

Fungi in *Larix* plantations in Iceland

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Laugaland at Þelamörk – larch woodland



- A good site for gathering *Suillus grevillei*.





Larch and mycorrhizae

- ***Suillus grevillei***
from 1935



- ***Tricholoma psammopus***
from 1986





ICEWOODS Fijótsdalshérað study area

Larch stands age

L1 – 15 year	Mjóanes
L2 – 20 year	Buðlungavellir
L3 – 21 year	Hafursá
L4 – 38 year	Mjóanes
L5 – 52 year	Jónsskógur Hallormsstað

Collection dates

11. -14. Agust 2003

14. -15. September 2004

30. August – 1. September 2005



Fungi in experimental stands

L1

Clavulina cinerea
Clitocybe phyllophila
Collybia cirrata
Gymnopus dryophilus
Gymnopus fuscopurpureus
Entoloma serrulatum
Galerina vittiformis
Galerina vittiformis f.
tetrasperma
Hebeloma mesophaeum
Mycena pura
Omphalina rivulicola

L2

Clitocybe phyllophila
Ampulloclitocybe clavipes
Collybia cirrata
Gymnopus dryophilus
Cystoderma amianthinum
Entoloma jubatum
Exobasidium pachysporum
Galerina clavata
Galerina vittiformis
Hebeloma velutipes
Hebeloma mesophaeum
Laccaria laccata
Lepiota pseudoliliacea
Lycoperdon molle
Melampsorium betulinum
Melanoleuca cognata
Mycena metata
Mycena pura
Psathyrella sp.
Ramaria abietina

L3

Clitocybe phyllophila
Collybia cirrata
Gymnopus dryophilus
Hebeloma velutipes
Hebeloma mesophaeum
Humaria hemisphaerica
Melampsorium betulinum
Mycena pura
Mycena sp.
Paecilomyces farinosus



Fungi in experimental stands

L4

Agaricus sp.
Arcyria cinerea
Clavulina cinerea
Clavulina coralloides
Clitocybe phyllophila
Collybia cookei
Entoloma jubatum
Glomus macrocarpum
Gymnopus dryophilus
Hebeloma velutipes
Laccaria laccata
Leocarpus fragilis
Lepiota magnispora
Lophium mytilinum
Mycena pura
Mycena stylobates
Mycena vulgaris
Pluteus cervinus
Sphaerobolus stellatus
Tilachlidium brachiatum
Trichophaea hybrida

L5

Bisporella citrina
Clavulina cinerea
Clitocybe inornata
Cystoderma amianthinum
Entoloma jubatum
Exobasidium pachysporum
Gymnopus androsaceus
Gymnopus dryophilus
Lactarius glyciosmus
Lactarius uvidus
Leocarpus fragilis
Lycogala epidendrum
Lycoperdon pyriforme
Marasmius epiphyllus
Mycena abramsii
Mycena epipterigia var. *viscosa*
Mycena galericulata
Pholiota alnicola
Pholiota lenta
Pholiota mutabilis
Physarum nutans
Psathyrella fibrillosa
Trametes ochracea
Tremella foliacea





Other mycorrhizal fungi

Trichophaea hybrida a discomycete on larch litter near rotten wood **L4**. Forms mycorrhizae.



Glomus macrocarpum is an endomycorrhizal fungus which produces spores in sporocarps. One sporocarp was found when a rotten larch stem on the forest floor (**L4**) was turned over.



Fungi in larch leaf litter

- Many fungi grow in the larch leaf litter and on small dead branches amongs the rotten needles.



Mycena pura found in all but one of the East stands (here in **L4**).



Ampulloclitocybe clavipes
Bovista aestivalis
Clavulina cinerea
Clavulina coralloides
Clitocybe diatreta
Clitocybe inornata
Clitocybe phyllophila
Gymnopus dryophilus
Gymnopus androsaceus
Galerina atkinsoniana
Galerina badipes
Galerina vittiformis
Humaria hemisphaerica
Mycena citrinomarginata
Mycena metata
Mycena pura
Mycena stylobates
Mycena vulgaris
Mycena sp. (tiny white)
Pterula multifida
Ramaria abietina
Spathularia flavida



Fungi in larch leaf litter

Spathularia flavida abundant in larch leaf litter in Fljótsdalshérað, often in circles (here in **L2**).



