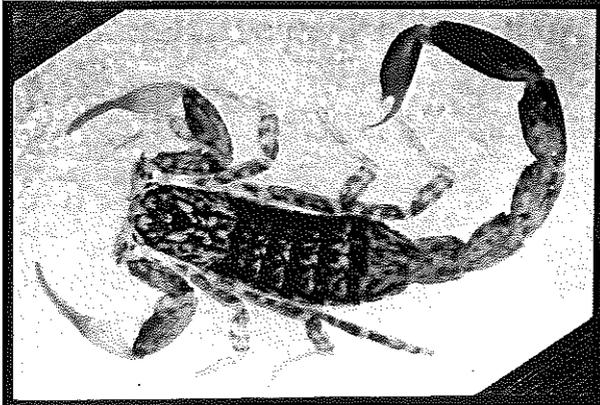


# AUSTRALASIAN ARACHNOLOGY



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## THE AUSTRALASIAN ARACHNOLOGICAL SOCIETY

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

### MEMBERSHIP

Membership is open to amateurs, students and professionals, and is managed by our Administrator :

Richard J. Faulder  
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Yanco, New South Wales 2703. Australia.

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The Status box on the envelope indicates the last issue for which you have paid.

Previous issues of the newsletter are available at \$2 per issue plus postage.

## ARTICLES

The newsletter depends on your contributions ! We encourage articles on a range of topics including current research activities, student projects, upcoming events or notable behavioural observations.

Please send articles to the editor as :

i) email attachments, in text, or preferably MS Word, format to :

[tracey.churchill@terc.csiro.au](mailto:tracey.churchill@terc.csiro.au)

ii) typed or legibly written articles on one side of A4 paper, or on disk (returned only upon request) to :

Dr Tracey Churchill  
CSIRO Wildlife & Ecology  
PMB 44 Winnellie N.T. 0822.  
Australia.

## LIBRARY

The AAS has a large number of reference books, scientific journals and scientific papers available for loan or as photocopies, for those members who do not have access to a scientific library. Professional members are encouraged to send in their arachnological reprints. Contact our librarian :

Jean-Claude Herremans  
P.O. Box 291  
Manly,  
New South Wales 2095. Australia.

or email : [jcl@eagles.bbs.net.au](mailto:jcl@eagles.bbs.net.au)

COVER PHOTOGRAPH : *Lychas* sp.  
by T. Churchill & G. Wanganeen

## EDITORIAL



As the Wet season winds down, here in the tropics, the days are getting hot and steamy again. The arachnids are happy. The tall annual grasses, yet to be flattened by the April "knock 'em down" storms, support many webs, and provide foraging surface for the oxyopids and salticids. Lots of dragonflies and other insects are still around to offer smorgasbords of tucker for our favourite predators. As wonderful as nature is, though, there are still opportunities for evolution. Flying spiders, for example, to catch the mosquitoes that increase in abundance at this time of year? Just a thought from an unlucky recipient of Ross River virus! Imagine the potential benefits to public health, the improved perception of our much maligned arachnids, and this newsletter arriving a month earlier!

In this issue, we have the pleasure of sharing the privileged insights Michael Gray had into the life of Glenn Hunt (who is already missed by many) and the new information Peter Hudson has acquired on our salt lake lycosids. I'm sure there's lots more happening out there – so please send in your articles for future issues!

..... Tracey

MEMBERSHIP  
CHANGES

## Change of Address

Lynne Kelly  
PO Box 549  
Hurstbridge  
Victoria 3099

OBITUARY

## GLENN STUART HUNT

1944 - 1999

An appreciation - by Dr Michael Gray

I first met Glenn Hunt many years ago when he visited me at the Australian Museum and announced in his cheery, inimitable style that he was interested in studying harvestmen. These rather endearing, barrel-shaped, sedentary arachnids were poorly known in mainland Australia, making Glenn's interest in them especially useful. We also found that we both had an interest in cave faunas. Glenn was well known in caving circles and a long-standing member of Sydney University Speleological Society. That was the start of a long & rewarding relationship.

At that time Glenn was teaching at Malvina High School in Sydney and the field trips cum bushwalks that we did together were more often than not accompanied by large bunches of students from Glenn's science classes. One of these trips became quite dramatic when one of the group developed an acute illness at a camp deep within the Budawang Ranges in southern New South Wales. Glenn marched off to get help and reappeared much later like Zeus from the clouds in a naval helicopter from Nowra. I was severely impressed by this

and soon realised that things were rarely dull around Glenn.

