

PROGRESS IN ACAROLOGY

Volume 1

Editors

G.P. CHANNABASAVANNA
C.A. VIRAKTAMATH



LEIDEN - E.J. BRILL - 1989

CONTENTS

VOLUME 1

Preface	xv
1. ECOLOGY AND BEHAVIOUR OF TICKS	
1.1 Present possibilities and perspectives of integrated control of argasid ticks (Ixodoidea: Argasidae)	3
F. Dusbábek	
1.2 Tick ecology in relation to Kyasanur Forest Disease	11
H.R. Bhat	
1.3 Isolation of Kyasanur Forest Disease virus from ixodid ticks collected between 1965 and 1972	37
M.A. Sreenivasan, P.K. Rajagopalan and H.R. Bhat	
1.4 Studies on the molecular and cytological characterization of <i>Dermacentor variabilis</i> tick cells in culture	45
Paul J. Homsher, Stanley N. Mason, Mark J. Beveridge, Linda Waters, Daniel E. Sonenshine and Lloyd Wolfinbarger	
1.5 Tick fauna of Egypt with special reference to studies on <i>Hyalomma anatomicum anatomicum</i> , the natural vector of cattle theileriosis	53
A. Liebisch, M.S. Rahman and H. Hoogstraal	
1.6 Comparative study of local populations of <i>Argas (Persicargas) persicus</i> (Ixodoidea: Argasidae)	61
F. Dusbábek	
1.7 Rusinga Island survey: common ticks on livestock	69
Daniel K. Punuya	
1.8 The distribution and regulation of seasonal occurrence in the tick <i>Rhipicephalus appendiculatus</i> (Acar: Ixodidae) in Zambia	75
S.K. Tandon	
1.9 Quantitative assessment of <i>Theileria annulata</i> (Piroplasmida: Theileriidae) infection in the salivary gland of the tick, <i>Hyalomma anatomicum anatomicum</i>	81
S. Dhar, C. Bhushan, D.V. Malhotra, K.P. Mallick and O.P. Gautam	
1.10 Bionomics of three Indian species of <i>Hyalomma</i> ticks belonging to the subgenus <i>Delpyiella</i> (Ixodoidea: Ixodidae)	85
G. Geevarghese and V. Dhanda	
1.11 Life cycle of <i>Otobius megnini</i> (Acar: Argasidae)	91
M.S. Jagannath and Y.V. Lokesh	

2. MEDICAL AND VETERINARY ACAROLOGY	
2.1 The epidemiology of <i>Demodex</i> (Demodicidae) infestations in Tokelau islanders <i>J.R.H. Andrews</i>	97
2.2 Endemic outbreaks of tsutsugamushi disease in Japan and vector chiggers (Trombidiformes: Trombiculidae) <i>Kimito Uchikawa and Nobuo Kumada</i>	103
2.3 Survey of trombiculid mites from the Himalayan region, India <i>Stan Fernandes, S.M. Kulkarni and H.R. Bhat</i>	107
2.4 Topology and histopathology of hair follicle mites (Demodicidae) of man <i>Wm. B. Nutting, Karen E. Firda and Clifford E. Desch</i>	113
2.5 Host-parasite interaction of <i>Sarcoptes scabiei</i> (Acari) <i>Larry G. Arlian</i>	123
2.6 Some observations on the life history and behaviour of three species of trombiculids in India <i>S.M. Kulkarni</i>	133
3. HOUSE DUST MITES	
3.1 Human semen as a dietary supplement for house dust mites (Astigmata: Pyroglyphidae) <i>M.J. Colloff</i>	141
3.2 Antigenicity, allergenicity and cross-reactivity of <i>Dermatophagoides farinae</i> and <i>D. pteronyssinus</i> (Acari: Pyroglyphidae) <i>Larry G. Arlian</i>	147
3.3 Seasonal incidence of house dust mites in Bangalore, India <i>H.R. Ranganath and G.P. ChannaBasavanna</i>	153
3.4 A preliminary report on the occurrence of house dust mites from Hisar, the subtropical region of Haryana, India <i>Kumud, R.B. Mathur and S. Mathur</i>	157
3.5 Some observations on house dust mites in relation to naso-bronchial asthma in Calcutta, India <i>N. Tandon, H. Chatterjee, S.K. Gupta and A.K. Hati</i>	163
3.6 Faunistic and ecological studies on the acarofauna of habitations of the socio-economically poor dwellers of the Punjab and Himachal Pradesh, India <i>Neelima R. Kumar, Ram Kumar and Tarlok Singh</i>	169
3.7 Mite sensitivity in children dwelling in huts (<i>Jhuggies</i>) in the Punjab and Himachal Pradesh, India <i>Ram Kumar and Tarlok Singh</i>	173
4. FORM AND FUNCTION IN ACARI	
4.1 On the structure and function of the cribrum, with special reference to <i>Macrocheles perglaber</i> (Gamasida: Macrochelidae) <i>G.W. Krantz and B.L. Redmond</i>	179

