FUNGAL DISEASES IN CENTRAL EUROPEAN OAKS

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Time series from forest protection reports for oaks in Germany show increased damage caused by fungal pathogens. However, the regional significance of pathogens varies. In southwest Germany, root damage caused by the weeping conk (*Pseudoinonotus dryadeus*) is of regional importance due to falling trees. This fungus causes massive root rot from below, which appears camouflaged in the soil and not visible to the forest owner. This can lead to spontaneous tree falls, sometimes with fatal consequences for the forest owner and timber. The honey fungus (*Armillaria mellea*) leads in the same way to symptoms of decay that begins at the root layer and grows throughout the cambium into the wooden structural tissue. An infestation with powdery mildew fungi (*Erysiphe* spp.) in the course of oak dieback can lead to additional stress for the affected trees; in the case of heavy infections, further recourse to reserves is required for new leaf growth. Atypically, bark pathogens also occur in connection with infestation by beetles or from woodpecker ringing. Reports from Great Britain mention chronic oak decline (COD; serious, long-term decline in tree health) and acute oak decline (AOD; much faster, and usually fatal, decline in tree health) as new complex disorders of oaks in which several damaging agents interact. In addition, oaks and beeches are particularly susceptible to infections of *Phytophthora ramorum*, which can cause severe damage to forests. Intensive efforts are being made to control and combat the spread of this disease in Europe. There are currently also diagnostic efforts and attention to bacterial evidence from weeping cankers in bark of oaks caused by bacterial pathogens such as *Gibbsiella quercinecans*, *Brenneria goodwinii*, and *Bretziella fagacearum*. Therefore, it is particularly important to determine not only the abiotic stressors for oak but also the etiology of different pathogens to monitor changes.

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