In the early 1970's Glenn joined the Australian Museum as an Education Officer. This position fitted in well with his continuing research interests. Besides being a gifted educator, Glenn involved himself fully in museum activities, ranging from running exhibition teams to acting as museum Santa Claus, a role for which he was clearly pre-adapted. I can well remember my daughter's astonishment after one children's Christmas party to find a rotund Santa Claus disrobing in the Arachnology lab.

It was while he was in Education that Glenn realised an ambition to undertake part-time studies on harvestmen leading to his PhD degree. This was awarded in 1979 for a dissertation entitled "Male Dimorphism and Geographic Variation in the Genus *Equitius*". He followed this a few years later with a major taxonomic publication - a taxonomic and biogeographic review of the harvestman genus *Equitius*.

By this time Glenn was starting to achieve international recognition for his research. He had that ability, essential for good taxonomy, to spot patterns hidden amid a clutter of morphological variation. One variable feature of particular taxonomic importance was the harvestman penis, whose remarkable array of sizes and forms fascinated Glenn and amazed me. He summarised this work in an article aptly titled "The Harvestman's Taxonomic Tool".

However, it was during the past dozen or so years that Glenn's research really flowered and an enduring reputation was

established. This followed his recovery from a serious battle with cancer, soon after which he decided to devote his time fully to his research projects, the family business, and his family, to whom Glenn was devoted. Glenn was able to support his research through a succession of federal government grants from the Australian Biological Resources Study, awarded in recognition of the quality and significance of his work. During this time he also completed a degree in environmental management.

From 1988, Glenn completed major ABRS supported reviews of the Australian harvestmen families Triaenonychidae and Megalopsalidae, culminating in an analysis of evolutionary relationships. However, in 1992 Glenn decided to change his research direction and reinvent himself as a mite taxonomist. This was not an easy task, given that an entirely new taxonomy of a complex and difficult group had to be mastered. Clearly, Glenn liked overcoming challenges. He went on to publish important works on the Australian ground mites (Oribatidae), a group of great significance in biodiversity and monitoring studies. In the process, he pioneered the use of scanning electron micrography as an illustration technique in mite taxonomy, instead of the painstaking line drawings favoured by more established workers.

Glenn's final work was published by the CSIRO in Canberra in 1998 - a Delta-based CD-ROM interactive identification guide to the oribatid mite genera and families of Australia. This was a cooperative project involving six collaborators, a testament to Glenn's networking and scientific ability. Sadly, Glenn's illness prevented him from

attending the official launch of the work in Canberra.

Glenn enjoyed his research, not just the doing of it but also talking about it, whether at conferences, or gatherings like Coopers and Cladistics, or informally with anyone who showed an interest. Typically, Glenn was back at the museum working on two more projects during the weeks before his death. He will be greatly missed by his many colleagues and friends at the Australian Museum and elsewhere. There is no doubt that the scientific legacy that he has left behind will endure.



**First record of the salt lake  
wolf spider, *Lycosa salifodina* McKay,  
from Northern Territory, Australia**

**Peter Hudson**

Dept. of Environmental Biology,  
University of Adelaide,  
South Australia 5005.

*L. salifodina* (see Fig. 1) is one of three described species of wolf spider which inhabit normally dry salt lakes, the others being *Lycosa alteripa* McKay and *Lycosa eyrei* (Hickman). With the exception of a record from Wyola Lakes in South Australia (Hudson, 1996) *L. salifodina* has only been collected from salt lakes in the southern half of the Eastern Goldfields region of Western Australia.

In May, 1995 I found a number of unoccupied spider burrows during a brief

visit to a small lake 31 km east of Curtin Springs Homestead (near Uluru). Piers Brissenden visited the site in July, 1998 but the lake was flooded and no spiders were found. In July, 1999 Deborah Miller collected *L. salifodina* from this and one other nearby lake. These are the first records of this species in Northern Territory and represent a substantial extension to its known distribution - the nearest known locality being Wyola Lakes, about 450km to the south.

Whenever I have collected *L. salifodina* I have also usually found *L. alteripa* or an undescribed species closely related to *L. alteripa* on the same lake. Whilst the material collected by D. Miller contained only *L. salifodina* it is quite possible that a member of the *L. alteripa* / *L. eyrei* lineage may also occur on these salt lakes. These new records of *L. salifodina* are of significance in relation to the biogeography of the salt lake lycosids, especially given the potential "connection" with salt lakes to the west (such as Lakes Amadeus, Neale and Hopkins, and others further into W.A.) and to the south-east via a possible Tertiary drainage system connecting to Lake Eyre (see Jacobson *et al.* 1989; Chen *et al.* ,1993).

