lævigate, sometimes weakly intrapunctate. Furrows well developed, parallel to each other, extending from one end to the other.

Distribution.—Katrol (Upper Jurassic) and Bhuj (Lower Cretaceous) sediments of Kutch.

The type slides are preserved in the repository of the Birbal Sahni Institute of Palæobotany, Lucknow.

Birbal Sahni Inst. of Palæobotany, Lucknow, *April* 5, 1968.

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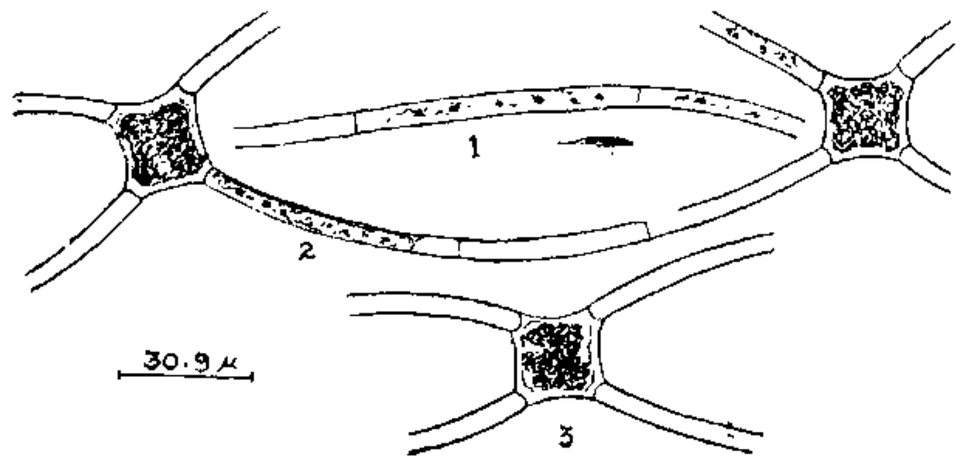
OCCURRENCE OF *MOUGEOTIA ELEGANTULA* WITTROCK FROM GWALIOR, MADHYA PRADESH

THE present communication is a report on the occurrence of *Mougeotia elegantula* Wittrock, described for the first time from India, as far as known to the author.

Filaments 3·5–6·0 μ broad ; cells 46·0–115·0 μ long ; single chloroplast with 4–8 pyrenoides in a row. Conjugation scalariform, conjugating cells geniculate ; zygospores quadrate, 18·5–24·2 μ broad with rounded corners, blackish ; spore wall smooth and hyaline. Aplanospores could not be observed (Figs. 1-3).



FIGS. 1–3. *Mougeotia elegantula*, Wittrock. Fig. 1. Vegetative filament. Figs. 2-3. Filaments with zygospores.

The material was collected from a Tank (Gwalior fort) mixed with *Spirogyra* and *Zygnema* sp., on 11th March 1966.

Material and slides have been deposited with Botany Department, Government Science College, Gwalior.

I acknowledge my sincere thanks to Principal Dr. Raviprakash and Prof. T. N. Raghwachar, for encouragement and facilities.

Department of Botany, Govt. Science College, Gwalior (M.P.), *March* 1, 1968.

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TWO NEW RECORDS OF *PESTALOTIA* FROM BANGALORE

IN the course of investigations on soil mycoflora of Bangalore, two species of *Pestalotia* (*sensu*) Guba[1] were isolated, one from termits hill soil and the other from the rhizosphere of *Pisum sativum* L. The species were isolated by the Warcup's[3] soil plate method. Recently, Rao[2] has reported an unidentified species of *Pestalotia* from soils at Tirupati.

1. *Pestalotia heterocornis* Guba in *Monochaetia and Pestalotia*, 1961, pp. 125–26.

