

localities of Cannanore and Calicut Districts. The incidence of the pests was as high as 50% on vines in some gardens. Preliminary observations are reported in this note.

Grubs of the longicorn beetles bore into the stem causing damage to the vines. They tunnel into and feed on the central core of the stem. The tunnels are tightly packed with frass as the grub progresses forward. A fully developed grub is 12-18 mm long and has a dull yellow colour. It has a swollen anterior end and a tapering posterior end. Before pupation, the grub makes an exit hole on the stem and then pupates inside a pupal chamber and the adult beetle makes its way out easily. The grubs were often found in the older and dead vines. They were also noticed tunnelling into the living vines at the collar region or slightly below. However, the grubs have preference to the dead and dried tissues.

The beetles reared from the affected pepper vines have been identified by the Commonwealth Institute of Entomology, London, as *Pterolophia annulata* Chev. and *Diboma procera* Pasc. (Lamiinae; Cerambycidae: Coleoptera).

From the symptoms of the affected vines in Travancore and Coorg areas, Krishna Menon⁴ reported that a borer is involved in the damage though he did not observe the presence of grubs and adults in the affected vines. Blacklock³ recorded grubs of the beetle pest *Pelargoderus bipunctatus* Dalm. infesting the stems of unhealthy pepper vines in Sarawak.

This is the first record of the above insects as pests of pepper. Another recorded host of *D. procera* Pasc. is *Acacia gageana*², *P. annulata* Chev. has not been recorded from India so far. However, allied species like *P. tuberculata* and *P. maculata* have been recorded from *Tectona grandis* and *Michelia champaka* respectively².

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AN UNDESCRIBED SPECIES OF *CERCOSPORA*
CAUSING LEAF SPOT OF *MITRAGYNA*
PARVIFOLIA (ROXB.) KORTH.

INFECTED leaves of *Mitragyna parvifolia* (Rubiaceae) were seen having reddish brown to tan brown spots during winter. The spots were seen occurring on the upper surface of the leaf and had a tendency to coalesce with each other to form bigger spots of different shapes and sizes specially towards the margins of the leaf. The material was also examined and confirmed by Dr. Mulder of C.M.I., Kew, to whom our thanks are due.

Cercospora mitragynae sp. nov. Bhargava and Nath.

Leaf spots chiefly circular, 2-3 mm. in diameter, chocolate in colour, epiphyllous on the upper surface. Greenish brown areas are visible on the lower surface of the leaves, corresponding with the leaf spots above. Fruiting epiphyllous. Stroma subglobose composed of dark brown cells, 30 μ in diameter. Fascicles dense, fairly compact. Conidiophores pale to medium olivaceous brown, arising in fascicles of 9-10, non septate occasionally branched, sinuate towards apex, tip hyaline with small spore scar, 15-50 \times 2.5-3.5 μ . Conidia olivaceous brown, obclavate or subcylindric, sometimes vermiform, slightly curved at the centre, 6-14 septate, 25-75 \times 2.5-3.3 μ (Fig. 1).

