

## Fungi from palms. II. *Kirschsteiniothelia aethiops* from the date palm, *Phoenix dactylifera*\*

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Type material of *Amphisphaeria phoenicis* Pat. was examined and was found to be conspecific with *Kirschsteiniothelia aethiops*. This is the first report of this taxon from palms. The fungus is illustrated with light interference contrast micrographs.

Keywords: *Amphisphaeria*, *Kirschsteiniothelia*, *Phoenix*, palm fungi.

During studies of ascomycetes which have been described from palms, it was found that *Amphisphaeria phoenicis* Pat. was conspecific with *Kirschsteiniothelia aethiops* (Berk. & Curtis) D. Hawksw. The fungus was found at the base of rachids of *Phoenix dactylifera* in Tunisia (Patouillard, 1892). *K. aethiops* has not previously been reported from palm material or from Africa and in this paper the taxon is briefly described and illustrated with interference contrast micrographs.

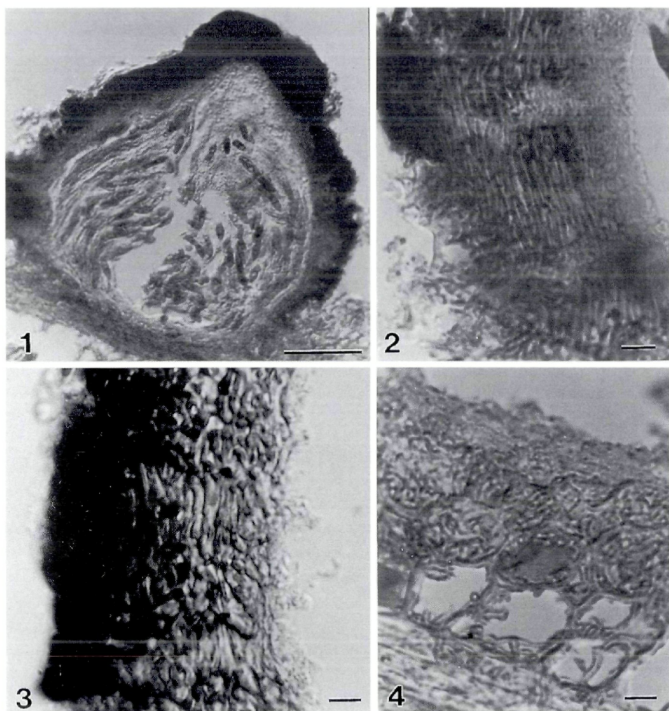
*Kirschsteiniothelia aethiops* (Berk. & Curtis) D. Hawksw., Bot. J. Linn. Soc. 91, 185, 1985. – Figs. 1–9.  
= *Amphisphaeria phoenicis* Pat., Enum. Champ. Tunisie, 12. 1892.

Ascomata 320–520 µm high, 320–585 µm diam, subglobose, superficial, black, coriaceous, solitary or gregarious, base applanate and immersed (Figs. 1,5). – Peridium dark brown, up to 70 µm thick, comprising thick-walled angular cells forming a *textura angularis*, outwardly deeply pigmented with palisade-like cells at the lower sides (Figs. 2–4). – Ostiole short, papilliform, mostly eccentric (Fig. 1). – Pseudoparaphyses hypha-like, persistent, abun-

