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RESEARCH ARTICLE

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Fungal Planet description sheets: 1182–1283

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Key words

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Abstract Novel species of fungi described in this study include those from various countries as follows: **Algeria**, *Phaeoacremonium adelophialidum* from *Vitis vinifera.* **Antarctica**, *Comoclathris antarctica* from soil. **Australia**, *Coniochaeta salicifolia* as endophyte from healthy leaves of *Geijera salicifolia*, *Eremothecium peggii* in fruit of *Citrus australis*, *Microdochium ratticaudae* from stem of *Sporobolus natalensis*, *Neocelosporium corymbiae* on stems of *Corymbia variegata*, *Phytophthora kelmanii* from rhizosphere soil of *Ptilotus pyramidatus*, *Pseudosydowia backhousiae* on living leaves of *Backhousia citriodora*, *Pseudosydowia indooroopillyensis*, *Pseudosydowia louisecottisiae* and *Pseudosydowia queenslandica* on living leaves of *Eucalyptus* sp. **Brazil**, *Absidia montepascoalis* from soil. **Chile**, *Ilyonectria zarorii* from soil under *Maytenus boaria.* **Costa Rica**, *Colletotrichum filicis* from an unidentified fern. **Croatia**, *Mollisia endogranulata* on deteriorated hardwood. **Czech Republic**, *Arcopilus navicularis* from tea bag with fruit tea, *Neosetophoma buxi* as endophyte from *Buxus sempervirens*, *Xerochrysium bohemicum* on surface of biscuits with chocolate glaze and filled with jam. **France**, *Entoloma cyaneobasale* on basic to calcareous soil, *Fusarium aconidiale* from *Triticum aestivum*, *Fusarium juglandicola* from buds of *Juglans regia.* **Germany**, *Tetraploa endophytica* as endophyte from *Microthlaspi perfoliatum* roots. **India**, *Castanediella ambae* on leaves of *Mangifera indica*, *Lactifluus kanadii* on soil under *Castanopsis* sp., *Penicillium uttarakhandense* from soil. **Italy**, *Penicillium ferraniaense* from compost. **Namibia**, *Bezerromyces gobabebensis* on leaves of unidentified succulent, *Cladosporium stipagrostidicola* on leaves of *Stipagrostis* sp., *Cymostachys euphorbiae* on leaves of *Euphorbia* sp., *Deniquelata hypolithi* from hypolith under a rock, *Hysterobrevium walvisbayicola* on leaves of unidentified tree, *Knufia hypolithi* and *Knufia walvisbayicola* from hypolith under a rock, *Lapidomyces stipagrostidicola* on leaves of *Stipagrostis* sp., *Nothophaeotheca mirabibensis* (incl. *Nothophaeotheca* gen. nov.) on persistent inflorescence remains of *Blepharis obmitrata*, *Paramyrothecium salvadorae* on twigs of *Salvadora persica*, *Preussia procaviicola* on dung of *Procavia* sp., *Sordaria equicola* on zebra dung, *Volutella salvadorae* on stems of *Salvadora persica*. **Netherlands**, *Entoloma ammophilum* on sandy soil, *Entoloma pseudocruentatum* on nutrient poor (acid) soil, *Entoloma pudens* on plant debris, amongst grasses. **New Zealand**, *Amorocoelophoma neoregeliae* from leaf spots of *Neoregelia* sp., *Aquilomyces metrosideri* and *Septoriella callistemonis* from stem discolouration and leaf spots of *Metrosideros* sp., *Cadophora neoregeliae* from leaf spots of *Neoregelia* sp., *Flexuomyces asteliae* (incl. *Flexuomyces* gen. nov.) and *Mollisia asteliae* from leaf spots of *Astelia chathamica*, *Ophioceras freycinetiae* from leaf spots of *Freycinetia*

Abstract (cont.)

