

## SHORT SCIENTIFIC NOTES

### Microfossil Study of the Coal of Newton-Chikli near Parasia, M.P.

THE coal macerated for the study of microfossils described here was collected by one of us (B. S. Trivedi) in 1970 from Newton-Chikli coal mines situated about 3 km north-west of Parasia, Chhindwara, M.P.

Mostly microspores and megaspores could be observed in the coal. Cuticles could also be easily made out in the macerated samples as they were visible to the naked eye. Some of the microspores obtained from the coal samples are *Striatipodocarpoidetes*, *Cyclogranisporites*, *Pityosporites*, *Iugisporis*, *Allsporites*, *Parasaccites*, *Punctatisporites*, *Retusotrilites*, *Cirratriadites*. Some *Cyathiaceous* microspores have also been recovered. Among megaspore triletes *Dijkstraea*, *Talchirella* and very few *Duosporites* have been recovered. Well preserved cuticular fragments belonging to *Glossopteris* and *Gangamopteris*, and tracheal elements, perhaps belonging to Gymnosperms or allied taxa, have also been found.

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Lucknow, (India), November 23, 1971.

### *Phoma exigua* from Grassland Soil of Jabalpur

WHILE studying the soil mycoflora of grassland soils of Jabalpur, the authors encountered a *Phoma* sp. which was later identified as *Phoma exigua* Desm. Its characters are as described below.

Colonies on potato-dextrose agar growing moderately, more or less flat, consisting of dense irregularly branched septate submerged hyphae with pycnidia embedded on upper surface. Pycnidia brownish-black, produced slowly but densely forming greyish-brown patches on substrate, sub-globose to pyriform, 95.0-145.0  $\mu$   $\times$  90.0-132.0  $\mu$ . Conidia elliptical, straight or slightly curved, 4.2-9.3  $\mu$   $\times$  2.3-3.3  $\mu$ .

This fungus is not of common occurrence in soil. The first record from soil of its two form species, *P. exigua* f. *exigua* and *P. exigua* f. *foveata*, the causal organisms of potato gangrene disease, is from England and Scotland by Malcolmson and Gray<sup>1</sup>. Khan and Logan<sup>2</sup> isolated *P. exigua* f. *foveata* from

soil using potato tuber with block of wood as a bait. So far as known to the authors it has not been reported from India either on any host or from soil.

The type culture has been deposited in the herbarium I.M.I. No. 155726.

We express our thanks to Dr. Punithalingam of CMI, Kew, England, for kindly examining the culture and to Dr. G. P. Agarwal, Head of the Department, for encouragement.

Department of Botany, D. P. TIWARI.  
Government Science College, P. D. AGRAWAL.  
Jabalpur, M.P., November 21, 1971.

1. Malcolmson, J. F. and Gray, E. G., *Ann. appl. Biol.*, 1968, 68, 77.
2. Khan, A. A. and Logan, C., *Eur. Potato J.*, 1968, 11, 77.

### Addition to the Record of Host Plants of *Stephanitis typicus* Distant

The lace wing bug *Stephanitis typicus* Distant is polyphagous, recorded from banana, cardamom, hedychium, turmeric, langkas camphor, sweetsop, pineapple, red oil palm, jack tree and coconut. Besides being a pest on coconut foliage, it has been recently reported to transmit the pathogen, probably a virus or a virus-like body, involved in the root(wilt) disease of the palm, which is a challenging problem. Unsuitability of coconut leaves in this area for detailed trials on transmission channelled our efforts to screen all alternate host plants in order to hit at an ideal indicator secondary host plant and breed a pathogen-free culture of the vector. Laboratory trials on breeding the insect on known food plants brought out that it completed its life-cycle on jack seedlings (*Artocarpus integrifolia*), without producing any disease symptoms. Search for new host plants resulted in locating broods of the insect on cultivated colocasia (*Alocasia indica* Schott) and East Indian Arrowroot (*Curcuma angustifolia* Roxb.) in a diseased tract in Kerala. They are now being used to rear the insects.

Central Plantation Crops K. MATHEN.  
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Kerala, December 7, 1971.

