

3.5: Mating of the ♂♂ obviously takes place within the mother nests. In the fall, 1981, we have observed several times the mating attempts of ♂♂ just after the colonies had been aspirated into the collecting vials. Mating attempts were also frequently seen in laboratory colonies when the nests were uncovered and the inhabitants exposed to light. However, these attempts were unsuccessful, and we never saw the actual mating behavior, neither in the field, nor in laboratory culture. The following data, nevertheless, prove that mating takes place within the nests.

Only a small fraction of the available ♀♀ have been dissected, since a considerable number of them was needed for colony foundation experiments. Dissections were carried out as described by Buschinger & Alloway [1978]. The following results were obtained:

- a) One colony from Krk, collected on 1981-09-24, contained 7 dealate ♀♀. All of them were newly inseminated, their ovarioles being short and without visible eggs or corpora lutea.
- b) One colony from Corsica, collected on 1982-03-28, contained 8 dealate ♀♀. Two of them were inseminated, and had medium-sized ovarioles containing corpora lutea (polygyny? – see discussion). Five ♀♀ were inseminated but had short and transparent ovarioles. One specimen was not properly dissected.
- c) After one breeding period in laboratory culture a total of 6 dealate and 1 alate ♀♀ were taken from three colonies which had been collected in 1982-03, in Corsica. All the females had hatched in the laboratory, and they had been staying within their mother nests, together with males, until they were dissected on 1982-08-27. The alate ♀ was not inseminated, and also were 3 of the dealate ♀♀. The remaining 3 dealate ♀♀ were inseminated and had short, transparent ovarioles, as those in the field samples a and b.

From these observations, and from the fact that numerous dealate ♀♀ are present in the colonies in fall (September/October in Yugoslavia), and still a few in spring (end of March, Corsica), we conclude that mating takes place within the mother nests, and that the fertilized young ♀♀ remain there over winter.

3.6: The colony foundation of *E. corsica* apparently begins in early spring. Whilst we did not find any recently founded colony during our collecting in fall, in Yugoslavia, and nearly all the colonies (37 out of 39) contained young ♂♂, we detected a number of incipient colonies in Corsica in spring. Among a total of 18 colonies which were collected in 1982-03-21/31, we have found:

- a) 2 colonies with 1 *Epimyrra* ♀, and 1 *Leptothorax exilis* ♀ each. In both cases the typical throttling behavior of the *Epimyrra* ♀♀ was observed, and the host colony ♀♀ died soon after.
- b) 1 colony with 2 *Epimyrra* ♀♀, 1 of which was seen throttling the *Leptothorax* ♀ of the colony. Another colony even contained 3 dealate *Epimyrra* ♀♀, and a paralyzed *Leptothorax* ♀. When dissected the 3 *Epimyrra* ♀♀ proved to be young, inseminated, but not yet egg-laying.
- c) 7 other colonies contained 1 dealate *Epimyrra* ♀ each. We did not check whether these ♀♀ were young or old ones.
- d) 4 colonies with 1 dealate *Epimyrra* ♀ each were apparently old colonies. When dissected, the ♀♀ proved to be inseminated, and the presence of corpora lutea in their long ovarioles indicated a previous egg-laying during the past summer season.
- e) 1 colony contained 2 old, fully fertile *Epimyrra* ♀♀, however, we are not sure whether this represented a truly polygynous colony or whether by chance 2 closely neighboring colonies had been aspirated together into 1 vial (see discussion).
- f) 1 colony contained one old, fertile *Epimyrra* ♀, and a dealate but not inseminated young ♀.
- g) In 1 colony with 8 dealate *Epimyrra* ♀♀, 5 were newly inseminated, and 2 were fertile,