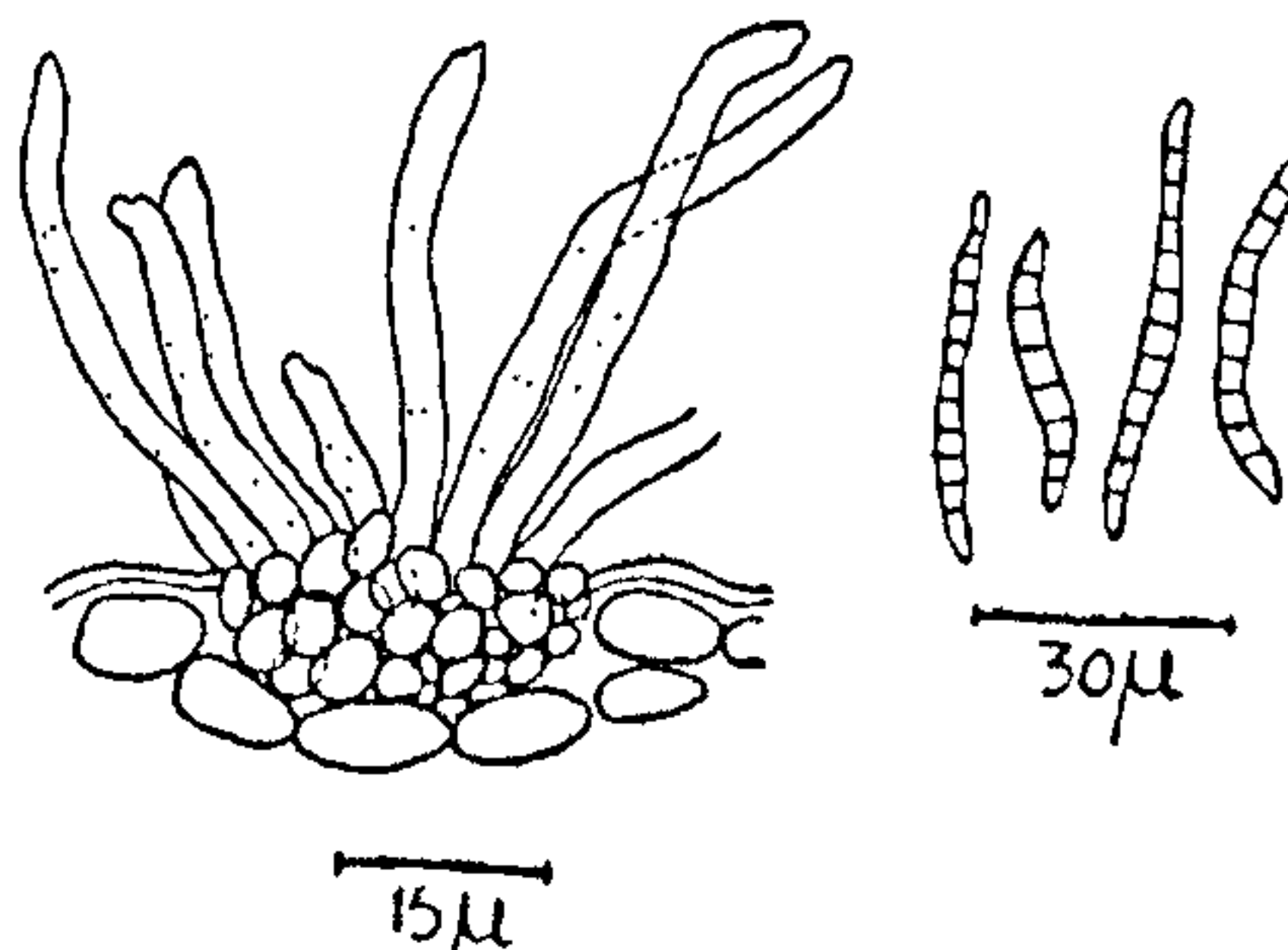


FIG. 1. *Cercospora mitragynae* sp. nov. on *Mitragyna parvifolia*, Sporodochia, Conidiophores and Conidia.

Cercospora mitragynae Bhargava et Nath, sp. nov.

Maculae foliorum praesertim circulares, 2-3 mm diam., badii, epiphylli, quibus congruentes infra sunt areae viridibrunneae. Fructificatio epiphylla. Stroma, cellulis 30 μ diam. atrobrunneis, subglobosum. Fasciculus densus, satis compactus. Conidiophora pallida ad medio-olivaceo-brunnea, fasciculis 9-10 orientia, non-septata, interdum ramosa, ad apicem sinuata 15-50 \times 2.5-3.5 μ ; apex hyalinus, cicatrice sporae parva. Conidia olivaceo-brunnea, obclavata vel subcylindrica, interdum vermiforma, leviter ad centrum curvata, 6-14 septata, 25-75 \times 2.5-3.3 μ .

Hub.—On living leaves of *Mitragyna parvifolia* (Roxb.) Korth., Kushmi and Madhauria forest, Gorakhpur, India. November, 1974 leg. V. Nath. Type specimen of infected leaves deposited at C.M.I., Kew (No. IMI, 191340) and the isotype at the Botany Department, Gorakhpur University, Gorakhpur, India.

The species differs from *C. adinae* in having epiphyllous leaf spots, in not having geniculate conidiophores, the apex and the shape of conidia. This also differs from *C. ixorae* in the appearance of leaf spots, in not having hypophyllous conidiophores with more or less a bulbous tuberculate base, and cylindrical and subhyaline conidia.

