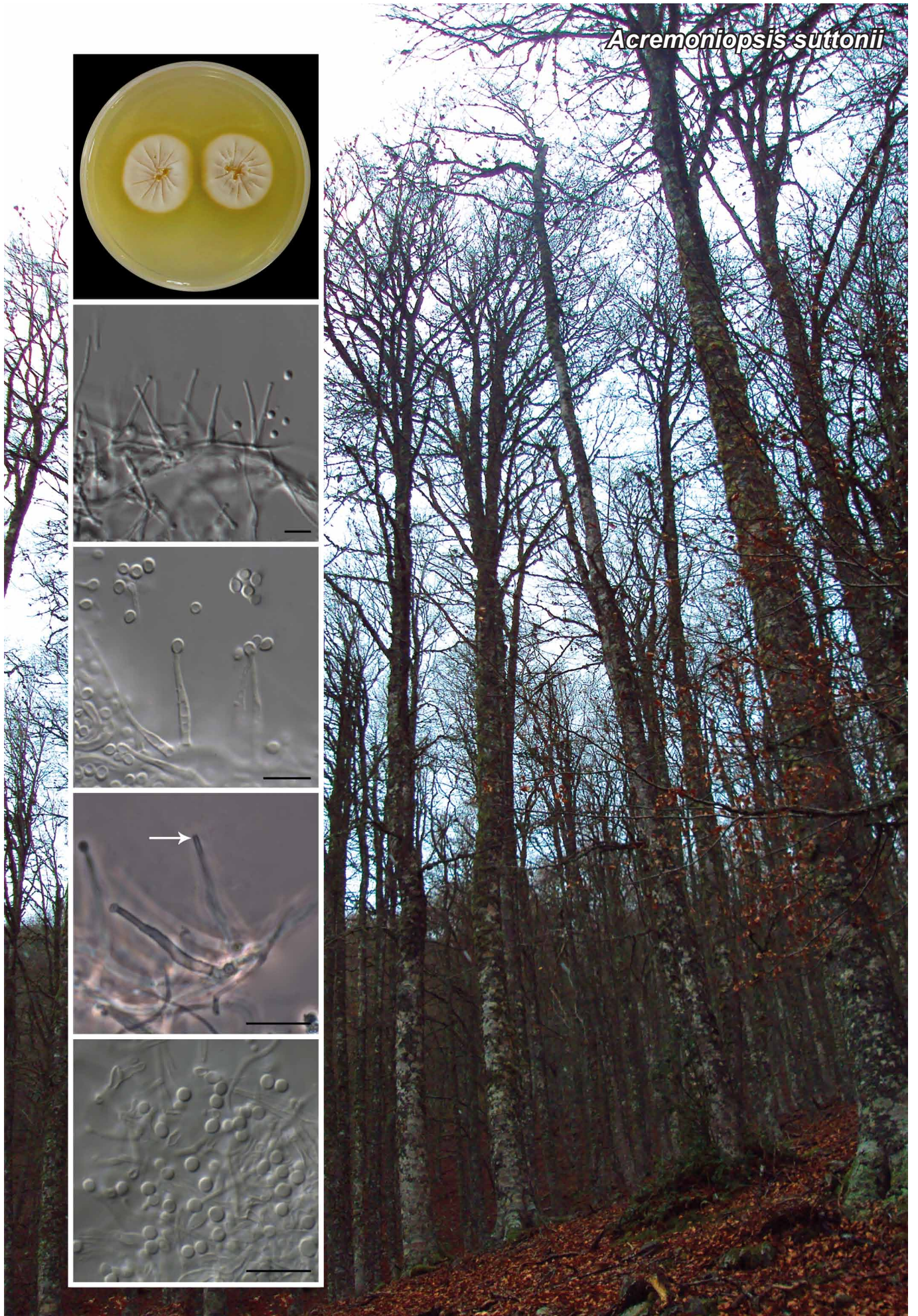
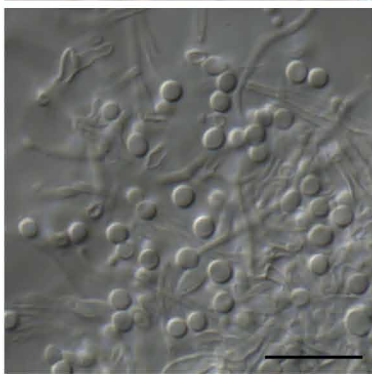
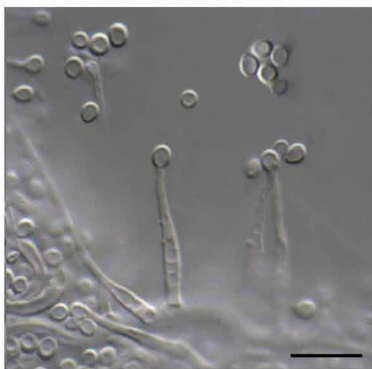
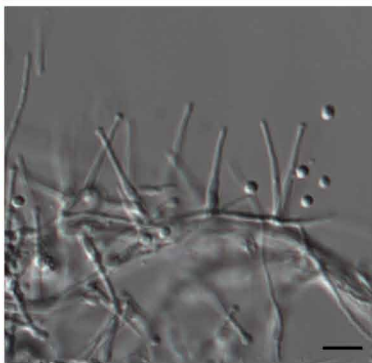


Acremoniopsis suttonii



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Acremoniopsis* Giraldo, Gené & Guarro, *gen. nov.

Etymology. Referring to the similarity with the genus *Acremonium*.

