

HYDROPUS CONICUS, A NEW SPECIES FROM NORWAY

C. BAS* & Ø. WEHOLT**

Hydropus conicus spec. nov., belonging to *Hydropus* section and subsection *Floccipedes*, is described from fallen needles of *Pinus* in Norway.

A rather unusual looking mycenoid agaric was collected by one of us (Ø. W.) on fallen pine needles in southeastern Norway. It is characterized by a conical, olivaceous grey, subviscid pileus, very distant, adnate lamellae, non-amyloid spores, very long, slender, thin-walled, smooth pleurocystidia arising from just below the subhymenium, and a pileipellis consisting of a broad-celled subpellis and a thin suprapellis of narrow, smooth, repent hyphae.

It is clear that this material does not fit in *Mycena* proper. In fact, in both Smith's (1947: 60) and Kühner's (1938: 159) monographs of *Mycena* s.l. it keys out in '*Floccipedes*', a group of species now considered to be a section of the genus *Hydropus* (Singer, 1975: 401, 1982: 112). We have been unable, however, to find a description of a taxon belonging to that group covering the specimens described here.

Hydropus conicus Bas & Weholt, spec. nov. — Figs. 1–5

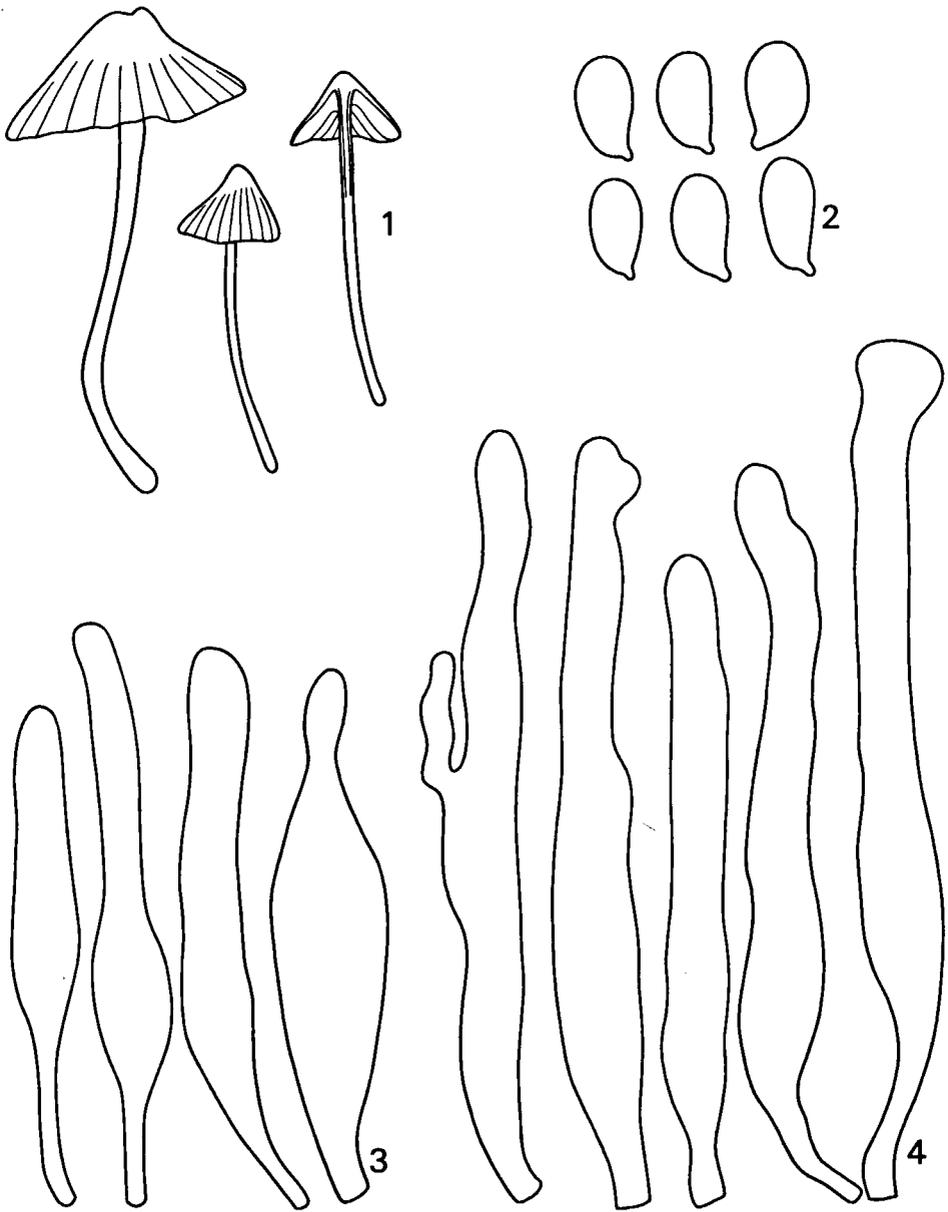
Pileus 14–30 mm latus, conicus, olivaceo-griseus, subviscidus. Lamellae adnato-subdecurrentes vel emarginatae, valde distantes, pallide olivaceo-griseae, intervenosae. Stipes 30–39 × 1.2–2 mm, albidus vel pallide griseus, deorsum pallide olivaceo-griseus, probabiliter subpruinosis, subviscidus vel siccus. Sporae 8–9.3 × 4.3–5.6 μm, inamyloideae. Basidia 2- et 4-sporigera. Pleurocystidia abundantia, 85–115 × 8–12 μm, sublageniformia vel cylindracea, tenui-tunicata. Pileipellis cutis hyphis tenuibus, repentibus, glabris composita. Fibulae frequentes. — Typus: 'Norway, Østfold, Borge, Bevö, 27.XI.1982, Ø. Weholt' (L, O).