I would be pleased to receive any collections of spiders or other invertebrates from salt lakes from this or any other areas in Australia.

I gratefully acknowledge the efforts of Deborah Miller, Piers Brissenden and John Bradbury in the collection of material from these lakes. Ben Severin of Curtin Springs is thanked for permitting access to the lakes. Facilities of the University of Adelaide were used in the preparation of this note.

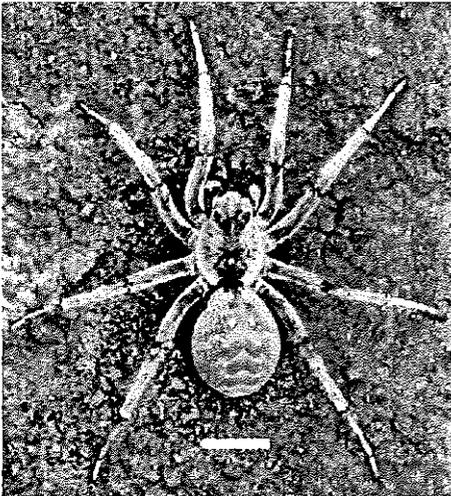
## References

Chen X. Y., Bowler J. M. and Magee J. W. 1993. Late Cenozoic stratigraphy and hydrologic history of Lake Amadeus, a central Australian playa. *Australian Journal of Earth Sciences* 40: 1-14.

Hudson P. 1996. New records of salt lake lycosids in Australia. *Australian Arachnology* 51: 4-5.

Jacobson G., Lau G. C., McDonald P. S. and Jankowski J. 1989. Hydrogeology and groundwater resources of the Lake Amadeus and Ayers Rock region, Northern Territory. *Bureau of Mineral Resources, Geology and Geophysics Bulletin* 230: 1-77.

Fig. 1: A large gravid female *L. salifodina* from Lake Lefroy, Western Australia. (scale :1 cm)



## ARACHNOLOGICAL ACTIVITIES



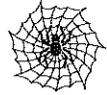
### WESTERN AUSTRALIAN MUSEUM

The Arachnology section of the Western Australian Museum has been pretty active over recent months, with visitors, a conference, fieldwork and heaps of interesting arachnids. Visitors included Robert Raven and Barbara Baehr last September, who spent a week sorting out their favourite creatures (miturgids and their relatives, and zodariids, respectively).

The conference was 'Dampier 300' a joint meeting of the Society of Australian Systematic Biologists and the Australian Society for Systematic Biology, which also incorporated Invertebrate Biodiversity and Conservation. Over 180 delegates, about half of whom were from Western Australia, attended, with several papers highlighting arachnids.

Barbara Main, Julianne Waldoock and Mark Harvey have been scouring the WA wheatbelt searching for some highly endangered trapdoor spiders. Imagine our surprise in March 2000 when we rediscovered the Critically Endangered *Kwonkan eboracum* north of Tammin, a species last sighted in 1969. Also, the largest known population of the Threatened *Aganippe castellum* was found further east. Rumours of Barbara Main hopping about the bush in exultation are largely unfounded.

## C.S.I.R.O.\*, DARWIN

ARACHNOLOGICAL  
OFFERS / REQUESTS**Potential Study Site**

The frantic pace of activity in the spider lab has recently settled. Through collaborative projects with partners of the CRC for Tropical Savannas, survey material from a range of localities across the northern Australian tropics has been under the stereo microscope. The CRC is due for its 5<sup>th</sup> year review in July, and so Tracey Churchill can now turn to writing up the work for the invertebrate bio-indicators program. The surveys were related to assessing impacts of grazing, military training exercises or tree clearing, as well as conservation planning and biogeography. The material continues to produce some really interesting taxa that should keep taxonomists entertained for years to come. The diversity of gnaphosoids just keeps climbing with every survey, and the salticids often defy keying out in Davies and Zabka's 1989 generic key.

One of our Victorian members, Lynne Kelly has recently moved to 7.2 hectares of bush at Watts Lane, Cottles Bridge, (about an hour from the Melbourne CBD). The bush is apparently "crawling with spiders and riddled with burrows". Lynne has suggested that if anyone would like to use her land as an arachnological study site they would be very welcome.

