

NOTES AND BRIEF ARTICLES

ENTOLOMA JUNIPERINUM: A NEW SPECIES FROM JUNIPERUS HEATHS IN
NORTH-WESTERN EUROPE

J. J. BARKMAN

*Biologisch Station, Wijster (Drenthe), Netherlands**

M. E. NOORDELOOS

Rijksherbarium, Leiden

During a long-term mycological investigation of *Juniperus* communities in north-western Europe by the first author, a small *Entoloma* species was found, which did not seem to fit with one of the known species of *Entoloma* with a brownish pileus and bluish stipe, because of the small, almost isodiametrical spores and clamped basidia. The only species which seemed to be related was *Entoloma lampropus* in the sense of Kühner & Romagnesi (1953). That species however, turned out to be clearly different in a number of characters such as size and shape of spores and structure and pigmentation of the pileipellis (see Noordeloos, 1982). Therefore the collections of this apparently new species were examined by the second author in the course of a critical revision of *Entoloma* subgen. *Leptonia* in Europe. He also came to the conclusion that this nice small *Entoloma* from *Juniperus* heaths had not been described before, and therefore it is described here as new.

Entoloma juniperinum Barkman & Noordel., *spec. nov.*

Pileus 5–20 mm latus, convexus vel planus, leviter umbilicatus vel papillatus, hygrophanus, in udo translucido striatus, obscure griseo-brunneus vel coeruleo tinctus, in sicco pallescens, radialiter fibrillosus vel villosus vel subtiliter squamulosus; lamellae adnatae vel subdecurrentes vel emarginatae, (griseo)roseae; stipes 20–45 × 1–2 mm, obscure griseo-coeruleus, demum coeruleo-brunneus, glaber, innato-fibrillosus; odor nulla; sapor farinacea.

Sporae 8–10 × 6–8 μm , subsisodiametricae; basidia tetrasporigera, fibulata; acie lamellarum fertilis; cystidia nulla; pileipellis cutis hyphis septatis, cylindraceis vel leviter inflatis, 4–15(–20) μm latis pigmento intracelluloso; fibulae abundantia.

Habitat inter muscos in societatis *Juniperi communis*. — Holotypus: 'B. de Vries 1342, 20-IX-1972, Wiwelsberg, Rheinland-Pfaltz, W. Germany' (WBS, isotypus in L).

Characteristics. — Basidiocarps small, more or less omphalioid with dark grey-brown pileus, blue-grey stipe, rather small, subsisodiametrical spores, and clamped basidia.

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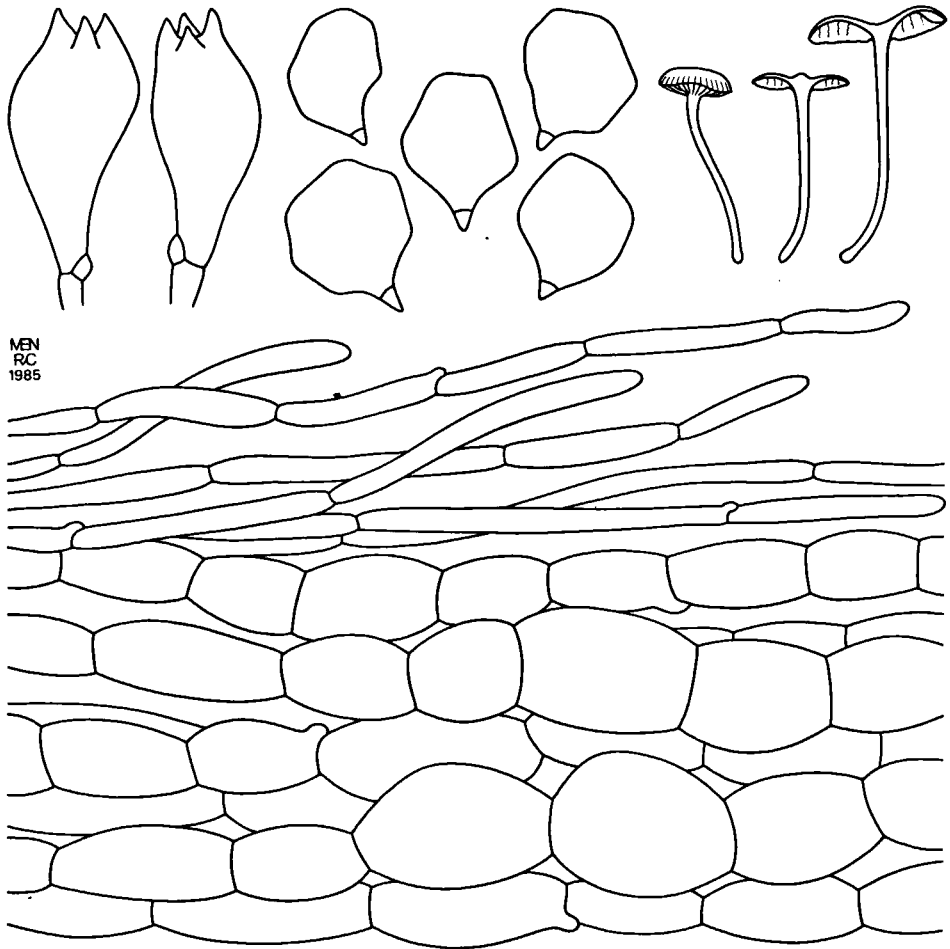


Fig. 1. *Entoloma juniperinum*. — Habit ($\times 1$), spores ($\times 2000$), basidia ($\times 1000$), and pileipellis ($\times 500$). (All Figs from holotype).

