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THE LARVA OF *HOMORTHODES FURFURATA* (GRT.) (NOCTUIDAE)

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ABSTRACT. The mature larva of *Homorthodes furfurata* (Grt.) is described and illustrated.

Homorthodes furfurata (Hadeninae) was described by A. R. Grote in 1874 based on material collected at Albany, New York. To date, nothing has been published on the immature stages of this species. Crumb (1956) described the larva of what he thought was *H. furfurata* based on an incorrect determination of the adults by Benjamin. As shown by Godfrey (1972), Crumb's determination actually applied to the closely related western species *H. uniformis* (Smith). Rockburne and Lafontaine (1976) gave maple (*Acer* sp.) as the host plant.

H. furfurata occurs from Nova Scotia (Ferguson, 1954), Maine, Quebec and Ontario, south to Massachusetts, and central New York state (Forbes, 1954). A female *H. furfurata* was collected at an ultraviolet light on 29 July 1978, 2.5 km south of Tomahawk Lake, Halifax County, Nova Scotia, and over the next week laid 10 eggs in a holding container.

The first instar larvae were confined with both living and dead leaves of maple, oak (*Quercus* sp.), cherry (*Prunus* sp.), *Osmaronia* sp., and *Taraxacum officinale* Weber as well as an artificial diet based on that of Hinks and Byers (1976). The larvae accepted only living *Taraxacum officinale* leaves but grew slowly with only two reaching maturity. Both larvae pupated by 10 October due to the constant conditions of laboratory rearing. Neither pupa survived the winter. *H. furfurata* overwinters as a larva with adults emerging the following July and August.

This paper describes the mature larva of *H. furfurata*. All illustrations were drawn to scale using a camera lucida and stereomicroscope. The terminology and abbreviations used follow Godfrey (1972).

Homorthodes furfurata (Grote)

General. Head: integument with minute granules; width 8.0 mm. Total length 25.8 mm. Body: integument with minute granules; Ab7–8 distinctly swollen; tapering cephalad. Prolegs present on Ab3–6, size increasing posteriorly; those on Ab3 slightly more than ½ the size of those on Ab6. Crochets uniordinal, 23–25 per third abdominal proleg, 25–29 per fourth, 28–34 per fifth, 33–37 per sixth. All setae simple.

Coloration (living material). Head (Fig. 3): blackish brown with a few black coronal freckles. Body (Figs. 1, 2): blackish, paler on ventral surface. Middorsal and subdorsal lines, whitish, narrow and broken, reduced to a series of dashes. Dorsal and subdorsal setal bases whitish. Spiracles dark orange-brown with black peritremes. Lateral shield of

FIGS. 1 & 2. *Homorthodes furfurata,* larva: **1,** lateral view; **2,** dorsal view (×5.5).

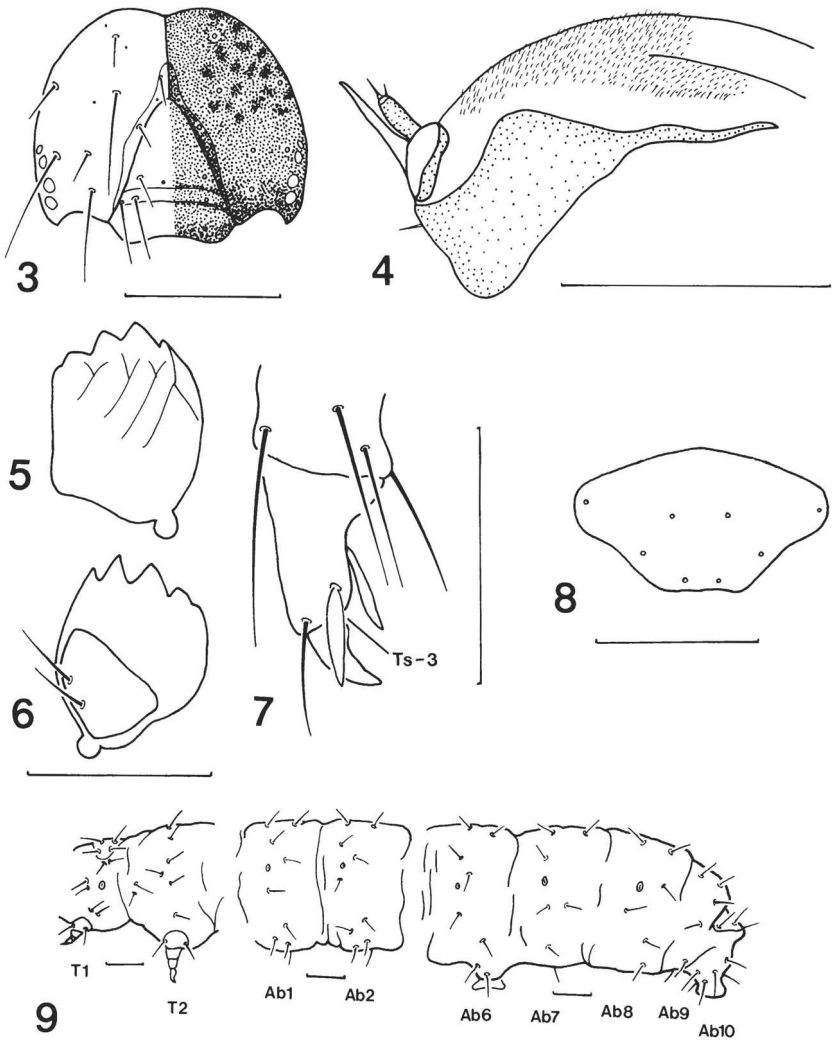
prolegs brownish black. Prothoracic shield orange-brown with lateral and posterior margins black.

