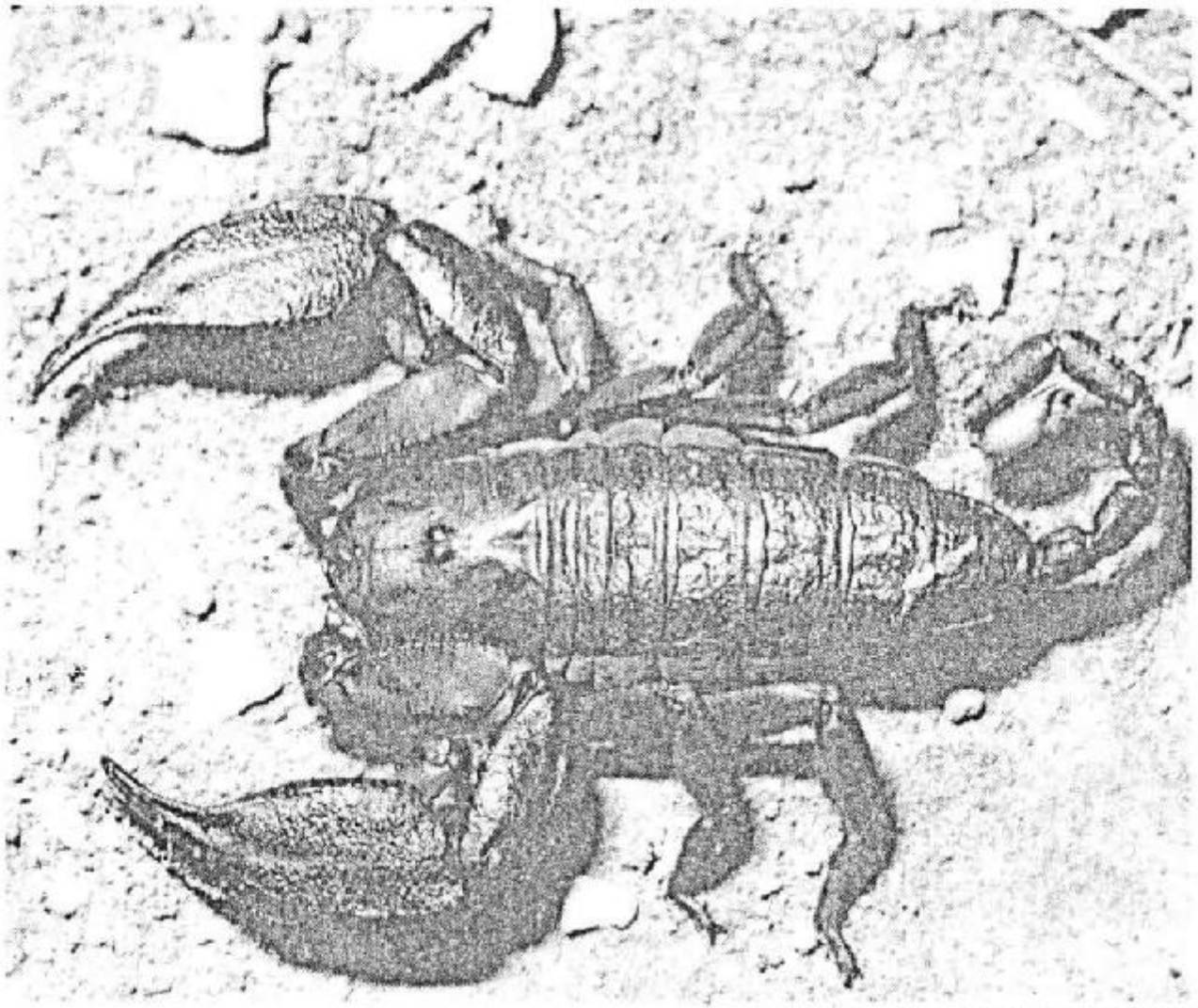
AUSTRALASIAN



LIOCHELES WAIGIENSIS

ARACHNOLOGY :6

PRICE $1

AUGUST, 1981

REGISTERED FOR POSTING AS A PUBLICATION CATEGORY B.
REG. NO. QBH2909

AUSTRALASIAN ARACHNOLOGY 6

MEMBERSHIP

Membership fees for residents in Australia, $2; in New Zealand and New Guinea, $3; other members wishing newsletters sent airmail, $10, or newsletters mailed at surface rate, $5. Institution subscriptions, $2 within Australia; overseas surface , $8. If possible, subscriptions should be made out in Australian dollars. Information concerning membership and back issues of Australasian Arachnology are available from Robert J. Raven, Editor, Australasian Arachnology, P.O. Box 573, Fortitude Valley, 4006, Q, Australia.

