

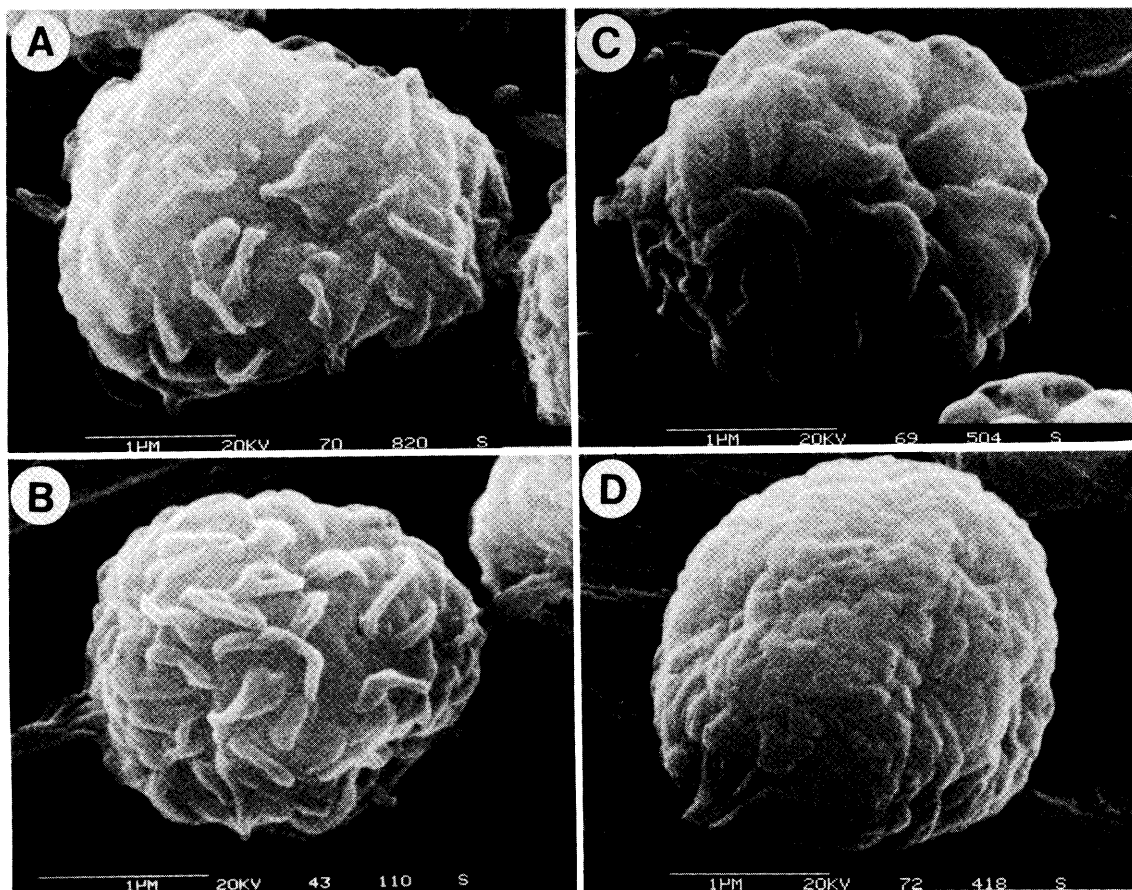


Fig. 62. SEM micrographs illustrating: A, *A. quercinus*, NRRL 394 and its variety B, *A. quercinus* var. *petrakii*, NRRL 4369; C, *A. melleus*, NRRL 5103 used by Raper & Fennell (1965) for the species description; D, *A. melleus*, NRRL 416 Yukawa's 'type' strain for *A. melleus*.

Aspergillus alutaceus Berk. & M.A. Curtis, *Grevillea* 3: 108 (1875).

var. *alutaceus*

Aspergillus ochraceus Wilhelm, *Inaugural dissertation*, Strasburg: 66 (1877).

Aspergillus ochraceopetaliformis Bat. & Maia, *An. soc. biol. Pernam.* 15: 217 (1957).

Illustration: Fig.59a.

Description: *Conidia* spherical, lobate-reticulate. *Conidiogenous cells* biseriata. *Conidiophores* coarsely roughened, 1.0–1.5 mm long. *Conidial heads* ochraceous buff to warm buff (R. XV) or chamois (R. XXX). *Sclerotia* present in some strains, lavender with age, usually numerous.

Type: The Netherlands: 1909, *J. Westerdijk* (IMI 16247ii, neotype). Used by Thom & Raper (1945) and Raper & Fennell (1965) for the species description, and considered representative by Samson & Gams (1986).

