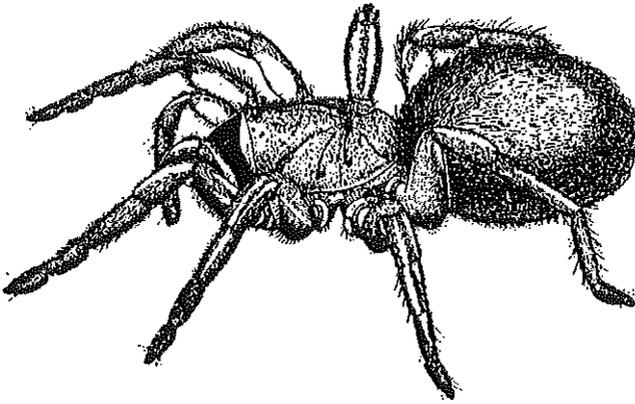


AUSTRALASIAN
ARACHNOLOGY



Number 56: July 1999

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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
Agricultural Institute
Yanco, New South Wales 2703. Australia.

email : faulder@agric.nsw.gov.au

Membership fees in Australian dollars per 4 issues :

	Discount*	Normal	Institutional
Australian	\$8	\$10	\$12
NZ / Asia	\$10	\$12	\$14
Elsewhere	\$12	\$14	\$16

All postage includes air mail.

*Discount rates for pensioners, students and unemployed (provide proof of status and students to include no. years enrolled).

Cheques payable in Australian dollars to : "The Australasian Arachnological Society". More than 4 issues can be paid for in advance. Receipts issued only if requested.

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

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

COVER ILLUSTRATION by Clare Bremner :
Idioctis yerlata Churchill & Raven 1992

EDITORIAL



Hopefully you received the last issue in early May. Now that the production process has been mastered I hope to maintain a quarterly publication schedule. However, this will rely on the support of your contributions so please keep me informed of all your exciting arachnological news and discoveries !

Whilst the mode of pre-millennium adaptations prevails, the society needs to introduce a few changes of its own. The main one is an increase in membership fees which is discussed in the next section. Since we can no longer cover the cost of delivering this newsletter to you we had to revise our finances ! As you probably appreciate, the costs relate only to printing and postage : you get Richard's time to manage fees and membership, and my time to edit and produce the newsletter, for free ! With a more sound financial basis the society can only get stronger – we may even be able to hold our own meetings one day !

Another change is to collate the subscriptions for all international and overseas arachnological societies (eg. British Arachnological Society) for our members. There are a range of benefits associated with this which is discussed further on in the newsletter.

In this issue I have also attempted to include photographs to help you put names to faces and make members smile readily at the sight of my camera at any forthcoming event !

..... *Tracey*

MEMBERSHIP
CHANGES

New Member

Welcome to Hazel Brown

CSIRO Wildlife & Ecology
PMB 44 Winnellie,
N.T. 0822

MEMBERSHIP
FEES

Did you know that this society has not increased membership fees since 1982 ? After 17 years we can no longer deny the effects of inflation and need to increase membership fees to those shown on page 1 of this issue. These new fees will be effective from the next newsletter (no. 57).

To help those on a modest income a discount rate has also been included. If anyone has a real concern with the increased fees please let us know as we do not want to lose your membership. Postage has now also been standardised to air mail to ensure a speedy and reliable delivery of newsletters to everyone.

The fee rise will allow us to primarily cover the cost of newsletter production, which has been running at a significant loss. Fees also support modest journal exchanges with other institutions which contribute to the society's arachnological library. Hopefully now we can also start building a web page so that our society can be an active participant in the new technological millenium !

GRAEME TALBOT
SMITH



10 February 1938 - 30 June 1999

Graeme passed away on 30 June 1999 after a short illness. He was an avid ornithologist and scorpionologist, and his last major field trip, in the summer of 1999, took him to the beautiful Shark Bay region in search of scorpions.

Graeme will be sorely missed by us all. We have lost a devoted arachnologist and a true gentleman. A more complete obituary will be included in the next issue of Australasian Arachnology.

BOOK REVIEW



'A VENOMOUS LIFE : AN AUTOBIOGRAPHY.'

by Professor Struan Sutherland.

Hyland House Publishing: South
Melbourne. 1998. 385 pp. \$29.95.

