At last! Indian Tarantulas on IUCN Red List

Sanjay Molur, Manju Silliwal and B.A. Daniel

In 1998, the Species Survival Commission Wildlife Trade Office in Cambridge contacted the Invertebrate Conservation Network of South Asia for information on tarantula spiders in the wild. It seems the Sri Lankan government and the US Fish and Wildlife Service had proposed inclusion of the genus *Poecilotheria* under the Appendices of CITES due to increasing trade. Lack of information on these spiders since their first descriptions in early 1900s prompted us to take up a preliminary survey under ICINSA, the Invertebrate Conservation and information Network of South Asia.

During the course of the study we realised that there was not a single tarantula expert in India and Sri Lanka, or even remote knowledge among spider biologists in the two countries on this charismatic group of spiders. Much of the information gathered on the distribution came from questionnaire surveys and interviewing tribals, locals and forest guards or officials in different forest areas of the country. A report of this preliminary finding was furnished to the SSC office. The information available on Eastern Hemisphere Tarantulas, we learnt, was not enough to justify including the group under CITES. However, trade in this group of spiders is continuing with some cases of confiscations (in Sri Lanka) and successful smuggling (from India) have come to our knowledge.

To create awareness about tarantula spiders among field researcher, academicians and foresters, a 5-day hands-on-training workshop was organised by Wildlife Information Liaison Development Society (WILD) along with Zoo Outreach Organisation (ZOO), the Kerala Forest Department and US Fish and Wildlife Service, Department of the Interior, USA. The resource persons included three tarantula experts, Rick West of Canada, Andrew Smith and Peter Kirk of UK, who trained field biologists and foresters from 9-13 September 2001 at Parambikulam Wildlife Sanctuary, Kerala, India. After this workshop, many researchers started studying theraphosids in the wild and in museums. Based on various published literature and primary data collected by us in the last 7 years on theraphosid spiders, we carried out Red List assessments for 14 of the 53 known species of Indian theraphosids using the IUCN Criteria and Categories. Eight of the 14 species assessed are threatened with extinction and the rest are either Data Deficient or Least Concern due to their wide range of distribution.

***Chilobrachys fimbriatus* Pocock, 1899 [Least Concern]**

This species is recorded from Western Ghats of Maharashtra and northern Karnataka. It makes burrows in the soil on roadside bunds or flat land. The habitat where *Chilobrachys fimbriatus* occurs is subjected to several threats due to periodic clearing of vegetation, soil extraction from roadside bunds, road extension, grazing and stomping by cattle and forest fires. It is assumed that the area of its habitat has decreased over the years.

The population is also threatened by the activities of pet traders who smuggle it out of the country into Europe and America. Due to its metallic colouration and bright chevron markings, it is in much demand and is collected from Castle Rock and nearby areas of Karnataka, Goa and Maharashtra. This spider is found advertised on various hobby, pet and trade sites.

Chilobrachys fimbriatus is widely distributed and thus is, for the time being, considered Least Concern, although it is closer to being Near Threatened.

***Chilobrachys hardwicki* (Pocock, 1895) [Least Concern]**

This species is widely reported from northern and eastern India. Its bite had created fear among the local people in West Bengal about two years ago, and now they are persecuted (B.K. Biswas, pers. comm.).

As the habitat has declined and become degraded over the years, more of these spiders are recorded from human habitations, around mines, and areas of less disturbance (B.K. Biswas, pers. comm.).

Like *C. fimbriatus* this species is also found in pet trade although the numbers are not as high as *C. fimbriatus*. Nontheless, because of its wide distribution, *Chilobrachys hardwicki* is categorized as Least Concern.

***Haploclastus kayi* Gravely, 1915 [Endangered: B1ab(ii,iii)]**

Haploclastus kayi is recorded from the southern Western Ghats. The habitat, other than protected areas, where the species occurs, is completely degraded due to road cutting or expansion, and logging of wood. The pressure on the forest is increasing. It is assumed that the area of habitat in one known location and the inferred range has decreased over the years. The population is fragmented and found in less than five locations. It has been categorized as Endangered (EN) because its range is restricted to less than 5,000sq.km, because it is found in less than five fragmented locations and due to continuing decline in area and habitat quality.

***Poecilotheria formosa* Pocock, 1899 [Endangered: B1ab(i,ii,iii)+2ab(i,ii,iii)]**

Poecilotheria formosa is recorded from only three sites in two areas of the highly degraded Eastern Ghats. The habitat where it occurs is completely degraded due to lopping for firewood and cutting for timber. The species is highly restricted in its occurrence (less than 5,000 sq.km) and area of occupancy (less than 500 sq.km.) with past and

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continuing decline in extent, area and quality of habitat. The population is additionally threatened by human interference in the form of persecution, collection for pet trade and other developmental activities.

