

7 | Traumatic Insemination and the Paragenital System

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Among the Cimicidae, insemination is never effected by the usual genital route. At the time of mating, the male punctures the body wall of the female with his copulatory organ and injects an abundance of sperm into her abdomen but outside of the usual reproductive tract. Insemination is thus "extragenital" and "traumatic," because it always begins with an integumental wound.

In direct correlation with this singular process, the female system possesses various more or less complex structural differentiations which together constitute the "paragenital system," which is absent among insects exhibiting normal insemination.

HISTORICAL ACCOUNT

The original studies were carried out at the end of the last century in the Laboratorio di Zoologia Generale e Agraria at Portici, Italy. Published in the "Rivista di Patologia Vegetale," a periodical one would scarcely expect to contain a subject of this kind, they remained unnoticed for many years. As a result, a number of researchers were unable to consult them directly.

The initial observations were made at the suggestion of Berlese by Ribaga who, by means of histological sections of *C. lectularius*, discovered a curious formation, peculiar to the female, situated on the right side of the abdomen between the fourth and fifth visible sterna.

In a note, Ribaga (1897) gave a detailed and precisely illustrated description of the entire structure. He indicated that it is composed of 2 connected organs, one external and integumentary, the other internal and composed of a "pocket of amoebocytes." But he did not understand the relationships of these organs and interpreted the cuticular part as a stridulating apparatus with which the females attracted the males.

In 2 reports published the following year, Berlese (1898) studied only