

## LETTERS TO THE EDITOR

### A new species *Xanthomonas roxburghiana*

During the survey of phytopathogenic organism in the district Azamgarh a leaf-canker disease of *Sansiviera roxburghiana* Schult was observed.

The disease starts as water-soaked round translucent spots which later on become raised and yellowish brown in colour. As the disease advances, the spots become greyish and finally ruptures in the centre, giving a rough corky and crater-like appearance. The spots increase in size and coalesce to form elongated lesions on the lamina surface. The rough lesions are surrounded by yellowish brown raised margin and watery halo.

The microscopic observations of the infected leaf revealed the presence of bacterium. The bacterium is rod-shaped  $1.5-2, \times 0.5-0.75$   $\mu$  in size. The cells are in pairs, occasionally single and forms capsule but no spores. Bacterium is motile by single polar flagellum (monotrichous). It is gram-negative and aerobic. Colonies on beef-peptone agar are circular, straw to amber-yellow, slightly raised and glistening. Nitrates are not reduced. Employing nutrient agar, pure culture of the pathogen was established within 48-70 hr at  $25^{\circ}-27^{\circ}\text{C}$ . Pure culture of bacterium has been deposited in the International Collection of Phytopathogenic Bacteria, University of California, Davis, USA and in the National Collection of Plant Pathogenic Bacteria, Harpenden, Herts, England. The various cultural, morphological and biochemical characters of bacterium suggested that it is the species of *Xanthomonas*.

When a pure culture of the bacterium was inoculated at the concentration of 100 cells/ml on healthy plants of *Sansiviera roxburghiana* Schult, symptoms typical of disease were produced within 3-4.5 days and the pathogen was reisolated.

The present symptoms of disease resembles to that of Citrus-canker disease caused by *Xanthomonas citri* but it differs from the later that spots and halo are always bigger than that of citrus canker. When the pure culture of the bacterium was inoculated on healthy *Citrus aurantifolium*, it failed to produce infection.

The author is grateful to Dr. S. Islam Ahmad, Head, Department of Botany, Shibli National College, Azamgarh for providing laboratory facilities.

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Received : 21 September, 1984.

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### A new species of ant (Hymenoptera : Formicidae) from Nagaland, North-east India

While working with the aphidocolous ants of Nagaland, North-east India, we encountered 40 species of Formicidae of which one *Camponotus horseshoetus* has been found to be new. The same is described below. (At present, the materials are in the collection of Entomology Laboratory, Department of Zoology, Calcutta University).

Abbreviations used :

TL = Total length ; HL = Head length

HW = Head width ; CL = Cephalic Index

$$= \frac{HW \times 100}{HL}$$

SL = Scape length ; SI = Scape Index

$$= \frac{SL \times 100}{HW}$$

PW = Pronotal Width ; AL = Alitrunk length

(All measurements are in mm)

*Camponotus horseshoetus*, sp. nov.

Holotype worker—TL 5, HL 1.15, HW 1, CI 84, SL 0.98, SI 80, PW 0.73, AL 1.50

**Head:** (Slightly damaged) (Fig. 1a; Plate 1a and 1b) nearly square and finely reticulate; clypeus broader than long, medially convex, posteriorly narrowed with lateral and posterior margins prominent; eyes situated more towards the posterior end, slightly above the lateral sides; mandibles stout and broad, masticatory margin equipped with 5 teeth; antennal insertion separated from posterior clypeal margin by a distinct gap, antenna 12 segmented.

above, gibbous, posteriorly truncated and with 4 tubercles at the posterior margin; legs slender with femur stout and broad; 1st tarsal segment equipped with spine ventrally.

**Pedicel:** (Fig. 1b & 1c; Plate 1c, 1e and 1f) single jointed, transversely striate, anterior margin armed with two anteriorly directed convergent spines; anterolaterally with two tubercles; posterior margin concave with slightly angulated corners.

