3 | Bites

The act of biting involves the bed bug in a complicated series of reflexes, a definite behavior pattern, and an intimate reaction between parasite and host. Searching and biting behavior are discussed in Chapter 2. The mechanics of biting and the reactions of the host are treated here.

FEEDING

Dickerson and Lavoipierre (1959) devised an ear-chamber apparatus with which they could observe and photograph through the microscope the movements of the mouthparts of *C. lectularius* in the transparent tissues of the ear of a mouse. They also studied histological sections of mouthparts and host tissue by cutting off the proboscis during the act of biting. Their description of the feeding method follows:

"*The attitude of the bug on the skin of the host.* Before feeding . . . the bug swings its proboscis forward to an angle of 90° so that it comes to rest with the tip against the surface of the . . . skin. As probing commences, the insect grips the skin of the host with its tarsal claws and flexes its body, with the result that a 'hump' is produced at the thorax. The fascicle is then thrust in and out of the tissues while the bug describes a rocking motion; all the legs are used in the purchase for the forward thrust, the first pair being used mainly to enable the fascicle to be withdrawn from the tissues.

"Though the fascicle is driven into the skin, the labium does not enter the tissues, although it plays an important part in the act of feeding, its lip-like tips grasping the fascicle in a pincer-like grip and helping to steady it as it is thrust into the tissues. The mechanism whereby the fascicle is able to probe deeply into the host's tissues involves the shortening of the labium by a bending action at the more distal joints and by a slight telescoping of the proximal parts (Hase 1917, Kemper 1932). The shortening of the distance between the proximal and distal ends of the labium by this bending action enables the mandibles and maxillae to probe more deeply into the host's tissues, the bend in the labium governing the depth to which the fascicle can enter.