1977). Population structure in the spider *Achaearanea tepidariorum* (Araneae, Theridiidae). *Journal of Arachnology* **3**, 185-190.
- Weyman, G.S. 1995. Laboratory studies of the factors stimulating ballooning behavior by linyphiid spiders (Araneae, Linyphiidae). *Journal of Arachnology* **23**, 75-84.

## Arachno-Tourism in New Zealand

by **Robert Whyte**

The Gap, Queensland 4061, Australia

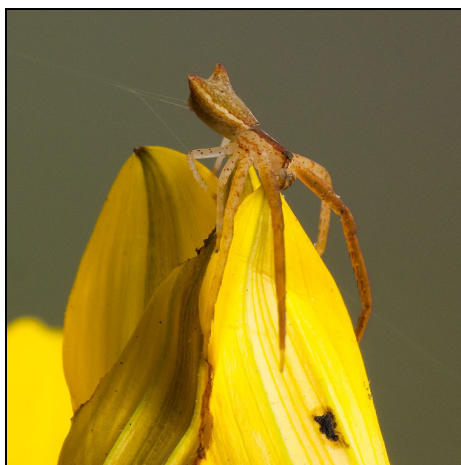
Is such a thing as arachno-tourism possible? Certainly, there's no law against 'twitching' spiders, but even with today's amazing cameras and snap-on magnifiers, the problems of identification for the amateur are great. The excellent recent publication *Spiders of New Zealand* (by P. Paquin, C. Vink and N. Dupérré, 2010) is ideal for the expert who has a chance to examine species under a microscope, but alas this is not really possible for the casual visitor. There are a couple of other recent smaller books with colour photographs, but these cover only a few of the genera one might encounter. Some websites are of assistance, and Minor and Robertson's 'Soil Bugs – An Illustrated Guide to New Zealand Soil Invertebrates' (see <http://soilbugs.massey.ac.nz/araneae.php>) is among the best.

That is not to say the pursuit of spiders in a foreign land is without its pleasures and especially its lessons. The relatively unfamiliar fauna sharpens one's eyes for family differences and the photographs become a lasting memento. One of the greatest pleasures is making contact with local arachnophiles.

Having returned from such a trip in mid-February 2011, and having a small collection of photographs to share, a number of observations come to mind...

Our trip started in Auckland, with no chance to see spiders except for walks in the parks which to the naked eye were rather lacking in taxa except for the ubiquitous *Badumna longinqua* (L. Koch, 1867), whose messy cobwebs were everywhere. Soon we were in the seaside suburb of Papamoa Beach on the Bay of Plenty, in a 'bach' (weekender) with the Pacific Ocean lapping at our back fence. We were close to

extensive coastal dunes, being at the southernmost extremity of the settlement. Here we noticed many familiar spiders, including several species also found in south-eastern Queensland. The jumping spiders *Helpis minitabunda* (L. Koch, 1880) and *Hypoblemum albiovittatum* (Keyserling, 1882) were abundant, especially the latter, with about 20 silken retreats (with females and eggs or babies) per square metre in the weedy coastal vegetation of our front yard. *Sidymella longipes* (L. Koch, 1874) was a very common thomisid, and *Oxyopes gracilipes* (White, 1849) was often seen in the long grass.



*Sidymella longipes* (Thomisidae)  
from Papamoa Beach, New Zealand.  
Image by Robert Whyte.

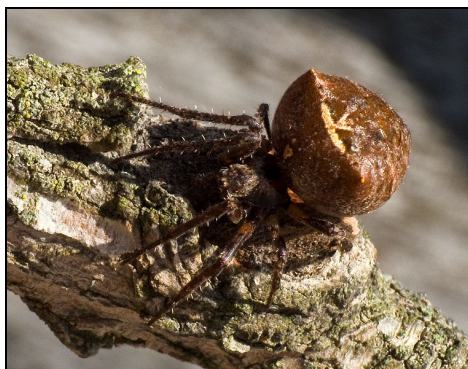


Female *Hypoblemum albiovittatum* (Salticidae)  
from Papamoa Beach, New Zealand.  
Image by Robert Whyte.





Female *Diaea* sp. (Thomisidae)  
from Nelson, New Zealand.  
Image by Robert Whyte.



Female Araneidae sp.  
from Nelson, New Zealand.  
Image by Robert Whyte.

