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A BRIEF NOTE ON THE REARING OF SALTICID SPIDERLINGS.

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Forster (1977) quoted a number of authors who have recorded the difficulty of raising salticids, but found that second instar spiderlings of *Trite auricoma* would, in fact, take the wingless variety of *Drosophila melanogaster* even though the flies are a little larger than themselves.

The fact that second instar spiderlings will take wingless fruitflies was confirmed in the case of two South African species. As they have not yet been identified, they will be referred to here as Species A and Species B. Both species were collected in Alice, Republic of Ciskei (formerly part of the eastern Cape Province of South Africa). Species A is represented by six females, numbers 40, 41, 55, 58, 88, and 97, and their offspring, and Species B by number 72 and its only clutch, all in the author's collection. As my intention was to rear as many as possible of the spiderlings, and not to simulate natural conditions as Forster did, our methods differ. Mine is set out below.

As soon as possible after they had emerged from the mother's retreat, i.e., after the first ecdysis, the spiderlings were separated. Each one was placed in a bottle; these bottles were of two sizes, viz. 80 mm high by 50 mm in diameter, and 60 mm by 35 mm. A thin, circular piece of foam rubber was placed on the bottom and a foam rubber stopper was used. The bottles were placed on an open shelf indoors. No attempt was made to regulate the temperature of the room, but it ranged between an estimated 15 and 25°C for most of the time. A few drops of water were squirted into each bottle about once a week as a very rough method of maintaining a fairly high relative humidity.

Upon separation, each spiderling was given one or a few wingless fruitflies. Because of the height of the container and the flies' tendency to go to the top, it was found that up to three flies could be placed in even the smaller bottle without adversely affecting the spiderling's success in catching one. At first glance this would seem to contradict Forster's findings, but it is really the prey density which is crucial. The spiderlings invariably attacked the flies either directly from the front or the back, but those attacking from back were prevented from piercing the prey with their fangs, presumably because the wing stumps were in the way. About 70% of more than 100 spiderlings of Species A caught a fly within the first 24 hours; this could be determined even when the spiderling was not observed actually feeding because the abdomen is transparent -- cf. *Trite auricoma* (Forster 1977). (It was not possible in Species B as the whole body is black.) The remaining 30% were then presented with under-sized fruitflies, i.e., from an old culture, and a few more spiderlings managed to capture flies. A paper by Jennings & Houseweart (1978) then suggested an alternative food source: the remaining spiderlings were given ants' eggs, and with a few exceptions, the eggs were taken quite readily. At a later stage the spiderlings of the first clutch of 97 emerged, and because there was an insufficient number of flies, they were all given ants' eggs. They took the eggs so readily that I believe that this is a natural alternative food source. The spiderlings of species B were then also presented with eggs and in two cases they were observed feeding on them, while it was also inferred in three or four other cases as their abdomens distended in the absence of fruitflies. Using the combination of fruitflies and ants' eggs, it has been possible to raise the rate of survival to 84% over the first 25 days, discounting

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the last clutch of each of numbers 40 and 41, explained below. 11 of the 12 spiderlings have survived at least 25 days.

Another factor which influences the viability of the young spiderlings is the presence of the mother: number 40 abandoned her third clutch about a week before they emerged from the egg case, and only three out of seven spiderlings survived 25 days; number 41 died four days before her third clutch started to emerge from the mother's retreat, i.e., after the first ecdysis, and only one out of seven survived. Of her penultimate brood, 10 out of 11 survived until the second ecdysis. In both cases it was also found that there were a number of undeveloped spiderlings which never emerged. In one other brood (the first of number 58) it was also noted that the last two spiderlings were a little larger than their siblings and they appeared to have fed on fruitflies prior to leaving the mother's retreat. It is possible that they could have left the retreat unobserved to feed outside and then returned to it, so no proof can be offered that the mother feeds the young. On the other hand, the low viability of spiderlings in the absence of the mother does suggest that she cares for them in one way or another.

REFERENCES

- Forster, L. M. 1977. Some factors affecting feeding behaviour in young *Trite auricoma* spiderlings (Araneae: Salticidae). New Zealand J. Zool. 4: 435-443.
 Jennings, D. T. and M. W. Houseweart. 1978. Spider preys on spruce budworm egg mass. Entomol. News 89: 183-186.