

## Identification of *Hexagenia bilineata* and *H. limbata* Nymphs<sup>1</sup>

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Several thousand *Hexagenia* naiads were collected from Pool 19 of the Mississippi River (above Keokuk, Iowa) from 1957-63 (Fremling, 1960; Carlson, 1963; Wenke, 1965). Subimagoes and imagoes were readily identified as *H. bilineata* and *H. limbata*, but difficulty was encountered in separating the nymphs. Differences in the shape of the frontal process, described in keys by Burks (1953) and Hamilton (1959), were not consistent in these populations. Intermediate forms were abundant. Pigment patterns described by Speith (1941) were of little help with the alcohol-preserved specimens.

Differences in the tarsal claws (Figs. 1 and 2) gave good separation of the nymphs over 16 mm in length (tip of frontal process to end of last abdominal segment). Claws were also swollen on some *H. bilineata* naiads under 16 mm but this length seemed the smallest that could be used with confidence. Burks (1953) mentions the midtarsal claw of *H. bilineata* nymphs as being thick near tip but does not describe the claws of *H. limbata*.

Maximum length of *H. bilineata* female nymphs was 34 mm and of males, 30 mm, compared to 30 mm and 28 mm for *H. limbata* females and males. The caudal filament is about the same length as the cerci in male *H. limbata* nymphs but is shorter in male *H. bilineata* nymphs, as pointed out by Fremling (1960). In addition, at equal lengths, male *H. bilineata* nymphs had larger eyes than male *H. limbata*.

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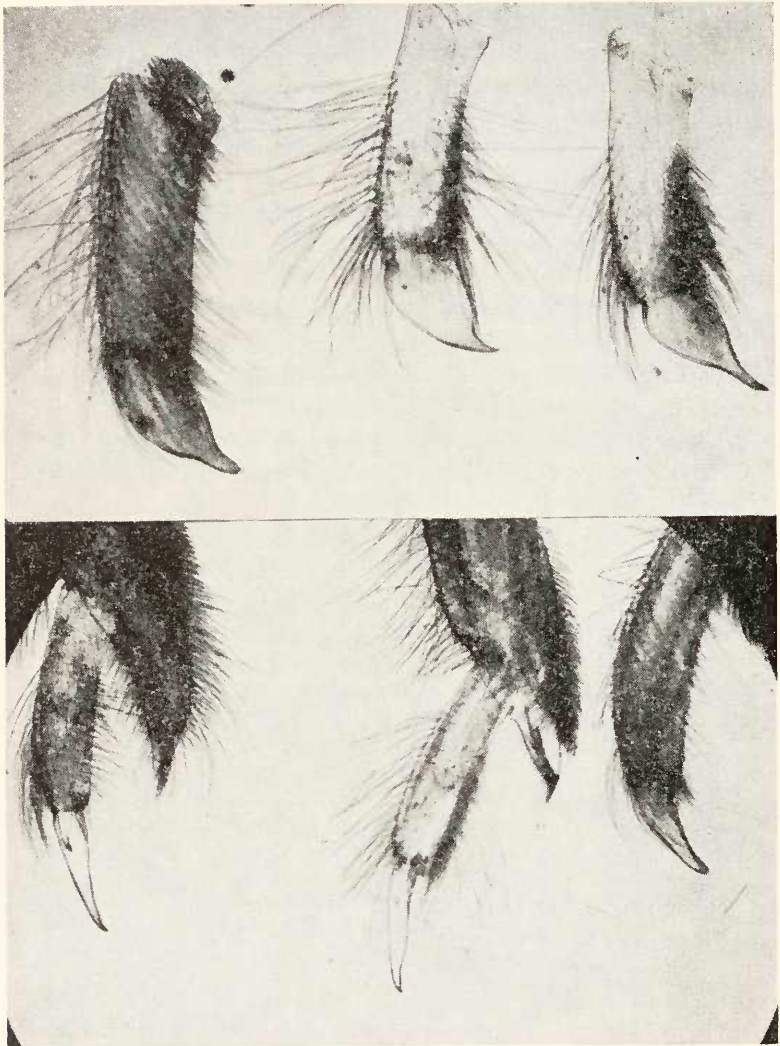


FIG. 1. (Upper). Tarsal claws of *Hexagenia bilineata* nymph, from front to hind legs (right to left).

FIG. 2. (Lower). Tarsal claws of *Hexagenia limbata* nymph, from front to hind legs.

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## A New Species of Carabodes from Jamaica (Acari: Cryptostigmata)\*

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When Sellnick and Forsslund (1953) published their paper on Swedish species of *Carabodes*, they reviewed rather extensively the characters of the genus and the taxonomy of several species. Since that time a number of species have been described.

In a series of oribatid mites sent to the writer for identification was an unusual species of the genus. After checking the literature it was determined as a new species and is described below.

### *Carabodes jamaicensis*, n. sp. (Figs. 1, 2)

*Diagnosis*: With characters of the genus, but distinctly different from other known species in the presence of a finely spined, clavate sensillus, and heavy, spined, clavate prodorsal and notogastral setae. The sensillus is similar to *C. labyrinthicus*

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