The review of an autobiography of a medical person in an arachnological journal may at first seem inappropriate. However, most Australian arachnologists will appreciate that it was Struan Sutherland who developed the venom detection kits, the pressure-immobilisation technique and antivenom to Australian

Funnel-web spiders (*Atrax* and *Hadronyche*, family Hexathelidae). Atraxotoxin, the lethal component of funnel-web venom was responsible for the death of 14 people before the antivenom was approved for wider use in December 1980. Struan, his work, dedication, and forthright approach to all things important certainly hold my highest respect and admiration.

Autobiographies have rarely impressed me. The often one-sided vision of the author about their values have usually struck me as very self-inflating. Tortuous details about various aspects of their life would rarely strike home and with interest fading I would often skip more and more pages and eventually give up. This was not so with "A Venomous Life" which gives the reader insights into so many aspects of the life faced by emerging doctors (in Australia). The style of writing is lively and engaging, as I have found the author in conversation. The early life layout is written very much like a series of short stories about uncles, schools, each rich in engaging notes about the times, the people and amusing or sad events.

Born June 17, 1936, of an Australian banker and a New Zealand born mother, Struan was not influenced, as so many doctors now are, by a paternal doctor although his sister and an uncle were part of the model he chose to follow. He attributed his early interest in first aid to an event in which an old ladies' Australian Terrier died after an encounter with a horse's stormy hooves. The pace of the book steadies up as the author recounts more intensive parts of his early university medical interactions and later his military and naval service. On graduating medical

school in 1961, after an early hiccup, he spent three years in the Royal Australian Navy first on the ill-fated HMAS Voyager & later on the HMAS Melbourne. His switch to research in 1966 was partially driven by his intended GP partner having to sell his practice in Victoria. Struan "flirted with dermatology" and endocrinology which was "...becoming more scientific by the day." The Nobel Prize Award to Sir MacPharlane Burnet for contributions to immunology in medicine also won his heart and encouraged his switch to the Commonwealth Serum Laboratories (C.S.L.).

The emergence of the immunologist and the fascinating pathway that lead him to C.S.L. (where he developed the antivenom) begin the crescendo. Following the premature death of a keenly supportive (but initially doubting) Director, Dr Bill Lane, and replacement by a serious toe-trimmer, unfolded the events that lead to his suspension from C.S.L.. The funnel-web chapter is written in a fast, descriptive and objective diary-entry style. I was filled first with disgust, then anger, at the effects of the growing power of administrators over scientists, especially in Australia. (In the critical days leading up to the development of the funnel-web antivenom, a C.S.L. technician is reprimanded for working on a weekend, with Sutherland, without "permission"). Even Sutherland himself seemed once to doubt the significance of the antivenom, feeling that modern hospital intensive care could support the victim but he was tragically proven wrong. Here, in this critical field, the Australian "tall-poppy syndrome" (for which the only "cure" would normally be a stint in the U.S. and the acquisition of the appropriate speech

patterns) is shown to be critically flawed. If it wasn't for the relentless persistence of Sutherland to produce the antivenom, more people would have died.

Like funnelweb victims, Australia and perhaps the world is being held to ransom by administrators discovering that there aren't enough beans to go around and using the few available to feed the only thing they understand, more administrators. Sutherland, unlike me, does not dwell overly long on these matters, peppering his account with real world dramas of life and death struggles of newborn mice, rabbits, monkeys, and man. Also, we lightly feel how a well-meaning funding drive and scientists in competing institutions can so easily undermine, or even delay, the final resolution. The reader appreciates how important the unswerving loyalty of supporters was, like the Worrells at Reptile Park, Sydney, who continued the supply of venom and spiders.

I thoroughly recommend this book. It can be read in one hit or over a period of time and neither the charm nor impact are lost. I do disagree with the Hyland House Publisher's notion that this is a book that should be read by administrators and politicians. I feel that young scientists would get far more benefit because of the lessons that can be learnt about managing people....

Dr Robert Raven

Arachnology
Queensland Museum
P.O. Box 3300
South Brisbane, Qld. 4101

POSTGRADUATE PROJECTS



Ants (Formicidae), Spiders (Araneae), farm based *Pinus radiata* plantations and biodiversity : a case study in the Albury region of southern NSW

Gina Hammond submitted an Honours
thesis in May : congratulations Gina !

