



Acarology Bulletin



Newsletter of the **SYSTEMATIC & APPLIED ACAROLGY SOCIETY**

Election of SAAS Officers

Since the last call for nomination of officers of the Systematic and Applied Acarology Society in *Acarology Bulletin* 1(1):7 in January 1996, over 20 members have been nominated for various posts. Two nominees who received the highest number of nominations have become candidates for each post. When there is a tie, a random draw is made. The candidates are listed in the following table in the order of the number of nominations that they received from members; they are listed alphabetically when the numbers of nomination are the same.

Please select one candidate for each post (president, secretary, treasurer, and six executive committee members) and send your vote to Zhi-Qiang Zhang before 15 June 1996. Members in P. R. China may send votes to Lairong Liang before the same date. Candidates who receive the highest number of votes for each post will be elected. The elected officers of SAAS will be announced in the next issue of *Acarology Bulletin* in July when they will officially take over the responsibility of SAAS from the Organizing Committee.

Posts	Candidates	
President	Zhi-Qiang ZHANG UK	Lairong LIANG China
Secretary	Xiaoyue HONG China	Tingkui QIN New Zealand
Treasurer	Tingkui QIN New Zealand	Xiaoyue HONG China
Executive Committee Members	Lairong LIANG China	Huifu WANG China
	Y.S. CHOW Taiwan	Renjie HU USA
	Weinan WU China	Chengfeng MO Hong Kong
	Zhimo ZHAO China	Uri GERSON Israel
	Daochao JIN China	Chengye HU China
	Longshu LI China	Tinghuan WEN China



SAAS emblem

In this issue.....

- 9 Election of SAAS officers
- 9 SAAS emblem
- 10 Acarology news
- 10 News & letters from members
- 11 Acknowledgements; a poem
- 11 New books
- 12 Book review
- 13 Editorial board of SAA
- 13 Updates on SAA; acting treasurer
- 14 Contents of J. Acarol. Soc. Japan
- 14 Contents of *Acarologia*
- 15 Contents of *Acarina. Russ. J. Acarol.*
- 16 Contents of *Exp. & Appl. Acarol.*
- 18 Contents of *Internal. J. Acarol.*
- 18 New members of SAAS
- 20 Application form for SAAS
- 20 About the *Acarology Bulletin*

Acarology Bulletin Editors

Editor:

Dr. Zhi-Qiang Zhang (UK)

Assistant editors:

Dr. Xiaoyue Hong (China)

Dr. Renjie Hu (USA)

Dr. Ting-Kui Qin (New Zealand)

Acarology news

The Ohio State University will be offering the 46th Annual Acarology Summer Program on the OSU campus in Columbus. Three courses will be offered in a workshop format. Soil Acarology begins June 17, 1996 and ends July 5. Agricultural acarology will be offered June 24-July 5. Medical Veterinary Acarology will be offered concurrently with Agriculture (June 24-July 5). Emphasis is on the systematics, identification and biology of mites.

Estimated course fees will be \$1000 for either Med-Vet or Agric (two wks) and \$1500 for Soils (3 wks). Graduate/undergraduate fees are \$800 for Agric or MedVet; \$1200 for Soils. This includes double occupancy in a dormitory apartment (with small refrig. & microwave) and course fees.

Harry Hoogstraal Scholarship funds will be available on a competitive basis. For further information, contact: Glen Needham, Acarology Laboratory, The Ohio State University, 484 W. 12th Avenue, Columbus, OHIO 43210-1292; Phone: 614-688-3026; fax 292-1538
e-mail: gneedham@magnus.acs.ohio-state.edu

La Société Internationale des Acarologues de langue française (S.I.A.L.F.) organizes from 16-21 September 1996, the International Course of Acarology (tenth edition) in Paimpont (FRANCE) (near Rennes). The program includes: Introduction to acarology; Techniques for studies; Main groups; Adaptations (free living mites, parasitism...); Soil fauna; Sampling and data exploitation. For information, contact: Michel Bertrand, Laboratoire de Zoogeographie, Université Montpellier 3 - B.P. 5043, 34032 Montpellier CEDEX. Fax 67 14 20 52.
E-MAIL: bertrand@bred.univ-montp3.fr.

The Xth International Congress of Acarology will be held in Canberra, Australia, from 6-10 July 1998. The host institution is CSIRO Division of Entomology, and Congress sessions and accommodation will be in the Australian National University. The first circular is expected in approximately June 1996. Contact person: R.B. Halliday.

News / letters from members

Xiaoyue HONG visited the US in October 1995 for studying eriophyoid mites in the Keifer Collection at the Systematic Entomology Laboratory, USDA (R. Smiley), and in the collection of Prof. James Amrine Jr. at West Virginia University. While at USDA, He met Prof Uri Gerson, who was visiting R. Smiley. He also met Dr. Edward E. Baker and his wife M.D. Delfinado-Baker (see the photo below).



Xuenong XU : "..... It [The Acarology Bulletin] provides us lot of information such as acarology news, member news and book review from which we know of the outside world. It also acts as a bridge connecting the acrologists in China with those in other parts of the world."

"..... I wonder whether you think it better for SAAS to own an emblem. The emblem can be composed of a mite or tick rounded with the Systematic and Applied Acarology Society."

(Dear Xuenong: Following your suggestion, I have designed one on the front page of this issue. Is it what you have in mind?

--- Editor)

Yanxuan ZHANG and **Jianzhen LIN** recently edited a special issue of "Piman Tongxun" on the Sixth National Congress of Acarology held in Huangshan in October 1995. The booklet was distributed to over 200 acarologists in China. Yanxuan continues to work on the biocontrol of spider mites on various crops. Jianzhen is writing a chapter for Fauna of Fujian.

