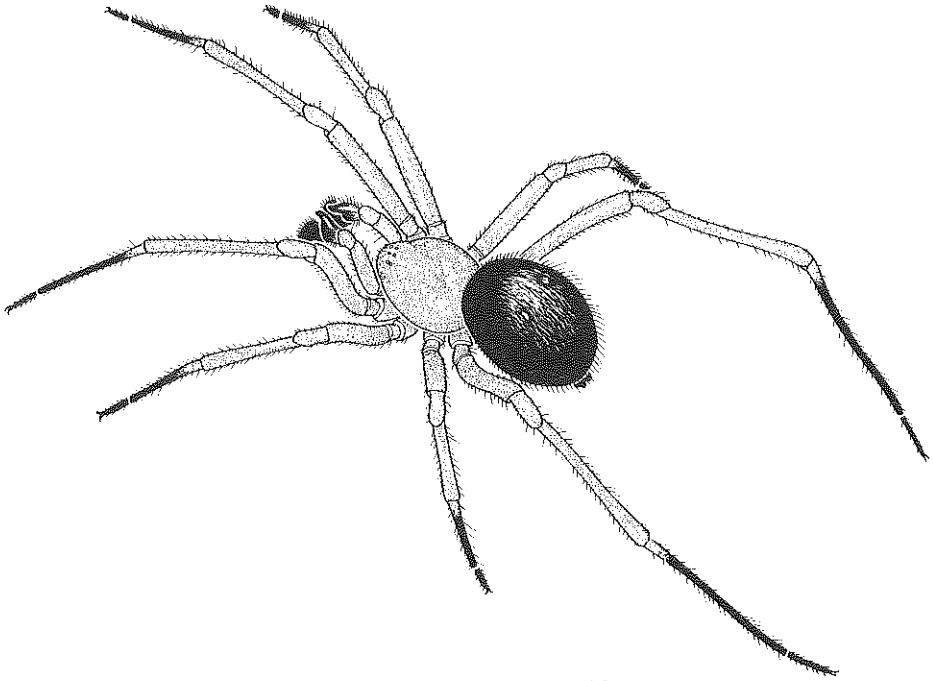


# AUSTRALASIAN ARACHNOLOGY



**Number 54: August 1998**

Price \$1  
ISSN 0811-3696

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**RONALD VERNON SOUTHCOTT  
OBITUARY**

by **David Hirst**

South Australian Museum, North Terrace,  
Adelaide, South Australia 5000, Australia

It is with great regret that we announce the passing of Dr Ron Southcott, M.D., D.Sc., D.T.M.&H., F.A.C.M.A., who died on 9 April 1998 aged 79 after a 5 year battle with lymphoma. Ron gained an M.D. from his work on poliomyelitis and a D.Sc. for work on the classification of mites. During 1942 to 1946 he served in the Australian Military Forces.

He worked for 29 years with the Department of Veteran Affairs and served as Chairman of the South Australian Museum Board from 1972 to 1982. Ron was awarded the prestigious Verco Medal by the Royal Society of South Australia, and was an Honorary Associate with the South Australian Museum.

His work covered a wide range of disciplines, including the fields of Entomology, Arachnology, Medicine and Marine Biology as well as Botany, and he published a number of papers concerning medical implications of bites or stings of invertebrates. However Ron's main interest turned to Acarology, where he specialised in the Prostigmata, publishing in excess of 40 papers dealing with mites.

Dr Southcott's cheerful nature never faltered, and his death creates an enormous void in the field of Acarology.

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**"SPIDERS"**

by **A.D. Austin**

Department of Crop Protection,  
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So what's new in the world of spiders in Australia at the moment? One thing is definitely the new spider exhibit produced by the Australian Museum, which showed there from November 1997 to May 1998.

Last year, I attended the invertebrate biodiversity conference at the Museum, and as part of the welcoming reception, delegates were able to tour the exhibit. With a champagne in one hand and Barbara Main as a companion I ventured into the dark entrance of "Spiders".

