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A preliminary evaluation of potential predatory activity of *Cyphoderus* spp. (Collembola: Cyphoderidae) on root-knot nematode *Meloidogyne incognita*

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Potential predatory activity of the Collembolan *Cyphoderus* spp. on the infestation of roots by root-knot nematode, *Meloidogyne incognita* was determined experimentally using spinach and tomato plants. Adult Collembolans (n=100) were added to three-week-old plants grown in plastic pots. The plants which did not receive Collembolans served as untreated controls. One week later, all the plants were inoculated with 500 infective juveniles of *M. incognita*. Sixty days after inoculation of nematodes, shoot height and weight, root length, number of galls and egg masses per root system as well as number of Collembolans from 100 cm^3 soil was recorded. There were five replications, and the experiments were arranged in complete randomized design in a screen house. Significant increase (P<0.05) in shoot height and weight, and root length was detected in both plant species grown with *Cyphoderus* spp. Compared to controls, spinach had 40% while tomato had 37% increase in root length. Number of galls and egg masses per root system was significantly lower (P<0.05) in both plant species when grown with *Cyphoderus* spp. compared to controls. Number of *Cyphoderus* spp. recovered from the soil was 27.60 ± 1.50 and 79 ± 5.36 in spinach and tomato respectively. These findings showed that *Cyphoderus* spp. reduced the root infestation caused by *M. incognita* which in turn promoted growth of the plants. The increase in the root length was associated with a reduced gall formation leading to increase in the shoot growth. The reduced infestation by *M. incognita* was most probably due to the predatory activity of *Cyphoderus* spp. on infective juveniles in the soil. Thus, there is a potential to use *Cyphoderus* spp. as a biological control agent in control programs of *M. incognita*.

Keywords: Collembolans, predation, root-knot nematodes

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