

# ***Entoloma scabiosum* (Fr.) Quél. new to Norway**

John Bjarne Jordal

Auragata 3, 6600 Sunndalsøra, Norway, E-mail: john.bjarne.jordal@sunndals.net

Norsk tittel: *Entoloma scabiosum* (Fr.) Quél., en ny rødskivesopp i Norge.

Jordal JB, 2010. *Entoloma scabiosum* (Fr.) Quél. new to Norway. *Agarica* 2010, vol. 29, 83-86.

## **KEY WORDS**

*Entoloma scabiosum*, deciduous forest, distribution, Norway.

## **NØKKELOORD**

*Entoloma scabiosum*, edellauvskog, rødskivesopp, Rogaland, Norge.

## **SAMMENDRAG**

*Entoloma scabiosum* ble funnet som ny for Norge i Vindafjord kommune i Rogaland fylke i 2008. Dette er en rødskivesopp som i Skandinavia fra før er kjent fra i Danmark og sørlige deler av Sverige. Artens økologi på funnstedet beskrives.

## **ABSTRACT**

*Entoloma scabiosum* was discovered as new to Norway in Vindafjord municipality, Rogaland county in 2008. Previously, this species is only known from Denmark and southern Sweden in Scandinavia. The new locality seems to be the northernmost in Europe. The habitat is described.

## **INTRODUCTION**

The genus *Entoloma* has nearly 350 known species in Europe, and new species are frequently described (Noordeloos 1992, 2004). Many of them resemble

each other macroscopically, and also microscopically the differences are sometimes small. One of the more striking species, *E. scabiosum* (Fr.) Quél., was found in SW Norway in 2008. The species and locality is described here, together with information on distribution and ecology in other countries. The field work was part of a project collecting data on important areas for nature management in the county of Rogaland, a task performed for the county management authorities (Fylkesmannen i Rogaland).

## **Material studied**

Norway: Rogaland county: Vindafjord municipality: above Heggen by Ølensvåg, in deciduous forest, UTM (WGS84) zone 32V: LM 2114 1298, alt. 240 m, 07.09.2008, leg. Lars Dalen and John Bjarne Jordal, det. John Bjarne Jordal.

## **Description**

*Entoloma scabiosum* belongs to the subgenus *Trichophilus*, which encompasses medium large fungi with a fibrillose or squamulose



**Figure 1.** *Entoloma scabiosum*, cap and stipe. Photo: J. B. Jordal.

cap, often reminding of an *Inocybe*.

*Entoloma scabiosum* has a strongly fibrillose or squamulose cap surface where brownish squamules (fibrils with uplifted tips) are contrasting with the pale coloured context between them. Only one basidiocarp was found. The cap was 4 cm broad. The lamellae were medium crowded, deeply emarginate to almost free, brown with a pinkish tinge from the spores. The stem was not in a good state, but it was fibrillose and striate with brown fibrils on a paler background, gradually broadened towards the base. No special smell was noted. The spores were heterodiametrical, 4-7-angled,  $7-9 \times 6-7 \mu\text{m}$ , which is somewhat smaller than in related species of subgenus *Trichophilus*. The lamella edge was heterogenous, the basidia were mixed with striking, large, lecithiform to tibiiform cheilocystidia, where the capitulum often was mucronate. Clamps were not seen (further description: see Kits van Waveren 1976 and Noordeloos 1992). The similarity with *E. jubatum* and relatives is only superficial. *Entoloma scabiosum* is easily distinguished on the coarsely fibrillose to squamulose cap, and the cheilocystidia are also diagnostic.