***Poecilotheria hanumavilasumica* Smith, 2004 [Critically Endangered: B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v)]**
This Critically Endangered species is now restricted to a few tamarind, casuarina and mixed dry deciduous trees and palm plantations on the island of Rameshwaram and on the mainland close to the island. The entire estimated extent of occurrence is less than 100 sq.km, with the actual area of occupancy being less than 6 sq.km. The species has been recorded from eight subpopulations and less than 15 severely fragmented locations. Natural vegetation is almost completely lost. Spiders from one location were recently lost when the entire tamarind plantation of 5ha was razed for constructing government quarters. The species is Critically Endangered CR due to restricted distribution, and continuing decline in area, quality, populations and number of mature individuals.

***Poecilotheria metallica* Pocock, 1899 [Critically Endangered: B1ab(iii)]**
The habitat where the species occurs is completely degraded due to lopping for firewood and cutting for timber. The habitat is under intense pressure from the surrounding villages as well as from insurgents who use forest resources for their existence and operations. It is assumed that the area of habitat has decreased over the years, but there is definitely a decline in quality of habitat for the spiders who seek cavities and deep crevices in old growth forests.
This is categorized as Critically Endangered CR because of its range restricted to less than 100 sq. km, single location and continuing decline in habitat quality.

***Poecilotheria miranda* Pocock, 1900 [Endangered: B1ab(iii)]**
Poecilotheria miranda is recorded only from a few locations in the Chhota Nagpur region. The species is restricted in its extent of occurrence of less than 5,000 sq.km. Threats include severe fragmentation, loss of habitat, loss of habitat quality, indiscriminate collections by several European pet traders because of its beautiful colouration. It is therefore categorized as Endangered.

***Poecilotheria nallamalaiensis* Rao *et al*., 2006 [Data Deficient]**
Poecilotheria nallamalaiensis has been discovered only recently and recorded from single location (Nallamala Hills) where the type-specimen was collected. Not much information is available about this species. Therefore it is Data deficient.

***Poecilotheria regalis* Pocock, 1899 [Least Concern]**
Poecilotheria regalis is widely distributed in India, throughout northern Western Ghats and a few places in the Eastern Ghats. The range and area of occupancy is very vast, and although the threats to the habitat and population are noticeable, the species does not come close to being threatened, hence it is classified as Least Concern.

***Poecilotheria rufilata* Pocock, 1899 [Endangered: B1ab(ii,iii)]**
The species is restricted to less than five fragmented locations in the southern Western Ghats. It suffers from the threats of habitat degradation and habitat loss due to continuous cutting of old trees for timber and collection of minor forest produce. In Kerala, nervous local people kill the wandering males that venture into homes and/ or are found on trees.
The population is also threatened since there is pressure from pet traders in smuggling this species out of the country into Europe and America. This spider can be found on various pet websites.
This is categorized as Endangered EN because its range is restricted to less than 5,000sq.km, because it is found in less than five fragmented locations and is threatened with continuing decline in area and habitat quality

***Poecilotheria striata* Pocock, 1895 [Vulnerable: B1ab(ii,iii)+2ab(ii,iii)]**
Poecilotheria striata is the second most commonly found species in the Western Ghats just north and south of the Palghat gap. It shares the same habitat with *Poecilotheria regalis* in its distributional range. Like other species of this group, it also is affected by habitat degradation and fragmentation. These spiders enter human settlements close to or within forests and usually get killed by the local people.
It is one of the more common 'pokie' species kept by pet traders and hobbyists. Trade in this species is common; it is one of the more commonly advertised species on the web. It is restricted in its range estimated to be less than 20,000 sq.km (around 12,000 sq.km), with an area of less than 2,000 sq.km, making *Poecilotheria striata* Vulnerable VU due to declining area, habitat quality and severe fragmentation.

***Poecilotheria tigrinawesseli* Smith, 2006 [Data Deficient]**
This species is recently discovered and recorded from six locations from where the type specimens are collected. Not much information is available about this species. Therefore it is Data Deficient.

***Thrigmopoeus insignis* Pocock, 1899 [Vulnerable: B1ab(ii,iii)+2ab(ii,iii)]**
Thrigmopoeus insignis is recorded only from the Karnataka part of the Western Ghats, where it occurs only in certain areas with a very patchy distribution within those areas. The extent of occurrence of this species has been estimated as less than 20,000 sq.km. (approximately 12,000 sq.km.) between the northern-most and southern-most areas of occupancy. Area of occupancy is estimated to be less than 2,000 sq.km. The habitat where the species occurs is severely fragmented

and degraded due to road widening, cutting of trees, bund maintenance, soil erosion and other kinds of human interference. In protected areas, the situation is better. It is assumed that the area of habitat has decreased over the years.
There is evidence of trade in this species as seen on internet web sites of traders advertising and hobbyists exchanging notes. Although the volume of trade is not known, this along with decreasing habitat quality and area of occupancy make the species Vulnerable VU.

