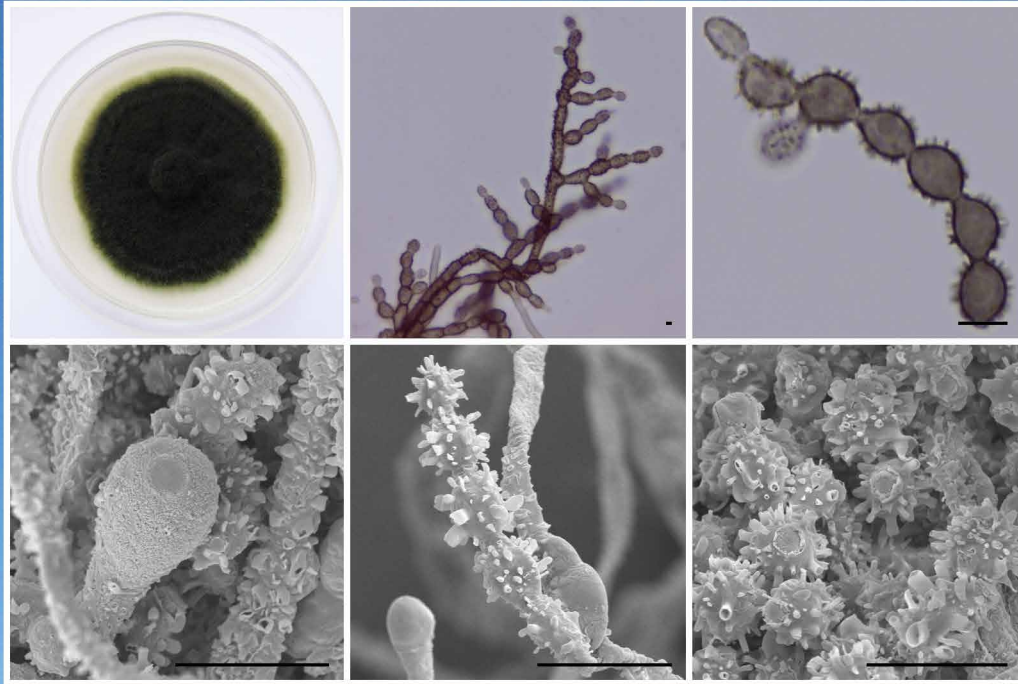


Kosmimatamyces alatophylus

Fungal Planet 1085 – 29 June 2020

Kosmimatamyces* Bianchin., Reinoso F., Rodr.-Andr., Cano & Stchigel, *gen. nov.

Etymology. From Greek *κοσμήματα*-, jewellery, and *-μύκης*, fungus, because of the microscopic look of the fungus.

Classification — *Capnodiaceae*, *Capnodiales*, *Dothideomycetidae*, *Dothideomycetes*.

Mycelium consisting of branched, septate, pale to dark brown, thick-walled hyphae, sometimes coarsely ornamented. *Conidiophores* solitary, macronematous or semimacronematous, erect, straight to flexuous, from hyaline to dark brown, thick- and smooth- to rough-walled, cylindrical, narrow, branched or not, branches

terminal and lateral, in angles of 45 to 90°. *Conidiogenous cells* determinate, integrated, terminal and intercalary, mono- or polyblastic, pale to dark brown, verrucose, scars truncate. *Conidia* holoblastic, 0–1-septate, brown to dark brown, thick-walled, globose, ovoid or ellipsoid, ornamented with spines and crater-like warts, with dark scars at one or both ends, arranged in branching acropetal chains.

Type species. *Kosmimatamyces alatophylus* Bianchin., Reinoso F., Rodr.-Andr., Cano & Stchigel.
Mycobank MB833527.

Kosmimatamyces alatophylus* Bianchin., Reinoso F., Rodr.-Andr., Cano & Stchigel, *sp. nov.

Etymology. From Greek *αλατος*-, salt, and *-φιλος*, lover, because of the environment from which the fungus was recovered.

Mycelium consisting of branched, septate, thick-walled, 2.5–4.5 µm wide hyphae. *Conidiophores* solitary, macronematous or semimacronematous, erect, straight to flexuous, from hyaline to dark brown, thick- and smooth-walled to verrucose along its length, branched or unbranched, branches terminal or lateral, in an angle 45 to 90°, 13–100 × 3.5–6 µm. *Conidiogenous cells* determinate, integrated, terminal or intercalary, pale to dark brown, verrucose, mono- or polyblastic, 8–12 × 5–7.5 µm, scars truncate of 2–3.5 µm wide. *Ramoconidia* aseptate, pale to dark brown, thick- and smooth-walled to verrucose, subcylindrical, 8.5–25 × 3–6 µm. *Conidia* 0–1-septate, brown to dark brown, thick-walled, with a spinulose, digitate, pustulate to crater-like ornamentation, globose, limoniform to ovoid or ellipsoid, 6–11 × 5–10 µm, with one or more notorious scars, arranged in branching acropetal chains, of schizolytic secession.

