

Acarology Bulletin

A Newsletter of the **SYSTEMATIC AND APPLIED ACAROLGY SOCIETY**

President's message



Dear colleagues:

One major purpose of SAAS is to enhance the communication among our members through the publication of *Acarology Bulletin* (AB), *Systematic & Applied Acarology* (SAA) and *Systematic & Applied Acarology Special Publications* (SAASP). AB is supplied to members free of charge, but members are asked to subscribe to SAA. I was sad to learn that some members failed to pay the subscription in 1996-1997. I urge those members to pay the amount due as soon as possible. From 1998, if you do not wish to subscribe to SAA (which is an obligation as spelt out on SAAS application form), please write and explain to me so that I can erase your name from the subscriber list. Thank you for your cooperation.

Zhi-Qiang Zhang



In this issue.....

- 1 President's Message
- 2 Acarology and member news
- 2 US National Tick Collection
- 2 6th Nat. Cong. Ent. Soc. China
- 3 XXI Internat. Cong. Ent.
- 4 1997 Ann. Meeting of ESA
- 6 Book review
- 6 Acari: Phytoseiidae
- 7 Feather Mites of the World
- 9 The Tick Fauna of China
- 9 Acarology IX Vol. 1
- 10 Current Contents of Journals
- 11 New member; New address
- 11 Acknowledgement
- 12 Application form for SAAS

Acarology Bulletin Editors

Editor:

Dr. Renjie Hu (USA)

Assistant editors:

Dr. Xiaoyue Hong (China)

Dr. Ting-Kui Qin (New Zealand)

Dr. Zhi-Qiang Zhang (UK)

SAAS Officers & Executive Committee

President Zhi-Qiang Zhang (UK)

Secretary Xiaoyue Hong (China)

Treasurer Ting-Kui Qin (New Zealand)

Executive Committee Members
Lairong Liang (China)
Y. S. Chow (Taiwan)
Chengfeng Mo (Hong Kong)

Zhimo Zhao (China)

Long-Shu Li (China)

Renjie Hu (USA)

Acarology and Member News

U.S. National Tick Collection is the largest collection of its kind in the world with more than a million specimens representing most of the world's ca. 850 species. This collection has been the property of the Smithsonian Institution, but in 1990, the entire collection as well as its curator, assistant curator, and associated literature files were moved to Georgia Southern University on a 'long-term enhancement loan' funded by U.S. National Institute of Allergy and Infectious Diseases. Currently, the collection is an integral part of the Institute of Arthropodology and Parasitology at the University and is a national treasure that allows tick identification and related research to be carried out on a worldwide basis. This vital function also allows to distinguish tick species that are medically and veterinarily important (including those that are vectors transmitting the pathogens that cause Lyme disease, babesiosis or Rocky Mountain spotted fever) from those which have less economic importance. The following article provides more details on the history of USNTC and its important role in research and public service:

L. A. Durden, J. E. Keirans, and J. H. Oliver, Jr. 1996 The U.S. National Tick Collection: A Vital Resource for Systematics and Human and Animal Welfare. *American Entomologist*, 42(4), 239-243.

Systematic and Applied Acarology Special Publications ISSN 1461-0183: The first number of this new series was published in December 1997. For details, see the last issue of *Acarol. Bull.* and *Current Contents of Journals* in this issue.

The Sixth National Congress of Entomological Society of China was held in Huangshan City, Anhui Province from October 27 to 30, 1997. Some SAAS members attended this Congress. They are **Lichen Yu, Xuenong Xu, Xiaoyue Hong, Daochao Jin, Xinhu Zhang, Siqing Hu** (from left in the photo below)



and **Ning Xu** (not seen in the photo). Fifteen acarology papers were submitted. SAAS members discussed the acarological research situation in mainland China, the arrangement of the First International Symposium of SAAS and other related matters. During the meeting, Dr. Hong introduced SAAS and its two journals to the editors of *Acta Entomologica Sinica* (in Chinese with English abstracts) and *Entomologia Sinica* (in English), who expressed great interest in the way that the papers, printing and circulation of SAA and *Acarology Bulletin* are handled.

Prof. **Lairong Liang** of Fudan University and **Daochao Jin** of Guizhou Agricultural University were appointed to head the Acarology Committee by the Permanent Council of Entomological Society of China.

