

could be because of the fact that Type Subathu sediments have been explored for a longer period and far more extensively than the Uttar Pradesh Subathu, which so far have only been test-sampled. More frequent oscillations in the water level and a shallower sea, as evident from the presence of red shale bands throughout the Subathu sequence in the Garhwal Himalaya, could be other reasons for the less diverse and deficient fish assemblage. This situation is different from the Type Subathu and Kalakot localities where the red beds occur mainly in the topmost portion of the formation comprising transitional (= passage beds) sequence. In these localities the transitional red beds yield diverse terrestrial mammalian fauna of Lutetian age, but in Nilkanth and Dogadda none of the red shale bands have so far been found to embody vertebrates. This could probably be due to two reasons: first, these red beds are not transitional, and secondly, they are older than those of Kalakot and Subathu areas and are of Ypresian age. Invertebrate palaeontological evidences also support a Montian to Early Lutetian age range for the Subathu Formation of Garhwal Himalaya<sup>4</sup>.

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**ECHINOCATENA ARTHRINOIDES  
CAMPBELL—A NEW GENERIC RECORD  
FOR INDIA**

K. K. SONI\*, JAMALUDDIN and R. C. RAJAK  
*Regional Forest Research Centre, Jabalpur 482 021, India.*  
\*Present address: *Protection Division, Institute of Forest Genetics and Tree Breeding, Coimbatore 641 002, India.*

DURING 1980 a rare and interesting hyphomycetous fungus of the family Dematiaceae and identified as *Echinocatena* was isolated from decaying teak leaf

litter of dry deciduous forest of Jabalpur, Madhya Pradesh. The genus *Echinocatena* was erected by Campbell and Sutton in 1977 with the type species *E. arthrinioides*<sup>1</sup>. According to them, this genus shows close relation with *Trichobotrys* Sacc., *Sadasivania* Subram. and *Parapericonia* Ellis et al<sup>3,4</sup>. A perusal of the literature reveals that this genus has so far not been reported from India<sup>4</sup>.

On decaying leaves minute 1-mm diameter colonies were observed during September to November. The colonies were first light brown, then changed to dark brown to black, and were irregular in outline. Mycelium immersed and superficial, formed of branched, septate, pale brown, smooth hyphae 2–2.5  $\mu\text{m}$  wide; conidiophores formed from the superficial mycelium, 10–23  $\times$  2–2.5  $\mu\text{m}$  broad, micronematous, mononematous, unbranched, straight, pale brown, sparsely echinulate or smooth; conidigenous cells arising in simple or branched acropetal chains from the conidiophore apex, 5–10.5  $\times$  3.5–5  $\mu\text{m}$ , separated by prominent, thick, dark brown septa, pale brown, echinulate, cylindrical to doliform, constricted at the septa, polyblastic, integrated, indeterminate; conidia 3.5–4.5  $\mu\text{m}$  diameter, solitary, dry, spherical, brown, thick-walled, aseptate, echinulate, appearing as vertical cylindrical columns up to 35  $\mu\text{m}$  in length (figure 1).