Less familiar was the bewildering array of orb-weaving spiders, similar to but clearly different from their Australian counterparts. Our main objective was to see the classic New Zealand green orb-weaving spider *Colaranea viriditas* (Urquhart, 1887), said to be common and widespread. However, despite patient and thorough peering into foliage both day and night we failed to see a single specimen. New Zealand's green orb-weavers were not appearing for these Australians!

## Book Review

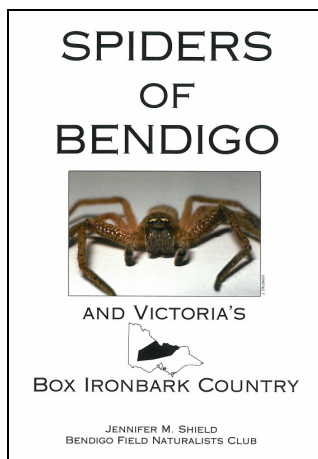
by Julianne Waldock

Western Australian Museum, 49 Kew Street,  
Welshpool, Western Australia 6106, Australia

### *Spiders of Bendigo and Victoria's Box Ironbark Country*

by Jennifer M. Shield

Bendigo Field Naturalists Club, Victoria, 2001  
Paperback, 64 pages, AU\$15.00



This little booklet of 64 pages is quite a gem and, although it was published in 2001, I thought it should be brought to the attention of the rest the arachnological community.

*Spiders of Bendigo* is based on collections made by Julie Strudwick on her bush block at Upper Lurg, near Benalla, Victoria from 1985, with additional material collected in the Barr Creek area near Cohuna by the book's author, Jennifer Shield and Jill Hooper, as part of a 1996 study on spider diversity in irrigated pastures with and without native vegetation shelterbelts (see Shield, 2003). Other specimens were collected in nearby areas of north-eastern Victoria by Jennifer Shield and Julie Strudwick.

Very little has been published in recent times on the spiders (or indeed any arachnids) of the south-east of Australia and most books available to the general public treat the Australian fauna from an 'east of the Great Dividing Range' perspective, thus concentrating on the common species along the eastern seaboard and only touching on some of the more obvious species outside of this area. The joy of *Spiders of Bendigo* is that the 31 pages of colour photographs are of spiders in mostly natural poses; each image is labelled with a family name, taxonomic name (many to species), sex of the specimen, body length measure and page number for the text. After separating out the mygalomorphs (three families) from the araneomorphs, the Araneomorphae are grouped as Araneidae, Pholcidae, Uloboridae, Tetragnathidae, Deinopidae, Oecobiidae, Linyphiidae, Desidae, Theridiidae and Nicodamidae – the capture-web builders – with the remaining 16 families being cursorial foragers. Additionally, not all spiders discussed in the text are represented with a photograph (e.g. *Nicodamus peregrinus* on page 49). Six photographers were responsible for the images, the majority by J. Strudwick and J. Shield.

Jennifer Shield, as author, photographer and writer of the book, has gone to great effort to correctly identify the spiders in this collection. She acknowledges assistance in this area from Valerie Davies, Robert Raven and Barbara Baehr of the Queensland Museum, and David Hirst from the South Australian Museum. Of course in the intervening 10 years since publication there have been many changes to the taxonomy of Australian spiders, e.g. in recognition of the family Nephilidae, which includes the golden orb-weavers of the genus *Nephila* Leach (at the time of publication, these spiders were considered members of the family Tetragnathidae), as well as the reassessment of both *Deliochus* Simon and *Phonognatha* Simon as being in the family Araneidae. There are also a few spelling errors that have slipped through, e.g. "*Dysdera crocota*" (pages 32, 52) and

"*Opisthonchus*" (page 58), and on page 54 reference is made to page 14 for a discussion on spider bites, although this discussion is actually on page 7. Also, the use of so-called 'common names' is problematic, given that some of these arbitrary names can be misleading, such as the use of the term 'glider jumping spider' for two species in the genus *Maratus* Karsch (see pages 45-46, 59). This particular common name is a recurring descriptor based on an historical misinterpretation on the use of the expandable flaps on the abdomen of male *Maratus*. The flaps are not used for gliding, but are rather used for courtship purposes and the term 'peacock spider' is a preferred common name for this group. On this point I was pleased to see that *Spiders of Bendigo* included three species of *Maratus*, a group that I am currently revising. Of the three species, two have been recorded previously from Victoria and the third is either a range extension of a species from New South Wales or a new species altogether. I will be further investigating this with the author.