ARTICLES

All articles should be sent to the Editor at the above address and should be concisely written and neatly typed.

THE SOCIETY'S FUNDS

Because a number of membership subscriptions include several years, the Society's account is very healthy. However, Australia Post has imposed a charge merely for the registration of the newsletter as a publication, as well as increasing all mail costs. Nevertheless, while I maintain low printing costs, I do not envisage any subscription increases for at least two years. Receipts are written for all subscriptions but are only sent if requested. I hope to compile a report of our funds for the next newsletter.

NEW BOOK

Animal Toxins and Man. Human poisoning by toxic Australian venomous creatures . Editor John Pearn. 1981. 128 pp. With numerous black and white and colour plates. This book has four parts : human poisoning; marine toxicology; arachnids; and snake bites. The editor of the book, Dr John Pearn writes, ' This book has been compiled as a reference source for the interested lay person who would like to be better informed, for field biologists working in diverse disciplines, for teachers, soldiers and ambulance staff, and for the first aider and doctor treating cases of poisoning by toxic creatures, in the Australasian environment.' There are two chapters on the Arachnida. Dr Valerie Davies and Robert Raven have a chapter on 'Some Spiders and Scorpions of Medical Importance' and Dr Douglas Moorhouse has a chapter on 'Ticks of Medical Importance.' Notwithstanding the understandable personal bias, I consider 'Animal Toxins and Man' to be the best available book on Australian envenomation and thoroughly recommend it to all. One of the appendices gives a list of Australian Poisons Information Centres and their telephone numbers. 'Animal Toxins and Man' is published by the Division of Health Education and Information, P.O. Box 155, Fortitude Valley,Brisbane, Queensland,4006,Australia, and is obtainable for $ 2.95 (plus postage) from the Queensland Museum, Gregory Tce, Fortitude Valley, Q., 4006.

Bibliographia Araneorum ,by Pierre Bonnet,1939-1961. According to Mr John Kochalka ,volume I, an alphabetical list of all publications on the Araneae until 1939, is still available from the Entomological Society of America. John hopes that volumes II and III, lists of all described spiders and of nomenclatural rules and name formations, will be reprinted if demand justifies it. Institutions that need those volumes should write to Mr John Kochalka ,Department of Zoology, 223 Bartram Hall, University of Florida, Gainesville, 32611, FL, U.S.A. for further information.

PEOPLE

Mr David Lee expects to be in Brisbane from late July to mid-August.

Dr Robert Jackson has been given a grant by National Geographic to study Portia (see Robert's article on p.6) and other salticids in Asia and Africa.

RECENT PUBLICATIONS ON AUSTRALASIAN ARACHNIDA

Harvey, M.S. 1981. Geogarypus rhantus sp. nov. (Pseudoscorpionida: Garypidae Geogarypinae), a generic addition to the Australian fauna. Mem. Qd. Mus. 20(2): 279-83.

Koch, L.E. 1980. The primary types of Arachnida, Chilopoda, Diplopoda, Insecta, Onychophora and Pycnogonida in the Western Australian Museum. Rec. west. austr. Mus., 8(2):295-326.

Main, B.Y. 1981 a. Australian spiders: diversity, distribution and ecology. pp.807-52. In, Ecological Biogeography in Australia. Monographie Biologicae, ed. A. Keast. W. Junk, The Hague.

Main, B.Y. 1981 b. Eco-evolutionary radiation of mygalomorph spiders in Australia. pp. 853-872. In, Ecological Biogeography in Australia.

Main, B.Y. 1981 c. A comparative account of the biogeography of terrestrial invertebrates in Australia: some generalizations. pp. 1055- 78. In, Ecological Biogeography in Australia.

