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Araneae of *Ochlandra* reed breaks of Shendurney Wildlife Sanctuary, southern Western Ghats, Kerala, India

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ABSTRACT: A study of spiders of *Ochlandra* reed breaks of Shendurney Wildlife Sanctuary was conducted for a period of four seasons and revealed a total of 52 species of spiders belonging to 38 genera and 12 families. A checklist of spiders of the reed breaks is provided. *Thiania indica* Asima, Caleb and Prasad, 2023 is a new species reported from the reed breakes.

KEY WORDS: Reed bamboo, new species, diversity, checklist, hotspot

Reeds are members of the Poaceae family and are tall, slender, shrubby and extremely productive grass (Haslam, 2010). Reed bamboo, genus *Ochlandra*, of the Western Ghats, India is the only species confined to the tropical zones and is one of the most ecologically and economically exploited grass species in this region (SijiMol *et al*., 2016). These reeds are found as large monospecific patches on hilltops and along streams or in moist pockets, intermixed with forest species. Extensive reed breaks in Kerala are seen towards the upper ghat ridges at Thiruvananthapuram division; between the Ariankavu pass and the Periyar plateau in Punalur, Konni, and Ranni divisions; and lower slopes of western flank of Anamalai in Vazhachal, Malayatoor and Kothamangalam divisions (Anonymous, 2012). In evergreen forests, reed bamboo serves as a keystone species that affects the survival of other associated species and their ecological niches (SijiMol *et al*., 2016).

Spiders make up a considerable portion of the animal life of this vast and diversified land. They are a highly species-rich group of invertebrates and are widespread and found in all types of habitats and occupy a few niches in virtually all the earth's biomes (Asima and Prasad, 2022). Presently, about 51,908 spider species classified in 4375 genera from 135 families are described worldwide (World Spider Catalog, 2024), while 1980 species under 500 genera from 62 families are known from India (Caleb and Sankaran, 2024). The present study documents the spiders of *Ochlandra* reed breaks of Shendurney Wildlife Sanctuary in the northern area of the Agasthyamalai Hills (8^0 48'- 8^0 57'N; 77^0 4'-77^0 16'E) in the southern Western Ghats. The sanctuary lies in the catchment of the Parappar Dam (Thenmalai) constructed across the Kallada River and has an expanse of 171 km^2. The altitude ranges from 100m above msl at the base of the hills to 1550m on top of Alwarkurichi, the highest peak.

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Table 1. Checklist of spiders from the *Ochlandra* reed breaks of Shendurney Wildlife sanctuary

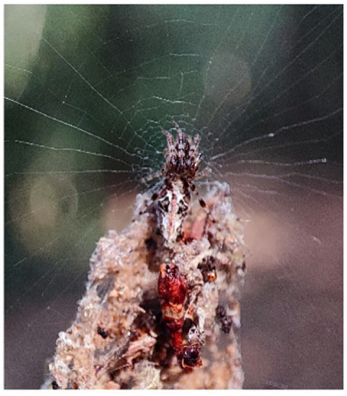
No.	Family/Species
	Araneidae
1.	*Acusilas coccineus* Simon,1895
2.	*Chorizopes quadrituberculata* Roy, Sen, Saha & Raychaudhuri, 2014
3.	*Cyclosa bifida* (Doleschall, 1859)
4.	*C. confraga* (Thorell, 1892)
5.	*C. hexatuberculata* Tikader, 1982
6.	*C. neilensis* Tikader, 1977
7.	*Cyrtophora moluccensis* (Doleschall, 1857)
8.	*Gasteracantha* sp.
9.	*G. geminata* (Fabricius, 1798)
10.	*G. dalyi* Pocock, 1900
11.	*Gea sabarmata* Thorell, 1890
12.	*Neoscona mukerjei* Tikader, 1980
13.	*N. theisi* (Walckenaer, 1841)
14.	*N. vigilans* (Blackwall, 1865)
15.	*Nephila pilipes* (Fabricius, 1793)
16.	*Porcataraneus bengalensis* (Tikader, 1975)
	Clubionidae
17.	*Clubiona tridentata* Dhali, Roy, Saha & Raychaudhuri, 2016
	Linyphiidae
18.	*Neriene sundaica* (Simon, 1905)
	Mimetidae
19.	*Mimetus indicus* Simon, 1906
	Oxyopidae
20.	*Hamataliwa indica* Sen & Sureshan, 2022
	Pholcidae
21.	*Crossopriza lyoni* (Blackwall, 1867)
22.	*Pholcus medog* Zhang, Zhu & Song, 2006
23.	*Pholcus phalangioides* (Fuesslin, 1775)
	Salticidae
24.	*Chalcotropis pennata* Simon, 1902
25.	*Curubis tetrica* Simon, 1902
26.	*Indopadilla kodagura* Maddison, 2020
27.	*Myrmarachne prava* (Karsch, 1880)
28.	*Phintelloid* sp.
29.	*Tamigalesus munnaricus* Zabka, 1988
30.	*Telamonia* sp.
31.	*Thiania indica* Asima, Caleb &Prasad, 2023
32.	*Vailimia jharbhari* Basumatary, Caleb & Das, 2020
	Sparassidae
33.	*Thelcticopis moolampilliensis* Jose & Sebastian, 2007
34.	*Thelcticopis* sp.1
35.	*Thelcticopis* sp.2
	Theridiidae
36.	*Chikunia nigra* (O. Pickard-Cambridge, 1880)
37.	*Chrysso angula* (Tikader, 1970)
38.	*Nesticodes rufipes* (Lucas, 1846)
39.	*Nihonhimea japonica* (Bösenberg & Strand, 1906)
40.	*Parasteatoda celsabdomina* (Zhu, 1998)
41.	*Theridion hotanense* Zhu & Zhou, 1993
42.	*T. zonulatum* Thorell, 1890
	Thomisidae
43.	*Angaeus pentagonalis* Pocock, 1901
44.	*Lycopus* sp.
45.	*Camaricus rinkae* Biswas & Roy, 2005
	Tetragnathidae
46.	*Leucauge decorata* (Blackwall, 1864)
47.	*L. fastigata* (Simon, 1877)
48.	*L. tessellata* (Thorell, 1887)

