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## New and interesting records of South African fungi. IX. New Ascomycete records

E.J. van der Linde\* and K.T. van Warmelo

Mycological Research Unit, Plant Protection Research Institute, Private Bag X134, Pretoria, 0001 Republic of South Africa and Department of Botany, Rand Afrikaans University, P.O. Box 524, Johannesburg, 2000 Republic of South Africa

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During the collection and study of the fungal flora of South Africa four new Ascomycete records were encountered: *Melomastia mastoidea* (Fr.) Schroeter (Sphaerales: genus and species record); *Herpotrichia schiedermayeriana* Fckl., *Didymosphaeria striatula* P. et Sacc. and *Dothidea puccinioides* (DC.) Fr. (Dothideales: species records). The specimens are described and illustrated.

Vier nuwe Ascomycete-rekords is tydens die versameling en bestudering van die swamflora van verskillende habitate in Suid-Afrika aangeteken: *Melomastia mastoidea* (Fr.) Schroeter (Sphaerales: genus en spesie rekord); *Herpotrichia schiedermayeriana* Fckl., *Didymosphaeria striatula* P. et Sacc. en *Dothidea puccinioides* (DC.) Fr. (Dothideales: spesie-rekords). Die versamelde eksemplare word beskryf en geïllustreer.

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\*To whom correspondence should be addressed  
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The compilation of a list on the fungal flora of South Africa collected until 1945 (Doidge 1950) signified an end of intensive study and collection of the South African Ascomycetes, whereas studies on other fungal groups continued. Taxonomic studies of this group were hereafter more coincidental than the deliberate search for new information and few new records have appeared

since.

In the course of an ongoing survey of fungi occurring in South Africa, the following four species were encountered. They have not previously been recorded in South Africa and are presented as new records.

**1. *Melomastia mastoidea* (Fr.) Schroeter** in Kryptogamen Flora von Schlesien 3(2): 320 (1894).

Perithecia scattered, immersed, globose, black and carbonaceous with a thick, smooth opaque wall, 500–700  $\mu\text{m}$  diam. Ostiole papillate, single and periphysate. Asci unitunicate, narrowly cylindrical, short-stalked, 8-spored, up to  $150 \times 7 \mu\text{m}$ . Paraphyses present, filiform, septate, hyaline, up to  $180 \mu\text{m} \times 1.5\text{--}2 \mu\text{m}$ . Ascospores oblong, hyaline, uniseriate, 3-celled with rounded ends, middle cell slightly larger than end cells, slightly constricted at the septa,  $15\text{--}17 \times 5\text{--}6 \mu\text{m}$ .

According to Munk (1957) *Melomastia mastoidea* is a very distinctive species and the fungus described here agrees well with the descriptions of Munk (1957) and Dennis (1968). Munk (1957) considers the genus *Melomastia* Nitschke *apud* Fuckel monotypic. The occurrence of this genus is therefore also a first record for South Africa. (Figures 1 & 5).

*Trematosphaeria mastoidea* (Fr.) Winter is considered a synonym (Cannon *et al.*, 1985).

Nelspruit: Collected on dead wood, Berlin Forest Station, Nov. 1987, PREM 49273.

