

Diversity Of Spiders From Dandoba Hill Forest (Dist- Sangli)

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Abstract: The survey of spider was carried out from the Dandoba Hill forest.. Dandoba is situated in Sangli district and on the boundary of Miraj and Kavathe Mahankal tehasil. This area is of low rainfall, with hills and slopes with some bushy plants, grass and trees. The study was carried out for three years. This region shows good number of spiders during the month of September to December. This is because of availability of food and breeding ground. Rainfall is moderate an average of 500 mm. The climate is hot and dry. Maximum temperature reaches up to 45^o c in summer, while minimum goes down up to 19^oC. A total of 70 species belonging to 48 genera from 18 families are recorded from the study area during year 2012-2015 with a dominance of Araneid, Gnaphoside, Salticid and Lycosid spiders.

Key words: Spider, diversity, Dandoba

I. Introduction`

Spiders comprise one of the largest orders of animals. The spider fauna of India has never been studied in its entirety despite of contributions by many arachnologists since Stoliczka (1869). The pioneering contribution on the taxonomy of Indian spiders is that of European arachnologist Stoliczka (1869). Review of available literature reveals that the earliest contribution by Blackwall (1867); Karsch (1873); Thorell (1895) and Pocock (1900) were the pioneer workers of Indian spiders. They described many species from India. Tikader (1980, 1982), Tikader, and Malhotra (1980a,b) described spiders from India. Tikader (1980) compiled a book on Thomisidae spiders of India, comprising two subfamilies, 25 genera and 115 species. Pocock (1900) and Tikader (1980, 1987) made major contributions to the Indian Arachnology, have high lightened spider studies to the notice of other researcher. Tikader (1987) also published the first comprehensive list of Indian spiders, which included 1067 species belonging to 249 genera in 43 families. From the last three decades, contribution of Gajbe (1995-2003) to the field of spiders is noteworthy. He described 147 new spider species from different habitats of India. He published 69 papers on Araneid, Gnaphosid, Lycosid, Thomisid and Oxyopid spiders and also State Fauna series (2007, 2008a, 2009).

The updated spider checklist given by Keswani et al. (2012) of SGB Amravati University. According to world spider catalogue there are Spiders of protected areas in India, are studied by Gajbe (1995a) in Indravati Tiger Reserve and recorded 13 species. Rane and Singh (1977) recorded five species and Gajbe (1995b) 14 species from Kanha Tiger Reserve, Madhya Pradesh. Gajbe (2003) prepared a checklist of 186 species of spiders in 69 genera under 24 families distributed in Madhya Pradesh and Chhattisgarh. Patel (2003) described 91 species belonging to 53 genera from Parabikulam Wildlife Sanctuary, Kerala. Manju Silwal et al. (2003) recorded 116 species from 66 genera and 25 families of spiders from Puma wildlife Sanctuary, Dangs, Gujarat. Bastawade (2004) described arachnid fauna of orders Araneae, Scorpionida and Solifugi from Melghat Tiger Reserve, Amravati, Maharashtra State. So far nobody has worked out or studied the spider fauna of Dandoba region. The forest type of Dandoba is tropical dry deciduous and thorny , scrubby forest. Champion , H. G. and S. K. Seth.(1968). The vegetation area is hilly with slopes and plateaus. The main source of water is Bhoze Talav, which supports flora and fauna. This region is mainly dominated by different plant species such as Acacia, Azadiracta, Tectona, Albizzia, Bamboo, Erythrina, Beautia, Terminalia, Pithocolombia, Eucalyptus, Lanterna, Mangifera, Morinda, Tamarindus, Ficus, and with different weeds.