Institution : Charles Sturt University
Faculty of Science and Agriculture
School of Environmental and
Information Sciences

Supervisor : Wayne Robinson

Abstract : This research jointly looked at the impact of *Pinus radiata* plantations on Australia's native invertebrates and the specificity of Rapid Biodiversity Assessment (RBA) surrogacy relationships. More specifically, it attempted to compare the ant and spider fauna of seven vegetation communities (a *Eucalyptus globulus* spp. *globulus* monoculture (established on pasture five years ago), a *E. grandis* monoculture (established on pasture five years ago), a five year old *P. radiata* plantation, a six year old *P. radiata* plantation, introduced pasture, enrichment plantings and an open box woodland) in the Albury region of southern NSW and to investigate the sensitivity of species composition surrogacy relationships to changes in data treatment (from abundance to presence and absence) and trapping method (from pitfalls only to pitfalls and active searching).

The number of ants and ant species captured was shown to be comparable to previous non-plantation ant studies in the same region. Ant species composition was shown to be in conflict with the prescription for ant species composition proposed by Andersen (1986a). Spider species composition showed the typical pattern of spider composition whereby there were a few species more abundant than the rest, a greater number which were moderately abundant and an even larger number which were represented by very few individuals

Ant species richness was highest in the remnant and enrichment plantings and lowest in the introduced pasture and six year old *P. radiata* plantations. Spider species richness was not significantly different between vegetation communities. Ant relative species diversity was at its lowest in the remnants and introduced pasture. Spider relative species diversity was at its lowest in the five and six year old pine plantations.

Establishing *P. radiata* plantations on agricultural land was shown to change ant species composition so that it was sometimes less like, and more spider species composition further from, that found in more natural areas of vegetation. In contrast establishing eucalypt monocultures on introduced pasture was shown to change spider species composition so that it less closely resembled, but more ant species composition so that it was sometimes closer to, that found in areas of remnant native vegetation.

This study further found that ant and spider species composition were poor surrogates for each other, that using the

species composition of one taxa as a predictor for the species composition of another was a questionable practice, that ant genus composition was a reasonable surrogate for ant species composition and that species composition surrogacy was one area of RBA which did not appear to suffer from major specificity problems.

In summary the results of this study suggest that the government's widespread endorsement of the conversion of agricultural land to *P. radiata* production may not be devoid of negative environmental implications and that farm-based eucalypt monocultures may have less negative impacts on a regions invertebrate fauna than farm-based *P. radiata* plantations. The results of this study further suggest that intra-taxa species composition surrogacy relationships may be one area of RBA with a future role in biodiversity quantification.

Editor's note : Gina was not able to identify spiders to family and allocated them to "morphospecies". A number of workers have been adopting the morphospecies approach as they are keen to include spiders in their invertebrate research projects. In future, the process of identifying material, at least to family level, should be a lot easier. Robert Raven of the Queensland Museum is currently producing a revised key to Australian spider families and expects the first draft to be out within six months. We look forward to more such resources becoming available over the next few years to increase the ecological and taxonomic value of projects like Gina's that ask important questions about our arachnid fauna.

INTERNATIONAL ARACHNOLOGICAL SUBSCRIPTIONS



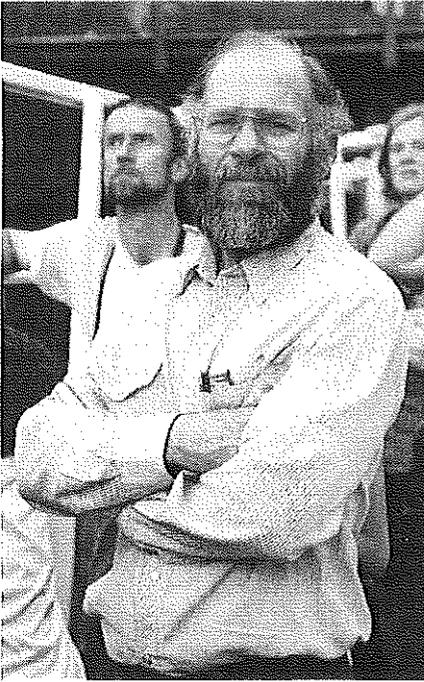
Our society now offers to collate our Australasian members' subscriptions to overseas arachnological journals or societies (eg. the British Arachnological Society, or B.A.S., which produces the Bulletin of the British Arachnological Society or the American Arachnological Society, or Amer.A.S., which produces the Journal of Arachnology). The B.A.S. and Amer. A. S. provide this service for their members and it is appropriate for us to do likewise. Benefits include : acting as a more unified and professional society; helping the I.S.A. manage its world-wide membership and; saving members money by avoiding individual bank drafts. A combined bank draft needs to be promptly organised once the 2000 subscription fees are available, which will be late October / early November. Publication of issue no.57 will promptly follow with these fees and a deadline for payments to be received by our Administrator in N.S.W..