Mycena vulgaris on leaf litter in **L4**. Rather rare species.



- ***Mycena metata*** and similar gray *Mycena* spp. are common on small branches.
- ***Galerina*** spp. are often in moss and litter while some prefer small branches.



Ramaria abietina grows in leaf litter of larch (**L2** and **L4**).

Fungi in larch leaf litter

- ***Ramaria abietina*** has yellowish to green coraloid fruiting bodies. Occasional in East Iceland, rare in other areas.
- ***Clavulina cinerea*** has grey coraloid fruiting bodies. Common.
- ***Clavulina coralloides*** has white coraloid fruiting bodies. Common.





Fungi in larch leaf litter

Clitocybe spp. are very common in larch plantations. *C. phyllophila* forms large fruiting bodies while the smaller species ***C. diatreta*** has not been recorded until this year.

Clitocybe phyllophila

on rotten larch needles (L4). Common and abundant in most larch plantations. Poisonous.



Clitocybe diatreta, on larch leaf litter.
Kjarnaskógur Akureyri, Sept. 2012.





Fungi in larch leaf litter

- These are rarely seen.

Clitocybe inornata,
collected once in **L5**,
rare in Iceland.



Ampulloclitocybe clavipes on rotten
larch needles (**L2**). Rare to occasional.



Lepiota pseudolilacea from
larch litter in **L2**. First and only record
of this species in Iceland. Very
poisonous, contains amanitin.





Fungi in larch leaf litter but growing on moss or insect

***Mycena* sp.** an interesting tiny mushroom growing on dead parts of a moss which was submerged in larch litter **L3**.



Paecilomyces farinosus, an insect parasite, growing on a pupa submerged in leaf litter (**L3**).



Slime molds not fungi but ...

- use larch as substrate for their sporangia.



Leocarpus fragiles a slime mold on a small branch of siberian larch (L4).



Arcyria cinerea, a slime mold on bark of siberian larch partly buried in surface litter (L4).

Lignicolous fungi

- Dead wood is important for fungi.



Tilachlidium brachiatum
anamorphic fungus a parasite of
agarics in **L4** growing on fruiting
bodies of *Pluteus cervinus* an
agaric growing on a rotten larch
stem.



Pluteus cervinus, the host
species (**L4**) a healthy specimen.





Lignicolous fungi



- Basidioradulum radula*
- Chondrostereum purpureum*
- Flammula alnicola*
- Galerina badipes*
- Lachnellula occidentalis*
- Lachnellula suecica*
- Lachnellula willkommii*
- Lophium mytilinum*
- Mytilinidion gemmigenum*
- Phacidium coniferarum*
- Pholiota gummosa*
- Pholiota lenta*
- Pluteus cervinus*
- Septotrullula bacilligera*
- Tomentella bryophila*
- Trametes ochracea*
- Trematosphaeria pertusa*
- Tremella foliacea*
- Trimmatostroma scutellare*
- Tympanis laricina*

Tremella foliacea
jelly fungus on a large
decaying larch bole.



Tympanis laricina,
discomycete on small
dead branch from litter.

Mytilinidion gemmigenum, ascocarp in
a wound on larch stem. Öxnafell, Eyjafirði.





A stand of dying *Larix sibirica*,
Stálpastaðir in Skorradalur West
Iceland in June 1993.

Lachnellula willkommii found
fruiting on the trees.

Lachnellula willkommii



Lachnellula willkommii on *Larix*
decidua, Hallormsstaður June 1993,



Phacidium coniferarum



Phacidium coniferarum, dieback of branches of *Larix sibirica*, damage caused by spring frost in 1993 in Eyjafjörður area.





***Meria laricis* – needle cast of larch**

Anamorphic *Rhabdocline*, kills needles from the tip. Dead needles fall off.

- Found in 1999 in South Iceland and in a nursery in East Iceland.
- Needle cast by a

***Mycosphaerella* sp.** where the dead needles remain on the branch. Fljótsdalshérað from 1999.

Meria laricis on *Larix sibirica* , mature trees in Haukadalur, South Iceland



At the edge of young larch stand (L1)

- *Geopora arenicola*
- *Helvella lacunosa*
- *Thelephora caryophyllea*



Thank you



Sphaerobolus stellatus
on a very rotten wood of larch