II. Methods And Materials

The Taxonomic list of spiders was recorded during the period of year 2012 - 2015. The survey was carried out every month of year. The habitat, behavior of spiders and movements and identification marks was studied. Spider survey was made in different selected sampling plots. The techniques used for spider study was visual search, litter sampling, sweep netting and pitfall trapping. The survey was made during early morning hours (6 hours to 9 hours) and day time (16 hours to 18 hours), from different parts of the microhabitats, like, rolled or folded leaves, plant branches, leaf litter, tree trunks, rock surface, grass blades, dry hay and grasses, moist places, under stones, pebbles, humus, bushes, on the bark and branches of trees, water logged locations etc. The Lycosids and Gnaphosids were studied from the soil surface and also from the river beds. Each spider

was identified mainly on the basis of morphological characteristics, epigyne and or palp structure by using the literature (Kaston, 1978; Barrion and Litsinger, 1995; Tikader, 1987 and Mujumdar, 2007). The details of body parts of specimens were examined under a good quality stereo zoom microscope. The identification of species was carried out by the comparison of morphological features with the help of published literature, standard books and field guides

III. Observations And Results

The following taxonomic list was recorded from Dandoba Hill Forest. A total of 70 species (Table-1) belonging to 48 genera and 18 families were recorded from the study area during year 2012-2015. Among all these 18 families, high diversity was observed in the families Araneidae (17 species) > Salticidae(13 species) > Lycosidae (09 species) > Thomisidae (6 species).

Table : 1 Diversity of spiders from Dandoba Hill Forest(Dist Sangli)

I) Family: Araneidae – Orb Web Spiders: 09 Genera with 17 species

1. *Araneus mitifica* (Simon) Female
2. *Arachnura angura* Tikadar 1970
3. *Argiope aemula* (Walckenaer) Female
4. *Argiope aemula* Thorell Male
5. *Argiope anasuja* Female
6. *Cyclosa bifida* (Doleschall) Female
7. *Cyclosa hexatuberculata* Tikadar Female
8. *Cyclosa confragra* Thorell 1892
9. *Cyclosa insulans* Costa, 1934.
10. *Gasteracantha remifera* Butler 1873
11. *Telecantha brevispina* ,Doleschall Female
12. *Larinia chloris* Audouin, 1826
13. *Larinia emertoni* Gajbe and Gajbe 2004
14. *Neoscona mukerjei* Tikader Female
15. *Poltys illepidus* C. L. Koch 1843
16. *Poltys nagpurensis* Tikadar, 1982.
17. *Neoscona bengalensis* Tikadar and Bal, 1981

II) Family: Clubionidae - Sac Spiders: : 1 Genera with 1 Species

1. *Clubiona bengalensis* Biswas ,1984

III) Family: Corinnidae – Ant Mimicking Sac Spiders: 1 Genera with 2 Species

1. *Castianeira zetes* Simon 1897 Female
2. *Castianeira himalayensis* Gravely 1931

IV) Family: Eresidae – Social Spiders: 1 Genera with 1 Species

1. *Stegodyphus sarasinorum* Karsch, 1891 Female

V) Family: Gnaphosidae – Ground Spiders/Mouse Spiders: 2 Genera with 2 Species

1. *Gnaphosa poonaensis* Tikadar 1973
2. *Scotophaesis bhataratae* Gajbe 1989

VI) Family: Hersiliidae – Two Tailed Spiders/Bark Spiders: 1 Genera with 1 Species

1. *Hersilia Savignyi* (Lucas) 1836 Female

VII) Family: Lycosidae – Wolf Spiders : 5 Genera with 9 Species

1. *Lycosa balaranai* Patel and Reddy 1993
2. *Lycosa thoracica* Patel and Reddy 1993
3. *Archtosia indica* Tikadar and Malhotra 1980
4. *Pardosa pseudoannulata* Female
5. *Hippasa greenalliae* Blackwell 1867.
6. *Hippasa hansae* Gajbe and Gajbe 1999
7. *Hippasa madhuae* Tikadar and Malhotra 1980
8. *Pardosa partita* Simon 1885.
9. *Pardosa ranjani* Gajbe 2004

