Fungi of sandy habitats

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Life strategies

- Mycorrhizal
- Forest trees /Pinus

- *Aureoboletus projectellus* (sopp)
- *Tricholoma* spp (musseroner)
- *Scleroderma septentrionale* (sandrottryffel)
- *Hydnellum/Sarcodon* spp (taggsvampar)

- Saprotrophic

- Open and dry habitats
- Exposed to sun, wind

- **Gasteroid fungi** (earthstars, puffballs, stalked puffballs)

- **Agaricoid fungi** adapted to dry conditions (eg. *Crinipellis scabella* - stråbroskskivling)
Mycorrhizal fungi

*Scleroderma septentrionale* NT
sandrottryffel

*Aureoboletus projectellus*

*Tricholoma equestre* - riddarmusseron
Saprotrophic gasteroid fungi

Geastrum pseudostriatum EN

Disciseda candida VU

Tulostoma brumale NT
Habitats with different funga

± calcareous sand
• Sand steppe (strict)
• Sand steppe-like
  – ruderal habitats
  – military training fields
  – airfields
• Coastal sand dunes and sandy fields

leached/acid sand
• ”degenerated” sand steppe
• sandy heathland
  – Inland sand dunes
  – military training fields
  – Airfields
• Coastal sandy fields
- Low herbs
- Mosses/lichens
- Patchy vegetation with bare sandy spots

- Moderate soil disturbance
- Natural erosion
- Grazing animals
  - horses
- Human influence
  - Tracks, paths
  - Off-road driving
  - Historical sand extraction
Some characteristic fungi on ± calcareous sandy soil
Geastrum schmidelii NT (dvärgjordstjärna)

Photo Jörgen Jeppson
Geastrum pseudostriatum EN
(kornig jordstjärna)

Photo Jörgen Jeppson
Disciseda candida VU (liten diskröksvamp)

Photo Jörgen Jeppson
Disciseda bovista EN (stor diskröksvamp)
Tulostoma brumale NT (stjälkröksvamp)
Tulostoma melanocyllum EN (mörk stjälkröksvamp)
Tulostoma simulans
Lycoperdon lividum LC (kornig röksvamp)
Some characteristic fungi on acid sandy soil
Lycoperdon ericaeum NT (hedröksvamp)
Lycoperdon radicatum EN  (rotröksvamp)
Lycoperdon marginatum

Photo Tommy Knutsson
Threats to sandy habitats and its fungi

• Habitat deterioration (overgrowth, eutrophication, leaching, acidification, changing agricultural methods)
• Decreasing area (historical forestation, exploitation)
• Fragmentation
Conservation

Restoration

- Response from fungi is slow - but how slow?
- Waking up of dormant mycelia
- Establishments of new individuals from spores (fragmentation is a problem)
- Habitat continuity
- Fairy rings indicate old mycelia
Fungi as indicator species for valuable sandy habitats?

- Dependence on weather conditions for fructification

+ Fruitbodies of gastroid fungi are resistant to weathering and can be observed and identified almost all year round

*Disciseda* spp

*Geastrum pseudostriatum*

*Tulostoma melanocyclus*

{ Indicator species for sand steppe habitats }
Future

• Management
• Grazing
• Moderate soil disturbance

• Follow-up inventories
• Monitoring of selected species
• Inventories to increase knowledge of fungi on acid sandy soil
Thanks for your attention!

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