

## Distribution of Entomopathogenic Nematodes in Soils of South Korea

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Entomopathogenic nematode is one of the most important biological control agents in integrated pest management. Compared to chemical pesticides, entomopathogenic nematodes have generally been considered environmentally safe and risk-free. However, pathogenic efficiency of entomopathogenic nematodes make difference in environmental factors of the field. Therefore, we study that entomopathogenic nematode is isolated from various biotopes in South Korea. The methods of collection of soil samples within 10 depth after eliminating the dried part of surface and use silkworm trap provided the high detectability of entomopathogenic nematode. The 25 entomopathogenic nematode strains is selected among 100 soil samples. The host-finding ability of 25 nematode strains is strong, voluntary pursued target hosts investigated, most of them are considered as facultative parasitic or facultative saprophytic. The 25 entomopathogenic nematode strains could be classified six group by morphological criteria, the major nematode strains have a bursa with characteristic pharynx. The large number of 25 strains is belong to Rhabditida, only five strains includes nematode strains. Among the Rhabditida 4 family, 19 strains of Rhabditidae, 2 strains of Steinernematidae, 2 stains of Heterorhabditidae, and 2 strains of Diplogatroidae is identified. The major group of Rhabditidae includes two subgroup according to the similarity coefficient calculated from randomly amplified polymorphic DNA (RAPD). The classification by RAPD is agree with those of morphological taxa in discrimination of the larger group, however, genetic relationship is not completely agree with each other. The family Steinernematidae belong to Rhabditida is clarified rather than the other Rhabditida of Heterorhabditidae, Rhabditidae, and Diplogatroidae in genetic distance valule. From the result of the morphological classification and RAPD of the genomic DAN showed that genetic relationship analysis furnish information on phylogentic classification and relationship. The methods of the molecular genetic secured the simplicity, rapidity and accuracy on the selection, reproduction, storage and consevation of entomopathogenic nematodes needed for basic study of life science and applied research of biological pest management.