

A NEW SPIDER HOST ASSOCIATION FOR *MANTISPA VIRIDIS* (NEUROPTERA, MANTISPIDAE)

Mantisfly larvae of the subfamily Mantispinæ are predators within the egg sacs of spiders (Redborg and MacLeod 1985). Laboratory studies by these workers demonstrate that larval mantispids enter spider egg sacs by two strategies: 1) direct penetration of existing egg sacs, or 2) boarding female spiders prior to egg sac formation and subsequently entering the sac during its construction. The larvae of some mantispid species are obligate egg sac penetrators, whereas other larval mantispids are facultative penetrators or boarders (Redborg and MacLeod 1985).

Laboratory experiments with first instar larvae indicate that *Mantispa viridis* Walker is an obligate egg sac penetrator (Redborg and MacLeod 1985, Richardson 1976). Only one of 420 *M. viridis* larvae boarded spiders during experimental trials by Redborg and MacLeod (1985), whereas 85% of the larvae placed in jars containing spider egg sacs were found on or in the sacs 24 h later. These authors suggested that the one record of a mantispid larva on a spider may have been fortuitous. Although several first instar larvae of *M. viridis* boarded spiders during initial experiments by Richardson (1976), she was unable to repeat these results during subsequent trials involving several hundred mantispid larvae and could not explain her initial results. She also reported that *M. viridis* larvae penetrated the egg sacs of eight species of spiders in the laboratory.

The purpose of this note is to report the rearing of an adult *M. viridis* from the egg sac of a *Lycosa pulchra* (Keyserling). The spider was carrying the egg sac in typical lycosid fashion (i.e., attached to its spinnerets) when it was captured on the ground on 12 March 1982 in Tyler State Park, Smith County, Texas. The spider and egg sac were transported to Lawrence, Kansas, where the spider died on 2 April. Upon opening the egg sac two weeks later, I found 95 surviving spiderlings and a mantispid cocoon. An adult *M. viridis* emerged on 20 April and lived until 25 May. These observations corroborate a report of high spiderling survival within a mantispid-infested egg sac of *Lycosa rabida* (Rice 1985).

The known range of natural spider egg sac hosts of *M. viridis* consists of six species in five families (Table 1). This is the first record of a lycosid spider serving as a host for *M. viridis*. Stein (1955) reported the emergence of two *M. viridis* adults from egg sacs that he misidentified as being those of a lycosid. Rather, these egg sacs apparently belonged to a clubionid or gnaphosid spider (Redborg and MacLeod 1985).

It is unlikely that the first instar larva of *M. viridis* boarded the *L. pulchra* female prior to egg sac construction. The egg sac probably was penetrated after it was constructed and being carried by the spider. *Cupiennius salei*, another known host of *M. viridis*, also carries its egg sac (Melchers 1963). Also, larvae of *Mantispa styriaca* and *Mantispa vittata*, which are known to feed on the eggs of lycosid spiders, can penetrate spider egg sacs (Brauer 1869, McKeown and Mincham 1948). Both of these species, like *M. viridis*, probably are obligate egg sac penetrators (Redborg and MacLeod 1985). In contrast, first instar larvae of *Mantispa uhleri* naturally board various spiders, including *L. pulchra* (Redborg and MacLeod 1985).

Table 1.—Documented spider hosts of *Mantispa viridis*.

Family	Species	Reference
Theridiidae	<i>Achaearanea tepidariorum</i>	Valerio 1971
Araneidae	<i>Argiope aurantia</i>	Tolbert 1976
	<i>Mecynogea lemniscata</i>	Hieber 1984
Agelenidae	<i>Agelenopsis</i> sp., probably <i>pennsylvanica</i>	Parfin 1958
Ctenidae	<i>Cupiennius salei</i>	Milliron 1940
Lycosidae	<i>Lycosa pulchra</i>	This report

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