banksii, *Phaeosphaeria caricis-sectae* from leaf spots of *Carex secta.* **Norway**, *Cuphophyllus flavipesoides* on soil in semi-natural grassland, *Entoloma coracis* on soil in calcareous *Pinus* and *Tilia* forests, *Entoloma cyaneolilacinum* on soil semi-natural grasslands, *Inocybe norvegica* on gravelly soil. **Pakistan**, *Butyriboletus parachinarensis* on soil in association with *Quercus baloot.* **Poland**, *Hyalodendriella bialowiezensis* on debris beneath fallen bark of Norway spruce *Picea abies*. **Russia**, *Bolbitius sibiricus* on a moss covered rotting trunk of *Populus tremula*, *Crepidotus wasseri* on debris of *Populus tremula*, *Entoloma isborscanum* on soil on calcareous grasslands, *Entoloma subcoracis* on soil in subalpine grasslands, *Hydropus lecythiocystis* on rotted wood of *Betula pendula*, *Meruliopsis faginea* on fallen dead branches of *Fagus orientalis*, *Metschnikowia taurica* from fruits of *Ziziphus jujube*, *Suillus praetermissus* on soil, *Teunia lichenophila* as endophyte from *Cladonia rangiferina.* **Slovakia**, *Hygrocybe fulgens* on mowed grassland, *Pleuroflammula pannonica* from corticated branches of *Quercus* sp. **South Africa**, *Acrodontium burrowsianum* on leaves of unidentified *Poaceae*, *Castanediella senegaliae* on dead pods of *Senegalia ataxacantha*, *Cladophialophora behniae* on leaves of *Behnia* sp., *Colletotrichum cliviigenum* on leaves of *Clivia* sp., *Diatrype dalbergiae* on bark of *Dalbergia armata*, *Falcocladium heteropyxidicola* on leaves of *Heteropyxis canescens*, *Lapidomyces aloidendricola* as epiphyte on brown stem of *Aloidendron dichotomum*, *Lasionectria sansevieriae* and *Phaeosphaeriopsis sansevieriae* on leaves of *Sansevieria hyacinthoides*, *Lylea dalbergiae* on *Diatrype dalbergiae* on bark of *Dalbergia armata*, *Neochaetothyrina syzygii* (incl. *Neochaetothyrina* gen. nov.) on leaves of *Syzygium chordatum*, *Nothophaeomoniella ekebergiae* (incl. *Nothophaeomoniella* gen. nov.) on leaves of *Ekebergia pterophylla*, *Paracymostachys euphorbiae* (incl. *Paracymostachys* gen. nov.) on leaf litter of *Euphorbia ingens*, *Paramycosphaerella pterocarpi* on leaves of *Pterocarpus angolensis*, *Paramycosphaerella syzygii* on leaf litter of *Syzygium chordatum*, *Parateichospora phoenicicola* (incl. *Parateichospora* gen. nov.) on leaves of *Phoenix reclinata*, *Seiridium syzygii* on twigs of *Syzygium chordatum*, *Setophoma syzygii* on leaves of *Syzygium* sp., *Starmerella xylocopis* from larval feed of an Afrotropical bee *Xylocopa caffra*, *Teratosphaeria combreti* on leaf litter of *Combretum kraussii*, *Teratosphaericola leucadendri* on leaves of *Leucadendron* sp., *Toxicocladosporium pterocarpi* on pods of *Pterocarpus angolensis.* **Spain**, *Cortinarius bonachei* with *Quercus ilex* in calcareus soils, *Cortinarius brunneovolvatus* under *Quercus ilex* subsp. *ballota* in calcareous soil, *Extremopsis radicicola* (incl. *Extremopsis* gen. nov.) from root-associated soil in a wet heathland, *Russula quintanensis* on acidic soils, *Tubaria vulcanica* on volcanic lapilii material, *Tuber zambonelliae* in calcareus soil. **Sweden**, *Elaphomyces borealis* on soil under *Pinus sylvestris* and *Betula pubescens.* **Tanzania**, *Curvularia tanzanica* on inflorescence of *Cyperus aromaticus.* **Thailand**, *Simplicillium niveum* on *Ophiocordyceps camponoti-leonardi* on underside of unidentified dicotyledonous leaf. **USA**, *Calonectria californiensis* on leaves of *Umbellularia californica*, *Exophiala spartinae* from surface sterilised roots of *Spartina alterniflora*, *Neophaeococcomyces oklahomaensis* from outside wall of alcohol distillery. **Vietnam**, *Fistulinella aurantioflava* on soil. Morphological and culture characteristics are supported by DNA barcodes.