Zhi-Qiang ZHANG has been elected to the editorial board of *Oriental Insects*, an international journal published by the Associated Publishers in Florida, USA, on the systematics and biology of insects (and mites) in the Old World. Zhi-Qiang is also a member of the editorial board of *Experimental & Applied Acarology*, published by Chapman & Hall in the UK.

The Chinese version of the book *Acarine Biocontrol Agents* by Uri Gerson and Robert Smiley is now in press. The book was first published in English in 1990 by Chapman & Hall. It was translated into Chinese by Lairong Liang and colleagues at Fudan University, Shanghai. The Chinese version is published by Fudan University Press and will be available soon. The authors of the book included an updated bibliography in the Chinese version.

Matti UUSITALO: I have 170 specimens of Endeostigmata (Bimichaelidae & Nanorchestidae) from Polynesian islands (Samoa, Tonga, Society islands), but only one specimen from other Pacific areas (Taiwan). If you happen to have any Berlese funnel residues left from soil, litter, moss, bark, etc. along the Pacific coastline, please let me know. I am in serious need of those small, whitish mites for comparison by SEM.

Acknowledgements

We thank the following members for their financial contributions to SAAS

Y. S. CHOW (Taiwan)
C.H.W. FLECHTMANN (Brazil)
Tze-Ming HO (Malaysia)
Xiaoyue HONG (China)
Ting-Kui QIN (New Zealand)
King Wan WU (Canada)
Zhi-Qiang ZHANG (UK)

POEM

Mitey and Wonderful Mite

*A mite
Boasts of no might
Small is beautiful
Of wonder she is full*

ZQZ

NEW BOOKS

Catalog of the Eriophyoidea (Acarina: Prostigmata) of the world. (1994) By Armine, J.W.Jr. & Stasny, T.A. Indira Publishing House, West Bloomfield, Michigan, USA. Hard cover. ISBN 0-930337-13-1. 798 pp.

Acari: Eriophyoidea (I). By Kuang, Haiyuan. (1995) Economic Insect Fauna of China. Fasc. 44. Science Press, Beijing. 198 pp. 7 plates. Paper cover. ISBN 7-03-004385-5/Q.543. [In Chinese].

The Eriophyoid Mites of China: an Illustrated Catalog and Identification Keys (Acari: Prostigmata: Eriophyoidea). By Xiaoyue HONG & Zhi-Qiang ZHANG. Memoirs on Entomology International, Volume 7. Associated Publishers, Gainesville, Florida, USA. Hardback. ISBN 1-56665-062-3. ISSN 1083-6284. 328 pp.

House Dust Mites. How they affect asthma, eczema and other allergies. By D. Whitrow (1995) Elliot Right Way Books, Kingswood, Surrey. 192 pp. Paper cover. ISBN 0-7160-2034-3.

Tick-Tick-Borne Pathogen System and its Emergent Qualities (1993) By A.N. Alekseev. Zoological Institute, Russian Academy of Sciences, 203 pp. [in Russian, a book review in English by O.V. Voltzit (1995) *Acarina* 2, 113-115]

Arachnida Acari. Checklist delle specie della fauna d'Italia. fascicle 24 (1995) By Bernini, Fabio, Castagnoli, Marisa & Nannelli, Roberto. C. Calderini, Bologna. ISBN 88-7019-967-3. Paper cover. 131 pp.

Acari, Oribatei, Poronota. Fauna Iberica Vol 3. (1993) By Carlos Pérez-Iñigo. Musco Nacional de Ciencias Naturales, Madrid. ISBN 84-00-07335-5. 320 pp.

Book Review



Principles of Acarology. By G. O. Evans, 1992. Wallingford: C. A. B. International, 563 pp. Price £69.00. ISBN 0 85198 822 9.

The author states that the object of this book is to provide an introduction to acarology for non-specialists and students, as well as a source of reference. The book includes a preface, an introduction, and 12 chapters plus taxon and subject indices. The introduction includes general information about the habitat of mites and ticks, fossil records, methods of preparing material, important literature (note that Krantz's (1978) work is omitted here), and terminology.

The first 11 chapters summarise recent information, and are illustrated by many scanning and transmission electron micrographs and line drawings. These chapters are well documented, and cover structure and function of integument, segmentation, musculature, mouthparts, legs and their chaetotaxy, circulation, and nervous, respiratory, digestive, and reproductive systems; also methods of sperm transfer, mating behaviour and oviposition, embryological development, life cycle, and methods of dispersal.

The last chapter deals with the classification of the Acari, and includes a discussion on their relationship to other Arachnida and the interrelationship between the different orders of the Acari. The subclass Acari is classified into two superorders and seven orders: Holothyrida, Ixodida, Mesostigmata, and Notostigmata (superorder Anactinotrichida); and Astigmata, Oribatida, and Prostigmata (superorder Actinotrichida). Keys are provided only to the level of orders, suborders, and superfamilies, and readers are referred to Krantz (1978) and other works for keys to families. It is also worth noting that the classification presented is different from that of Krantz (1978), most notably in the levels of cohort, subcohort, and phalanx. The author states that "the classification [of the Acari] at suprafamily levels is in a state of flux". He points out that cladistic analysis has been

applied to some groups of Acari and the results have not supported current concepts of the relationships between taxa. Thus, readers should keep in mind that future higher classification of the Acari will probably be different from that presented in this book.

Although the author states that the reference list is far from complete, it includes almost all important works. He notes that polyvinyl alcohol (PVA) is one of the most widely used mounting media but, as Halliday (1993) points out, many acarologists consider PVA to be a totally unsuitable medium. In spite of some minor criticisms, this book is certainly an important contribution to acarology.

