THE AUSTRALASIAN ARACHNOLOGICAL SOCIETY

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:

Volker W. Framenau
Department of Terrestrial Zoology
Western Australian Museum
Locked Bag 49, Welshpool DC, W.A. 6986
Email: volker.framenau@museum.wa.gov.au

Membership fees in Australian dollars (per 4
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<th>*discount</th>
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<tr>
<td>Australia</td>
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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 (see page 3).

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

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 submiss-
ions 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 photo-
copies. For all enquiries concerning publica-
tions please contact our Librarian:

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

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

COVER ILLUSTRATION

Tangle-Web Spider (Family Theridiidae):
♀ Thwaitesia sp.
from Walton Bridge Reserve, Queensland.
Image by Robert Whyte
EDITORIAL...

Welcome to Issue 80 of Australasian Arachnology! The first half of 2010 has seen a flurry of arachnological activity, with 12 new AAS members, many new publications from Australasian arachnologists and a well-attended international congress in Siedlce, Poland. Interest in the remarkable arachnid faunas of Australia and New Zealand seems ever-increasing, and this issue really highlights the wonderful contributions being made by both amateur and professional arachnologists alike.

Since the last issue of the newsletter I have watched with great interest the development of the ‘Australian Spiders’ Group on the photo-sharing website flickr® (see article in Issue 79 by Volker Framenau) and have been amazed and inspired by the contributions of several of our members. The 18th International Congress of Arachnology in Siedlce, Poland, was a great success, and once again allowed researchers from all over the world to touch base and talk about anything and everything ‘arachnological’. Many of our members were able to attend, and special thanks are due to Marek Žabka, Barbara Patoleta and others for organising such an enjoyable and productive gathering.

It is with some sadness, however, that I write this editorial, after the handing-over of secretarial duties by Richard Faulder. Richard served as the society’s Administrator since 1983, and has recently had to pass on this role to Volker Framenau due to ill health. I would like to sincerely thank Richard on behalf of the AAS for all of his efforts over many decades, and wish him the speediest of recoveries. Condolences are also extended to long-serving member Barbara Main, after the passing of her husband Bert in late 2009. Several of our members knew Bert well, and he will be dearly missed by many.

In the December 2009 edition of Australasian Arachnology, I wrote to several members asking if they would be happy to reduce the number of printed copies of the newsletter, and convert to receiving PDF copies via email. All new members currently receive only a PDF version of the newsletter, and many long-standing members also agreed to switch to the PDF-only option. Due to environmental, logistical and time constraints, it has therefore been decided that Australasian Arachnology will now only be disseminated to individual members as an electronic PDF via email. This is a significant change for the Society, but one that will hopefully streamline the newsletter editorial process, and facilitate a more regular publication. Several long-standing members have not provided the Society with a current email address, and these members will receive a letter explaining the situation, and asking them if an email address can be provided. Obviously, if any member is unable to access a computer or provide an email, a hard copy will still be available to be sent.

In this issue Robert Whyte examines the results of a recent community bush-care initiative in Brisbane, where he has undertaken a study of spider diversity in the local Enoggera Creek Catchment. It is wonderful to see our members engaged so effectively with local conservation groups, and Rob is forging ahead in his efforts to survey, identify and photograph Brisbane’s spiders. Ed Nieuwenhuys also introduces us to his website on Australian and European spiders, and provides some interesting statistics on web visitation and access since 2006. Readers can also find summary and ordering information for the impressive new title Spiders of New Zealand by Pierre Paquin, Cor Vink and Nadine Dupéré.

Please consider contributing articles for inclusion in future editions and I wish all members the very best for the rest of 2010!

