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# *TRICHOTHECIUM CINNAMOMEUM*, AN EARLIER NAME FOR THE THERMOPHILIC HYPHOMYCETE *MALBRANCHEA SULFUREA*

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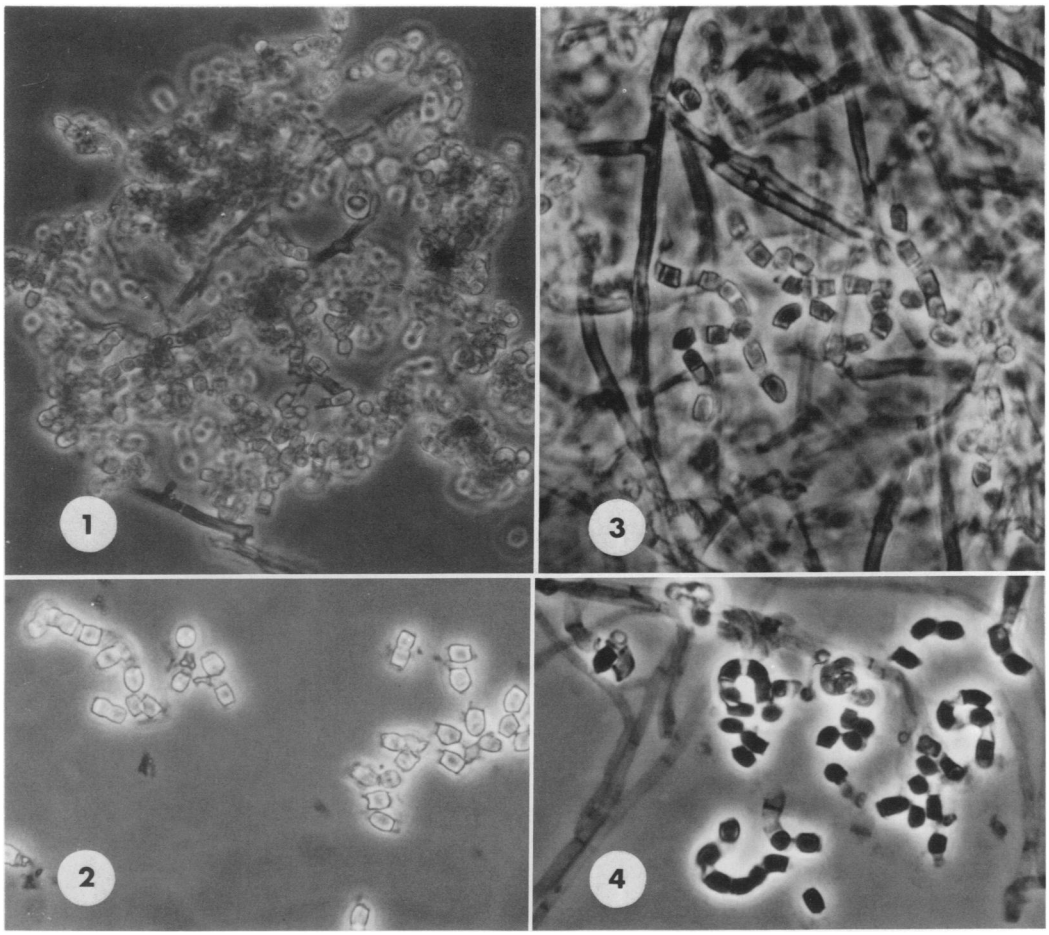
*Malbranchea sulfurea* (Miehe) Sigler & Carmichael is one of the more readily recognizable species of *Malbranchea* due to its thermophilic habit, its rapid growth in culture and its arthroconidia which are broader and more pigmented than most other species. The fungus is found on a variety of substrates including decomposing plant material, coal-spoil tips, soil, nesting ma-




