

## Popularisert bidrag

### Hundreds of species observations and four ascomycetes new to Norway during a mycology field course

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#### ABSTRACT

During a mycology field course in Drøbak 29<sup>th</sup> August – 2<sup>nd</sup> September 2011 several interesting and some new taxa to Norway were found. Species not previously recorded in Norway include *Tatraea dumbirensis*, *Corollospora maritima*, *Nectriopsis candicans* and *Ombrophila juniperinella*. A list of 413 taxa, including records of three threatened species, is given and the ecology and distribution of the rare discomycete *T. dumbirensis* is discussed. Based on the results it can be concluded that basic field courses focusing on species identification in quite poorly known organism groups produce not only future naturalists, but also valuable floristic data. Field courses with competent teachers and tens of motivated students collecting in the field are effective and low-cost means for species mapping, and thus they should be increasingly supported.

#### SAMMENDRAG

På et feltkurs i mykologi i Drøbak 29. august – 2. september i 2011 ble det funnet flere interessante samt noen nye taxa for Norge. Arter som tidligere ikke hadde vært funnet i Norge er *Tatraea dumbirensis*, *Corollospora maritima*, *Nectriopsis candicans* og *Ombrophila juniperinella*. En liste på 413 taxa, inkludert tre truede arter, er presentert som nettvedlegg og økologien og utbredelsen til den sjeldne discomyceten *T. dumbirensis* er diskutert. Basert på resultatene fra kurset kan det konkluderes med at feltkurs som fokuserer på artsidentifisering av relativt dårlig kjente organismegrupper ikke bare produserer framtidige naturkyndige, men også verdifulle

floristiske data. Feltkurs med kompetente lærere og titalls av motiverte studenter er en effektiv og rimelig måte å kartlegge arter og burde støttes i større grad.

#### BACKGROUND

About 30 persons attended the 5-day field course that used the Drøbak field station in SE Norway (Frogn, Akershus) as a base camp. Each day 1–2 localities were visited, fungi recorded in the field and collected for further identification in the microscope lab of the field station. The focus of the course was on mushrooms (agarics), but also some less conspicuous ascomycetes were collected. Identified fungi were placed in an exhibition where students could study them day and night. Active self-learning was supplemented with demonstrations of the taxonomic characteristics and ecology of collected fungi by professional mycologists.

#### FINDINGS

Already on the first course day, in the first locality visited, the author collected a new species to Norway. *Tatraea dumbirensis* (Velen.) Svrcek, originally described as *Helotium dumbirensis* Velen. from the Tatra mountains in Slovakia (Velenovský 1934). It was found growing on a 2-centimeter thick dead branch of deciduous wood in Smihagen nature reserve, Frogn, Akershus (Figure 1). Two days later another course attendant, Jørn R. Gustad, observed the same species in Rørslogen forest, Nesodden, Akershus. The species is a rare, or supposedly rare, flesh-coloured stipitate discomycete characterized