VIII) Family: Miturgidae – Dark Sac Spiders: 1 Genera with 1 Species

1. Cheiranthium danieli (Tikader) 1975 Female

IX) Family: Oxyopidae – Lynx Spiders: 1 Genera with 4 Species

1. Oxyopes chittrae (Tikader) Female
2. Oxyopes pankaj Gajbe and Gajbe 2001
3. Oxyopes shweta Tikadar 1970
4. Oxyopes sameeri Female

X) Family: Philodromidae–Running Crab Spiders/Elongated Crab Spiders: 2 Genera with 2 Species

1. Philodromus pali Gajbe 2000
2. Tibilus poonaensis Tikadar 1962

XI) Family: Pholcidae – Daddy Long Leg Spiders: 1 Genera with 1 Species

1. Pholcus phalangioides Fuesslin 1775

XII) Family: Salticidae – Jumping Spiders: 11 Genera with 13 Species

1. Menemerus bivittatus Dufour 1831
2. Hyllus semicupreus Simon 1885
3. Marpissa tigrina Tikadar 1965
4. Marpissa singhi Monga , Singh and Sadana 1989
5. Myrmarachne incerta Narayan 1915
6. Myrmarachne jajpurensis Proszynski 1992
7. Phintella vittata C. L. Koch 1846
8. Plexippus petersi Female
9. Portia fimbriata Doleschall, 1859
10. Rhene decorate Tikadar 1977
11. Telamonia dimidiata (simon 1899) Female
12. Telamonia peckhami Thorell 1891
13. Thiania bhamoensis Female

XIII) Family: Scytodidae – Spitting Spiders: 1 Genera with 1 Species

1. Scytodes fusca, Walckenaer , 1837

XIV) Family: Sparassidae – Giant Crab Spiders: 2 Genera with 2 Species

1. Heteropoda venatoria , Linnaeus, 1767
2. Olios millet Pocock, 1901

XV) Family: Tetragnathidae: 2 Genera with 3 Species

1. Leucauge decorate (Blackwall), 1864 Female
2. Tetragnatha mandibulata –Walckenaer (Male and Female)
3. Tetragnatha javanus, Thorell, 1890.

XVI) Family: Theridiidae – Comb Footed Spiders/Cob Web Spiders: 3 Genera with 3 Species

1. Latrodectus hasselti Thorell, 1870
2. Propostira quadraangulata, Simon 1894
3. Rhomphaea projiciens O. P. Cambridge. 1896

XVII) Family: Thomisidae – Crab Spiders/Flower Spiders: 3 Genera with 6 Species

1. Thomisus pooneus Tikadar 1965
2. Tmarus kotigeharus Tikadar, 1963
3. Xysticus bhadatae Gajbe and Gajbe 1999
4. Xysticus breviceps O. P. Cambridge 1885
5. Xysticus khasiensis Tikadar 1980
6. Xysticus tikaderi Bhandari and Gajbe 2001

VI) XVIII) Family: Uloboridae: 1 Genera with 1 Species

1. Uloborus khasiensis Tikadar, 1969

IV. Discussion

Thus the results indicate the dominance of ground dwelling spiders like Salticids , Araneids, Gnaphosids and Lycosides are abundant in the Dandoba region. The forest is semi evergreen and rich in shrubs as undestroyed habitats resulting into ground dwelling spiders. Grasses are abundant and constitutes a conspicuous aspect of rainy season vegetation. Common grasses in rainy season are *Andropogon pumilus*, *Aristida adscensionis*, *Brachiaria eruciformis*, *Chrysopogon fulvus*, *Cyperus rotundus*, *Dactyloctenium aegyptium*, *Digitaria ciliaris*, *Dinebra retroflexa*, *Lepthopogon tridentatus* etc. These grasses are favourable for spiders from family Oxyopidae and philodromidae. A total of 70 species (Table-1) belonging to 48 genera and 18 families were recorded from the study area during 2012-2015.

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