

THE FUNGUS GENUS KERNIA WITH THE DESCRIPTION OF A NEW SPECIES

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SUMMARY

Kernia geniculotricha sp.n. is described. It differs from its relatives in having long, circinate or straight, geniculate hairs.

1. INTRODUCTION

First described under the name *Magnusia* by SACCARDO in 1878, the genus was later renamed *Kernia* when NIEUWLAND (1916) found that the name *Magnusia* was used by KLOTZSCH (1854) for a species of flowering plant. The name *Kernia* was also used for a rust genus by THIRUMALACHAR (1946, 1949), but on discovering that this name had already been given to an ascomycetous fungus, he changed the name of his rust fungus to *Kernella*.

So far, some 4 species of the genus *Kernia* are known. A fifth species *K. geniculotricha*, is described in this paper. MASSEE & SALMON (1901), AMES (1937), and BENJAMIN (1955, 1956) have added further information on the genus. The species *K. geniculotricha* resembles *K. nitida* (Sacc.) Nieuwland and *K. brachytricha* (Ames) Benjamin in almost all respects except for the character of the appendages, which are distinctive. The specific epithet "*geniculotricha*" means that the appendages are bent like a knee.

2. MATERIALS AND METHODS

Rabbit dung pellets were kept in moist chambers at room temperature. After a period of 10–15 days, dark triangular fruit bodies with appendages were observed using a binocular microscope. The fruit bodies were picked up with a fine watchmakers forceps, and were sterilised in 5% hypochlorite solution for 4 minutes and washed in sterilised distilled water, before inoculating the petri dishes containing filter paper and rabbit dung agar. Dark fruit bodies appeared within 10–15 days. The petri dishes were incubated at 25°C.

3. CHARACTERS OF THE GENUS KERNIA

Kernia Nieuwland, Amer. Mid. Nat. 4 (9): 379, 1916.

Synonymy: *Magnusia* Sacc. (*Michelia* 1: 123, 1878), not *Magnusia* Klotzsch (*Monatb. Berl. Acad.* 1854, 125), not *Kernia* Thirumalachar (*Mycologia* 38: 679, 1946).

Cleistothecia superficial, dark, triangular, rectangular or globose, bearing long or short appendages at angles, depressed. Appendages olive, green to brown,

straight, arcuate, sometimes undulate, ending in 1 or 2 circinate or recurved tips, septate, thick-walled, smooth. Asci unitunicate, irregularly disposed within the fruit body, pyriform or clavate with a short stalk, 8-spored. Ascospores hyaline to light olive-green, ellipsoidal with acute or rounded ends.