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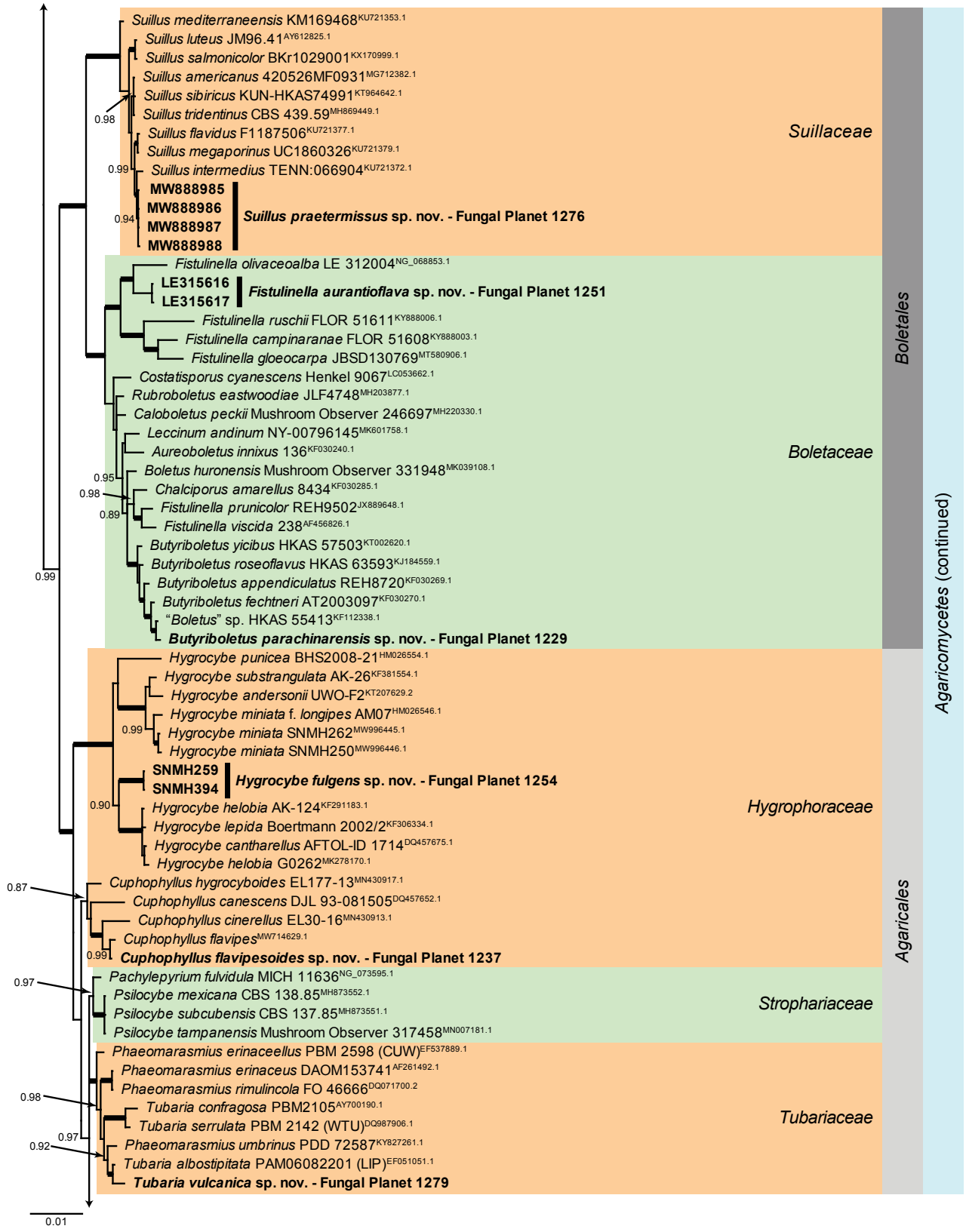