As the opening of *Spiders of Bendigo* states, this book is not just specific to the areas of box ironbark and riverine plain woodlands of central Victoria, as many of the species can be encountered throughout south-eastern Australia and further afield. It is certainly a book that I would recommend for general spider identification and a useful tool for highlighting the normally cryptic biodiversity of similar temperate woodlands.

## References

- Shield, J.M. (2003). Spiders (Araneae) of irrigated pasture with and without shelterbelt of native vegetation near Cohuna, Victoria. *Records of the South Australian Museum Monograph Series* 7, 187-191.

## Book Review

by Sharon Zuiddam

High Wycombe, Western Australia 6106,  
Australia

### *Spider Silk*

by Leslie Brunetta & Catherine L. Craig

Published by CSIRO Publishing, Collingwood,  
Victoria, 2010, ISBN 9780643098473

Hardback, 280 pages, AU\$39.95



Strong. Sticky. Invisible. You can feel it over your face, on your fingers, in your hair. You know it's a spider's web, but where did that spider go? For most arachnologists this isn't really a problem but for many people it is their worst nightmare come true. In *Spider Silk – Evolution and 400 Million Years of Spinning, Waiting, Snagging and Mating* the authors, Leslie Brunetta and Catherine L. Craig, follow the evolution of spiders and their silk, from webs built by the earliest ground dwelling spiders through to modern day genetic studies looking at the hidden molecular secrets of spider silk. This book is a great starting place for anyone interested in evolution, spiders or genetics and is also an interesting read for those already knowledgeable in these areas. It may even ease the fears of some arachnophobes, giving them an understanding and respect for the detail, complexity and beauty of the spider's web.

Strong and resilient, below ground or strung metres high in the air, spider silk has been the

fascination of many people and many research projects have been funded to discover the complexities of its formation. Craig's knowledge of evolution is what brought her and Brunetta together, and their joint fascination for nature and writing is what resulted in this excellent book on the evolution of the spider web. Beginning with a general background on spider biology, including a simple and easy to understand diagram and timeline, it is easy for the non-scientist to become involved in the subject. The authors chronologically ease the reader through the evolution of spider silk, explaining it uses along the way. They also introduce the process by which scientists have discovered what we know about silk and its production and explain these issues in uncomplicated terms. Add to this a hint of mythology and a touch of humour and you're on your way to an interesting journey into the world of spider silk.

The book focuses on the evolutionary progression of spider silk from a simple tool for burrow lining to the multipurpose, highly versatile substance that we see today. We are taken back in time when Craig and Brunetta describe the early terrestrial landscape and the need for invertebrates to protect themselves from the elements and other arthropods. This is supported with stories of fossils that have been found and the use of diagrams and figures. The authors admit they are unsure if the ancestors of spiders possessed an ability to produce silk, but suggest that it may have been used and would have been of great benefit. The distinctions between the main groups of spiders are discussed, and from here the evolution of different silks and their glands is explored. One of the silks covered is major ampullate silk, used for orb-web structural supports in the large orb-weaver spiders (e.g. *Nephila*), ballooning by spiderlings and as a dragline safety harness, for example by *Portia fimbriata* (Doleschall, 1859), a jumping spider that stalks and ambushes other salticids by dropping down on them using a major ampullate dragline to control its descent.

As well as the different types of silk that are covered, we are directed through the different products of silk glands on a molecular scale. The spiders' use of different glands and different protein combinations explains why it is so hard for scientists to recreate the specialised threads that spiders prepare so effortlessly. A description of how the silk glands are thought to have evolved, and how they produce different silks is given, with figures used to help visualise these processes.

Research into the area of synthetic silk production is another focus of the book. Blended with the history of silk use, supported by diagrams and colour images, the authors introduce the chemical and molecular research being done to try and synthetically produce spider silk on a commercial scale. Genetics and the chemical make-up of different types of silk are introduced in such a way that the layperson can gain an understanding of the terms and appreciate just how complicated the structure of silk is. Descriptions are aided with figures to help even the novice get their head around these sometimes difficult concepts.

Each chapter can be read on its own with just enough information from previous chapters to gain an understanding of what is being discussed. The closing paragraphs of each chapter also give a concise summary of the previously presented material. On top of the easy to read structure, snippets of 'light hearted' material are added for interest and humour. The use of a glossary at the back is a nice touch, and a comprehensive index is included. With structure, humour, history, clear language and images, the authors seem to have thought of everything to make their book accessible and interesting for everyone. I would recommend *Spider Silk* as an ideal coffee table addition, and it may even spark the interest of future arachnologists, evolutionary biologists or geneticists.

