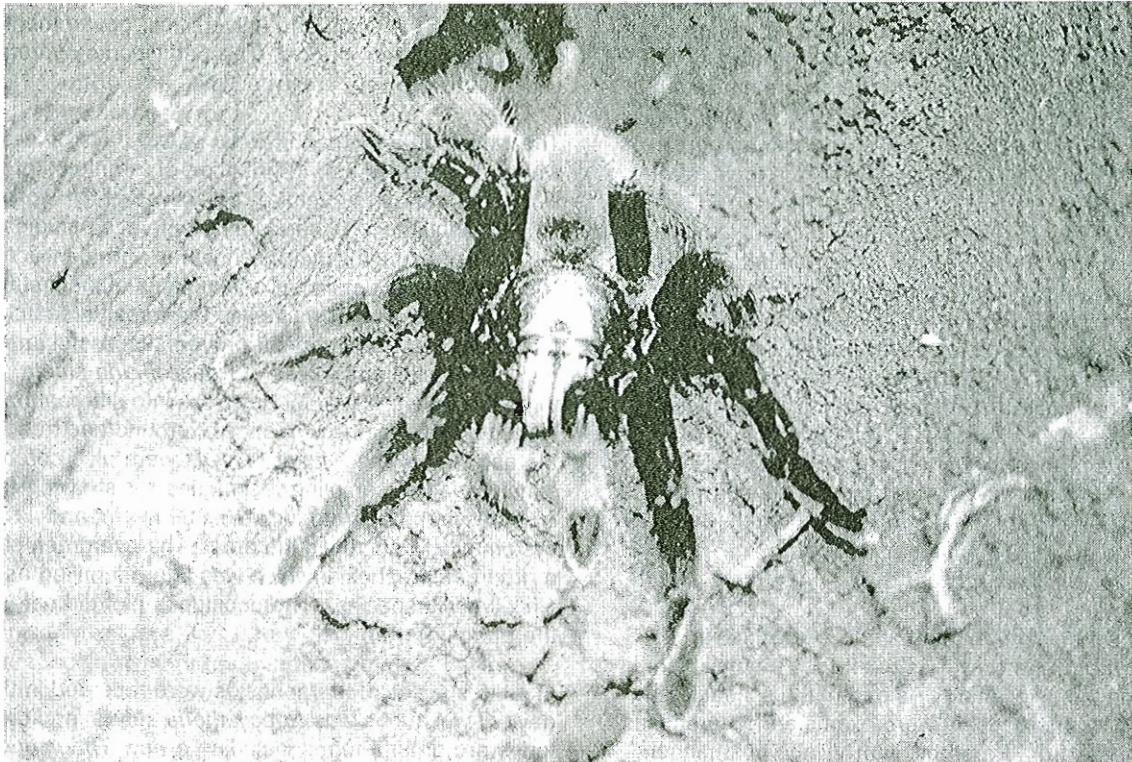


Eastern Hemisphere Tarantula Hands-on Training Workshop on Field Techniques, Identification and Taxonomy Report

Sanjay Molur ^{*1} and B.A. Daniel ^{*2}



A new ground theraphosid ... *Thrigmopoeus parambikulamensis*. Photo by Sanjay Molur

Tarantulas are more popularly known from the Americas and the movies. Not much is known about tarantulas from other parts of the world and definitely not much is known about tarantulas from India or Sri Lanka. The scientific community is unaware of their taxonomy, while the general public is unaware of their very existence in India. Spider biologists, though not many, have very little knowledge on tarantulas since the last serious work on these creatures done by an Indian was in the 70s by Dr. Tikader of the Zoological Survey of India. Mostly, information on this group of spiders exists in the form of Pocock's work at the beginning of the last century.

When a questionnaire survey was conducted in early 2000, out of the 300 odd invertebrate biologists contacted, only seven replied positively. Of these, only three said they had actually seen tarantulas in the wild. Others had seen them either when they were young or had confused the more conspicuous tunnel web spiders for tarantulas. The study was done basically to get an idea of the distribution and status of tarantulas in India – a task we soon learnt was a tall order. But the preliminary study helped develop a better understanding and focus for a proper systematic survey.

