INDIVIDUAL MALE Argiope sp. (Audouin, 1826) SHOWS REPLACEMENT BETWEEN TWO TYPES OF STABILIMENTA

Ashwin M. Warudkar
Rw.Hs.-15, Swapnashilp, Ganesh Nagar, Kothrud, Pune: 411038.
(toconnectashwin@gmail.com)

Araneidae Clerck, 1757 is one of the largest families of spiders containing 28 genera and 163 species discovered so far from India (Keswani et al., 2012). Aranids are well known as vertical orb web weavers (Jocqué and Dippenaar-Schoeman, 2006). The genus Argiope, 1826 has 9 species described so far in India. The genus is well-known for the ‘stabilimentum’ which is a special band of thick, ribbon like silken threads, which is placed in orb webs (Sebastian and Peter, 2009). The adult female spiders of this genus generally form cross pattern on the web, hence commonly referred to as Cross Spiders.

According to Foelix, (2011), the stabilimenta are used for a variety of purposes. Initially it was believed that they had a stabilizing effect (hence the name), but the same author opines that it is very unlikely as those silk bands are only loosely added to the finished web. These thick silk threads of the stabilimenta reflect the sunlight and shine in the day light which attracts insects and the spider staying in the centre of the pattern hunts it down (Foelix, 2011). Lying camouflaged in the center of crossed design and being brightly coloured reduces chances of predation of Argiope sp. by birds (Wise 1993). It is also seen that these Spiders generally do not leave their web.

In Argiope sp. commonly two types of stabilimenta are seen. One is the cross shaped in which the ribbon like silk threads are placed obliquely and the spider stays in the middle of these threads to complete the cross shape, and the other is the circular type in which the zigzag ribbon like threads is placed in concentric circular fashion, where the spider stays in the centre again. It is presumed that the stabilimenta type is chosen by the individual on the basis of prey base and the area in which the web is built.

It is reported that the same species use both type of stabilimenta, but the same individual using both these types and replacing one type of stabilimentum with another was not reported yet.

I report an opportunistic sighting concerned with the stabilimentum pattern in the Male Argiope sp. in the campus of Fergusson College, Pune. On 13th September, 2012 at 14.25hr an immature male Argiope spider was sighted on a spiny shrub December, 2013, Indian Journal of Arachnology, 2(2).....................................39
The circular stabilimenta were so thick that the spider resting on the opposite side of the web facing the wall behind could not be seen clearly.

Table-1: Changes in stabilimentum pattern in the Male Argiope sp.

<table>
<thead>
<tr>
<th>Date and time</th>
<th>Shape of Stabilimenta</th>
<th>Colour of spider</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>14th Sept, 2012 14.00 hr</td>
<td>Half cross pattern as on 13th Sept.</td>
<td>Pale yellowish</td>
<td>No special remarks</td>
</tr>
<tr>
<td>15th Sept, 2012 14.30 hr</td>
<td>Zigzag concentric circular pattern</td>
<td>Pale yellowish</td>
<td>The previous half cross pattern disappeared completely i.e. the spider replaced one pattern with another</td>
</tr>
<tr>
<td>16th Sept, 2012 15.12 hr</td>
<td>Zigzag concentric circular pattern same as on 15th Sept</td>
<td>Slight Darker than the previous</td>
<td>No special remarks</td>
</tr>
<tr>
<td>17th Sept, 2012 14.37 hr</td>
<td>Zigzag concentric circular pattern with certain remarks</td>
<td>same as on 16th Sept</td>
<td>The circular pattern was seen denser than it was on previous 2 days.</td>
</tr>
<tr>
<td>18th-19th-20th Sept, 2012 around 14.07 hr-15.00 hr.</td>
<td>Zigzag concentric circular pattern</td>
<td>The colour changed gradually from pale yellowish to dark reddish brown.</td>
<td>The colour changing was possibly the indication of maturation, but no moult was found nearby</td>
</tr>
<tr>
<td>22nd Sept, 2012 14.43 hr</td>
<td>Zigzag concentric circular pattern but remarkably thicker</td>
<td>Dark reddish brown.</td>
<td>Stabilimenta were so thick that the spider resting on the opposite side of the web facing the wall behind could not be seen clearly</td>
</tr>
</tbody>
</table>
resting on an orb web having measurements as approx 160mm vertical diameter and approx 120 mm horizontal diameter. The spider made a half cross pattern of stabilimentum (Fig. 1.1 in Table No. 1) on the web that is with just one diagonal of the cross and was resting in the center of it. I made observations day wise as follows. They are given in Observation table No. 1.

After this the spider was probably predated and hence further observations could not be noted.

This behavior of replacing the stabilimenta pattern in male Argiope sp. possibly varies according to the prey base in the given area. Records like these can provide significant information about web building behavior of araneae fauna.

ACKNOWLEDGEMENTS

I am very grateful to Ashish Nerlekar for his valuable technical input for writing the note. I would also like to appreciate here the excellent photographic records provided by Swaroop Patankar. I am specially thankful to Dr. D.B. Bastawade for inspiring me to carry out this work and Nachiket Kelkar for providing me with all the information he had.

REFERENCES


December, 2013, Indian Journal of Arachnology, 2(2)..............................41