Cheers,

Mike
MEMBERSHIP UPDATES

New Members:

**Nicholas Birks**  
Norwood, South Australia 5067

**Malcolm Burden**  
Gosnells, Western Australia 6990

**David Court**  
Singapore 680273, Singapore

**Justin Hunter**  
Miranda, New South Wales 2228

**Kristen Jacyna**  
Irymple, Victoria 3498

**Alice Maghami**  
Lake Gardens, Victoria 3355

**Robert Pfeifle**  
Stuttgart 70619, Germany

**Adrian Rakimov**  
Kewdale, Western Australia 6105

**Val Shelton-Bunn**  
Hobart, Tasmania 7001

**Luke Tilly**  
Castle Hill, New South Wales 2154

**Robert Whyte**  
The Gap, Queensland 4061, Australia

**Sharon Zuiddam**  
High Wycombe, Western Australia 6057

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`‘Spidiversity’`

by **Robert Whyte**

At *Save our Waterways Now* (see [http://www.saveourwaterwaysnow.com.au/default.asp](http://www.saveourwaterwaysnow.com.au/default.asp)) we identify and protect pockets of good-quality remnant habitat along urban creeks and waterways in the west and north-west of Brisbane. We attempt to improve and extend these remnants, removing weeds and planting locally-native species. Essentially, we are trying to repair disturbed ecosystems and reconnect habitat corridors.

In Brisbane’s west we are fortunate in having very leafy suburbs with direct physical connections to surrounding national parks and conservation reserves. In this ‘green’ area, a great many people are keen to be involved in restoring habitat and making bush-friendly gardens. This article documents a relatively informal attempt to count and identify plants and spiders, and to compare spider abundance and diversity in the region’s ‘best quality’ dry rainforest remnants.

**The benefits to taxonomy**

In the 2005 Brisbane City ‘Terrestrial Invertebrate Status Review’ (TISR), conducted by the Queensland Museum, the authors listed some of the benefits of choosing invertebrates for assessing biodiversity. It was noted that “…even in these early stages of development, the [TISR] database has a number of potentially important uses: directing additional field studies to improve our understanding of the role of invertebrates in sustaining Brisbane City’s green space; developing rapid assessment tools for bushland management including the effects of council fire regimes on ecosystem health; taxonomic studies; improving community appreciation of the city’s biodiversity; and developing a list of significant invertebrates of Brisbane City.” (Stanisic et al., 2005). For
understudied groups like spiders, encouraging greater contributions from motivated, well-informed naturalists of all kinds, working under the guidance of experts, could be one way to move our science forward.

**Why spiders?**

Because spiders are generalist predators, eating mainly insects and other arthropods, they can tell us a lot about the ecology of the areas they inhabit. Occurring in great numbers in most terrestrial niches, spiders have the potential to act as indicator species on a relatively fine scale. Indeed, although many spiderlings can balloon great distances into new habitats, they may not survive into adulthood if these new habitats are too harsh or contain insufficient food. As such, I was interested in exploring whether spiders may be useful as biodiversity indicators in the Enoggera Creek catchment of Brisbane.

![Figure 1. Sampling spiders in Cape Honeysuckle (Tecomaria capensis) at Walton Bridge Reserve, Brisbane. Image by Mark Crocker.](image)

**To weed or not to weed?**

In the autumn of 2009 it came time to remove an infestation of Cape Honeysuckle (*Tecomaria capensis*) at Walton Bridge Reserve – a remnant dry rainforest at The Gap, Brisbane. The weed was growing in a dense thicket and seemed to present as a reasonably good habitat for many animals. The question then arose – should the Cape Honeysuckle be removed, or was it nonetheless acting as important remaining habitat? Before removal I decided to sample the Cape Honeysuckle thicket and compare it with the remnant dry rainforest habitat just next to it.

With a white plastic tray I sampled the foliage by beating (see Fig. 1) and I identified the spiders to morpho-species. I did a rough estimate comparing spider numbers and diversity between the weedy thicket and the adjacent dry rainforest (admittedly not controlling for remnant size or sampling effort) and on average, I found the remnant habitat had about three times as many genera as the weedy thicket. In absolute numbers, the remnant also had about five times as many specimens. These preliminary results suggested that at least for spiders, the weedy thicket had substantially lower diversity than the nearby dry rainforest remnant. This was reassuring prior to our weeding efforts at Walton Bridge Reserve, and confirmation of the need to remove invasive species like Cape Honeysuckle.