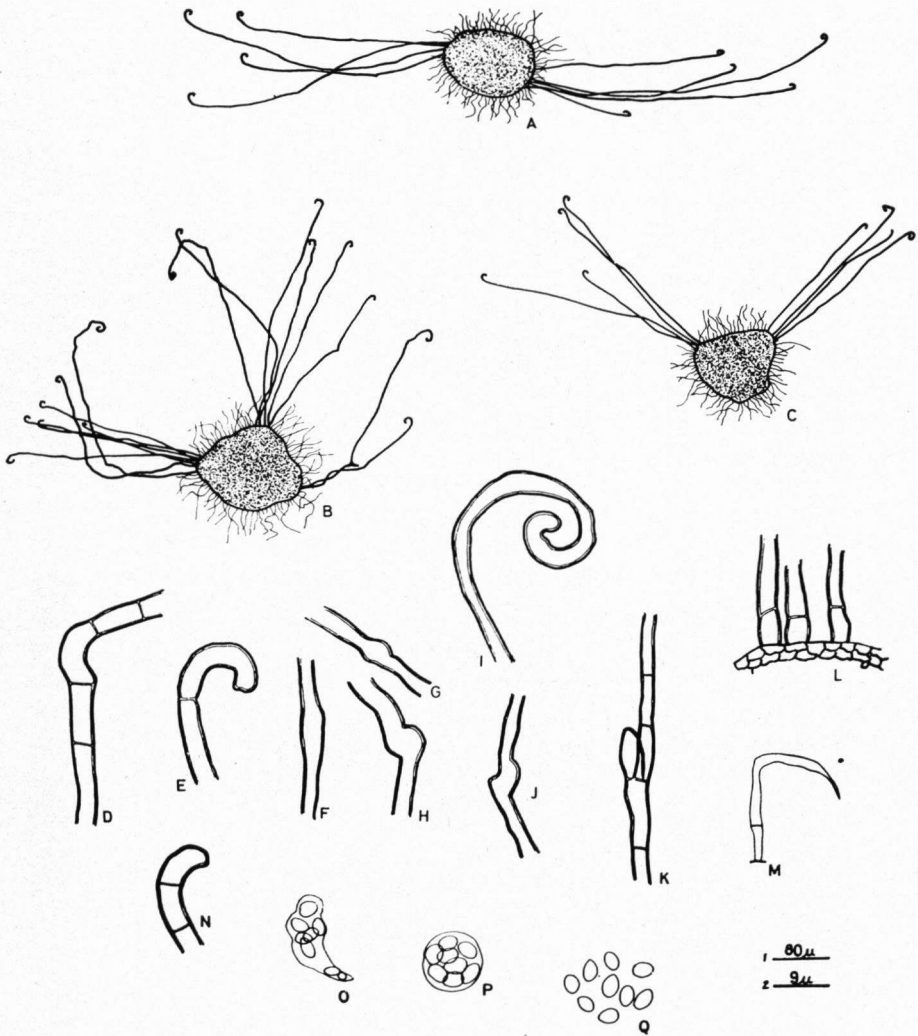


Fig. 1. A-C. Various shapes of cleistothecia (A-oval, B-triangular, C-quadrangular) covered with long geniculate and short hairy appendages; D-N. Various sorts of thickenings which appear on the long hairs (E- curved tip, I- circinate tip, K- branching hair, M- short hairy appendage, N- slightly curved tip of the long appendage); O- Pyriform ascus containing eight irregularly biserially arranged ascospores; P. Top view of the ascus; Q. Ascospores.

Kernia geniculotricha Seth sp. nov. (*figs. 1 and 2*)

Cleistothecia superficial, dark, carbonaceous, rarely forming a short papillate outgrowth, oval, triangular, quadrangular or globose, covered with long and short hairs, $120\text{--}280 \times 96\text{--}200 \mu$. Long hairs brown, septate, smooth, in places swollen to form knee-like joints, ending in a straight or circinate tip; when

