

A PREDATORY STINK BUG, EUTHYRHYNCHUS FLORIDANUS (LINNAEUS) (HEMIPTERA:PENTATOMIDAE)¹

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INTRODUCTION: The predatory stink bug, Euthyrhynchus floridanus (L.), is considered a beneficial insect because most of its prey consists of plant damaging bugs, beetles, and caterpillars. This stink bug is primarily a Neotropical species that ranges into southeastern quarter of the United States. It seldom plays more than a minor role in the natural control of insects in Florida, but its prey includes such economic species as southern green stink bug, Nezara viridula (Linnaeus) (fig. 1), orangedog, Papilio cressphontes Cramer, and West Indian sugarcane rootstalk borer, Diaprepes abbreviatus (Linnaeus) (fig. 6).



Fig. 1. Euthyrhynchus floridanus (L.)♀ preying upon adult southern green stink bug, Nezara viridula (L.). This specimen of E. floridanus has the 2 anterior scutellar spots expanded and coalesced into 1 large spot. Photograph by Dwight R. Bennett, Dept. Ent. & Nem., Univ. of Florida, Gainesville.

IDENTIFICATION: ♂ 11.5-13.7mm long; 6.0-7.5mm wide at humeri; ♀ 14.5-16.7mm long, 7.1-8mm wide at humeri (based on 20 ♂ and 20 ♀). E. floridanus normally can be distinguished from all other stink bugs in the southeastern U. S. by a reddish spot at each corner of the scutellum outlined against a blue-black to purplish brown ground color (fig. 3-4). Variations (fig. 1-2) occur that might cause confusion with somewhat similar stink bugs in several genera such as Stiretrus, Oplomus, and Perillus, but these other bugs have obtuse humeri or at least lack the distinct humeral spine that is present in Euthyrhynchus. In addition, species of these genera known to occur in Florida have a short spine or tubercle situated on the lower surface of the front femur behind the apex 1/4 to 1/3 of the femoral length. Euthyrhynchus also lacks a spine that projects forward from the 2nd abdominal segment of the species belonging to the other genera. Hayslip et al (1953) illustrated species in Stiretrus, Euthyrhynchus, and Podisus, and a prominently marked E. floridanus was illustrated by Chittenden (1911). The basic characters of the predatory subfamily Asopinae serve to eliminate the much more common plant feeding stink bugs: asopines have the 1st segment of the beak short and thick, free, only its base being between the bucculae which converge and unite behind or beneath the beak; base of beak close to end of tylus (fig. 18, Blatchley, 1926); other groups of stink bugs have the 1st segment of beak slender, embedded between the bucculae which are wide and parallel; base of beak distinctly separated from end of tylus. Blatchley (1926) and Torre-Bueno (1939) remain the basic keys to stink bugs in the eastern U. S. **NYMPHS:** Identification of the nymphs is less certain, particularly the earlier instars. The available keys are based on the last instar (5th), but key characters often apply to the 4th instar as well. Hart (1919) included a key to nymphs in the various stink bug subfamilies. DeCoursey and Allen (1968) published a key to the 5th instar nymphs of 25 genera of eastern U. S. stink bugs; however, 4 asopine genera (Alcaeorrhynchus, Andrallus, Mineus, Oplomus) reported from Florida were not included. Also listed were field recognition characters of mature nymphs, with Euthyrhynchus summarized as having head, thorax, lateral and medial plates unicolorous metallic green, abdomen bright red; length 8-9mm. The mature nymphs reared by Oetting and Yonke were 10-12.5mm in length. An occasional mistake of a few beginners is to confuse Euthyrhynchus nymphs with beetles. The latter would have elytra forming a suture dorsally, and the mouthparts would be of the chewing type; the young stink bugs would lack wings and would have tubelike piercing-sucking mouthparts. **EGGS:** The females lay egg masses having up to 132 eggs with individual eggs somewhat barrel shaped. Eggs and all 5 nymphal instars were illustrated and described in detail by Oetting & Yonke (1975).

LIFE HISTORY: Ables (1975) reared South Carolina examples of E. floridanus in the laboratory, providing prey of greater wax moth larvae, Galleria mellonella (L.), all stages of Mexican bean beetle, Epilachna varivestis Mulsant, and larvae of tobacco budworm, Heliothis virescens (F.). The life cycle was about 89 days under the conditions provided. Oetting and Yonke (1975) reared Missouri stock of E. floridanus in the laboratory, providing black cutworms, Agrotis ipsilon (Hufnagel) as a food source. Under their rearing conditions, the life cycle was about 155 days. Both papers included comments on the gregarious nature of the nymphs; even adults tended to aggregate at night in the cages. Ables (1975) commented that capture of prey and feeding by early instars often appeared to be a group effort. He added that such behavior would be of a selective advantage because it would allow feeding on large prey unavailable to a single nymph.

