Eurotium repens var. **pseudoglaucum** (Blochwitz) Kozakiewicz, **comb. nov.**
Aspergillus pseudoglaucus Blochwitz, *Annls mycol.* **27:** 207 (1929).
Eurotium pseudoglaucum (Blochwitz) Malloch & Cain, *Can. J. Bot.* **50:** 64 (1972).
Anamorph: **Aspergillus reptans** var. **glaucoaffinis** (Samson & W.Gams) Kozakiewicz, **comb. nov.**
Aspergillus glaucoaffinis Samson & W.Gams, *Advances in* Penicillium *and* Aspergillus *Systematics:* 47 (1986).

Description: As for *E. repens* var. *repens*, except that there is a tendency for the teleomorph to predominate.

Type: *A. Blochwitz* (**IMI** 16122ii), lectotype.

Distribution: Infrequently found, probably due to the fact that most strains will be identified as *Eurotium repens* var. *repens*.

Specimens: No data (**IMI** 91865, as *A. profusus* Hann *nom. nud.*), no data (**IMI** 91873).

Notes: Micrographs of the anamorph and teleomorph of *E. repens* and *E. pseudoglaucum* are compared in Fig.34.

Pitt (1986) questioned whether *E. pseudoglaucum* should be placed in synonymy with *E. repens* on the grounds that morphology and cultural appearance is identical. This is confirmed except that in colonies of *E. pseudoglaucum* there is a tendency for the teleomorph to predominate. On this basis I have reduced *E. pseudoglaucum* to varietal rank in *E. repens*.

Pitt (1986) also reported that the *E. pseudoglaucum* anamorph possessed unusually small conidiophores. However, within the aspergilli strains are often encountered in which this occurs, e.g. *A. sydowii* and *A. oryzae* var. *effusus*.

Eurotium rubrum König, Spieckermann & Bremer, *Zeit. Untersuch. Nahr. u. genussm.* **4:** 726 (1901).
Aspergillus sejunctus Bainier & Sartory, *Bull. Soc. mycol. Fr.* **27:** 361 (1911).
Aspergillus ruber (König, Spieckermann & Bremer) Thom & Church, The Aspergilli: 112 (1926).
Eurotium umbrosum (Bainier & Sartory) Malloch & Cain, *Can. J. Bot.* **50:** 64 (1972).
Aspergillus umbrosus Bainier & Sartory, *Bull. Soc. mycol. Fr.* **28:** 267 (1912).
Anamorph: **Aspergillus rubrobrunneus** Samson & W.Gams, *Advances in* Penicillium *and* Aspergillus *Systematics*: 49 (1986).

Illustrations: Fig.35a,b.

Description: *Conidia* aculeate. *Conidiogenous cells* uniseriate. *Conidiophores* smooth, 500−750 μm long. *Conidial heads* pale grey-green. *Ascomata* red to orange-red. *Ascospores* with equatorial crest absent, but with a distinct furrow, hemispheres flattened, very delicately roughened.

Type: ? **U.S.A.:** Army Medical School (**IMI** 211380, holotype).

Hosts: Stored cereals (Pelhâte, 1968; Moubasher *et al.*, 1972; Wallace *et al.*, 1976; Richard *et al.*, 1969), stored rice (Kurata *et al.*, 1968a,b), hops, cotton yarn, hazel nuts, copra, dried milk, sugar cane pith, unpainted board, séa salt, soil (CMI, 1988; CBS, 1987; ATCC, 1987), jam (Udagawa *et al.*, 1977), nuts (Austwick & Ayerst, 1963; Joffe, 1969; Huang & Hanlin, 1975; King *et al.*, 1981).

Distribution: Worldwide, Japan, U.S.A., United Kingdom, Italy, Ghana, Zimbabwe.

Specimens: ? **U.S.A.:** ex unpainted board, *C. Thom* (**IMI** 211381); *C. Thom* (**IMI** 91874) (as *A. umbrosus*); 1925, *F.A. McCormick* (**IMI** 211377) (as *A. umbrosus*):-**U.K.:** Bucks, Slough, ex wheat, 1967, *J. Clarke* (**IMI** 140512): 1933, *P. Biourge* (**IMI** 91868) (as *A. lovaniensis* Biourge):—LSHTM, 1937, *G. Smith* **NRRL 121 (as** *A. umbrosus*).

Notes: *E. rubrum* is one of the common storage fungi growing at low moisture contents between 14 and 16%. There is some evidence that it produces gliotoxin (ATCC, 1987).

Blaser (1976) believed *E. rubrum* and *E. umbrosum* to be synonymous with *E. herbariorum*, but gave no reasons. Presumably this conclusion is based on his series of interference phase micrographs (Figs 6−20) which are of ascospores of these three species. Figures 6−10 represent ascospores from **CBS** 530.65 (*E. rubrum*), Figs 11−15 are from **CBS** 516.65 (*E. herbariorum*) and Figs 16−20 are from **CBS** 177.46 (*E. umbrosum*). These are reproduced as Fig.36 here and show the inadequacies of interference phase in this context. Figure 35 shows SEM micrographs of conidia and ascospores of these three species from **IMI** isolates derived from the same source as Blaser. Whilst *E. rubrum* and *E. umbrosum* are conspecific, *E. herbariorum* is different. The ornamentation and form of the ascospore of *E. herbariorum* is very similar to that of the other species but the ornamentation of conidia in *E. herbariorum* is very different from that in *E. rubrum* and *E. umbrosum*.

Pitt & Hocking (1985) also dealt with these three species and, without apparent reference to type material, placed *E. umbrosum* in synonymy with *E. herbariorum*, but kept *E. rubrum* as a distinct but closely related species.