References

Krantz, G. W. 1978. *A Manual of Acarology* (2nd edition). Oregon State University, Corvallis, Oregon. 509 pp.

Halliday, R. B. 1993. Book Review. *Journal of the Australian Entomological Society* 32: 196.

Ting-Kui QIN

Acari: Ixodidae. By Guofan DENG & Zaijie JIANG (1991) *Economic Insect Fauna of China*, Fasc. 39. Science Press, Beijing. i-vi + 359 pp. [in Chinese].

This book describes 101 species/subspecies in 9 genera of the Ixodidae from China. There is an introduction to the history of studies on Ixodidae in China, systematic position, geographical distribution, biology, relation to diseases, control measures and techniques for preparing specimens. The section on morphology describes in detail the morphological characters of larva, nymph and adult stages. The systematic section includes keys to genera and species, and descriptions of all species (with lists of hosts and distribution). There is also a list of references. The book ends in a Chinese name index and a Latin name index.

Lairong LIANG

EDITORIAL BOARD OF SYSTEMATIC AND APPLIED ACAROLOGY**Editor-in-Chief**

Zhi-Qiang ZHANG

International Institute of Entomology, c/o The Natural History Museum, London SW7 5BD, UK
Telephone: 44 171 938 9535 FAX: 44 171 938 9309 Internat: Z.Zhang@nhm.ac.uk**Editor (Agricultural Acarology)**Lairong LIANG
Department of Biology
Fudan University
Shanghai 200433, China**Editor (Medical Acarology)**Tinghuan WEN
Department of Parasitology
Shanghai Medical University
Shanghai 200032, China**Assistant editors**Huiqin DONG, Shanghai, China
Xiaoyue HONG, Nanjing, Jiangsu, ChinaQin Hai FAN, Fuzhou, Fujian, China
Ting-Kui QIN, Auckland, New Zealand**Members of the Editorial Board**A. S. BAKER, London, UK
Xingbao CHEN, Bengbu, Anhui, China
Y. S. CHOW, Taipei, Taiwan
Guofan DENG, Beijing, China
C. H. W. FLECHTMANN, São Paulo, Brazil
U. GERSON, Rehovot, Israel
M. L. GOFF, Honolulu, Hawaii, USA
Zaijie JIANG, Beijing, China
Daochao JIN, Guiyang, Guizhou, China
J. E. KEIRANS, Statesboro, Georgia, USA
G. W. KRANTZ, Corvallis, Oregon, USA
Longshu LI, Chongqing, Sichuan, ChinaPaul K. C. LO, Taipei, Taiwan
D. MACFARLANE, Kent, UK
Yangchun MENG, Suzhou, Jiangsu, China
Chengfeng MO, Hong Kong
R.A. NORTON, Syracuse, New York, USA
Dunqing WANG, Fuzhou, Fujian, China
Huifu WANG, Beijing, China
Qianhong WU, Shanghai, China
Weinan WU, Guangzhou, Guangdong, China
Zhimo ZHAO, Chongqing, Sichuan, China
Xiangxiong ZHU, Shanghai, China
Zhimin ZHU, Nanchang, Jiangxi, China**Updates on Systematic & Applied Acarology (ISSN 1362-1971)**

The first volume is expected to be published in July 1996. Manuscripts accepted before 15 June 1996 will be included in volume 1. Manuscripts accepted after that date will be included in volume 2 scheduled for spring 1997. Future volumes will be published in each spring.

Manuscripts on agricultural acarology from P.R. China should be submitted to Prof. Lairong LIANG, whereas those on medical acarology from P.R. China should be submitted to Prof. Tinghuan WEN. Manuscripts from the rest of the world should be submitted to Zhi-Qiang Zhang. All manuscripts are reviewed by at least two peers before the acceptance for publication.

Members in P.R. China should write to Lairong Liang about subscription rates in Chinese Yuan (Renminbi). Subscribers outside P. R. China should contact Panda Books Society (PO Box 8773, London SW7 4ZF, UK) who handles the publication and distribution of *Systematic and Applied Acarology* and *Acarology Bulletin* for SAAS.

Acting Treasurer of SAAS

In order to handle member contributions and journal production, the Organizing Committee of SAAS appointed Zhi-Qiang Zhang to be the acting Treasurer of SAAS until a treasurer is elected. An account in the name of SAAS was opened in the Barclay Banks PLC in London.

Current contents of acarological journals

Journal of the Acarological Society of Japan, Vol. 4, No.1, May 1995

Kakuda, H., T. Mori & S. Shiraishi. Effects of feeding and copulation on ultrastructural changes of the tubular glands of Gene's organ in female *Hae-maphysalis longicornis* (Acari: Ixodidae). 1-13.

Ryu, M.O. & S. Ehara. Two spider mites from Korea (Acari: Tetranychidae). 15-20.

Fujimoto, K. A preliminary study of the drought tolerance on the diapausing and non-diapausing groups of engorged *Ixodes persulcatus* larvae (Acari: Ixodidae). 21-25.

Oikawa, Y., et al. Eleven cases of human tick bite in the Noto Peninsula, Ishikawa Prefecture. 27-29.

Vol. 4, No. 2, November 1995

Saito, Y. Sociobiological aspects of spider mite life style. 55-67.

Sakata, T., K. Tagami & Y. Kuwahara. Chemical ecology of oribatid mites I. Oil gland components of *Hydronothrus crispus* Aoki. 69-75.

Ohkubo, N. Species list of Quadropiidae (Acari: Oribatida) with descriptions of a new genus and two new species. 77-89.

