

PARASITOIDS OF THE PLANT HOPPER, *PROKELISIA MARGINATA* (HOMOPTERA: DELPHACIDAE)—*Prokelisia marginata* (Van Duzee) is the most common fulgoroid inhabitant of salt marsh cord grass, *Spartina alterniflora* Loisel, in salt marshes of the Atlantic and Gulf coasts of Florida (Denno and Grissell 1979. Ecology 60: 221-36; McCoy and Rey 1981. Ecol. Ent. 6: 285-91). From *P. marginata* collected at Oyster Bay, Wakulla

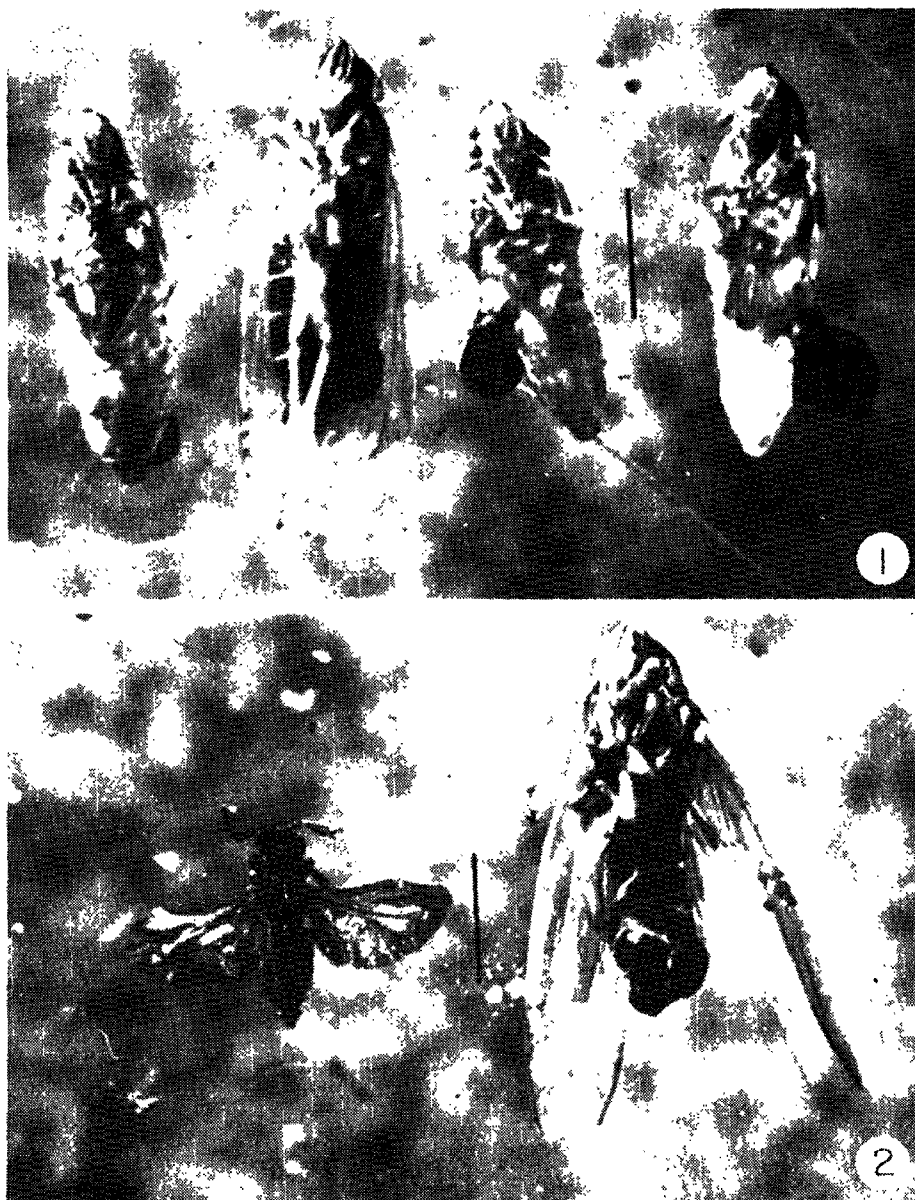


Fig. 1-2. 1) Nymphal and adult *P. marginata* exhibiting strepsipteron parasites (left and far left) and dryinid sacs. 2) Winged male *Elenchus koebelei* (left) and host *P. marginata* with exit hole. Scale lines are 1 mm.

County, northwest Florida, we have reared one species of egg parasite, *Anagrus delicatus* Dozier (Hymenoptera: Mymaridae) and 2 species of nymphal parasites, *Elenchus koebelei* Pierce (Strepsiptera: Elenchidae) and a dryinid (Hymenoptera: Dryinidae).

Female *P. marginata* insert eggs between leaf blade ridges. Parasitized eggs initially appear milky-white or transparent and later assume an orange hue, in contrast to the pale-yellow coloration of healthy eggs. Only one parasite develops within each host egg. Adult *A. delicatus* live only a few days. Females are easily distinguished from males by their nine-segmented antennae with large club-shaped apical segments. Males have thirteen-segmented antennae with no enlargement of the final segment. The sex ratio of emerging *Anagrus* was about 1:1 in our laboratory rearing of field collected material. The rearing of *A. delicatus* from *P. marginata* is a new host record for this species (M. Schauff pers. comm.).

Nymphal and adult *P. marginata* feed on adaxial leaf surfaces. Parasitized nymphs exhibit a strepsipteron cephalothorax or a dryinid sac protruding from between the abdominal segments (Waloff, 1980, Adv. Ecol. Res. 11: 81-215). The dryinid sac, composed of cast larval skins, usually appears between segments 5 and 6 and the strepsipteron cephalothorax from between segments 7 and 8 (Fig. 1, 2). Both parasite species commonly emerge from fifth instar nymphs or, more rarely, from adults. Female *E. koebelei* are neotenic and remain within the host; only the males are free living. Most nymphs support only one parasite, but a few contain 2 parasites of the same species. Parasitism never exceeded 5% of field collected nymphs. We were unable to rear out adult dryinids although Denno (1977, Env. Ent. 6: 359-72) has swept dryinids of the genus *Pseudogonatopus* from *S. alterniflora* in New Jersey.

We thank Drs. M. E. Schauff and T. J. Spilman, Systematic Entomology Laboratory, United States Department of Agriculture, for identification of parasitoids. Work supported by National Science Foundation grant DEB 7921828 to Donald Strong and by the Department of Biological Science, Florida State University.—PETER D. STILING and DONALD R. STRONG, Department of Biological Science, Florida State University, Tallahassee, FL 32306, USA.

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A SOIL CORER FOR SAMPLING MOLE CRICKETS—Research on the population biology of the imported mole crickets, *Scapteriscus acletus* Rehn and Hebard and *S. vicinus* Scudder, necessitated the development of a technique for determining their distribution and abundance in soil in the field. Previous methods, including sound trapping (Walker, T. J., Florida Ent. 65: 105-10), flushing, and the use of baits (Walker, S. L., 1979. M.S. Thesis, Univ. of Florida) have proven inadequate. The extreme mobility of mole crickets, both horizontally and vertically, together with their relatively unconcentrated distribution, made the use of conventional manual coring devices unfeasible. A tractor powered, large diameter core sampler was developed in order to rapidly extract large volume cores with a minimum of expense.

The coring device (Fig. 1) consists of a steel pipe 32.5 cm in diameter, 48 cm in length and 1 cm thick, beveled to 0.5 cm at the cutting edge. Modi-