Head (Fig. 3). Epicranial suture 0.45 mm long; height of frons (apex to Fa's) 0.49 mm; distance from F1 to anterior edge of clypeus 0.37 mm; interspace between F1–F1 0.23–0.25 mm; AFa anterior and AF2 posterior to apex of frons; A1–A3 forming an obtuse angle at A2; P1–P1 0.62–0.63 mm; P2–P2 0.64–0.65 mm. Distance from P1 to epicranial suture about ⅔ that from P1-L; L cephalad of juncture of adfrontal ecdysial lines. Ocellar spacing: Oc1–Oc2 0.053–0.058 mm; Oc2–Oc3 0.034–0.039 mm; Oc3–Oc4 0.029–0.034 mm.

Mouthparts. Identical to those of *H. uniformis*. Hypopharyngeal complex (Fig. 4): spinneret very thin, transparent, tapering distally, about 1.5 times the length of Lps1; Lp2 and about ½ the length of Lps1; stipular setae slightly more than ½ the length of Lps1, slightly less than twice the length of Lp1, about equal to Lp2; Lps2 about ½ the length of Lp1; distal and proximal regions of hypopharynx continuous, no medial transverse cleft present; distal and proximolateral regions of hypopharynx covered with small fine spines, spines becoming slightly longer proximally. Mandible (Figs. 5, 6): two well-separated outer setae present; inner surface with distinct ridges; lacking inner tooth; with six outer teeth, the sixth rounded and indistinct, the first five angular and well developed; outer margins of all teeth lacking serrations.

Thorax. Segment T1 (Fig. 9): prothoracic shield heavily sclerotized; SD1 and SD2 setal insertions separated from the edge of the prothoracic shield; interspace D1–D1 about 0.82 XD1–SD1; D2–SD2 about 1.57 SD2–XD2; seta L2 present, much finer than L1; spiracle elliptical, 0.19–0.20 mm high, 0.112–0.117 mm wide; peritreme wider laterally. T2 (Fig. 5): D1–D2 about 0.82 D2–SD2; all setae thin and hairlike, tapering and sharply pointed distally; coxal bases widely separated. T3: Ts3 spatulate (Fig. 9), not tapering distally as in *H. uniformis*.

Abdomen. Dorsal and lateral chaetotaxy of Ab1–10 as in Fig. 9. Ab1 with 2 SV setae, Ab2–6 with 3 SV setae, Ab7–8 with 1. Ab9: SD1 much finer and hairlike than D1 and D2. Ab10: anal shield as in Fig. 8. Dorsal margin convex, posterior margin entire. Length of D1 on Ab6–7 0.240–0.245 mm; D2 0.26–0.27 mm. Asp 7 0.12–0.13 mm high, 0.09 mm wide; Asp8 0.325–0.328 mm high, 0.15 mm wide.



FIGS. 3–9. *Homorthodes furfurata*, larval structures: **3,** head capsule, frontal view; **4,** hypopharyngeal complex, left lateral view; **5,** left mandible, oral surface; **6,** left mandible, outer surface; **7,** left mesothoracic tibia and tarsus; **8,** anal shield, dorsal view; **9,** dorsolateral chaetotaxy of prothoracic (T1), mesothoracic (T2), and abdominal segments (Ab1–2, Ab6–10). Scale lines equal 1.0 mm.

Material examined. 2 specimens: 2.5 km south of Tomahawk Lake, Halifax Co., Nova Scotia. Reared on *Taraxacum officinale* Weber from ova obtained from a female on 29 July 1978. Larvae pupated 8–10 October 1978. Moth collected, determined, and larvae reared by K. A. Neil.

Remarks. The larvae of *H. furfurata* and *H. uniformis* are very similar and based

on the figures of *H. uniformis* given by Godfrey (1972), cannot be separated using head capsule and mouthpart structures. The spatulate Ts3 (Fig. 9) can be used to differentiate *H. furfurata* from *H. uniformis*, the latter having simple hairlike tarsal setae. *Homorthodes lindseyi* (Benjamin) has Ts3 spatulate, but can easily be separated from *H. furfurata* by the shorter tarsal setae, mandibular, and hypopharyngeal complex differences.

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