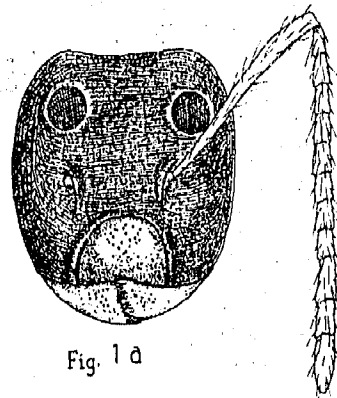


Fig. 1a

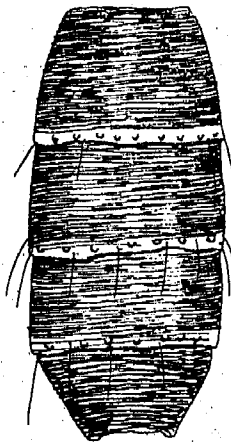


Fig. 1c

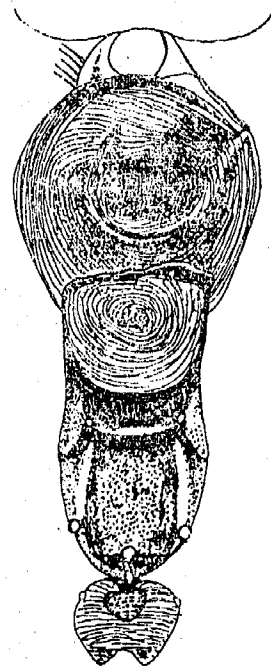


Fig. 1b

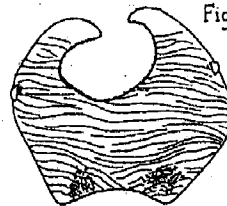


Fig. 1d

Fig. 1. *Camponotus horseshoetus* sp. nov.  
1a—Head; 1b—Thorax with Pedicel; 1c—Pedicel; 1d—Gaster.

**Thorax:** (Fig. 1b; Plate 1c & 1d) pronotum rounded, convex, finely reticulate, anteriorly narrowed forming a neck and lobulate posteromedially; pro-mesonotal suture distinct; mesonotum slightly convex and finely striate; mesometanotal junction clavated and forming a transverse, rectangular ridge; propodeum raised, rounded

**Gaster:** (Fig. 1d; Plate 1f) long, oval, with fine transverse striations and sparsely pubescent posteriorly.

**Body color:** Entire body shiny black.

Paratype worker: TL 4.90, HL 1.10, HW 0.98;

CI 83, SL 0.94, SI 95, PW 0.65, AL 1.49

Material examined: Holotype worker (♀) tending *Aphis gossypii* group on *Hibiscus*

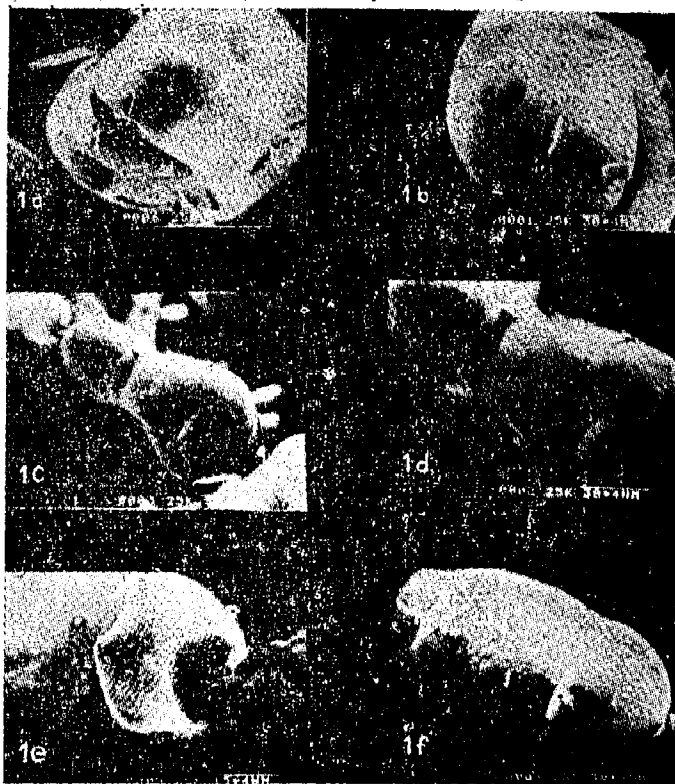


Plate 1

1a—Head (100 × ; 12.5°) ; 1b—Head (100 × ; 0°) ; 1c—Thorax with Pedicel (60 × ; 0°) ; 1d—Thorax (100 × ; 0°) ; 1e—Pedicel (200 × ; 12.5°) ; 1f—Gaster with Pedicel (60 × ; 0°).

*rosasinensis* (Malvaceae), Kohima (a 1444 m), 28. xi. 82, coll. D. R. Pramanik ; Paratype : one worker (♀) date same as for the holotype.

Remarks : No species in the genus *Camponotus* is known<sup>1-3</sup> to us to possess a petiole with anteriorly directed convergent spines at the anterior end and with each anterolateral angle having a tuberculate protuberance. Hence as such the species is described as new.

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Received : 7 December, 1984.

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#### Response of Electric field on germination and growth of guar (*Cyamopsis tetragynolaba* L.) seed

Irradiation of biological materials like seed has played a very significant role in changing their physiological, genetical and chemical characteristics, thereby boosting the agricultural productivity<sup>1-4</sup>. The work on irradiation of seeds either by neutron or X-ray had gained momentum since last few decades by different investigators<sup>5-7</sup>. Also the effect on growth and germination rate of seeds exposed to magnetic field have been studied by various workers<sup>8-10</sup> but report on the effect of electric field on seeds are not very nume-