Dr. **Xiaoyue Hong** of Nanjing

Agricultural University received the third prize of *Chou Io (Zhou Yao) Insect Taxonomy Research Fund* for his taxonomic research work on the eriophyoid mites during the Sixth National Congress of Entomological Society of China. He is the only acarologist among prize-winners. Other 10 winners are insect taxonomists. Prof. Chou is a very famous insect taxonomist at the Department of Plant Protection, Northwestern Agricultural University, China. He established the journal *Entomotaxonomia* and the first national insect museum.

Dr. **Daochao Jin** of Guizhou Agricultural University was presented the Youth Scientific and Technological Prize of Chinese Entomological Society during the Sixth National Congress of Entomological Society of China. He is well recognized for his research on water mites in China. Fifteen entomologists from universities, research institutes as well as extension departments received the prize.

Ms. **Lichen Yu** of Hebei Academy of Agricultural Sciences will be funded by National Natural Science Foundation of China for the project "Studies on Taxonomy and Applied Value of Pyemotid Mites Parasitic on Bark Beetles" starting from January 1998. She will investigate and classify the pyemotid mites parasitic on bark beetles, and attempt to find some usable species.

Dr. **Xiaoyue Hong** of Nanjing Agricultural University, Profs. **Huiqin Dong** and **Yanyun Yang** of Fudan University will be jointly funded by National Natural Science Foundation of China for the project "The Systematics and Evolution of the Phytoptidae in China". The 3-year project will begin from 1998. The purpose is to investigate the generic relationships in the Phytoptidae.

Prof. **Lairong Liang** of Fudan University visited CAB International

Institute of Entomology, London during 9-21 December 1997. This visit was part of the UK/PRC Memorandum of Understanding in Science and Technology Programmes 1997-1999 and was funded by a grant to Dr. Z.-Q. Zhang from UK Ministry of Agriculture, Fishery and Food. Prof. Liang visited two biocontrol companies in UK. He also visited the Natural History Museum, London and studied mite specimens in the collection. Prof. Liang and Dr. Zhang also prepared a joint paper during the visit.

The XXI International Congress of Entomology, August 20-26, 2000, Brazil. Acarology will be one of separately identified sessions for the first time at the congress. Dr. Gary Mullen (Auburn University, USA) will serve as the convenor for the session and Dr. Gilberto de Moraes (Universidade de Sao Paulo, Brazil) will be his Brazilian counterpart. This session will provide an opportunity for presentation of mite-related papers of a basic or applied nature involving acarology in its broadest sense. Topics may include:

- Biology and life history
- Form and function
- Physiology and biochemistry
- Genetics and reproduction
- Taxonomy and systematics
- Phylogeny
- Ecology and behavior
- Mite associates of invertebrates
- Mite associates of vertebrates
- Research techniques and the use of mites as study subjects
- Approaches to control of mite pests

To avoid overlap with other sessions, the following topics are excluded:

Mites as biological control agents
 Use of mites in integrated pest
 management
 Tick-borne and other mite-related
 diseases of medical-veterinary
 importance
 Mites as vectors of plant diseases
 Stored-product mites

The organizing committee has no financial provisions to support any kind of expenses for symposium convenors or speakers, but will try to help in any possible way if sources of funds are indicated.

For further information concerning the Acarology session, please see the web site <http://www.embrapa.br/ice> or contact:

Dr. Gary Mullen
 Department of Entomology
 Auburn University
 Auburn, AL 36849-5413
 Tel.: (334) 844-2554
 Fax: (334) 844-5005
 E-mail: gmullen@acesag.auburn.edu

The 1997 Annual Meeting of the Entomological Society of America was held from Dec. 14 to 18 in Opryland Hotel in Nashville, Tennessee. The formal conference of Acarology entitled "Host-Parasite Interactions in Acari" was conducted in the morning of Sunday (Dec. 14) with 6 presentations. The submitted paper session was held in the afternoon on the same day with 17 presentations. Mr. **Zhifu Zhao**, a Ph.D. candidate at West Virginia University was awarded a travel fund of \$500.00 to attend the acarology conference and presented a paper with Dr. **James Amrine** entitled "A study on aerial dispersal of eriophyoid mites (Acari: Eriophyoidea) using two new approaches" at the submitted paper session .