Pileus 14–30 mm diam., almost acutely conical, more obtuse with age, with slightly deflexed to straight, distinctly and long sulcate-striate, somewhat lobed margin, olivaceous grey, greasy-subviscid. Lamellae ascending, first adnate-subdecurrent, later broadly to slightly emarginately adnate, very distant (10–15 reaching stipe), moderately broad, greyish-whitish with olivaceous tinge, paler towards edge, here and there anastomosing, strongly intervenose. Stipe 30–30 × 1.2–2 mm, slightly tapering downwards, hollow, somewhat hyaline and whitish to greyish-whitish at apex, slightly darker towards base (pale pileus colour), subviscidus, probably pruinose at upper part. Smell and taste not recorded.

Spores [20/1] 8–9.3 × 4.3–5.6 μm, Q 1.5⁵–1.8, average Q 1.7, somewhat adaxially flattened, elongate-ellipsoid to elongate or elongate-ovoid, usually somewhat tapering towards moderately large obtuse apiculus, colourless, thin-walled, smooth, inamyloid, non-cyanophilous. Basidia 32–38 × 5.9–7.3 μm, 4- and 2-spored, with clamp. Pleuro-

* Rijksherbarium, Leiden.

** Atriumsvn. 32, N–1600 Frederikstad, Norway.



Figs. 1–4. *Hydropus conicus*, type. — 1. Basidiocarps ($\times 1$). — 2. Spores ($\times 1500$). — 3. Cheilocystidia ($\times 1000$). — 4. Pleurocystidia ($\times 1000$).

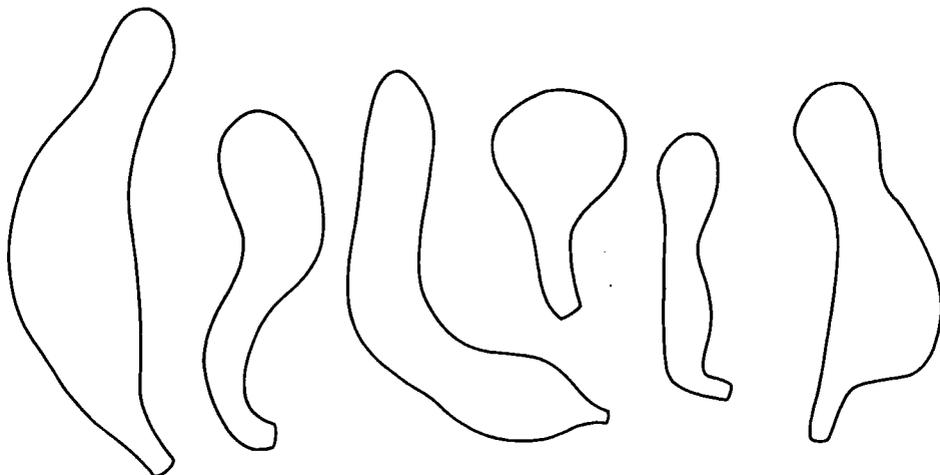


Fig. 5. *Hydropus conicus*, type. — Caulocystidia from apex of stipe ($\times 1000$).