**A bigger sample…**

My next comparison was on a much bigger scale: comparing a 1400 m$^2$ garden block (at Bromwich Street, The Gap) with 1400 m$^2$ of dry rainforest (at Walton Bridge Reserve). Both sites were very close to each other and had a similar climate, geology, topography and altitude. In the rainforest remnant there was a large cleared area (i.e. an old camping ground), of similar size to the house on the garden block (see Fig. 2). Compared to the garden, the dry rainforest remnant had much more complex and diverse ground and canopy cover. Of the 66 plant species recorded in the rainforest remnant,
57 were locally-native species and nine were exotic. The front section of the garden block had a medium density mixture of traditional ornamental plants, locally native species and a vegetable patch. The northern strip was about two metres wide and had native species with high plant diversity. Behind the house was an open grassed area adjacent to densely-planted local dry rainforest species. Of the 57 plant species in the garden, 36 were locally-native and 21 were exotic.

Results and comparison
Spider abundance and diversity were clearly greater in the dry rainforest remnant than in the garden block, and these data are presented in Tables 1-3. Genera identified in the dry rainforest sample but not in the garden sample were: Achaearanea, Anelosinus, Ariamnes, Chrysso, Dipoena, Episinus, Euryopis, Moneta, Phoroncidia (all Theridiidae), Arkys, Cyclosa, Dolophones, Poecilopachys (all Araneidae), Australomimetus (Mimetidae), Avella, Deinopis (both Deinopidae), Bomis, Cymbacha, Hedana, Stephanopis, Tharypna, Tmarus, Xysticus (all Thomisidae), Clubiona (Clubionidae), Damoetas, Hasarius, Lycidas (all Salticidae), Megadolomedes, Perenethis (both Pisauridae), Neosparassus (Sparassidae), Storosa (Zodariidae), Tetragnatha (Tetragnathidae) and Tibellus (Philodromidae).

![Figure 2. Maps showing the physical layout of surveyed plots at Walton Bridge Reserve (top) and Bromwich Street, The Gap (bottom).](image)

Table 1. Numbers of spider specimens, families, genera and species collected in the dry rainforest and garden blocks.

<table>
<thead>
<tr>
<th>Dry Rainforest</th>
<th>Garden</th>
</tr>
</thead>
<tbody>
<tr>
<td>932 spiders (5.3 x)</td>
<td>172 spiders</td>
</tr>
<tr>
<td>17 families (1.3 x)</td>
<td>13 families</td>
</tr>
<tr>
<td>60 genera (2.2 x)</td>
<td>27 genera</td>
</tr>
<tr>
<td>96 species (2.7 x)</td>
<td>35 species</td>
</tr>
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</table>

Table 2. Numbers of specimens (in parentheses) of the five most abundant spider species collected in the dry rainforest and garden blocks.

<table>
<thead>
<tr>
<th>Dry Rainforest</th>
<th>Garden</th>
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<tbody>
<tr>
<td>Oxyopes sp. A (93)</td>
<td>Eriophora sp. A (21)</td>
</tr>
<tr>
<td>Theridion sp. A (51)</td>
<td>Oxyopes sp. A (18)</td>
</tr>
<tr>
<td>Cheiracanthium sp. A (46)</td>
<td>Badumna sp. (14)</td>
</tr>
<tr>
<td>Theridion sp. B (39)</td>
<td>Oxyopes sp. B (11)</td>
</tr>
<tr>
<td>Mopsus mormon (34)</td>
<td>‘Araneus’ sp. A (11)</td>
</tr>
</tbody>
</table>

Species of Oxyopes and Cheiracanthium, along with some theridiid and salticid taxa (e.g. Mopsus mormon), seem very common everywhere in Brisbane and turned up in significant numbers at both locations, whereas the Eriophora and Badumna species were more common in the garden block than they were in the dry rainforest remnant (see Table 2).

Table 3. Numbers of specimens (in parentheses) of the five most abundant spider families collected in the dry rainforest and garden blocks.