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OBSERVATIONS ON THE STOMATAL MORPHOLOGY OF LEAF GALLS OF *RIVEA HYPOCRATERIFORMIS* CHOISY FORMED BY *ASPHONDYLIA RIVEAE* MANI

STOMATAL abnormalities in relation to galling as well as various morphological anomalies exist in many galls induced by fungi^{1,2} and by insects³⁻⁶. Though detailed anatomical studies are available⁷ on the fleshy epiphyllous galls on the leaves of *Rivea hypocrateriformis*, information on the morphology of the stomata appear wanting. Hence, an attempt is made here to present the stomatal anomalies caused under the influence of the gall maker.

Normal and galled leaves of *Rivea* were macerated in Jeffrey's fluid to obtain the epidermal peels, which were stained with iron alum-haematoxylin and mounted in glycerin jelly. Normal leaves bear paracytic stomata (Fig. 1 A) along the lower surface and the stomata are 40-45 \times 30-35 μ in dimension. The upper ledge is uniformly thick and the stomatal index is 12.1. Significant

anomalies (Fig. 1 B-K) were evident in the stomata which occur only on the lower sides of the galled leaves. The distribution of the stomata appears quite irregular, being concentrated along certain areas of the epidermis while sparse or even completely absent in others with the stomatal index declining to 6.6. Both smaller (Fig. 1 B) and

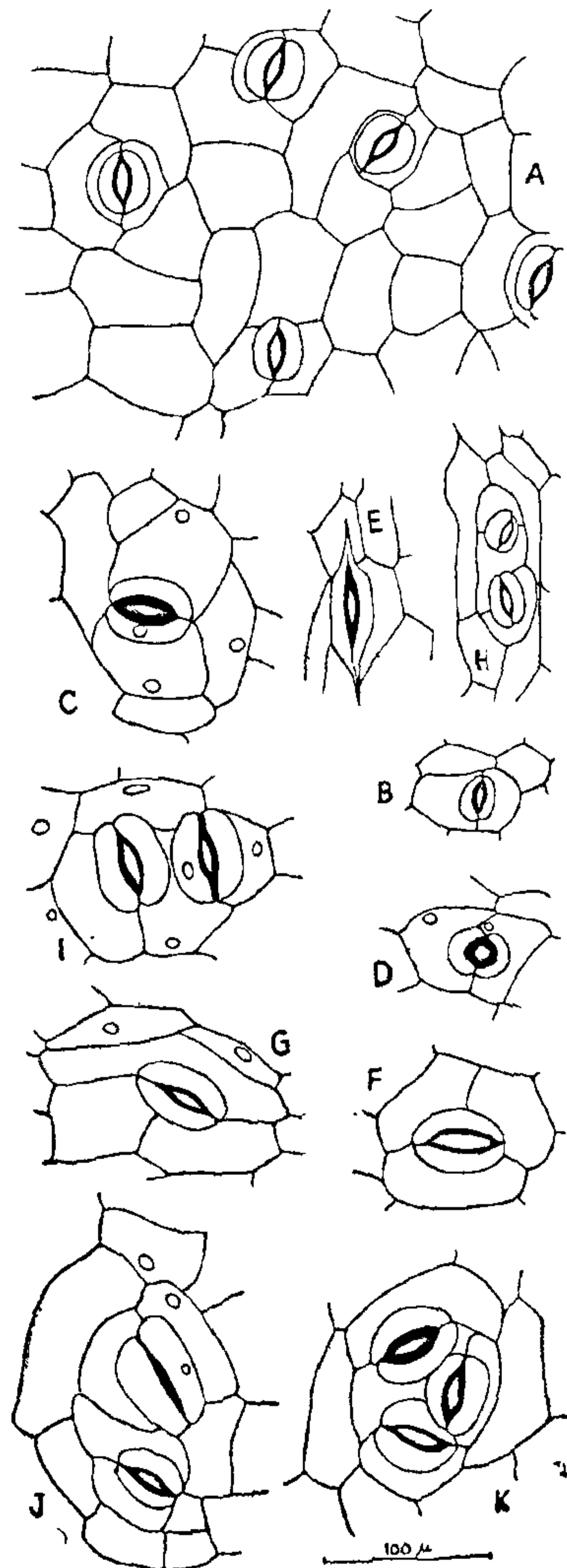


FIG. 1 A. Stomata of the normal leaf, FIG. 1 B-K. Representative types of stomata of the galled leaf.