Trans. mycol. Soc. Japan **27**: 29–32, 1986

Materials for the fungus flora of Japan (38)*

Takao KOBAYASHI and Takanori KUBONO

Forestry and Forest Products Research Institute, P. O. Box 16,
Tsukuba-Norin-Kenkyu-Danchi, Ibaraki 305, Japan

(Accepted for publication 24 January 1986)

Key Words——*Asterosporium asterospermum*; beech bark fungus; new record; Fungi Imperfecti; Melanconiales.

Summary

Asterosporium asterospermum (Persoon: Fries) Hughes that grows on beech bark is newly recorded from Japan.

88. *Asterosporium asterospermum* (Persoon: Fries) Hughes, Can. J. Bot. **36**: 738, 1958; Sutton, Coelomycetes, 135, 1980. Figs. 1 & 2

Synonym: *Stilbospora asterosperma* Persoon, Syn. Meth. Fung., 96, 1801.
S. asterosperma Persoon: Fries, Syst. Mycol. 3, 448, 1832.
Uredo asterosperma (Persoon) Strauss, Ann. Wetterauisch. Ges. **2**: 112, 1810.
Stilbospora asterospora Persoon, Römer's Neues Mag. Bot. **1**: 93, 1794.
Asterosporium hoffmanni Kunze, Flora **1**: 225, 1819.

Acervuli on dead bark, scattered, at first immersed within the epidermal layer, then erumpent, black, 800–930 μm in diam; conidiophores slender, simple, hyaline to pale brown, 12.5–80 μm long; conidia terminal, holoblastic, smooth, dark brown, consisting of 4 arms at 90° in angle to each other, connected with conidiophore at the center cell, 30–50 μm long from the tip of one arm to that of the opposite one; arms 15–25 × 7.5–12.5 μm, with 3–4 septa.

Habitat: Dead bark of *Fagus crenata* Blume (*Buna*)—Sugadaira Montane Research Center, University of Tsukuba, Sugadaira, Sanada-machi, Nagano, May 23, 1985, by T. Kobayashi and T. Kubono (TFM: FPH-5995).

Note: Morphological characteristics of the Japanese material described above and presented in Figures 1 and 2 are identical to those of *Asterosporium asterospermum* (Persoon: Fries) Hughes recorded by Archer (1924), Grove (1937), Saccardo (1884) and

* (37): K. Ando and K. Tubaki, this Transactions **25**: 395–398. 1984.