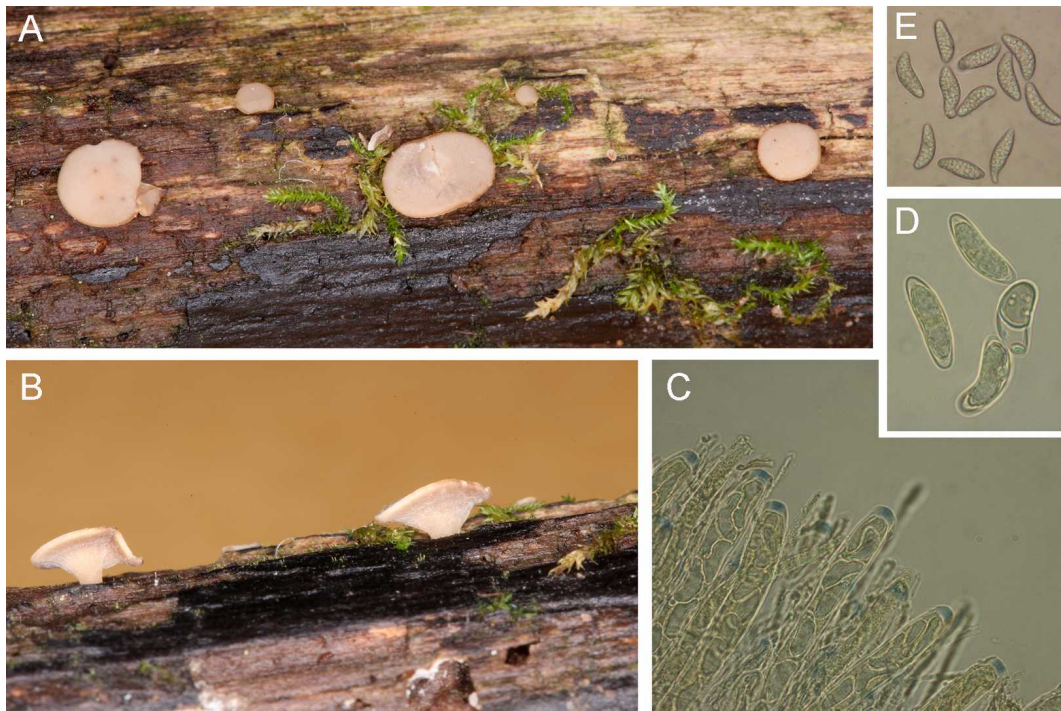


Figure 1. *Tatraea dumbirensis* (TROM-F26042). A–B) Fresh apothecia on decorticated wood. Photos: Jørn R. Gustad, C) Dried herbarium material in light field showing ascus apex turning blue in Lugol's solution. Photo: Teppo Rämä, D) Spores of herbarium material in Lugol's solution. Photo: Teppo Rämä, E) Living spores of another collection of *T. dumbirensis* from *Alnus viridis* wood at 1650 meters altitude (HB 8289: Switzerland, Uri, Glarner Alpen, 46°51'27"N 8°45'30"E, 21.8.2006, leg. R. Mürner) in water. Photo: Hans-Otto Baral. Note that pictures are taken using different scales.

by curved and round-ended ascospores that are densely filled with small oil droplets in the living state, and an ascus apparatus with extensions in the upper part that turn deep blue in Lugol's solution (IKI) (Baral et al. 1999). The species obviously belongs to the fungal order Helotiales (Leotiomycetes), but its phylogenetic placement within the order remains to be verified using molecular systematics. The material collected in Smihagen has been sequenced for the Internal Transcribed Spacer (ITS) region and the result will be made available in the Barcode of Life Data System (Ratnasingham and Hebert 2007).

*Tatraea dumbirensis* has previously been found on deciduous wood in several European coun-

tries including Austria, Denmark, Croatia, France, Germany, Great Britain, Italy, Spain, Slovakia, Sweden and Switzerland (Baral et al. 1999, Jamoni 2005, Eriksson 2011, Holec et al. 2015, Adamčík et al. 2016, Danish mycological society 2017). It seems to prefer *Fagus* as a substrate, but has also been found on other deciduous trees (*Fraxinus*, *Betula*, *Sorbus*) and on *Abies*. Based on published finds, the species occurs predominantly in old-growth forests in mountainous areas. Considering the decline of undisturbed virgin forests in Europe and due to a small or restricted population size, *T. dumbirensis* is considered threatened in the UK and Croatia (Evans et al. 2006, Tkalčec et al. 2008), whereas in the Nordic countries the red list status of the species has

not been evaluated.

Other species that were found new to Norway during the course were *Ombrophila juniperinella* (P. Karst.) Boud (syn. *Antinoa juniperinella* (P. Karst.) Velen.), *Nectriopsis candicans* (Plovr.) Maire, and a marine fungus called *Corollospora maritima* Werderm. (Figure 2). The record of *C. maritima* from wood (*Betula* sp.) with attached sand grains in the intertidal zone in Rosnestangen of Jeløya (Moss, Østfold) has been published elsewhere (Rämä et al. 2014). This truly marine ascomycete with delicate spore appendages is a cosmopolitan species with high genetic variation and may be split into several species in the future (Roberts et al. 1996, Velez et al. 2015).

Other rare fungi detected during the course include ascomycetes, e.g. *Sphaerostilbella berkeleyana* (Plovr. & Cooke) Samuels & Cand. and *Strossmayeria basitricha* (Sacc.) Dennis, two species which have been detected only once before in Norway (Artsdatabanken 2017), and further the earth tongue *Microglossum olivaceum sensu lato* (IUCN status Vulnerable) a truffle species *Genea hispidula* Berk. ex Tul. & C. Tul. (Figure 3) and *Trichoderma citrinoviride* Bissett (synonym *Hypocrea schweinitzii* (Fr.) Sacc.) (TROM-F-26045). More seldom observed basidiomycetes include clavarioid species such as *Clavaria zollingeri* Lév. (Vulnerable), *Ramariopsis pulchella* (Boud.) Corner, and agarics such as *Resupinatus applicatus* (Batsch) Gray, a common but overlooked species in Norway,

