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PHELLINUS HIPPOPHAËCOLA H. JAHN, A NEW SPECIES

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Phellinus hippophaëcola H. Jahn, sp. nov.

Polyporus robustus (Karst.) f. *hippophaës* Donk ap. Lundell & Nannf., Fungi Exsiccati Suecici, No. 449, 1937 (*nomen nudum*).

Species ex affinitate *Phellini robusti*, a quo praecipue differt carposomatis minoribus, poris paulum latioribus, superficie porarum obscure brunnea. Pileo ungulato-pulvinato, dimidiato, saepe dorsaliter adnato, reniformi, rotundato vel subrotundato, 3–7(–9) cm longo, 2–5 cm lato et 1.5–5 cm crasso, in statu juvenili breviter tomentoso, glabrescente, remote concentrice sulcato, opaco, primo ochraceo-ferrugineo, aetate fusco vel sordide cinereo, saepe algis tecto. Contexto duro, sicco lignoso, ochraceo-ferrugineo, fracto paulum iridescente. Tubulis stratosis, stratis 2–5 mm longis, saepe inaequalibus. Poris minutis, 5–7 per mm, rotundatis usque subangulatis; superficie porarum in statu fertili obscure brunnea. Basidia ut in *Phellino robusto*. Setae rarissimae vel nullae. Sporae globulosae vel subglobulosae, 6.0–7.5 × 5.5–6.5 μm, tunicis laevis, incrassatis, hyalinis, inamyloideis sed fortiter dextrinoideis et cyanophilis. Ad truncos ramosque vivos, moribundos vel mortuos Eleagnacearum generum *Hippophaë* et *Eleagnus*.

Typus (in Suecia, Uplandia, at litorem Maris Baltici, prope loco "Grisslehamn", ad truncos vetustos *Hippophaës rhamnoides* L., die 16. Augusti 1965 legerunt H., R. et M. A. Jahn) in herbario musei Lugduno Batavorum (Leiden) asservatur.

A small, pileate, perennial species of *Phellinus*, closely related and similar to *P. robustus* (Karst.) Bourd. & Galz., but the basidiocarps always smaller, ca 3–7(–9) in diam, 2–5 cm in length and about 1.5–5 cm thick, sessile, ungulate, dimidiate, often attached with the back on inclining thin branches or enclosing the branch, becoming reniform or circular, often much larger than the enclosed branch (Fig. 1, a–c). Surface concentrically sulcate, old specimens often rimose, at first yellowish-brown to rusty-brown, delicately tomentose, later smooth, grayish-brown or dirty gray, dark gray, often covered with green algae. Context hard and woody, yellowish-brown to rusty-yellow as in *P. robustus*, only temporarily blackening in KOH, broken surfaces with a silky lustre. Tubes in 2–7 layers, of the same colour as the context, not so regular as in *P. robustus*, often with holes or canals caused by larvae, the holes partly filled by loose yellow-rusty hyphae. Pores 5–7 per mm with rather thin dissepiments (always somewhat larger than in *P. robustus*), remarkably dark brown (ripe, fertile specimens seen from below!), when damaged turning yellowish-brown, when dry cracked with many thin fissures.

Context hyphae 2–5.5 μm, mostly brown, some hyaline, thin- to somewhat thick-walled, subparallel; hyphae of the dissepiments 2–4 μm. Old tubes stuffed by 1–3 μm wide, hyaline, branched hyphae. Setae lacking (or extremely rare, not observed); cystidioles often present, ventricose, with 1.5–2 μm wide, thin-