LETTERS TO THE EDITOR

Mexican tarantulas in Australia. I am in charge of the Nocturnal House at the Adelaide zoo. In our collection of Nocturnal animals, we also display various invertebrates including the Orange kneed Mexican Tarantula, Brachypelma smithi. These exhibits of invertebrates have proved to be very popular and I feel that I would like to expand on these displays. I was wondering if you or any member of the society would be prepared to send us (live) any large spiders. I am particularly interested in the bird-eating spiders and I think this would make a popular exhibit. In return for this I would be prepared to send any preserved spiders or slides of South Australian spiders. (Robin later adds.) Her name (the tarantula) is Kate and she's a gentle little thing. She looks especially attractive at the moment because she has just shed her skin and she looks all shiny and new. The shed skin also looks very attractive when mounted. Robin Briggs, Box 2, Roseworthy P.O., Roseworthy, 5371,S.A.

Jumping theraphosids! I met a photographer from Innisfail who was photographing one of these spiders (Selenocosmia sp.) , a juvenile about $\frac{1}{4}$ to $\frac{1}{2}$ inch long, when it jumped and then bit him. The doctor didn't know what to do so he made Mr Bulma pack it (the finger) in ice for as long as he could, for over a 3 hour period. The finger swelled to 3 times its normal size and for 3 weeks Mr Bulma couldn't touch the finger because of the excruciating pain it produced. Mrs Enid Long, P.O. Box 28, Mission Beach,4855,Q.

Editor's note: Neither ice nor torniquets are recommended for the treatment of spider bites. See AA 3 or 'Animal Toxins and Man' for best treatment.

GARTH MERVYN SYDNEY MAY: 1912-1981.

Born in Ipswich, the eldest of five children. He was educated at West Ipswich State School, Ipswich Grammar School, Nudgee College, Queensland and Melbourne Universities. He graduated in Medicine and held appointments in several Queensland towns and worked for some time with the Royal Flying Doctor Service.

During World War II, he served as a Medical Officer at home and in the New Guinea area. He was an accomplished pianist, played the organ and held a lifelong interest in music. He built and maintained a model railway at his home for many years.

Photography was his main interest and for his achievements he became widely known at home and abroad. He attained letters in this field and his services were widely sought as a judge of photographic art.

Some years ago he became Director of School Health Services and in 1977 ,he was named Father of the Year. He was President of the Queensland Naturalists' Club and the Leica Society of Queensland for various terms. He is survived by

his wife, son, two daughters, their families and a sister. -Mr Keith Williams.

Dr May's work appeared in a number of spider publications including beautifully illustrated articles in Brisbane newspapers.- Editor.

PROFESSOR DR MAX BEIER: 1903 - 1979.

Professor Max Beier passed away unexpectantly on 6 July 1979 after a long and distinguished career at the Naturhistorisches Museum, Vienna, Austria.

His early publications were concerned with the Coleoptera, but he quickly diverted his attention to the Pseudoscorpionida. In 1932 (Tierreich 57 + 58) he published, in two volumes, a resumé of the taxonomy of the order . That mammoth publication, along with J.C. Chamberlin's revisions, established a relatively sound familial and generic classification, previously lacking in the chelonethids. Beier's efforts did not stop there: he went on to publish over 250 papers on pseudoscorpions, which remain as a fitting tribute to his talents. If anyone is to begin a revision of any pseudoscorpion group, they will always have to turn back to Beier's publications, and even though synonyms and misplaced species are inevitably turning up, his life's work provides a foundation for future research. If it was not for Professor Beier, pseudoscorpionid taxonomy would be many decades behind its present limits.

His contributions to the Australian fauna were immense, as he described 51 of the 82 species. His most noteworthy contribution was a key to the Australian species (1966, Aust. J. Zool. 14: 275-303) which, even though it is now out of date, provided me with a basis to begin my studies on this group.

Apart from pseudoscorpions, Professor Beier maintained an interest in insect groups such as Orthoptera, Coleoptera and Hemiptera, and published nearly 150 papers on these groups. He also made a major contribution to science as editor of several significant treatises.

Mahnert (1980, Bull. Br. arachnol. Soc.5: 115-6) and Kaltenbach (1980, Ann. naturhistor. Mus. Wien 83: 763-81) provide more detailed accounts of his life and Kaltenbach (1980) also supplies a complete bibliography.

Professor Max Beier will be sadly missed by arachnologists and entomologists alike. Mark S. Harvey, Zoology Department, Monash University,Clayton,Vic. 3168.

Urodacus manicatus (Thorell) (Scorpionida) in Western Australia

Mark S. Harvey, Zoology Department, Monash University,Clayton,Vic.