As a guide, these are the current fees in U.S. dollars :

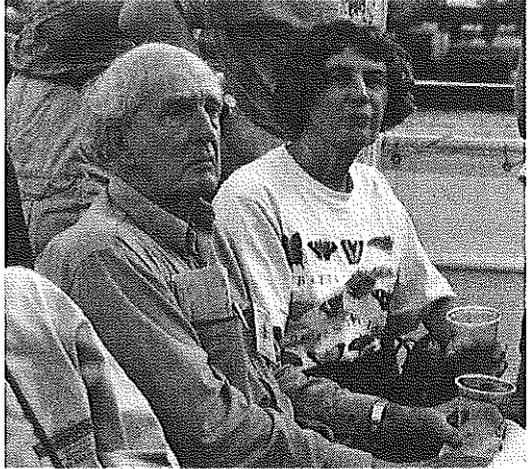
International Soc. Arach. \$15;
American Arach. Soc. \$30; British
Arach. Soc. \$36; Arach. Soc. Japan
\$40; Arthropoda Selecta \$40; Acta
Sinica \$30; Revue Arachnologique \$29.

For more information see : <http://members.aol.com/jcckoce/society.html>

ARACHNOLOGICAL IMAGES : Some happy snaps from the editor's camera at the XIVth International Congress of Arachnology in Chicago U.S.A. 1998



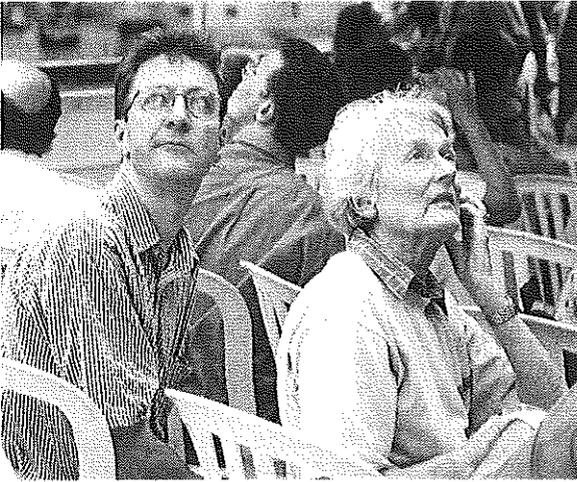
Founder of the Australasian
Arachnological Society :
Robert Raven



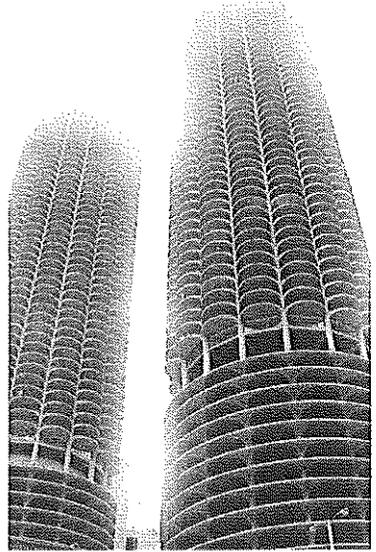
Two well known ecologists :
Bert Main and Barbara York-Main



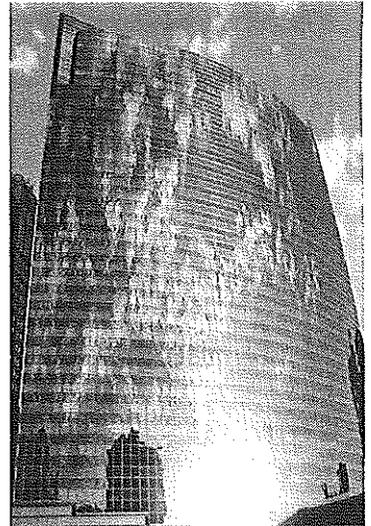
The world's highest building until
recently : Chicago's Sears Tower



Our previous editor Mark Harvey admiring the architecture with the Qld Museum's Val Davies



The famous Prof. Herb Levi (Harvard University)



Chicago's architecture includes corn cobs and convex buildings

ARACHNOLOGICAL ACTIVITIES



UNIVERSITY of MELBOURNE

Dr Mark Elgar and Dr Marie Heberstein, in the Zoology Department, have recently become proud recipients of a significant Australian Research Council grant :

Costs of courtship and mating: a novel female perspective using a model spider system.