Hosts: Found on numerous products: corn (Lopez & Christensen, 1967), sorghum, peanuts (Hanlin, 1973), cotton seed and leaves, black pepper (Christensen *et al.*, 1967), potatoes, rubber, talc, bread, scalp lesions, dead lady bugs, dried fish, rice (Udagawa *et al.*, 1968), and pecans (Doupnik & Bell, 1971), but mostly from desert soil, grassland and cultivated soils, in tropical, subtropical or warm temperature regions (Christensen, 1982).

which is still in existence, is believed to represent a subculture of Yukawa's original strain, sent to Thom by Hanzawa in 1918.

Thom & Church (1926) redescribed both species. Their description of *A. quercinus* was based on three isolates, 4754.86, 4186.1 and 4087K-2, none of which can be regarded as the 'type' and all of which are no longer available. Since according to the authors these isolates possessed an abundance of sclerotia, this feature was included by them in the redescription. *Aspergillus melleus* was redescribed on the basis of Hanzawa's isolate Thom 4291.6 (WB 416).

Thom & Raper (1945) accepted both species in their revision, but because by then the three isolates ascribed to *A. quercinus* by Thom & Church (1926) had been lost, they based their description of the species on isolate WB 394, isolated from date fruits. They used the same isolate as Thom & Church (1926) for *A. melleus*.

Raper & Fennell (1965) stated that some of the strains which they included under the name *A. melleus* had been referred to under *A. quercinus* by Thom & Raper (1945). They mentioned WB 394 as one of these, so that the same plate of micrographs of WB 394 used in 1945 to represent *A. quercinus* was then re-labelled *A. melleus* in the 1965 edition. They said: 'A careful reconsideration of the older literature has led us to conclude that *Sterigmatocystis quercina* Bainier and *A. melleus* Yukawa are probably synonyms and that Yukawa's (1911) *A. melleus* should be selected as the specific designation because Bainier's (1881) description fails to mention the sclerotia. Thom & Church's (1926) emendation of *S. quercina* Bainier is antedated by Yukawa's *A. melleus*'. The description of *A. melleus* was stated to be based upon the well-used isolate WB 394 and another, WB 5103 ex India. Isolate WB 416 (previously used for *A. melleus*) was not mentioned in this part of the text. It was in fact used to describe *A. petrakii* Vörös.

The conidia of WB 394, WB 5103 and WB 416 have been examined by SEM and this has introduced a further complication since the conidial ornamentation exhibited by these three isolates is of two distinct forms (Fig.62). Conidia of isolate WB 394 and 5103 are identical, but in WB 416 they are quite different. Furthermore, the micrograph of conidia in WB 394 and in the 'type' culture of *A. petrakii* (Fig.62a,b) represent the same morph!

To resolve these anomalies it is proposed that WB 394 represents *A. quercinus* and since WB 5103 is in fact also an isolate of *A. quercinus* and not *A. melleus*, the description of *A. melleus* must be again based on isolate WB 416. *Aspergillus quercinus* is maintained as a distinct species. Since WB 394 and WB 4369, the 'type' strain of *A. petrakii*, are identical the latter is reduced to varietal rank within *A. quercinus*.

***Aspergillus quercinus* var. *petrakii* (Vörös) Kozakiewicz, comb. nov.**

Aspergillus petrakii Vörös, *Sydowia Beih.* 1: 62 (1957).

Illustration: Fig.62b.

Description: Conidia lobate-reticulate. Conidiogenous cells biserial. Conidiophores up to 1500 µm long, in some strains roughened only below the vesicle, in others roughened throughout; in some strains roughenings appear as granulations. Conidial heads avellaneous. Exudate abundant, clear. Sclerotia lacking.

Type: Hungary: ex dead Colorado potato beetle (*Leptinotarsa*), 1955, J. Vörös (IMI 172291, lectotype).

Host: *Leptinotarsa* (Colorado potato beetle).

Distribution: Hungary.

Notes: The only observed differences between *A. quercinus* and *A. petrakii* are that the latter does not produce sclerotia whereas *A. quercinus* does so abundantly, and that only *A. petrakii* produces an exudate. Their conidial ornamentation is identical.

Micro-tuberculate category

***Aspergillus melleus* Yukawa, J. Coll. Agr. Imp. Univ. Tokyo 1: 366 (1911).**

Illustration: Fig.61a.

Description: Conidia micro-tuberculate. Conidiogenous cells biserial. Conidiophores pitted, 500–1000 µm long. Conidial heads globose, honey-yellow (R. XXX) to warm buff (R. XV). Sclerotia present, yellow-brown.

Type: ? Japan: 1918, J. Hanzawa (NRRL 416, lectotype).

Host: Ex soil.