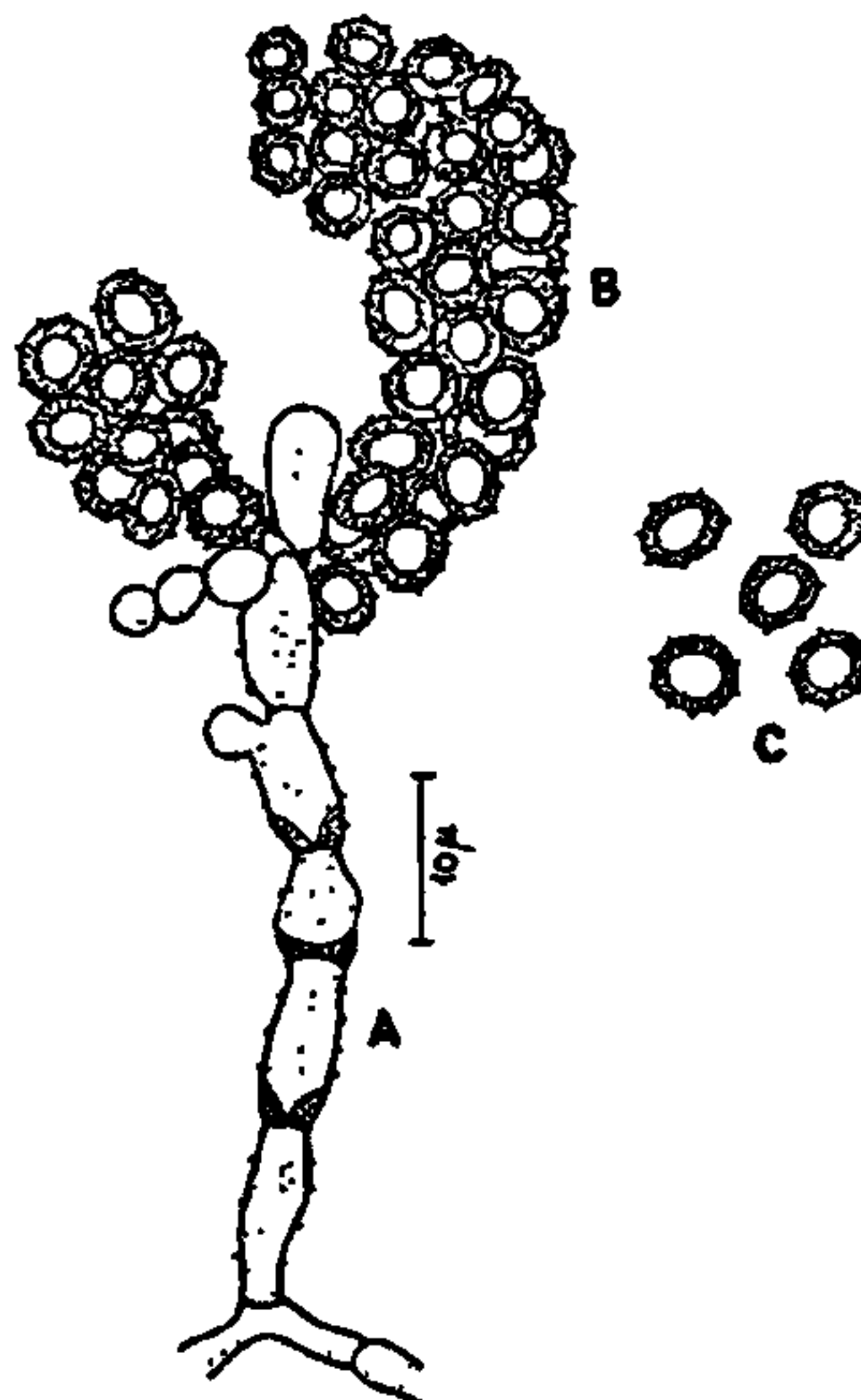


Figure 1. *Echinocatena arthrinioides* Campbell. A, Conidiophore; B, column of conidia; C, conidia.

\*For correspondence.

Growth on PDA and MA was very slow. Immersed mycelium composed of dark brown septate hyphae; aerial mycelium abundant, denser and more compact towards the centre, becoming floccose, sparse and finally absent from the advancing edge; reverse brown, vinaceous; sporulation abundant. The culture of *Echinocatena arthrinioides* was also tested for cellulase production but it was unable to produce C<sub>1</sub> or C<sub>x</sub> activities on cellulosic substrates.

The fungus was isolated from decaying leaf litter of *Tectona grandis* (Verbenaceae), Pariyat Forest, Jabalpur. Dec. 1980, IMI No. 254970.

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**A NEW LEAF SPOT ON *TRICHOSANTHES ANGUINA* L. CAUSED BY *PHAEOTRICHOCONIS CROTALARIAE* (SALAM & RAO) SUBRAM.**

A. VENKATA RAO, M. NAGAIYAN and K. BALASUBRAMANIAN  
*Fredrick Institute of Plant Protection and Toxicology, Padappai 601 301, India*

A new leaf spot disease was seen on *Trichosanthes anguina* L. (snake gourd) in a 30-day-old crop at this Institute, in March 1987. Both young and old leaves were affected. The spots were irregular, measuring 1–4 mm in length and 1–2.5 mm in breadth, and pale brown in colour. They were seen on the lower surface of the leaves on the interveinal space; the corresponding regions of the upper surface turn pale brown. Numerous spots were seen scattered all over the leaf surface. When incubated on oat agar, a mycelium developed.

Mycelium light brown, septate 3.5 to 6.0  $\mu\text{m}$  thick, branched; multiseptate conidia, borne singly at the tip of conidiophores, after 15 days of incubation at  $35 \pm 2^\circ\text{C}$ ; conidiophore hyaline or brown in colour and not sharply distinguishable from the hyphae; conidia brown to dark brown, acrogenous, 4- to 6-septate, not constricted at the septa, with a definite beak measuring  $58.5 \times 25.7 \mu\text{m}$  ( $42\text{--}78 \times 12\text{--}18 \mu\text{m}$ ); a definite scar at the base of the conidium at the point of attachment with the conidiophore; end cells hyaline and middle cells brown to dark brown; second and third cells larger than the rest; sclerotia seen in plenty in culture after 15 days, irregular in shape, dark brown, 0.5 to 3.0  $\mu\text{m}$  in size.

The isolate was pathogenic to *T. anguina* when inoculated. The fungus was identified as *Phaeotrichoconis crotalariae* (Salam & Rao) Subram. by Dr Sutton and Dr P. M. Kirk, International Mycological Institute, Kew, England, under IMI Number 317151 & 317152. This is the first report of this fungus on *T. anguina* L.

The authors thank Dr Sutton and Dr Kirk, International Mycological Institute, Kew, England, for identifying the fungus.

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***PYTHIUM INTERMEDIUM* CAUSING ROOT ROT OF *OROXYLUM INDICUM* IN KERALA—A NEW INDIAN RECORD**

M. I. MOHAMED ALI\* and N. G. NAIR  
*Divisions of Pathology\* and Botany, Kerala Forest Research Institute, Peechi 680 653, India.*

WHILE raising nurseries of different moist deciduous tree species for afforestation work, a severe root rot disease of seedlings of *Oroxylum indicum* Vent, a medicinal plant of the family Bignoniaceae, was recorded during October–December 1987. The disease appeared in the form of irregular patches in seed-beds and caused slow wilting of seedlings. The first symptom was the change of pigmentation of a few leaves from normal green to yellow. Subsequently all leaves were affected, and the apical portion of the seedlings wilted. The root system (feeder roots as well as main roots of such wilted plants) was found to be completely rotten (figure 1). The colour of the affected tap root was light brown to dark brown