During a recent trip to Western Australia, three specimens of Urodacus manicatus (Thorell) were collected at Madura, W.A., on the southern fringe of the Nullarbor Plain. This record extends the known distribution of the species by 1000 km, and is the first record for Western Australia (see Koch, L.E. 1977, Rec. West. Austr. Mus. 5:183-367). The species is common in Victoria, New South Wales, and the south-east corner of South Australia and Queensland, but the most western record was from Kangaroo Island (Koch, 1977).

The specimens were taken from shallow burrows under large rocks which had been dumped to the side of the road during the clearing of Madura Pass, just west of Madura. It seems most likely that the specimens are part of a relict population of a once continuous distribution of the species. The increasing aridity of the Nullarbor Plain may have driven the species to virtual extinction in the area. While the specimens may be the result of an introduction by man (accidental or otherwise), this seems to be most unlikely.

Specimen data: Madura Pass, Madura, W.A., 22 Nov. 1979, M.S. Harvey, 1♀, 2 juveniles. In M.S. Harvey's collection, to be deposited in the National Museum of Victoria. (Only three specimens were collected due to the author's excitement at finding specimens of Synsphyronus (Pseudoscorpionida). The scorpions were not looked at until we were much further up the road!).

NEWSLETTER OF THE AUSTRALASIAN ARACHNOLOGICAL SOCIETY

SPIDER BOOKS GALORE. Part 1.

Judy F. Grimshaw
Department of Primary Industries
Brisbane, Q.

I have taken on the task of giving a comparative review of the various books on or about spiders. The intention was to write this from the point of view of an amateur with keen interest in our eight-legged friends. However, when the books were all gathered together in one heap (in the corner of the lounge room) it suddenly looked like a tall order. After much thought, and occassionally dusting the books and restacking them, I realised the only way to achieve this objective was to let some of the amateur taxonomist in me show through, and start out by erecting some Families of spider-books and dealing with each Family one at a time.

There are four distinct Families of texts available, all dealing with different aspects of our eight-legged arthropods.

(1) The "Gee-Whizz" books, these write about the venomous nature of spiders, and will tell you little or nothing about their biology or taxonomy.

(2) The easy reading texts, which will give you lots of information on general biology and behaviour, these are written by the enthusiastic spider watchers and you will soon learn how lovable spiders can be.

(3) Taxonomic and semi-taxonomic books, these books give varied amounts of information on the biology and morphology of arachnids. The information is arranged taxonomically and there may be a key to Families of spiders.

This last group is the largest and most varied and I may yet have to split it into sub-families.

The "Gee-Whizz" Spider Books

I have read four texts which I feel fit this group:

1. WORRELL, Eric. 1977. Things that Sting. Angus and Robertson. 68 pp. $2.95.
2. SCOTT, Gillian. 1980. The Funnelweb. Darling Downs Institute Press. 67 pp. $ 8.95.
3. KOCH, L.E. 1980. The Red-back Spider and Other Venomous Creatures. Western Australian Museum. 56pp. $2.40.
4. SOUTHCOTT, R.V. 1978. Australian Harmful Arachnids and their Allies. R.V. Southcott. South Aust. 36 pp. $2.50.

Things that Sting is a soft-back book that would easily fit into a back-pack or reside in the glove-box of the car. It covers a wide range of venom sources from marine stingers through molluscs, spiders and snakes to stinging trees. Unfortunately, the large print size means that the information content of its 68 pages is much reduced and much of it is inaccurate. Further to this the drawings provided are totally inadequate as a means of idnetification, if such was the intention of their inclusion. Thus, as a handy pocket-book reference for campers and treckers it fails.

The Funnelweb can be recommended for those fascinated by this genus of spiders, Atrax spp. , mainly for its excellent photographs from the collection of Mr Pat Walker. Unfortunately, it is rather expensive to buy just for the photos, and in many cases the publishers have inset photos into other photos which rather spoils them. Perhaps this was done to save space. In my opinion they would have done better to 'inset' parts of the text, since much of it is repetitious and generally too verbose for my liking. Among all the words there is some information to be had, but once again, beware of inaccuracies.

