



Araneid spiders of Shendurney Wildlife Sanctuary in southern Western Ghats, India

Asima and G. Prasad*

Department of Zoology, Kariavattom Campus, University of Kerala, 695582, India
Email: asimaashrafkh15@gmail.com, probios1@gmail.com

ABSTRACT: A survey of spiders conducted for a period of two seasons in Shendurney Wildlife Sanctuary revealed a total of 38 species. *Nephila pilipes*, *Cyclosa hexatuberculata* and *C. bifida* were the common species. Checklist of Araneid spiders is prepared.

© 2022 Association for Advancement of Entomology

KEYWORDS: Checklist, *Nephila pilipes*, *Cyclosa hexatuberculata*, *Cyclosa bifida*

Araneae is the most diverse, female-dominated and entirely predatory order in the arthropod world. Evidently, they are key components of all ecosystems in which they live. They have, however, largely been ignored because of the human tendency to favour some organisms over others of equal importance because they lack a universal appeal (Humphries *et al.*, 1995). Family Araneidae Simon, 1895 is a large family commonly known as orb weavers. This family exhibits a wide variation in their colour, size, shape and behaviour. Members of this family are small to large, ecribellate, three clawed spiders with eyes arranged in two rows with lateral eyes widely separated from the median eyes; constructs perfect orb webs with sticky spiral or a modified orb web (Sebastian and Peter, 2009). This is the second dominant diverse family in India. A total of 185 species under 36 genera has been reported from India (Caleb and Sankaran, 2021).

The present study was conducted in the Shendurney Wildlife Sanctuary located in (8° 48' - 8° 57'N; 77°

4' - 77° 16'E) in the Agastyamalai Hills of the southern Western Ghats. The sanctuary lies in the catchment of the Parappara Dam (Thenmalai) constructed across the Kallada River and has an expanse of 171 km². The altitude ranges from 100 m above msl at the base of the hills to 1550 m on top of Alwarkurichi, the highest peak.

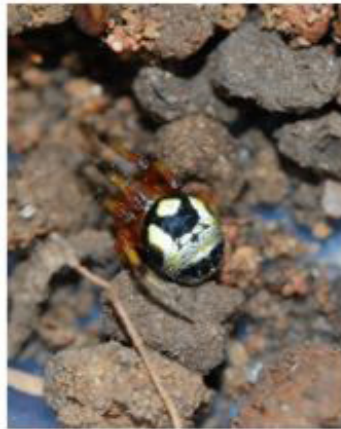
For the purpose of the study the sanctuary was surveyed, by dividing the area into two sites based on elevation. The details of three base camps utilized for data collection along an altitudinal gradient is as follows;

- 1) Kattalappara has an elevation of less than 250 m and the vegetation is formed by West Coast tropical Evergreen, Riparian vegetation, Myristica swamps, secondary forests and plantations along with the border with Thenmala forest Range. The Myristica swamps of the evergreen region, a peculiar low land freshwater swamp ecosystem with unique flora and

