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Preliminary results of *Armillaria* species distribution in Trentino-Alto Adige

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The genus *Armillaria*, commonly known as honey fungus, includes opportunistic pathogens that cause root and butt rots in a large range of host plants worldwide. *Armillaria* species are facultative pathogens that spend most of their life as saprophytes with an important ecological role in the decomposition of dead wood. A survey to identify *Armillaria* species and their distribution have been conducted in the Alpine mountain range of the provinces of Trento and Bolzano in the Northeast Italy. Basidiocarps and rizomorphs were sampled from the wood or stumps of symptomatic or dead trees. *Armillaria* species were identified by morphological characteristics of basidiocarps and, furtherly in lab, by the molecular analyses of EF1a sequences. Regard basidiocarps, five species of *Armillaria* were identified by molecular method among the 80 samples in the following order of frequencies: *A. borealis* (25%), *A. gallica* (22%), *A. cepistipes* (21%), *A. ostoyae* (19%) and *A. mellea* (10%). *A. borealis* were the most common specie in Bolzano province, whereas *A. gallica*, *A. cepistipes* and *A. ostoyea*, in the respective order, were the most common species in Trento province. *A. mellea* was recorded only in the most temperate Trento province. Regard rizomorphs, almost all samples (215), from two natural parks of Trento province, belonged to *A. cepistipes* (96%) and were associated at 82% with the main host *Picea abies*. *A. mellea* was not found in the sampled Parks, perhaps because the relatively high elevation. *A. tabescens* and *A. ectypa*, which are considered among the species of *Armillaria* that could occur in Italy, were not found neither as rizhomorph/basidiocarp nor with mophological or molecular methods. In general, there was an acceptable association between morphological and molecular identification methods. In most of the wrong basidiocarp identifications, the morphological *A. cepistipes* or *A. ostoyae* revealed to be *A. gallica* with the molecular method. The detection of relative few strains of *A. ostoyae*, the most aggressive species for the conifer forest, shows a relative good heath status of the regional forests.