cystidia abundant, $85\text{--}115 \times 8\text{--}12 \mu\text{m}$, very slenderly sublageniform to cylindrical, with obtuse, often somewhat irregularly shaped apex, thin-walled, colourless, often with (sub)granular to clotty contents, arising from tramal hyphae just below subhymenium. Cheilocystidia interspersed among basidia, on the average somewhat shorter and somewhat more ventricose than pleurocystidia. All cystidia metachromatic in Chresyl blue. Pseudocystidia absent. Lamellitrama irregular, consisting of up to $35 \mu\text{m}$ wide, agglutinate, slightly thick-walled, colourless hyphae, near edge almost collenchymatic, not or very weakly dextrinoid, strongly metachromatic in Chresyl blue; subhymenium c. $15 \mu\text{m}$ thick, made up of small ($2\text{--}5.5 \mu\text{m}$), thin-walled, agglutinate, somewhat angular cells (sticking together when section of lamella is squashed); also in young basidiocarp lamellitrama strictly irregular and hyphae agglutinate near edge, but slightly more regular, although strongly undulating near pileus. Pileipellis made up of a thick subpellis composed of up to $140 \mu\text{m}$ long and up to $50 \mu\text{m}$ wide inflated cells (frequently once or twice constricted) with vague olivaceous grey pigment (probably vacuolar) and a thin ($5\text{--}15 \mu\text{m}$) subprapellis of gelatinizing and desintegrating and therefore hardly discernible, $1.8\text{--}4.6 \mu\text{m}$ wide, thin-walled, branching, repent, smooth hyphae at least partly arising from apices of inflated cells of subpellis, without dermatocystidia. Stipitepellis not or hardly gelatinized, with scattered narrow hairs and scattered rather small and often irregularly shaped, clavate to subutriform cells. Stipitetrama sarcodimitic, mainly composed of very long cylindrical cells ($800 \mu\text{m}$ and more long, up to $30 \mu\text{m}$ wide) with tapering ends and rather scanty $2\text{--}6 \mu\text{m}$ wide, thin- to very slightly thick-walled, here and there branching hyphae; walls weakly to distinctly dextrinoid and strongly metachromatic in Chresyl blue; vascular hyphae absent. Clamps present.

Habitat & distribution.—On thick layer of needles of *Pinus*; known only from type-locality in southeastern Norway.

Collection examined.—NORWAY, Østfold, Borge, Bevö, 27 Nov. 1982, Ø. Weholt (type; L, O).

In Kühner's monograph of *Mycena* (1938) *Hydropus* was still completely included in that genus. In the first general key in that work the present species keys out in the 'Floccipedes' if we consider the trama of the stipe continuous with that of the pileus. Because of the rather thin wall of the hollow stipe and the loose tissue in the central part of the pileus this is rather difficult to observe in the dried material of the present species but is indeed almost certainly the case here. However, none of the four species in Kühner's *Floccipedes* agrees with our material.

In Smith's monograph (1947) our species keys out in section *Omphaliariae* if the gills are considered horizontal to arcuate or decurrent, but none of his species there combines smooth cheilocystidia and abundant pleurocystidia with elongate-ellipsoid, inamyloid spores. The other possibilities with Smith are then section *Floccipedes* if we accept the stipe as floccose or section *Typicae* if we don't.

In Smith's section *Floccipedes* (non-amyloid spores) none of the three species included agrees with our species; *Mycena floccipes* (Fr.) Kühn. comes closest, because of the large pleurocystidia, but has (sub)globose spores.

In Smith's section *Typicae* we arrive with the key at a small group of species, viz. *M. trichoderma* Joss. apud Kühn., *M. kaufmanniana* A. H. Smith, and *M. pseudotenax* A. H. Smith, of which only the last one has inamyloid spores. Moreover, *M. pseudotenax* has a pileipellis rather similar to that of our species, in addition a 'slippery feel', and also grows on needle beds. It differs however from our species in several minor characters such as more crowded lamellae, smaller spores ($5.5-7 \dots 8 \times 3.5-4 \mu\text{m}$), and shorter cystidia ($50-60 \dots 90 \times 10-12 \dots 15 \mu\text{m}$).

A species with cystidia in length ($60-100 \mu\text{m}$) very similar to those of our species is *Hydropus scabripes* (Murrill) Sing., but there the spores are amyloid (be it not strongly) and in addition the lamellae are more crowded and very narrowly adnate, the pileus is brown, the cystidia are broader ($\times 10-20 \mu\text{m}$) and somewhat more ventricose, and the hymenophoral trama is very regular.

With Moser's key to *Hydropus* (1983: 184) our species cannot be named, even if we assume that the stipe in our material was flocculose in the beginning and became glabrous later on. (The floccosity of the stipe is probably not a very reliable character in this group of fungi, judging from Smith's note in his monograph on page 233 under 'Observations'.)

It should be mentioned here that the very irregular hymenophoral trama and the agglutinate hyphae with slightly thickened walls in that trama and in the subhymenium seem to be aberrant in *Hydropus* (see Singer 1982: 13). Nevertheless our species seems best placed in this genus.

REFERENCES

- KÜHNER, R. (1983). Le genre *Mycena*. In *Encycl. mycol.* 10.
 MOSER, M. (1983). Die Röhrlinge und Blätterpilze. In *Gams, Kl. KryptogFl.* 2 b/2, 5. Aufl.
 SINGER, R. (1975). The Agaricales in modern taxonomy. Ed. 3. Vaduz.
 — (1982). *Hydropus*. In *Fl. neotrop. Monogr.* 32.
 SMITH, A. H. (1947). North American species of *Mycena*. *Univ. Mich. Stud. scient. Ser.* 17.