Euschistus servus (Say) — a New Host Record for Mermithidae (Mermithida)

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The brown stink bug, Euschistus servus (Say) (Hemiptera: Pentatomidae), and other related Euschistus spp. have reached elevated pest status in the Cotton Belt of the southeastern United States. Esquivel et al. (2009) reported six species of Euschistus in Central Texas, and data presented here are a continuation of the previous study in an effort to better understand the seasonal dynamics of the six species. Fewer insecticide applications to control the boll weevil, Anthonomus grandis Boheman (Coleoptera: Curculionidae); implementation of genetically modified varieties of cotton, Gossypium hirsutum L., and target-specific insecticides; and resistance to insecticide (Snodgrass et al. 2005) dictate continued exploration for alternative control measures against stink bugs.

Entomopathogenic nematodes have long been recognized as potential biological control agents against some insect species, including pentatomids (Nickle 1972) such as southern green stink bug, Nezara viridula (L.) (Rubtzov 1977, Laumond et al. 1979, Bhatnagar et al. 1985), Platynopus sp. (Gokulpure 1970), Rhaphigaster nebulosa (Poda) (Manachini and Landi 2003), and Aelia acuminata (L.) (Sultanov et al. 1990). Despite their association with numerous other economically important pest species (Rahaman et al. 2000), nematodes have not been previously reported as parasites of the brown stink bug. Thus, this is the first report of nematodes infecting brown stink bug adults.

Pheromone-baited yellow pyramidal traps, lures, and insecticide-impregnated ear tags (Cottrell 2001) were used to collect adult brown stink bugs. Trapping sites were in pecan (Carya illinoinensis (Wangenh.) K. Koch) orchards adjacent to commercial fields of cotton, maize (Zea mays L.), or soybeans (Glycine max (L.) Merr.). Movement of stink bugs from adjacent row crops into pecan orchards had previously been observed (personal observation). In total, 12 traps were placed within pecan orchards or along the orchard interfaces with cotton or maize. At each location, three or four traps were placed at ≥182-m intervals. Traps were deployed on 9 March 2010 and serviced three times each week (Monday, Wednesday, and Friday) until fiscal resources limited the frequency of servicing traps to once per week beginning 12 October through December 2010. Lures were replaced every two weeks. Captured adults were placed in plastic freezer bags and returned to the laboratory for dissection as described by Esquivel (2011). Esquivel (2009, 2011)

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Hemiptera: Pentatomidae.