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ABSTRACTS

# Abstracts of invited talks, oral and poster presentations given at the 15th Congress of the Mediterranean Phytopathological Union, June 20–23, 2017, in Córdoba, Spain

The 15th Congress of the Mediterranean Phytopathological Union entitled "Plant health sustaining Mediterranean Ecosystems", was held in Córdoba, Spain on June 20–23, 2017. The mission of the meeting was to promote dissemination of the latest scientific advances and encourage dialogue, interaction and collaboration between researchers from different disciplines interested in all aspects of Phytopathology. More than 200 participants from 26 countries attended the congress, making this an outstanding scientific event. The presentations covered a broad range of aspects related to plant diseases including Genome Analysis, Invasive Emerging Pathogens, Integrated Disease Management, Food Safety, New Tools In Diagnostics and Management, Molecular Pathogen-Host Interactions, Biocontrol, Epidemiology and Modelling, and Microbiomes and their Role in Plant Health. Abstracts of the invited talks, and the oral and poster presentations are given in this issue.

## Key note lectures

**Olive quick decline and *Xylella fastidiosa* in Southern Italy: the state of the art.** D. BOSCIA, M. SAPONARI. *CNR – Institute for Sustainable Plant Protection, University of Bari, Via Amendola 122/D, 70126, Bari, Italy. E-mail: donato.boscia@ipsp.cnr.it*

The identification in 2013 of an outbreak of *Xylella fastidiosa* (Xf) in olive groves in the Salento peninsula (southern Italy) resulted in a plant health emergency of unprecedented proportions for the EU. Infected olive trees show extensive canopy desiccation and severe quick decline symptoms. In the outbreak area, the bacterium was found to be efficiently spread by the meadow spittlebug *Philaenus spumarius*, abundant on the olive canopies during the dry season. The initial demarcated foci rapidly expanded over the following 4 years, establishing a new demarcation line 80 km from the first reported outbreak; while few species were found infected in 2013 the currently known susceptible hosts reached approx. 30 different plant species. Phytosanitary measures to combat the spread and mitigate the impact of the bacterial infections, included restrictions for new plantations and movement of propagating materials, and removal of infected trees. The severe damage and the imposed phytosanitary restrictions caused severe economic and social impacts in the local community, raising concerns against the containment measures and failure to implement timely, effective and coordinated preventive measures. Due to the novelty of the *Xylella*-associated disease in olives and the new outbreak in the EU, the EU Commission mobilized dedicated resources to build research activity to address research gaps for this emerging pathogen. Between 2015 and 2016, two projects in the H2020 framework have been funded. These are: "Pest Organisms Threatening Europe" (POnTE) and "*Xylella fastidiosa* Active Containment Through a multidisciplinary-Oriented Research Strategy" (XF-ACTORS), the latter exclusively targeting *Xf*. From the increased research activity developed in the past 3 years, new knowledge is providing data on the genetic and biological properties of the Xf population, the host range, vector identification and biology, and identification of olive cultivars with promising resistance traits.


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**Ecological succession of pathogenic fungi of pines in Italy associated with climate change.** L. GHELARDINI[1,2], P. CAPRETTI[1], L. BOTELLA[3], C. AGLIETTI[1], N. LUCHI[2]. [1]*Department of Agrifood Production and Environmental Sciences, University of Florence, Piazzale delle Cascine 28, I-50144, Firenze, Italy.* [2]*Institute for Sustainable Plant Protection - National Research Council (IPSP-CNR), Via Madonna del Piano 10, I-50019, Sesto Fiorentino, Firenze, Italy.* [3]*Department of Forest Protection and Wildlife Management, Faculty of Forestry and Wood Technology, Mendel University in Brno, Zemědělská 1, 61300 Brno, Czech Republic. E-mail: paolo.capretti@unifi.it.*

*Gremmeniella abietina* is an ascomycete causing Scleroderris canker on *Pinus* species and conifers in the Northern Hemisphere, including Europe from the Boreal to the Mediterranean regions. The disease occasionally caused severe damage in Europe, and is a constant threat in North America and Japan. The pathogen kills buds, young shoots and foliage of hosts, and bark necroses and branch dieback. Whole crowns may be infected, and plants may die after repeated attacks. Seedlings may die quickly. The pathogen is psychrophilic, favoured by wet and cool weather, recurrent late frost and prolonged snow cover. In Italy, Scleroderris canker was historically observed on young and adult pines in the Alps and the Apennines, where conditions were locally favourable. Fungal populations were genetically differentiated between northern and southern sites, and had different optima and host ranges. We surveyed areas where *G. abietina* had been observed in the past and found that its prevalence decreased over the last 40 years. Especially reduced was the frequency of the thermophilic form of the fungus in southern areas. The pathogen was often replaced by *Diplodia sapinea*, an opportunistic fungus shifting from an endophytic to pathogenic lifestyle in stressed host plants. Replacement of *G. abietina* by *D. sapinea* in the Apennines is likely a bioindicator of current climate change. The incidence of Scleroderris canker has probably decreased in other areas at the southern range edges, and distribution of *G. abietina* will be further reduced, making way for the emergence of other pathogens driven by climate-change related stressors.

**Field studies on the primary inoculum and early infections of almond red leaf blotch (caused by *Polystigma amygdalinum*) in Spain.** E. ZÚÑIGA[1], J. LUQUE[1], X. MIARNAU[2], O. ARQUERO[3], M. LOVERA[3], A. OLLERO[4], L.F. ROCA[4], A. TRAPERO[4]. [1]*Patologia Vegetal, IRTA, Carretera de Cabrils km 2, 08348 Cabrils, Spain.* [2]*Estació Experimental de Lleida, IRTA, Parc Científic i Tecnològic Agroalimentari de Lleida (PCiTAL), Parc de Gardeny, Edifici Fruitcentre, 25003 Lleida.* [3]*IFAPA "Alameda del Obispo", Avenida Menéndez Pidal s/n, 14080 Córdoba, Spain.* [4]*Departamento de Agronomía (Patología Agroforestal), Universidad de Córdoba. Campus de Rabanales, Edificio C-4, 14071 Córdoba, Spain. E-mail: erick.zuniga@irta.cat*

Red leaf blotch of almond (caused by *Polystigma amygdalinum*), is a common disease in continental climate areas of Spain and other countries in the Mediterranean region. Early symptoms are yellow discoloured blotches on leaves, which turn red and then become dark necroses. The disease usually causes early defoliation of trees that causes decreased fruit production. Little is known about the biology of the pathogen in Spain and worldwide. Co-ordinated research was carried out in southern (Andalusia) and northeastern (Catalonia) Spain, to monitor the dynamics primary *P. amygdalinum* inoculum production, and the period of plant infectivity. Monitoring in Catalonia of ascocarp and ascospore development showed optimum maturation of propagules by mid spring (April-May), which was coincident with high ascospore records obtained from leaf samples in the field. In Andalusia, the primary inoculum potential occurred from February to May, a longer period than in Catalonia. The period of maximum ascospore production was less in both areas, and varied greatly between years and areas. The periodical exposure of almond 'trap' plants to natural infections in the field showed that the infectivity period in Catalonia extended from April to late June, while in Andalusia it occurred from March to May. These preliminary results on the biology of *P. amygdalinum* are a first step in the establishment of an integrated disease control strategy against almond red leaf blotch in Spain, and other almond growing regions.

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