4.2	The digestive system of <i>Demodex folliculorum</i> (Acari: Demodicidae) of man: A light and electron microscope study <i>Clifford E. Desch, Jr.</i>	187
4.3	Genital system of Gamasida and its bearing on phylogeny <i>Gerd Alberti</i>	197
4.4	Ecdysteroid production by tick tissues maintained in vitro <i>Daniel E. Sonenshine, Martin S. Schriefer, Mark Beveridge, Paul J. Homsher, Keith A. Carson and Carol J. Weidman</i>	205
4.5	Mating behaviour of <i>Lonopodes</i> sp. (Acariformes: Eupodoidea) <i>Rainer Ehrnsberger</i>	211
4.6	Fine structure of the claparède organs and genital papillae of <i>Naiadacarus arboricola</i> (Astigmata: Acaridae), an inhabitant of water-filled treeholes <i>Norman J. Fashing</i>	219
4.7	Evolution of leg 1 as an organ of anchorage in <i>Myobia (Myobia) muris-musculi</i> (Acari: Prostigmata) and other selected myobiids <i>T.P. Paran</i>	229
4.8	Migration of some posterior notogastral setae during ontogeny in the Pelopidae (Acarida, Oribatida) <i>Stanislaw Seniczak, Torstein Solthøy and Matthew Colloff</i>	241
5.	REPRODUCTION IN ACARI	
5.1	Observations on interspecific attraction to spermatophores by species of Eriophyidae <i>G.N. Oldfield</i>	249
5.2	Parthenogenesis in Nothridae and related groups <i>R.A. Norton, S.C. Palmer and Wang H.-f.</i>	255
5.3	Another record of an active prelarva in mites <i>Reinhart Schuster and Helga Pötsch</i>	261
5.4	Sex ratio control by a pseudo-arrhenotokous phytoseiid mite <i>M.W. Sabelis and M. Scholman</i>	267
6.	SYSTEMATICS AND TAXONOMY OF ACARI	
6.1	Fossil mites from the Devonian of New York state <i>Roy A. Norton, Patricia M. Bonamo, James D. Grierson and William A. Shear</i>	271
6.2	Status of the genus <i>Podapolipus</i> (Acari: Podapolipidae) <i>Robert W. Husband</i>	279
6.3	Systematics of Phthiracaroidea (Acari: Oribatida) <i>Wojciech Niedbala</i>	287
6.4	Systematics of Mesoplophoroidea (Acari: Oribatida) <i>Wojciech Niedbala</i>	289
6.5	Three new species of Oribatei (Acari: Cryptostigmata) from Saudi Arabia <i>M.A. Hafeez Kardar</i>	291

