

Acarology Bulletin

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

President's message



Dear colleagues:

Welcome to volume 4 of *Acarology Bulletin*! On behalf of the members of SAAS, I would like to thank Dr. Renjie Hu for serving as editor of this newsletter for the third year and all others who have helped with the production of *Acarology Bulletin*.

Volume 4 of *Systematic and Applied Acarology* is expected to be sent to the printer at the end of May. If you wish to send your manuscripts to SAA for publication in this volume, please do so as soon as possible. Manuscripts received after March is unlikely to be published in this volume because peer review is likely to take about 2 months.

Zhi-Qiang Zhang



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Acarology and Member News

Dr. Zhi-Qiang Zhang has been appointed as Honorary Professor of Fujian Academy of Agricultural Sciences (FAAS), Fuzhou, China. He received this honour in October 1998 when he was visiting the FAAS Institute of Plant Protection in a collaborative project on bamboo mites. This is the second honor for Dr. Zhang from China. He also holds a professorship at School of Life Sciences, Fudan University, Shanghai.

Dr. Renjie Hu visited China from Sept. 28 to Oct. 20, 1998. During the visit, he co-organized the *First International Symposium of the Systematic and Applied Acarology Society* held in Guiyang City and presented a paper on "Ecology and control of *Ixodes scapularis*-transmitted human babesiosis in the USA". He also gave an invited seminar entitled "Use of molecular technologies in systematic and applied acarological research" to the faculty and graduate students in the Department of Plant Protection, Nanjing Agricultural University (hosted by Dr. Xiaoyue Hong). While in Shanghai, he visited Fudan University, Institute of Entomology (Chinese Academy of Science), and Institute of Parasitic Disease (Chinese Academy of Preventive Medicine) and held informal discussion with his counterparts there.

Dr Ting-Kui Qin, formerly at Landcare Research, Auckland, New Zealand, has moved from New Zealand to Australia and is now working in Australian Quarantine

and Inspection Service, Canberra. his main duties at work are doing pest risk analyses, using his mite and scale insect knowledge and experience. He is still interested in mites and working on Penthalidae and Penthalodidae (Prostigmata) during his spare time.

The two-spotted spider mite, *Tetranychus urticae* was first reported in Dangshan county (which is very famous for its pear in the world), northern Anhui Province in 1995. The mite has dispersed very rapidly since then and become the dominant spider mite species in the northern part of Anhui Province, where *Tetranychus viennensis* Zacher and *Panonychus ulmi* (Koch) used to be the main mite species. (Anhui Agricultural Science, 1998, 26(3): 252-253). The two-spotted spider mite has also caused severe damages in Changping county of Beijing Municipality in recent years with wide range of hosts, especially apple, pear and peach. (China Fruits, 1998(2): 34-36).

Mr. Qingtian Sun of Jilin Agricultural University in northeastern China conducted a survey on vegetable mites in the province and found 17 species. Fourteen pest mites belong to Tetranychidae (11), Tenuipalpidae (1) and Tarsonemidae (2). The other three are predatory mites. This is one of the first systematic research of vegetable mites in China (Northern Horticulture, 1998(3,4): 39-40).

Mr. Xungen Sun and colleagues from Shandong Agricultural University

conducted research on the diapause of *Eotetranychus populi* (Koch) for the first time in the world. They found that the mite expresses diapause in fertile adults and grows under long light (above 13 hrs per day) and produces diapause under short light (below 11 hrs light per day). (Scientific Silvae Sinica, 1998, 34(5): 83-88.

The VIII International Conference on Lyme Borreliosis and Other Emerging Tick-borne Diseases will be held in Munich, Germany, 20-24 June, 1999. For further information, please contact Dr. Robert Lane (BLane@nature.berkeley.edu).

The 4th International Symposium on Population Dynamics of Plant-Inhabiting Mites will be held in Kyoto, Japan, May 10- 14, 1999. The following are the details:

NEW DEADLINE FOR REGISTRATION IS JANUARY 31, 1999.

The deadline for registration has been extended one month. The registration and presentation forms and payment must be received by January 31, 1999. The fees and payment method are the same as in the Third Announcement.

This Symposium is a follow-up of the three previous symposia. The first (1987) and second (1991) ones were convened by Prof. M. W. Sabelis in Amsterdam, the Netherlands, and the third (1995) one by Prof. G. Nachman in Gilleleje, Denmark. The three previous symposia consisted of a small number of participants, less than 100

people, and all were very successful and stimulating meetings, with intensive discussions on selected topics.

