Figure 1. Appearance of *Candida tropicalis* on Sabouraud's dextrose agar with chloramphenicol after 9 days of incubation at 37°C.

immune system functions less than optimally[5]. The same is true of the present case as the host was highly compromized. This emphasizes the need to undertake systematic studies on the role of potential and opportunistic fungal pathogens in the etiology of empyema which clinically simulate bacterial pulmonary empyema.

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A LEAF BLIGHT OF SCENTED GERANIUM CAUSED BY *COLLETOTRICHUM GLOEOSPORIOIDES* PENZ.

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THE oil of scented geranium (*Pelargonium graveolens* L. Herit.), obtained by steam distillation of the herb, is an important aromatic oil widely used in high-grade perfumery and cosmetics. The oil is being imported in large quantities to meet the demands of the indigenous perfumery industry[1].

A severe leaf blight disease was observed in fields of scented geranium at the CIMAP Experimental and Demonstration Farm, Bangalore, during the rainy seasons of 1985 and 1986. The symptoms first appeared on the margin of the leaves as brown necrotic spots which later expanded towards the midrib leading to complete necrosis and rotting of leaves. The disease thus gave a blighted appearance to the field. Subsequently, severe defoliation occurred resulting in heavy losses of herbage and in oil yields.

A large number of isolations were made on potato dextrose agar (PDA) medium. Leaf pieces including disease lesions and healthy tissue were surface-sterilized with mercuric chloride (0.1%) and placed on the medium aseptically. The fungus growing from these pieces was examined and identified as *Colletotrichum gloeosporicides* Penz. The identity of the fungus as *C. gloeosporioides* anamorph of *Glomerella cingulata* (Stonem) Spaulding and Schrenk. was later confirmed by the Commonwealth Mycological Institute, Surrey, UK (IMI No. 313455).

For conducting pathogenicity tests, a conidial suspension in sterile water (10^6/ml), prepared from conidia harvested from a 10-day-old culture of *C. gloeosporioides* grown on PDA, was sprayed on detached leaves and potted plants. Leaves and

plants sprayed with sterile water served as control. Detached leaves and potted plants were then placed under high humidity conditions. The symptoms appeared on detached leaves and potted plants two and three days after inoculation respectively. The leaves and plants sprayed with sterile water remained healthy. Reisolation from such fungal lesions yielded the same fungus, i.e. *C. gloeosporioides*. The temperature range during pathogenicity tests was 19–28°C.

Although *C. gloeosporioides* has been reported on various aromatic plants[2–7] from different parts of the world, no precise information exists on its occurrence on *P. graveolens*. Therefore, this report constitutes a new record.

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RECORD OF A NEW HYMENOPTERAN PARASITOID OF *TRICHOLYGA BOMBYCIS* BECK. (DIPTERA: TACHINIDAE)

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Tricholyga bombycis Beck, commonly known as uzifly, a major pest of silkworm, *Bombyx mori* prefers to oviposit on III, IV and V instar larvae, killing them and causing damage to the extent of 15–20% to the silk industry[1–4]. Biological methods of insect pest suppression have of late gained increasing acceptance and popularity, as these methods are specific to the target insect, nonhazardous, more effective and safe. It has been reported that *Nesolynx thymus*, *Trichopria* sp. and *Exoristobia philippinensis* are the pupal parasites of *T. bombycis*[5–7]. In this report, we record a new hyperparasite, *Dirhinus anthracia* Walker (Chalicididae) of *T. bombycis*.

The pupae of *T. bombycis* were cultured in the laboratory and kept in enamel trays in a single layer for their development. The flies of *D. anthracia* from the field infested some of the uzifly pupae. Flies of *D., anthracia* emerged from these pupae were collected in 250 ml glass beakers covered with muslin cloth and fed on honey and 5% sucrose soaked on cotton pads put on the top of the covered beakers. These flies were then reared at room temperature for further studies. The temperature and humidity recorded in the laboratory ranged from 24 to 31°C and 57 to 92% respectively.

Preliminary observations made on the *D. anthracia* revealed that the female flies are bigger than the males with a broad abdomen and pointed end. The males have narrow abdomen with blunt end (figures 1 and 2). The female mates with the male only once in her lifetime. The pre-mating behaviour showed that the male follows female with wagging movement for about 5 min and mates with her. The duration of mating was 2–5 min, after which the female fly alights on the uzifly pupae, slightly bends her abdomen and pierces her needle-like ovipositor into the pupal case at the intersegmental region to deposit her eggs. Single female lays about 82–157 eggs and lays only one egg per pupa. It was observed that a female fly infested only 1–7 day old pupae and can infest at an average of 105 pupae in her lifetime. The duration of egg stage ranged from 2 to 3 days. The duration of larval and pupal stages ranged from 10 to 13 days and 10 to 12 days respectively. The life-span of the adult flies ranged from 20 to 40 days. The emergence of *D. anthracia* from uzifly pupae started from 20 to 25 days after infestation. The proportion of males and females of *D. anthracia* emerging from the uzifly pupae was 16.4 and 86. Arrhenotokous parthenogenesis was also observed in this species. On parasitization, the larva of *D. anthracia* feed within the host pupa and develop to attain full growth. The fly emerges from the infested pupae by breaking the pupal case. The gravid females of *D. anthracia* were provided with uzi maggots and pupae of different age groups and pupae and larvae of *B. mori* of different age for infestation. The flies emerged only from 1 to 7 day old uzi pupae.