Mycelium consisting of branched, septate, smooth-walled hyphae. *Conidiophores* erect, simple or poorly branched. *Conidigenous cells* enteroblastic, monophalidic, discrete, cylindrical to

subulate, subhyaline. *Conidia* unicellular, globose or subglobose, hyaline, arranged in slimy heads.

Type species. *Acremoniopsis suttonii*.
MycoBank MB809883.

Acremoniopsis suttonii* Giraldo, Gené & Guarro, *sp. nov.

Etymology. Named in honour of the American mycologist Deanna A. Sutton.

Mycelium consisting of septate, hyaline, smooth- and thin-walled hyphae, 1–1.5 µm wide. *Conidiophores* consisting of single phialides arising orthotropically and directly from vegetative hyphae or ropes of hyphae. *Phialides* cylindrical to subulate, (12–)16–30(–40) µm long, 1.5–2 µm wide at the base, with distinct periclinal thickening at the conidigenous locus, hyaline, thin-walled and rugose towards the base. *Conidia* unicellular, globose or subglobose, 2–3 × 2 µm, hyaline, smooth- and thick-walled, in slimy heads. Chlamydospores and sexual morph not observed.

Culture characteristics — Colonies on OA at 25 °C attaining 8–9 mm diam after 2 wk, yellowish white (2A2) (Kornerup & Wanscher 1978), flat, membranous; reverse pastel yellow (1A4). On PDA at 25 °C reaching 15–21 mm diam after 2 wk, white (1A1), radially folded, dusty; reverse pastel yellow (2A4); exudate and diffusible pale yellow pigment (2A5). Optimum growth temperature 25 °C, minimum 12 °C, maximum 35 °C.

Typus. SPAIN, Burgos, natural area of Sierra de la Demanda, isolated from forest soil, Nov. 2010, coll. J. Gené & M. Hernández, isol. A. Giraldo (holotype CBS H-21936, cultures ex-type CBS 138708 = FMR 11780; ITS sequence GenBank KJ807182, LSU sequence GenBank KJ807179, MycoBank MB809884).

Notes — *Acremonium* is a polyphyletic genus with species spread across different orders of the *Sordariomycetes*, but are mainly placed in the *Hypocreales* (Glenn et al. 1996, Perdomo et al. 2011, Summerbell et al. 2011, Giraldo et al. 2012). *Acremonium alternatum*, the type species of the genus, was recently epitypified with the strain CBS 407.66, which was placed in the family *Bionectriaceae* (Summerbell et al. 2011). In *Hypocreales*, there are still some traditional species of *Acremonium* phylogenetically distant from *A. alternatum* and *Bionectriaceae* that could represent novel genera. Although *Acremoniopsis* shows the typical *Acremonium* morphology, it is phylogenetically closer to *nectriaceous* species such as *Pleonectria pyrrochlorata* and *P. virens*, rather than *bionectriaceous* species, so we preferred

to accommodate the species described here within a new genus. *Acremoniopsis suttonii* produces a diffusible pale yellow pigment similar to *Acremonium citrinum*, *A. vitellinum*, *A. chrysogenum* and *A. flavum*. The main difference between the first two species and *Acremoniopsis suttonii* is that they produce conidia arranged in chains (Gams 1971, Giraldo et al. 2014). Additionally, *A. chrysogenum* has colonies with a yeast-like appearance and ellipsoidal conidia, and *A. flavum* produces ellipsoidal conidia, abundant chlamydospores and is thermo-tolerant. *Acremonium guillematii* exhibits yellow colonies, but does not produce diffusible pigment into the agar (Gams 1971). Previous phylogenetic studies have demonstrated that *Acremonium citrinum*, *A. chrysogenum* and *A. flavum* are members of *Bionectriaceae* (Summerbell et al. 2011, Giraldo et al. 2014) while *A. vitellinum* and *A. guillematii* form a weakly supported clade near to the *Clavicipitaceae* (Summerbell et al. 2011). *Acremonium pteridii* produces similar subglobose conidia to those of *A. suttonii*, but shows chondroid hyphae, abundant crystals and partially branched conidiophores (Gams 1971) nested in the *Gliomastix/Bionectria* clade (Summerbell et al. 2011).

Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits using the LSU sequence are *Parasarcopodium ceratocary* CBS 110664 (GenBank AY425026; Identities = 772/796 (97 %), Gaps = 1/796 (0 %)), *Pleonectria pyrrochlorata* CBS 125131 (GenBank HM484570; Identities = 774/799 (97 %), Gaps = 3/799 (0 %)), *P. virens* A.R. 4558 (GenBank JF832754; Identities = 770/795 (97 %), Gaps = 3/795 (0 %)) and '*Acremonium persicinum*' CBS 110646 (GenBank HQ232088; Identities = 773/800 (97 %), Gaps = 4/800 (0 %)). *Parasarcopodium ceratocary* (incertae sedis, *Hypocreales*) has verruculose conidiophores with rows or whorls of phialides and cylindrical conidia with amorphous mucoid appendages at both ends (Mel'nik et al. 2004); while *Pleonectria* species (*Nectriaceae*, *Hypocreales*) produce a pycnidial asexual morph (zythiostroma-like) on the natural substratum, with verticillated conidiophores, intercalary phialides and ellipsoidal conidia; and sporodochial conidiophores, densely branched with cylindrical phialides and allantoid conidia in culture (Hirooka et al. 2012).

Colour illustrations. Forest from the natural area of Sierra de la Demanda (Burgos, Spain), where the soil sample was collected. Colony on PDA after 21 d at 25 °C, phialides and globose or subglobose conidia. Scale bars = 10 µm.