This Symposium has been traditionally named "Population Dynamics of Mites". However, it has covered almost all areas of acarology: ecology, evolutionary biology, molecular biology, pest management, chemical ecology, behavior, and so on. Thus, the Symposium aims to bring together scientists in various research fields, to exchange ideas and to stimulate future research.

Structure of the Symposium

The Symposium consists of three types of sessions:

(1) Morning sessions composed of lectures on selected topics presented by invited speakers.

(2) Afternoon sessions by oral presentations, open to all participants (any topics in acarology will be welcome).

(3) Poster sessions.

Main Symposium Topics (morning sessions) and the Tentative Invited and Key Speakers

1. Life history evolution

D. C. Margolies (Kansas State Univ., USA): A three-pronged approach to life history evolution

J. Ridsdill-Smith (CSIRO Entomology, Australia): Evolutionary trends in feeding life styles of redlegged earth mites

S. Yano (Kyoto Univ., Japan)
Ecological and evolutionary factors
determining the host plant range of spider
mites

*2. Behavior and plant-herbivore-predator
interactions*

A. Janssen (Univ. of Amsterdam, The
Netherlands): Behaviour and interactions in
an arthropod food web

M. A. Sabelis (Univ. of Amsterdam,
The Netherlands): Evolution of resource
exploitation and mutualism in tritrophic
interactions

J. Takabayashi (Kyoto Univ., Japan) :
Chemical ecology of induced volatiles:
effects on predatory mites and insects

3. Biological control and IPM

B. A. Croft (Oregon State Univ.,
USA) : Classifying life style types of
phytoseiid mites for use in IPM/biological
control systems

C. T. Shih (National Chung-Hsing
Univ., Taiwan): Automation of mass
rearing for predaceous mites

H. Amano (Chiba Univ., Japan): How
to investigate phytoseiid fauna?

4. Genetic systems and molecular biology

M. A. Hoy (Univ. of Florida, USA):
Transgenic phytoseiids for pest
management programs

M. Navajas (INRA, France): The
concept of species in mite pest
management: theoretical and practical
approach

Y. Saito (Hokkaido Univ., Japan) A
perspective on the sociobiology of mites

K. Goka (Nat. Inst. Envir. Stud.,
Japan) Population genetic study of the
relatedness between acaricide resistance
and allozyme variation in the two-
spotted spider mites

5. Acarology in Asia

Y.-X. Zhang (Fujian Academy of
Agricultural Sciences, China): Spider
mites damaging bamboo forests in
Fujian Province, China

C.-C. Ho (Taiwan Agric. Res. Inst.,
Taiwan): Spider mite problems and their
control in Taiwan

M. Kongchuensin (Dept. of Agric.,
Thailand): Mites injurious to agricultural
crops of economic importance in
Thailand

A. Takafuji (Kyoto Univ., Japan) :
Spider mite problems in Japan

Tentative Program

May 10 (Monday) :

Registration (4 - 6 pm)

Get-together-Party (6 - 8 pm, free)

May 11 (Tuesday):

Morning; Presentations by invited
speakers and other speakers of similar
interest

Afternoon; Oral presentations (open
to all participants)

Poster Session (9 am - 5 pm, open
to all participants)

May 12 (Wednesday)

Morning; Presentations by invited
speakers and other speakers of similar
interest

Afternoon; Oral presentations (open to all participants)

Poster Session (9 am - 5 pm, open to all participants)

May 13 (Thursday)

Morning; Presentations by invited speakers and other speakers of similar interest

Afternoon; Oral presentations (open to all participants)

Poster Session (9 am - 4 pm, open to all participants)

Symposium Dinner (6 - 8 pm)

May 14 (Friday)

Morning; Presentations of invited speakers and other speakers of similar interest

Afternoon; Oral presentations (open to all participants)

Organizing Committee

The organizing committee consists of
A. Takafuji (Kyoto Univ., Japan)

M. W. Sabelis (Univ. of Amsterdam, the Netherlands)

A. Janssen (Univ. of Amsterdam, the Netherlands)

G. Nachman (Univ. of Copenhagen, Denmark)

D. Harmsen (Queen's Univ., Canada)

Local Organizing Committee

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Kaichi Furuhashi (Shizuoka Pref.)

