

Fostering in southern African *Soricidae*

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The successful raising one young of one female *Crocidura f. flavescens* by another is reported. Attempts at using *C. h. hirta* and *Myosorex varius* as foster parents, and as well as at hand rearing of *C. f. flavescens* were unsuccessful. An attempt is made to explain the significance of this occurrence.

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Fostering in mammals is generally known from domesticated animals but little is documented with respect to captive wild animals and very little is reported on shrews. Blus and Johnson (1969) report giving one week old *Mus musculus* to a foster female *Blarina brevicauda*. Two of the mice were killed almost immediately by their foster mothers and one survived for six days before dying. Churchfield (1990) reports *Sorex araneus* fostering three-day old *Crocidura suaveolens* until the foster mother died.

A litter of three healthy wild-bred *Crocidura f. flavescens* approximately 14 days old was introduced into the nest of a conspecific pair with a captive-bred litter of three, which were twelve days old. The foster young were marked with picric acid dissolved in alcohol in order to identify them. Initially the foster litter was aggressive towards the foster parents and their own litter but the aggression was not reciprocated by the adults or their offspring. The aggression was manifested through the sharp, high-pitched squeak which is characteristic of *C. flavescens* agonistic behaviour (Baxter and Meester 1982, Baxter and Irwin, in prep.) as well as through aggressive lunges at the adults. Two of the foster young died within 30 hours. Both bodies were found outside the nest and neither showed any sign of physical injury. As the three foster young appeared to be in good condition with sleek coats and strong locomotion before experiment, it is clear that they had been suckled by their wild parents. Consequently, it seems possible that they simply tried to escape from the strange nest and might have died from any of a variety of causes such as stress and lack of food. The third foster young was successfully raised as were the biological offspring.

Baxter (1977) reports that the conspicuous lateral glands of developing *C. flavescens* are clearly visible by day 6, a response to odour is present from day, 0

and that between days 24 and 29 adult-offspring aggression becomes apparent. The fact that the adults showed no aggression towards the foster litter possibly indicates that the scent glands are non-functional at two weeks of age. On the other hand, the fact that the foster young were aggressive towards the strange adults and their offspring, most probably indicates the introduced young were aware that the odour of the others was foreign. The onset of adult-offspring aggression in *C. flavescens* might be caused by the glandular regions of the young becoming functional and producing an odour foreign to that of the adults. Baxter and Meester (1982) and Baxter and Irwin (in prep.) report that adult *C. flavescens* are highly aggressive towards strange conspecifics and that scent marking plays an important role during aggressive encounters.

An attempt was also made to foster a litter of two newborn, but abandoned, *C. flavescens* young with a female *Crocidura h. hirta*, which had a litter nine days old. Similarly, a single abandoned newborn *C. flavescens* was given to a female *Myosorex varius* with a ten day old litter. In both these instances, the foster young had died within 24 hours and it was not clear whether they had been able to suckle at all, although the females did have milk and successfully raised their own litters. Once again, no aggression was shown by the foster mothers towards the introduced young.

Attempts were made at hand rearing abandoned newborn *C. flavescens* using a 1 ml syringe with capillary tubing attached to the needle, to feed a vitamin and glucose enriched milk mixture into the young's mouth. This was attempted with a litter of two, and two litters of one young. All attempts were unsuccessful, with no young surviving beyond 54 hours and most dying before 48 hours even though milk could be seen in their stomachs. The young were kept warm throughout by an incandescent light bulb placed close to their nest box.

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