

SOUTH AFRICAN PERISPORIACEAE.

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(With Plate IV.)

(Read May 15, 1918.)

III. NOTES ON FOUR SPECIES OF *Meliola* HITHERTO UNRECORDED
FROM SOUTH AFRICA.

The fungi under consideration are all from Natal and the eastern part of the Cape Province, and have been identified from recent collections.

Meliola malacotricha Speg. has been recorded from South America on Leguminosae, and has now been collected on plants belonging to this family in two localities in Natal.

M. bicornis Wint. is also recorded as occurring commonly on Leguminosae. The type specimen was collected in the island of S. Thomé, and later it was found in South America. Stevens in his monograph on 'The Genus *Meliola* in Porto Rico' states that numerous collections of this species have been made in Porto Rico, all on plants belonging to the same family.

The only record which I can find of its occurrence on a non-leguminous plant is in 'Le Genre *Meliola*' (Gaillard), where it is stated that a variety occurs on *Croton* sp. The present specimen, which agrees in every particular with the description, and which has been carefully compared with Winter's specimen (Fung. Eur. No. 3545), is on the leaves of *Oncinotis inandensis*, a plant belonging to the natural order Apocynaceae.

M. palmicola Wint. appears to be a species with a very wide distribution; it was first collected in Tonkin, and has subsequently been found on various palms in America and in India (Syd. Ann. Myc. xi, p. 382).

M. geniculata Syd. & But. was described as occurring on *Odina Wodier* in India. The South African specimen on *Rhus* spp. has somewhat larger perithecia, hyphopodia and spores than are called for by the description, in the size of the spores approaching more nearly to *M. Butleri*; but the form of the hyphopodia and the character of the setae correspond exactly with those described and illustrated for *M. geniculata*.

The South African specimens also occur on hosts of the same family as *Odina Wodier* on which the type-specimen occurs.

I have therefore described the former as a variety of *M. geniculata*.
The descriptions of these fungi are as follows :

Meliola malacotricha Speg.

Sacc. Syll. Supp. Univ. i, p. 425.

Gaillard, Le Genre *Meliola*.

Mostly hypophyllous, forming round or irregular spots 1–4 mm. diam., often confluent and covering a great part of the leaf surface. Hyphae brown, 5–7 μ thick; composed of cells 25–30 μ long; branches opposite; capitate hyphopodia opposite, alternate or unilateral, 14–16 $\times$ 7–10 μ , briefly stipitate, terminal cell ovoid or globular; mucronate hyphopodia interspersed with the capitate hyphopodia, opposite, narrow-ampulliform, 12–15 μ long. Mycelial setae fairly numerous, incurved and bent at right angles at the base or at some other point in their length, becoming insensibly narrower towards the translucent apex, 150–300 $\times$ 5–10 μ . Perithecia in small groups in the centre of the spot, globular, then depressed, black, minutely verrucose, 150–220 μ diam. Asci 2-spored. Spores 4-septate, cylindrical, straight or slightly curved, slightly constricted at the septa, and slightly attenuated towards the rounded extremities, 30–38 $\times$ 12–15 μ .

On *Indigofera* sp., Buccleuch, Natal, 23/3/16, E. M. Doidge (9703).

On *Baphia racemosa*, Sea View, Durban, 1/10/17, P. v. d. Bijl (Natal Herbarium No. 783) (11354).

In both these specimens the majority of the spores fall within the dimensions given above, but a few are longer, up to 42 μ .

Meliola bicornis Wint.

Gaillard, Le Genre *Meliola*, p. 99.

Colonies black round-irregular, scattered or confluent, sometimes up to 8 mm. diam. Hyphae slender, 6–7 μ , spreading, laxly branched, flexuose, somewhat torulose. Capitate hyphopodia opposite, alternate or unilateral, small 12–15 $\mu \times$ 7–10 μ ; basal cell very short, 3–5 μ , enlarged at the base, terminal cell globular. Mucronate hyphopodia interspersed with the capitate hyphopodia, usually opposite, ampulliform, drawn out into rather a long neck. Mycelial setae rather numerous, slender, brown, translucent, with numerous septa, divided at the apex into 2 (occasionally 3) simple or forked acute branches. Perithecia scattered over the whole colony, globular, then depressed, scabrous, 120–160 μ diam. Asci ellipsoid with a very short foot, with 2–3 or 4 spores. Spores 4-septate, slightly constricted at septa, brown, broadly rounded at both ends, 37–45 $\times$ 12–15 μ .

