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CHANGES IN BODY AND WEB MEASURES IN 2 GROUPS OF SPIDERS DURING GROWTH. P.N. Witt, C.F. Reed*, and M.B. Scarborough*, N. C. Dept. of Mental Health, Research Division, Raleigh, N.C. 27602

To compare web and body measures during growth, one group of Argiope aurantia Cl. was hatched from one cocoon in the laboratory and the webs of 8 animals measured for the last 9 months of their lives; another group of 6 young spiders of the same species was captured outdoors and similarly observed in the laboratory. Some parameters like thread length, center area, and number of spiral turns increased to a peak in the 5th month and decreased sharply during the following 4 months; other features were linear functions of age, with various slopes (e.g. mesh width, North-South symmetry, number of radii). The peak in size measures and amount of web detail corresponded roughly with the time of the last moult, attainment of maximum leg length, and the reaching of sexual maturity. In these measures the captured animals, although similar in body size, peaked significantly higher than the laboratory hatched spiders. Since these peaks occurred 5 months after the 2. group had been brought into the laboratory, the differences would seem to lie in dissimilarities in the first 3 months of the animals' lives, and may be explained by the emergence of biochemical or behavioral factors experienced in early life. (Supported in part by NSF grant GB-6246X).