SCIENTIFIC NOTES

NEW HOST PLANT RECORDS FOR THE STINK BUG *PIEZODORUS GUILDINII* IN FLORIDA (HEMIPTERA: PENTATOMIDAE)

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Piezodorus guildinii (Westwood) is a neotropical pentatomid that occurs from the southern United States to Argentina. This species is a serious pest of soybean throughout South America, particularly in Brazil (summarized in Panizzi and Slansky 1985a). It was commonly found on soybean during 1983 in north-central Florida (A. R. Panizzi, unpublished observations), where its abundance in the past few years seems to have increased (Menezes 1981), suggesting that it potentially could become a serious soybean pest in Florida.

P. guildinii is polyphagous; reported host plants include a number of wild and cultivated species, many of which are legumes (e.g., alfalfa, lentil, green bean and soybean; summarized in Panizzi and Slansky 1985a). However, some of these plants may only provide a substrate for resting or refuge and may not actually be host plants. We found eggs, nymphs and adults of *P. guildinii* on 3 apparently unreported host plants during November and December, 1983 in Alachua County, Florida. These plants were: *Indigofera hirsuta* L., *Crotalaria lanceolata* E. Mey., and *Crotalaria brevidens* Benth. On the first two species, egg masses were observed on pods; nymphs (1st through 5th instars) and adults were found most frequently feeding and/or basking on pods. Late instar nymphs and adults would hide among the pods when disturbed, and as many as 20 individuals were found on a single host plant. On the third species, only one 5th instar nymph was found (feeding on a pod).

Subsequent research on adult biology of *P. guildinii* (Panizzi and Slansky 1985b) indicated that pods of *I. hirsuta*, and to a lesser extent *C. lanceolata* (*C. brevidens* was not included in our study) allow early oviposition and increased fecundity compared to adults fed raw shelled peanuts, dry soybean seeds or green (snap) beans. We successfully reared nymphs on *I. hirsuta* pods but high mortality occurred when reared on green beans (the latter are commonly used as a suitable laboratory food for another polyphagous stink bug, *Nezara viridula* (L.); Harris and Todd 1980).

The broad host plant range of *P. guildinii* indicates that a number of wild plant species could serve to maintain its populations when cultivated host plants are unavailable, and provide sources from which colonization of soybean and other cultivated hosts occurs. In Brazil, *P. guildinii* has been recorded on an unspecified species of *Crotalaria* (Monte 1939). In Colombia,

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I. hirsuta and *Crotalaria pallida* Aiton apparently serve as sources of *P. guildinii* attacking soybean (Hallman 1979). Because *I. hirsuta* and *C. lanceolata* are commonly found in Alachua County, they could be two important wild host plants of *P. guildinii* in the fall in this area. Florida Agricultural Experiment Station Journal Series No. 5720. We thank D. Hall for identifying the plants, and D. Herzog, S. Passoa and R. Sailer for reviewing an early draft of this note.

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MATING BY KLEPTOPARASITIC FLIES (DIPTERA: CHLOROPIDAE) ON A SPIDER HOST

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Some small Diptera are kleptoparasites (food thieves) of spiders and other predaceous arthropods. These rarely encountered flies are nearly always female (Table 1). It has been suggested that males, particularly those of phoretic species, are absent not only because of possibly different feeding habits, but also because of sexual tactics (Sivinski and Stowe 1980). That is, the probability of successfully anticipating the arrival of a rare female fly on or in the vicinity of any one of the relatively more abundant hosts is so low that males are constrained to participate in off-host mating systems such as swarming/lekking and patroling of emergence sites. However, should fly density increase, then waiting or searching at hosts might become a profitable means of finding mates (see discussion of on-host mating in haemotophagous Diptera in Sivinski 1984). It is of interest then, that for apparently the first time, on-host kleptoparasite copulations have been observed and that these occurred in a very dense "infestation" of flies.

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