<table>
<thead>
<tr>
<th>Dry Rainforest</th>
<th>Garden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theridiidae (238)</td>
<td>Araneidae (43)</td>
</tr>
<tr>
<td>Salticidae (136)</td>
<td>Oxyopidae (39)</td>
</tr>
<tr>
<td>Oxyopidae (134)</td>
<td>Salticidae (36)</td>
</tr>
<tr>
<td>Thomisidae (118)</td>
<td>Thomisidae (17)</td>
</tr>
<tr>
<td>Araneidae (93)</td>
<td>Desidae (14)</td>
</tr>
</tbody>
</table>

Theridiidae was the most abundant spider family in the rainforest remnant but was much less common in the garden (see Table 3). Relatively high numbers of Desidae in the garden was not unexpected, as species of Badumna are particularly common around built structures. The presence of large numbers of Araneidae in the garden also fits with observations that orb-weaving spiders find suburban habitats relatively attractive. Families in the dry rainforest remnant that were not in the garden were: Clubionidae (sac spiders),
Deinopidae (net-casting spiders), Mimetidae (pirate spiders), Philodromidae (swift crab spiders), Tetragnathidae (large-jawed spiders) and Zodariidae (swift ground spiders).


**Indicator species?**

These preliminary results (detailed in the online appendices, see above) highlight some interesting questions. I was most interested in whether some spider species might be found more often in remnant habitats and less frequently elsewhere, and if so, whether these taxa could be useful as bio-indicators? The utility of this approach may of course be limited to a fairly small area, and this informal study is highly preliminary, but the observation that a number of spider species were missing from the more degraded urban habitat seemed worth pursuing. In this particular study the strong contenders for potential indicators were Arkys, Chrysso, Poecilopachys, Tharpyna and Thwaitesia. Of these five genera, Thwaitesia (see Figs 3-4) seemed the most promising. Indeed, 31 specimens of Thwaitesia were found in the dry rainforest remnant, while only one specimen was found in the garden (see Table 4).

**Table 4.** Numbers of specimens of five possible indicator species collected in the dry rainforest (+/- garden) block/s.

<table>
<thead>
<tr>
<th>Taxon</th>
<th>Dry Rainforest</th>
<th>Garden</th>
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<tbody>
<tr>
<td>Arkys sp. A</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Chrysso sp. A</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Poecilopachys sp. A</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Tharpyna sp. A</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Thwaitesia sp. A</td>
<td>31</td>
<td>1</td>
</tr>
</tbody>
</table>

Thwaitesia is a distinctive and very pretty theridiid genus, with species easy to recognise and reasonably easy to photograph. Due to their reflective abdominal colouration and arboreal nature, specimens are even able to be identified while still immature. Species of Thwaitesia appear to exhibit substantial intraspecific variation, but the genus is nonetheless distinctive, even when compared to Chrysso and other sympatric theridiid genera.

**Conclusions**

The observations presented in this article paint a preliminary picture of spider diversity in remnant rainforest habitats in the northern suburbs of Brisbane. While the conclusions are of a very limited scope, the idea that there would be a greater abundance and diversity of taxa in ‘better quality habitats’ seems reasonable, and having a reliable indicator species would be a great benefit for community bush-care groups. Indeed, the concept of
comparing spider abundance and diversity in these forest systems seems worthwhile, if only to engender a greater appreciation of arachnids amongst bush-carers and the general public.

References

Robert Whyte is an amateur arachnologist in Brisbane, Australia. He is Vice President of Save Our Waterways Now, based in the Enoggera Creek Catchment.

On the web since 1996…
spiders from Europe and Australia
www.xs4all.nl/~ednieuw

by Ed Nieuwenhuys
Badhoevedorp 1171GH, The Netherlands

In the mid 1970s I worked in Amsterdam, helping to identify wasp venom allergens for the Amsterdam Blood Transfusion Service. Catching wasps of the genus Vespula was great fun and, having just purchased a camera, I began taking pictures. As a result of these experiences my interest in macro-photography was born, and because insects fly away, I soon decided spiders were better targets!

I wanted to highlight these photographs online in the early days of the world-wide-web, and my first pages, published in March 1996, probably contained some of the earliest spider images on the Internet. I started with virtually no knowledge of spiders and all I had for references were a couple of spider books. The website nonetheless began to grow quickly, and most of my new images were of European taxa photographed during holidays in France.

