

Table 1 Bacterial leaf blight reaction of F_1 , F_2 and F_3 generations

Cross	F_1 reaction	F_2 reaction (No. of plants)		X^2 for 15:1	P value	F_3 reaction (No. of families)			X^2 for 7:4:4:1	P value	
		Resistant	Susceptible			Resistant	Segregated into 15:1	Susceptible 3:1			
CB II \times Krishna	Resistant	601	37	0.206	0.90-0.80	51	35	38	4	3.85	0.50-0.20

The root tips of the 10-day old seedlings of this cultivar were clipped and suspended in 1 O.D. suspension of *X. campestris* pv. *oryzae* and thereafter transplanted in zinc trays. The incidence of 'kresek', wilt phase of bacterial blight, was observed up to maximum tillering stage. None of the plants died of 'kresek'. The results were further confirmed by repeating in different seasons.

The results of bacterial blight reaction on CB II indicated that this cultivar possessed resistance both for leaf blight as well as 'kresek' phase of bacterial blight and there is scope for utilizing this cultivar as donor in breeding programme for bacterial blight of rice. CB II is tall traditional indica type with medium bold golden coloured grain maturing in about 125 days. Detailed knowledge of inheritance of a character facilitates its incorporation into a desired background, hence attempts were made to study the genetics of bacterial leaf blight (BLB) in CB II.

CB II was crossed with Krishna (BLB susceptible, dwarf improved cultivar of rice having Dee-Gee-Woo-Gen, gene). The F_1 , F_2 and random F_3 lines along with the parents were clip inoculated² with CXO₃ strain of *X. campestris* pv. *oryzae* at maximum tillering stage. Observations on disease reaction¹ were made on 15th day after inoculation. For calculating segregation ratios, plants having disease score from 1 to 3 were pooled in resistant category while those having 4 to 9 were grouped in susceptible category. Individual plants of F_3 lines were also scored and each line classified as resistant, segregating or susceptible. The results are presented in table 1.

The F_1 plants of the cross were resistant showing that the resistant character was dominant over susceptibility. The F_2 population segregated in ratio of 15 resistant to 1 susceptible which indicated that there are two dominant genes involved for resistance with duplicate factor interaction. Susceptible plants bred true. The randomly selected (resistant) single plant F_3 families segregated in different ways i.e. all resistant, 15 resistant to 1 susceptible and 3 resistant to 1 sus-

ceptible in proportion of 7:4:4 respectively which further confirmed the F_2 findings of involvement of two duplicate dominant genes. It may be concluded that CB II possesses two dominant gene governing BLB resistance.

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1. International Rice Research Institute, Standard evaluation system for rice, 1980, IRRI Publication, Los Banos, Philippines.
2. Kauffman, H. E., Reddy, A. P. K., Hsieh, S. P. Y. and Merca, S. D., *Plant Dis. Repr.*, 1973, 57, 537.
3. Ou, S. H., *Rice Diseases*, Commonwealth Mycol. Institute, Kew, Surrey, England, 1972, p. 368.
4. Srivastava, D. N., *Indian Phytopathol.*, 1972, 25, 1.

PSEUDOLACHNEA HISPIDULA (SCHRAD. EX FR.) SUTTON—A NEW REPORT FROM INDIA

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DURING the survey of Hyphomycetous flora of Katrain and Manali, H. P., the authors collected a Coelomycetous fungus growing on the bark of Palm tree (*Phoenix dactylifera* Roxb.). The fungus has been identified as a species of *Pseudolachnea*. The morphological characters of the present collection were compared with the type and other species and it was found to resemble *P. hispidula*¹. In the present note it

constitutes a new host as well as generic record to India, a brief description of the fungus is given here for reference.

Conidiomata subepidermal, dark black, opening up gradually into a flattened cupulate structure on the host, composed of brown pseudoparanchymatous cells, 180–600 μm in diam. Setae borne on the outer wall, thick-walled, dark brown, 300–400 μm long, 2–3 μm broad, acuminate, divergent. Conidiophores hyaline, branched at the base, smooth, cylindrical, 18–25 \times 1.5–2 μm in size. Conidiogenous cells enteroblastic, phialidic, hyaline, smooth, cylindrical. Conidia hyaline, 1-celled, apices and base obtuse, thin-walled, smooth, fusiform to curved, eguttulate with apical and basal setulae, 15–18 \times 2–3 μm in size. Setulae single, unbranched, 2–3 μm long (figure 1).