Acarological research projects in the Department of Biology, Beijing Normal University, Beijing, China

I. Study on ticks: Tick-related studies are under the charge of Prof. **Zaijie Jiang** and the following are main aspects of research.

1. Systematics and morphology: This research is focused on immature stages of ticks. The morphological characteristics of larvae and nymphs in genera *Dermacentor*, *Hyalomma*, *Haemaphysalis* and *Ixodes* were studied. Some common species were described and keys to species were established. The relationship among species of genus *Dermacentor* was analyzed by numerical classification for the first time. The morphological characteristics of tick's receptors (Haller's organ and palpal receptor) were observed by scanning and transmission electron microscopes. Their values in taxonomy were evaluated. (In this aspect, 18 papers were published)

2. Biological study: Nearly 20 species of ticks have been reared successively. The life cycle, oviposition, effects of temperature and humidity on development, the forms of diapause and its relief were investigated. For the first time, it was observed that the reproductive diapause of female ticks was relieved by juvenile hormones (In this aspect, 8 papers were published)

3. Study on sex pheromones: The ultrastructure of tick foveal glands was revealed by conventional and electron microscopes. The components and functions of sex pheromones were analyzed. The dynamics of its secretion was determined by X-ray microanalysis for the first time. The sensitivity of sex pheromones determined by HPLC was increased by using derivatives. (In this

aspect, 6 papers were published).

4. Study on other hormones: Two kinds of hormones (ecdysteroids and juvenile hormone) were mainly investigated. Their components, sites of secretion, the variation of contents in different developmental and physiological stages, and the effects on tick reproduction and development were studied. A collaborative investigation started in 1995 with Prof. Yin Chih-Ming, our colleague in U.S.A., engaging in the Internal Collaborative and Exchange Program supported by the National Natural Science Foundation of China. Results suggested that the synganglion may synthesize JH III and an unknown substance in *Haemaphysalis longicornis*. Currently, Prof. Yin is providing new techniques to conduct research on tick allatropin. (In this aspect, 21 papers were published)

II. Study on soil mites:

Six scientists headed by Prof. Rumei Xu, Beijing Normal University, China and Prof. Torstein Solhoy, Bergen University, Norway proceeded a field trip to the Shergyla Mountain for collecting soil mite samples from Sept. 22 to Oct. 5, 1997. Their cooperating project is entitled "Impact of Changing Temperature and UV-B on Alpine and Polar Vegetation and Soil Arthropods (including soil mites)". During this expedition, they collected samples from three sites (3800m, 4100m, and 5000m), and made transplant experiments between those sites. Samples were taken back for laboratory determination, culture, and analysis. Cultures were also placed under different temperatures to simulate field transplant experiments. Similar experiments will also be conducted in Finse high mountain station in Norway. The aim is to determine the impact of temperature on arthropod community structure, the dominant species on different elevations and to

elucidate the adaptation mechanism through physiological, biochemistry and molecular biological analysis.

The impact of Global Climatic Change (GCC) on biotic systems, and the feedback of biotic systems on GCC are currently among most vital and attractive topics in ecology. To really understand these relationships, it is crucial to have more detailed and in-depth understanding of the underlying biological processes related to GCC. Polar and alpine regions play an important role in influencing GCC and are also the most sensitive to climatic changes. Therefore, soil fauna relating to polar and alpine vegetation, especially, soil arthropods (mites, collembola and mides), which play an important role in the decomposition processes and in the development of quality of organic soil horizons, needs extensive study. Changes of climatic parameters (e.g., temperature, snow cover related to precipitation, UV radiation) and their effects on bio-systems and biological processes will be the core in this project. However, due to the great yearly variations, time series of physical parameters obtained over 3 to 4 years is still too short to detect any change. Therefore, field experiments based on systematic observation and manipulation was proposed in this project. Transplant experiments of model species (e.g., mosses, lichens plus soil arthropods) confined in microcosm through gradients (latitude and altitude) will be proceeded to evaluate the effect of temperature, UV-B and snow cover.