Overview *Agaricomycetes* phylogeny (cont.) – part 2


Cuphophyllus flavipesoides

Fungal Planet 1237 – 13 July 2021

Cuphophyllus flavipesoides J.B. Jordal & E. Larss., *sp. nov.*

Etymology. Refers to its morphological similarity of *Cuphophyllus flavipes*.

Classification — *Hygrophoraceae*, *Agaricales*, *Agaricomycetes*.

Basidiomata clitocybioid. *Pileus* 15–40(–50) mm diam, as young conical to plano-convex with a broad and blunt umbo and incurved margin, later becoming more plane, with age sometimes becoming slightly depressed and with somewhat undulating and lobed margin. Lubricous to subviscid, sometimes translucently striate at margin up to 2/3 towards the centre, hygrophanous, as young grey violet or ash grey to greyish brown to brown, with a violaceous tint, dark at centre, paler towards the margin and with age discolouring to pale grey to grey violet. *Lamellae* short to deeply decurrent, arcuate, distant to subdistant, lamellae that reach the stipe = 30–40(–50), interspaced with lamellulae, a few furcate, intervening, first whitish to greyish, when greyish with paler margin, with age pale greyish. *Stipe* 30–65 × 3–7 mm, cylindrical and usually thickest at the apex or upper half, tapering and often bending towards the base, dry, matt, fibrillose lengthwise, pale, whitish grey, at the base normally pale yellow, up to 1/3 of the stipe. *Context* concolorous. *Smell* weak, indistinct, *taste* mild.

Micro-morphological characters measured from dried material dehydrated in 3 % KOH and ammoniacal Congo red solution. *Spores* (5.5–)7.0–7.3(–8.8) × (4.2–)5.2–5.4(–6.1) µm, n = 117, av. 7.2 × 5.3 µm, Q = 1.34–1.39, subglobose to ellipsoid, often lacrimoid, with a distinct and often oblique apiculus, hyaline, white in deposit, non-amyloid. *Basidia* 35–54 × 7.5–9 µm, 2–4-spored observed, sterigmata 5–6.5 µm. *Lamellar trama* irregular interwoven, made up of cylindrical hyphae, 5.5–7 µm wide and 30–60 µm long, some branched and inflated. *Pileipellis* an ixocutis, 50–110 µm thick with radially interwoven hyphae, 3–6 µm wide, 30–60 µm long, incrusted with finely granular pigments. Hyphae in subpellis interwoven, 7–10 µm wide, 40–55 µm long, with inflated end cells up to 20 µm wide. *Clamp connections* frequent in all tissues.

