

short; stigma obscurely 6-lobed; ovules 6, solitary and pendulous in each loculus (Figures 1 to 4).

*Holotype* K. R. Keshava Murthy & Party 3711A and *Isotypes* 3711B-C, collected in flowers from evergreen shola forests of Tadiandamol, on 9th March, 1983 at an altitude of about 2000 m are deposited at the Herbarium of the Regional Research Centre, Bangalore (RRCBI).

The authors thank the Deputy Directors of MII, CAL and BSI for permission to work in the herbarium; Drs A. N. Henry, R. S. Raghavan and Karthikeyan of BSI for technical help and suggestions; Dr V. J. Nair for the latin diagnosis.

## NEW RECORD OF TWO FLEA BEETLES INFESTING BLACK PEPPER *PIPER NIGRUM* L LEAVES

T. PREM KUMAR and M. R. G. K. NAIR\*

Central Plantation Crops Research Institute, Regional Station, Calicut 673 012, India.

Ambadi, Kowdiar, Trivandrum 695 003, India.

THE black pepper plant is susceptible to about 20 species of insects<sup>1</sup>. Among the different pests of pepper, the pollu beetle *Longitarsus nigripennis* Mots (Chrysomelidae: Coleoptera) is the most important and destructive, causing damage to leaf buds, tender leaves, mature leaves, tender shoots, spikes and berries<sup>2</sup>.

During a survey to ascertain the intensity of damage caused by *L. nigripennis*, two other chrysomelid beetles were found to feed on the leaves of black pepper in certain pepper-growing tracts of Kerala. They were identified as *Lanka* sp and *Hermacophaga* sp by the Commonwealth Institute of Entomology, London.

### *Lanka* sp

This is a brown flea beetle measuring 1.9 mm in length and 1.5 mm in width. The adult beetle has the hind femur thick and adapted for jumping. This beetle was first observed in Lakkidi in Wynad District, Kerala. The beetles prefer tender leaves and congregate on the leaves and feed on the bulk tissues resulting in the formation of many holes on the lamina. The beetles also scrape the green matter from the under-surface of leaves leaving a thin layer of epidermis which breaks off after some time resulting in number of holes on the lamina.

### *Hermacophaga* sp

This beetle is smaller than *Lanka* sp and measures 1.6 mm in length and 1.2 mm in width and is shining black in colour. The hind femur is thickened in *Hermacophaga* sp also. This species was present in Trivandrum and Kottayam Districts of Kerala. Unlike *Lanka* sp these beetles prefer mature leaves. They remain on the underside of the leaf in heavily shaded gardens and feed on the surface tissues as irregular patches.

The damage to the pepper berries by the beetles is yet to be ascertained.

This paper forms part of the Ph.D. thesis submitted to the Kerala Agricultural University, Trichur by TPK. The authors thank the Director, Commonwealth Institute of Entomology, London for identifying the insects.

16 June 1986

1. Pillai, G. B., In: *Proceedings of the National Seminar on Pepper*, (eds) M. K. Nair and M. Haridasan, Central Plantation Crops Research Institute, Kasaragod, Kerala, 1978, p. 15.
2. Prem Kumar, T., *Ecology and control of pepper pollu beetle Longitarsus nigripennis* Mots (Chrysomelidae: Coleoptera), Ph.D. thesis submitted to the Kerala Agricultural University, Trichur, 1981, p. 168.

## INFLUENCE OF ORGANIC VOLATILE COMPOUNDS ON THE GROWTH OF CERTAIN KERATINOPHILIC FUNGI

B. GEETHA SINGH\* and S. C. AGRAWAL

Department of Botany, Dr. H. S. Gaur Vishwavidyalaya, Sagar 470 003, India.

\*Department of Botany, St. John's College, Agra 282 002, India.

EXISTENCE of organic volatile compounds and their effect upon the soil microorganisms was first demonstrated by Cholodny<sup>1</sup>. Some workers have reported<sup>1</sup> the growth stimulation in soil-inhabiting fungi and bacteria by gaseous products emanated from higher plants. Recent years have seen the demonstration of the inhibitory effect of volatiles liberated by soil fungi on the growth of other microbes growing in its vicinity<sup>2, 3</sup>. These organic volatile substances are also known to play an