

# 8 | Reproductive Physiology

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The reproductive processes of cimicids have been studied extensively in *C. lectularius* (Cragg 1920, 1923; Abraham 1934; Mellanby 1939a; Davis 1956, 1964, 1965a, 1965b); therefore, the details given here will be concerned primarily with that species. Jordan (1922) and Carayon (1959) have shown that differences in the reproductive system occur in other cimicids, particularly with regard to the location and structure of the spermalege. To a certain extent these differences appear to represent various levels in the evolution of the unique mode of insemination found in this group. *C. lectularius* may be considered to represent an intermediate level, and its reproductive biology is probably reasonably typical of that found in most cimicids.

## INSEMINATION

The details of insemination have already been discussed in Chapter 7, so only a few additional matters, particularly the timed sequence of events, need be mentioned here. As will be seen subsequently, the time that certain events occur has an important bearing on the control of egg maturation. To obtain consistent results, I (1964) have made observations on insemination and subsequent sperm migration, using controlled conditions and specimens of a known uniform nutritive and reproductive state and age. I have traced the migration of the spermatozoa to the sperm storage organs (seminal conceptacles) by direct observation through the cuticle, by dissections, and by histological sections made at various intervals after mating. Immediately after copulation the sperm mass may be seen in the living insect as an opaque area near the center of the more translucent mesospermalege. Gradually the mass becomes more diffuse and spreads outward, reaching the periphery of the spermalege about 2 hours after insemination. Within an hour thereafter the

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