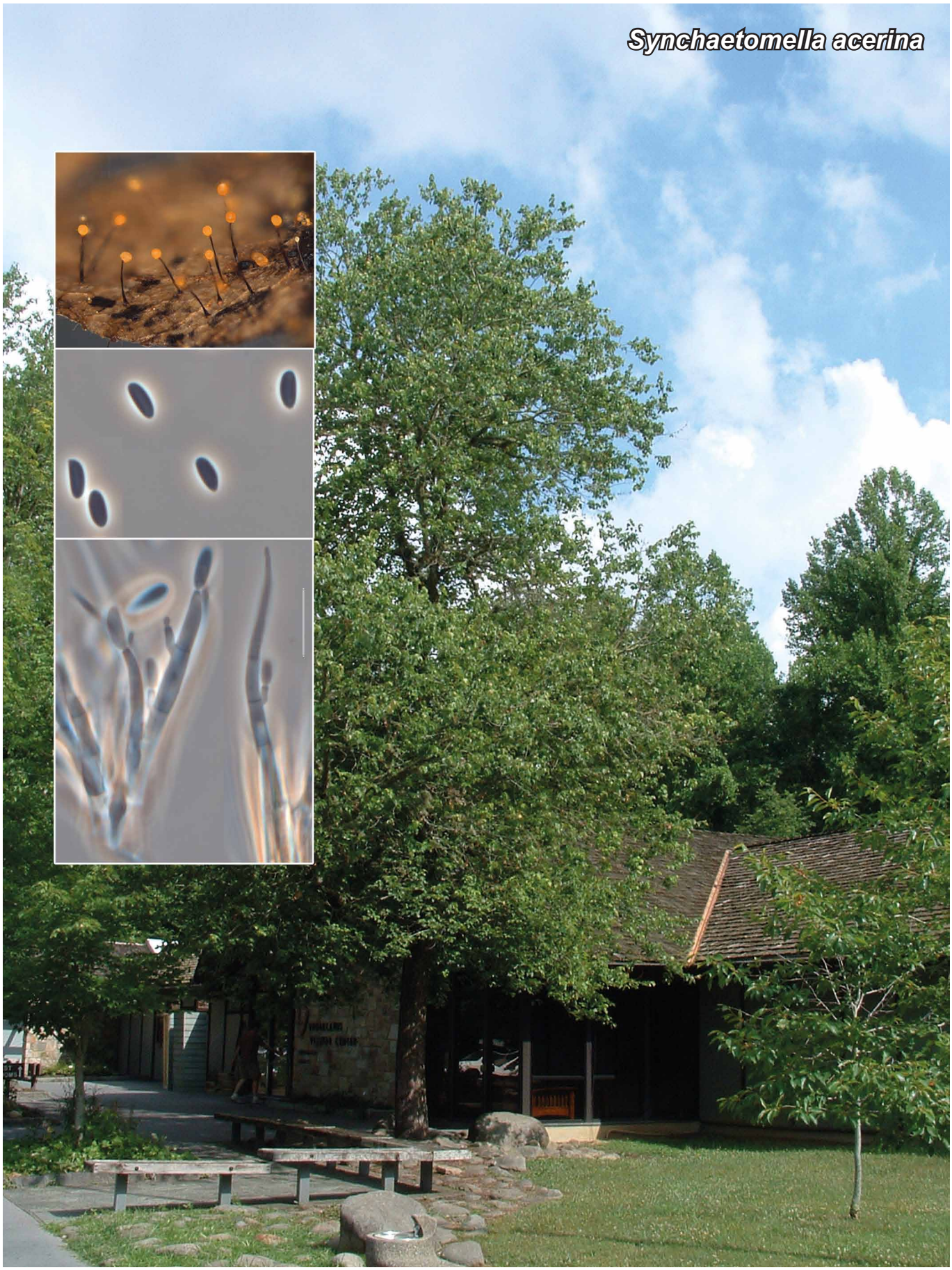
Synchaetomella acerina

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Synchaetomella acerina Seifert, *sp. nov.*

= *Stilbella acerina* Overh., Mycologia 35: 253. 1943. nom. inval. Art. 36.

Etymology. Named after the genus of its host, duplicating the epithet proposed by the original discoverer of this species.

