

HELEIDOMERMIS SP. (NEMATODA: MERMITHIDAE) INFECTING CULICOIDES VARIIPPENNIS (DIPTERA: CERATOPOGONIDAE) IN ALABAMA

LAWRENCE J. HRIBAR AND C. STEVEN MURPHREE

Department of Entomology, Alabama Agricultural Experiment Station, Auburn University, AL 36849

On May 6, 1985 a number of *Culicoides variipennis* (Coquillett) larvae were collected from mud beside a watering trough in a horse pen at Auburn, Alabama. The larvae were held in water for several days then preserved in 80% isopropanol. Subsequent examination revealed nematodes extruding from the anus of several larvae. Some nematodes appeared to have penetrated the abdominal body wall.

Adult male and female nematodes were sent to taxonomists for identification. There is some question as to the species to which these nematodes belong. They have been identified as *Heleidomermis vivipara* Rubtsov, but may actually belong to a new species of *Heleidomermis* recently described from California to which the nematodes collected by Mullens and Rutz (1982) in New York are now considered to belong (Poinar and Mullens, in press). Average length of females was 14.8 mm (range = 12.2–16.0, n = 6), and average length of males was 5.9 mm (range = 4.2–6.7, n = 7). Females were larger than *H. magnapapula* (as *H. vivipara*) collected by Mullens and Rutz (1982) ($t = 3.65$, $P < 0.01$), but males were not different in size ($t = 0.22$, $P > 0.01$) when our measurements were compared to their published values.

Eighty-four *C. variipennis* larvae were dissected. Parasitism of larvae was 51%. Mullens and Rutz (1982) found the average parasitism by *Heleidomermis* to be 7.1% and 9.8% at two different sites in New York, however, parasitism in individual collections ranged as high as 54%. Gafurov and Saidalieva (1984) reported parasitism by *H. vivipara* ranging from 20 to 35% at two different sites in the USSR.

Heleidomermis vivipara has been collected from the Karelian ASSR, Tadjik SSR, and Uzbek SSR in the USSR, where it parasitizes both larvae and adults of the following *Culicoides* species: *C. circumscriptus* Kieffer (Gafu-

rov and Saidalieva 1984, Saidalieva 1985), *C. desertorum* Gutsevich (Saidalieva 1985), *C. nubeculosus* Meigen (Glukhova 1967, Rubtsov 1974), *C. puncticollis* (Becker) (Glukhova 1967, Gafurov and Saidalieva 1984, Rubtsov 1974, Saidalieva 1985), *C. salinarius* Kieffer (Gafurov and Saidalieva 1984), and *C. stigma* (Meigen) (Glukhova 1967, Rubtsov 1974). In New York and Virginia, *H. magnapapula* parasitizes larvae of *C. variipennis* (Mullens and Rutz 1982).

This record of *Heleidomermis* from Alabama represents a range extension far to the south of previously collected specimens. Voucher specimens of *Heleidomermis* sp. have been placed in the Auburn University Entomological Collection.

REFERENCES CITED

- Gafurov, A. K. and K. U. Saidalieva. 1984. Contribution to the study of *Heleidomermis vivipara* Rubtsov 1970 (Nematoda, Mermithidae)—a parasite of midges (Diptera; Ceratopogonidae) (In Russian, Tadjik summary). *Izv. Akad. Nauk Tadjh. SSR.* 2:29–32.
- Glukhova, V. M. 1967. On parasitism in bloodsucking midges (Diptera: Ceratopogonidae) by nematodes of the superfamily Mermithoidea (In Russian). *Parazitologiya* 1:519–520.
- Mullens, B. A. and D. A. Rutz. 1982. Mermithid parasitism in *Culicoides variipennis* (Diptera: Ceratopogonidae) in New York State. *Mosq. News* 42: 231–235.
- Poinar, G. O., Jr. and B. A. Mullens. *Heleidomermis magnapapula* n.sp. (Mermithidae: Nematoda) parasitizing *Culicoides variipennis* (Ceratopogonidae: Diptera) in California. *Rev. Nematol.* (In press).
- Rubtsov, I. A. 1974. Aquatic Mermithidae of the fauna of the USSR. Vol. 2. *Acad. Sci. USSR Zool. Inst. Amerind Publ. Co., New Delhi.* 274 pp.
- Saidalieva, K. U. 1985. The finding of nematodes of the superfamily Mermithoidea in bloodsucking midges of Uzbekistan (In Russian). *Uzbek. Biol. Zh.* 1:43–45.