However, Indian tarantulas have grown in importance more recently because of their increased presence in the American and European pet market. Since 1994 when the CITES listed all *Brachypelma* spp. (South and Central American tarantulas) under Appendix II, collection of individuals in the wild came to a near standstill. The

tarantula pet industry in the developed countries by then had enough stock to carry on the trade without having to depend on fresh wild material. This, however, did not stop many of them from exploring other parts of the world for species as dramatic but with lesser legal hassles. An ideal alternative was found with the Indian and Sri Lankan Tarantulas filling the niche. *Poecilotheria* species are dramatic, charismatic, deadlier and arboreal, a combination that stoked the interest of many a spider trader and keeper in the West. Since nothing much was known of these species in the country of origin, the traders were successful in employing locals in different areas for collection and transported unknown numbers out of India and Sri Lanka. The interest in these spiders has increased and the number of wild collections and exports have also increased in the recent years. Known for their occurrence in relatively undisturbed habitat, the Eastern Hemisphere Tarantulas were thought to be under threat from collections for the pet trade. This prompted the US Fish and Wildlife Service and the Department of Wildlife of Sri Lanka to propose inclusion of the entire genus under the Appendix of CITES in 1999. However, given the lack of information, the proposal was defeated by a margin of three votes. Even the preliminary survey conducted by us did not help in providing more information for inclusion under CITES.

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Since then, Wildlife Information Liaison Development (WILD) Society and Zoo Outreach Organisation (ZOO) have been trying to gather more information on this group of spiders. Soon, it was learnt that not only the genus *Poecilotheria* is in trade but other ground dwelling tarantulas such as *Thrigmopoeus* spp., *Chilobrachys* spp. and *Haplocosmia* spp. are also in trade. The USFWS sponsored three resource persons (all theraphosid experts) to train field biologists in India and Sri Lanka on Eastern hemisphere Tarantulas. Since WILD and ZOO were already involved in the study, we organised the workshop in India and the Ministry of Wildlife in Sri Lanka organised it in their country.

The Hands-on Training Workshop on Eastern Hemisphere Tarantulas was organised from 9-13 September 2001. The key players in the conduct of the workshop included Parambikulam Wildlife Sanctuary (Kerala Forest and Wildlife Department) who hosted and co-organised the workshop; the United States Fish and Wildlife Service funded the workshop and Wildlife Information Liaison Development Society organised the workshop. Zoo Outreach Organisation and the Conservation Breeding Specialist Group India – Invertebrate Special Interest Group were collaborators. The 5-day workshop was conducted at the Divisional Forest Office Campus at Anappady, Parambikulam Wildlife Sanctuary.

Participants were asked to meet at the ZOO office in Coimbatore, from where everyone left for Parambikulam in three vans on the 8th evening. As part of the schedule, the timber yards by the roadside were examined for tarantulas on the way back from Parambikulam Village post dinner.

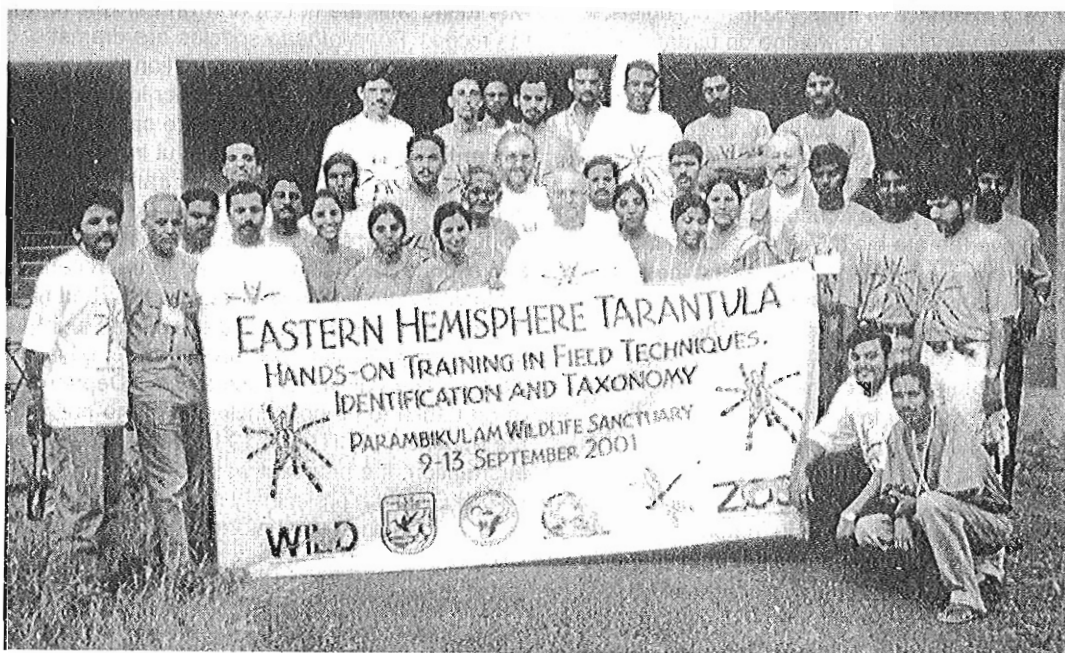
The inaugural, an informal affair, was graced by Mr. R. Ganesan, Wildlife Warden of the adjacent Indira Gandhi Wildlife Sanctuary. The occasion was marked by introductory talks by the resource persons, viz. Rick C. West, Andrew M. Smith and Peter Kirk, followed by the Chief Guests speech. Mr. Pugazhendhi, the Wildlife Warden of Parambikulam