Kitashima, Y. & T. Gotoh. Host range difference and reproductive incompatibility among five populations of the citrus red mite, *Panonychus citri* (McGregor) (Acari: Tetranychidae). 91-101.

Fujimoto, H. & T. Hiramatsu. Distribution and susceptibility to acaricides of the two closely related mites, *Panonychus mori* Yokoyama and *P. citri* (McGregor), on peach in Okayama Prefecture, Japan. 103-111.

Kuriki, G. Life cycle of *Trhypochthoniellus setosus* Willmann (Acari: Trhypochthoniidae) in a Sphagnum moor at Yachidaira, Northeast Japan. 113-122.

Yamamoto, S. & S. Noda. Collecting records of trombiculid mites in Kagoshima Prefecture in 1993 and 1994. 123-127.

Current Contents of Acarological Journals is a section to keep readers informed of papers recently published in acarological journals. If you have suggestions for this and other sections, please write to the Editor.

Acarologia , Vol. 36, No. 3, 1995

Ishikawa, K. Two new species of the genus *Holaspulus* (Acari: Gamasida: Parholaspidae) from Japan. 185-190.

Yeruham, I., A. Hadani, F. Galker & S. Rosen. The occurrence of *Ixodes eldaricus* (Dzhaparidze, 1950) (Acarina: Ixodidae) in Israel. 191-193.

Fontanilla Olmedo, F. , A. Estrada-Pena & J. Castella Espuny. Variations in the size and weight of adults of *Ornithodoros maroccanus* Velu (Acari: Argasidae) according nymphal blood intake. 195-201.

Cornet, J.P. Contributions to the study of ticks (Acarina: Ixodina) from the Central African Republic. 4. Inventory and distribution. 203-212.

Palacios-Vargas, J.G. & D. Peieto Trueba. A new species of *Saxidromus* (Endeostigmata: Adamyidae) from Cuba. 213-217.

Gerson, U. & Smith Meyer, M.K.P. *Neilstigmaeus*, a new Australian genus in the family Stigmata (Acari: Prostigmata). 219-222.

Southcott, R.V. A new larval erythraeine mite (Acarina: Erythraeidae) from Spain. 223-228.

Smith Meyer, M.K.P. Description of five new genera (Acari: Eriophyoidea) from South Africa. 229-240.

Mahunka, S. Two new brachychoniid species (Acari: Oribatida) from the comoro Islands. 241-45.

Fernandez, N.A., J.A. Marcangeli & P.A. Martinea. Contribution to knowledge of the family Lioididae in Argentina. I. *Liodes marplatensis* and *Liodes elongatus*, new species. 247-259.

Martinez, R.I. & M.E. Casanueva. *Liochthonius nortoni*, a new species from Chile (Oribatida: Brachychthoniidae). 261-265.

Acarologia , Vol. 36, No. 4, 1995

Nawar M.S. & A. A. El-Sherif. Redescription of the female of *Holaspina solimani*, with a description of the male (Acari : Parholaspididae). 273-76.

J. De La Cruz & A. Estrada-Peña. Four new species of *Antricola* ticks (Argasidae : Antricolinae) from bat guano in Cuba and Curaçao. 277-86.

Acarologia , Vol. 36, No. 4, 1995

-continued

J.-P. Cornet, H. Zeller, K. Bá, J. L. Camicas, J.-P. Gonzales & M. L. Wilson. Contribution to the study of tick vectors (Acarina : Ixodina) of Crimea-Congo hemorrhagic fever (CCHF), in Senegal. 1- Analysis of parasitism in small rodents. 287-292.

J.-P. Cornet, H. Zeller and J.-L. Camicas. Contribution to the study of tick vectors (Acarina : Ixodina) of Crimea-Congo hemorrhagic fever (CCHF), in Senegal. 2 – Biology, in preimaginal stases, of *Hyalomma marginatum rufipes*. 293-96.

M. A. Barral, J. A. Moreno, A. L. García Pérez, R. A. Juste & A. Estrada-peña. First record of *Haemaphysalis inermis* (Acarina : Ixodidae) in Spain. 297-302.

B. Ocabo Meléndez, C. Sánchez Acedo & A. Estrada-Peña. Relationships between climate and vertical position of *Rhipicephalus sanguineus* and *R. bursa* (Ixodidae) under natural conditions. 303-308.

G. Geevarghese & V. Dhanda. Ixodid ticks of Maharashtra State, India. 309-314.

H. Ernst. Endogenous circatidal activity rhythm in a littoral mite (Acarina : *Bdella septentrionalis*). 315-324.

L. N. Monetti & N. A. Fernandez. Seasonal population dynamics of the European red mite (*Panonychus ulmi*) and its predator *Neoseiulus californicus* in a sprayed apple orchard in Argentina (Acari: Tetranychidae, Phytoseiidae). 325-332

S. Izraylevich & U. Gerson. The hypopus of *Hemisarcoptes coccophagus* : distribution and apolysis. 333-340.

D. B. Hay. An 'in situ' coring technique for estimating the population size of house dust mites in their natural habitat. 341-346.

M. Oppedisano, M. Eguaras & N. A. Fernandez. Deposition of spermatophores and signalling structures in *Pergalumna* sp. (Acari : Oribatida). 347-354.

P. A. Martinez, G. J. Velis, M. J. Eguaras & N. A. Fernandez. The family Lamellareidae in the Argentine Republic. *Tenuelamellarea argentinensis* n. sp. 355.

Acarina. Russian Journal of Acarology
Vol. 1, No. 1, 1993

Kudryashova, N.I. New species of the chigger mite genus *Neotrombicula* (Acariformes, Trombiculidae) from Middle Asia and Mongolia. 3-25.