49.	*Tylorida flava* Sankaran, Malamel, Joseph & Sebastian, 2017
50.	*Tylorida striata* (Thorell, 1877)

	Uloboridae
51.	*Miagrammopes extensus* Simon, 1889
52.	*Uloborus shendurneyensis* Asima, Sudhikumar & Prasad, 2021

Acusilas coccineus

Angaeus pentagonalis

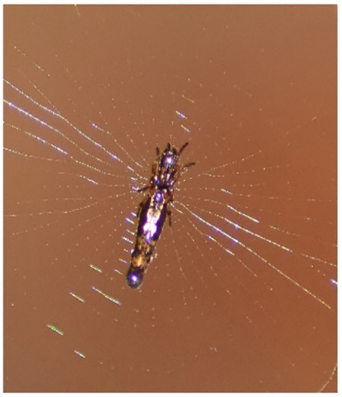


Cyclosa hexatuberculata

Gasteracantha dalyi

Gea sabarmata

Chalcotropis pennata



Cyclosa bifida

Curubis tetrica

Indopadilla kodagura

Leucauge decorata

Leucauge fastigata

Tylorida flava

Parasteatoda celsabdomina

Theridion zonulatum

Thiania indica

Tamigalesus munnaricus

Vailimia jharbhari

Uloborus shendurneyensis

Shendurney Wildlife Sanctuary is a part of Agasthyamalai Biosphere Reserve which is one of the richest areas of biodiversity in the Western Ghats (Anonymous, 2012). *Ochlandra* (reed bamboo) species are endemic to the Western Ghats of India as well as to Sri Lanka (SijiMol *et al.,* 2016). Some of the hillocks in the Pandimotta and Alvarkurichi have dense growth of reeds sometimes growing as pure patches. Thick reed breaks are also seen in the lower valleys, along the streams and fire burnt areas. Important species of reed breaks found in the sanctuary are *Ochlandra travancorica* var. hirsutea, *O. ebracteata*, *O. scriptoria* and *O. wightii* of which *O. travancorica* var. hirsutea and *O. scriptoria* are found in riches (Anonymous, 2012).

The survey was conducted for four seasons, dry summer and Southwest monsoon, Northeast monsoon and dry winter from March 2021 to December 2022, in the *Ochlandra* reed breaks of Kallar and Pandimotta. Spiders were collected by beating method and, direct handpicking method. The area around the vegetation along the transect was thoroughly examined from top to bottom on leaf blades. All the collected specimens were preserved in ethyl alcohol (70%). World spider catalog (2024) and the website Araneae of India (Caleb and Sankaran, 2024) were used for the identification of spiders. Standard references such as Fauna of India, Spiders Vol I and II by Tikader (1982) and Fauna of India, Spiders, Oxyopidae by Gajbe (2008) were also used for the identification of spiders.

The present study revealed a total of 52 species of spiders belonging to 38 genera and 12 families. Families include Araneidae, Clubionidae, Linyphiidae, Mimetidae, Oxyopidae, Pholcidae, Salticidae, Sparassidae, Theridiidae, Thomisidae, Tetragnathidae and Uloboridae. The analysis of the observed species revealed that Araneidae was the dominant family. Among the 52 identified species, 16 species were belonging to Araneidae followed by Salticidae (9 species), Theridiidae (7 species), Tetragnathidae (5 species), Pholcidae and Sparassidae (3 species each), and Thomisidae and Uloboridae (2 species each). Least number of species observed in Clubionidae, Mimetidae and Oxyopidae with one species each. Genus *Cyclosa* is found to be the species rich genus with four species. *Thiania indica* Asima, Caleb and Prasad, 2023 is a new species reported from the reed breaks (Table 1, Plate 1, 2).

The Shannon-Weiner index revealed a spider diversity of 3.57 in *Ochlandra* reed breaks, suggesting a thriving and diverse spider population. This could be attributed to the minimal disturbance in this specific environment, which offers an advantageous setting for spiders to spin their webs, search for food, and build shelters. Maximum diversity was observed during dry winter (3.117) followed by southwest monsoon (3.05), and dry summer (2.88). The lowest diversity was observed during the northeast monsoon. Species richness was also higher during dry winter (6.50) followed by southwest monsoon (6.10), dry summer (4.94) and the lowest during the northeast monsoon (3.641).

Studies revealed that reed bamboo (*Ochlandra*) functions as a keystone species in evergreen forests, influencing the survival of many associated species and their ecological niches (Basha, 1991; Duckworth, 1993; Kumar *et al.,* 1999; Varma, 2001; Seshadri *et al*., 2014; Bhagwat *et al.,* 2015). However, studies on the spider fauna of the reed breaks have not been studied in detail before. This is the pioneer attempt to identify the spider fauna of the *Ochlandra* reed breaks of the Shendurney Wildlife Sanctuary.

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