

(II)

RECORDS OF SPIDERS FROM INDIAN TRANS - HIMALAYAN REGION

Introduction

Several workers (Tikadhar, 1980; Biswas and Biswas, 1992; Sanyal and Tandon, 1998; Patel, 2002; Gajbe, 2004) have studied the spider fauna across the different parts of India and have documented 1035 species of spiders so far. These are to be believed about one tenth of the total number of spider species actually present in Indian subcontinent (Sanyal and Tandon, 1998). More comprehensive records on spiders have been made from Central Indian highlands by Gajbe (2002), eastern region by Patel (1975), Tikadhar and Malhotra, (1980), from South India by Subrahmanyam (1968), from Andhra Pradesh by Reddy and Patel (1993), from West Bengal and North-East Himalaya by Tikadhar (1980), Biswas and Biswas (1992), Biswas and Majumder (1995) and from Andaman and Nicobar Islands by Tikadhar (1977).

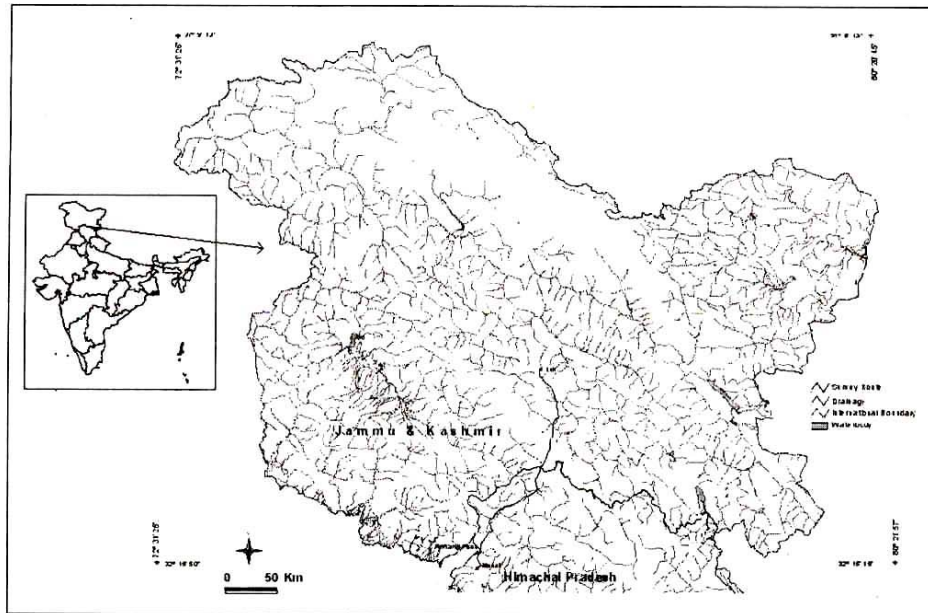
There are still larger areas in the Indian sub continent which has not yet received much attention for investigating the spiders fauna. Western Himalaya and the cold desert region (the trans-Himalayan zone) are some of the least studied areas specially for the spiders. The attempt was initiated to document the presence of these fascinating creatures from the unique ecosystem of cold desert. The Indian-trans Himalaya covers 9.2 % of the total geographical areas (Rodgers *et al.*, 1999). The trans-Himalaya stretches in four states, Jammu and Kashmir, Himachal Pradesh, Sikkim and Uttarakhand. The

present study was widely focused on the mountains, valleys and Tabetan plateaus of Ladakh and mountains of Lahaul and Spiti areas of Himachal Pradesh. The trans-Himalaya, which is in the rain shadow zone lying above the natural treeline, is usually described as a high altitude cold desert. It is known for sparsely distributed vegetation and relatively low species diversity (Kala, 2000; 2005). Nevertheless, the area harbors many rare, endangered and endemic flora and faunal species (Kala, 2005).