Synnemata 250–825 µm tall, subulate, capitate, slender, 30–50 µm wide at the base, narrowing to 20–40 µm wide, black or dark brown, fading below the capitulum, usually unbranched, solitary, scattered or gregarious, sometimes associated with necrotic leaf spots of a *Phyllosticta* sp. Hyphae of stipe in two zones: marginal hyphae 2–3 µm wide, golden brown, unbranched, with walls up to 1 µm thick, sometimes seta-like and projecting into the capitulum and supporting the conidial mass; core hyphae 2–2.5 µm wide, hyaline, branching in the capitulum to give rise to the conidiophores. *Conidiophores* biverticillate or terverticillate, with terminal branches comprising 2–3 conidiogenous cells in an acropleurogenous chain; metulae 7–11 × 1.5–2 µm. *Conidiogenous cells* phialidic; terminal phialides 7–13 × 1–2 µm, subulate or acerose; intercalary phialides 6–9 × 1–2.5 µm, cylindrical with a lateral, apically directed, terminal conidiogenous extension, 1–11.5 µm long, usually longest near the base of the chain; periclinal thickening and collarettes not seen. *Conidial mass* globose, at first hyaline, becoming white, usually orange when dry, sometimes white, yellow, or red, about 75–125 µm diam when dry. *Conidia* 5–7.5(–9.5) × 1.5–2.5(–3) µm (6.53 ± 0.06 × 2.37 ± 0.02, n = 25), aseptate, allantoid to ellipsoidal, hyaline.

Culture characteristics — Typical synnemata develop on oatmeal agar, as do sessile conidiomata with identical conidiophores and conidia. Mononematous conidiophores, similar to those in conidiomata, are produced on the agar surface. There is more variation in conidial size than is seen on the natural substrate. On 2 % malt extract agar, parts of the colony are yeast-like, with irregularly shaped yeast cells. Other parts of the colony have a mycelial, micronematous anamorph, perhaps a degenerated version of conidiophores seen in conidiomata. Synnemata that develop in a damp chamber are often apically branched 1–4 times.

Typus. USA, Tennessee, Gatlinburg, Great Smokey Mountains National Park, Cataloochee Campground, on leaves of *Acer rubrum,* 15 July 2004, *R. Bennett* (holotype DAOM 242271, culture ex-type CCFC 242271); ITS sequence GenBank JX989830, LSU sequence GenBank JX989831, SSU sequence GenBank JX989832, *Cox1* sequence GenBank JX989833, MycoBank MB801762.

Additional material examined. Same location and host, Park Headquarters Building, *L.O. & F.M. Overholts*, 18 Aug. 1939 (PAC 22851, holotype of *Stilbella acerina* nom. inval.); Park Headquarters Building, *D.H. DeFoe*, 27 June 1984 (culture CBS 543.84).

Colour illustrations. *Acer rubrum* near the Park Headquarters of the Great Smokey Mountains National Park (*Andrew Miller*), with synnemata, conidiophores and conidia from the type of *Synchaetomella acerina*.

Notes — The hyphomycete genus *Synchaetomella* is based on *S. lunatospora,* a species with falcate, 1-septate conidia, which was originally isolated from leaf-litter collected in Singapore (Decock et al. 2005). *Synchaetomella acerina* has similar conidiomata and conidiophore branching and is phylogenetically closely related, but differs by having aseptate, allantoid conidia, and occurs on living leaves of *Acer rubrum*. The lignicolous *Exophiala calicioides* also has acropleurogenous conidiogenous cells terminating in dark synnemata, but they have distinct annellations, and other characters are dissimilar to those of *S. acerina* (Ellis 1971, as *Graphium*).

Stilbella acerina was invalidly described by Overholts (1943) without a Latin diagnosis, and excluded from *Stilbella* by Seifert (1985) without redisposition. In 1984, park rangers at Great Smokey Mountains National Park sent us living leaves of *Acer rubrum* from near the park headquarters, where Overholts reported finding the fungus. To our surprise, the synnematous fungus emerged from the leaves when damp chambered, and was easily cultured. Twenty years after that, K. Hodge and her student R. Bennett of Cornell University recollected the fungus again during a foray of the Mycological Society of America in the same park, providing the specimen used as the holotype of the species here.

Synchaetomella belongs to the complex of anamorph genera including *Chaetomella, Hainesia, Pilidium* and *Sphaerographium* (Rossman et al. 2004). These genera have species with similar conidia and phialidic conidiogenous cells that develop in acropleurogenous chains. They differ primarily in the nature of their conidiomata, which in the other genera are coelomycetous. The addition of *S. acerina* to the complex calls into question the monophyly of these genera as presently circumscribed, but the species clearly belongs to *Synchaetomella* morphologically, based on its synnematous conidiomata.

Supplementary material in MycoBank includes line drawings of *S. acerina* and its yeast-like form in vitro.

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