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SCAVENGING BY JUMPING SPIDERS (ARANEAE: SALTICIDAE)Robert J. Wolff¹**ABSTRACT**

Jumping spiders are usually considered obligate predators where ingestion is preceded by visual or tactile stimuli which elicit hunting behavior. Hungry females of *Salticus scenicus* were shown to feed upon dead houseflies.

Spiders are generally considered to be obligate predators, dependent upon mechanical or visual signals to initiate predatory behavior. However, Knost and Rovner (1975) demonstrated that wolf spiders (Lycosidae) will scavenge on dead arthropods, indicating that ingestion by wolf spiders does not require predatory behavior.

Jumping spiders (Salticidae) have the best eyesight of all arthropods (Foelix 1982, Forster 1982) and might be expected to be more likely to require visual cues for predatory behavior. Robinson and Valerio (1977) discussed the attack by jumping spiders (*Phiale* sp.) against araneids. The spiders would not attack unmoving prey even after three days of confinement together. Forster (1982) discussed prey capture by salticids, and indicated that *Trite planiceps* Simon could hunt and catch prey in the dark. She described how *T. planiceps* captured living flies in the dark or when blinded, and attributed this to vibratory stimulation. This species rejected freshly killed flies when they were contacted or offered in the dark. Salticids are generally found higher in the vegetation, at locations where dead prey would be unlikely to be encountered.

Artificial diets of homogenized insects have been used to rear salticid spiderlings (*Metaphidippus galathea* Walckenaer) (Horner and Starks 1972). However, feeding by spiderlings on liquid diets may be considered similar to their feeding on a mother's regurgitated food. The question remains, will adult salticids scavenge?

METHODS

Thirteen mature, female zebra spiders, *Salticus scenicus* (L.), were captured and used in this experiment. Following five days without any feedings, houseflies which had been killed by freezing were weighed (± 0.1 mg), and then one fly was placed in a culture vial with each of 13 spiders. After 72 h each fly was removed and reweighed. Nine other dead flies were placed in empty but otherwise identical vials.

RESULTS AND DISCUSSION

The nine control flies had weight losses of 61.2–71.5% while the 13 experimental flies had losses of 67.4–78.2%. The means are significantly different (Student's *t*-test, $P <$

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0.01). These results indicate that salticids will feed on insect carrion when they are deprived of live food. Thus predatory behavior does not have to precede ingestion by jumping spiders.

Two factors may have influenced the data. First, control flies may have lost relatively more water due to being alone, whereas experimental conditions may have produced a higher relative humidity because of the inclusion of a live spider in the system, thus leading to smaller weight losses. Second, the experimental flies became entangled with silk and usually ended up with some silk on them during the final weighing. Both of these factors tended to increase the apparent relative weight loss in the control flies, and further support the contention that salticids may scavenge.

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