---

## Call for specimens: Re. Trapdoor Spiders (Idiopidae)

By Mike Rix<sup>1</sup>, Mark Harvey<sup>1</sup>  
and Andy Austin<sup>2</sup>

<sup>1</sup>Western Australian Museum, 49 Kew Street,  
Welshpool, Western Australia 6106, Australia

<sup>2</sup>University of Adelaide, North Terrace, Adelaide,  
South Australia 5005

Dear Colleagues,

This is a general (advance) request for any trapdoor spider specimens of the family **Idiopidae**. Could members please keep an eye out for these spiders, and if wandering specimens or disturbed burrows are discovered and are able to be collected (e.g. in gardens or on unprotected bush properties), could they please be lodged **alive** with your state Museum? We are hoping to undertake a broad-scale systematic study of the family Idiopidae across Australia (starting 2012), for which we require fresh material ready for DNA sequencing.



Male *Anidiops (Gaius)* sp. from  
Western Australia.

Image by Volker Framenau.

The Idiopidae are one of several burrowing mygalomorph spider families in Australia, and species typically build open burrows in moist forests or closed burrows with highly camouflaged 'plug-like' doors, the latter in both wet and arid habitats (see images, below).



Female *Arbanitis longipes* (L. Koch, 1873)  
from near Brisbane, Queensland.  
Image by Robert Raven.



Open burrow of *Arbanitis longipes* (L. Koch, 1873)  
from near Brisbane, Queensland.  
Image by Robert Raven.



Closed, cryptic burrow of *Aganippe* sp.  
from near Arthur River, Western Australia.  
Image by Mike Rix.

If you find a specimen and require information on preservation or shipping, please feel free to contact one of us via email:

**M. Rix:** [michael.rix@museum.wa.gov.au](mailto:michael.rix@museum.wa.gov.au);

**M. Harvey:** [mark.harvey@museum.wa.gov.au](mailto:mark.harvey@museum.wa.gov.au);

**A. Austin:** [andy.austin@adelaide.edu.au](mailto:andy.austin@adelaide.edu.au).

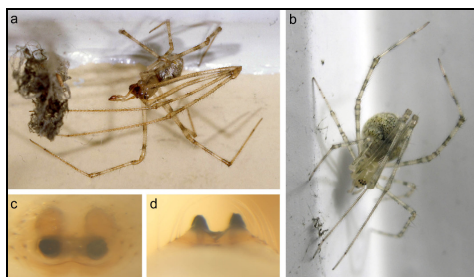
## Call for specimens: Re. *Theridion gigantipes* Keyserling

By **Helen Smith** *et al.*

Australian Museum, 6 College Street, Sydney,  
New South Wales 2010, Australia

Dear Colleagues,

We are investigating the distribution and possible spread of a distinctive, but little known, theridiid spider. *Theridion gigantipes* Keyserling, 1890 was first described from Sydney, and the distribution was recorded as New South Wales and Victoria by Rainbow (1911); it is also recorded in New Zealand. The species is usually rather pale in colour and both males and females have extremely long legs (see photos, below). The body size of a large female can approach that of a redback spider, but specimens of *T. gigantipes* usually look smaller due to the pale coloration. Unlike redbacks, males are of a similar size to females.



*Theridion gigantipes* (Keyserling):  
(a) male habitus; (b) female habitus; (c,d) female  
genitalia, ventral and posterior views.

In south-eastern Australia these spiders sometimes live inside buildings, but are most often found around the outside of houses, where they make tangled webs in sheltered positions, such as the corners of verandas and porches or under outside furniture. In the past this species has often been misidentified as *Cryptachaea veruculata* (Urquhart) because of the similarity of the female genitalia (see photos), or



*Parasteatoda tepidariorum* (C. L. Koch), which may occur in similar situations (both species were previously in the genus *Achaearanea* Strand). We are not aware of any records of *T. gigantipes* biting humans or pets.

We would greatly appreciate any information on this species, as well as specimens to confirm the identity and for molecular sequencing. We are trying to assess:

1. Current distribution;
2. Whether there has been a range increase (e.g. did you suddenly start finding specimens in your area?);
3. Information relevant to its colonising ability and potential to cause problems (e.g. ability to survive high/low temperatures or humidity; and records of bites or prey animals);
4. Genetic diversity (for COI mtDNA).

