growing as a solitary tree (d.b.h. = 6.35 cm, height = 3.0 m, drip line = 2.5 m from trunk) in a 0.55 x 2.5 m outdoor bed delimited by railroad cross-ties in Branch Community, Collin County, Texas. The bed was examined to a depth of ca. 10 cm and the location of each pupa was plotted.

Mature larvae of *D. perspicua* (laboratory-reared adults det. R. W. Poole, Systematic Ent. Lab., USDA, Beltsville, Maryland) first were detected on *C. obovatus* foliage in Branch Community, 28 September 1979. Four specimens taken to the laboratory pupated by 4 October; within this same period all larvae disappeared from the tree. A 3 December 1979 excavation of the bed disclosed 12 pupae of *D. perspicua* in earthen cells around the base of the tree. The mean distance of pupae from the trunk was 23.2 ± SE of 2.5 cm (range = 10.2-36.7 cm) and the mean depth was 1.9 ± SE of 0.2 cm (range = 0.9-3.8 cm). The lateral distribution indicates that the larvae had climbed down the trunk to the ground; if they had dropped from the branch tips they would have been nearer the drip line (2.5 m from the trunk). Equal numbers of larvae dispersed north and south from the trunk, but nine went to the west vs. three to the east.

In 1980, but not in 1981, the plant at Branch Community was attacked again by *D. perspicua.* Several specimens each of *Rhus virens* (Gray) (evergreen sumac) and *R. glabra* L. (scarlet sumac) were ca. 70 and 5 m, respectively, from the *C. obovatus;* no larvae or feeding damage were found on these plants 1979-1981. Five *C. obovatus* in Dallas, Dallas Co., Texas were not attacked in any of these 3 years. Because *D. perspicua* apparently is univoltine and because *C. obovatus* is a relatively small plant under most circumstances, any necessary control of the pest on domesticated *C. obovatus* should be relatively easy. Texas Agricultural Experiment Station Journal Series No. TA-16747.—ROBERT L. CROCKER, AND BENNY J. SIMPSON, Texas A&M University Research and Extension Center, 17360 Coit Road, Dallas, TX 75252.

A LINEAR PITFALL TRAP FOR MOLE CRICKETS AND OTHER SOIL ARTHROPODS—Although adult mole crickets (*Scapteriscus acletus* and *S. vicinus*) can be readily trapped by electronic calling devices (Walker 1982, Florida Ent. 65: 105-10) a reliable and easy collecting technique for immatures has yet to be developed. Although mole crickets do extensive surface burrowing and surface feeding, conventional pitfall traps are largely ineffective.

To provide large numbers of mole cricket nymphs for research, an easily constructed and inexpensive linear pitfall trap was developed and tested for trapping potential. A 2.5 cm slot was cut lengthwise from a piece of 7.6 cm diam. PVC pipe ca. 2.5 m long. A 5 cm section was left uncut at each end and at the midpoint for reinforcement. An end cap was placed over one end of the pipe and 0.318 cm drainage holes drilled opposite the slot at ca. 30 cm intervals. A hole large enough to insert the PVC pipe was cut in the side of a 19 L plastic pail, ca. 7 cm from the top. (Pails that contained dry-wall joint compound or paint work well). A hole to accommodate the PVC pipe was cut in the side of a 3.78 liter plastic jug used to collect the specimens; a plastic milk jug or chlorox bottle works well. Drainage holes were drilled in the bottoms of the pail and plastic collection jug.

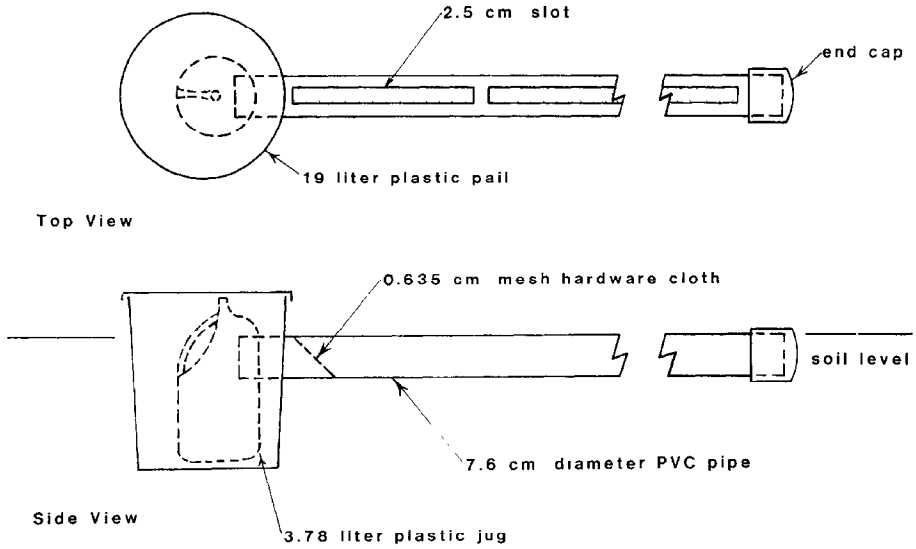

Fig. 1. Top and side views of a linear pitfall trap for mole crickets and other soil arthropods.

The PVC pipe was placed in a trench with the open slot up, at or very slightly below the soil level. The plastic pail was imbedded in the ground (Fig. 1) with the collection jug inserted over the open end of the PVC pipe. About 1 cm of soil was placed both inside the PVC pipe and the plastic jug to keep the captured mole crickets separated since they are cannibalistic. Insects that fell into the PVC pipe eventually moved to the open end of the pipe and fell into the jug.

The trap works equally well in sod or bare ground, capturing considerable numbers of mole crickets of all stages. First and second stage mole cricket nymphs were initially captured by this technique 28 April 1981 at Boynton Beach, FL. In the succeeding 30 days, 2 of these linear pitfall traps captured 749 immature mole crickets, both *Scapteriscus acletus* and *S. vicinus*, for an average of 12.5/day/trap. The highest capture for one trap in one day was 41.

Many soil inhabiting arthropods were captured in addition to mole crickets: spiders; earwigs; *Euborellia* sp.; ground beetles (Carabidae); and billbugs, *Sphenophorus* sp.. Larger spiders, especially wolf or ground spiders (*Lycosa* sp.) which are predacious on the mole crickets, were largely excluded from the collection jug by cutting a 0.635 cm mesh hardware cloth screen to fit the inside of the PVC near the pail.—K. O. LAWRENCE, RPE, Chemlawn Corporation, Rt. 1 Box 1125, Boynton Beach, FL 33437 USA.

MATING WOUNDS IN MALACOSOMA: AN INSIGHT INTO BED BUG MATING BEHAVIOR—Male bed bugs (Hemiptera: Cimicidae) inject sperm into females through the body wall. In addition, in *Xylocoris*, males inject sperm into mounting males which indirectly deposit some of the attacking males' sperm into their mates (Lloyd 1979. Florida Ent. 62: 17-23). The mating behavior of *Malacosoma* (Lepidoptera: Lasiocampidae)