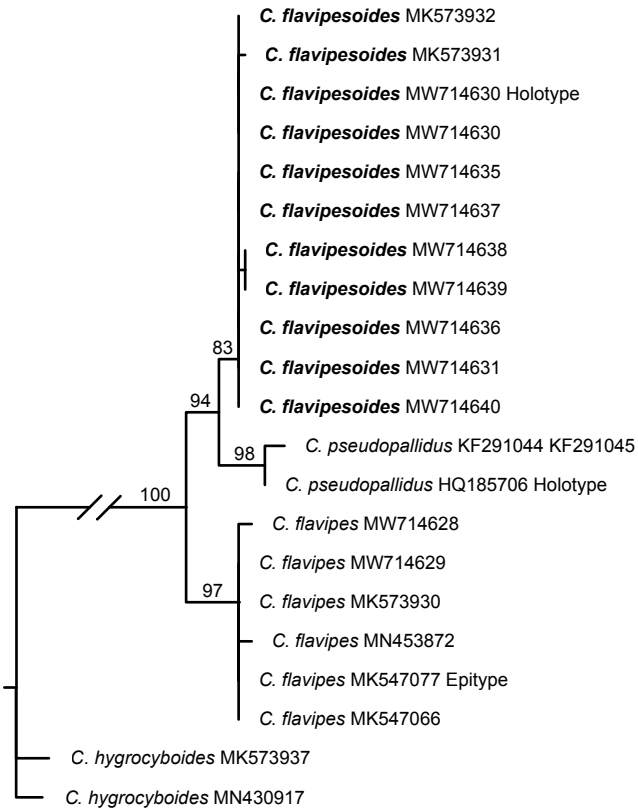
Ecology & Distribution — Associated with nutrient poor semi-natural grasslands, among mosses, herbs and grasses, with the soil ranging from rather acid to (rarely) moderately calcareous. Confirmed distribution so far from Norway, Sweden and Denmark.

Typus. Norway, Vestland, Alver, Lygra (Utluro), 25 m a.s.l., in semi-natural grassland pasture, 3 Sept. 2019, *J.B. Jordal*, JBJ19-013 (holotype OF-258322, isotype GB-0207610, ITS-LSU sequence GenBank MW714630, MycoBank MB 839261).

Notes — *Cuphophyllus flavipesoides* belongs in a complex of closely related and morphologically similar species. In macro- and micromorphology it is very similar to *C. flavipes*. On average we find that the spores in *C. flavipes* are more subglobose with the average measurements 7.1 × 5.6 µm, and Q = 1.22–1.27, compared to the average in *C. flavipesoides*, 7.2 × 5.3 µm, Q = 1.34–1.39. In Voitk et al. (2020) an average value for the spores of the selected epitype of *C. flavipes* was measured to Q = 1.2. The two species differ in ITS1 sequence data by four substitutions and four single bp insertion/deletion events, in the ITS2 by six substitutions and three single bp insertion/deletion events. The sequences in the *C. flavipesoides* clade are homogenous, suggesting an independent evolutionary lineage.

Based on the sequence data available, the two species differ somewhat in geographic distribution where *C. flavipes* seems to be more common in southern Europe and confirmed from Italy, Austria, Germany, UK, Denmark, SW Norway and S Sweden, whereas *C. flavipesoides* has a more northern distribution range and is confirmed from Norway, Sweden and Denmark and is most common in the northern/boreal areas. However, the two species overlap and co-occur in some areas in southern parts of Scandinavia.

Cuphophyllus pseudopallidus is also closely related and resembles *C. flavipesoides*, but it differs in morphology by having a pale beige brown (ecru-drab) to pale greyish pileus colour and ivory yellow lamellae, a stipe that is glabrous, striate and white-shining, and somewhat smaller spores (Hesler & Smith 1963, Voitk et al. 2020). So far only known from North America and Japan.



Phylogram obtained using PAUP v. 4.0a (Swofford 2003) based on ITS and LSU data showing the position of *C. flavipesoides* to *C. flavipes* and *C. pseudopallidus*. Bootstrap support values are indicated on branches. *Cuphophyllus flavipesoides* is marked in **bold** and the holotype is indicated.

Colour illustrations. Cuphophyllus flavipesoides habitat in semi-natural grassland, from the type locality in Vestland, Alver, Lygra, Norway. *In situ* basidiomata of the holotype; hymenium and basidiospores of the holotype (OF-258322). Scale bars = 10 µm for spores, 20 µm for hymenium.

Supplementary material

FP1237 Additional materials examined.

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FP1237 Additional materials examined.

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