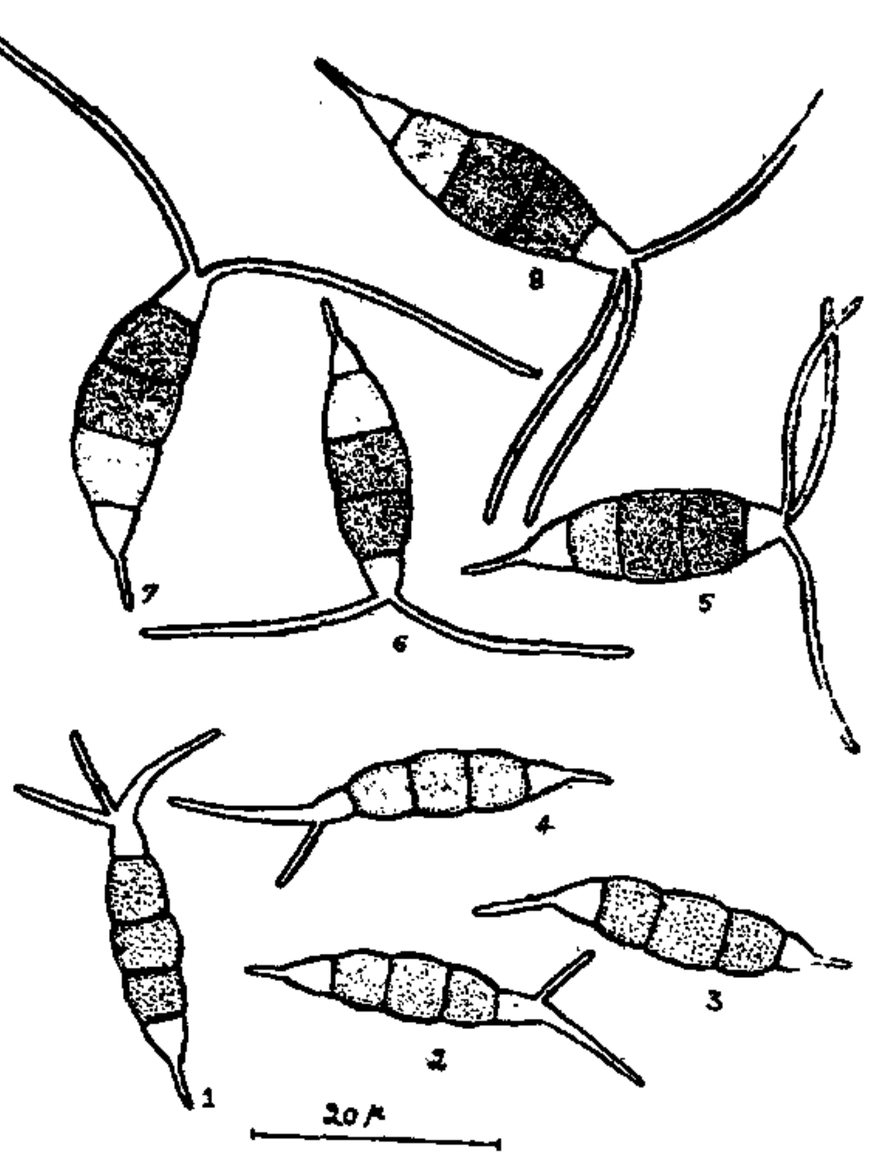
Conidia 5-celled, fusiform, tapering towards the extremities, straight, slightly constricted at the septa, 18–26 × 4·5–8 μ ; intermediate cells pale brown, somewhat olivaceous, concolorous 12–15 μ, apical cell hyaline conic or slightly cylindrical bearing two to three, rarely one or four widely divergent setulæ, mostly unequal in length, 4–13 μ, pedicel upto 8 μ long (Figs. 1–4).

Pestalotia heterocornis was originally described on leaves of *Anacardium occidentale* L. The isolate under report, obtained from the termite hill soil, differs from the type in having slightly shorter setulæ.

2. *Pestalotia ardesiae* P. Henn. *Hedwigia*, 1902, 41, 116 ; Guba, E. F., in *Monochaetia and Pestalotia*, 1961, pp. 202.

Conidia 5-celled, fusiform, straight, rarely bent, tapering towards the extremities, 24–33 × 7–9 μ, hardly constricted at the septa, basal cell fairly long, acute, upper two cells umber-coloured, the lower olivaceous 13–18 μ ; setulæ 2-3, mostly three, rarely four, diverging at right angles to the conidia 15–33 μ long and pedicel 4–8 μ long (Figs. 5–8).

Pestalotia ardisiæ was originally described on leaves of *Ardisia grandis* Seem from Botanic Gardens, São Paulo, Brazil. The local isolate from the rhizosphere soil of *Pisum sativum* L., agrees closely with the above species but differs in having slightly longer and narrower conidia.



FIGS. 1–8. Figs. 1–4. *Pistalotia heteroicornis* (for explanation refer text). Figs. 5–8. *Pistalotia ordesiæ* (for explanation refer text),

Our sincere thanks are due to Dr. M. Nagaraj for providing facilities and to Dr. V. Agnihothrudu, Technical Advisor, Rallis, India, for confirming the species.

Department of Botany, Central College, Bangalore, *May* 17, 1968.

PADMABAI LUKE.
S. SUDARSHANA DEVI.