Pileus 5–20 mm broad, convex or flattened with weak central depression or distinctly papillate, with almost straight margin, weakly hygrophanous, when moist translucently striate at margin up to $3/4$ of radius, dark grey-brown especially at centre and when young, paler towards margin, sometimes, especially when young and fresh, with blue tinge, pallescent on drying, almost smooth, radially fibrillose, subtomentose or subsquamulose especially at centre. Lamellae, $L = 10-25$, $l = 1-5(-7)$, (moderately) distant, adnate, sometimes slightly emarginate or with decurrent tooth, segmentiform rarely ventricose, up to 3 mm broad, sometimes distinctly transvenose, greyish then grey-pink with entire, concolorous edge. Stipe 20–45 \times 1–2 mm, cylindrical, sometimes

slightly to distinctly swollen at base, often flexuose, blue-grey fading with age to brownish blue or violaceous brown, smooth, glabrous or with innate fibrillose covering, white tomentose at base, solid or fistulose. Context thin, with same colour as surface or slightly paler, especially in stipe. Smell not distinctive. Taste often distinctly farinaceous.

Spores $8.0-10.0(-11.0) \times 6.0-8.0 \mu\text{m}$, averages $8.5-9.5 \times 7.5-8 \mu\text{m}$, $Q = 1.05-1.25(-1.3)$, $\bar{Q} = 1.1-1.2$, subisodiametrical, 5-7 angled in side-view. Basidia (18-)22-35 \times 7.5-11 μm , 4-spored, clamped. Lamella edge fertile. Cystidia absent. Hymenophoral trama regular, made up of cylindrical elements, 75-200 \times 4-20 μm . Pileipellis a cutis with transitions to a trichoderm, made up of radially arranged, septate, 4-15(-20) μm wide cylindrical or slightly inflated hyphae with cylindrical terminal elements 30-70 \times 5-22 μm ; subpellis often distinct, made up of strongly inflated elements, 20-45 \times 15-35(-45) μm . Pigment brown, intracellular, especially in subpellis. Brilliant granules abundant to sparse or lacking in pileitrama. Vascular hyphae present or absent. Clamp-connections present.

Habitat & distribution. — Among mosses, needles and grasses, preferably close to *Juniperus* in *Juniperus*-heaths on (calcareous) loam. Known to occur in Denmark (Jylland), German Federal Republic (Eifel and Kaiserstuhl), and the Netherlands (Limburg). Sept.—Nov.

Collections examined.—DENMARK, Jylland: Frederikshavn, station 17a, 14 Oct. 1966, *J. J. Barkman 8454*; idem, Hestvang, 9 Oct. 1969, *J. J. Barkman 9896*; idem, stat. 20a, 10 Oct. 1972, *J. J. Barkman 9816*; idem, stat. 16, 15 Oct. 1980, *J. J. Barkman 10391*; Fjerritslev Svenstrup Lerup, 9 Oct. 1972, *J. J. Barkman 9619*; Silkeborg, Vissingkloster, 25 Oct. 1980, *B. de Vries 4352*; Hjöring, Bjaergby, 14 Oct. 1966, *J. J. Barkman 8491*; Hobro, Bramslev Bakker, 17 Oct. 1969, *J. J. Barkman 9097* and 1 Oct. 1966, *J. J. Barkman 8422*; Egtved, Spjarupgaard, 5 Oct. 1972, *A. K. Masselink*. — GERMAN FEDERAL REPUBLIC: Rheinland-Pfalz, Wiwelsberg, 20 Sept. 1972, *B. de Vries 1342* (holotype) Baden-Württemberg, Kaiserstuhl, Badberg, 31 Aug. 1982, *W. Winterhoff* (L). — NETHERLANDS, prov. Limburg, Bemelen, Bemeler berg, 3 Nov. 1984, *J. Schreurs 892* (L) (Unless otherwise stated all collections are deposited in WBS).

Entoloma juniperinum belongs to sect. *Leptonia* on account of the clamped basidia and type of pileipellis with septate, more or less cylindrical hyphae. However, it takes a rather isolated position there because of the small, isodiametrical spores and farinaceous taste. *E. splendidissimum* differs among other things in having a distinctly blue pileus, and more elongate spores. The spores of *E. lampropus* are much smaller, and furthermore that species has a totally different habit and type of pigmentation. For details the reader is referred to Noordeloos (1982, 1986).

REFERENCES

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 — (1986). *Entoloma* (Agaricales) in Europe. Synopsis and keys to all species and a monograph of the subgenera *Trichopilus*, *Inocephalus*, *Alboleptonia*, *Leptonia*, *Paraleptonia*, and *Omphaliopsis*. In *Beih. Nova Hedwigia* (in prep.).