FIGS. 1, 2. *Trichothecium cinnamomeum*, TYPE SPECIMEN. 1. Thick-walled pigmented hyphae and cylindrical alternate arthroconidia borne on curved fertile hyphae, ×575. 2. Mature arthroconidia released by rhexolytic dehiscence, ×725. FIGS. 3, 4. *Malbranchea sulfurea* (3-UAMH 3748; 4-UAMH 3788). 3. Thick-walled pigmented hyphae and curved fertile branches bearing cylindrical alternate arthroconidia, ×830. 4. Mature arthroconidia released by rhexolytic dehiscence, ×780.

terial of birds, and dung of various wild and domestic herbivores (Sigler and Carmichael, **1976**).

The nomenclatural history of *M. sulfurea* was reviewed previously by Sigler and Carmichael (**1976**) who considered the fungus sufficiently distinct from the mesophilic *Malbranchea pulchella* Sacc. & Penzig to justify a change in status from varietal rank.

Van Oorschot and de Hoog (**1984**) examined the type and another collection of *Trichothecium cinnamomeum* Lib., and proposed the combination *Malbranchea cinnamomea* (Lib.) van Oorschot & de Hoog. The type specimen of *T. cinnamomeum* in Herb. BR consisted of a collection on horse dung mixed with straw; the second collection, Herb. L 922.54-67, occurred on rotten hay. Growth on these substrates was described as patches of yellow-ochre powdery growth consisting of curved, little branched fertile hyphae which divided to form alternate arthroconidia. Based on the color of the growth and the size of the arthroconidia, the species was considered to be closest to *Malbranchea aurantiaca* Sigler & Carmichael, but distinct from all other described species of *Malbranchea.*

In considering *M. cinnamomea* distinct, van Oorschot and de Hoog overlooked the nature of the substrates on which the fungus occurred. Both substrates, horse dung and rotting hay, are ones from which thermophilic fungi are frequently isolated. I have examined the type specimen of *Trichothecium cinnamomeum* and a prominent feature is the yellow-pigmented, thick-walled primary hyphae (FIG. 1). These hyphae do not divide to form arthroconidia. Arthroconidia, borne on curved or loosely coiled fertile hyphae, are closely spaced, cylindrical or slightly curved and measure 3.5–4.5 × 3–3.5 μm (FIG. 2).

Thick-walled primary hyphae which become pigmented in age occur in *Malbranchea sulfurea* (FIG. 3), and the arthroconidia of this species are similar in shape and size, measuring (3)3.5–7.5 × (2)2.5–4(4.5) μm, mostly 4–7 × 3–4 μm (FIG. 4). These similarities, in addition to the occurrence of *Trichothecium cinnamomeum* on dung and straw, suggest that *T. cinnamomeum* is an earlier name for *M. sulfurea.* The proposed synonymy is then as follows:

MALBRANCHEA CINNAMOMEA (Lib.) van Oorschot & de Hoog. Mycotaxon **20**: 129. 1984.

≡*Trichothecium cinnamomeum* Lib. Pl. crypt. Arduenna, Coll. I, Nr. 1013 (basionym). 1830.
≡*Geotrichum cinnamomeum* (Lib.) Sacc. Revue mycol. **1881**: 55. 1881.
=*Malbranchea sulfurea* (Miehe) Sigler & Carmichael. Mycotaxon **4**: 441. 1976.
≡*Thermoideum sulfureum* Miehe. Deutsche Bot. Gesell. **25**: 515. 1907.
≡*Malbranchea pulchella* var. *sulfurea* (Miehe) Cooney & Emerson. *Thermophilic Fungi,* p. 102. 1964.

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Key Words: *Trichothecium cinnamomeum, Malbranchea sulfurea, Malbranchea cinnamomea,* thermophile

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**Sigler, L., and J. W. Carmichael.** 1976. Taxonomy of *Malbranchea* and some other hyphomycetes with arthroconidia. *Mycotaxon* **4**: 349–488.