Iordansky, S.N. & Stein-Margolina, V.A. Fine structure of the cuticle in nymphs and adults of oribatid mites (Acari, Cryptostigmata) with wrinkled preimaginal stages. 27-25.

Shevchenko, V.G., Bagnjuk, I.G. & Rinne, V. *Trisetacus pini* (Nalepa, 1889) in some Baltic countries and in Russia (taxonomy, morphology, biology, and distribution). 51-57

Alekseev, A.N. & Dubinina, E.V. Abnormalities in *Ixodes* ticks (Ixodoidea, Ixodinae). 73-85.

Belozherov, V.N. A simple method of manufacturing dry preparations of engorged adult females of *Ixodes* ticks for collections. 87-91.

Kartzev, A.L. A new species of the chigger mite genus *Multisetosa* Hsu et Wen, 1963 (Acariformes, Trombiculidae, Leeuwenhoekinae) from Kyrgyzstan. 93-101.

Vol. 2, No. 1-2. 1994.

Kudryashova, N.I. Revision of the subgenus *Odontacarus* (Acariformes, Trombiculidae) of the Palearctic. 3-46.

Sukhareva, S.I. Family Phytoptidae Murray, 1877 (Acari, Tetrapodili), its consisting, structure, and suggested ways of evolution. 47-72.

Bochkov, A.V. , Mironov, S.V. & Gorgol, V.T. *Omithochelytia phylloscopi* sp. n. (Acariformes: Cheyletidae), new species of parasitic mite from the willow warbler. 73-80.

Dubinina, H.V. & Alekseev, A.N. Skeleton changes in the oribatid mites under the influence of the heavy metal ions accumulation. 81-94.

Eidelberg, M.M. A new species of *Caraboacarus* (Acari: Caraboacaridae) from *Calosoma denticolle* (Carabidae) from Russia. 95-102.

Kharadov, A.V. A new species of the genus *Montivagum* (Acariformes, Trombiculidae) from Kyrgyzstan. 103-108.

Balde, M.C. & Konstantinov, O.K. A case of gynandromorphism in *Amblyomma variegatum* Fabricius (Acari: Ixodidae) in the Republic of Guinea. 109-112.



Experimental & Applied Acarology
Vol. 19, No. 5., May 1995

Zhang, Z.-Q. & B. A. Croft. Interspecific competition and predation between immature *Amblyseius fallacis*, *Amblyseius andersoni*, *Typhlodromus occidentalis* and *Typhlodromus pyri* (Acari: Phytoseiidae). 247-257.

Yoder, J.A. & J.C. Barcelona JR. Food and water resources used by the Madagascan hissing-cockroach mite, *Gromphadorholaelaps schaeferi*. . 259-273.

Konishi, E. & Uehara, K. Distribution of *Dermatophagoides* mite (Acari: Pyroglyphidae) antigens in homes of allergic patients in Japan. 275-286.

Schol, H., H. Dongus & R. Gothe. Morphology of spiracles in adult *Hyalomma truncatum* ticks (Acari: Ixodidae). 287-306.

Vol. 19, No. 6., June 1995

Walde, S.J., C.N. Magagula & M.L. Morton. Feeding preference of *Zetzellia mali*: does absolute or relative abundance of prey matter more? 307-17.

Kumar, R. & R. Kumar. Artificial immunization of rabbits with *Hyalomma dromedarii* tick-derived midgut antigen. . 319-324.

Canal, C.W., H.M. Maia, I.S. Vazjunior, J. M. Chies, N.A. R. Farias, A. Masuda, J.C. Gonzales, L.S. Ozaki & H.Dewes. Changing patterns of vitellin-related during development of the cattle tick *Boophilus microplus*. 325-336.

Ridsdill-Smith, T.J. & K.R. Gaull. An improved method for rearing *Halotydeus destructor* (Acari: Penthalaeidae) in the laboratory. . 337-345.

Croft, B.A., S.S. Kim & D. I. Kim. Absorption and cannibalism: do phytoseiid conserve egg resources when prey densities decline rapidly? 347-356.

Braton, T.R. A modified technique for extracting live ticks from small soil and litter samples. 357-360.

Experimental & Applied Acarology is published by Chapman & Hall (2-6 Boundary Row, London SE1 8HN, UK) from 1995. Editorial enquiries to: Dr. L.P.L. van der Geest, Section Population Biology, University of Amsterdam, Kruislaan 320, 1098 SM Amsterdam, The Netherlands.

Experimental & Applied Acarology
Vol. 19, No. 7., July 1995

Lebrun, P. & N.M. Van Straalen. Oribatid mites: prospects for their use in ecotoxicology. 361-379.

Stamou, G.P. & M.D. Argyropoulou. A preliminary study on the effect of Cu, Pb and Zn contamination of soils on community structure and certain life-history of oribatids from urban areas. 381-390.

Siepel, H. Are some mites more ecologically exposed to pollution with lead than others. 391-398.

Al-Assiuty, A.I.M. & M.A. Khalil. The influence of insecticide-pheromone substitution on the abundance and distributional pattern of soil oribatid mites. 399-410.

Steiner, J. et al. Vitello-genesis in *Varroa jacobsoni*, a parasite of honey bees. 411-421

Vol. 19, No. 8. August 1994.

Walter, D.E. & Lindquist, E.E. The distribution of parthenogenetic ascid mites (Acari: Parasitiformes) do not support the biotic uncertainty hypothesis. 423- 442.

Behnke, J.M. et al. Identity, prevalence and intensity of infestation with wing feather mites on birds (Passeriformes) from the Setubal Peninsular of Portugal. 443-458.

