

sides of the body. There are at least two pairs of minute dorsal spines. One pair is situated one on each side of the third abdominal segment; another pair is situated one on each side of and anterior to the operculum. Each of these four spines arises from a minute papilla, which, however, in certain lights, appear like cylindrical cavities or pores. From a study of later instars, it seems possible that another still more minute pair of spines occurs on the cephalic region, but I have not thus far distinguished any such with certainty. The two pairs above located are not difficult to see with a one-sixth inch objective.

On the ventral side of the body the legs, antennæ and mouth-parts are well developed in this instar. Each leg (Fig. 3) consists of a coxa, trochanter, femur, tibia and tarsus. The entire length of the leg when straightened is about one-half the width of the body. The coxæ are short and stout, and near the base of each of the two posterior pairs on the inner side is a spine about twice as long as the diameter of the coxæ. Trochanters short, those of the anterior pair of legs are subcylindrical, about one-third as long as wide. Those of the two posterior pairs of legs appear to be hoof-shaped, and all six trochanters bear a short spine anteriorly. The femur is about twice as long as the coxa and trochanter together, subcylindrical in form, tapering toward its outer end. The tibia is a little longer than the femur, and more slender; in the two posterior pairs of legs, bearing on its outer side, near its base, a spine as long as the whole tibia itself. This extends obliquely outward, and is usually curved near its tip. Under high-power objectives and with favourable light the tibiæ are seen to bear a number of very minute spines. The tarsus is short and knobbed at the tip, with a stout curved spine one-half as long as that borne on the tibia, arising on the outer side near its base. Diagonal lines connecting the two anterior pairs of coxæ would intersect at about the centre of the base of a conical papilla—the rostrum—from an opening in the apex of which the mouth setæ protrude. The length of these setæ varies, but when bent backward they usually extend beyond the hind coxæ. In front of these mouth organs is a prostomial plate or shield, subovate in form, the broader end being anterior. It is truncate where it touches the base of the mouth papilla, slightly concave on the sides posteriorly, broadly rounded anteriorly, with two movable papillæ on the anterior margin, each of which bears a long spine, about equal in length to those on the coxæ of the two posterior pairs of legs. From the anterior two-thirds of this plate are separated two