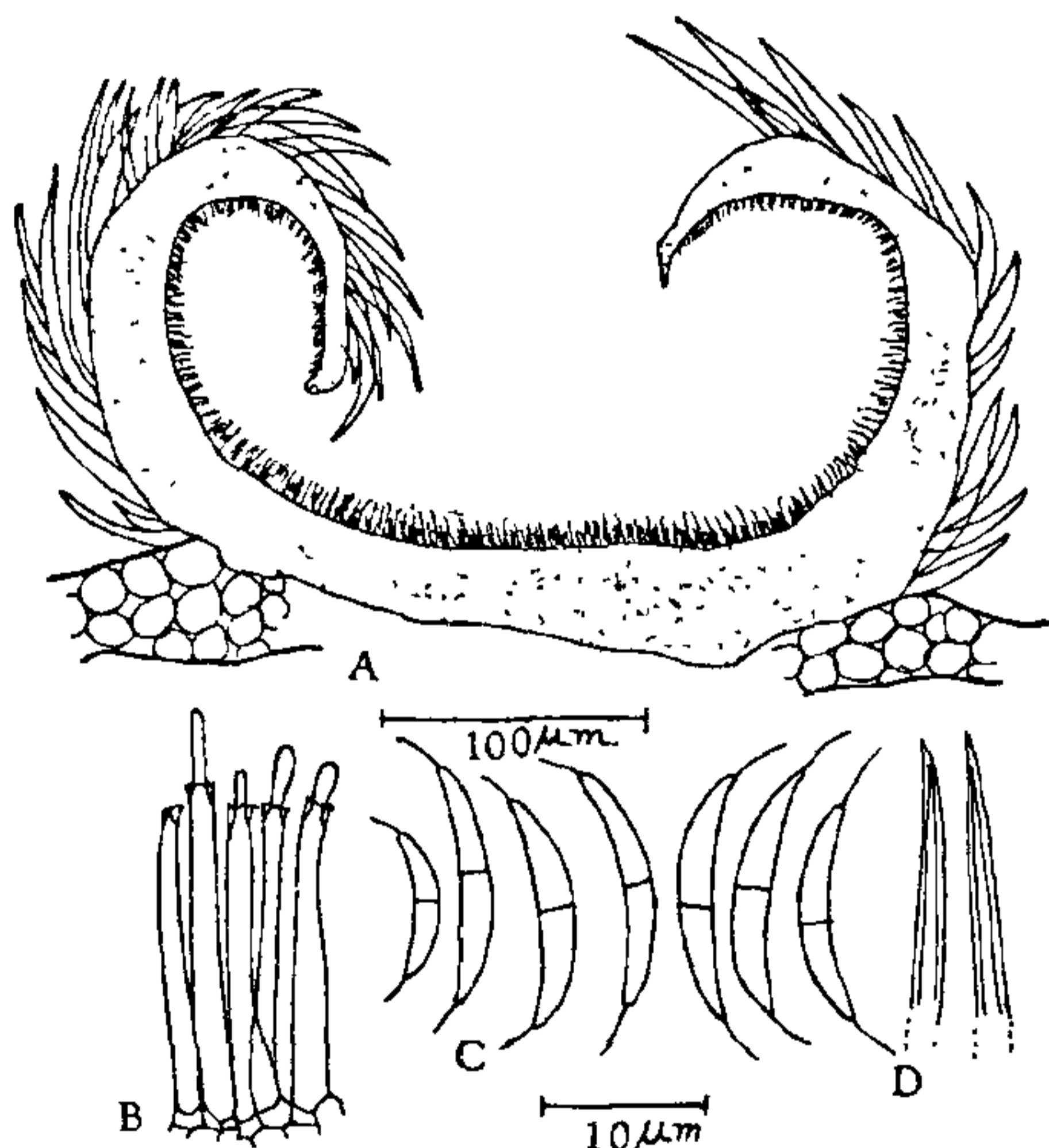


Figure 1: *Pseudolachnea hispidula*, A. Vertical section of a conidiomata, B. conidiophores with developing conidia, C. conidia with setulae, D. Setae.

Collected on the bark of *Phoenix dactylifera* Roxb., Katrain, H. P., Oct., 1981, A. K. Sarbhoy, HCIO 33840.

Critical examination of the specimens *i. e.* *Dinema sporium hispidulum* (Schrad. ex Fr.) Curtis, on pods of *Robinia pseudoacacia* L., Mussoorie, U. P., 20.6.1959, J. N. Kapoor, HCIO 29093; on leaves of *Camellia theae* L., Devas, W. B., 3.3.1904, H. H. Manu, HCIO 1953; *D. gramineum* Cke., on *Saccharum*

officinatum L., Kenduguri, Assam; 8.7.1965, A. K. Roy, HCIO 29066 revealed that these resembled *P. hispidula*.

Thanks are due to Head, IARI for providing facilities.

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1. Sutton, B. C., *The Coelomycetes. Fungi Imperfecti with Pycnidia, Acervuli and Stromata*. CMI, Kew, England, 1980, p. 696.

THE ROOT-KNOT NEMATODE, *MELOIDOGYNE INCOGNITA*, A POTENTIAL THREAT TO BANANA PLANTATIONS

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DURING a survey of banana (*Musa paradisiaca* L.) var. local Amrutapani plantations in Nellore district of Andhra Pradesh, heavy infestation of root-knot nematode was observed. The diseased plants were unthrifty, sickly in appearance with drooping leaves. Premature senescence and drying of leaves was observed in advanced stages. Though the crop was ten months old, most of the plants had not thrown out flower bunches except a few. Examination of suckers from such diseased plants showed medium to large sized galls on almost all cords as well as small feeder roots (figure 1). Besides galling, cortical root necrosis was also seen on newly produced fleshy roots. Root rotting of galls was observed on older roots. About 16–27 adult females of root-knot nematode, *Meloidogyne incognita* with egg masses were recorded per centimetre of cord root. The other nematodes recovered from soil around the rhizosphere of such diseased plants were: *Helicotylenchus densibullatus*, *Helicotylenchus* sp., *Pratylenchus convallariae*, *Pratylenchus* sp., and *Neotylenchus* sp.

Root-knot nematodes have been reported to cause yield reduction in banana, in the Philippines, particularly when bananas are under stress¹. The presence of