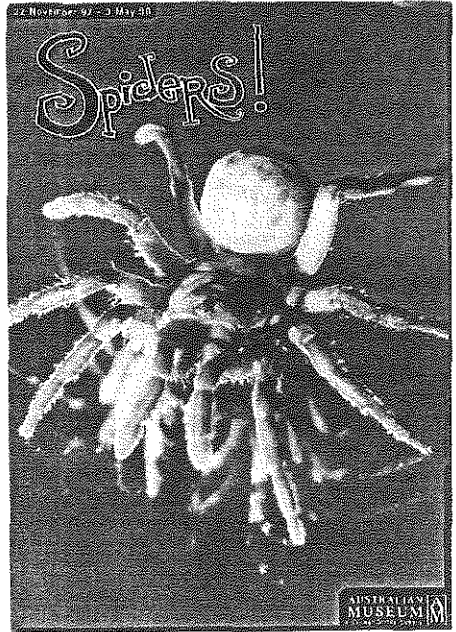
Rounding the first corner one is greeted by a large-screen T.V. showing short clips of spiders in action, one on five screens operating continually. From there it was into the spider fossil and evolution section, and wall displays featuring spider morphology, dispersal and continental drift. A couple of minutes into the exhibit and I already made up my mind - this is

the best museum display on spiders I have seen anywhere in the world!

The information is presented at various levels from primary school to professionals. The displays comprising models, dioramas, photograph and live specimens are absolutely first class. My first tour was a quick one. I wanted to see everything in the space of a few minutes before going back and looking in more detail. The highlights on my first pass were the models: they are truly superb! These include *Atteropus*, an extinct 380 million year old giant spider-like arachnid, a giant multicoloured *Mopsus* (Salticidae) more than a metre long, huge tarsal claws, sensory structures and working chelicerae.

On closer inspection of the displays, one has time to appreciate the wonderful dioramas and live specimens. There are four dioramas featuring freeze-dried but very life-like spiders in different habitats. The live spiders include a Sydney funnel-web in a display on poisonous spiders, several species of South American tarantulas including the goliath tarantula, the largest spider in the world, a walk-in backyard shed displaying several species common in dwellings, and 12 species in an education display, including the famous salticid *Portia*, which feeds on other spiders by stalking them in their webs.

The following day I revisited the exhibit to see how school groups and the general public related to the displays. Firstly there were not very many people there and this might be



because of the cost, my only real criticism. I know that such high-quality exhibits are expensive to put on, but at \$5 for children, \$10 for adults and \$20 for a family, it is an expensive visit. On this day just about all the kids there were in the Spider Lab., where microscopes, specimens, books and expertise in the form of an education officer, are available to help you identify spiders and study them to your heart's content. What other children were there, were either looking at the live tarantulas or watching the spiderman cartoons (which I thought were never very good, but then I've always been a Phantom fan!).

All up the Australian Museum and Mike Gray in particular, who planned and organised the exhibition, should be very pleased with the outcome. It is clearly receiving substantial press, and has featured in print media in most capital cities and on a number of T.V. shows. The display is currently in Melbourne (showing at Science Works), and it will be travelling to other Australian centres later this year. So keep a look out - it is really worth a visit!

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## SPIDERS AT THE "TOP END" OF THE WEB

by Tracey Churchill

CSIRO Tropical Ecosystems Research  
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Not long ago, the geographical spread of arachnologists across Australia had a notable gap in the north, which also reflected the poorly collected status of spiders from, particularly, the extensive tropical savannas. But in early 1996, a magic wand was waved, and an arachnologist was able to infiltrate the region under the guise of an "invertebrate biodiversity ecologist". Although only admitting to being an ecologist, they had some taxonomic experience and so felt brave enough to tackle both the crocodile and mosquito infested environment, and the expected smorgasbord of undescribed taxa.

Here's a summary of the story so far and the interesting spider discoveries.....

In 1995, the Tropical Savannas CRC (known formally as the Co-operative Research Centre for the Sustainable Development of Tropical Savannas) was established to develop management guidelines for the longer term use of the extensive savannas of northern Australia (the grass dominated forests and woodlands, or typical "bush", mate). The savannas are dominated by large pastoral leases (increasingly for the live beef export trade to Asia) but is also characterised by mining, tourism, Aboriginal and conservation uses. The savannas here are in better nic than elsewhere, such as Africa, and the aim is to keep it that way. It's a challenging task, so the research team is multidisciplinary to consider the economic, social, cultural and ecological aspects.