Please contact one of us with any information or if you can supply one or more specimens for our study. We can provide assistance and advice concerning suitable preservation methods and postage.

In Australia:

**Helen Smith:** [helen.smith@austmus.gov.au](mailto:helen.smith@austmus.gov.au).

In New Zealand (or from elsewhere):

**Cor Vink:** [Cor.Vink@agresearch.co.nz](mailto:Cor.Vink@agresearch.co.nz);

**Phil Sirvid:** [Phils@tepapa.govt.nz](mailto:Phils@tepapa.govt.nz);

**Mike Fitzgerald:** [bmfitzgerald@ezysurf.co.nz](mailto:bmfitzgerald@ezysurf.co.nz).

## References

Keyserling, E. (1890). *Die Arachniden Australiens*. Nürnberg, Vol. 2, pp. 233-274.

Rainbow, W. J. (1911). A census of Australian Araneidae. *Records of the Australian Museum* **9**, 107-319.

---

## Recent Australasian Arachnological Publications

This column provides an informal list of arachnological publications issued since the last edition of *Australasian Arachnology*. These include publications on Australasian arachnids

or papers written by Australasian arachnologists. If members would like to see their publications listed here please feel free to send me reference lists for the next edition.

Blick, T. and Harvey, M.S. (2011). Worldwide catalogues and species numbers of the arachnid orders (Arachnida). *Arachnologische Mitteilungen* **41**, 41-43.

Brennan, K.E.C., Moir, M.L. and Wittkuhn, R.S. (2011). Fire refugia: the mechanism governing animal survivorship within a highly flammable plant. *Austral Ecology* **36**, 131-141.

Broadberry, J. (2011). Badge spider (*Neosparassus diana*). *Field Nats News* **209**, 3.

Clemente, C.J., McMaster, K.A., Fox, E., Meldrum, L., Stewart, T. and Main, B.Y. (2010). The visual system of the Australian wolf spider *Lycosa leuckartii* (Araneae: Lycosidae): visual acuity and the functional role of the eyes. *Journal of Arachnology* **38**, 398-406.

Cooper, S.J.B., Harvey, M.S., Saint, K.M. and Main, B.Y. (2011). Deep phylogeographic structuring of populations of the trapdoor spider *Moggridgea tingle* (Migidae) from southwestern Australia: evidence for long-term refugia within refugia. *Molecular Ecology* **20**, 3219-3236.

Crews, S.C. and Harvey, M.S. (2011). The spider family Selenopidae (Arachnida, Araneae) in Australasia and the Oriental Region. *ZooKeys* **99**, 1-103.

Dimitrov, D. and Hormiga, G. (2011). An extraordinary new genus of spiders from Western Australia with an expanded hypothesis on the phylogeny of Tetragnathidae (Araneae). *Zoological Journal of the Linnean Society* **161**, 735-768.

Framenau, V.W. (2011). Description of a new orb-weaving spider species representing the first record of *Novaranea* in Australia (Araneae: Araneidae: Araneinae). *Zootaxa* **2793**, 47-55.

Grisnado, C.J., Deeelman, C. and Baehr, B. (2011). The goblin spider genus *Aprusia* Simon, 1893 (Araneae: Oonopidae). *American Museum Novitates* **3706**, 1-21.

Guzik, M.T., Austin, A.D., Cooper, S.J.B., Harvey, M.S., Humphreys, W.F., Bradford, T., Eberhard,

S.M., King, R.A., Leys, R., Muirhead, K.A. and Tomlinson, M. (2011). Is the Australian subterranean fauna uniquely diverse? *Invertebrate Systematics* **24**, 407-418.

Harvey, M.S. (2011). *Cheiridium tetrophthalmum* Daday, a new synonym of *Larca lata* (Hansen) (Pseudoscorpiones, Larcidae). *Arachnologische Mitteilungen* **41**, 31-33.

Harvey, M.S. and Mahnert, V. (2011). *Neobisium* Chamberlin, 1930 (Arachnida, Pseudoscorpiones): proposed precedence over *Blothrus* Schiödte, 1847. *Bulletin of Zoological Nomenclature* **68**, 47-53.

Harvey, M.S., Rix, M.G., Framenau, V.W., Hamilton, Z.R., Johnson, M.S., Teale, R.J., *et al.* (2011). Protecting the innocent: studying short-range endemic taxa enhances conservation outcomes. *Invertebrate Systematics* **25**, 1-10.