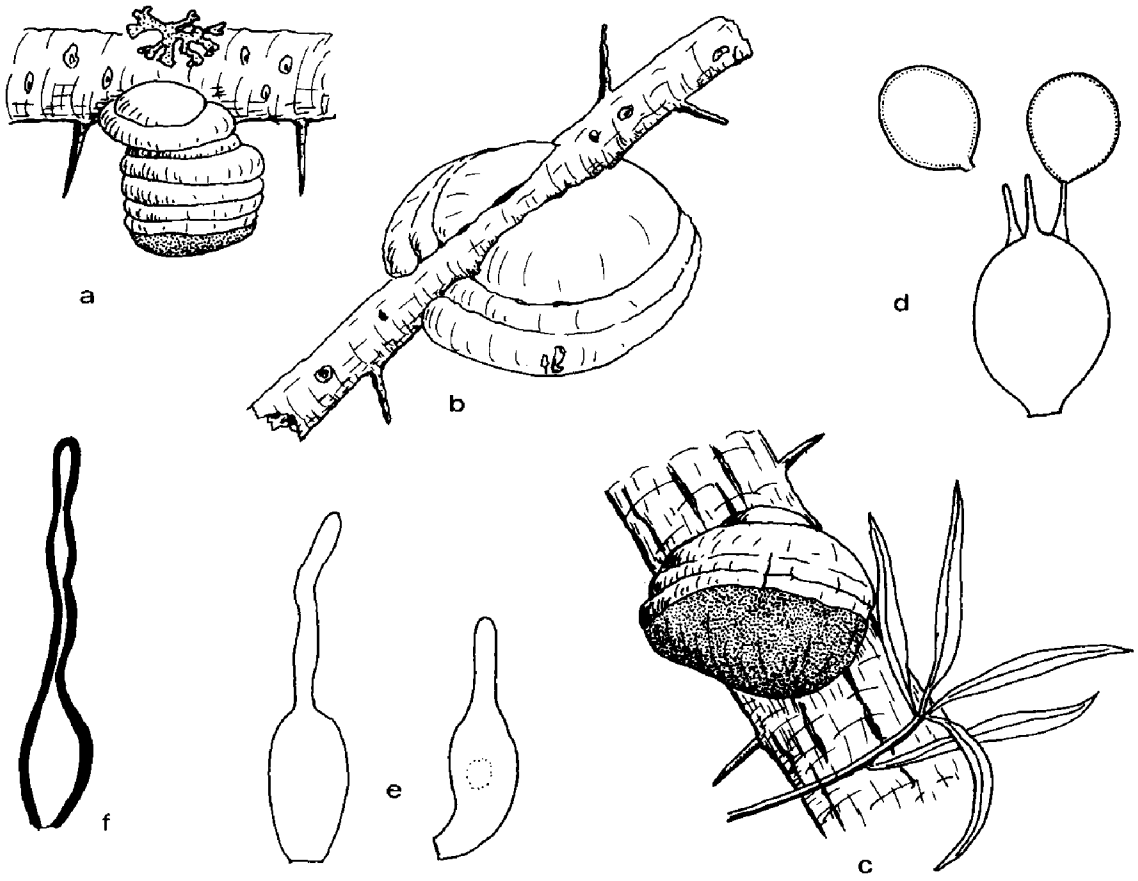

Fig. 1. *Phellinus hippophaëcola* and *P. robustus*. (a–e) *P. hippophaëcola*. (a–c) typical basidiocarps, ca ⅔ nat. size; (d) basidium and spores, ×2000; (e) two cystidioles, ×2000. (f) *P. robustus*, cystidiole with thickened brown wall (pseudoseta), ×2000.

walled, hyaline, hyphae-like necks (Fig. 1, e). Hymenium containing many crystals. Basidia subglobose to ovoid, about 10 × 13 μm. Spores subglobose, 6.0–7.5 × 5.5–6.5 μm, hyaline, with thickened walls, inamyloid but strongly dextrinoid and cyanophilous (Fig. 1, d).

This pretty little *Phellinus*, common on old shrubs of *Hippophaë rhamnoides* L. (sea buckthorn) in Europe and Asia, was first mentioned by Donk (1933, p. 248) in a footnote in the German text, as a form of *Ochroporus robustus* (Karst.) Schroet., with a short description: occurring in the Netherlands near the coast on *Hippophaë*, the basidiocarps dimidiate, or enclosing the branch on which they grow, or circular and dorsally attached, 3–7 cm large. Donk himself did not name the form. Apparently S. Lundell, in Lundell & Nannfeldt, Fungi Exsiccati Suecici, 1937, No. 449, was the first author who introduced the scientific name "forma *hippophaës* Donk." Since then, this name has been used by several European authors (Pilát 1942, p. 507; Bondartsev 1953, p. 363; Domański et al. 1973, p. 258, etc.), but none of them made a more thorough study. Since no Latin diagnosis exists, the name *hippophaës* cannot be used as a basionym for a species, therefore a new (but similar) name is given.