Culture characteristics — (after 2 wk in darkness at 25 °C). Colonies on oatmeal agar (OA) up to 37 mm diam, flat, slightly dusty to floccose, greyish sepia (Rayner 1970), aerial mycelium scarce, margins entire, exudates as olivaceous brown; reverse black, diffusible pigments absent. Colonies on potato dextrose agar (PDA) up to 39 mm diam, flat, velvety, radiate and sulcate, greyish sepia at centre, greyish white to the borders, margins regular, scarce droplets of olivaceous exudates; reverse olive black to greyish sepia, diffusible pigments absent. On malt extract agar (MEA) up to 34 mm diam, velvety, zonate, radially folded and somewhat elevated, pale olivaceous grey, mostly consisting of vegetative mycelium, margins irregular; reverse greenish black, diffusible pigments absent. On potato carrot agar (PCA) up to 41 mm diam, floccose, olivaceous black, radiate, margin filamentous; reverse olivaceous black, diffusible pigments absent. On SNA up to 40 mm diam, flat, radiate, olivaceous at the centre and isabelline to the margins, margin entire; reverse olivaceous black at the centre, borders olive, diffusible pigments absent.

Colour illustrations. *Kosmimatamyces alatophylus*, Salitral de la Vidriera. Colony on OA at 2 wk; conidiophores, conidiogenous cells and conidia. Scale bar = 10 µm.

Typus. ARGENTINA, Buenos Aires province, Salitral de la Vidriera, S38 44.816 W62 33.251, from soil collected in a saltmarsh, 28 Aug. 2015, C. G. Reinoso Fuentealba & M. V. Bianchinotti (holotype CBS H-24325, culture ex-type FMR 15091; ITS and LSU sequences GenBank LR588887 and LR588888, MycoBank MB833528).

Notes — *Kosmimatamyces* is a new genus that groups in the *Capnodiaceae*, a family whose members are known as sooty molds whose dark hyphae cover the surface of living leaves and twigs of many plants (Hughes 1976, Abdollahzadeh et al. 2020). Hypersaline soil represents a new ecological niche, reinforcing the hypothesis of Crous et al. (2009) and Chomnunti et al. (2011) that plant surfaces are not the only environmental niche for this group of fungi. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hit using the ITS sequence was *Microxyphium theae* CBS 202.30 (GenBank MH855113; Identities = 475/514 (92 %), 11 gaps (2 %)), *Antennariella placitae* AS01 (GenBank MG583755; Identities = 472/511 (92 %), 11 gaps (2 %)), and *Leptoxyphium kurandae* MCC1085 (GenBank KF826942; Identities = 470/510 (92 %), 9 gaps (2 %)); using the LSU sequence the closest hit were *Capnodium coartatum* MFLUCC10-0066 (GenBank JN832613; Identities = 547/555 (99 %), no gaps), *Microxyphium aciculiforme* CBS 892.73 (GenBank GU301847; Identities = 547/555 (99 %), no gaps), and *Conidioxiphium gardeniorum* CPC 14327 (GenBank GU301807; Identities = 547/555 (99 %), no gaps). The LSU phylogenetic tree corroborated the placement of our isolate close to the genus *Leptoxyphium*. The species of *Leptoxyphium* are characterised by pycnidial conidiomata with a bulbous swollen base and cylindrical neck that expands at the apex to become funnel-shaped (Hughes 1976, Chomnunti et al. 2011), whereas *Kosmimatamyces* produces single conidiophores.

Supplementary material

FP1085 Maximum likelihood tree obtained from the LSU sequence of our isolate and those retrieved from GenBank.

Cintia Reinoso-Fuentealba & M. Virginia Bianchinotti, Laboratorio de Micología, Fitopatología y Control Biológico, Centro de Recursos Naturales Renovables de la Zona Semiárida (CERZOS-CONICET), Camino La Carrindanga, Km 7. Dto. de Biología, Bioquímica y Farmacia, Universidad Nacional del Sur (DBBF-UNS), San Juan 670, (B8000ICN) Bahía Blanca, Argentina; e-mail: cin.reinoso@gmail.com & vbianchi@uns.edu.ar

Ernesto Rodríguez-Andrade, José F. Cano-Lira & Alberto M. Stchigel, Mycology Unit, Medical School and IISPV, Universitat Rovira i Virgili (URV), Sant Llorenç 21, 43201 Reus, Tarragona, Spain; e-mail: dc.ernesto.roan@outlook.com, jose.cano@urv.cat & albertomiguel.stchigel@urv.cat