

## GIANT WOOD SPIDER *NEPHILA MACULATA* FABR. IN FORESTED TRACTS ALONG RIVER GODAVARI IN ANDHRA PRADESH

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Giant Wood Spider (also known as Forest Spider) *Nephila maculata* Fabr. (Araneae: Araneidae) is the largest orb-weaving spider in India (Pocock 1900, Thakur & Tembe 1956, Vijayalakshmi & Ahimaz 1993). Excepting a few passing notes on its occurrence during surveys carried out by Arachnologists and a classic description of its bionomics by Thakur and Tembe (1956) and, Tembe and Thakur (1960), very little is known about this ubiquitous forest dwelling spider, especially along the forested tracts of Godavari River in Andhra Pradesh. I attempt to add information on the existing knowledge on this species.

During regular surveys that were carried out between August 1997 to August 1999, in the forested tracts along the River Godavari in Kawal Wildlife Sanctuary (c. 18°59'-19°20' N and 78°32'-79°12' E) and Eturnagaram Wildlife Sanctuary (c. 18°10'-18°40' N and 80°0'-80°42' E). I recorded the number of webs and individuals encountered, on a monthly basis. The vegetation in these protected areas is of southern tropical dry deciduous type (Champion & Seth 1968).

Giant Wood Spiders first appear in the month of August and from then onwards their encounter frequency increases manifold until the first half of November. Thereafter, their encounter frequency decreases with the advancement of months. According to Thakur and Tembe (1956) no specimens were observed between February to July although, they added, rare

instances of this species being reported to occur at the end of May in southern India.

*N. maculata* sexes are dimorphic. Females grow up to 3.6-4.0 cm. in length with legs that span about 13.8-15.0 cm., while the males are very small being about 1.0 cm. in length with a leg span of about 4.0-5.0 cm. Of the total 11,224 webs observed during the study period, 56 per cent were that of females, of which 40 per cent with waiting males were observed. There was a significant difference between the number of male and female webs encountered during different months of the year (Table 1). A positive correlation between the encounter rate of male and female webs from August onwards was noted ( $r = 0.958$ ,  $df = 1$ ,  $P < 0.05$ ).

Females weave webs that measure as large as 1.5 m. in diameter. I presume that place and height determine the size of the web. I have observed many female webs of larger size on forest tracks that are at a height of about 10-15 ft. from the ground. Webs woven close to the ground and in thick bush tend to be smaller.

By the end of September when almost all the individuals have reached sexual maturity, males abandon their webs and position themselves on the periphery of large webs woven by females. Of the total webs of female spiders encountered, most were recorded to occur between 5-10 ft. height followed by 2-5 ft. and 10-15 ft. height classes. While among males, maximum number of webs were encountered between 2-5 ft. height followed by 5-10 ft. and 10-15 ft. height classes. A significant difference between the encounter frequency of male and female webs below 5 ft. and above 5 ft. height was observed ( $\chi^2 = 48.70$ ,  $df = 1$ ,  $P < 0.001$ ).

Table 2 depicts the percent occurrence of webs of either sex in different height class intervals. Most of the female webs were observed at greater heights in wide gaps found above the forest tracks, while the male webs were restricted to side shrubs and small trees.

During the study period 2,492 instances of 'waiting' males were noted on female webs. From 2-8 male spiders were observed to wait for approaching the female when she matures, which is usually by the end of September or October. On an average,

Table 1. Monthly encounter frequency (%) of male, female and 'waiting' male on female webs of Giant Wood Spider

Month	A	S	O	N	D	J	F	M	A	M	J	J
Male Webs	5.70	17.37	26.79	25.76	12.24	6.31	3.30	1.86	0.62	0.0	0.0	0.0
Female Webs	5.65	15.76	18.72	29.16	14.54	7.95	4.63	1.69	1.49	0.36	0.0	0.0
'Waiting' Males on Female Webs	0.24	23.51	63.68	12.56	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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**Table 2. Percent occurrence of Giant Wood Spider webs in different height classes**

Height Class (in feet)	Male Webs (%)	Female Webs (%)
up to 2	7.83	4.73
2 - 5	43.26	16.37
5 - 10	27.46	45.34
10 - 15	17.98	16.33
15- 20	3.41	13.98
above 20	0.04	3.22

instances of three waiting males on a female web were highest, followed by two and four waiting males (Table 3).

Once copulation (which continues at irregular intervals over 2-3 days) is over the male usually succumbs to fatigue in 2-3 days. Also, their numbers decrease from November onwards. Thakur and Tembe (1956) and, Tembe and Thakur (1960) opined that by the end of January almost all the Giant Wood Spider perish and one seldom comes across any until August. Unlike their observations, I have recorded male Giant Wood Spiders up to April and the females up to a month after. Mating occurs only during the season indicated earlier and no waiting males were encountered from December onwards. The reason behind such aberration in behaviour than earlier observed invites detail study on this aspect.

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**Table 3. Percentage of male Giant Wood Spider waiting on female webs**

No. of males	No. of female webs	%
1	5	0.20
2	782	31.38
3	865	34.71
4	519	20.82
5	144	5.77
6	78	3.13
7	39	1.56
8	41	1.64
9	16	0.64
10 or >10	3	0.12

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### ERRATA

**Vol. XV, No. 2, February 2000, P. 205, Table 3.**

Species *Melanobatrachus indicus*, *Microhyla ornata*, *Microhyla rubra* and *Ramanella montana* should be read as classified under Family Microhylidae and not under Family Bufonidae as indicated.