Dr. **Roy A. Norton** of the New York State University, a world famous acarologist and an expert on oribatid mites, visited China from October 4 to 23, 1997. He visited Beijing, Shanghai and

Guangdong Province. During his stay in Beijing, he visited Institute of Zoology, Academia Sinica, Beijing Normal University, and Xiaolongmen Ecological Station of Academia Sinica. He also gave two lectures on "Evolutionary aspects of sexual and asexual reproductive modes in oribatid mites" and "The Evolutionary origin of Astigmata (Acari): evidence and biological implications". The lectures aroused much interest among many young systematists. He also visited some historic scenic spots in Beijing. While in Shanghai, he visited Shanghai Institute of Entomology, Academia Sinica and gave guidance to young fellows. His last stop was Guangdong Province where he visited Zhaoqin Education College, Guangdong Institute of Entomology and Dinghushan Ecological Station of Academia Sinica.

Dr. Norton is friendly to China and is concerned with the development of Acarology in China. His visit is useful for strengthening cooperation, enhancing academic exchange, overcoming research difficulties and propelling the development of systematics in China.

Book Review

Acari: Phytoseiidae. Economic Insect Fauna of China. Fasc. 53. (In Chinese). Edited by Weinan Wu, Lairong LIANG and Wenming Lan. 1997. Science Press, Beijing, China. 223 pp + III plates. ISBN 7-03-005477-6. Q.651. RMB 38 Yuan.

Phytoseiid mites are quite common natural enemies of pest mites. They are species rich and are distributed widely in China. Some of them have been successfully used in the control of pest mites. For example,

the local species *Amblyseius orientalis* Ehara, *Amblyseius pseudolongispinosus* Xin, Liang & Ke, *Amblyseius newsami* (Evans) and imported species *Phytoseiulus persimilis* Athias-Henriot, *Typhlodromus occidentalis* Nesbitt and *Amblyseius fallacis* (Garman) have demonstrated good effects in the IPM of pest mites in China.

Research on phytoseiid mites in China was initiated later than some other countries. Only in the middle 70s, people began to realize their importance. In 1978, there was no records of phytoseiid mites in mainland China. Since then, two national congresses on the use of phytoseiid mites in the control of pest mites were held, greatly promoting the development of the research on phytoseiid mites. Up to now, 200 species of phytoseiid mites are known in China.

This book is the result of research of three acarologists since 1980. The main sections include introduction, morphological structures, and classification. The references, Chinese name index and scientific name index are also given. The Introduction briefs the economic importance, the status of use of phytoseiid mites in China, classification systems, species and distribution, biological characteristics, and collection, mounting and conservation of phytoseiid mites. It is worth mentioning that several tables like usable phytoseiid mites and main phytoseiid mites predatory on tetranychid mites on crops are very useful for evaluating the importance of phytoseiid mites.

Morphological structure partly deals with the external morphology and internal anatomy, and especially illustrates the dorsal and ventral setae. Several nomenclature systems are provided and evaluated.

Classification is the main part of the book. It introduces 159 species in 3 subfamilies and 10 genera, namely *Typhlodromus* and *Phytoseius* in the subfamily Phytoseiinae, *Amblyseius*, *Phytoseiulus*, *Iphiseius*, *Okiseius*, *Paraphytoseius*, *Euseius* and *Indoseiulus* in the subfamily Amblyseiiinae, and *Chanteius* in the subfamily Chantiinae. The key to genera and keys to species in each genus are provided. For each species, information on distribution, morphological descriptions and illustrations are provided. The biology, ecology and the use of some important species are also discussed. For instance, *A. pseudolongispinosus* is widely distributed in many parts of China. Its biology, ecology and biocontrol have been studied thoroughly. Information on these areas is included. The book also introduces information on biology, ecology and use of imported species such as *T. occidentalis*, helping acarologists to know more about the situation of these imported species.

This is an excellent guide to phytoseiid mites in China. Although it is in Chinese, which may bring some difficulties for foreigners, its figures can be helpful. It is very valuable for agricultural entomologists, acarologists and in particular those with special interest in phytoseiid mites.

Xiaoyue Hong
Nanjing Agricultural University
Nanjing, Jiangsu, China

Feather mites of the world (Acarina, Astigmata): The supra-specific taxa. Part I Text (193 pp). Part II Illustrations of feather mite taxa (436 pp). By Jean Gaud and Warren T. Atyeo, 1996. Annales Sciences

Zoologiques, Vol. 277. Musee Royal de l'Afrique Centrale, Tervuren, Belgique.

“The senior author [Jean Gaud] began his study of feather mites as an avocation while a medical officer in Indochina in the late 1940s; the junior author [Warren T. Atyeo] believed that the systematics of feather mites could be completed in a 10-year study which began in 1960. The avocation has become a vocation and the 10-year study stretches toward infinity.” (Quoted from Preface.)

