SEVERED MALE ABDOMENS IN TANDEM WITH FEMALE *NEHALENNIA GRACILIS* MORSE (ZYGOPTERA: COENAGRIONIDAE)

During a study of mating isolation in two, sympatric species of *Nehalennia* occupying a black spruce-sphagnum bog near Sherbrooke, Quebec, Canada I noted nine instances of female *N. gracilis* linked in tandem with only the abdomen of a male *N. gracilis*. While I do not know how the head and thorax of each male came to be missing, I suspect predation since on two occasions I observed a female *Ischnura verticalis* (Say) eating the male of a captured tandem pair of *N. gracilis*. In both cases the predatory female had begun at the head and neither male released its mate from the grip of its abdominal appendages in an attempt to escape.

Female *N. gracilis* in tandem with severed

male abdomens may have these body parts attached for a long time since the abdomens remained secured to the female's mesostigmal laminae the process of netting the pair, soaking them in acetone for 24 hours and storing in cellophane envelopes. The automatic, and continued, attachment by the anal appendages of severed male abdomens to the female's mesostigmal laminae after the male's head has been eaten is reminiscent of the widely-used technique for inducing mating in mosquitoes. This involves removing the male's head and manually bringing the genitalia of both sexes in apposition. The abdominal ganglion controlling copulation in the male automatically induces the copulatory response when the genitalia come in contact and cannot now be overridden by nervous control from the brain.

Tandem pairs involving male abdominal remains are probably infrequent since only nine out of 3491, normal tandem pairs were seen during a total observation period of 36 hours, 35 minutes spread over 15 days from 6 July to 4 August 1980.

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