Within the ecological research, one of the goals is to develop useful indicators of the state of the environment, to be able to monitor changes, especially declines in its diversity and productivity. Several groups of invertebrates have been selected for their different roles in the food web, and to explore their ability to reflect ecological changes, just as aquatic insects are used to monitor water quality. Spiders are among the invertebrates selected, so I have joined the project leader (an ant expert) to help manage this project which operates through CSIRO, Wildlife and Ecology. Obviously, I believe spiders have great potential, as they are abundant and

diverse predators (ie. the top of the food chain perspective), can be readily sampled, and tend to occur in almost all habitats. Naturally occurring spider communities can be responsive to environmental variation, even at the family level, in Australia, as my Ph.D. work showed. The challenge now is to see whether spider communities can show predictable responses to the impacts of land uses. Part of that challenge is collecting and managing data from the unexplored fauna while major taxonomic revisions are in progress for Australian spider taxa!

The northern savannas are spread across the north of Queensland, the Northern Territory and Western Australia. With such a large area to cover and only so many hands to sort all the invertebrates collected (including small spiders hiding in the legs of zillions of ants!), we are approaching the task in stages. Initially, we have focussed on a rainfall gradient (annual rainfall from 500 - 1500 mm) which spans south from Darwin about 900 km with each study site having three soil types. This gradient is known as the Northern Australian Tropical Transect (NATT), and was initially established as one of a series of international transects for the International Global Biosphere Program to look at global climate change effects. Other scientists in the CRC team are collecting data on vegetation and landscape characteristics. The goal is to understand how the spider community varies with the main environmental factors, which up here, are rainfall and soil, rather than temperature. Other surveys are also carried

out along grazing gradients to understand how the spider communities varies with grazing impacts, since this is the dominant land use. The aim is sample widely enough to develop general models that can be tested for reliability.

As I wait for colleagues to help me with species level identifications, I have looked at data from the family level, which as my previous work showed, can be useful across broad scales. From the first surveys along the NATT, there have been promising trends, such as Lycosidae (decreasing) and Zodariidae (increasing) with decreasing annual rainfall on clay soils. Along grazing gradients I have also had some strong trends in families such as the Zodariidae and Prodidomidae. This is important as the CRC is reviewed this year and future funding of our project depends having good results already.

The Zodariidae have been very diverse : after getting some guidance from Rudy Jocqué in Belgium, I have recognised over 30 species, many of which are from one genus, *Asteron*. Several other species represent new genera, one of which will be soon described, whose closest relative is in Hawaii. The Gnaphosidae have also been very rich in species and, with lamponids and prodidomids, are now in the hands of Norman Platnick and his colleagues, Vladimir Ovtsharenko and Kefyn Catley, being relieved of their identity crisis. The Salticidae have also been quite diverse, and Jenni Webber has been working on sorting the

taxa, some of which have the rich red colouring of the red sand soils.

I note here the first record of the Cithaeronidae (*Cithaeron praedonius*) in Australia, which was collected in fact from my kitchen sink!! Family records of interest, for me at least, have also included the Filistatidae (common in the savanna on our CSIRO Darwin research site), Gallieniellidae, Ochyroceratidae, Orsolobidae and Scytotidae. The Oonopidae have been abundant and diverse (*Grymeus*, *Gamasomorpha* and *Opopaea*) and pickled specimens are no doubt looking forward to visit to Mark Harvey!

The mygalomorphs have not been so readily collected in our pitfall traps. Members of the Actinopodidae (*Missulena pruinosa*), the males in particular, are popular with the public before the Wet season, when they wander around apparently masquering as funnel webs. Nemesiids (*Aname*), and less commonly, ctenizids (*Conothele*), can be found out and about in the early Wet season. The burrow entrances of theraphosids (*Selenocosmia* and *Phlogiellus*) are often seen in the field, and the adults are sometimes collected, including some that "sing". Both males and females readily "sing" on disturbance (I refer to it as singing rather than "whistling" or "barking" as it is quite melodic) which I suspect is a defensive strategy against marsupials, one of their main predators in these habitats. The "song" has been digitally recorded and will be analysed overseas. No doubt just another of the spider

wonders waiting to be discovered in the tropical north!