Langlands, P.R., Brennan, K.E.C., Framenau, V.W. and Main, B.Y. (2011). Predicting the post-fire responses of animal assemblages: testing a trait-based approach using spiders. *Journal of Animal Ecology* **80**, 558-568.

Milledge, G.A. (2011). A revision of *Storenosoma* Hogg and description of a new genus, *Oztira* (Araneae: Amaurobiidae). *Records of the Australian Museum* **63**, 1-32.

Moir, M.L., Brennan, K.E.C., Fletcher, M.J., Majer, J.D. and Koch, J.M. (2011). Multi-scale patterns in the host-specificity of plant-dwelling arthropods: the influence of host plant and temporal variation on species richness and assemblage composition of true bugs (Hemiptera). *Journal of Natural History* **in press**.

Moir, M.L., Vesk, P.A., Brennan, K.E.C., Hughes, L., Keith, D.A., McCarthy, M.A., *et al.* (2011). A preliminary assessment of changes in plant-dwelling insects when threatened plants are translocated. *Journal of Insect Conservation* **in press**.

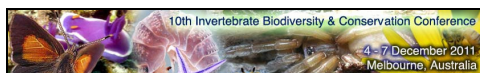
Moir, M.L., Vesk, P.A., Brennan, K.E.C., Keith, D.A., McCarthy, M.A. and Hughes, L. (2011). Identifying and managing threatened invertebrates through assessment of coextinction risk. *Conservation Biology* **25**, 787-796.

Rix, M.G. and Harvey, M.S. (2011). Australian Assassins, Part I: A review of the Assassin Spiders (Araneae, Archaeidae) of mid-eastern Australia. *ZooKeys* **123**, 1-100.

Vink, C.J., Derraik, J.G.B., Phillips, C.B. and Sirvid, P.J. (2011). The invasive Australian redback spider, *Latrodectus hasseltii* Thorell 1870 (Araneae: Theridiidae): current and potential distributions, and likely impacts. *Biological Invasions* **13**, 1003-1019.

Vink, C.J., Hutton, R.W. and Fraser, C. (2011). The mysterious Waitetola, type locality of several New Zealand spiders. *The Weta* **41**, 35-37.

## Conferences



### 10th Invertebrate Biodiversity & Conservation Conference

**Where:** University of Melbourne, St Mary's College, Melbourne, Victoria

**When:** 4-8 December 2011

**Website:** [www.ibcc2011.org](http://www.ibcc2011.org)

**Contact:** Sally Brown [sally.brown@uq.net.au](mailto:sally.brown@uq.net.au)

Registration open March 2011. Deadline for receipt of Abstracts **30 September 2011**.



### 4<sup>th</sup> International Barcode of Life Conference

**Where:** University of Adelaide, Adelaide, South Australia

**When:** 29 November – 3 December 2011

**Website:** <http://www.dnabarcodes2011.org/>

**Australasian Arachnology**  
**Issue 82**  
**August 2011**

**Contents**

Editorial .....	3
Membership Updates .....	4
General Announcements .....	4
<b>Arachnid Research <i>In Focus</i>...Flatties (Selenopidae) .....</b>	<b>4</b>
<b>Arachnid Research <i>In Focus</i>...Assassin Spiders (Archaeidae)....</b>	<b>5</b>
<b>Feature Article: Gossamer Extraordinaire!</b> <b>by Volker Framenau .....</b>	<b>5</b>
<b>Feature Article: Arachno-Tourism in New Zealand</b> <b>by Robert Whyte .....</b>	<b>8</b>
<b>Book Review: <i>Spiders of Bendigo and the Box Ironbark</i></b> <b><i>Country</i> by J. Shield</b> <b>by Julianne Waldock.....</b>	<b>9</b>
<b>Book Review: <i>Spider Silk</i> by L. Brunetta &amp; C. Craig</b> <b>by Sharon Zuddam .....</b>	<b>11</b>
<b>Call for specimens: Re. Trapdoor Spiders (Idiopidae)</b> <b>by Mike Rix and Mark Harvey .....</b>	<b>12</b>
<b>Call for specimens: Re. <i>Theridion gigantipes</i> Keyserling</b> <b>by Helen Smith <i>et al.</i> .....</b>	<b>13</b>
Recent Australasian Arachnological Publications.....	14
Conferences.....	15



Lynx spider (Oxyopidae) from Mount Lewis, Queensland.  
Image by Greg Anderson.