**2. *Herpotrichia schiedermayeriana* Fckl.** in Müller & von Arx (1962).

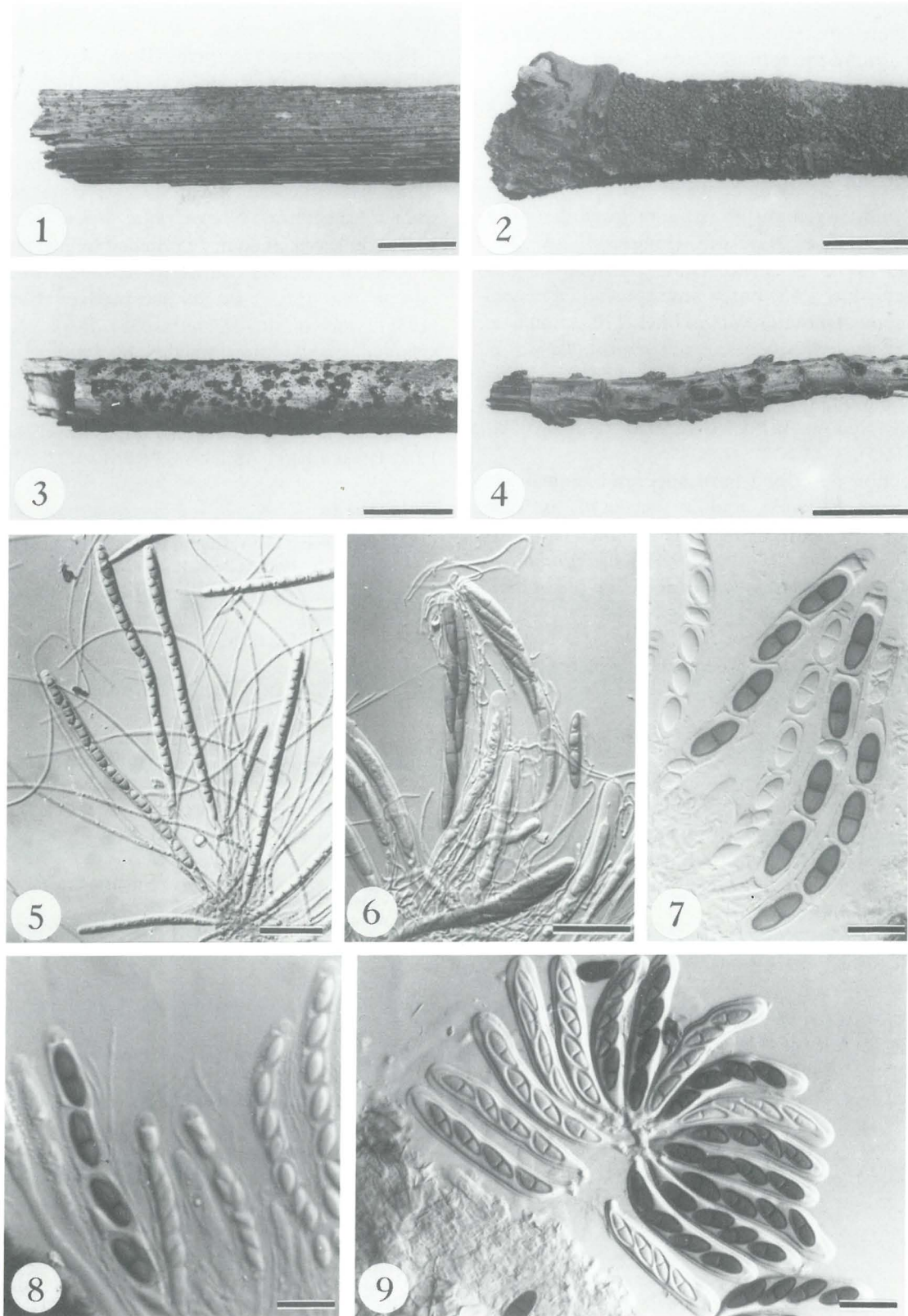
Pseudothecia gregarious, superficial on a mat of mycelium (subiculum) consisting of thick interwoven, septate, brown hyphae, subglobose, ostiolate, dark brown but orange-brown around the ostiole, 0.5–1.0 mm diam. Ostiole single, not papillate. Asci bitunicate, cylindrical, long-stalked, 8-spored,  $120\text{--}130 \times 10\text{--}15 \mu\text{m}$ . Pseudoparaphyses filiform, sometimes branched, hyaline,  $140\text{--}160 \mu\text{m} \times 1\text{--}2 \mu\text{m}$ . Ascospores fusiform, 2-celled, irregularly biseriata, no appendages observed, hyaline, becoming pale yellowish-brown, containing 4 oil globules and sometimes developing further septa between globules,  $28\text{--}32 \times 6\text{--}7 \mu\text{m}$ .

The size of the pseudothecia corresponds to that given by Müller & von Arx (1962), but the dimensions given for the asci and ascospores are slightly broader than those in this description.

This genus was recorded from South Africa once before when a new species, *H. striatispora* was described by Papendorf & von Arx (1966) from the leaf litter of *Acacia karroo* Hayne collected near Potchefstroom (PREM 44715). (Figures 2 & 6).

A thorough literature survey was done by Sivanesan (1971), who listed 24 synonyms.

Rabenh. Fung. Eur. 4060, PREM 4400;  
Johannesburg: Collected on woody debris, Johannesburg Botanical Gardens, Sept. 1987, PREM 49270.



