

## THE FIRST INSTAR OF *WOHLFAHRTIA VIGIL* WALKER

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In the September number of this journal Dr. E. M. Walker (1920) published an account of the larval structure and habits of *Wohlfahrtia vigil*. As the first instar has not yet been described the following may be of interest:

On July 9, 1907, in Ithaca, N. Y., the writer captured a female specimen, which when placed in the cyanide bottle, immediately deposited several larvae on the side of the glass. The species is therefore larviparous, like other Sarcophagids. As the adult of this species has several striking characteristics, it was possible, even at that date, and before the appearance of Aldrich's monograph (1916) to determine it by means of the original description of Francis Walker (1849), under the name of *Sarcophaga vigil*. Though not common in Ithaca, I have taken a few specimens of the fly nearly every season since 1907, and always in a similar situation, that is, on a cement walk, in the bright sunshine, about midday, during June, July and August.

The larva of the first instar measures 2.3 mm. in length, by 0.4 mm. in width in the region of the fifth or sixth abdominal segment. The upper pair of tubercles (or antennae of Portchinsky) of the pseudo-cephalon, are well defined,  $30\mu$  in length, two-segmented, the first segment about as long as broad, the second somewhat longer than broad, and conical. The mandibular hooks are slender, sharply pointed, and much curved, though less so than those figured for *Wohlfahrtia magnifica* Schiner by Portchinsky (1884). He states that in the first instar of the last mentioned species there is a large median hook placed a little higher than the laterals. In *W. vigil* there is no indication of this median hook. As it is scarcely conceivable that so experienced an observer as Portchinsky should mistake a portion of the pharyngeal skeleton for a median hook, we must conclude that *W. magnifica* differs from the American species in this particular. As in the first instar of the house fly larva the anterior spiracular processes are lacking. The posterior spiracles are in a pit and each has two slits which lie parallel to each other, approximately perpendicular to the horizontal plane, supposing the larva to be lying ventral side down in a horizontal position. The spinules on the body are rather larger and more numerous than indicated by Walker (1920) for the second and third instars, though less widely distributed than described by Portchinsky (1875) for *W. magnifica*. In my specimens the anterior third of the second



segment, and the anterior fourth of the third, fourth and fifth segments are each provided with a uniform spinule band. On the succeeding segments the bands occupy about one-fourth the width of a segment, are placed over the incisures and all are more or less interrupted by clear, transverse areas, corresponding to the folding at the incisures. The incisure cuts the fifth segment near its anterior margin, but the bands at the posterior end of the body are cut by the incisures nearer their middle. The clear areas are more numerous in the posterior bands, but their arrangement does not appear to be significant since this differs in distribution in different specimens. The spinules in the bands at the cephalic end are somewhat larger than those in the posterior bands.

The first instar, on the whole, is therefore more distinctly spinose than the second or third, as illustrated by Dr. Walker, for this species, but is less spinose than the European species described and figured by Portchinsky.

## REFERENCES

- Aldrich, J. M. 1916.—*Sarcophaga* and its Allies in North America. The Thomas Say Foundation.
- Portchinsky, J. 1875.—Krankheiten, welche im Mohilew'schen Gouvernement von den Larven des *S. Wohlfahrti* entstehen, und deren Biologie. Horae Soc. Ent. Ross., 11: 122.
- 1884.—*Sarcophila wohlfahrti*. Horae Soc. Ent. Ross., 18: 247.
- Walker, E. M. 1920.—*Wohlfahrtia vigil* (Walker) as a human parasite. Jour. Parasitol., 7: 1.
- Walker, Francis. 1849.—List of the Dipterous Insects. See *Sarcophaga vigil*, part 4, page 831.





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