

FUNGI OF DELHI. XIV. IMPERFECT STATE OF KERNIA GENICULOTRICHA

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SUMMARY

Of the species *Kernia geniculotricha* Seth the imperfect state has been found which is here described as *Scopulariopsis* sp.

1. INTRODUCTION

During our studies on the Indian coprophilous fungi, two species of *Kernia* Nieuwland were isolated. Of these one is new and has been named *K. bifurcotricha* sp. nov. (SAXENA & MUKERJI 1970). This species differs from the rest in two respects. First, it possesses long terminal hairs with a few septa at the base and shows occasional dichotomous branching. Secondly, it has more than one group of hairs on the surface of the cleistothecial wall, each arising from a raised neck-like protuberance.

The other species, *K. geniculotricha* has been recently recorded by Seth (1968). We have found the imperfect state of this species which is described here.

So far the imperfect state was not known in any of the six species of this genus (AMES 1961; SAXENA & MUKERJI 1970; SETH 1968)¹.

2. MATERIAL AND METHODS

The fungus was isolated from Kangaroo dung pellets collected from Delhi Zoo on May 12, 1968 (A.S.S.) by the same method as used by SETH (1968). It was isolated in pure state by culturing it in plates and slants containing Dung agar, Czapek's agar and Oat meal yeast extract agar. The petri dishes and tubes were incubated at $27 \pm 1^\circ\text{C}$ and growth was observed on the tenth day.

A living culture of our strain has been deposited in the Commonwealth Mycological Institute, Kew, England under reference number IMI141564.

3. OBSERVATIONS

Colonies are slow growing, reaching 29 mm on Dung agar, 25 mm on Czapek's agar and 18 mm on Oat meal yeast extract agar. They form numerous scattered cleistothecia on Dung agar and Oat meal yeast extract agar, and few on Czapek's agar. Conidiophores develop abundantly on Czapek's agar. On Dung agar and

¹ Mr. V. B. Singh of Botany Department, Toronto University, Toronto, Canada has informed us that he also found the imperfect state (*Scopulariopsis*) in some other species of this genus.

Oat meal yeast extract agar either a few or no conidiophores are formed. The conidiophores and the conidia, at maturity, impart a characteristic greyish brown or grey colour to the colony.

We have also compared our strain (DU/KS80; IMI141564) with Seth's strain (CBS599.68; IMI133118), which he simultaneously isolated from rabbit dung pellets collected at Hamburg, W. Germany.

Cultural characters of both our and Seth's strains were similar on all the media. The size of the cleistothecia, asci and ascospores were more or less similar. The only exception was that our strain grew faster and developed cleistothecia within 7–8 days.

SETH (1968) did not notice the formation of conidiophores and conidia. On culturing his strain on Czapek's agar we found similar formation of conidiophores as in our strain.

4. DESCRIPTION

There are several instances where the perfect stage was known in a particular form and the imperfect state was discovered later but this does not invalidate the name of the fungus. Therefore, the name of the fungus remains the same as given by SETH (1968), i.e. *K. geniculotricha* Seth. However, the following characters of the imperfect state should also be incorporated for the complete diagnosis of the species.

Status imperfectus *Scopulariopsis*. Conidiophora erecta, cylindrica, 20–40 × 2.0–2.5 μ; ramosa primariis, raro secundariis, cylindrica, inflatis, 5–10 × 2–3 μ; annellophora 7–12 × 2–3 μ; conidia brevia et cylindrica, longa et ovata, basilariter truncata, sed manifeste fissura, 4.5–5.8 × 1.65–2.5 μ.

Characters of the perfect state – cleistothecia (*fig. 1A*) same as given by SETH (1968). Imperfect state – *Scopulariopsis*. The conidiophores and conidia at maturity give a characteristic greyish brown to grey colour to the colony. Sometimes distinct concentric growth rings are formed in the colony. Conidiophores erect, arising from the vegetative hyphae generally in groups, rarely single, frequently in a complex penicilloid arrangement; vegetative hyphae anastomosing to form light greyish brown to light grey coremioid ropes, bearing conidiophores along their length. The coremioid ropes range from 200–300 μ long and most of its length is submerged in the agar (*fig. 1B*). Conidiophores simple, sometimes branched, cylindrical, variable in length, 20–40 (sometimes up to 60) × 2–2.5 μ, at first hyaline becoming pale brown in age; primary and rarely secondary branches 5–10 × 2–3 μ, cylindrical, inflated, slightly broader at tips and tapering at the base; ultimate branches forming sporogenous cells (or annellophores, as termed by HUGHES 1953), 7–12 × 2–3 μ (*fig. 1C*). The annellophores when young are flask-shaped, with short, almost cylindrical necks, with maturity the neck becomes longer due to the formation of 2–4 annellations (*fig. 1C* arrow). Conidia produced in basipetal succession in short fragile chains, light greyish-brown in mass, short-cylindric to long-ovate, truncate at the attachment point, 4.5–5.8 × 1.65–2.5 μ.

IMPERFECT STATE OF KERNIA

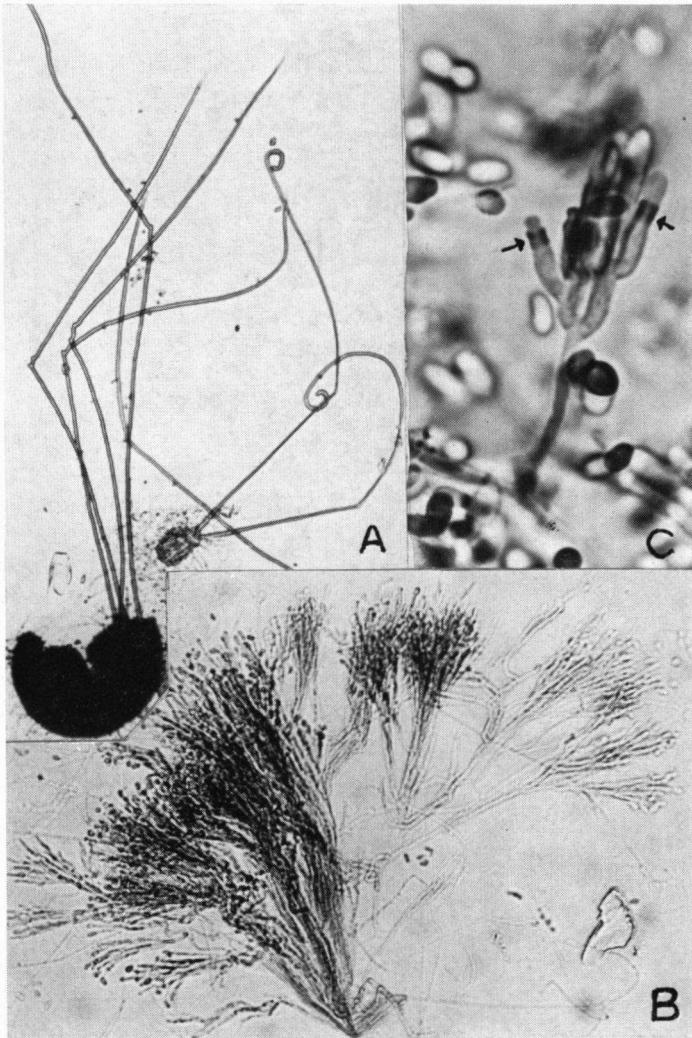


Fig. 1. *Kernia geniculotricha* Seth. A. Cleistothecium with characteristic geniculate appendages $\times 75$. B. Vegetative coremioid ropes bearing conidiophores $\times 170$. C. Single conidiophore showing characteristic development of conidia $\times 1200$.

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