* Author for correspondence



Cyrtophora unicolor



Araneus mitificus



Eriovixia laglaizei



Gea subarmata



Cyclosa spirifera



Neoscona nautica



Neoscona mukerjei



Arachnura angura



Herennia multipuncta

Plate 1 Araneid spiders identified from Shendurney Wildlife Sanctuary

Table 1. Araneid spiders from selected habitats of Shendurney Wildlife Sanctuary

No.	Species
1.	<i>Acusilus coccineus</i> Simon, 1895
2.	<i>Anepsion maritatum</i> O.Pickard-Cambridge, 1877
3.	<i>Arachnura angura</i> Tikader, 1970
4.	<i>Araneus mitificus</i> Simon, 1886
5.	<i>A. viridisomus</i> Gravely, 1921
6.	<i>Argiope aemula</i> (Walckenaer, 1841)
7.	<i>Argiope anasuja</i> Thorell, 1887
8.	<i>Argiope catenulata</i> (Doleschall, 1859)
9.	<i>Argiope pulchella</i> Thorell, 1881
10.	<i>Chorizopes</i> sp. 1
11.	<i>Chorizopes</i> sp.2
12.	<i>Cyclosa bifida</i> (Doleschall, 1859)
13.	<i>C. confraga</i> (Thorell, 1892)
14.	<i>C. gossipiata</i> Keswani, 2013
15.	<i>C. hexatuberculata</i> Tikader, 1982
16.	<i>C. insulana</i> (Costa, 1834)
17.	<i>C. moonduensis</i> Tikader, 1963
18.	<i>C. neilensis</i> Tikader, 1977
19.	<i>C. purani</i> Keswani, 2013
20.	<i>C. simoni</i> Tikader, 1982
21.	<i>C. spirifera</i> Simon, 1889
22.	<i>Cyrtarachne</i> sp.1
23.	<i>Cyrtophora unicolor</i> (Doleschall, 1857)
24.	<i>Eriovixia excelsa</i> (Simon, 1889)
25.	<i>E. lagleizei</i> (Simon, 1877)
26.	<i>E. sakiedaorum</i> Tanikawa, 1999
27.	<i>Gasteracantha dalyi</i> Pocock, 1900
28.	<i>G. geminata</i> (Fabricius, 1798)
29.	<i>Gasteracantha</i> sp.1
30.	<i>Gea subarmata</i> Thorell, 1890
31.	<i>Herennia multipuncta</i> (Doleschall, 1859)
32.	<i>Neoscona bengalensis</i> Tikader & Bal, 1981
33.	<i>N. mukerjei</i> Tikader, 1980
34.	<i>N. nautica</i> (L. Koch, 1875)
35.	<i>Neoscona</i> sp.1
36.	<i>N. yptinika</i> Barrion & Litsinger, 1995
37.	<i>Nephila pilipes</i> (Fabricius, 1793)
38.	<i>Nephilengys malabarensis</i> (Walckenaer, 1841)

associated fauna. Three subsites were selected namely site 1 (semi evergreen) site 2 - (dry deciduous) and site 3 (Myristica swamps).

- 2) Kallar is in the mild elevation with altitude from 240-700 m, the habitat is formed by west coast tropical evergreen, southern hilltop evergreen forests, tropical semi evergreen, Ochlandra Reed patches, Secondary forests and plantations. Three subsites were selected namely, site 1 (evergreen), site 2 (semi evergreen) and site 3 (Ochlandra reed brakes).

The study was conducted for two seasons, dry summer and south-west monsoon from March 2021 to August 2021. The microhabitats that are likely to support the spiders in the study area including ground, litter tree, trunks, foliage, water bodies, undergrowth and bushes were searched for spiders. Collections were made by active searching for spiders following a line transect method. Spiders were collected by beating method and, direct handpicking method. The area around each vegetation along the transect was thoroughly examined from the top to bottom on leaf blades, flowers and dry leaves for spiders. The ground area near the plants was also searched. All the collected specimens were preserved in (70%) ethyl alcohol. World spider catalogue by Platnick (2014) and website Araneae of India, version 2021 (Caleb and Sankaran, 2021) was used for the identification of spiders.

A total 38 species of spiders belong to the family Araneidae were recorded during the period of two seasons (Table 1; Plate 1). *Nephila pilipes*, *Cyclosa hexatuberculata* and *C. bifida* were found as the most common species.

REFERENCES

- Caleb J.T.D. and Sankaran P.M. (2021) Araneae of India. Version 2021, online at <http://www.indianspiders.in> (accessed on 15 September 2021).
- Humphries C.J., Wilson P.H. and Vane-Wright R.I. (1995) Measuring biodiversity value for conservation.

- Annual Review of Ecology and Systematics 26: 93 - 111.
- Sebastian P.A. and Peter K.V. (2009) Spiders of India. First edition, University Press, Hyderabad. 1-393 pp.
- World Spider Catalog (2021) World Spider Catalog. Natural History Museum Bern, online at <http://wsc.nmbc.ch>, version, 22.5 (accessed on 15 September, 2021).

(Received May 08, 2022; revised ms accepted September 15, 2022; published September 30, 2022)