Most authors do not comment on the taxonomic position of this fungus. Donk (1974, p. 248), while admitting that the form on *Hippophaë* looks "rather distinct from that on oak" presumes that "this seems to be due chiefly to its smaller size and the much thinner branches from which it develops, resulting in a dif-

ferent attachment." This means that the different habit of the fungus on *Hippophaë* would be merely an adaption of the basidiocarps to a host with thinner branches, and that a mycelium originating from spores of the typical *P. robustus* on oak, but developing on *Hippophaë*, would produce such different basidiocarps. Studying the habit, ecology, frequency and the pattern of distribution of the fungus on *Hippophaë* this seems highly improbable. In fact, besides the smaller size and the deviating form of the basidiocarps there exist some other constant differences which have been overlooked hitherto. *Phellinus hippophaëcola* certainly is an independent species of the *Phellinus robustus* group [like *P. hartigii* Allesch. & Schnabl.) Bond. and *P. punctatus* (Fr.) Pilát], which has specialized on the family Eleagnaceae with the genera *Hippophaë* and *Eleagnus*.

The main features which differentiate *P. hippophaëcola* from *P. robustus* are:

(1) The basidiocarps of *P. hippophaëcola* are always smaller (2–7–9 cm) than those of *P. robustus* (5–25–50 cm), even if the carpophores grow on thicker trunks. The smaller size is obviously caused by genetical factors and not by the host. (2) The colour of the pores of ripe specimens of *P. hippophaëcola* is dark brown or dark chocolate brown, always darker than in *P. robustus* which has more or less ferrugineous pores. (3) The pores of fertile specimens of *P. hippophaëcola* always are wider than those of *P. robustus*. The number of pores per mm is about the same in both species, but *P. hippophaëcola* has narrower dissepiments. This character has been checked on a large number of specimens of the two species, and it is evident if one compares the pores side by side. (4) Setae and pseudosetae (in the sense of H. Jahn, 1967, p. 95, viz. cystidioles or basidioles growing out from a ventricose basis into a short neck or slender hyphae, with rounded tips, at first hyaline, but later often with thickening brown walls suggesting true setae) (Fig. 1, f) are lacking (or very rare) in *P. hippophaëcola* but nearly always present in *P. robustus*, at least in certain places of the tubes (European specimens). The tubes of *P. robustus*, even the youngest ones, are often partly or wholly filled by outgrown cystidioles or other hyphae; the young tubes of *P. hippophaëcola* usually are wide open. (5) The spore production of *P. hippophaëcola* seems to be longer than in *P. robustus*, judging from sections of many basidiocarps of both species. I have found *P. hippophaëcola* fertile with fresh basidia from March to November, perhaps it sporulates throughout the year in favorable regions. (6) *Phellinus hippophaëcola* has a very pronounced vitality and is much more common on its host than *P. robustus* on its main host *Quercus* (in Europe). *Phellinus hippophaëcola* is abundant in every thicket of *Hippophaë rhamnoides* with old enough bushes. In Europe, its frequency might be compared with that of *P. pomaceus* (Pers.) Maire on old plum trees (*Prunus domestica* L. and allies). *Phellinus robustus*, on *Quercus* and some other hosts (in Europe), is never so frequent and, even in forests with many old oaks, occurs only on single trees. (7) The ecology and distribution of *P. hippophaëcola* are very different from *P. robustus*. In Europe, *Hippophaë* grows on the coasts of the northern Atlantic Ocean, the North Sea, and the Baltic Sea, on dunes or stony shores, and also on the banks of rivers in mountain valleys (esp. the Alps); it forms very dense, often nearly impenetrable thickets always outside the forest zone. *Hippophaë* is even known in the countries near the Danube and the Black Sea, and continues to Asia Minor, the Caucasus, Northern Iran, and the mountains of central Asia. Judging from the distribution hitherto known (England, Norway, Denmark, Sweden, Finland, France, Belgium, Netherlands, Germany (GFR and GDR), Switzerland, Austria, Italy, Bulgaria, etc., and Altai, Uzbek S.S.R., etc. in Asia), *P. hippophaëcola* probably follows its host throughout most of its range. Besides, the fungus has been found

on *Eleagnus angustifolia* L. (Russian olive), closely related to *Hippophaë*, which occurs in cultivation or naturally, especially in the Mediterranean countries, but as yet little is known of its distribution on this host.

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