



# FUNGAL ECOLOGY

(sometimes with special regard to macromycetes)

- Fungi and their environment • Life strategies and interactions of fungi
- Ecological groups of fungi, saprotrophs (terrestrial fungi, litter and plant debris, wood substrate, etc.) • Fungal symbioses (ectomycorrhiza, endomycorrhiza, endophytism, lichenism, bacteria, animal relationships) • Parasitism (parasites of animals and fungi, phytopathogenic fungi, types of parasitic relations)
- **Fungi in various habitats** (coniferous forests, **broadleaf forests**, birch stands and non-forest habitats, fungal communities)
- Fungal dispersal and distribution • Threat and protection of fungi

*(the study material has not been corrected by native speaker)*

Photo Daniel Dvořák



**Alder stands** (on waterlogged and peat soils): *Russula pumila*, *Lactarius obscuratus*, *Gyrodon lividus*, *Paxillus rubicundulus* (syn. *P. filamentosus*). All mycorrhizal species.



**Alder stands:** top left *Naucoria melinoides* (syn. *Alnicola m.*) – mycorrhizal species, top right *Ciboria amentacea* – saprotroph on plant debris. Bottom left *Entoloma euchroum* – saprotroph on dead wood, bottom right *Mensularia radiata* (syn. *Inonotus radiatus*), saproparasite on trunks/logs.



**Riparian forests** with alder, elm and bird cherry, natural vegetation of flooded and waterlogged places: *Coriopsis gallica*, *Auricularia mesenterica*, saproparasites on trunks and branches.



Saproparasites on wood (trunks) – *Neolentinus schaefferi* (bottom left) grows on poplars, *Pleurotus cornucopiae* on elms.



**Oak forests:**  
*Daedalea quercina*,  
*Hymenochaete rubiginosa*,  
*Fistulina hepatica*,  
*Lentinus arcularius*  
(syn. *Polyporus arcularius*).  
All saprotrophs or  
saproparasites on wood.

Note: Thermophilous oak forests represent the climax vegetation on deeper (mostly calcareous) soils in lowland and colline belts in warmer regions. Acidophilous oak forests represent the climax vegetation on acidic (silicate) soils in lowland and colline belts.



Photo Daniel Dvořák



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**Oak forests:** *Lactarius serifluus*, *Lactarius quietus*, *Boletus reticulatus*, *Russula virescens*.  
All mycorrhizal species.



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**Thermophilous oak forests on calcareous soils: *Inocybe godeyi*, *Hygrophorus russula*, *Russula decipiens*, *Entoloma sinuatum*. All mycorrhizal species.**



Oak-hornbeam stands – natural climax vegetation of lowland to colline belts.



**Warmer oak forests:** *Boletus aereus*, *Lycoperdon mammiforme*; ... **occasionally with beech:** *Rubroboletus satanas*. **(Oak-)hornbeam forests:** *Leccinellum carpini*. ... Puffball is humus saprotroph, boletes are mycorrhizal species.





### **Beech forests:**

*Mucidula mucida* (syn. *Oudemansiella mucida*) – saprotroph on wood (trunks/logs);  
*Russula romellii*, *Russula fellea* – mycorrhizal species.



Note: Calciphilous and orchid-beech forests are herb-rich forests in colline to submontane belt. Oligotrophic silicate soils of submontane and montane belt host acidophilous beech forests, lime-beech, fir-beech and spruce-beech forests.



Photo Daniel Dvořák

**Beech forests:** *Hygrophorus eburneus*, *Lactarius blennius*, *Lactarius subdulcis*, *Lactarius pallidus*. All mycorrhizal forests.



**Beech forests on base-rich soils:** *Lactarius acris*, *Ramaria flava* – mycorrhizal species; *Lycoperdon echinatum*, *Coprinopsis picacea* – humus saprotrophs.



Photo Daniel Dvořák



Photo Daniel Dvořák

**Beech forests:** top left *Marasmius wynneae*, right *Mycetinis alliaceus* (syn. *Marasmius alliaceus*) – litter saprotrophs; bottom left *Mycena renati*, right *Mycena haematopus* – lignicolous saprotrophs.



Photo Daniel Dvořák

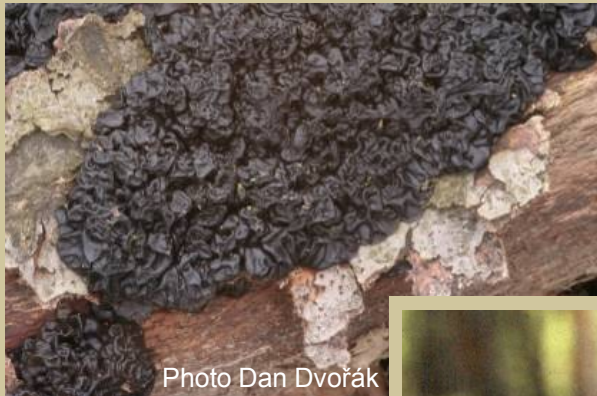


Photo Dan Dvořák



Photo Daniel Dvořák

**Fir-beech forests:**  
*Hericium flagellum*  
(bottom left).  
All saprotrophs or  
saproparasites on  
wood.

**Beech forests:**

*Hericium coralloides*,  
*Panellus serotinus*,  
*Exidia nigricans*  
(syn. *E. plana*),  
*Fomes fomentarius*.