The Red-Back Spider and Other Venomous Creatures is written from a West Australian point of view but does include a mention of Atrax spp. which, so far, are not recorded from that area. The booklet takes in an assortment of venomous and non-venomous but common spiders and scorpions, centipedes, millipedes, ticks, various Hymenoptera and some caterpillars with urticating hairs/bristles. The information given is clear and concise. Each entry gives a scientific name plus common where applicable , as well as the family name and some information about general biology and behaviour . This is followed by information on the effects of human envemomation. All this is accompanied by drawings with scale lines which allow you to work out the size of each beast. However, I found the drawings rather hard on the eyes. I prefer a bold outline to my spider drawings, whilst these spiders appear mystically out of the page, depicted by a series of shadings. In spite of this the book would be useful to West Australian amateur arachnologist.

Australian Harmful Arachnids and Their Allies gives information on all arachnids producing symptoms in humans, the 'allies' mentioned in the title are Millipedes, and Centipedes. The author makes no pretence of describing any of the species included. The information provided here is a concise list of the known reactions to envemomation, or infestation, in the case of mites. Each group is dealt with in taxonomic order and often includes some biological notes before the symptoms are given. This book is very useful to anybody who has to answer public enquiries, as usually some information on toxicity is needed rather than just a name. A list of references in the back provides easy access to more papers on the various subjects covered.

Of the above books, the best value for money has to be the last mentioned.

**** **** **** **** **** **** **** **** ****

TELESCOPING SPIDERS

Michael R. Gray
Australian Museum
Sydney, N.S.W.

On a recent collecting trip to northern N.S.W. I observed what looked a small piece of detrital material hanging from the edge of a leaf on foliage along a river. The 'detritus' consisted of an upper and lower section joined by a slender stem. On closer examination the 'detritus' hoisted itself onto the leaf surface and was immediately revealed as a small, dark grey and white spider (female) of the genus Archemorus. It moved across the leaf for a short distance in a perfectly normal spider-like fashion before settling in the typically hunched up position of Archemorus. However, at this point, the abdomen, previously held immediately adjacent to the cephalothorax, began to move slowly away from the motionless front part of the spider. This was caused by lengthening of the pedicel which became rapidly visible as a slender dark grey stalk. At full extension the pedicel was about two-thirds as long as the cephalothorax. On being disturbed the spider retracted its abdomen (sometimes on the move) and repeated the performance. Unfortunately, it could not again be coaxed into a photographic performance back in the laboratory. Microscopic examination of the unextended pedicel shows it to be thick and strongly rugose externally. Presumably, pedicel extension results from a combination of hydrostatic pressure differences between abdomen and cephalothorax with some muscular involvement. Why it occurs is not at all clear. Camouflage is one possibility, the spider somewhat resembling a piece of faecal material, especially when hanging from the edge of a leaf as it was first seen.

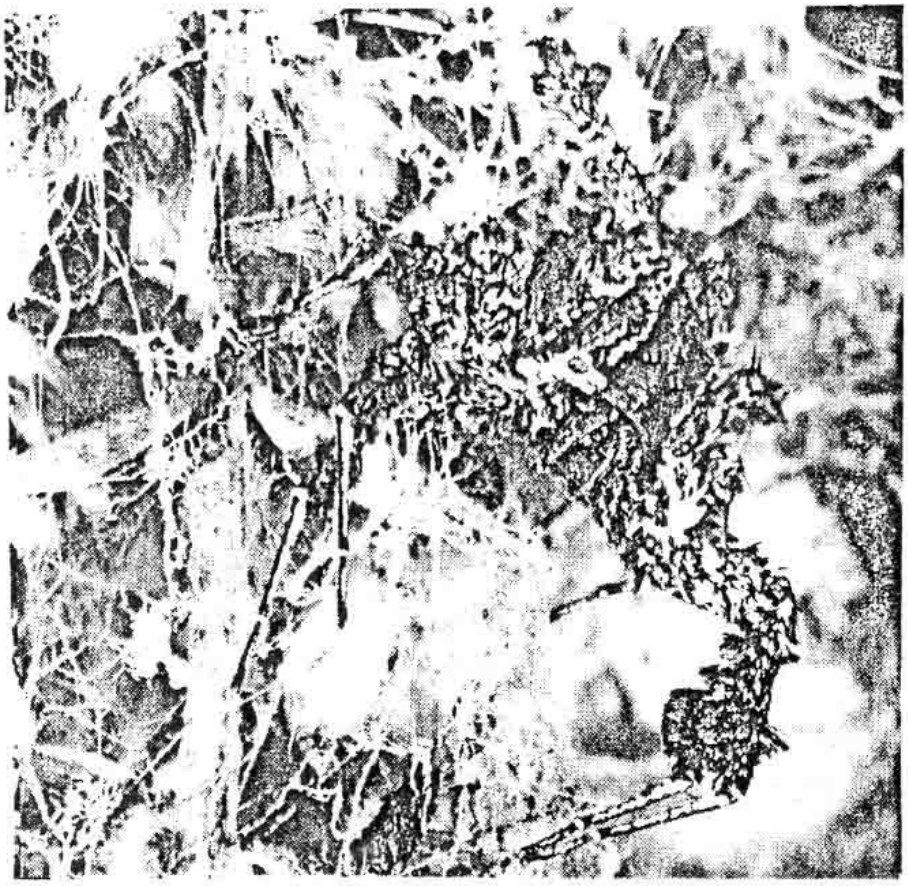
**** **** **** **** **** **** **** **** ****