Harvey, T.L. et al. Survival of five wheat curl mite, *Aceria tosichilla* Keifer (Acari: Eriophyidae), strains on mite resistant wheat. 459-463.

Bruce-Oliver, S.J. et al. Photoperiod and temperature studies to determine whether diapause is found in successive generations of the African phytoseiid, *Euseius justis* (Pritchard and Baker) (Acari: Phytoseiidae). 465-472.

Hubbard, M.J. et al. Validation and rapid extraction of nucleic acids from alcohol-preserved ticks. 473-478.

Vol. 19, No. 9, September 1995

Odour, B.J. et al. Survival of *Neozygites* cf. *floridana* (Zygomycetes: Entomophthorales) in mummified cassava green mites and the viability of its primary conidia. 479-488.

Sheaves, B.J. & R.W. Brown. Densities of *Ixodes ricinus* ticks (Acari: Ixodidae) on moorland vegetation communities in the UK. 489-497.

continued on the next page

Exp. & Appl. Acarol. Vol. 19, No. 9 continued

Barton, T.R., et al. Natural attachment duration of nymphs of the tick *Ixodes uriae* (Acari: Ixodidae) on kittiake *Rissa tridactyla* nestlings. 499-509.

Gulati, R. & S. Mathur. Effects of *Eucalyptus* and *Mentha* leaves and *Curcuma* rhizomes on *Tyrophagus putrescentiae* (Schrank) (Acarina: Acaridae) in wheat. 511-518.

Alekseev, A.N. et al. *Borrelia burgdorferi* sensu lato in the female cement plug of *Ixodes persulcatus* ticks (Acari, Ixodidae). 519-522.

Belozarov, V. N. A case of abnormal size in eggs and larvae of the Taiga tick, *Ixodes persulcatus* (Acari: Ixodidae). 523-528.

Fourie, L.J. & D.J. Kok. A comparison of *Ixodes ricinus* (Acari: Ixodidae) infestation on Friesian and Bonsmara cattle in South Africa. 529-531.

Mooring, S.M & A.A. McKenzie. The efficiency of patch sampling for determination of relative tick burdens in comparison with total tick counts. 533-547.

Exp. & Appl. Acarol. Vol. 19, No. 10

Holland, J.M. & Chapman, R.B. Comparative toxic and sublethal effects of fluralinate on two-spotted spider mite and European red mite. 549-570.

Oduor, G.I., de Moraes, G.J., Yaninek, J.S. & van der Geest, L.P.S. Effect of temperature, humidity and photoperiod on mortality of *Mononychellus tanajoa* (Acari: Tetranychidae) infected by *Neozygites cf. floridana* (Zygomycetes: Entomophthorales). 571-579.

Iatrou, G., Cook, C.M., Stamou, G. & Lanaras, T. Chlorophyll fluorescence and leaf chlorophyll content of bean leaves injured by spider mite (Acari: Tetranychidae). 581-591.

Gebbia, J.A., Bosler, E.M., Evans, R. D. and Schneider, E.M. Acquired resistance in dogs to recent infestation with *Ixodes scapularis* (Acari: Ixodidae) reduces tick viability and reproductive success. 593- 605.

Alippi, A.M., Albo, G.N., Marcangeli, J., Leniz, D. and Noriega, A. The mite *Varroa jacobsoni* does not transmit American foulbrood from infected to healthy colonies. 607-613.

Exp. & Appl. Acarol. Vol. 19, No. 11

Lucien, J., Reiffenstein, R., Zbitnew, G & Kaufman, W. R. γ -Aminobutyric acid (GABA) and other amino acids in tissues of the tick, *Amblyomma hebraeum* (Acari: Ixodidae) throughout the feeding and reproductive periods. 617-631.

Weeks, A.R., Fripp, Y.J. & Hoffmann, A.A. Genetic structure of *Halotydeus destructor* and *Penthaless major* populations in Victoria (Acari: Penthalessidae). 633-646.

James, D.G., Karen, O'Malley & Rayner, M. Effect of alphacypermethrin and bifenthrin on the survival of five acarine predators of *Halotydeus destructor* (Acari: Penthalessidae). 647- 654.

Lesna, I., Sabelis, M.W., Bolland, H.R. & Conijn, C.G.M. Candidate natural enemies for control of *Rhizoglyphus robini* Claparede (Acari: Astigmata) in lily bulbs: exploration in the field and pre-selection in the laboratory. 655-669.

Fuchsberger, N., Kita, M., Hajnicka, V., Imanishi, J., Labuda, M. & Nuttall, P. A. Ixodid tick salivary gland extracts inhibit production of lipopolysaccharide-induced mRNA of several different human cytokines. 671-676.

Exp. & Appl. Acarol. Vol. 19, No. 12

Houck, M. A. and Cohen, A. C. The potential role of phoresy in the evolution of parasitism: radiolabelling (tritium) evidence from an astigmatid mite. 677-694.

Yoder, J. A. Allomonal defence secretions of the American dog tick *Dermacentor variabilis* (Acari: Ixodidae) promote clustering. 695-705.

Thistlewood, H. M. A., Pree, D. J. & Crawford, L. A. Selection and genetic analysis of permethrin resistance in *Amblyseius fallacis* (Garman) (Acari: Phytoseiidae) from Ontario apple orchards. 707-721.

Szabo, M. P. J., Morelli, J. Jr. & Bechara, G.H. Cutaneous hypersensitivity induced in dogs and guinea-pigs by extracts of the tick *Rhipicephalus sanguineus* (Acari: Ixodidae). 723-730.

Zahler, M., Gothe R. & Rinder, H. Diagnostic DNA amplification from individual tick eggs, larvae and nymphs. 731-736.