presented a brief overview of the Wildlife Sanctuary and encouraged the workshop in sticking to its objective as well as in helping adding to the checklist of spider fauna of the Sanctuary. The participants, 40 in all, introduced themselves. The group had a healthy mix of field biologists, budding spider taxonomists, forest department personnel, scientists from various institutes and universities, government and non government organisations. The participants averaged 30-35 years and were very enthusiastic.

The workshop agenda consisted of two days of lectures, which included talks on distribution of tarantulas of the world, pet trade in tarantulas, objectives of the workshop, CITES regulation, the need for conservation studies on tarantulas, taxonomy, field techniques and identification keys (See Agenda for details). The evenings of the first two days were utilised for night walks into the forest in search of tarantulas and the first night proved successful in sighting mature females and males of *Poecilotheria striata*. The last three days were purely for day treks into different habitat types to check for the presence of ground and tree theraphosids. The habitat surveys were also combined with simple quadrat sampling techniques for studying tarantulas. All participants lined up for a 25 x 50 m plot and systematically surveyed the area. The evergreen plot yielded a ground theraphosid, which was later identified as a new *Chilobrachys* species. The deciduous plot did not yield any theraphosid.

In all, 5 species of theraphosids were recorded in the five days of which one was *Poecilotheria striata*, and the other four were ground forms including a new *Thrigmopoeus* species, one *Chilobrachys* species, one *Plesiophrictus* species and one *Annandaliela* species.

The workshop was enhanced by the various material distributed to the participants right at the beginning and during every lecture. Most importantly, information on



A much needed break between lectures ... participants at the workshop. Photo by Sanjay Molur.

AGENDA

Day 0 — September 8th, 2001

- Evening drive from Coimbatore to Parambikulam
- Post dinner spider search in timber yards along the roadside.

Day 1 — September 9th, 2001

- Registration and Inaugural
- Overview of Parambikulam Wildlife Sanctuary, P. Pugazhendi
- Overview of tarantulas, global distribution, classification problems, differences between Old World and New World forms — Rick West
- An Introduction of the Genus *Poecilotheria*. History, species identification and problems, habitat, collecting and breeding status in captivity — Peter Kirk and Andrew Smith
- An Introduction (continued) of the Genus *Poecilotheria*. History, species identification and problems, habitat, collecting and breeding status in captivity — Peter Kirk and Andrew Smith
- Post dinner field trip into deciduous forest around Anappady.

Day 2 — September 10th, 2001

- Theraphosid Taxonomy. Part I. Key diagnostic features of the Theraphosid subfamilies and taxa found in India and Sri Lanka. *Poecilotheria* genus and diagnostic features for identification — Peter Kirk and Andrew Smith
- Survey Aspects of the Field Project — Rick West
 - a) Problems of Theraphosid Fieldwork Sampling,
 - b) Model appropriate for conducting population and range surveys of *Poecilotheria* spp.
- Theraphosid Taxonomy. Part II. Key diagnostic features of other ground-dwelling
- Theraphosid taxa found in India and Sri Lanka — Peter Kirk and Andrew Smith
- Dissection and sexing techniques on both live and preserved of *Poecilotheria* spp. — Peter Kirk, Andrew Smith and Rick West
- Post dinner field trip into deciduous forest around Anappady.

