
Pseudosubramaniomyces septatus

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Pseudosubramaniomyces septatus Torres-Garcia, Gené, Dania García, *sp. nov.*

Etymology. Name refers to the presence of septate conidia.

Classification — *Beltraniaceae*, *Xylariales*, *Sordariomycetes*.

On potato carrot agar (PCA) at 25 °C. *Mycelium* partly superficial, partly immersed, composed of branched, septate, pale brown, smooth hyphae, 1.5–2 µm wide. *Conidiophores* solitary, erect, unbranched, septate, pale brown at the base, hyaline at the apex, smooth, subcylindrical, 9–66 × 2–3 µm. *Conidiogenous cells* integrated, terminal, polyblastic, sympodial, denticulate, with up to five denticles, hyaline, smooth, subcylindrical, 14–22 × 2–2.5 µm. *Conidia* dry, at first solitary, latter forming short branched or unbranched chains, dimorphic; apical conidia aseptate, pale brown, smooth, cylindrical to subcylindrical, with obtuse apex and truncate base, 27–34 × 2.5–4 µm; intercalary conidia (including ramoconidia), 0–1(–2)-septate, hyaline to subhyaline, smooth, fusoid or navicular, 12–24.5 × 2–4 µm. *Sexual morph* not observed.

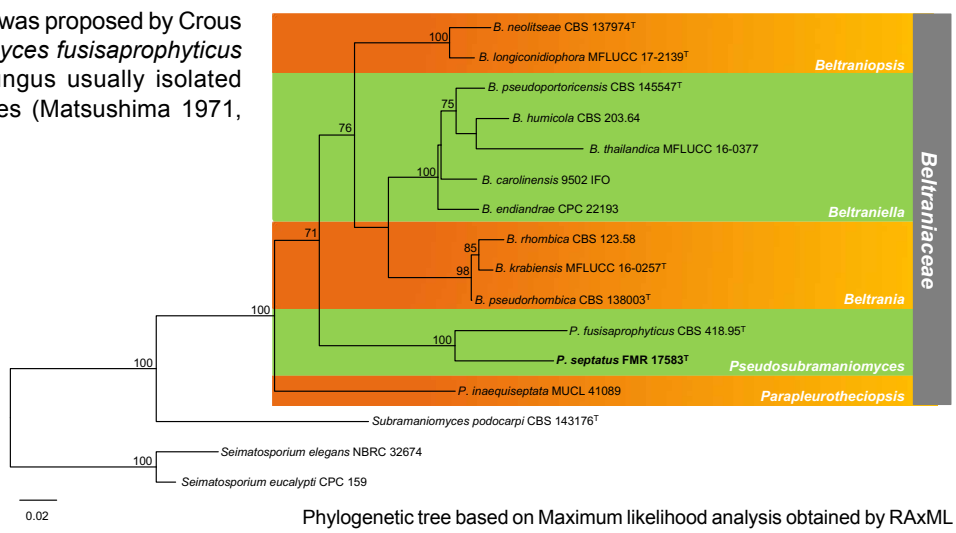
Culture characteristics at 25 °C after 1 wk — Colonies on PCA reaching 12–16 mm diam, slightly elevated, dull green (30E4) to white (1A1) (Kornerup & Wanscher 1978), velvety, regular margin; reverse dull green (30E4) to white (1A1); sporulation sparse. On potato dextrose agar (PDA) reaching 21 mm diam, slightly elevated, greyish brown (5E3) to white (1A1), velvety, regular margin; reverse yellowish white (3A2); sporulation absent. On oatmeal agar (OA) reaching 9–12 mm diam, flat, white (1A1), velvety, regular margin; reverse brownish grey (4F2) to greyish yellow (4C5); sporulation absent.

Cardinal temperature for growth — Opt 25 °C, max 30 °C, min 5 °C.

Typus. Spain, Catalonia, Barcelona province, Montseny Natural Park, El Sot de l'Infern stream, fluvial sediments, Oct. 2018, *D. Torres-Garcia* (holotype FMR H-17583, culture ex-type FMR 17583, also in CBS; LSU and ITS sequences GenBank LR700217 and LR700216, MycoBank MB837574).

Notes — *Pseudosubramaniomyces* was proposed by Crous et al. (2017a) based on *Subramaniomyces fusisaprophyticus* (= *Ramularia fusisaprophytica*), a fungus usually isolated from decaying leaves of different trees (Matsushima 1971, Kirk 1982). The genus is characterised by having solitary, unbranched conidiophores and terminal, polyblastic, denticulate conidiogenous cells, which give rise to catenate conidia. It resembles *Subramaniomyces* but differs by the lack of lateral conidiogenous cells and tends to have pale brown conidiophores, in contrast to the dark brown conidiophores observed in *Subramaniomyces* (Varghese & Rao 1980, Crous et al. 2017a). Of note however is that the presence of dimorphic conidia (i.e., hyaline to pale brown, ellipsoidal to broadly fusoid intercalary conidia vs elongate fusoid to acicular and brown terminal conidia), typical of *S. fusisaprophyticus* (Kirk 1982) and also observed in *P. septatus*, was not mentioned in the protologue of *Pseudosubramaniomyces*. *Pseudosubramaniomyces septatus* differs from *P. fusisaprophyticus* and other accepted species of *Subramaniomyces* (Varghese & Rao 1980, Braun & Hill 2002, Da Cruz et al. 2007, Crous et al. 2017a) mainly by the presence 0–2-septate intercalary conidia. Furthermore, *P. septatus* has longer intercalary (12–24.5 µm) and terminal (27–34 µm) conidia than those of *P. fusisaprophyticus,* which measure (13–)17–18.5(–21) µm and (18–)25–31 µm long, respectively (Kirk 1982).

Our phylogenetic analysis using the barcodes LSU and ITS places *P. septatus* close to the species *P. fusisaprophyticus* in the family *Beltraniaceae*. A megablast search using **LSU** sequences shows that *P. septatus* has a similarity of 98.27 % (737/750) with *P. fusisaprophyticus* (CBS 418.95; GenBank EU040241.1) and 97.60 % (732/750) with *Beltraniopsis neolitseae* (CBS 137974; GenBank MH878610.1); meanwhile the similarity using **ITS** barcode was 91.24 % (500/548) with *P. fusisaprophyticus* (CBS 418.95; GenBank EU040241.1) and 90.42 % (500/553) with *B. neolitseae* (CBS 137974; GenBank NR148072.1).



Phylogenetic tree based on Maximum likelihood analysis obtained by RAxML using the combined LSU and ITS sequences of *Pseudosubramaniomyces* and related genera in the family *Beltraniaceae*. Bootstrap support values above 70 % are indicated on the nodes. The alignment included 1 530 bp and was performed using Kimura-2 parameter Gamma distribution with Invariant sites (G+I) as the best nucleotide substitution model. The tree was rooted with *Seimatosporium elegans* NBRC 32674 and *Seimatosporium eucalypti* CPC 159. The alignment was constructed with MEGA v. 6 software (Tamura et al. 2013). The new species proposed in this study is indicated in **bold** face. A superscript T denotes ex-type cultures.

Colour illustrations. Montseny Natural Park, Catalonia, Spain. Colony on PDA and PCA after 7 d at 25 °C; conidiophores and conidia after 14 d at 25 °C. Scale bars = 25 µm (habitat in PCA), 10 µm (microscopic structures in PCA).

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