

The colouration of the fresh specimens of both sexes is also slightly different from the description given by Locket & Millidge. In the female, the carapace is yellow-brown with darker streaks radiating from the fovea, while the sternum is the same colour as the carapace but with darker margins. The carapace and sternum of the male, and the chelicerae of both sexes, are a darker shade of brown. The abdomen of the female is grey with a slightly darker dorsal median stripe anteriorly, while that of the male is dark grey without a stripe. There may be several fine pale chevrons posteriorly, these being most evident in the male. The whole dorsal surface of the abdomen is covered with short dark hairs and appears iridescent, especially in the male.

The specimens taken in 1972 were measured, their size range being as follows:—♀: carapace length

0.65-0.7 mm; total length 1.55-1.75 mm. ♂: carapace length 0.6 mm; total length 1.35 mm.

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Nomenclature for Orb Web Thread Connections

Robert R. Jackson

Division of Research,
North Carolina Department of Mental Health,
Raleigh, North Carolina 27602 USA¹

Introduction

The orb web of a spider such as *Araneus diadematus* Clerck consists of an array of silken threads, in which there are over a thousand distinct points where these threads are fastened together. In the course of a study of thread connection fine structure (Jackson, 1971), a convenient nomenclature was devised with which it is possible to exactly identify each thread connection within the web. This nomenclature is potentially useful for any study in which precise identification of locations within the web is desired.

Fig. 1 is a schematic diagram of the orb web of *A. diadematus*, showing the various types of thread connections. (See Savory, 1952, for further details on

web structure.) Captive spiders built their webs, from which the diagram was devised, within 51 x 51 x 9 cm aluminium frames with removable glass doors. (See Witt, Reed and Peakall, 1968, for further information on methods for rearing and photography.)

Nomenclature

The following abbreviations are used:

- F Frame thread
 FY Frame Y-structure
 NS Loop of non-sticky spiral (in strengthening zone)
 NS-R Non-sticky spiral to radius connection
 R Radius thread
 R-F Radius to frame connection
 RY Radial Y-structure
 SS-R Sticky spiral to radius connection
 N North (i.e., up)
 S South (i.e., down)
 W West (i.e., the side nearer the aluminium frame)
 E East (i.e., the side farther from the aluminium frame)

Identification of radii - To identify a radius, pick the radius which is most nearly north (or south, east

¹Present address: Department of Zoology, University of California, Berkeley, California 94720 USA.

or west) and count from it either clockwise or counterclockwise, calling it N1 (or S1, E1, or W1), the next radius N2, the next N3, etc. Put the direction in which one is counting in parenthesis after the number. For example, the most eastern radius is E1. The next radius going up is E2(N). The next radius E1 going down is E2(S).

Identification of spiral loops - To identify a spiral loop, call the loop nearest the perimeter of the web P1, the next one going toward the center of the web P2, etc. Call the loop nearest the center of the web C1, the next one going toward the perimeter C2, etc. For example, the free zone is bordered by NS, P1 and SS, C1.

Identification of connections - To identify a R-F or RY, it is sufficient to name the radius. To identify a FY, name the one or two radii which are nearest to it. To identify a SS-R or a NS-R, name the radius and

then the spiral loop. For example, the labeled SS-R in Fig. 1 is SS-R, S2(W), P1; the labeled NS-R is NS-R, W2(S), P1.

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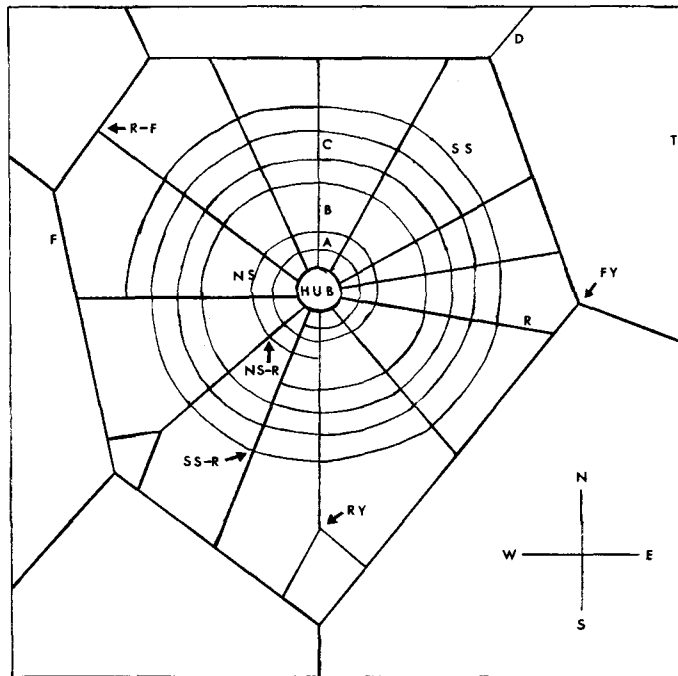


Fig. 1: Schematic diagram of orb web of *Araneus diadematus*.

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| A: Strengthening zone | FY: Frame Y-structure | RY: Radial Y-structure |
| B: Free zone | NS: Loop of non-sticky spiral | SS: Loop of sticky spiral |
| C: Trapping zone | NS-R: Non-sticky spiral to radius connection | SS-R: Sticky spiral to radius connection |
| D: Mooring thread | R: Radius thread | T: Aluminium frame |
| F: Frame thread | R-F: Radius to frame connection | |