International Journal of Acarology
Vol. 21, No. 3., September 1995

Smiley, R.L. & E.W. Baker. A report on some tetranychid mites (Acari: Prostigmata) from Yemen. 135-64.

Aponte, O & J.A. McMurtry. Revision of the genus *Iphiseiodes* DeLeon (Acari: Phytoseiidae). 165-183.

Husband, R.W. et al. *Buprestapolipus megachelus* n.g., n.sp. (Acari: Podapolipidae) from *Euchroma gigantea* L. (Coleoptera: Buprestidae). 185-194.

Fain, A. & R.L. Smiley. Description of the male and immature stages of *Rhinoseius bakeri* (Dusbá-bek & Cerny, 1970) (Acari: Mesostigmata: Ascidae). 195-202.

Flechtmann, C.H.W. et al. *Distaceria ommatos* gen. nov., sp. nov., and a new *Acalitus* sp. (Acari: Prostigmata: Eriophyiidae) from a Brazilian Rubiaceae. 203-209.

Two new eriophyid mites (Acari: Eriophyoidea) associated with *Campomanesia* (Myrtaceae) in Brazil. 211-216.

Panou, H.N. & N.G. Emmanouel. *Lorryia arkadiensis*, a new species of tydeid mite from Greece (Acari: Prostigmata). 217-221.

Vol. 21, No. 4., December 1995

Izraylevich, S., Gerson, U. & Wysoki, M. Karyotype and the sex determining mechanism of the mite *Hemisarcoptes coccophagus* Meyer (Acariformes: Astigmata: Hemisarcoptidae). 229-32.

Fritz, G.N. Oribatid mites inducted with cysticercooids of *Moniezia expansa* (Cestoda: Anoplocephalidae). 233-238.

Mahunka, S. *Christovizetes prasadi* sp. n., a new microzetid species from Thailand (Acari: Oribatida). 239-242.

Flechtmann, C.H.W. On the mite fauna of bamboo leaves in the Parque Nacional do Itatiaia, Rio de Janeiro, Brazil. 243-252.

Blaszak, C. et al. *Paleozeon cavernicous* n.gen., n. sp., fossil mite from a cave in the southwestern U.S.A. (Acari, Gamasida: Zerconidae). 253-259.

Baker, A.S. A redescription of *Halotydeus destructor* (Tucker) (Prostigmata: Penthaleidae), with a survey of ontogenetic seta development in the superfamily Eupodoidea. 261-282.

Sugden, E.A. et al. Attractiveness of CO₂ and synthetic honey bee (*Apis mellifera* L.) (Hymenoptera: Apidae) cuticular hydrocarbons to the honey bee tracheal mite, *Acarapis woodi* Rennie (Acari: Tarsonemidae). 283-292.

New members of SAAS

The following is a list of members joined between 15 December 1995 and 15 March 1996.

BU, Gensheng 束耿生
Dept. of Plant Protection, Southwest Agricultural University, Chongqing, Sichuan 630761

CHEN, Hong 陈洪
Dept. of Plant Protection, Southwest Agricultural University, Chongqing, Sichuan 630761

CHEN, Min 陈敏
Institute of Agricultural Sciences, Gansu Academy of Agricultural Sciences, Gansu 730070

CHEN, Qin 陈勤
Institute of Plant Protection, Chinese Academy of Tropical Agriculture, Hainan 571737

CHEN, Peilong 陈培龙
Sheyang Cotton Seed Farm, 23 Huanchen Road (S.), Sheyang, Jiangsu 224300

CHENG, Lisheng 程立生
Ledong County Government, Hainan 572500.

DENG, Yongxue 邓永学
Dept. of Plant Protection, Southwest Agricultural University, Chongqing, Sichuan 630761

FLECHTMANN, C.H.W.
USP ESALQ Zoologia, Caixa Postal, 09, 13418-900 Piracicaba SP, Brazil.

GERSON, U.
Dept. of Entomology, Faculty of Agriculture, Hebrew Univ., PO Box 12, Rehovot 761000, Israel

GUO, Fengying 郭凤英
Dept. of Plant Protection, Southwest Agricultural University, Chongqing, Sichuan 630761

HALLIDAY, R.B.
CSIRO Division of Entomology, GPO Box 1700, Canberra ACT 2601, Australia.

HO, Tze-Ming
Division of Acarol., Institute for Medical Research, Jalan Pahang, 50588 Kuala Lumpur, Malaysia.

HU, Dunxiao 胡敦晓
Dept. of Plant Protection, Beijing Agricultural University, Beijing 100094

HU, Shenghao 胡圣豪
Shanghai Institute of Entomology, Shanghai.

HU, Siji 胡世基
Department of Biology, Ningbo Teacher's College, Ningbo, Zhejiang 315211.

LEE, Jong-Ho

Lab. Insect Systematics, Dept. Agric. Biology,
Coll. Agric. and Life Sciences, Seoul National
University, Suwon, 441-744, South Korea

LI, Long-Shu ǐÓ-° ǐ

Dept. of Plant Protection, Southwest Agricultural
University, Chongqing, Sichuan 630761

LIN, Yanmou ǐ±—°f±

Institute of Plant Protection, Chinese Academy of
Tropical Agriculture, Hainan 571737

LIU, Huai ǐǐ^a≥

Dept of Plant Protection, Southwest Agricultural
University, Chongqing, Sichuan 630761

LIU, Weizhong ǐǐǐǐ° ±“

Zhengzhou University, Henan 450002

LIU, Yinghong ǐǐ”≥ǐǐ

Dept. of Plant Protection, Southwest Agricultural
University, Chongqing, Sichuan 630761

LIU, Zengjia ǐǐ“°

Institute of Military Medical Sciences, Lanzhou
Military District, Lanzhou, Gansu 730020

LIU, Zhigang ǐǐ±ǐǐǐ

Department of Parasitology, Jiangxi Medical
College, Jiangxi 330006

LO, Paul. K. C. ǐǐǐǐǐ...≥...