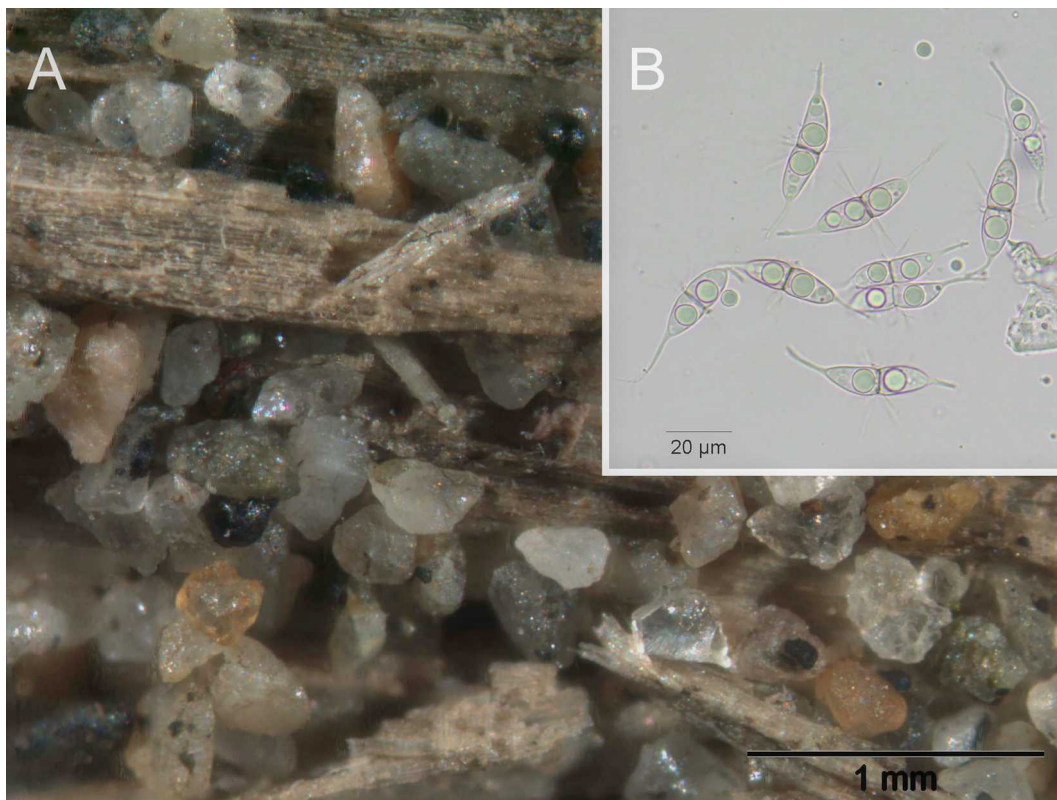


Figure 2. *Corollospora maritima* (TROM-F-26424). A) Black perithecia on sand grains and driftwood, B) ascospores with polar and equatorial appendages in light field. Photos: Teppo Rämä.



Figure 3. Ascomata of *Genea hispidula* (O-F-21106) photographed at the collection site in Rosnes-tangen (Moss) 1.9.2011. Photo: Thomas Læssøe.

*Dermoloma cuneifolium* (Fr.) Singer ex Bon (Vulnerable), and *Limacella delicata* (Fr.) Earle ex Konr. & Maubl. (synonym *L. glioderma* (Fr.) Maire).

The course resulted in altogether 612 observations that were registered and identifications verified by professional mycologists including Marie Davey, Gro Gulden, Klaus Høiland, Thomas Læssøe, Håvard Kauserud, Bjørn Nordén, Leif Ryvarden, Trond Schumacher, and Anders K. Wollan who functioned as teachers or assistant teachers during the field course. The list of observations can be found in the associated online documentation and at [www.artsobservasjoner.no](http://www.artsobservasjoner.no) under the project name “Field course in mycology\_Drøbak2011” (Artsdatabanken 2017, Rämä 2017). The resulting list includes 413 species of mostly

macrofungi: 527 observations relate to basidiomycetes, 83 to ascomycetes, one to the zygomycete *Spinellus fusiger* (Link) Tiegh. and one to the myxomycete *Tubifera ferruginosa* (Batsch) J.F. Gmel.

The results, including rare, threatened and new species to Norway, highlight that events such as the mycology field course can be an inexpensive and effective way of increasing knowledge of species distributions and ecology, if data collection is structured in a functional manner and competent amateurs or professional mycologists verify species identification.

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