6.6	The present state of knowledge of oribatid (Acari) taxonomy in India <i>A.K. Sanyal and A.K. Bhaduri</i>	295
6.7	Systematic relationships of <i>Ametroproctus</i> , with modified definition of Cymbaeeremaeidae (Acari: Oribatida) <i>Valerie M. Behan-Pelletier</i>	301
6.8	A comparative account of the taxonomy and biogeography of the oribatid fauna (Acari) of the Gangetic West Bengal and the Northeastern Himalaya, India <i>D.K. Chakrabarti and A.K. Bhaduri</i>	309
6.9	Seven new species of <i>Cheletophyes</i> (Acari: Prostigmata: Cheyletidae) associated with carpenter bees in India <i>B.N. Putatunda and R.P. Kapil</i>	317
6.10	Mites of genus <i>Holostaspella</i> (Acari: Mesotigmata: Macrochelidae) in India <i>R.K. Roy</i>	329
6.11	Indian species of the genus <i>Glyptolaspis</i> (Acari: Macrochelidae) with description of two new species <i>R.K. Roy</i>	343
6.12	Transoceanic distribution of air-breathing littoral mites <i>Reinhart Schuster</i>	355
6.13	Summary of recent studies of myobiids (Prostigmata: Myobiidae) parasitic on Pteropodidae or Megachiroptera (Chiroptera) <i>Kimito Uchikawa</i>	363
6.14	Comparative study of structure of three myobiids (Prostigmata: Myobiidae) with a discussion on phylogeny of Myobiidae <i>T.P. Paran</i>	369
6.15	Bdellidae (Acari: Actinedida) of the Hawaiian islands <i>Sabina Fajardo Swift and M. Lee Goff</i>	377
6.16	Evolution of the Tetranychidae (Acari: Actinedida) <i>J. Gutierrez and W. Helle</i>	379
6.17	The eriophyid fauna of Varanasi with description of two new species of <i>Tetra</i> (Acari: Eriophyidae) <i>M. Mohanasundaram</i>	385
6.18	Eriophyid mites (Acari: Eriophyoidea) of northeast India—some aspects of their evolution and host associations <i>B. Das and S. Chakrabarti</i>	391
6.19	Three new species and records of tetranychid mites (Acari: Tetranychidae) from India <i>P. Karuppuchamy and M. Mohanasundaram</i>	395
6.20	Present state of knowledge on Indian Phytoseiidae with comments on Oriental phytoseiid fauna <i>S.K. Gupta</i>	403
6.21	<i>Krantzolaspina rebatti</i> , a new genus and a new species (Acari: Mesostigmata: Parholaspididae) from Dibrugarh, Assam, India <i>Ashit Kumar Datta and P.C. Bhattacharjee</i>	411

7. WATER MITES	
7.1 Recent work on unionicolid mites (Acari: Unionicolidae) parasitic in freshwater bivalve molluscs <i>R.A. Baker</i>	417
7.2 The behaviour of <i>Atractides burtoni</i> (Acari: Hydrachnella: Hygrobatidae) in drift samples from the Torch river, Saskatchewan, Canada <i>Michelle M. Quaglia, John C. Conroy and David K. Burton</i>	423
7.3 Comparative studies on the biology of water mites of the genus <i>Hydrodroma</i> (Actinedida: Hydrodromidae) <i>Elisabeth Meyer</i>	433
8. SOIL MITES	
8.1 Gamasid mites as potential indicators of postmortem interval <i>M. Lee Goff</i>	443
8.2 Distribution of Acari in relation to soil conditions in 24-Parganas, West Bengal, India <i>Somnath Banerjee</i>	452
8.3 Habitat selection and population diversity of the soil mesostigmatid mites (Acari) in artificial and natural conditions <i>Ashit Kumar Datta and Parimal C. Bhattacharjee</i>	459
8.4 Microbial associations in xylophagous oribatids <i>M.A. Haq and I.D. Konikkara</i>	469
8.5 Ecology of acarofauna of fire prone tropical forests in the Western ghats in Kerala with special reference to Oribatei (Acari) <i>N.R. Prabhu, C.G.A. Pai and K.D. Namboory</i>	475
8.6 Developmental studies of <i>Uracrobates indicus</i> (Acari: Oribatei) inhabiting <i>Mangifera indica</i> <i>N. Ramani and M.A. Haq</i>	483
8.7 Relationships between soil factors and Oribatei (Acari) in deltaic soil of West Bengal, India <i>A.K. Sanyal</i>	491
8.8 Studies on the oribatid fauna of Bhutan—1. <i>Euphthiracarus bhutanicus</i> sp n. from Kanglung <i>A.S. Reddy</i>	499
8.9 Feeding specificity of six species of soil oribatids (Acari: Oribatei) from Kerala, India <i>P. Neena and M.A. Haq</i>	503
<i>Index of authors</i>	509
<i>Index of genera and species</i>	511