The diversity of animal mating systems reflects compromises arising from the costs and benefits of different reproductive behaviours. The costs of courtship and mating behaviour for females have been largely ignored, despite the extensive investigations of these costs for males. In addition to the greater risks of predation and pathogen infection associated with mating, females may also suffer lost foraging opportunities that may be critical for offspring production.

The courting male may exert several costs for female orb-web spiders: reducing prey capture rates during courtship and mating, stealing prey, destroying her web and exposing her to predators. The extend of these costs will depend on the courtship behaviour and duration. In a comparative approach, we investigate the mating behaviour of four species of orb-web spiders which differ significantly in their courtship and mating behaviour: Argiope keyserlingi, Nephila edulis, Gasteracantha minax and Phonognatha graeffei. The specific variations are expected to result in different potential costs to the female.

In a series of laboratory and field experiment, we aim to quantify the costs of courtship and mating for the female and relate female behaviour towards courting males to these costs.

AUSTRALIAN MUSEUM

Dr Michael Gray, Graham Milledge and Helen Smith of the Australian Museum recently ventured into the centre and north-west of Australia, as part of a project funded by the Museum to unravel the evolutionary history of our fauna called "Mesozoic Biogeography". The spider focus was on members of the Desidae which Mike is currently revising. The trip included collecting around the Alice Springs region and visiting, in Darwin, the Northern Territory Museum (to check the collection) and the CSIRO arachnid laboratory (to check Tracey Churchill's new species from the semi-arid regions of the N.T.). Collecting in the Kimberley region in the glorious dry season weather was the highlight of the journey. However, we'll have to wait for a later issue to get all the spidery details !

NORTHERN TERRITORY MUSEUM

The Spiders exhibit developed by the Australian Museum has been on display from the 26th June. Apparently it has been very popular converting arachnophobes of all ages. The live mygalomorphs have been a highlight and are complimented by some local live araneomorphs, which are all under the watchful eye of Jenni Webber. According to Hazel Brown who has volunteered her time every Sunday, the myth of the highly toxic daddy long legs still prevails and apparently all spiders have potentially lethal venoms !

UPCOMING
EVENTS



ESA99 :
ECOLOGICAL CONNECTIONS

Perth, Australia
26 September - 1 October 1999

The Esplanade Hotel, Fremantle,
Western Australia.

The aim of this conference, which is the annual meeting of the Ecological Society of Australia, is to mix the traditional good science normally found at ESA conferences with a broader perspective on the importance of ecological science to society.

The theme reflects the increasing need for ecologists to consider their work in a broader context. On the first day of the conference, plenary speakers will explore the relevance of ecology to society, both at global and local levels. The conference symposia pursue the theme further, taking a more detailed look at aspects of the practical application of ecology.

The poster session will form part of an "Art-Science Fusion" exhibition, open to the public, which combines the traditional scientific posters with art works from local artists. There will also be a public forum at which plenary speakers and other conference participants have the opportunity to interact with a broader audience. High school students from WA schools will also have the opportunity to participate in the conference.

Registration fees after 31 July : E.S.A. members \$210, Non-members \$290, Students \$90.

For more information visit the website at :
<http://lorenz.mur.csu.edu.au/esa/esa99.html>

7TH AUSTRALASIAN
CONFERENCE ON GRASSLAND
INVERTEBRATE ECOLOGY

Perth, Australia
4-6 October 1999

TradeWinds Hotel, Fremantle
Western Australia.

The ACGIE focuses on the biology, ecology and management of both pest and beneficial invertebrates in native and introduced grasslands, pastures, pasture/crop rotations, turf and related systems. Contributions to the scientific program broadly in these fields are welcome.

Registration fees after 30 June are : Delegates \$230, Students \$140. This fee includes a mixer, lunches, conference dinner, the Abstracts, and published Conference Proceedings.

For information or ideas for the scientific program contact John Matthiessen :

email : johnm@cmar.csiro.au

or CSIRO Entomology
Private Bag PO Wembley W.A. 6014.