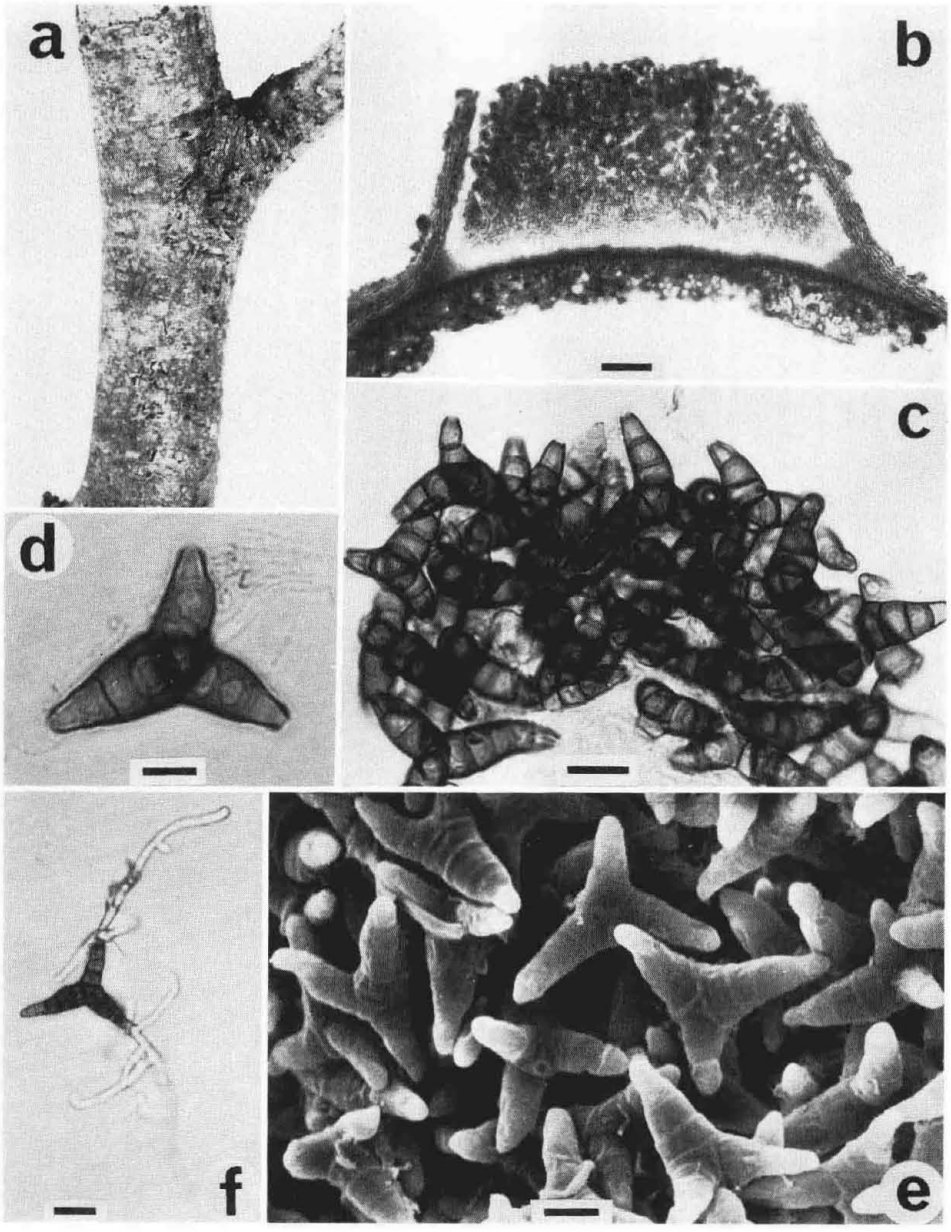

Fig. 1. *Asterosporium asterospermum* (Persoon: Fries) Hughes: a, pustules of acervuli; b, cross section of acervulus; c, mass of conidia with arms; d, conidium; e, conidia under scanning electron microscopy; f, conidium developing germ-tubes from the top cells of its arms. (Scales: b=100 μm, c & f=20 μm, d & e=10 μm).