Study Area

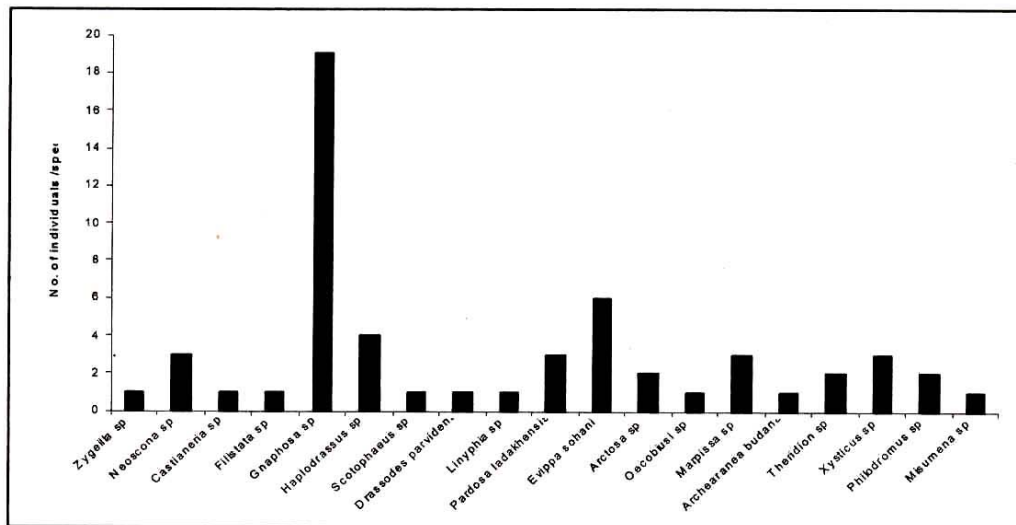
The representative samplings were carried out in different locations of Lahaul and Spiti district of Himachal Pradesh (31°44' to 32°59' N lat. and 76°46' to 78°41' E long.) and parts of Ladakh region of Jammu and Kashmir (32°15' to 36° N and 75°15' to 80°15' E) (Fig. 1). Samplings were carried out along the glacier moraine, grassland, avalanche and snowy areas. The larger part of the study area was covered with snow. Fresh snow also occurred in many sampling sites. Attempt was made to obtain a comprehensive representation of spider diversity from all possible microhabitats of the study area. Vegetation of the region has significantly contributing the diverse habitat for spider diversity. The prominent plant species along the sampling sites were: *Artemisia* spp., *Caragana* sp., *Sedum* sp., *Gentiana* sp., *Geranium* sp., *Plantago major*, *Saxifraga oppositifolia*, *Rumex dentatus* and *Viola* sp. Following are the sampling locations and habitat surveyed during the study.

Fig. 1



Route Followed for the Survey

Fig. 2



Species Abundances of Spider of Trans-Himalayan Region

Method and Observation

Spider collection and observations were made in ten different sampling sites during June – July 2004 (Table 1). Collection of spiders was made randomly from all possible habitats in the study area. Aerial and ground hand picking method was used for collection. Most of the spiders were found under stones, groundcover near snow melt areas moraines. Collected specimens were preserved in plastic tubes with

70% ethylalcohol for identification. Due to cold weather condition (-8 to 20°C) in most of the study area during the summer season, much of the spiders observed in juvenile stage. A total 19 species belonging to 10 families of spiders were collected during the study period (Table 2). Much of the juvenile spiders were not identified up to species level. Much of the identified species were recorded from Leh area due to appropriate habitat and climatic condition.

Table 1*Sampling sites and habitat*

Sampling sites	Altitude (m)	Habitat
Chotadhara	3,599	Grassland near glaciatic stream
Batal	4,000	Glaciatic stream and moraine
Kunsum Pass	4,500	Grassland & glacier moraine
Chandratal	4,300	Grassland & glacier moraine
Koksar	3,000	Grassland
Zingzingbar	4,000	Glacier moraine & avalanches
Surajtal	4,800	Glacier moraine & avalanches
Baralachch	4,888	Glacier and snow
Bharatpur	4,500	Glaciatic stream near grassland
Leh	3,500	Moraine and agriculture field

Table 2*Spiders Trans- Himalayan Reigion*

Sl.No.	Spider species	Habitat
I	Family – Araneidae	
1	<i>Zygeilia</i> sp	Leh
2	<i>Neoscona</i> sp	Leh, Chandratal
II	Family-Clubionidae	
3	<i>Castianeria</i> sp	Leh
III	Family- Filistatidae	
4	<i>Filistata</i> sp	Leh

Contd.....

IV	Family- Gnaphosidae	
5	<i>Gnaphosa</i> sp	Batal, Chandratal, Zingzingbar, Surajtal, Baralachch, Leh
6	<i>Haplodrassus</i> sp	Leh
7	<i>Scotophaeus domesticus</i>	Leh
8	<i>Drassodes parvidens</i>	Leh
V	Family- Linyphiidae	
9	<i>Linyphia</i> sp	Leh
VI	Family-Lycosidae	
10	<i>Paradosa ladakhensis</i>	Leh
11	<i>Evipa sohani</i> Tikader&Malhotra	Kunsum Pass, Chandratal
12	<i>Arctosa</i> sp	Kunsum Pass
VII	Family-Oecobiidae	
13	<i>Oecobiusi</i> sp	Leh
VIII	Family-Salticidae	
14	<i>Marpissa</i> sp	Baralachch, Surajtal, Bharatpur
IX	Family-Theridiidae	
15	<i>Archeearanea budana</i>	Leh, Batal
16	<i>Theridion</i> sp	Chotadhara, Koksar
X	Family-Thomisidae	
17	<i>Xysticus</i> sp	Batal, Leh
18	<i>Philodromus</i> sp	Leh
19	<i>Misumena</i> sp	Leh

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