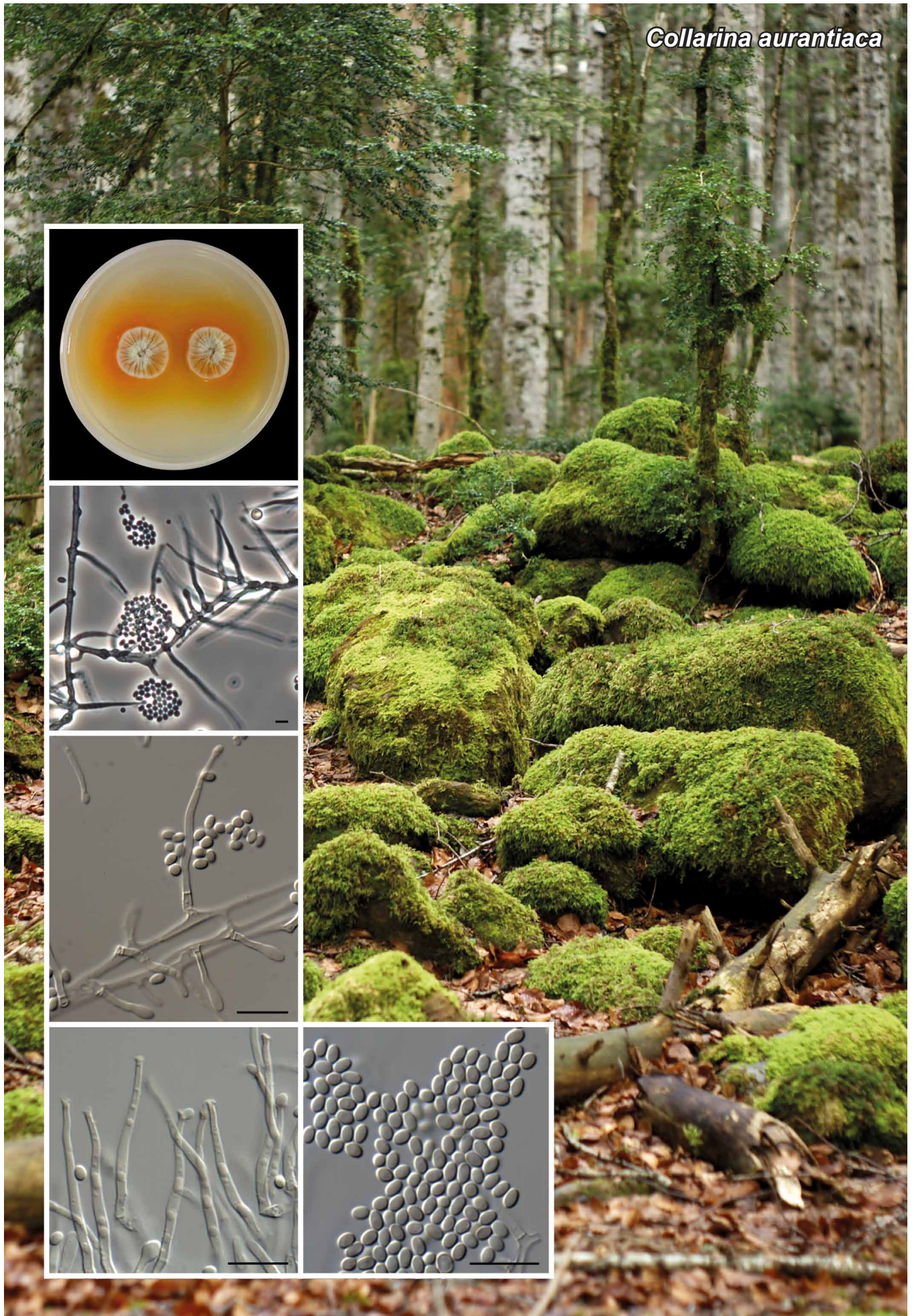


Collarina aurantiaca



Fungal Planet 311 – 24 November 2014

Collarina* Giraldo, Gené & Guarro, *gen. nov.*Etymology.* Referring to the presence of conspicuous collarettes.

Mycelium consisting of branched, septate, smooth-walled hyphae. *Setae* interspersed with conidiophores, erect, unbranched, septate at the base, swollen at the apex, hyaline. *Conidiophores* erect, simple or poorly branched. *Conidiogenous cells* enteroblastic, monophialidic, discrete, cylindrical to acicular, with con-

spicuous collarettes, subhyaline or pale brown. *Conidia* unicellular, ellipsoidal or subglobose, hyaline to brownish in mass, arranged in slimy heads.

Type species. *Collarina aurantiaca*.
MycoBank MB809407.

Collarina aurantiaca* Giraldo, Gené & Guarro, *sp. nov.*Etymology.* Referring to the diffusible orange pigment produced on PDA medium.