**Figures 1-9** 1. Immersed perithecia of *Melomastia mastoidea* (Fr.) Schroeter on dead wood. Bar = 10 mm. 2. Superficial pseudothecia of *Herpotrichia schiedermayeriana* Fckl. on dead wood. Bar = 10 mm. 3. Immersed pseudothecia of *Didymosphaeria striatula* P. et Sacc. Bar = 10 mm. 4. Erumpent stromata of *Dothidea puccinioides* (DC.) Fr. on dead wood. Bar = 10 mm. 5. Paraphyses and asci with ascospores of *Melomastia mastoidea* (Fr.) Schroeter. Bar = 30  $\mu$ m. 6. Pseudoparaphyses and asci with ascospores of *Herpotrichia schiedermayeriana* Fckl. Bar = 30  $\mu$ m. 7. Asci with ascospores of *Didymosphaeria striatula* P. et Sacc. Bar = 30  $\mu$ m. 8. Ascus of *Didymosphaeria striatula* P. et Sacc., focussed on ascospore surface. Bar = 30  $\mu$ m. 9. Asci of *Dothidea puccinioides* (DC.) Fr. containing 4 ascospores. Bar = 30  $\mu$ m.

### 3. *Didymosphaeria striatula* Penz. et Sacc.

Pseudothecia scattered, immersed, subglobose, black, 1–1.5 mm diam., associated with a slight development of a clypeus around the ostiole. Ostiole short, erumpent. Asci bitunicate, cylindrical, 8-spored, subsessile to short-stalked, arising from a basal cushion of hyaline hyphae, 190–200 × 15–20 µm. Pseudoparaphyses numerous, hyaline and filiform, 180–200 µm × 1–2 µm. Ascospores uniseriate, 2-celled, ellipsoid, dark brown, striate, slightly constricted at the septa, enclosed in a gelatinous sheath, 28–30 × 10–12 µm. (Figures 3, 7 & 8).

The genus *Roussoëlla* Sacc. was described in 1888 (Theissen & Sydow 1915) but is now considered a synonym of the genus *Didymosphaeria* Fuckel (Cannon *et al.* 1985). The type species of the genus *Roussoëlla* was *R. nitidula* Sacc. & Paol. which was, however, considered identical with *Didymosphaeria striatula* Penz & Sacc. (Theissen & Sydow 1915), described later in 1901 (Saccardo 1905).

The collection described here appears identical with *Didymosphaeria striatula* and is accepted as such. However, it could be argued that *D. striatula* should be renamed *D. nitidula*, taking *Roussoëlla nitidula* as basionym. As the original collections have not been examined, no formal change is proposed here.

Graskop: Collected on dead wood, The Bonnet, Graskop, Nov. 1987, PREM 49271.

### 4. *Dothidea puccinioides* (DC.) Fr. (fide Loeffler, 1957)

Stromata erumpent, attached over the entire base, pulvinate, black, smooth, carbonaceous, with several small, immersed ascogenous locules, 1.0–2.0 mm, stroma cells thick-walled. Asci bitunicate, cylindrical, short-stalked, 4-spored, 80–90 × 15 µm. Ascospores uniseriate, ellipsoid, 2-celled, slightly constricted at the septa, light-brown becoming dark-brown, 22–25 × 10–11 µm.

One species of *Dothidea* Fr., *D. aloicola* P. Henn. (Kew 1677, *v.d. Bijl 1164*) has been recorded on *Aloe* sp. (Doidge 1950). *Phyllachora kniphofiae* (Kalchbr. & Cooke) Sacc. was collected in South Africa as *Dothidea kniphofiae* Kalchbr. & Cooke (*Mac Owan 1311*, PREM

20820 & Rabenh. Fung. Eur. 3556) at Boschberg, Somerset East on *Kniphofiae aloides* Monch. (Doidge 1950).

*Phyllachora perisporioides* (Berk. & Curt.) Speg. was collected as *Dothidea perisporioides* Berk. & Curt. on several occasions on different hosts in the 1880's (Doidge 1950). An additional but doubtful species, *Auerswaldia scabies* (Kalchbr. & Cooke) Sacc. (Doidge 1950) was collected at Noodsberg, Natal as *Dothidea scabies* Kalchbr. & Cooke (*Mac Owan 48* and PREM 10436) on leaves of an undetermined tree. (Figures 4 & 9).

This collection is considered identical with *Dothidea puccinioides* (DC.) Fr. as accepted by Cannon *et al.* (1985) who quote *D. tetraspora* Berk. & Br. as a synonym in addition to the 18 synonyms listed by Loeffler (1957).

Drakensberg: Collected on dead wood, Royal Natal National Park, Drakensberg, Apr. 1988, PREM 49272.

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