NEWSLETTER OF THE AUSTRALASIAN ARACHNOLOGICAL SOCIETY

An Unusual Jumping Spider From North Queensland

Robert R. Jackson
Department of Zoology
University of Canterbury
Christchurch 1, New Zealand.

One of Australia's most unusual spiders is Portia fimbriata (see Wanless, 1978). Mr Clyde Coleman, the former President f the North Queensland Naturalists Society, made some interesting observations on these jumping spiders in the vicinity of Cairns (Coleman, 1978,1980). I was fortunate enough to meet Mr Coleman in December, 1980; and I was very saddened to learn of his recent tragic death.



Portia on a web.

Salticids or jumping spiders are generally regarded as cursorial hunting spiders with highly developed vision that stalk insects more or less as a cat stalks a mouse but do not use webs. The eyes of Portia have a telephoto design that increases image size and assists the spider in stalking prey (Williams and McIntyre, 1980). Another study (Blest, Hardie, McIntyre and Williams, in press) suggests that the eyes of most salticids may share this design, but it is especially pronounced in Portia.

The behaviour of Portia is very unusual. They enter the webs of various species and prey on the occupants by means of a specialized leg- and palp-movements that vibrate the silk while luring the occupant spiders to within striking distance or slowly stalking across the silk. Also, Portia builds webs of their own that are used for prey capture, mating, and brooding of eggs (Jackson, in press; Jackson and Blest, in press).

Webs in the rainforest are often cluttered with mouldy leaves, pieces of dirt, moss and fungi. Portia are covered with fringes and tufts of hairs that render them difficult to distinguish from debris in the webs they occupy (see photograph of an adult Portia on an amaurobiid web).

REFERENCES

Blest, A.D., R.C. Hardie, P. McIntyre and D.S. Williams. (In press). The spectral sensitivities of identified receptors and the function of retinal tiering in the principal eyes of a jumping spider.

Coleman, N.C. (1978). A spider aberration - Linus fimbriatus. N. Qd. Nat. 43:5.

Coleman, N.C. (1980). Web construction by Portia - a spider of the family Salticidae, commonly known as jumping spiders. N. Qd. Nat. 45: 7-8.

Jackson, R.R. (In press). The biology of Portia fimbriata, a web-building jumping spider (Araneae, Salticidae) from Queensland: intraspecific interactions. J. Zool. (Lond.).

Jackson, R.R. and A.D. Blest. (In press). The biology of Portia fimbriata, a web-building jumping spider from Queensland: utilisation of webs and predatory versatility. J. Zool. (Lond.).

Wanless, F.R. (1978). A revision of the spider genus Portia (Araneae: Salticidae). Bull. Br. Mus. nat. Hist. (Zool.) 34:83 - 124.

Williams, D.S. and McIntyre, P. (1980). The principal eyes of a jumping spider have a telephoto component. Nature 288: 578- 580.

**** **** **** **** **** **** **** **** ****

A Note on the Key to Mygalomorph Families in A.A.5

The alert will have noted that, according to the key I gave in A.A.5, Heteromigas and other hexasigillate migids key to Ctenizidae. Because of the present difficulty in defining the difference between ctenizids and migids such mis-identifications will be unavoidable.

Robert J. Raven

**** **** **** **** **** **** **** **** ****