Costs (in Japanese Yen; 1 US dollar is about 120 yen)

(1) Registration fee (including the proceedings of the Symposium)

Regular participant: 25,000 yen

Student (attach a letter from advisor): 20,000 yen

Accompanying person: free

(2) Symposium dinner (May 13)
5,000 yen

(3) Accommodation

The Japan Travel Bureau, Inc. (JTB) is an Official Travel Agent . See

http://www.affrc.go.jp:8001/acari/Population_Dynamics/jtb.html

The registration form and the presentation form, together with the abstract (if you wish to present a paper) should be sent not later than January 31, 1999 to:

Akio Takafuji,
The Symposium Secretary
Laboratory of Ecological Information,
Graduate School of Agriculture
Kyoto University
Kyoto 606-8502, Japan
Tel: (81)-75-753-6135
Fax: (81)-75-753-6474
E-mail: takafuji@kais.kyoto-u.ac.jp

Please note that that only participants whose payment has been received by January 31, 1999, will be accepted at the Symposium.

Further Information

If you would like to receive further information, please contact:

Akio Takafuji
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Information about the Symposium is also available from:

<http://www.affrc.go.jp:8001/acari/danigaku.html>

or

http://www.affrc.go.jp:8001/acari/Population_Dynamics/

You can also contact the local organizing committee listed above for

more information about the symposium topics.

The 4th Symposium of the EURAAC on "Acarid Phylogeny and Evolution. Adaptations in Mites and Ticks " will be held in Siena, Italy, on July 24-29, 2000. Further information is available at http://www.unisi.it/ateneo/dipart/bio_evolution/sitoeuraac/siena2000.html

New Books

Ernst Ebermann (ed). *Arthropod Biology: Contributions to Morphology, Ecology and Systematics*. Biosystematics and Ecology Series No. 14. Austrian Academy of Sciences Press, Vienna. ISBN 3-7001-2757-X 384 pp. (This volume is dedicated to the famous acarologist Dr. Reinhart Schuster on his retirement; 8 of the 11 chapters in the book are on mites).

Piote Naskrecki & Robert Colwell (1998) *Systematics and Host Plant Affiliations of Hummingbird Flour Mites of the Genera Tropicoseius Baker & Yunker and Rhinoseius Baker & Yunker (Acari: Mesostigmata: Ascidae)*. Entomological Society of America, Lanham, Maryland. ISBN 0-938522-67-1 185 pp.

Book Review

Les Acariens Oribates By Trave, J., Andre, H.M., Taberly, G. & Bernini, F. (1996). *Etudes en Acarologie* No. 1.

Editions AGAR & SIALF, Wavre, Belgium. ISBN 2-87257-002-0. Paper cover. 110 pp.

SIALF (Societe internationale des Acarologues de Langue francaise) is an international society for French-speaking acarologists of the world. SIALF organizes a regular training course and publishes a newsletter. *Etudes en Acarologie* is a new series of books by SIALF under the editorships of H.M. Andre, Y. Coineau and J.-Cl. Lions. *Les Acariens Oribates* is the first one in this new series.

This nice booklet consists of 10 chapters which are organized into two major parts: morphology and classification (chapters 2-6) and biology and ecology (chapters 7-10). Chapter 1 is a brief review of techniques for studying oribatid mites and includes such topics as collecting, rearing, mounting, dissecting etc.

The external morphology of oribatid adults is covered in chapter 2 and 5 in detail with SEMs and excellent line drawings by F. Grandjean, that of immatures only briefly in chapter 3. Discussion on internal anatomy (chapter 4) is minimal due to lack of work in this area and treatment of classification is merely an introduction to main groups above superfamily and major reference works on oribatid taxonomy.

There is a good review of the reproductive biology of oribatid mites (chapter 6). The medium or habitat of oribatid was

examined in relation to species diversity, distribution and movement in soil (chapter 7). This was followed by a short chapter (8) applying principles of biogeography to these mites. Population biology of oribatids is discussed in some details in chapter 9, covering such topics as food range, population ecology, ecophysiology and adaptive strategies of oribatid mites. There is an interesting discussion on the role of oribatid mites in soil, with nice illustrations. The second part of this book ends with a short discussion on relationships of oribatids with human kind.

There is an extensive bibliography and a good subject and taxonomic index. This booklet in general is an excellent introduction to the morphology, biology and ecology of oribatid mites. The treatment of systematics is limited in this book, but there are several books on this topic (e.g. Balogh & Balogh 1992. *The Oribatid Mite Genera of the World*).

Zhi-Qiang Zhang

Mites of Australia - A checklist and bibliography. Monographs on Invertebrate Taxonomy Vol. 5 By R. B. Halliday. CSIRO Publishing, Australia. ISBN 0 643 06370 6. 317 pp. \$120.