**Red Back Spiders**  
*Latrodectus hasselti*

It has been a team effort and Tracey thanks Catherine Orgeas, who returned to France in December, and Hazel Brown, who has now moved into the insect lab. Jenni Webber and Robbie Hendersen were also involved in sorting out the diverse salticid and lycosid fauna, respectively. Gus Wanganeen continues as the mainstay of the lab and will refine his spider identification skills further by processing material from a large CSIRO fire experiment. Gus is also keen to help get the spider lab's new digital image capture system up & running.

If any members of the society acquire live female redbacks from the public or as unwanted field collections, Peter Mirtschin of Venom Supplies Pty Ltd will put them to valuable scientific use. Peter and his colleagues provide red back spider venom for the Commonwealth Serum Laboratories for the production of red back antivenom. The venom glands need to be dissected from many spiders to provide sufficient venom for an ampoule of anti-venom. It is a tedious job but, then again, someone has to do it!

(\* stands for Commonwealth Scientific Industrial Research Organisation)

Whilst all material will be gratefully received Peter Mirtschin and Venom Supplies Pty Ltd wants to emphasise that dealing with live female redbacks can present a significant risk of injury and that any collector voluntarily assumes this risk.

Female spiders need to be kept individually in small containers (such as a urine specimen jar size) with a small hole in the lid, and placed in a cardboard box, or a plastic lunch box with shock proofing (such as cotton wool) between the jars.

In Adelaide they can be left at one of the following places :

- South Australian Museum Information Centre, North Tce
- *with Dr Tim Kuchel* at the Institute of Medical & Veterinary Science, Veterinary Services, Frome Rd
- Nature Education Centre, Norwood.

Otherwise address the box to (postage costs can be reimbursed) :

Peter Mirtschin  
Venom Supplies Pty Ltd.  
PO Box 547  
Tanunda  
South Australia 5352

Ph 08 8563 0001  
Fax 08 8563 0020  
Mobile 0412 811 859 / 0417 880 792  
Email : venomsup@dove.net.au

Editors note : The society would like to emphasise, particularly for new or inexperienced members, that we do not encourage the capture of dangerous taxa. The risks should never be underestimated and appropriate precautions, techniques and confidence are essential. The society or its' members will not be liable for any injury or death due to the capture or handling of *Latrodectus spp.* or other potentially dangerous arachnid.



## CONFERENCE REVIEW

**DAMPIER 300 :**  
**Biodiversity in Australia**  
**1699-1999 and beyond.**

**Perth, Australia**  
**6-10 December 1999**

This joint meeting of the Australian Systematic Botany Society, Society of Australian Systematic Biologists and Invertebrate Biodiversity and Conservation celebrated the 300th anniversary of William Dampier's second visit to 'New Holland', when he made the first Australian botanical collections.

It was well organised with the venue being central to services and a range of restaurants, and the program allowing for long lunch breaks so delegates could have meaningful discussions. Combining biologists from a range of disciplines also provided a rare opportunity for many to broaden their general knowledge and consider common research issues in systematics, co-evolution (between fauna and flora), conservation, biogeographic patterns, information systems, and of course, funding.

The initial symposia included diverse talks on the Shark Bay region, which I found very informative, having never worked in W.A.. It is an area rich in both history and biology. Peron Peninsula is the current focus of an amazing effort "Project Eden" to reconstruct an arid adapted ground mammal community, given the potential

to control threatening processes (e.g. predation by ferals) via the isthmus. Landward to this, is the Carnarvon basin, which has been the focus of recent surveys to clarify the geology and biogeography of the flora and fauna (including arachnids) for the W.A. Department of Conservation and Land Management.

The symposium that I most enjoyed was on subterranean biota, which highlighted an incredible part of the fauna that has been little studied, yet is ecologically significant. Although invariably characterised by crustacea, some arachnids featured (usually the ubiquitous acarines), with the following talks of interest. Andrew Boulton started the symposium by introducing a specialised fauna that lives in the "hyporheic zone" - saturated sediments between the groundwater and the bottom of freshwater streams. Bill Humphreys continued to expand our perception of ecological habitats by unveiling a pattern of isolated and diversified subterranean aquatic faunas (stygofauna) in the Pilbara region of W.A, associated with groundwater aquifers within paleodrainage systems that date back to the late Cretaceous, or even the Permian. Not satisfied with that, Bill filled in for another talk and discussed the stygofauna of "anchialine systems" - groundwater systems that have secret connections to the sea - in the Cape Range region. Often associated with caves, these bodies of water have strong thermal, saline and chemical gradients and the associated relictual faunas include taxa with their nearest relatives in the northern hemisphere, or dating back to the Jurassic ! Edyta Jasinska then showed us that, in more recent times, diverse aquatic faunal communities have