Mycelium consisting of septate, hyaline, smooth- and thin-walled hyphae, 1.5–2 µm wide. *Setae* arising directly from vegetative hyphae and interspersed with conidiophores, erect, unbranched, with a basal septum, straight to slightly flexuose, cylindrical and thick-walled towards the base, swollen and thin-walled at the apex, up to 20 µm long, 2 µm wide at the base, 3–4 µm at the apex, hyaline, smooth-walled. *Conidiophores* erect, simple or poorly branched, up to 40 µm long, hyaline or pale brown, smooth-walled. *Phialides* arising directly from vegetative hyphae or ropes of hyphae, cylindrical, slightly tapering at the apex, straight or slightly bent, 10–40 × 1–1.5 µm, with a brownish funnel-shaped collarette, subhyaline to pale brown with age, thick- and smooth-walled. *Conidia* ellipsoidal or subglobose, 2.5–3(–4) × 1–2 µm, hyaline to brownish in mass, smooth- and thin-walled. Chlamydo-spores and sexual morph not observed.

Culture characteristics — Colonies on OA and PCA at 25 °C attaining 8–14 mm diam in 14 d, brownish grey (6E2) (Kornerup & Wanscher 1978), flat, dusty. On PDA at 25 °C reaching 14–18 mm diam in 14 d, greyish white (1B1), radially folded, felt-like or fasciculate, reverse brownish grey (6D3) with a diffusible orange pigment. Optimum temperature for growth 25 °C, minimum 12 °C, maximum 30 °C.

Typus. SPAIN, Aragón, Huesca province, Ordesa y Monte Perdido National Park, isolated from sediments of Ara River, 23 Mar. 2011, coll. A. Giraldo, M. Hernández & J. Capilla, isol. A. Giraldo (holotype CBS H-21781, cultures ex-type CBS 138274 = FMR 11784; ITS sequence GenBank KJ807180, LSU sequence GenBank KJ807177, MycoBank MB809408).

Additional specimen examined. SPAIN, Aragón, Huesca province, Torla to direction Bujaruelos, from forest soil, 19 June 2009, coll. M. Hernández, J. Mena-Portales, J. Cano, isol. A. Giraldo (CBS 138273 = FMR 11134; ITS sequence GenBank KJ807181, LSU sequence GenBank KJ807178).

Colour illustrations. Forest from Ordesa y Monte Perdido National Park (Aragón, Spain), where the sample was collected (photo: Javier Capilla). Colony on PDA after 21 d at 25 °C, conidiophores simple with conidia arranged in slimy heads, phialides with brownish funnel-shaped collarettes and setae, ellipsoidal conidia. Scale bars = 10 µm.

Notes — The SSU sequence of *Collarina aurantiaca* revealed that it belongs to the *Clavicipitaceae* s.str. (*Hypocreales*, *Sordariomycetes*), with *Chamaeleomyces viridis*, *C. granulomatis*, *Pochonia bulbillosa*, *P. rubescens* and *Nomuraea rileyi* being the closest species. *Chamaeleomyces* differs from *Collarina* by pale green to greenish grey colonies, and a yeast-like growth, phialides basally swollen with narrow necks and conidia in fragile chains; *Pochonia* has yellowish white colonies, slender acicular phialides commonly arranged in whorls, and some species produce dictyochlamydo-spores and conidia in chains; *N. rileyi* has pale green slow-growing colonies, cylindrical phialides with short necks and greenish coloured conidia (Zare et al. 2001, Sung et al. 2007, Sigler et al. 2010). Although members of *Clavicipitaceae* s.str. have been reported as important entomopathogens of *Lepidoptera*, *Homoptera* and *Coleoptera*, they are common soil fungi.

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Cordyceps* sp. (GenBank AB027378, Identities = 975/1029 (95 %), Gaps = 12/1029 (1 %)), *Eucasphaeria capensis* CBS 120027 (GenBank EF110619, Identities = 973/1029 (95 %), Gaps = 5/1029 (0 %)) and *Ascopolyporus philodendrus* (GenBank AY886545, Identities = 977/1037 (94 %), Gaps = 14/1037 (1 %)). The closest hits using the ITS sequence had the highest similarity to '*Acremonium psammosporum*' H28 (GenBank GU566287, Identities = 593/593 (100 %), no gaps) and with an unidentified hypocrealean fungus (GenBank KC007264, Identities = 544/550 (99 %), no gaps). *Acremonium psammosporum* was described by Gams (1971) and is characterised by slow-growing colonies with an orange-ochraceous reverse; conidiophores sometimes branched, up to 50 µm long, straight phialides with short collarettes; subglobose conidia, slightly apiculated at base, hyaline, 1.8–3.3 × 1.2–1.6 µm. *Collarina aurantiaca* differs morphologically from *A. psammosporum* by the presence of setae, conidiophores simple, shorter phialides (up to 40 µm), funnel-shaped collarettes and bigger and brownish conidia. In addition, the LSU sequence of the type strain of *A. psammosporum* (CBS 590.63) was 6.9 % different.

Collarina resembles *Monocillium* (asexual morphs of *Niesslia*) with the presence of thickened walls at the base in both phialides and setae. However, *Monocillium* species produce fast-growing colonies, phialides without collarettes and hyaline conidia that can be elongated and septate in several species (Gams 1971, Gams & Turham 1996, Girlanda & Luppi-Mosca 1998, Ramaley 2001).