Special Issue

Integrative Taxonomy, Molecular Diagnosis and Phylogenetic Relationships of Plant-Parasitic Nematodes

Message from the Guest Editors

Unravelling the diversity of PPNs infesting soils from an agricultural ecosystem is an essential task. Species discrimination in nematodes has classically been based mainly on morphology and morphometrics of diagnostic features. However, morphologically based species characterization is complicated by a high degree of intraspecific variability within morphometrics, as well as small interspecific differences that lead to substantial overlapping among species and increase the risk of species misidentification. For this reason, it is essential to implement approaches to ensure accurate species identification. Sequences of nuclear rDNA and mtDNA genes have proven to be a powerful tool for providing accurate and molecular species identification. Their close morphological similarities are usually not associated with their ecological traits or association with plant resistance or vectoring of plant viruses. This demonstrates the importance of using integrative taxonomic identification. Although this approach is more complex than traditional taxonomy, its application reduces the degree of subjectivity that is common in traditional taxonomic practices.

Guest Editors

Dr. Antonio Archidona-Yuste

Andalusian Institute of Agricultural and Fisheries Research and Training (IFAPA), Córdoba, Spain

Dr. Francesca De Luca

1. Institute for Sustainability Plant Protection, Bari, Italy
2. National Research Council of Italy, Rome, Italy

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Plants
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
plants@mdpi.com

mdpi.com/journal/plants

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Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

Prof. Dr. Dilantha Fernando
Department of Plant Science, University of Manitoba, Winnipeg, MB R3T 2N2, Canada

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