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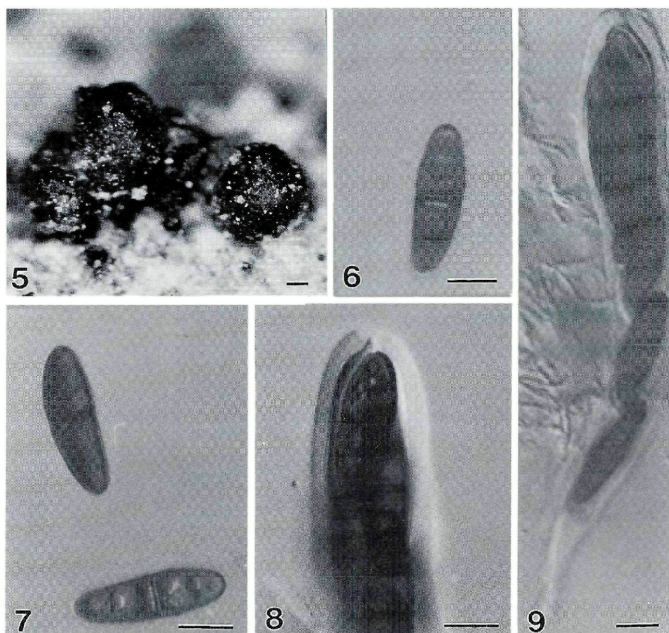
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\* I in *Sydowia* 44: 32–54.



Figs. 1-4. - Interference contrast micrographs of *Kirschsteiniothelia aethiops* from date palm. - 1. Vertical section through ascoma. - 2. Peridium. - 3. Palisade-like cells near base of ascoma. - 4. Base of ascoma. Scale bars : 1 = 100  $\mu$ m; 2-4 = 10  $\mu$ m.

dant, 2-3  $\mu$ m diam, septate, branched and anastomosing (Fig. 9). - Ascii 120-140 x 16-22  $\mu$ m, 8-spored, broadly subcylindrical, short-stalked, bitunicate, fissitunicate, apically rounded with an ocular chamber and faint ring, arising from the base of the ascomatal cavity (Figs. 1, 8, 9). - Ascospores 28-37 x 9-12  $\mu$ m, 2-seriate, ellipsoidal, rounded at the apices, 1-septate, the upper cell shorter and wider, weakly constricted at the septum, brown, relatively thick-walled, with a minutely verrucose ornamentation (x 1000) and lacking any sheath (Figs. 6, 7).



Figs. 5-9. - *Kirschsteinothelia aethiops*. - 5. Surface view of ascomata. - 6-9. Interference contrast micrographs. - 6, 7. Ascospores. - 8, 9. Asci with an ocular chamber (8) and fissitunicate dehiscence (9). Scale bars: 5 = 100  $\mu$ m, 6-9 = 10  $\mu$ m.

Material examined. - Tunisia, La Marsa, Gafa, Monastir, at the base of rachids of *Phoenix dactylifera*, Mar 1891, Pat. 593, (FH 5518, holotype).

Taxa occurring on palms with similar brown bicelled ascospores include *Amphisphaeria* Ces. & de Not., *Astrosphaeriella* H. Sydow & P. Sydow and *Didymosphaeria* Fuckel. *Amphisphaeria* is a unitunicate genus with asci provided with a  $J^+$  apical apparatus. *Astrosphaeriella* is melanommataceous with a hamathecium of trabeculate pseudoparaphyses held in a gelatinous matrix and fusiform ascospores, while *Didymosphaeria* is characterised by trabeculate pseudoparaphyses, immersed ascomata with hyphal walls becoming deeply pigmented and being clypeate around the ostiole (Hawksworth, 1985b). In *Kirschsteinothelia* D. Hawksw. ascomata are erumpent and finally

superficial, while the ascomatal wall is pseudoparenchymatous with angular cells and a wedge of palisade cells often visible at the periphery, while pseudoparaphyses are cellular. *Amphisphaeria phoenicis* is clearly wrongly placed and should be included in *Kirschsteinothelia*, where it is conspecific with *K. aethiops*.

The ascus length in the *Kirschsteinothelia aethiops* collection from date palm are within the range given for the species by Hawksworth (1985a), but slightly larger than those of the holotype. However, overlap in ascospore size in *K. aethiops* depending on the collection is reported by Hawksworth (1985a). All collections, including the one from palm have a delicate verruculose ornamentation. This is the first record of *Kirschsteinothelia aethiops* from Africa and from a palm host.

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