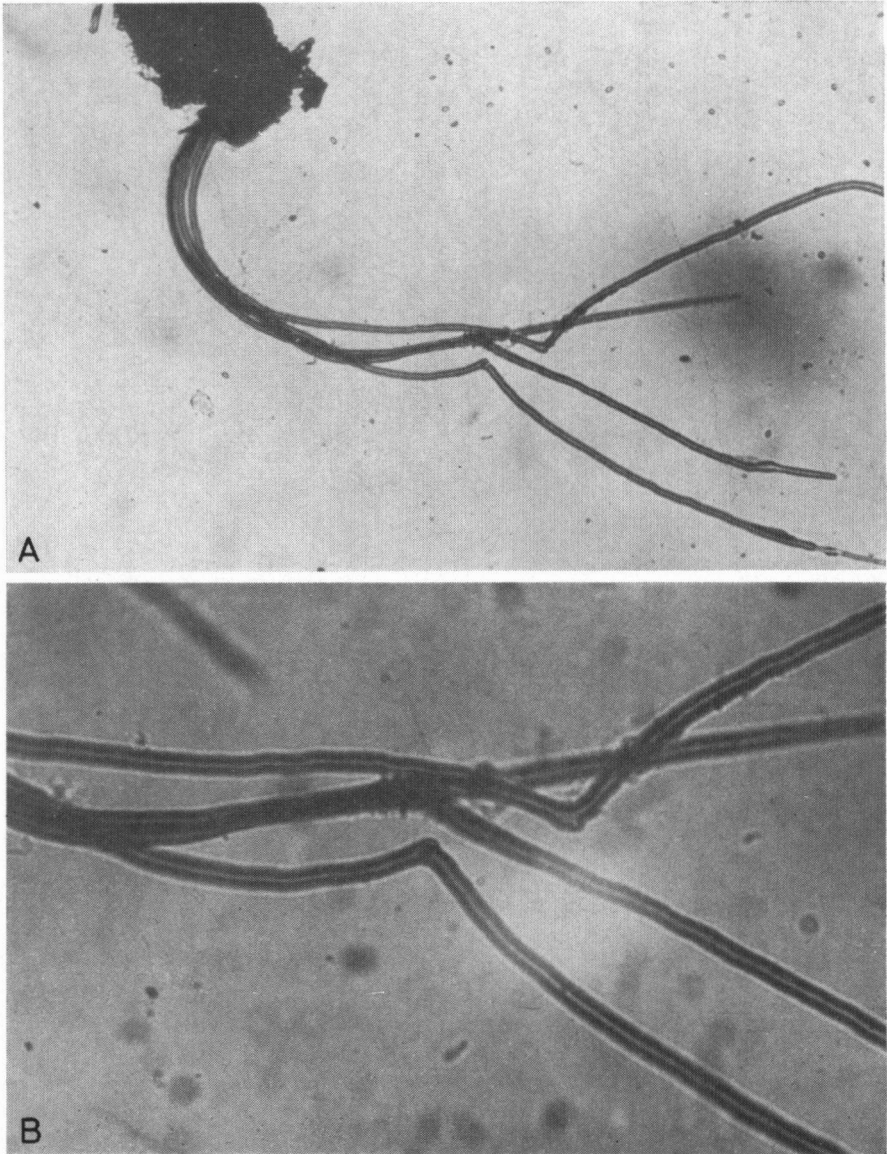


Fig. 2. *Kernia geniculotricha* Seth. A. Long appendages showing knee like joints $\times 100$; B. Same as A $\times 400$.

straight the tip flattens out like a spatula, 4.3–5 μ wide (7 μ wide at the circinate tip), basal cell slightly swollen; such appendages arise in groups of 3–8 at certain points on the cleistothecium. Short hairs hyaline to pale brown, smooth, septate, ending in a very fine collapsed tip, 2–3 μ wide.

Asci soon deliquesce, pyriform or clavate, irregularly disposed on the inner wall of the cleistothecium, unitunicate, 8-spored, 15.7 \times 7 μ .

Ascospores light brick red in colour in a mass; singly hyaline to pale brown, ellipsoid, rounded at the ends, irregularly biserially arranged, 4.5–7 \times 3.5–5.3 μ .

Habitat: On rabbit dung, Hamburg, W. Germany. The type culture has been deposited in the culture collection of the Centraalbureau voor Schimmelcultures (CBS 599.68), the Department of Botany, Welsh National Museum, Cardiff, U.K. (68.133), and the Commonwealth Mycological Institute (I.M.I. 133118).

Latin diagnosis

Kernia geniculotricha sp. nov.

Cleistotheciis superficialibus, nigris, carbonaceis, papillis brevibus raro increscentibus, ovatis, triangularibus vel quadrangularibus vel globosis, pilis longis vel brevibus tectis 120–280 \times 96–200 μ . Pilis longis fuscis, septatis, levibus, aliquando tumidis velut geniculatis; apice recto spatulae simili vel circinato 4.3–5 μ latis (in apice circinato 7 μ latis), cellula basali tumidula pilis aggregatis 3–8 in cleistotheciis passim dispositis. Pilis brevibus, hyalinis vel pallide brunneis levibus, septatis, apice tenuissimo collapse, 2–3 μ latis. Asci cito deliquescentibus pyriformibus vel clavatis, in pariete interiori cleistothecii irregulariter dispositis, unitunicatis, octosporis, 15.7 \times 7 μ . Ascosporis coacervatis pallide lateritiis, singulis autem hyalinis vel pallide brunneis, ellipsoideis, utrinque rotundatis, irregulariter biserialiter dispositis, 4.5–7 \times 3.4–5.3 μ .

Habitat: Typus lectus a H.K. Seth in stercore cuniculari Hamburg, Germania Occidentali et nunc positus in Centraalbureau voor Schimmelcultures, Baarn, Hollandia (CBS 599.68), Welsh National Museum, Cardiff (68.133) et Commonwealth Mycological Institute, Kew (IMI 133118).

Key to the species of the genus *Kernia*

- A. Ascospores ellipsoid, acute at both ends, more than 8 μ long *K. bartletti*
- A. Ascospores less than 8 μ long B.
- B. Appendages long with 1–2 circinate or straight tips C.
- B. Appendages short with 1–2 circinate or straight tips *K. brachytricha*
- B. Appendages coiled 10–16 times *K. spirotricha*
- C. Appendages straight with or without circinate tips, not geniculate *K. nitida*
- C. Appendages straight with or without circinate tips, geniculate

K. geniculotricha

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