

## DESCRIPTION OF THE FIFTH INSTAR OF *EPIPTERA OPACA* (HOMOPTERA: FULGOROIDEA: ACHILIDAE)

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*Epiptera opaca* (Say) ranges from Quebec south to Georgia and west to Ontario and Mississippi; it has also been recorded from British Columbia (Beirne 1950, Wilson and McPherson 1980). This achilid has been associated with pines (Hepburn 1967); otherwise no information on the biology of this species is available. Based on observations of *E. fusca* (Walker), Hepburn (1967) noted that the immature stages of all species of *Epiptera* probably live beneath the loose bark of dead trees, presumably feeding on fungal hyphae.

The immatures of *E. opaca* have never been described. Fennah (1950) illustrated a fifth instar nymph of *E. fusca* but provided no description; Osborn (1922) illustrated and briefly described the fifth instar nymph of *E. slosoni* (Van Duzee); and Linnavuori (1951) illustrated and described the fifth instar nymphs of two species of *Cixidia*. To my knowledge, there are no other published descriptions or illustrations of immature Achilidae.

The following description is based on two nymphal *E. opaca* collected with four adult males in a sawdust pile in southern Illinois. The collecting data for the specimens are: Oblong, Illinois, 4 August 1958, G. T. Riegel collector, in sawdust pile.

### DESCRIPTION OF FIFTH INSTAR

Measurements of the pinned nymphs were made with an ocular micrometer. Body length was measured from the tip of the vertex to the tip of the abdomen; width was measured across the widest part of the body; thoracic length was measured along the midline from the anterior margin of the pronotum to the posterior margin of the metanotum.

Fifth instar (Fig. 1). Length 7.01–7.05 mm; thoracic length 2.35–2.45 mm; width 3.50–3.51 mm.

Form elongate, dorsoventrally flattened, widest across mesonotal wingpads. Body dark brown with yellowish markings.

Head dark brown, yellow medially on vertex. Vertex subquadrate, narrowing apically, anterior corners rounded, weakly carinate anterior and lateral margins. Frons subrectangular, narrowing slightly apically, slightly longer than wide, broadest just beneath eyes, lateral margins subparallel to slightly convex, each lateral margin carinate (outer carina) with an irregular inner carina present in anterior half on each side ca. 2/3 the distance from midline to lateral carina; notched medially at frontoclypeal juncture; with two irregular rows of pits between inner and outer carinae. Clypeus narrowing distally, consisting of a subconical, basal postclypeus and an elongate, subconical distal anteclypeus. Beak apparently 3-segmented, extending to 3rd abdominal sternite; segment 1 covered by anteclypeus, segment 2 ca. 1½–2 times length of 3. Eyes dark reddish-brown, somewhat reduced. Antennae with scape reduced, ring-like; pedicel lacking sensoria, ca. 3 times length of scape; distal flagellum whip-like with base bulbous.

Thoracic nota with a longitudinal, median carina, dark-brown with yellowish markings; divided by a longitudinal mid-dorsal line into three pairs of plates. Pronotum with anterior margin broadly rounded, posterior margin slightly sinuate; each plate subtriangular, with an oblique longitudinal carina in median 1/2 extending from anterior margin almost to posterior margin and bordered medially and posteriorly by a row of six pits; with a slightly sinuate

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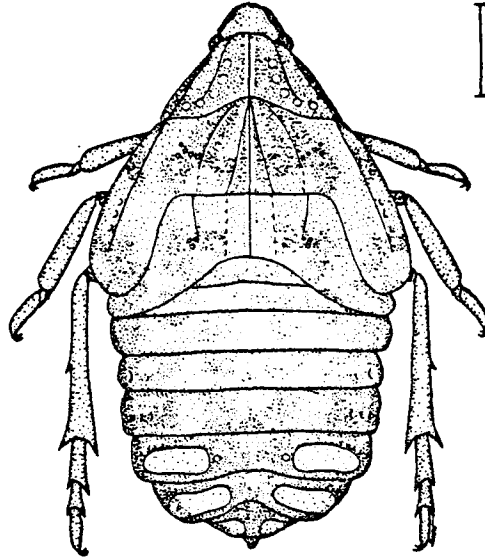


Fig. 1. Fifth instar of *E. opaca*. Vertical bar = 1.0 mm.

oblique longitudinal carina in lateral 1/3 extending from near anterior margin to posterior margin and bordered by a row of indistinct pits laterally. Mesonotum with median length ca. 2 times that of pronotum; each plate with a weak longitudinal oblique carina near midline, with a slightly convex longitudinal carina in median 1/3, and a weak longitudinal oblique carina in lateral 1/3; with a row of four pits just lateral to convex carina and several indistinct pits median and lateral to lateralmost carina; wingpad extending almost to tip of metanotal wingpad. Metanotum with median length ca. 2/3 that of mesonotum; each plate with a slightly convex longitudinal carina in median 1/3; wingpad extending to 3rd abdominal tergite. Pro- and mesocoxae elongate, dorsoventrally flattened; metacoxae smaller, hidden behind enlarged cup-like trochanters; remaining segments of legs bearing short setae. Metatibia with one black-tipped spine in distal 1/2 of shaft and a row of seven black-tipped spines at apex. Pro- and mesotarsi 2-segmented, segment 1 wedge-shaped, segment 2 subconical and curved with a pair of slender brown claws and pale pulvillus apically. Metatarsi 3-segmented, segments 1 and 2 each bearing an apical row of seven black-tipped spines ventrally, segment 3 similar to segment 2 of other legs.

Abdomen 9-segmented. Tergites 4-9 each with a row of indistinct pits laterally on either side; tergites 6-8 each with a large yellowish dorsal ovoid waxpad on either side, wax pads occupying from ca. 1/2 area of tergite to almost all of tergite; tergites 5-9 each with a pit on either side in median 1/3. Segment 9 with tergite curving around ventral sides, surrounding anus.

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