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RECORDED WEB PATTERN OF *CYCLOSA* MENGE, 1866 (ARANAEA: ARANEIDAE CLERCK, 1757): FROM SATPUDA LANDSCAPE, MAHARASHTRA, INDIA

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Abstract: This study is an attempt to document some features of the web and activities related to web to understand the behavior of the spider while building web with respect to ecological conditions, role of web as well as difference of web features within genus. For this study orb web builder genus from Araneids (Rajoria, A. R & Jadhao, S. H. 2016) *Cyclosa* Menge, 1866 (Aranea: Araneidae Clerck, 1757), (Bastawade, D. B. 2005, Biswas, V. & Raychaudhuri, D. 1998a) was taken as study material while focusing to understand its web pattern and getting acquainted about the habitat of the species. For this comparison three webs of *Cyclosa* Menge, 1866 were considered and their dimensions were studied to understand some aspects of the web ecology of this spider species from Melghat region of Satpuda Landscape.

Keywords: Araneidae, *Cyclosa*, *insulana*, *moonduensis*, Web, Satpuda (India)

INTRODUCTION

'Orb-web' is a peculiar web usually fulfilling almost all the requirements for which a web is being built i.e. prey capturing and retaining it, quite strong with significant elasticity, resistant to moderate climatic tampering and so on. Habitat selection is related to web building capacity of spiders. Web with its comprised structures helps in proper functionality with respect to performance and sustenance of the web-owner. Web comparison of Genus *Cyclosa* Menge, 1866 is done to understand its web pattern.

MATERIAL AND METHODS

Three webs of *Cyclosa* Menge 1866 were studied and their dimensions were noted down with the help of Vernier calipers (mm) Ruler (cm) and Measuring tape (feet). Web photographs were taken with Fuji camera.

RESULTS AND WEB OBSERVATIONS

Cyclosa Menge, 1866 an orb web builder having black coloured cephalothorax and abdomen, legs yellowish with black patches, abdomen globular with humps.

1. Genera- *Cyclosa* Menge, 1866

2. Web Orientation & Measurement- Vertical Orientation

Table 1. Comparative analysis of 3 webs of *Cyclosa*:

Sr. No.	Parameters	Web 1 (<i>C. moonduensis</i>)	Web 2 (<i>C. moonduensis</i>)	Web 3 (<i>C. insulana</i>)
1	Total Area of Web (in cm)	12	14	17
2	Height from Ground (In Feet)	5	1.8	3.5
3	Dist. (above) From the hub (in cm)	6	7	9.5

4	Dist. (below) From the hub (in cm)	6	7	8.5
5	No. of Radials	34	43	46
6	Dist. b/w adjacent radials near centre (in mm)	1	1.5	1.5
7	Dist. b/w adjacent radials near pheriphery (in mm)	6	7	7
8	No. of spirals (average value)	32	32	41
9	Dist. b/w adjacent spirals (in mm)	1.5	1.5	1.8
10	No. of attachment threads	5	5	6
11	Area covered by stabilimentum (in cm)	2.2	2.6	11.5

3. **Web Description-** This spider builds a web which allows it to a remarkable degree of camouflage since its web is occupied by the leftovers of the prey and other debris. The stabilimentum is often occupied by these materials only and the female deposits its egg sacs, which passes vertically from the hub.

The spider usually sits in the midst of these structures, fooling their predators. *Cyclosa Menge*, 1866 can be noticed sitting in its web during the whole day, but the web usually found vacant in night.

The shape, size and design of stabilimenta varied depending upon the website location and environmental conditions. For example, in exposed or in quite windy sites, *Cyclosa Menge*, 1866 builds smaller webs with greater number of circular stabilimenta while in normal conditions, it builds linear stabilimenta and also the web is large. *Cyclosa insulana* Costa, 1834 builds both linear and circular stabilimenta. Webs of *Cyclosa insulana* Costa, 1834 which were noticed in forests of Melghat region were at a bit of exposed site and showed circular stabilimenta with size variations in the webs.

4. Related Activities-

a. EGG SACS:

- i. **Shape:** round to oval
- ii. **Size:** 4-5mm
- iii. **Count:** 1
- iv. **Silk colour:** golden yellow
- v. **No. of eggs (total):** app. 60
- vi. **Site of egg sac laying:** laid within the web along with debris hanging with stabilimenta and also on under and upperside of leaf.

- b. **PARENTAL CARE:** Egg sac is guarded by the female till hatching.



1



2



3



4

Figs. 1-4. *Cyclosa* Menge, 1866 web pattern. 1. Web frame work. 2. Web of *Cyclosa insulana* Costa, 1834. 3. Web of *Cyclosa moonduensis*, Tikader, 1963. 4. Web of *Cyclosa moonduensis*, Tikader, 1963

CONCLUSION: Genus *Cyclosa* Menge, 1866, an orb web builder shows a sturdy web with distinct stabilimenta (both linear and circular) providing support to the web depending on habitat as well as environmental conditions in turn supporting the easy dwelling of this genus and can be quite easily identified from webs of rest of Araneid genera. This documentation of some web identifying features shows the role of web regarding ecological aspect of this araneid genera.

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