FORAGING ADVANTAGE OF POLYANDRY FOR FEMALE SIERRA DOME SPIDERS (*LINYPHIA LITIGIOSA:* LINYPHIIDAE) AND ASSESSMENT OF ALTERNATIVE DIRECT BENEFIT HYPOTHESES

ABSTRACT

This article evaluates four potential phenotypic benefits of remating for female sierra dome spiders. The finding that foraging success of paired females improves in copula is discussed in light of evidence that multiple paternity also confers genetic benefits. Nonvirgin females face frequent daylong visits to their webs by dominant, kleptoparasitic males. Females reduce prey losses by engaging some males in 2-6 h of aspermic copulatory courtship. During this preinseminatrion phase of copulation, females increase the percentage of prey they consume from 25.1 to 49.0%. Female sexual receptivity depends more on recent foraging success than on phenotypic attributes of males, whereas sperm use patterns are related to physical and behavioral qualities of mates. The preinsemination phase of copulation is well designed both to improve the foraging success of females and test male quality: (1) it is strenuous and exacting for the male but inactive for the female, (2) genitalia are continuously joined and then detached, keeping the male occupied but maintaining freedom for the female to pursue prey, and (3) it is lengthy, which reduces male prey stealing for a substantial portion of hius visit. Despite the foraging benefits of remating, females reject 66% of their suitors, probably because remating entails costs and provides diminishing genetic benefits.