***Thrigmopoeus truculentus* Pocock, 1899 [Near Threatened: B1ab(ii,iii)]**
Thrigmopoeus truculentus is recorded mostly from Karnataka areas of the Western Ghats and from southern Maharashtra. It could also occur in Goa. It occurs in only certain localities with a very patchy distribution. The extent of occurrence of this species has been estimated as more than 20,000 sq.km. (approximately 25,000 sq.km.). Area of occupancy could not be estimated. The habitat where the species occurs is severely fragmented and degraded due to road widening, cutting of trees, bund maintenance, soil erosion and other kinds of human interference (Sanjay Molur, Manju Siliwal, Varad Giri, pers. comm.). In protected areas, the situation is better. It is assumed that the area of habitat has decreased over the years. There is evidence of trade in *Thrigmopoeus truculentus* as can be seen on internet web sites of traders advertising and hobbyists exchanging notes. Although the volume of trade is not known, this along with decreasing habitat quality and area of occupancy make the species being close to Vulnerable. It is categorized as Near Threatened since it misses the restricted distribution criteria.

This is the first time that Asian tarantulas have been assessed and listed on the IUCN Red List. It may be, as a result, easier to get those in trade listed in CITES. Many people with whom we have spoken about these mygalamorph (large bodied) spiders were almost disbelieving when told that there were Asian tarantulas. One hears of South American megalamorphs often but rarely of Asian varieties, unless one is a hobbyist or a supplier of collectors. Zoos in western countries frequently display the more colourful varieties of South American large-bodied spiders, and occasionally maybe even the Asian varieties. It has been publicised among zoos that although there is no harsh punishment for smuggling them out of the country, they can be confiscated and also lead to much inconvenience for the smuggler. Collectors and smugglers catch young spiderlings and carry them out in suitcases. It is no wonder their numbers have decreased with trade combined with rapid habitat loss.

We in WILD and ZOO are very happy to have been in a position to do this work and have these 14 species accepted on the IUCN Red List. We are grateful to sponsors -- DEFRA / FFI Flagship Species Fund, UK; Cleveland Metropark Zoo, USA; Oregon Zoo, USA; Oakland Zoo, USA; The Rufford Maurice Laing Foundation, UK; Chicago Board of Trade Endangered Species Fund, USA and to others too numerous to name, who have helped us with information and encouragement.

List of Indian Tarantula spiders and their assessments with Scientific name, Common Name, Category and Criteria upon which the IUCN Category and Assessment was made.

1. *Chilobrachys fimbriatus* Pocock, 1899
Fimbriated Striated Burrowing Spider, Indian Violet
Least Concern
2. *Chilobrachys hardwicki* (Pocock, 1895)
Eastern Indian Striated Burrowing Spider
Least Concern
3. *Haploclastus kayi* Gravely, 1915
Parambikulam Large Burrowing Spider
Endangered. B1ab(ii,iii). Restricted range, few locations & continuing decline in area and quality of habitat.
4. *Poecilotheria formosa* Pocock, 1899
Beautiful or Finely formed Parachute Spider, Salem Ornamental
Endangered. B1ab(i,ii,iii)+2ab(i,ii,iii). Restricted range and area of occupancy, few locations & continuing decline in extent, area and quality of habitat.
5. *Poecilotheria hanumavilasumica* Smith, 2004
Rameshwaram Parachute Spider, Rameshwaram Ornamental
Critically Endangered. B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v). Restricted range and area of occupancy, few locations & continuing decline in area, quality of habitat, number of mature individuals and number of locations.
6. *Poecilotheria metallica* Pocock, 1899
Peacock Parachute Spider, Gooty Tarantula or Metallic Tarantula or Peacock Tarantula
Critically Endangered. B1ab(iii) Restricted range, few locations & continuing decline in quality of habitat.
7. *Poecilotheria miranda* Pocock, 1900
Wonderful Parachute Spider, Bengal Ornamental
Endangered. B1ab(iii). Restricted range, few locations & continuing decline in a quality of habitat.
8. *Poecilotheria nallamalaiensis* Rao, Bastawade, Javed & Ramakrishna, 2007
Nallamala's Parachute Spider. Data Deficient
9. *Poecilotheria regalis* Pocock, 1899
Regal or King Parachute Spider, Indian Ornamental
Least Concern
10. *Poecilotheria rufilata* Pocock, 1899
Reddish or Rufus Parachute Spider, Travancore slate-red, Red Slate Ornamental
Endangered. B1ab(ii,iii). Restricted range, few locations & continuing decline in area and quality of habitat.
11. *Poecilotheria striata* Pocock, 1895
Striped or Striated Parachute Spider, Mysore Ornamental
Vulnerable. B1ab(ii,iii)+2ab(ii,iii). Restricted range and area of occupancy, few locations & continuing decline in area and quality of habitat.
12. *Poecilotheria tigrinawesseli* Smith, 2006
Anantagiri Parachute Spider
Data Deficient
13. *Thrigmopoeus insignis* Pocock, 1899
Notable Large Burrowing Spider
Vulnerable B1ab(ii,iii)+2ab(ii,iii). Restricted range and area of occupancy, few locations & continuing decline in area and quality of habitat.
14. *Thrigmopoeus truculentus* Pocock, 1899
Karwar Large Burrowing Spider
Near Threatened