



Foliar, Shoot, Stem and Rust Diseases of Trees

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The impact of climate change on forest tree diseases: winners and losers in the Mediterranean region

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Environmental changes are occurring on a global scale, but their effects are most pronounced in climate change hotspots. The Mediterranean basin is a climate change hotspot region. Within this area Italy, extending from its southern territories in the centre of the Mediterranean Sea to its northernmost pre-Alpine and Alpine regions, is characterized by a variety of climatic conditions and vegetation types. Surveys conducted in recent years in various forest formations along the Italian peninsula revealed that the enhanced warming trend and irregular distribution of precipitation are strongly impacting forest health, with some fungal pathogens being important contributing factors to forest decline. However, in some stands the incidence and severity of tree diseases was markedly reduced compared to previous years. This positive or negative influence of climate change on some groups of pathogens and the diseases they cause appeared to depend on various factors including microclimate conditions and anthropogenic interference (i.e. silvicultural management and fires). We report here an overview of pathogens that seem favoured or disadvantaged by climate anomalies. Latent pathogens living as opportunistic endophytes seem to thrive under warmer and drier conditions, whereas obligate biotrophic fungal pathogens are impaired and the damage they cause is reduced.