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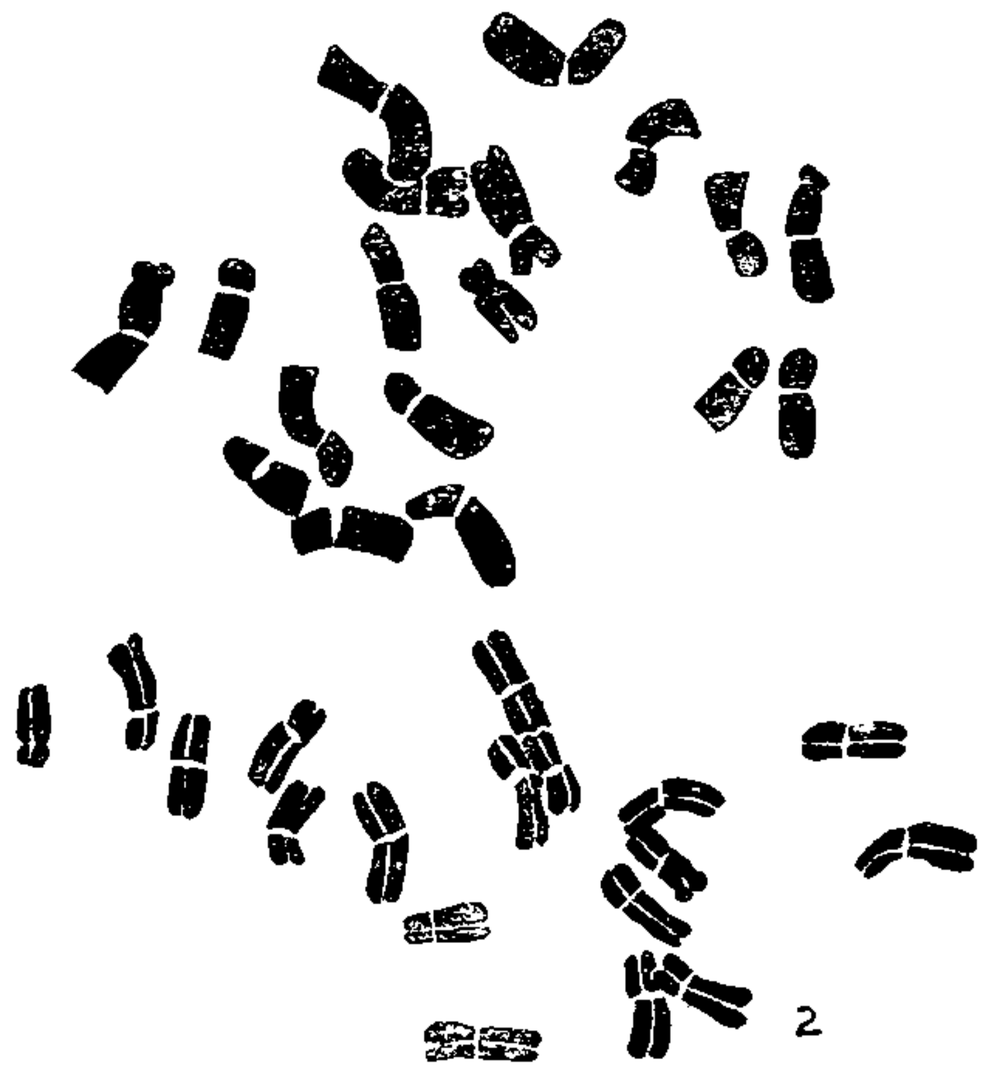
KARYOTYPE AND CYTOLOGY OF *SPINIFEX LITTOREUS* MERR.

Spinifex littoreus Merr. (*S. squarrosus* Linn.), a member of the tribe Paniceæ, is a wild dioecious grass growing on the seashore sands. Except for the report of the chromosome number of $n = 9$[1] and $2n = 18$[2] little is known about the cytology of this genus. A study of karyotype and meiosis of this species was undertaken to detect, if any, chromosomal heteromorphism that might be associated with the dioecious condition.

Material was obtained from the natural populations growing in the Waltair beach (India). Root tips were collected from the same clones (one male and one female) throughout the study. Root tips, half inch long, were pretreated in 0·002% 8-hydroxyquinoline for four hours at 16–18° C. and squash preparations were made in aceto-orcein.[3] For meiosis flower-buds were fixed in 1 : 3 acetic-alcohol and stained in aceto-carmine.

The somatic complements in the root tips showed 18-chromosomes in both male and female plants (Figs. 1, 2). The 18-chromosomes could be identified as 9 pairs. Measurements of the individual chromosomes were made from 12 cells each of the male and female plants. All the chromosomes had sub-median centromeres. There was a gradual decrease in length from the longest to the shortest chromosome in the complement. In both male and female plants chromosome 2 was identified as the nucleolus organiser chromosome, with the nucleolus organiser situated in the long arm sub-terminally. This chromosome measured 4·5 μ and 5·0 μ in male and female plants respectively. All the chromosomes except chromosomes 6 and 7 could be identified on the basis of total length and arm-ratio. Chromosomes 1, 2 and 9 are the easiest to identify in the complement. The karyotypes of the male and female plants agree very well and the results indicate the absence of a heteromorphic pair in either sex.



FIGS. 1–2. Fig. 1. Metaphase pole view in male plant, × 1 000. Fig. 2. Metaphase pole view in female plant, × 1,000.

Meiosis in pollen mother cells showed 9 bivalents at diakinesis and metaphase-I. Analysis of 60 nuclei at diakinesis and 36 at