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**BOOK REVIEW:  
"FIELD GUIDE TO SPIDERS"  
BY JAN GREEN**

by Julianne M. Waldock

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

Green, J. (1996). *Field Guide to Spiders*. Cooperative Research Centre for Tropical Pest Management and Department of Entomology, The University of Queensland, Australia. 86 pp.

At present there is a dearth of books on Australian spiders so this publication comes at an opportune time. This is a small book of only 86 pages. Most of the illustrations are colour photographs of the spider in characteristic pose. Each page has up to two spiders discussed with the illustration of the the spider on the opposite page. Each entry includes a short paragraph about the spider illustrated, notes on whether it is nocturnal or day-time active, and other interesting comments such as if the female stays with its eggsac, or how to distinguish this spider from similar looking species. The spiders are grouped into either hunting spiders or web-building spiders. These groups are further subdivided into hunting spiders that are either

foliage or ground dwellers, and web-builders that are orb-weavers, tangle web weavers or web-casters.

Finally, at the back of the book there is a table which summarises each of the spiders discussed in the book under Family, Habitat, Body Shape, Eye Pattern, Egg Sac and Web.

However, there are some drawbacks to this booklet. The main one being that this book is restricted to spiders from citrus orchards in south-east Queensland. Although mygalomorphs are discussed in the introduction because none were collected in the citrus orchards studied they are not included in the identification list. So the booklet is really a field guide to spiders from citrus orchards in south-east Queensland.

Most of the photographs are very good. However, a few photographs were out of focus such as plates 9 and 25 which makes it difficult to recognise the characteristic features of that particular species.

A handy booklet as long as you do not want to identify mygalomorphs or you limit your collecting to citrus orchards. It does give useful photographs and descriptions of the major spiders (other than mygalomorphs) that one is likely to encounter in general collecting - lycosids, araneids etc.

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## A NEW EDITOR

After several years of cajoling colleagues into submitting articles for *Australasian Arachnology*, the current Editor has decided it is time to pass the reigns (and red pen) on to someone else. Tracey Churchill (CSIRO Tropical Ecosystems Research Centre, Darwin) volunteered her services (after the Editor got onto his hands and knees....), and is looking forward to the challenge of editing the newsletter. Please give her your full support, and keep sending in items for *Australasian Arachnology* - remember that it is your newsletter, and needs your input to survive.

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## LIBRARY NEWS

Many thanks to Ian Endersby for sending a paper by Butler, L.S.G. (1929) and one by H.R.Hogg (1900), and to the late Dr R.V. Southcott (Australia), Dr Ricardo Pinto da Rocha (Brazil), Dr R.G. Holmberg (Athabasca University, Canada) and Prof. M. E. Galiano (Buenos Aires) for donating their latest reprints.

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## MEMBERSHIP

### New Members

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Dr David Walter, Department of Entomology, University of Queensland, St Lucia, Queensland 4072, Australia  
email: davidw@pest.ctpm.uq.oz.au

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## NEW PUBLICATIONS

Bartsch, I. (1997). *Arhodeoporus* (Acari: Halacaridae) from Rottnest Island, description of three new species. *Acarologia* 38: 265-274.

Bartsch, I. (1997). A new species of the *Copidognathus tricornatus* group (Acari: Halacaridae) from Western Australia with a review of this species-group. *Species Diversity* 2: 155-166.

Austin, A.D., Gibson, G.A.P. and Harvey, M.S. (1998). Synopsis of Australian *Calymmochilus* Masi (Hymenoptera: Eupelmidae), description of a new species from Western Australia associated with a pseudoscorpion, and review of pseudoscorpion parasites. *Journal of Natural History* 32: 329-350.

Harvey, M.S. (1998). Unusual new water mites (Acari: Hydracarina) from Australia, Part 1. *Records of the Western Australian Museum* 19: 91-106.

