Nematodes associated with a species of bark beetle, *Dryocoetes uniseriatus* Eggers (Coleoptera: Scolytidae)

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The nematode community associated with wood boring coleopteran insects (weevils, bark beetles, ambrosia beetles and longhorn beetles) has been studied extensively in European and North American forests, because these nematodes are practically important as forest pathogens and as potential biological control agents. However, in the East Asian countries including Japan, any large-scaled systematic survey of insect associated nematodes has not been conducted so far. In the present study, we conducted a field survey of the nematodes associated with a species of bark beetle, *Dryocoetes uniseriatus* as a part of forest biodiversity survey project. The insects were collected from an experimental forest station in Ibaraki, Japan during April to July, 2011. Sixty eight % of the insects were associated with at least one species of nematode, and six species of nematodes including two phoretic associates (*Bursaphelenchus rainulfi* and *Micoletzkya* sp.), one insect parasite / nematode predator (*Deviburs*aphelenchus cf. *eproctatus*), two insect parasites (*Contortylenchus* sp. and unidentified rhabditid parasite) and one potentially insect parasite / fungal feeder (*B. sinensis*) were recovered from the beetles. *De.* cf. *eproctatus* were enclosed in 'nematangia', a cuticular sheath-like tissue formed on the back side of elytra; *B. rainulfi* was isolated from the backside of elytra or enclosed in 'nematangia' together with *De.* cf. *eproctatus*; *Micoletzkya* sp. was isolated from under the elytra (back side of the insect); *Contortylenchus* sp. and rhabditid parasite were isolated from the body cavity; and *B. sinensis* was isolated from the digestive tract of the insect. The association pattern of each nematode species showed seasonal differences, but the interaction among these nematodes, i.e., habitat segregation, competition, etc., were not clearly detected.

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