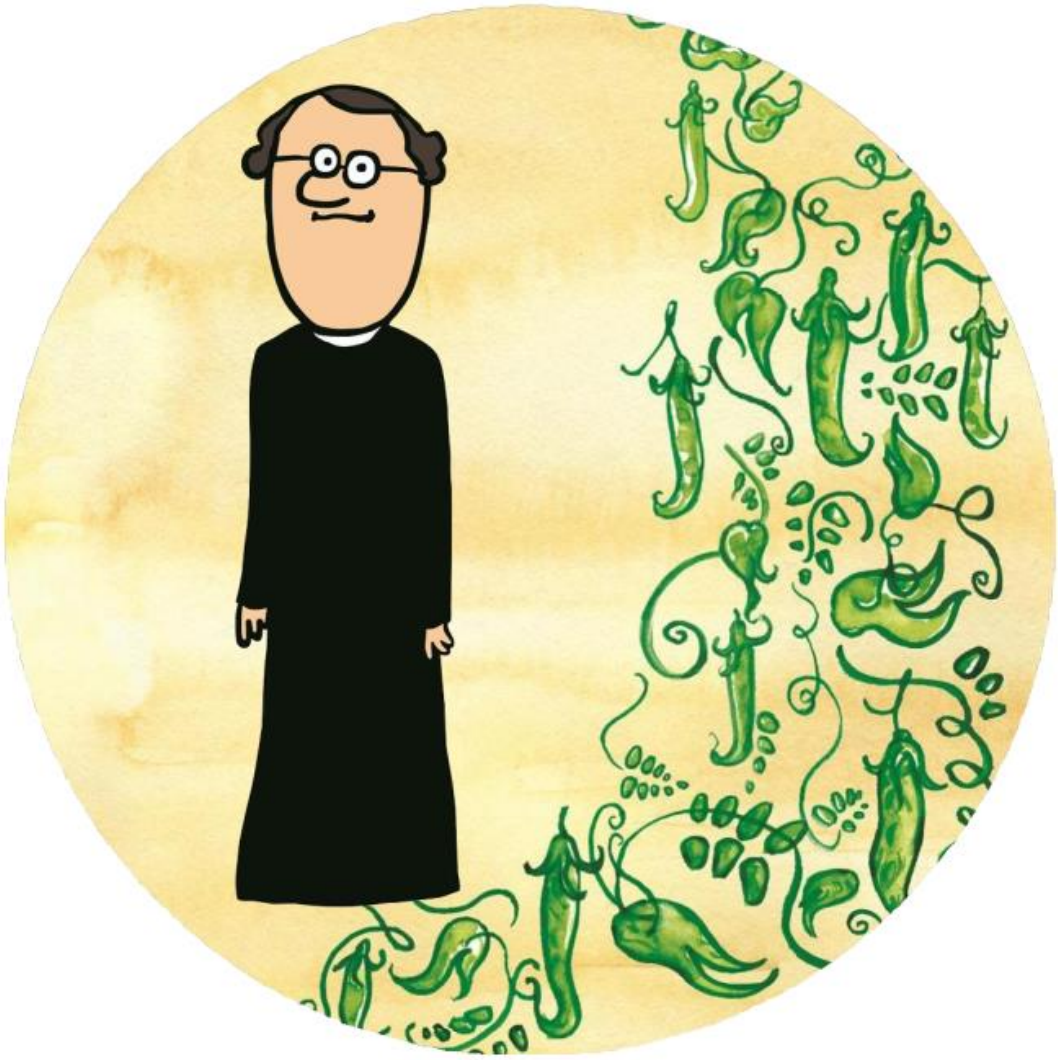
22nd - 25th August 2022



21st Annual Meeting of the Oomycete Molecular Genetics Network

Program and Abstracts

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Oomycete biology, pathology and ecology

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PhytOphthora Research Centre

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Faculty of Forestry
and Wood
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Session 6 - Diversity, Taxonomy and Population Studies I

Oral Presentation 6.3.

Diversity and ecological roles of *Halophytophthora/Phytophthora* species in marine and estuarine ecosystems at the Algarve coast of Portugal

Cristiana Maia[1], Marília Horta Jung[2,3], Aschwin Engelen[1], Giuseppe Carella[4], Ivan Milenković[2], Josef Janoušek[2], Michal Tomšovský[2], Saveria Mosca[5], Leonardo Schena[5], Alfredo Cravador[6], Luísa Custódio[1], Salvatore Moricca[4], Thomas Jung[2,3]

[1] *Centre of Marine Sciences (CCMAR), University of Algarve, 8005-139, Faro, Portugal.*

[2] *Mendel University in Brno, Faculty of Forestry and Wood Technology, Phytophthora Research Centre, Zemědělská 3, 613 00 Brno, Czech Republic.*

[3] *Phytophthora Research and Consultancy, 83131 Nußdorf, Germany.*

[4] *University of Florence, Department of Agri-Food Production and Environmental Sciences, Plant Pathology and Entomology Division, 50144 Florence, Italy.*

[5] *Dipartimento di Agraria, Università Mediterranea di Reggio Calabria, 89122 Reggio Calabria, Italy.*

[6] *Mediterranean Institute for Agriculture, Environment and Development (MED), University of Algarve, 8005-139 Faro, Portugal.*

During a small-scale survey at the Algarve coast in Portugal, a high diversity of *Phytophthora* and *Halophytophthora* spp., including eight new *Halophytophthora* species, was discovered. The latter have been recently described as *H. thermoambigua*, *H. lusitanica*, *H. lateralis*, *H. frigida*, *H. sinuata*, *H. macrosporangia*, *H. brevisporangia* and *H. celeris*, based on multigene phylogenetic analyses, growth-temperature relationship tests and morphological and morphometric studies. *Halophytophthora* species are oomycetes inhabiting marine and estuarine ecosystems from the tropics to temperate regions. Despite being described as saprophytes playing an important role on litter decomposition due to their ability to rapidly colonize fallen leaves, they might also act as pathogens under certain conditions. The genus *Halophytophthora* is closely related to *Phytophthora*, which contains notorious pathogens of numerous terrestrial plant species. Some *Phytophthora* species like *Phytophthora gemini* and *P. inundata* have also been found in marine environments and may be involved in the widespread decline of the seagrass *Zostera marina*. In order to clarify the ecological role of the eight new *Halophytophthora* species, *H. avicennae* and *Phytophthora inundata*, their saprophytic ability was assessed in a decomposition experiment with fresh and air-dried leaves of *Z. marina* and *Cymodocea nodosa*. The decomposition of the leaves was evaluated by recording the mass loss every four weeks and the trial was concluded after three months. The results of this experiment and the seagrass decomposition capacity of the species tested will be discussed.