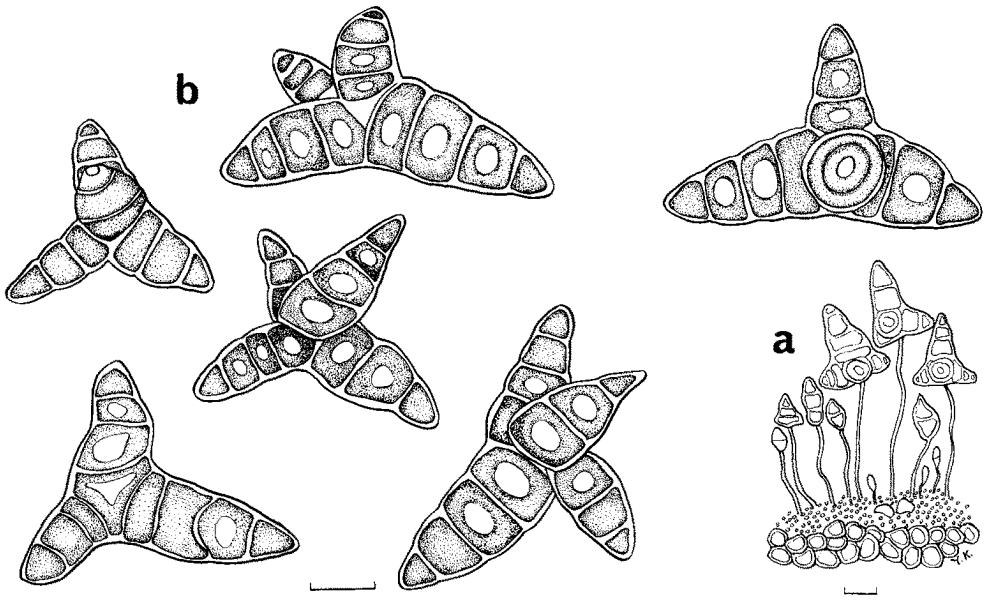

Fig. 2. *Asterosporium asterospermum* (Persoon: Fries) Hughes: a, part of the acervulus; b, conidia with four arms. (Scales: a=100 μm, b=10 μm).

Sutton (1980). The present species has been known as *Asterosporium hoffmanni* Kunze, because Kunze established a new genus *Asterosporium* with its type species *A. hoffmanni*. Later it was revised by Hughes (1958) to be *Asterosporium asterospermum* (Persoon: Fries) Hughes. It has been recorded on *Fagus glandifolia*, *F. pedunculata*, *F. sylvatica* and *Fagus* sp. from Belgium, Canada, France, Germany, Great Britain, Holland, Hungary, Romania and the Unites States (Archer 1924, Blada 1961, Grove 1937, Plantenga 1932, Saccardo 1884, Sutton 1980).

This is the first report of this fungus with 4-armed conidia from Japan, and *Fagus crenata* is a new host for it. Conidia sown on 2% glucose agar plates usually germinated from each tip cell of the four arms but sometimes from the median cells of the arms. Germinating conidium that were transplanted to potato-sucrose agar slants developed dark brown and hill-like colonies, being 2–3 cm in diam after 2 months of incubation at 20°C. Many small globular bodies were produced on the mycelial colony of the fungus, and black slimy drops of conidia oozed from these fruiting bodies. No report on the pathogenicity of this species has been found.

Literature cited

Archer, W. A. 1924. The morphological development of *Asterosporium hoffmanni*. Mycologia **16**: 220–232.

Blada, I. 1961. *Asterosporium hoffmannii* Kze., un parazit criptogamic al fagului gasit in noi statiuni. Rev. Padurilor **76**(2): 118–119. (For. Abstr. 23: 451, 1962).

Grove, W. B. 1937. "British stem- and leaf-fungi (Coelomycetes)," Vol. II. pp. 341–342, Cambr. Univ. Press, Cambridge.

Hughes, S. J. 1958. Revisiones Hyphomycetum aliquot cum appendice de nominibus rejiciendis. Can. J. Bot. **36**: 727–836.

Kunze, G. 1819. Ueber *Stilbospora asterospora* Hoffmann. Flora **1**: 225–227.

Plantenga, Maria H. J. 1932. Pathologische veranderingen in het phloem. Thesis of Univ. Utrecht, 108 pp. (Rev. Appl. Mycol. **12**: 43–44, 1933).

Saccardo, P. A. 1884. Sylloge fungorum 3: 782.

Sutton, B. C. 1980. "The Coelomycetes," pp. 135–138, Commonw. Mycol. Inst., Kew.

摘　　要

日 本 菌 類 誌 資 料 (38)

小 林 享 夫・窪 野 高 徳

農林水産省林業試験場保護部，〒305 茨城県稲敷郡茎崎町松の里1．

1985年5月，長野県真田町菅平にある筑波大学菅平高原実験センター樹木園のブナ (*Fagus crenata* Bl.) の枯枝上に採集した Melanconiales に所属する樹皮寄生菌は，4本の分枝を持つ有色の分生子の形態から *Asterosporium asterospermum* (Persoon: Fries) Hughes と同定された．本種は欧州，北米の各種ブナ属樹木上に長く *Asterosporium hoffmanni* Kunze の種名で知られていたが，1958年 Hughes によって上記の学名に改訂された．わが国では初記録であり，またブナは新宿主である．培養は比較的容易で，緩慢な生育をする菌そう上に多量の黒色の分生子粘塊を形成する．本菌の病原性についての記録はない．