The production of a monographic, comprehensive systematic study of a particular group of organisms such as mites is often a systematist's lifelong research. This publication on feather mites is the result of two senior acarologists' collaboration for more than 30 years.

The name 'feather mites', as used in this book, refers to the astigmatid mites found on the surface of birds' feathers (plumicoles), under the plumage (dermicoles), and inside feathers (syringicoles). Gaud & Atyeo make the analogy that a feather is “comparable to a small tree, and the ensemble of diverse feather types occupy and divide the space like a minute forest, with its tiers: ground as the skin, ground cover as down, understorey as the smaller feathers and trees as the larger feathers.” The “minute forest” supports a diversity of feather mites, which are obligatory commensals and remain on the bird for life. The authors estimate that more than 2000 feather mites have been described, and this may represent less than 20% of the extant species. The described species are placed in 444 genera classified in 33 families and three superfamilies of Astigmata. The book deals with these supraspecific taxa on the basis of morphology of adults.

Part I includes discussion on feather mites' phylogenetic relationship in Astigmata, their host specificity, criteria for their classification and the history of their classification. The morphology section describes details of the gnathosoma and dorsal and ventral idiosoma, including male and female genital areas. This section is enhanced by many beautiful SEM plates and line illustrations of general morphology. Intraspecific polymorphism is examined in terms of ontogeny, sexual dimorphism, and difference between individuals (almost exclusively for males), including asymmetry. This is a very useful and important section in terms of avoiding establishing new species and creating synonyms based on the dissimilarities of different morphs. Another helpful section on the correlation of instars mentions the key areas to look for to associate the immatures, male and female of a species, as more than one (up to 25) species could be collected from any one bird.

For any systematic study, obtaining sufficient specimens is essential. Feather mites can be collected in the field from live-trapped birds and fresh carcasses, or from museum-preserved specimens. In the Collecting and Practical Counsel section, the authors talk about the methods they have used, and also mention techniques employed by other acarologists such as Mironov. Preparation methods for microslides and SEM study are also discussed.

Most of Part I is occupied by the Systematic Section (pp. 43-108). A key to the three superfamilies (Analgoidea, Freyanoidea, and Pterolichoidea) and 33 families is presented. Then, within each superfamily, families are treated alphabetically. Major references are

given, usually followed by a long discussion which includes the taxonomic history of the family and its morphological variations and features, then keys to subfamilies and a brief discussion of each, where relevant. Keys to genera are found at the end of each family subsection.

Many new genera are described and new combinations proposed separately after the Systematic section. The superfamilial assignment of Heteropsoridae remains uncertain because the single species is known only from protonymphs.

In the Bibliography, the authors indicate that they cover numerous Russian publications which have not been included in indexing or abstracting sources. They also resolve some date problems associated with papers by Mégnin and/or Trouessart, who published the same information (usually verbatim) in different publications, so that many taxa are described twice under different authorship.

Part I ends with lists for "Known Host - Commensal Association", "Known Commensal - Host Associations", "Current Status of Feather Mite Genera", and "Supraspecific Taxa Index".

Part II provides illustrations for all but three of the genera covered in Part I. A representative species (usually the type species) of each genus is figured. The illustrations usually include dorsum and venter of male and female, and are well presented.

The authors are congratulated for producing such a high-quality book covering such a difficult group of mites. They direct the book to 'biologists [like myself] not familiar with feather mites, but who have knowledge of acarological terminology', and hope they have provided a framework for the classification of feather mites. I believe they have succeeded on all counts. Their

book is useful not only to acarine systematists, but also to people interested in the coevolution between these fascinating mites and their feather-forested hosts.

Ting-Kui QIN
Landcare Research
Private Bag 92170
Auckland, New Zealand

The Tick Fauna of Xinjiang Edited by X. Yu, R.-Y. Ye and Z.-D. Gong. 1997. Xinjiang Scientific, Technological and Medical Publishing House, Urumqi, China. ISBN 7-5372-1340-2, 168pp. (in Chinese with English abstract).