This book is one of the four publications on Australian mites formally launched at the 10th International Congress of Acarology held in Canberra in July 1998. It includes Foreword; Abstract;

Introduction; the checklist for each of the six main groups: Astigmata, Oribatida, Prostigmata, Holothyrida, Ixodida and Mesostigmata; Incompletely Identified Species; Notes; Bibliography; and Index.

In Forward, the author explains what is a checklist and what are its major strength and its functions. He also explains how he approaches the checklist, including attempting to see the original descriptions of every species, genus and family, to avoid repeating errors from secondary sources. In Abstract, it is stated that the checklist includes 2620 described species of Australian mites and the cut off date for the checklist is the end of 1997. The author asks readers to report errors and omissions to him so he can update the checklist on the electronic database.

In Introduction, the author begins by citing an example from his own experience to demonstrate the importance and usefulness of a checklist. He set four objectives (or purposes) for the checklist: (1) to provide a list of the names of all species of mites recorded from Australia in published literature, (2) to place these species in the currently appropriate genera and families, (3) to provide a bibliography of the literature associated with these species, and (4) to maintain all this information in a series of accessible computer files that can be updated at any time.

The rest of the introduction is thoughtfully headed using the words contained in the title of the book. The author explains clearly how to read and interpret the checklist, using real examples from the checklist, and I believe that this is very instructive. The author states that the number of reference included is 2620 (exactly the same number as the species!). The author lists the higher classification he follows, and points out there are competing systems. He defines the geographical area this checklist covers, which is not correspondent to the political administration of Australia, and some Australian offshore islands are not covered. He lists the main source of information or references or abstract being consulted. Two hundred and forty families and around 2700 described species occur in Australia: Astigmata 330, Oribatida 330, Prostigmata 1270, Ixodida 80, Holothyrida 3, Mesostigmata 675. The author also briefly describes the biology and composition of the Australian mites for each group. The final part of Introduction is the Acknowledgments.

The next six sections are the main part of the checklist (pp. 9-157), each deals with a suborder (or order of some other authors). The list is by family, genus and species alphabetically, and synonyms are indented. Incompletely Identified Species section lists the mites recorded from Australia identified to the genus or family level only. Notes section explains some taxonomic or nomenclatural complication involving a particular species, and the

species are listed alphabetically. Bibliography occupies many pages (187 to 265), and is very comprehensive. The book ends with an index covering all the taxa appeared in the text.

The publication of this book is the result of the author's 10-year effort and brings together for the first time the names of all mites that are known to occur in Australia. It is certainly a valuable contribution not only to Australia but also to the world acarology as a whole. The author indicates that it will serve as a baseline for more detailed and specific research projects such as catalogues and revisions; and this has actually happened (e.g., M.J. Colloff & R.B. Halliday, 1998, Oribatid Mites: A Catalogue of Australian Genera and Species. Monograph on Invertebrate Taxonomy Vol. 6: 1-224). As an quarantine officer, I found checklists and catalogues very useful and helpful for doing pest risk analysis. Apart from the above, the checklist can be used for tracing data and information on systematics, phylogeny, biogeography, and economic importance of Australian mites, and biology and control of many pest mites.

Ting-Kui Qin

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H.-M. Shen. Resistance and cross-resistance of *Tetranychus viennensis* (Acari: Tetranychidae) to 14 insecticides and acaricides.

H.-F. Wang, R. A. Norton & J.-Q. Lu. Notes on the development of *Afronothrus incisivus*, with new distribution records from Asia and Australia.

Q.-H. Fan. New species of *Ledermuelleriopsis* Willmann and *Pseudostigmaeus* Wood from China (Acari: Prostigmata: Stigmaeidae)

**Systematic & Applied Acarology
Special Publications**
No. 3 (1999) forthcoming

J.-Z. Lin & Z.-Q. Zhang. Tarsonemidae of China (Acari: Prostigmata): An Annotated and Illustrated Catalogue and Bibliography.

New Member

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Acknowledgements

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financial contributions of >= \$10
to SAAS:*

Dr E.N. Hatzinikolis (Greece)
Miss E. Malandraki (Greece)
Dr G. Papadoulis (Greece)
Prof Tinghuan Wen (China)

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 advised 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 :

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 Department of Entomology
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or
 Dr. Xiaoyue Hong, Secretary SAAS
 Dept. of Plant Protection
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