

A RARE FLY AND ITS PARASITIC BEHAVIOR TOWARD AN ANT (DIPTERA: PHORIDAE, HYMENOPTERA: FORMICIDAE)<sup>1</sup>—(Note). The second known specimen of *Apocephalus tenuipes* Borgmeier, 1963: 184; a female, was collected during the mid-morning of 26 September 1978. The first behavioral observations also were recorded for this species. The only other known specimen, the holotype female, was collected on 11 September 1938 at Polk City, Polk County, FL, by Paul W. Oman. The new specimen was collected in Lake Harbor, Palm Beach County, FL. The holotype at the U.S. National Museum of Natural History is damaged so this new specimen in the Florida State Collection of Arthropods, Florida Department of Agriculture and Consumer Services, Gainesville, FL, is the only 1 in good condition.

The new specimen was captured on U.S. Sugar Corporation property, 7 mi (11 km) S of Lake Okeechobee, approximately in the middle of a sugarcane field planted on muck soil. The sugarcane was quite dense and over 8 ft (2.5 m) tall as it also was in the surrounding miles of fields.

The serendipitous second capture of this species occurred while the author collected baits made of hamburger meat and honey-agar which were used to survey ant populations in the field. Two or 3 small phorids of the same gross morphology were seen flying and hovering above the ants, *Pheidole dentata* Mayr, which were attracted to a pair of baits. These phorids, 1 of which was the collected specimen, had no apparent interest in the actual bait. Their flight usually remained within 1-3 in (2.5-7.6 cm) of the ground and consisted of short darting flights, followed by brief periods of almost motionless hovering. When the flies approached closely, the ants moved quickly and raised their heads, with a few of them pivoting rapidly. This caused the phorids to rapidly resume their flight-hover pattern temporarily at a greater height. At least 1 fly was definitely seen landing on an ant's dorsal abdominal or posterior thoracic region. This ant quickly turned its head toward the fly. The phorid took wing immediately, but the ant continued to either examine or groom the area where the fly had landed. I believe that the fly that was collected was this same individual. The ant, unfortunately, was not captured although only *P. dentata* minor workers were collected on the baits.

Parasitism of *P. dentata* Mayr by another member of the same phorid genus, *Apocephalus aridus* Malloch, was reported by W. E. LeBerge (1953. J. Kansas Ent. Soc. 26(2): 69). Most members of the genus *Apocephalus* and many members of related genera seem to be myrmecophilous according to Borgmeier (1963. Studia Ent. 6: 1-256), even though the biology of relatively few species have been studied in detail.

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tion of the ants and for creating an atmosphere wherein all subordinates are encouraged to think and act creatively and independently under any circumstances that they find or create.—RICHARD J. BURGESS, Dept. of Entomology and Nematology (USDA), Univ. of Florida, Gainesville, FL 32611.

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REPORT OF *ARRHENOPHAGUS CHIONASPIDIS* ON *PSEUDAULACASPIS PENTAGONA* IN FLORIDA<sup>1</sup>—(Note). Inspection of peach twigs with a heavy infestation of white peach scale, *Pseudaulacaspis pentagona* (Targioni-Tozzetti), disclosed that many of the males were parasitized by *Arrhenophagus chionaspidis* Aurivillius (Hymenoptera: Encyrtidae). The infestation came from a commercial orchard in Madison Co., FL on 8 November 1978. This is the only record of *A. chionaspidis* from *P. pentagona* in the United States, although fairly extensive surveys have been made (Hughes, I. W. 1960. Fla. Ent. 43: 89-92; Bobb, M. L., et al. 1973. J. Econ. Ent. 66: 1290-2; Collins, F. A., and W. H. Whitcomb. 1975. Fla. Ent. 58: 15-21.). This species was first reported parasitizing *P. pentagona* in Japan (Tachikawa, T. 1958. Insecta Matsumurana 21: 118-9.).

As its name indicates, *A. chionaspidis* is primarily a parasite of the male scale. Escapees from the field sample contaminated our insectary culture of *P. pentagona* contributing to its near collapse over a 7 month period, possibly through reduced mating within the population. At the end of this period, 86% of the males were parasitized and 92% of the parasites survived. Although 48% of the female scale were also parasitized, only 11% of those parasites survived to emerge. Parasite mortality was fairly equally divided between late instar larvae (51%) and adults (41%) which were unable to escape from the host mummy. Parasites were observed to oviposit in the settled 1st instar host; emergence was from the 2nd instar.

*Arrhenophagus chionaspidis* was found recently in another peach orchard in Madison Co. and at present may be fairly common. Why this species was not found in previous surveys remains a mystery; it has been reported in the United States since 1895 (Howard, L. O. 1895. Proc. Ent. Soc. Wash. 3: 239-40.). Certainly competition is not a factor, since this is the only parasite to attack the male scale. Perhaps to maximize parasite emergence, survey collections concentrated on samples with mature females which would have been past the emergence period of *A. chionaspidis*.—J. C. BALL, University of Florida, Agricultural Research Center, Monticello, 32344, and L. A. STANGE, Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, 32602.

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