The tick fauna of Xinjiang has been studied since 1950s. In past years the authors of the book collected ticks from various hosts and different habitats all over 56 counties in Xinjiang Uygur Autonomous Region. Up to now, 42 species have been known, which belong to 9 genera out of 2 families, approximately 1/3 of the total number of tick species described in China. Among them, 4 species (*Ixodes berlesei*, *I. redikorzevi*, *Rhipicephalus schulzei*, and *R. rossicus*) are new records for China.

This monograph is divided into two parts: general introduction (pp.1-35), and descriptions and illustrations (pp.36-167). Part I consists of 7 sections: 1. history and advances in tick research of Xinjiang; 2. geographical distribution of ticks in Xinjiang; 3. tick biology and ecology including life history, bloodsucking behavior, the relationship between ticks and hosts, reproduction and their natural enemies; 4. tick-borne diseases including forest encephalitis, Xinjiang hemorrhagic fever, rickettsiosis sibirica, Q-fever, tick-

borne relapsing fever, and protozooosis of domestic animals; 5. techniques for tick studies including collecting, rearing and preparing tick specimens; 6. control of ticks; 7. morphology of ticks. Part II includes descriptions and illustrations of 42 tick species known to Xinjiang. Keys to families, genera and species are provided. Each species is presented with a morphological description, brief note on biology, geographical distribution, hosts and economic importance. In the end, a reference list is provided, which includes 107 papers and books (97 were published in Chinese). The book ends with an index to Chinese and Latin names. This monograph is a significant contribution to the tick fauna in China. It is a very useful book for acarologists, in particular, those with a special interest in ticks.

Zaijie Jiang
Department of Biology
Beijing Normal University
Beijing 100875, CHINA

Acarology IX Volume 1 (Proceedings), Edited by Roger Mitchell, David V. Horn, Glen R. Needham, Calvin Welbourn. 1996. the Ohio Biological Survey, Columbus, USA 43210, xx + 718 pp, ISBN 0-86727-123-X, \$80.00. This proceedings contain 162 submitted presentations at the IXth International Congress of Acarology (Columbus, USA, 1994). The twelve sections of the Congress and the number of papers in each are: morphology & phylogeny (25), control strategies for plant-feeding mites (24), behavior & physiological ecology (21), mites in soil habitats (20), physiology & biochemistry (12), Acari & human diseases (11), mites & bees (11),

genetics & population biology (10), parasitic Acari & host relationships (9), mites & allergies (9), mites in aquatic habitats (6), and mites in stored products (4). Invited presentations are put separately in Volume 2, the Symposia.

Because of the excellent editorial work and top-notch printing quality, the thick Proceedings vividly portray scenes of Acarology IX and significantly reflect recent progress in various aspects of acarology in the world.

It is reasonable to see focus in the Proceedings on tetranychid and phytoseiid mites, since they are groups of the greatest agricultural importance as pests and as biological control agents, respectively, within the boundaries of the Acari. Studies on human health related mites such as ticks, chigger mites and house dust mites were well represented by the Congress. Numerous impressive reports are included on research of water mites, soil mites, bee-infesting mites, etc. Relatively speaking, taxonomic studies are less well represented than should be. This may reflect reality, as the Acari being a huge but still poorly understood taxon has a tremendous demand in taxonomic work.

Studies on the molecular level are limited in this Proceedings. Considering the power of fast advancing molecular biology technology, the difficulty of studies associated with the minute body sizes of most species of mites; the very delicate relationship among some mites, their hosts (plants or animals) and/or involved micro-organisms or viruses, and the need of clarity in molecular phylogeny within the Acari and within the Arthropoda, we acarologists may see a huge need to "boost" molecular research.

Other features that specially

characterize the Proceedings are: the dedication to Drs. G. W. Wharton and D. E. Johnston, two of the greatest acarologists and educators in the world, the celebration of the reunion of many participants of the 43 prior Acarology Summer Programs at Ohio State University, a record witnessing the first major opportunity for acarologists from former Soviet Union and Eastern Block to joint acarologists from the rest of the world.

This is by no means a book review, but a superficial perception of an "immature" acarologist as to the valuable collection of current acarological contributions — *Acarology IX (Proceedings)*.

Shifu Zhao
West Virginia University
Morgantown, USA

Current Contents of Journals

Systematic & Applied Acarology Special Publications

(No. 1, December 1997)

Hu, S.Q., Chen, X.W & Huang, L.S.

A new species and a new record of the genus *Agistemus* from China (Acari: Stigmaeidae). pp. 1-4

Zhang, Z.Q. & Saboori, A.