Day 3 — September 11th, 2001

- Evergreen Forest Survey (Karian Shola). Trek and Field Study. Full day.
- Pet Trade in Tarantulas, conservation strategies for *Poecilotheria* spp. — Rick West

Day 4 — September 12th, 2001

- Deciduous Forest Survey (Vengoli peak). Trek and Field Study. Full day.

Day 5 — September 13th, 2001

- Teak Plantation/Bamboo Forest Survey (Kuriarkutty area). Trek and Field Study. Full day.
- Planning the status assessment of *Poecilotheria* spp. for C.I.T.E.S. and *Poecilotheria* status and legislation in India — Rick West and Sanjay Molur.
- Thanks and closing



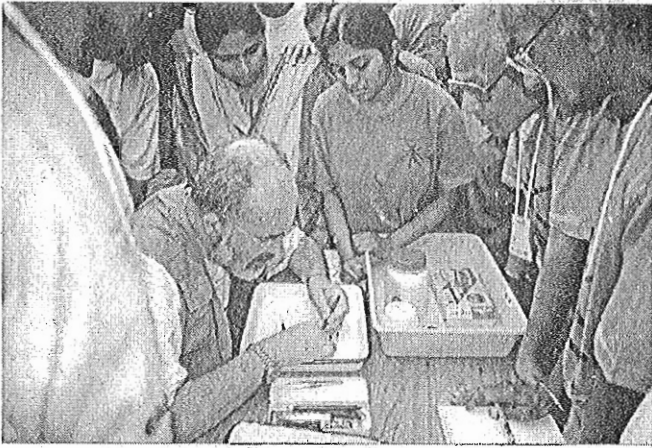
Ready ... set ... go ! Participants scout a 50 metre long line in a deciduous sample plot for theraphosids.

tarantula trade, field techniques and taxonomic keys provided by the resource persons forms a very good reference. Other items included a jute hand bag, T-shirt, scribbling pads, sticker, poster, magazine/journal and brochures of ZOO and Parambikulam.

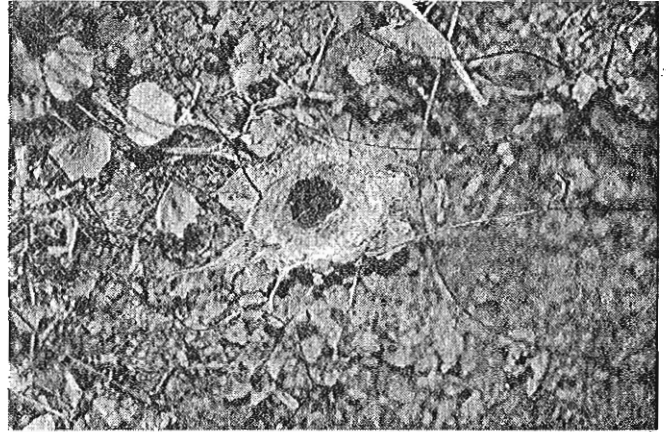
Acknowledgements

Thanks are due to the following individuals and agencies: Mr. P. Pugazhendi, Wildlife Warden, Parambikulam Wildlife Sanctuary and the Kerala Forest and Wildlife Department for co-organising and hosting the workshop. Rick West, Andrew Smith and Peter Kirk for sharing their expertise. Kurt Johnson, Dave Ferguson and the US Fish and Wildlife Service for supporting and funding the workshop. Sally Walker for encouragement, motivation and continuing interest in lesser-known organism conservation.





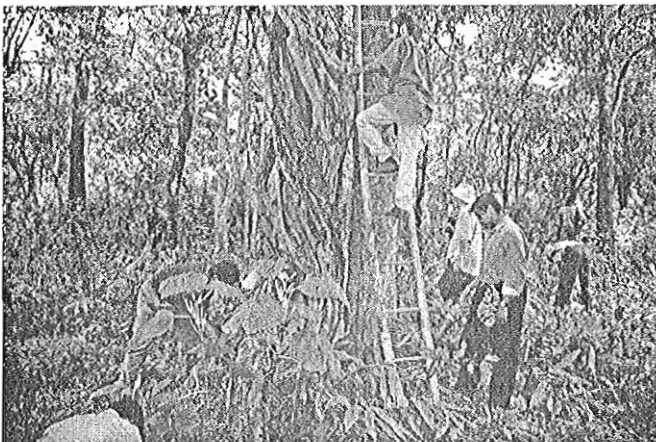
Participants involved in a "dissection to determine the species" exercise conducted by Andrew Smith.
Photo by Sanjay Singha Thakur.