### Two New Records of Penicillia from Rhizosphere of Groundnut

While studying the rhizosphere mycoflora of groundnut (*Arachis hypogaea* L.), two species of *Penicillium* were isolated by soil dilution method using Waksman's<sup>1</sup> acid agar medium (pH 4.5).

1. *Penicillium duclauri* Delacroix, in *Bull. Soc. Myc. France*, 8, p. 107, 1891; Raper and Thom, *A Manual of Penicillia*, pp 610-612, 1949.

Colonies on Czapek-Dox agar 3-4 cm in 10 days at room temperature  $24 \pm 2^\circ \text{C}$ , consists of tough basal white felt when young, the basal felt gives rise to coremia towards periphery, gray-green when old, circular, margin thin and diffused, exudate nil, reverse colorless; conidiophores arise from coremia, light green,  $20-80 \mu \times 2.5-3.0 \mu$ , smooth-walled, septate; penicilli biverticillate and symmetrical; metulae 2-5, light green,  $7.5-10.0 \mu \times 2.5-3.0 \mu$ , sterigmata parallel, 3-6 in the verticil, lanceolate, light green,  $7-12 \mu \times 2-3 \mu$ ; conidia elliptical to subglobose, heavy walled,  $2.5-3.0 \mu \times 1.8-2.0 \mu$ , borne in chains of 40-80  $\mu$  in length.

The length of conidiophores reported earlier for this species is 200-300  $\mu$ . Hence the present isolate may be considered a new strain of the species.

2. *Penicillium funiculosum* Thom, in *U.S. Dept. Agr. Anim. Ind., Bull.* 118, p: 69, 1910; Thom and Raper, *A Manual of Penicillia*, pp. 616-620, 1949.

Colonies on Czapek-Dox agar 3-5 cm in 10 days at room temperature  $24 \pm 2^\circ \text{C}$ , funiculose, 2-3 cm deep, light chrome yellow<sup>2</sup> when young, olive green when old; conidiophores arising from funiculose hyphae, sometimes arising from substratum in marginal areas,  $1.8-10.8 \mu \times 2.8 \mu$ , wall smooth; penicilli biverticillate and symmetrical, metulae 2-3 in the verticil, greenish,  $3.6-5.4 \mu \times 2.8 \mu$ ; sterigmata 6-10 in the verticil, parallel,  $3.6-7.2 \mu \times 2.8 \mu$ ; conidia elliptical to subglobose,  $2.8-3.6 \mu \times 1.8-2.8 \mu$ , walls smooth, borne in chains upto 100  $\mu$  in length.

The length of conidiophores reported earlier for this species are 100-300  $\mu$ . Therefore, this isolate may be considered to be a new strain of the species.

Our sincere thanks are due to Dr. Mrs. Tulloch, C.M.I., England, for confirming the species.

Department of Botany, L. V. GANGAWANE.  
Marathwada University, K. B. DESHPANDE.  
Aurangabad, September 22, 1971.

1. Waksman, S. A., *J. Bact.*, 1922, 7, 332.
2. Mearns, A. and Paul, M. R., McGraw-Hill Book Company, Inc., 1930.

### A Method for the Simultaneous Distinction of Neurosecretory and Mucoid Substances in Invertebrates

In investigations on the histophysiology of amphipods opportunities were provided to study the much neglected fields of neurosecretory system and mucopolysaccharide distribution. It became apparent that the single technique, namely, paraldehyde-fuchsin (PF) procedure which is an adjunct to several other well-established methods assumes greater importance in envisaging neurosecretory substances and mucopolysaccharides in tissue sections (McManus<sup>1</sup>, Humason<sup>2</sup> and Pearse<sup>3</sup>). Both these substances are brought out in a characteristic purple colour in tissue sections and it therefore seemed important to be able to evolve a method by which they could be distinguished by a combination of staining technique involving PF.

It was found that after the application of the PF technique, counterstaining with mercurochrome enables us to achieve this objective. Mercurochrome counterstaining after PF swamps the purple colour of neurosecretory cells which become brick red in colour while mucopolysaccharides continue to retain the original characteristic deep purple shade.

This method (PF and PF/MC) was applied satisfactorily for a simultaneous demonstration of neurosecretory and mucopolysaccharides in the amphipods *Talorchestia martensii* (Weber), *Orchestia platensis* Krøyer and molluscs *Ariophanta* sp. and *Glossula neglecta* Gude.