#### Description of the locality

The locality is a steep, south faced deciduous forest dominated by *Corylus avellana*, mixed with *Fraxinus excelsior*, *Prunus padus* and *Alnus glutinosa*. *Ulmus glabra*, *Tilia cordata*, *Sorbus aucuparia*, *Betula* spp. and *Acer pseudoplatanus* are also present, but more scattered. The climate in the region is warm, but also clearly oceanic with mild winters and much rainfall. The field layer contains ferns (e.g. *Dryopteris* spp. and

*Polystichum braunii*), tall herbs and low herbs. The site where *E. scabiosum* was found was an open soil spot near the base of a steep rock surface. The spot had a low herb vegetation with species like *Anemone nemorosa*, *Conopodium majus*, *Melica nutans*, *Poa nemoralis* and *Viola riviniana*. Further description of the locality is available from Naturbase (2010).

#### DISTRIBUTION AND ECOLOGY

The only known locality for *E. scabiosum* in Norway so far is shown in Fig. 3. In Denmark the species is known from 14 localities (Foreningen til Svampekundskabens Fremme 2010a, 2010b). In Sweden three localities are known in the southernmost part of the country (Jacobsson 2002). Further it is known from the Netherlands, Germany and Switzerland (Noordeloos 1992). Search on the Internet reveals that the species has been found in several European countries. In Great Britain there are 26 localities north to Edinburgh (British Mycological Society 2010). The new locality in Norway is the northernmost in



**Figure 2.** *Entoloma scabiosum* was found in a steep area just above the centre of the picture. This is a deciduous forest with *Corylus avellana*, *Fraxinus excelsior* and *Alnus glutinosa*. Photo: J. B. Jordal.

Scandinavia according to available information, and it is also more northern than all known sites in Great Britain. This suggests that *E. scabiosum* is a primarily southern species in Europe; the new locality could be the northernmost in Europe.

The habitat is described by different authors as deciduous forests with *Quercus*, *Fagus*, *Fraxinus* etc. on humus soil. Several records are made on calcareous soil, and the soil may also be described as moist (Noorde-loos 1992, Jacobsson 2002, Foreningen til Svampekundskabens Fremme 2010a, British Mycological Society 2010).

#### THREATS AND MANAGEMENT

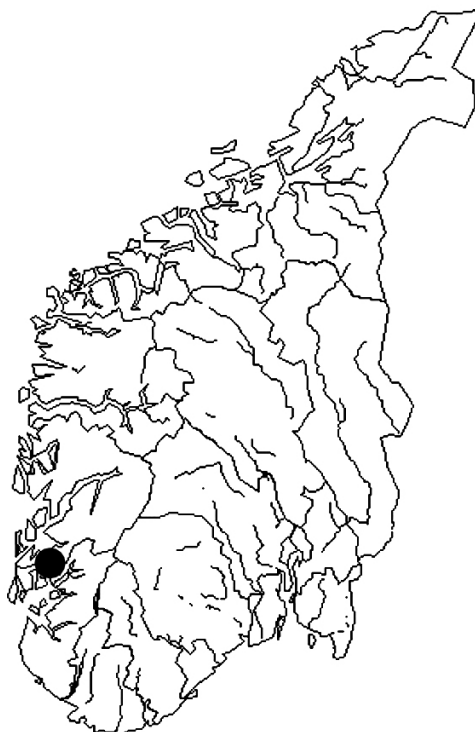
*E. scabiosum* may be threatened by e.g. forestry activities like clearcutting, building of new roads, establishment of coniferous plantations, and disturbance by off-road vehicles. Known localities should be protected against such influence (Jacobsson 2002). The species is included in red list of countries like Sweden (Gärderfors 2005; category data deficient), Denmark (Danmarks miljøundersøgelser 2008; category data deficient) and Germany (Deutsche Gesellschaft für Mykologie 1992; category vulnerable). *Entoloma scabiosum* will also be a possible candidate to the 2010 red list of Norway.

#### ACKNOWLEDGEMENTS

I wish to thank Lars Dalen for advice, local knowledge and for accompanying me during the field work in Vindafjord. The management authorities of Rogaland (Fylkesmannen i Rogaland) are thanked for financing the field work.

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**Figure 3.** Map of S Norway showing the new locality of *Entoloma scabiosum* in northern part of Rogaland county, SW Norway.

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