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SHORT COMMUNICATION

Leaf-cutting ants and leaf-riding flies

D. A. WALLER Department of Zoology, University of Texas, Austin

The huge colonies of leaf-cutting ants (Formicidae; Attini) host a wide assortment of arthropod inhabitants (Weber, 1972). One milichiid fly nest-associate lays eggs in subterranean detritus cavities of the leaf-cutting ant, *Atta texana*, where the fly larvae feed on nest refuse (Moser & Neff, 1971). Adults of these flies reach the cavities by walking into ant nest entrances (Moser & Neff, 1971). In this note, I report a novel method of nest finding by another milichiid fly associated with *Atta texana* colonies (Sabrosky, 1959).

Correspondence: D. A. Waller, Department of Zoology, University of Texas, Austin, Texas 78712, U.S.A.

I observed *Pholeomyia texensis* Sabrosky (Diptera; Milichiidae) flies hopping onto leaves carried by *Atta texana* foragers and riding these leaves into nest entrances. Flies rode leaves in June through November 1979 and in January and February 1980 at the Brackenridge Field Laboratory of the University of Texas, Austin.

Flies mated on the mound surface in the late afternoon of 2, 3 and 4 June 1979, following a heavy rain. After mating, flies waited next to ant trails, on or beside leaves being cut on the ground by ants (Fig. 1), then hopped onto leaves carried past (Fig. 2). Flies rode as far as a metre to the nest, but some flies hopped onto leaves only a few centimetres from the

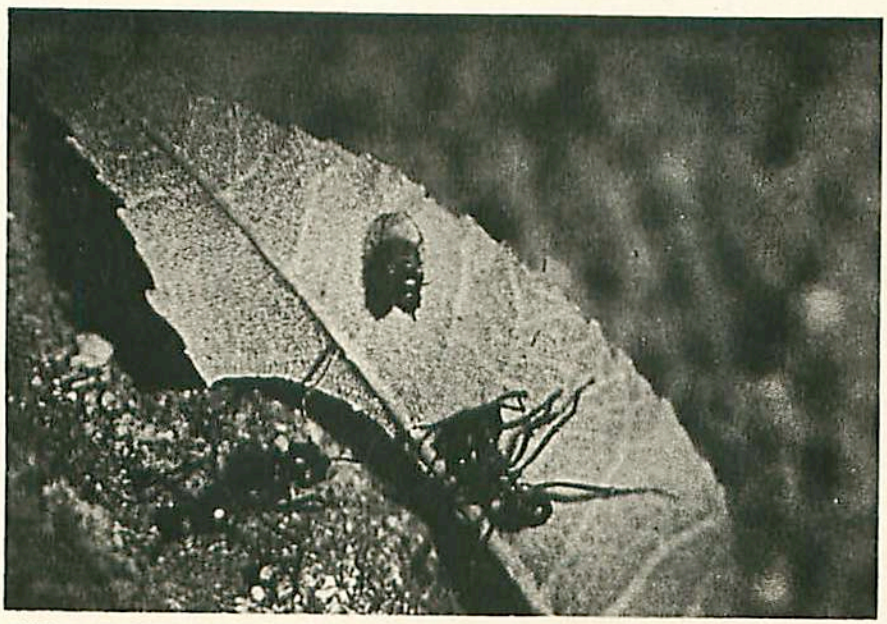

FIG. 1. *Pholeomyia texensis* fly watching an *Atta texana* forager cut a leaf on the ground.

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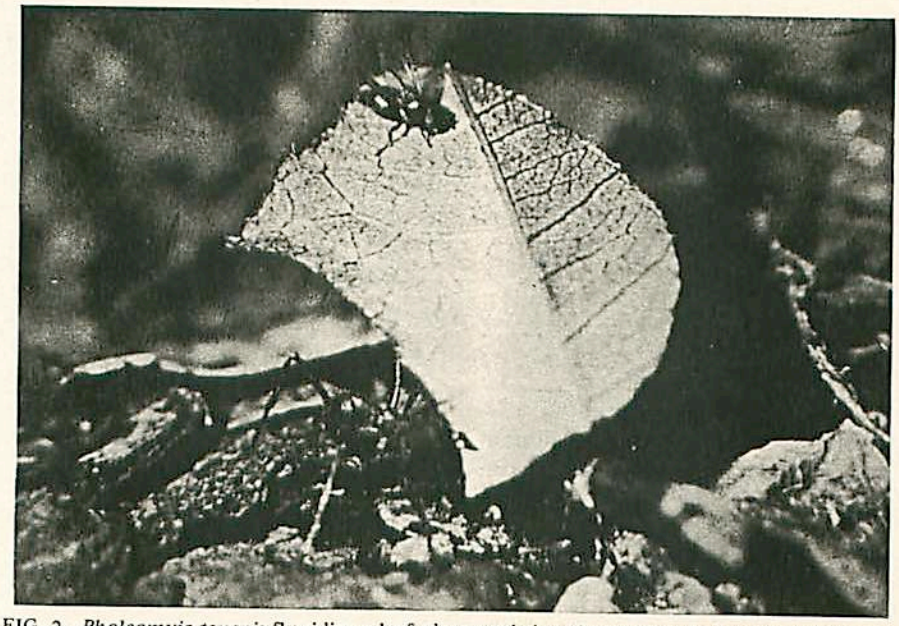

FIG. 2. *Pholeomyia texenis* fly riding a leaf piece carried to the nest by an *Atta texana* forager.

entrance. Flies appeared to be attracted to cut, carried leaves and whole leaves on the ground. However, one fly rode a dead twig into the nest, and another rode a dirt clod away from an entrance.

Sometimes two or more flies rode the same leaf. Minim *Atta texana* workers also occasionally rode the same leaves flies were riding. Hitch-hiking minims of tropical *Atta* species have been reported to fend off parasitic phorid flies (Eibl-Eibesfeldt, 1967), but minims did not interact with the leaf-riding milichiid flies.

All flies I collected riding leaves were females, and apparently were gravid throughout the year. Females collected in June 1979 produced male and female offspring when placed with a laboratory colony of *Atta texana*. Two females collected riding grass blades in February 1980 contained forty and eighty eggs, respectively.

Female *Pholeomyia* flies of undetermined species (Sabrosky, personal communication) rode leaves carried by *Atta cephalotes* foragers in tropical Mexico in August 1979. Leaf-riding may therefore be a widespread method of nest finding among milichiid flies.

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