My thanks are due to Prof. K. Hanumantha Rao, Head of the Department of Zoology, for suggesting the problem and guidance.

Dept. of Zoology, K. SHYAMASUNDARI.  
Andhra University,  
Waltair, November 5, 1971.

1. McManus, J. F. A. and Mowry, R. W., Paul B. Hoeber, Inc., Medical Division Harper and Brothers, 1960, p. 1.
2. Humason, G. L., W. H. Freeman and Co., San Francisco and London, 1967, p. 1.
3. Pearse, A. G. E., J. A. Churchill, Ltd., London, 1968, p. 1.

**Wheat as a New Host of *Hispa (Di cladispa) armigera* Oliv. (Coleoptera: Chrysomelidae) in Mysore**

In the year 1970, from the middle of December to January, *Hispa* appeared on wheat crop in Hoskote Khodi in an epidemic form. Again in the month of December 1971, the insect has appeared in large numbers in Bangalore, Nelamangala, Hoskote and Kolar area. The percentage of infestation varies from 19.00 to 23.30. During this period mostly adult stages were noted on the crop. The adult beetles were noted to scrap the green matter parallel to the midrib. The severely affected leaves gradually dry up. The insect was observed on wheat crop for the first time and is becoming more serious.

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Bangalore-24, December 14, 1971.

**A Note on the Chiasma Frequency and Meiotic Abnormalities in the Males of *Sikkimiana darjeelingensis* Bolviar.**

The mean chiasma frequency per nucleus during diplotene, diakinesis and metaphase I stages in these specimens, whose chromosomes were studied earlier by Chatterjee and Pradhan<sup>1</sup>, were  $21.29 \pm 0.35$ ,  $20.44 \pm 0.28$  and  $18.55 \pm 0.29$  respectively. The terminalization coefficient was 0.40 in diplotene, 0.47 in diakinesis and 0.59 in metaphase I.

An examination of the chromosomal behaviour during meiosis revealed a few types

of variation. In several cases, but not in all, it was found that the sex-chromosome moved polewards while other members of the set were still lying on the equatorial plate. In a few cases, a pair of autosomal bivalent was found lagging on the equator of the spindle during anaphase I. Similar phenomenon has also been reported in other grasshoppers by various workers<sup>2,3</sup>. In one case a 'laggard' was found to be a univalent and accordingly, the initial stage of the separation of their daughter halves was witnessed, which was quite an unexpected behaviour during anaphase I. Whether the univalent represented the X-chromosome, could not be correctly ascertained. If it was so, its behaviour also was unusual.

Some of the nuclei, carrying 'laggards' also showed abnormality in the distribution of their chromosomes to the two poles and these might result in the formation of abnormal sperms. However, the number of such nuclei was not very significant, and also insignificant was the number of 'polyploid nuclei encountered.

The author wishes to express his thanks to Dr. B. Dasgupta, Principal, for laboratory facilities.

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Laboratory,  
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Darjeeling Government  
College,  
Darjeeling, West Bengal,  
September 23, 1971.

1. Chatterjee, A. K. and Pradhan, S., *Sci. and Ind. Ind.*, 1970, **36**, 500
2. Sharma, G. P. et al., *La Cellule*, 1964 **3**, 295.
3. Manna, G. K., *Proc. Zool. Soc.*, 1954, **7**, 1, 39

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**ANNOUNCEMENTS**

**International Congress on the Teaching of Physics**

The "International Congress on Teaching Physics to Students in Physics-Related Sciences and Professions" will be held from July 20-26, 1972 in Kiel, Federal Republic of Germany. The Congress is sponsored by the International Union of Pure and Applied Physics through its International Commission on Physics Education, in collaboration with the German National Committee of Physics. Appli-

cations for attendance should be addressed to: Prof. Dr. W. Kroebel, Institute for Applied Physics, University of Kiel, Olshausenstrasse 40-60, Bldg. 34, D-2300 Kiel, F.R. of Germany.

**Award of Research Degrees**

Sri Venkateswara University has awarded the Ph.D. degree in botany to Sri V. Rajagoal. Berhampur University has awarded the Ph.D. degree in Chemistry to Sri. Traut Charana Behera.

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