

Spicellum ovalisporum* Seifert & Rehner, sp. nov.*Mycobank:** MB505966.**Etymology:** Named for the shape of the conidia.**Latin diagnosis:** *Spicellum roseum* similis, sed conidia ellipsoidea vel ovata, 3.5–5.5 × 2–2.5 μm.

Description: Conidiophores sinuous or straight, erect or somewhat repent, branching at several levels, branches often more or less at right angles, originating from hyphae in the aerial mycelium. Conidiogenous cells hyaline, terminal on branches, or arising laterally from the axis of the conidiophore, or sometimes intercalary, total length 6.5–14 μm with a subulate or sinuous lower part 5–8.5 × 2–2.5 μm, narrowing to a conidiogenous rachis up to 10 μm long and up to 1 μm wide, with commonly 5–8 conidia per conidiogenous cell resulting from progressive (rarely retrogressive) sympodial proliferation, sometimes with one to several denticles, or a short conidiogenous cell emerging laterally from a subtending cell. Conidia aseptate, 3.5–5.5(–8) × 2–2.5(–3) μm, L/W 1.5–2 (DAOM 186447 av. = 3.86 ± 0.06 × 2.26 ± 0.02, n = 50; IMI 223216 av. = 5.50 ± 0.17 × 2.65 ± 0.04, n = 25), tending to be cylindrical when attached, becoming oval to ellipsoidal, rarely oblong-ellipsoidal, straight or with one side flattened and thus appearing slightly allantoid, smooth and thin-walled, with an inconspicuous truncate base, usually symmetrical at the base of the spore, but sometimes off-centre.

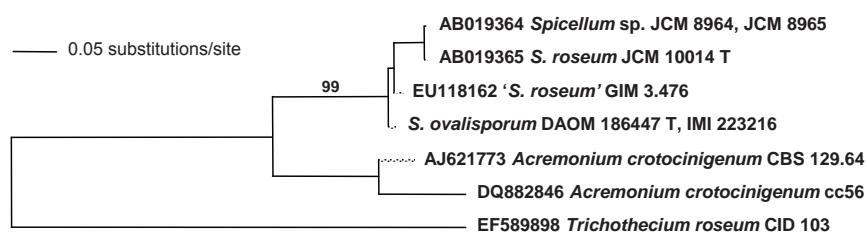
Cultural characteristics: Colonies on 2 % malt extract agar (MEA; Difco) at 25 °C in a 12 h dark : 12 h light cycle under mixed fluorescent and near-ultraviolet light after 7 d: 30–40 mm radius, planar, the surface covered with a dense lanose to floccose layer composed primarily of concentric rings of conidiophores and aerial mycelium about 1 mm deep, white to orange-white (5–6A2)¹, the reverse orange-white (5A2), appearing powdery because of the large numbers of conidia, sterile aerial mycelium sparse, white, and occurring mostly in faster growing areas of the margin, no exudates or soluble pigments, the margin gnawed.

Typus: Canada, Saskatchewan, Shellbrook, in association with the leaf-cutter bee *Megachile rotundata*, collected by D. Murrell, isolated by G.P. White, March 1983, DAOM 186447, **holotypus**, dried culture ex-type DAOM 186447. GenBank: ITS EU445372, EF-1α EU445373.

Notes: The oval to ellipsoidal conidia of *S. ovalisporum* differs from the oblong-ellipsoidal to near cylindrical conidia of the only other species that we accept in this genus, *S. roseum* Nicot & Roquebert². As revealed by the neighbour-joining analysis shown below, the two species have similar ITS sequences, with the two type strains differing by six indels. Both species can be assigned to the anamorphic *Bionectriaceae* (*Hypocreales*). A third species ascribed to *Spicellum*, *S. palmicola* Mats.³, produces unbranched conidiophores, long conidiogenous denticles, and nearly biconic conidia and seems to be misclassified in this genus.

Conidia of *S. ovalisporum* are hydrophobic and tacky rather than completely dry. Conidiophores *in vitro* form trichoderma-like pustules, which are seen also in *S. roseum*, but less developed in the latter. A side-by-side comparison of cultures of both species shows that they are very similar, but that the margins of colonies of both strains of *S. ovalisporum* are gnawed, making the growth of this species seem slower than that of *S. roseum*, which has entire margins.

Supplementary material on-line (MB505966) includes colour photographic plates of the two accepted species of *Spicellum* Nicot & Roquebert, a line-drawing of *S. ovalisporum*, details of the IMI culture, and additional discussion on the phylogeny and biochemistry of the species of this genus.



Neighbour-joining tree using ITS sequences showing closest known relatives of *S. ovalisporum*. See 'Supplementary material' for details of analysis.

Colour illustrations: X-ray photograph of developing embryos of the leaf-cutter bee *Megachile rotundata* (©Agriculture & Agri-Food Canada, courtesy Mark Goettel); 8-day-old colony of *S. ovalisporum* on Blakeslee's malt extract agar, part of conidiophore showing conidium ontogeny, conidia. Scale bar = 10 μm.

References: ¹Kornerup A, Wanscher JH (1978). *Methuen handbook of colour*, 3rd ed. Eyre Methuen, London. ²Seifert K, Louis-Seize G, Savard ME (1997). The phylogenetic relationships of two trichothecene-producing hyphomycetes, *Spicellum roseum* and *Trichothecium roseum*. *Mycologia* **89**: 250–257. ³Matsushima T (1993). *Matsushima Mycological Memoirs* **7**: 66.

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