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ALTERNARIA CHRYSANTHEMI

Fungus names which do not satisfy the criteria of valid publication often die at birth or unobtrusively are replaced. Occasionally a recently but invalidly published name achieves considerable usage, particularly if the organism to which it refers is a pathogen or is adopted for experimental manipulation. The name becomes a source both of irritation to taxonomists and bibliographers and of embarrassment to any specialist who may have rendered an opinion on the novelty of the fungus. Such is the case with a species of *Alternaria* associated with *Chrysanthemum maximum* Ramond, believed to have been noted in the literature in the first instance as "an unusual *Stemphylium* of Shasta daisy" (1).

After an initial isolation of the fungus in 1953, W. F. Crosier repeatedly isolated the fungus from seeds of *C. maximum* and in 1957 shared with me a supply of infested seed obtained originally from The Netherlands. These seeds, surface-sterilized and plated on water-agar, yielded abundant growth of an unusual *Alternaria* with solitary, cylin-

dricul, arostrate phaeodictyospores. In 1957 Crosier and Heit (2), following a suggestion that the fungus was undescribed, published a description, illustrations, and the name *Alternaria chrysanthemi*, which, however, was not accompanied by a Latin diagnosis or a type designation. T. Schmidt in 1958 (7) described the same fungus, elaborated on its

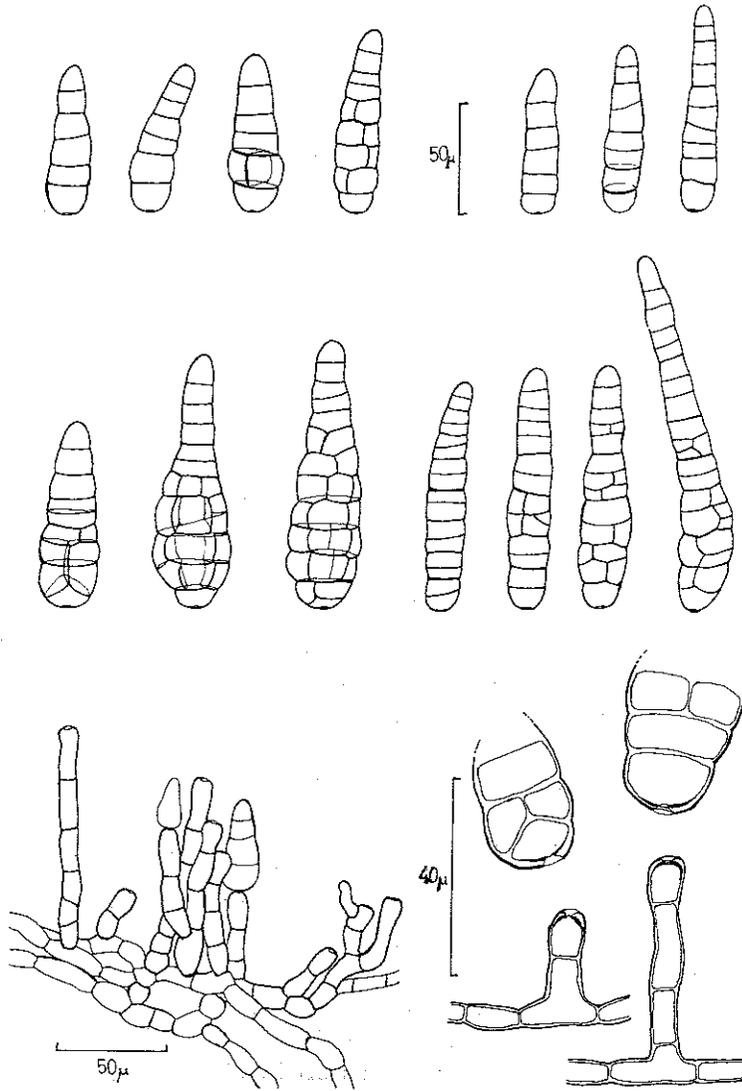


FIG. 1. Conidia and conidiophores of *Alternaria chrysanthemi*.

relationship to a leafspot disease of *C. maximum*, and published the binomial *Alternaria chrysanthemi* as a novelty. A Latin diagnosis and a type designation were not supplied.

The fungus by now is known to me from specimens on *C. maximum* or from derivative isolates, or both, originating in The Netherlands, Austria, and Florida. It has been reported to occur in India on *C. indicum* L. (6). The name *Alternaria chrysanthemi* has been used by C. M. Leach (3, 4, 5) for isolates used in his studies on the relationship of light to sporulation.

In view of the preceding comments, the following statements are intended to regularize the nomenclature of the species.

***Alternaria chrysanthemi* Simmons & Crosier, sp. nov.**

FIG. 1

Ex culturis in agarò descripta. Coloniae cinereo-albae vel atro-brunneae, lente crescentes. Mycelium superficiale ex hyphis septatis, ramosis, anastomosantibus, subhyalinis vel pallide flavo-brunneis, levibus, 3.5-5.0 μ crassis compositum. Conidiophora simplicia vel raro ramosa, singula vel plerumque laxè fasciculata, ex lateribus hypharum oriunda, recta vel flexuosa (raro geniculata), plus minusve cylindrica, pallide flavo-brunnea vel aureo-brunnea, levìa, 1-6 septata, plerumque 8.0 μ crassa, usque ad 110 μ longa, apice rotundato et uniporoso. Conidia singula ex poro in apice conidiophori oriunda, cylindrica vel anguste obovata vel obclavata, recta vel leniter curvata, septis transversalibus longitudinalibusque praedita (plerumque 5-12 transv., longit. nullis vel paucis), cellulis inferioribus interdum incrassatis, ad septa plus minusve constricta, pallide flavo-brunnea vel aureo-brunnea, levìa, (66-)74-104(-119) \times (19-)21-33 (med. 90.5 \times 26.8) μ . Habitat: ex achenio isolata (typus) et in foliis, caulibus, floribusque *Chrysanthemi maximi*. Typus: partes ex QM 7227 desiccatae et in Herb. BPI, DAOM, IMI, NY, QM conservandae.

The growth of conidiophores produced in artificial culture commonly is terminated by the production of a solitary conidium; secondary growth of a conidiophore past the initial spore, with resultant geniculation, is rare. Conidiophores produced on the host in nature, however, often are closely 2-3-geniculate with a single sporiferous pore at each bend. This method of conidiophore elongation is typically alternarioid but quite foreign to *Stemphylium* Wallr.

The conidium of *A. chrysanthemi* is produced as a true porospore at the apex of the conidiophore. Conidia produced on the host in nature usually retain a cylindrical to narrowly obovate outline, whereas a high percentage of those produced in culture become obclavate through the longitudinal septation and enlargement of their basal cells. Conidia produced in nature may attain the range of 130-160 μ in length with a resultant length/width ratio of 4.0-5.3. This ratio for conidia produced

in culture is 2.8–4.4 (av. 3.4). The relatively large conidia of the species are remarkable in at least three characteristics: (1) the apical portion of the spore does not develop as a beak distinguishable from the spore body, (2) there is no evidence that chains of spores are produced either in nature or in culture, and (3) a high percentage of spores are strikingly cylindrical to long and narrowly ovate in outline. This combination of characteristics is not known in any other species of *Alternaria*.

Cultures derived from the 1-spore isolate QM 7227 have been deposited with the American Type Culture Collection, the Centraalbureau voor Schimmelcultures, the Commonwealth Mycological Institute, and the U. S. Army Natick Laboratories.—EMORY G. SIMMONS, Pioneering Research Division, U. S. Army Natick Laboratories, Natick, Massachusetts.

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