Taiwan Agricultural Research Institute, Wu-feng
41301, Taichung, Taiwan.

LU, Sulin ǐǐ≥ǐǐǐǐǐ.

Department of Agricultural Sciences, Shihezi
Agricultural College, Xinjiang 832003

PAGANI, Marco

Istituto di Entomologia e Patologia Vegetale,
Universita' Cattolica del Sacro Cuore, Facolta' di
Agraria - Piacenza, Italy

PU, Chunshu Δ”ǐǐǐ ǐ

Fruit Tree Research Institute, Chinese Academy
of Agricultural Sciences, Xingcheng, Liaoning
121600.

QIU, Mingsheng «ǐǐǐǐǐ... ǐ

Dept. of Plant Protection, Southwest Agricultural
University, Chongqing, Sichuan 630761

SAMMATARO, Diana

The Ohio State University, OARDC/ Dept.
Entomology, Extension Bee Laboratory, 1680
Madison Avenue, Wooster, OH 44691, USA.

UUSITALO, Mati

Metsälävalvantie, 8 I 73, FIN-36220, Kangasala
2, Finland.

WANG, Jinjun Őǐǐǐǐǐ

Department of Plant Protection, Southwest
Agricultural University, Chongqing, Sichuan 630761

Wang, Kun Őǐǐǐǐǐ

Sheyang Cotton Seed Farm, 23 Huanchen Road (S.),
Sheyang, Jiangsu 224300

WU, Kin Wan Őǐǐǐǐǐ

5 Tanglewood Drive, Nepean, Ontario K2H 6P4,
Canada.

WU, Shiyuan Őǐǐǐǐǐ

Department of Plant Protection, Southwest
Agricultural University, Chongqing, Sichuan 630761

YAN, Zhen ǐǐǐǐǐǐ

Fuzhou Institute of Agricultural Sciences, Fuzhou,
Fujian 350014.

YAO, Hongren “ǐǐǐǐǐǐ

Citrus Research & Education Center, Institute of
Food & Agric. Services, Univ. of Florida, 700
Experiment Station Road, Lake Alfred, Florida
33850, USA

YE, Ruiyu “ǐǐǐǐǐǐǐ

Institute of Microbiology and Epidemiology,
Academy of Military Medicine, Beijing 100071

YUE, Bisong ‘ǐǐǐǐǐǐǐ

Dept. of Biology, Sichuan University, Chengdu,
Sichuan 610064.

ZHANG, Jintong ‘ǐǐǐǐǐǐǐǐ

Institute of Microbiology and Epidemiology,
Academy of Military Medicine, Beijing 100071

ZHANG, Yongyi ‘ǐǐǐǐǐǐǐ

Department of Plant Protection, Southwest
Agricultural University, Chongqing, Sichuan 630761

ZHAO, Shifu ‘ǐǐǐǐǐǐ

Division of Plant and Soil Sciences, College of
Agriculture and Forestry, West Virginia University,
Morgantown, West Virginia, USA

ZHOU, Yihong ±“ǐǐǐǐǐ

Department of Plant Protection, Southwest
Agricultural University, Chongqing, Sichuan 630761

ZHOU, Yushu ±“ǐǐǐǐǐ

Pomology Research Institute, Chinese Academy of
Agricultural Sciences, Xingcheng, Liaoning 121600.

Correction for a typo in *Acarology Bulletin* 1(1):6.

WU, Yuanshan Őǐǐǐǐǐǐǐ

Pomology Research Institute of Tianshui City,
Tianshui City, Gansu 741002.

Systematic & Applied Acarology Society

Application for membership

Systematic and Applied Acarology Society (SAAS) aims at promoting the development of acarology in China and fostering cooperation among acarologists in China and other parts of the world. Anyone interested in the study of mites and ticks is welcome to join SAAS. There is no membership fee for 1996. A voluntary contribution of £6/\$10 is welcome. Members receive free of charge the newsletter of the Society (*Acarology Bulletin*) and can publish free of charge in *Systematic and Applied Acarology* (SAA). Members are, however, obliged to subscribe to SAA.

Name: _____ Title (Prof / Dr / Mr / Mrs / Miss /Ms) _____

Address: _____

Telephone: Business: _____ Home: _____
 FAX : _____ E-mail: _____

Degrees:	Institution	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____

Research Interest: _____

Please send the completed application form to :

Dr. Zhi-Qiang Zhang
 International Institute of Entomology
 c/o The Natural History Museum
 London SW7 5BD
 United Kingdom

or
 Xin Jie-Liu Acarology Laboratory
 Dept. of Environmental & Resources Biology
 Fudan University
 Shanghai 200433, CHINA



ACAROLOGY BULLETIN (ISSN 1361-8091) is a newsletter of the Systematic and Applied Acarology Society (SAAS). It is published in four issues in 1996 (January, April, July and October) and is distributed free to members of SAAS. All correspondence regarding the *Acarology Bulletin* should be sent to Dr. Zhi-Qiang Zhang, International Institute of Entomology, c/o The Natural History Museum, London SW7 5BD, UK. Non-members who want to subscribe should order from Panda Books Society (P.O. Box 8773, London SW7 4ZF, UK. Subscription rate for volume 1 in 1996 is £6 or \$10.

© 1996 Systematic & Applied Acarology Society.

Printed in England.