developed within the extensive the root mats from trees that permeate the caves along the beautiful Leeuwin-Naturaliste coastline in southern W.A.. In terms of the N.S.W. fauna, Mia Thurgate summarised results from surveys by Stephan Eberhard and Andy Spate across 130 of the 2,200 documented caves, which produced an amazing total of 115 families in 30 orders ! The popular Jenolan caves had the richest fauna, highlighting the urgent need for management and monitoring programs. Even in chilly Tasmania, caves nurture a diverse and unique fauna, which as Stefan Eberhard explained, are the focus of management efforts to minimise human induced disturbances (e.g. nutrient or sediment-laden runoff, damage by visitors or quarrying operations). Fauna being monitored includes the large and gentle cave spider *Hickmania troglodytes* and, according to a poster by Niall Doran, Ian Houshold and Mike Driessen, cave guides are keen to help collect data on the ecology of such poorly known invertebrate taxa.

Arachnids dominated the invertebrate conservation symposium. David Walter introduced the session with colour scanning electron microscope pictures of amazing looking terrestrial mites from Lamington National Park, S. E. Qld.. The fauna is highly diverse but, unfortunately, threatened by introduced taxa, including parthenogenic species. Aquatic mites were also included as Heather Proctor emphasised their frequent exclusion from assessments of stream health. This is despite her recent work in S.E. Qld. that showed that mites were more diverse, or as diverse, as three insect orders typically used to indicate clean water, at the generic and familial level. Mark Harvey

followed by illustrating the conservation significance of taxa that have high levels of endemism, as well as, no dispersal phase using his favourite schizomids, and a millipede genus studied by Paul West. The schizomids display endemic and allopatric patterns across rainforest and vine thicket patches, or caves, even a few kilometres apart, within the Australian tropics.

Spiders too, had their devotees ! In this same symposium, Graham Lewis took on the challenging topic of invertebrate sampling protocols. The use of a sweep net, pitfall traps (of different sizes), visual searching or malaise traps each produced a distinctive fauna, and he supported previous demands for more standardised sampling techniques. Introducing the symposium on arid zone biodiversity, Tracey Churchill used results from surveys across a range of habitats (including Queensland mulga, black soil plains of the Mitchell grasslands and red loam savannas in the N.T.), to show that the abundance of spider taxa, and species composition, changes along rainfall and grazing gradients. In the invertebrate systematics symposium, Barbara York Main gave a very entertaining talk sharing her enthusiastic observations of trapdoor behaviour in the arid regions of W.A. In particular, Barbara illustrated adaptations of spiders for i) *water harvesting* - positioning burrows at the base of trees or rock outcrops to funnel rain water, and; ii) *water tapping* - exploiting deep water storage through high burrow humidity, absorbing soil moisture from the burrow base or from between root mats.

Arachnological posters included : K. Strehlow, J. Davis, S. Bradley, G. Friend

"Short-term impact of timber harvesting on terrestrial spider communities in jarrah forest : preliminary results."; T. Gotch, A. Austin, H. Possingham, J. Jennings and D. Tyre "Spiders of the South Australian mound springs and bore drains", and; M. Huynh "The effect of broom invasion on arthropod diversity in open eucalypt woodland in South Australia".

One paper that must be mentioned was by Philippa Uwins and her colleagues "Novel nano-organisms (nanobes) : living analogues for Martian nannobacteria' ?". In a fantastic visual presentation Dr Uwins took us on a science fiction like journey to illustrate her team's recent discovery of the smallest living organism from petroleum borehole samples in Western Australia. Given their tiny size (billionths of a metre : much smaller than any bacteria), some scientists argue that they aren't large enough to contain essential genetic and cell material. Yet, they show many of the features of living cells, fueling contentious discussions about the origin of life on, and beyond, Earth ! You can check out the story at : [//www.uq.edu.au/research/world-class/about/stories/4.html](http://www.uq.edu.au/research/world-class/about/stories/4.html).

The Dampier 300 meeting website is still available at : [www.museum.wa.gov.au/Dampier300/Dampier300.htm](http://www.museum.wa.gov.au/Dampier300/Dampier300.htm)  
During the meeting the website of the ABRs (Australian Biological Resources Study) was also launched and can be found at : [www.anbg.gov.au/abrs/index.html](http://www.anbg.gov.au/abrs/index.html).

Dr Tracey Churchill  
CSIRO Wildlife and Ecology &  
The Tropical Savannas CRC