I initially made contact with arachnologists from the British Arachnological Society and Arachnologia Belgica, who very generously helped me with spider identifications and provided information on natural history and biology. In 1997 I visited Queensland on holiday, and my friend Ronald Loggen and I took over 1500 pictures. We were still using film cameras in the 1990s, and we individually printed each roll when it was full. As a result, we returned to Europe with several kilograms of pictures and spent months trying to identify them from reference books including The Silken Web (by Bert Brunet), Australian Spiders in Colour (by Ramon Mascord), A Guide to Australian Spiders (by Densey Clyne) and Australian Spiders (by Keith McKeown). I have returned to Australia several times since 1997 and visited other parts of the country, but have never found quite as many different species as in Queensland on that first visit.

The website ‘Spiders of Australia’ (see http://www.xs4all.nl/~ednieuw/australian/Spiders.html) now includes over 700 images of species from Queensland, New South Wales, Victoria, the Northern Territory and Western Australia, and I now also maintain a database of some 10,000 images, with details including the name, date, location, website address and photo details (see Fig. 2). In the 14 years my web site has been online it has had many visits, and I have always tried to keep it useful for amateurs. I receive many emails and add the information I learn from experts whenever possible.

Figure 1. Female Jumping Spider (Mopsus mormon) from northern Australia. Image by Ed Nieuwenhuys.
Website format and statistics

The website (see www.xs4all.nl/~ednieuw) has two main parts, ‘Spiders of North-West Europe’ and ‘Spiders of Australia’. In the year February 2007 to February 2008 there were 604,884 visits to the website with 1.5 million page views. There were more visits to the Australian site than to the European one and Australians stayed much longer on the page than other visitors. Nearly 70% of the visitors to my website are referred by internet search engines (see Fig. 3), with some visitors looking for general spider information (e.g. on topics like silk or web construction), whereas others (i.e. about half of all visitors) are looking for images of particular groups, usually crab or jumping spiders. The search string “Australian spiders” is the most popular, with most visits sourced from North America (see Fig. 4). Attached are a number of graphs highlighting website statistics for the period 2006-2009. These data show a high and continuing interest in the website, with nearly 1.5 million people visiting since 2006.

I hope to continue expanding and developing the website over coming years, so please do not hesitate to contact me if you have any information or questions regarding the site or its content. I am also trying to update image identification data with the help of experts, to help make the website as accurate and informative as possible.
Call for Specimens:
Re. Australian Redback Spiders
(Latrodectus hasseltii)

by Cor Vink

Biosecurity Group, AgResearch, Lincoln Science Centre, Private Bag 4749, Christchurch 8140, New Zealand

Dear Colleagues,

This is a request for redback specimens for a molecular study. I am particularly interested in specimens from South Australia, Northern Territory, Victoria, Tasmania and Queensland. Ideally specimens should be preserved in propylene glycol, which is excellent for the preservation of DNA and is also safe for postage. I can send propylene glycol as required. Adult specimens are preferred, but immatures are also OK.

For further information please contact Cor Vink at:
Cor.Vink@agresearch.co.nz
or call +64 3 325 9990.

Spiders of New Zealand
Annotated Family Key & Species List
Manaaki Whenua Press, 2010

By Pierre Paquin, Cor J. Vink and Nadine Dupérré

The authoritative identification manual for the 57 spider families of New Zealand.

It features more than 500 magnificent, detailed illustrations, a key to the spider families found in New Zealand, an introduction that includes notes on spider anatomy and some tips for specimen examination, and a comprehensive bibliography.

All 57 families are addressed, each in a dedicated chapter, with illustrations of exemplar species and morphological features, a complete species list, and information on diversity, diagnostic characters, taxonomic notes, key references, habitat and distribution.

Spiders of New Zealand is an essential reference for students, spider enthusiasts, ecologists, and biosecurity personnel, and for anyone who needs to identify New Zealand spiders.

For full ordering information contact Manaaki Whenua Press, at:
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.


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