Harvey, M.S. (1998). A review of the Australasian species of *Anapistula* Gertsch (Araneae: Symphytognathidae). *Records of the Western Australian Museum* 19: 111-120.

Jackson, R.R. (1998). The eyes have it. *Natural History Magazine* 4/98: 31.

Jackson, R.R., Li, D. and Robertson, M.B. (1997). Cues by which suspended-leaf nests of *Euryattus* (Araneae: Salticidae) females are recognized by conspecific males and by an aggressive-mimic salticid, *Portia fimbriata*. *Journal of Zoology, London* 243: 29-46.

Li, D. and Jackson, R.R. (1996). How temperature affects development and reproduction in spiders: a review. *Journal of Thermal Biology* 21: 245-274.

Li, D. and Jackson, R.R. (1997). Influence of diet on survivorship and growth in *Portia*

- fimbriata, an araneophagic jumping spider (Araneae: Salticidae). *Canadian Journal of Zoology* 75: 1652-1658.
- Li, D., Jackson, R.R. and Barrion, A. (1997). Prey preferences of *Portia labiata*, *P. africana*, and *P. schultzi*, araneophagic jumping spiders (Araneae: Salticidae) from the Philippines, Sri Lanka, Kenya, and Uganda. *New Zealand Journal of Zoology* 24: 333-349.
- Li, D., Jackson, R.R. and Cutler, B. (1996). Prey-capture techniques and prey preferences of *Habrocestum pulex*, an ant-eating jumping spider (Araneae, Salticidae) from North America. *Journal of Zoology, London* 240: 551-562.
- Qin, T.-K. (1996). The astigmatid mite *Histiostoma feroniarum* (Acari: Astigmata: Histiostomatidae) in New Zealand. *New Zealand Entomologist* 19: 65-69.
- Qin, T.-L. (1997). Population genetics of redlegged earth mites *Halotydeus destructor* and *H. anthropus* (Acarina: Penthaleidae) from Australia and/or South Africa. *Bulletin of Entomological Research* 87: 289-298.
- Qin, T.-K. and Halliday, R.B. (1996). The Australian species of *Chromotydaeus* Berlese and *Penthaleus* C.L. Koch (Acarina: Penthaleidae). *Journal of Natural History* 30: 1833-1848.
- Qin, T.-K. and Halliday, R.B. (1996). Eriorhynchidae, a new family of Prostigmata (Acarina), with a cladistic analysis of eupodid species of Australia and New Zealand. *Systematic Entomology* 22: 151-171.
- Tarsitano, M.S. and Jackson, R.R. (1997). Araneophagic jumping spiders discriminate between detour routes that do and do not lead to prey. *Animal Behaviour* 53: 257-266.
- Walter, D.E. (1995). Beneath biodiversity: factors influencing the diversity and abundance of canopy mites. *Selbyana* 16: 12-20.
- Walter, D.E. (1996). Living on leaves: mites, tomenta, and leaf domatia. *Annual Review of Entomology* 41: 101-114.
- Walter, D.E. (1997). A new species of Triplogyniidae (Mesostigmata: Celaenopsoidea) from Australian rainforests. *International Journal of Acarology* 23: 49-59.
- Walter, D.E. (1997). Heatherellidae - a new family of Mesostigmata (Acari: Parasitiformes) based on two new species from rainforest litter in Australia. *International Journal of Acarology* 23: 167-175.
- Walter, D.E. (1997). *Eukoenia florenciae* Rucker, 1903 (Arachnida: Papligradi: Eukoeniidae), Australia's second record of a cosmopolitan all-female species of palpigrade. *Australian Entomologist* 24: 164-165.
- Walter, D.E. and Lindquist, E.E. (1997). Australian species of *Lasioseius* (Acari: Mesostigmata: Ascidae): the *porulosus* group

and other species from rainforest canopies.  
*Invertebrate Taxonomy* 11: 525-547.

Wishart, G. and Rowell, D.M. (1997).  
Phenotypic variation in sexual and somatic  
morphology in the trapdoor spider *Misgolas*  
*hubbardi* Wishart in relation to its genotypic  
variation (Mygalomorphae: Idiopidae).  
*Australian Journal of Entomology* 36: 213-219.

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