A typical ground theraphosid burrow ... note distinctive webbing, which separates it from other lycosid spiders.
Photo by Sanjay Molur



Rick West examines the preserved specimens from the Bombay Natural History Society. Photo by Sanjay Molur.



Climbing trees is an important aspect of looking for arboreal theraphosids ... An exercise in the evergreen forest plot. Photo by Sanjay Molur



List of participants

- Mr. K.P. Anoop, Kallingapuram (H), Kaduppassery, Thrissur, Kerala
- Dr. D.B. Bastawade, Western Regional Station, ZSI, Pune
- Mr. S. Bharathidasan, Secretary, Dindigul Natural History Society, TN
- Ms. A.R. Binu Priya, ZOO, Coimbatore
- Mr. C.K. Borad, Gujarat Institute of Dev. Research, Ahmedabad
- Mr. B. Ravi Chandran, ZOO, Coimbatore
- Dr. B.A. Daniel, ZOO, Coimbatore
- Mr. Varad B. Girl, BNHS, Mumbai
- Mr. Jagadeesan, ZOO, Coimbatore
- Mr. Jackin Jayaram, College of Vety and Animal Science, Trichur
- Mr. K. Sunil Jose, Lecturer in Zoology, St. Albert's H.S.S, Ernakulam
- Ms. Vena Kapoor, Salim Ali School of Ecology, Pondicherry University
- Mr. M. Karthikeyan, Biologist, Parambikulam Wildlife Sanctuary
- Mr. Peter Kirk, London, England
- Mr. A. Kumaraguru, Research Fellow, Topslip, Pollachi
- Dr. E. Kunhikrishnan, Lecturer In Zoology, Univ. College, Trivandrum
- Mr. S. Madhu, Forest Guard, Parambikulam Wildlife Sanctuary
- Mr. R. Magesh, Research Fellow, Topslip, Pollachi, Tamil Nadu
- Dr. A. Manimozhi, Biologist, Arignar Anna Zoological Park, Chennai
- Mr. Sanjay Molur, ZOO, Coimbatore
- Dr. Aeshita Mukherjee, Gujarat Inst. of Dev Res., Ahmedabad
- Mr. Thomas Nelson, Sr. Wildlife Asst, Parambikulam WLS
- Dr. Md. Jafer Palot, Zoological Survey of India, W.Ghats FS, Calicut
- Dr. B.H. Patel, Patel Society, Anand
- Mr. P. Pugazhendhi, DCF & WLU, Parambikulam Wildlife Sanctuary
- Mr. K.P. Rajan, Forester, Parambikulam Wildlife Sanctuary
- Mr. S. Ramasubramanian, ACF, Indira Gandhi Wildlife Sanctuary,
- Dr. Vidhisha Samarasekara, Regional Biod. Pgm Asia, IUCN, Colombo
- Mr. G.P. Saravanan, Forest College and Res Institute, Mettupalayam
- Mr. Sasi, Parambikulam Wildlife Sanctuary, Anappady
- Mr. M. Sekar Biologist, Arignar Anna Zoological Park, Chennai
- Ms. Manju Siliwal, Dept. of Zoology M.S. University of Baroda
- Mr. C. Sivaperuman, Res. Fellow, Div. of WL Biology, KFRI, Peechi
- Mr. K. Sivasubramanian, Dept. of Env Sci, TNAU, Coimbatore
- Mr. Andrew Smith, London, U.K.
- Mr. Hari Sridhar, Chennai
- Mr. C. Subramanian, Biologist, Mudumalai Wildlife Sanctuary
- Dr. R. Sudhi, Veterinary Doctor, Palakkad
- Mr. A.V. Sudhikumar, R.F. Dept. of Zool., Sacred Hit College, Cochin
- Mr. Sanjay Singha Thakur, Pune
- Mr. M.L. Thomas, ACF, Parambikulam Wildlife Sanctuary
- Ms. C.P. Veena, CES, IIS, Bangalore
- Mr. Rick C. West, Arachnologist, Victoria, Canada
- Ms. Merry Zacharias, CES, IIS, Bangalore