Taxonomic notes on larvae of *Willmannella* (Acari: Microtrombidiidae) and description of a new species from Iran. pp. 5-18.

Liang, L.R. & Zhang, Z.Q.

Key to species of the genus *Molothrognathus* (Prostigmata: Caligonellidae) with description of a new species from Iran. pp. 19-24

Journal of the Acarological Society of Japan

Vol. 6, No.2 November, 1997

Aoki, J. & Itopar, F. A new species of oribatid mite collected from ant nests in Oriental tropics. 107

Ryu, M. O. & Ehara, S. Redescription of *Okiseius (Kampimodromellus) juglandis* (Wang et Xu) (Acari, Phytoseiidae). 113

Takaku, G. A new species of the genus *Macrocheles* (Acari: Macrochelidae) associated with *Eusilpha kurosawai* M. Nishikawa, 1986 (Coleoptera: Silphidae). 117.

Bayartogtokh, B. & Aoki, J. New species of oribatid mites (Acari: Oribatei) form Mongolia. I. 125

Experimental & Applied Acarology

Vol. 21; No. 12. 1997

Minjauw, B., Otte, J., James, A.D., de Castro, J.J. & Sinyangwe, P. Effect of different East Coast Fever control strategies on fertility, milk production and weight gain of Sanga cattle in the Central Province of Zambia. 715

Kahl, O. & Alidousti, I. Bodies of liquid water as a source of water gain for *Ixodes ricinus* ticks (Acari: Ixodidae). 731

Mejlon, H.A. & Jaenson, T.G.T. Questing behaviour of *Ixodes ricinus* ticks (Acari: Ixodidae). 747

Talleklint, L. & Jaenson, T.G.T. Infestation of mammals by *Ixodes ricinus* ticks (Acari: Ixodidae) in south-central Sweden: pp. 755-771

Systematic & Applied Acarology
(Vol. 3 in 1998; forthcoming papers)

Influence of temperature and controlled atmosphere on development and reproduction of the mold mite, *Tyrophagus putrescentiae* (Acari: Acaridae). L.S. Li *et al.*

Host-specificity and host-selection of gamasid mites (Acari: Gamasina). X.G. Guo

Phytoseiid mites (Acari: Phytoseiidae) from woody areas in the State of São Paulo, Brazil. R. J.F. Feres & G. J. De Moraes

Three new species of *Daidalotarsonemus* from Fujian, China (Acari: Tarsone-midae). J.Z. Lin *et al.*

New member

H. Joel Hutcheson, Ph.D.
Department of Microbiology
Colorado State University
Fort Collins, CO 80523
USA

New Address

Dr. Omran Ali
Department of Plant Protection
Faculty of Agriculture
University of Omar Al-Mukhtar
P.O. Box 919, Albiedah
Libya

Acknowledgments

We thank the following members for contributions of £10 or more to SAAS

Dr. Daochao Jin (China)
Dr. H. Joel Hutcheson (USA)

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. A voluntary contribution of £6/\$10 is welcome. Members receive free of charge SAAS newsletter (*Acarology Bulletin*) and can publish free of charge in the journal *Systematic and Applied Acarology* (SAA). Members are 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, President SAAS	or
Department of Entomology	Dr. Xiaoyue Hong, Secretary SAAS
The Natural History Museum	Dept. of Plant Protection
London SW7 5BD	Nanjing Agricultural University
United Kingdom	Nanjing, Jiangsu 210095, CHINA

ACAROLOGY BULLETIN (ISSN 1361-8091) is a newsletter of the Systematic and Applied Acarology Society (c/o Dr. Z.-Q. Zhang, Dept. of Entomology, The Natural History Museum, London SW7 5BD, UK). It is published in four issues in 1998 (January, April, July and October) and is distributed free to members of SAAS. All correspondence should be sent to the Editor Dr. Renjie HU, Institute of Arthropodology and Parasitology, Georgia Southern University, P.O. Box 8056, Statesboro, GA 30460, USA. (FAX 912 681-0559; E-mail renjieh@gasou.edu). Non-member subscribers should order the journal from Magnolia Press (81 Connell Crescent, London W5 3BJ, UK). Subscription rate for vol. 3 in 1998 is £6 or \$10 plus £4 or \$6 for post by air.