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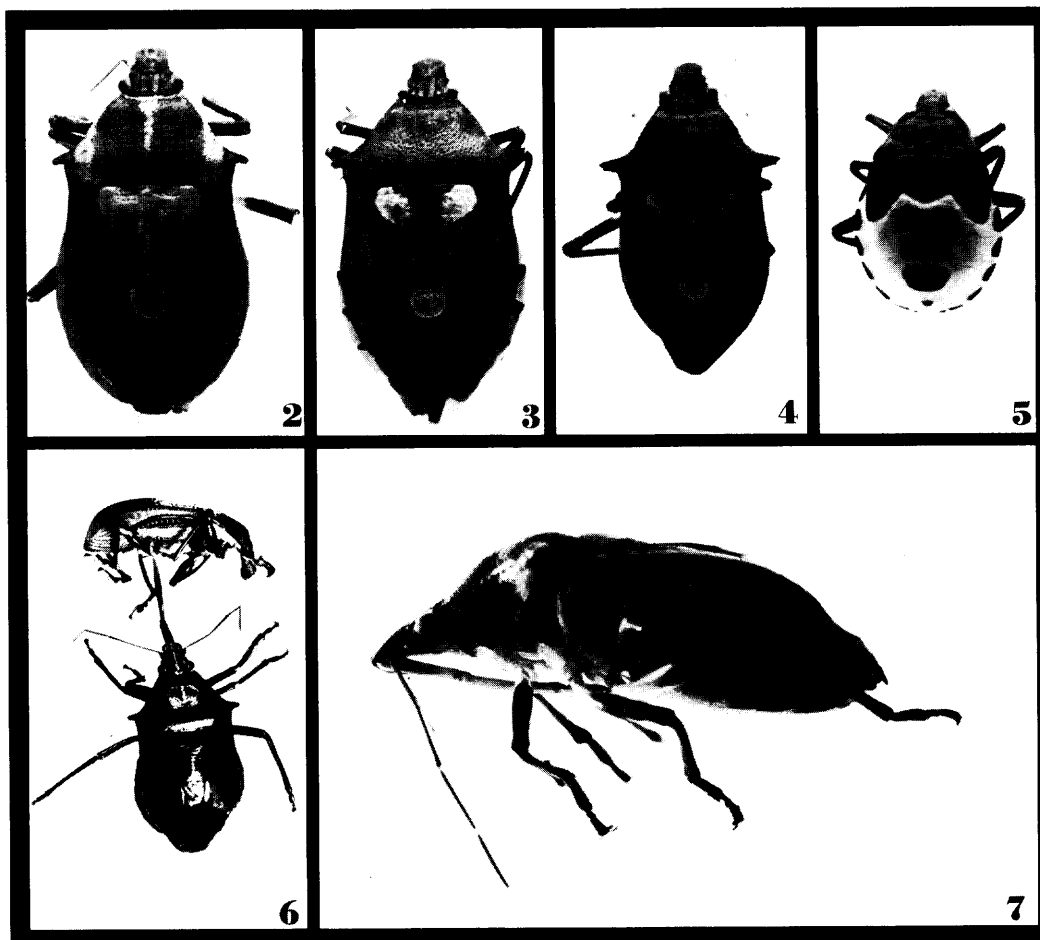


Fig. 2-7 *Euthyrhynchus floridanus* (L.): 2) ♀ from Greenville, S. C. exhibiting somewhat unusual markings on prothorax. 3) Normally marked ♀ typical of se U.S. 4) Normal ♂. 5) 5th instar nymph. 6) ♀ attacking *Diaprepes abbreviatus* (L.). 7) Lateral aspect of ♀.

Records in the Florida State Collection of Arthropods show that *E. floridanus* has been collected during all months of the year in Florida. There is a peak in the spring and again in the fall. Of 140 habitat records, 25% have been ornamentals, 17% citrus; 8% in traps, 6% in weeds and turf, and the remainder in miscellaneous fruits, trees, and random habitats. Prey records include *Nezara viridula* (L.), *Diaprepes abbreviatus* (L.), a leaf beetle, *Bassareus brunripes* (Oliv.), and a flatid planthopper, *Ormenaria (=Monoflata) rufifascia* (Walker). Prey reported in the literature includes velvetbean caterpillar, *Anticarsia gemmatalis* Hübner, Colorado potato beetle, *Leptinotarsa decemlineata* (Say), walnut caterpillar, *Datana integerrima* Grote & Robinson, alfalfa weevil, *Hypera postica* (Gyllenhal), a ctenuchid, *Lymire edwardsii* (Grote), "okra" or "mallow" caterpillar, *Cosmophilla erosa* Hübner.

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