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A new species of the genus *Malenchus* (Nematoda; Tylenchidae) from the rhizosphere of forest trees in northern Iran

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Statement of the Problem: According to available reports, the family *Tylenchidae* shapes up to 30 percent of nematode community in soil samples. From the ecological aspects, they could be used as soil bioindicator markers; however, some taxa are plant parasites. On the other hand, study of any plant associated or parasite taxon needs at first, its correct identification. Nowadays, molecular phylogenetic studies of plant related nematodes, in addition to classic methods, help reliable species identification. In these circumstances, members of the family *Tylenchidae* with conserved morphology of most genera, is of much importance. In recent studies, evidences of cryptic species are also reported. The genus *Malenchus* in the family *Tylenchidae* is one of the genera with conserved morphology. In this study, a population of this genus was recovered in association with forest trees in forests of northern regions of Iran and studied in detail.

Methodology & Theoretical Orientation: After sampling, nematodes were extracted, fixed and slides were made and studied. For molecular studies, two genomic regions of *Malenchus* sp. were sequenced and molecular phylogenetic studies were performed.

Findings: A population of the genus *Malenchus* was recovered from rhizosphere of forest trees during this study. Detailed morphological studies revealed it is much close to a known species of the genus; however, differences were observed in the median bulb and its valve and lateral band characters. Complementary studies using molecular markers (partial sequences of LSU and SSU rDNA) revealed the recovered population belongs to an unknown species, new to science.

Conclusion & Significance: The observed differences between the new and its closest species were confirmed with molecular phylogenetic studies and the new species occupied a distinct separate position in two LSU and SSU phylogenetic trees. This is the first species of the genus originally described from Iran.

Biography

Majid Pedram is an Assistant Professor on Plant Nematology (taxonomy) in Tarbiat Modares University, Iran. He has his expertise in Molecular Taxonomy of plant parasites/associated nematodes. His studies on occurring of plant parasitic nematodes have yielded in increasing of our knowledge on occurring of plant parasitic Nematoda species in agricultural and natural regions of Iran, especially economically important forests in northern regions of the country. Most of his recovered new species of plant parasitic nematodes are published in several specialized Plant Pathology or Nematology or Zoology journals.

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