On leaves of *Oncinotis inandensis*, Buccleuch, Natal, 23/3/16, E. M. Doidge (9722).

Meliola palmicola Wint.

Gaillard, Le Genre *Meliola*, p. 101

Spots orbicular, often confluent, 1–15 mm. diam., black, with an irregular margin. Mycelium brown, branching, branches opposite, anastomosing. Hyphae somewhat sinuous, about $10\ \mu$ thick, cells 24–28 μ long. Capitate hyphopodia alternate, stipitate, basal cell 10–25 μ long, non-septate in younger parts of mycelium and about 10 μ long, in central parts of colony often pluricellular and up to 25 μ long; terminal cell globular to ovoid, often bent laterally and more or less lobed, $16\text{--}20 \times 10\text{--}11\ \mu$. Mucronate hyphopodia fairly numerous, on separate branches, opposite, ampulliform, $17\text{--}20 \times 8\text{--}10\ \mu$. Mycelial setae very numerous, straight, erect, opaque, black, 400–500 μ long, about 10 μ thick at base, tapering slightly towards apex; apex sometimes simple, more often divided into 2–3 simple or bifid branches; more rarely there are 4 or 5 unilateral branches. Perithecia fairly numerous in centre of colony, globular, than depressed, 180–250 μ diam., surface minutely verrucose. Asci ovoid, 2–4 spored, about $54\text{--}56 \times 30\text{--}35\ \mu$. Spores 4-septate, slightly constricted at the septa, elliptic, rounded at both ends, $48\text{--}55 \times 20\text{--}22\ \mu$.

On both faces of leaves of *Phoenix reclinata*, Kentani, 29/11/15; Miss A. Pegler, M.H. (9170) (Pegler No. 2372).

On leaves of *Phoenix* sp., Port Shepstone, Natal, 15/10/12, I. B. Pole (Evans 5607).

Meliola geniculata Syd. & Butl.

Annales Mycologici, Bd. ix, 1911, p. 381.

var. *macrospora* var. nov.

Mycelium mostly epiphyllous, thin, spreading, black, effuse, not forming definite spots, often following the primary veins of the leaf. Hyphae fuscous, septate, 5–7 μ thick; branches mostly alternate; cells of hyphae, 20–36 μ long, mostly 20–25 μ . Capitate hyphopodia alternate, 16–24 μ long, basal cell minute, capitate cell clavate, 10–12 μ broad. Mucronate hyphopodia opposite or unilateral up to 20 μ long; narrowing above and often curved. Mycelial setae scattered, often more numerous around perithecia, 200–275 μ long, 5–8 μ thick, not tapering towards apex, abruptly geniculate near base, with 2–5 incisions or teeth on the blunt apex; more or less translucent. Perithecia scattered, few, globose, tuberculate, black, 180–240 μ diam. Asci ovate, very briefly stipitate, 2-spored. Spores oblong or oblong-cylindrical, constricted at the septa, rounded at both ends, brown or fuscous, $40\text{--}43 \times 16\text{--}18\ \mu$.

On leaves of *Rhus dentata*, 21/3/16, Town Bush Valley, Maritzburg, Natal, E. M. Doidge (9716).

On leaves of *Rhus tomentosa*, 13/11/17, Van Staden's Pass, C.P., E. M. Doidge (10879).

Meliola geniculata Syd. & Butl.

var. *macrospora* var nov.

Hyphopodiis capitatis $16-24\ \mu \times 10-12\ \mu$; peritheciis $180-240\ \mu$ diam.; sporidiis $40-43\ \mu \times 16-18\ \mu$.

A typo differt, hyphopodiis capitatis, peritheciis et sporidiis majoribus.

EXPLANATION OF PLATE IV.

[All drawings made with help of camera lucida, with Zeiss objective DD and ocular No. 5.]

FIG.

1. *Meliola malacotricha*. (a) Mycelium showing capitate and mucronate hyphopodia; (b) spores.
2. *Meliola bicornis*. (a) Mycelium with capitate and mucronate hyphopodia; (b) spores; (c) tips of mycelial setae.
3. *Meliola palmicola*. Mycelium with (a) capitate and (b) mucronate hyphopodia; (c) spores; (d) tips of mycelial setae.
4. *Meliola geniculata* var. *macrospora*. Mycelium with (a) capitate and (b) mucronate hyphopodia; (c) spores; (d) tips of mycelial setae.

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