CHETOGENA SCUTELLARIS (DIPTERA: TACHINIDAE), AN ENDOPARASITE OF
LARVAL STRYMON ACIS BARTRAMI (LYCAENIDAE)

Additional key words: parasitoid, population regulation, threatened species

The Bartram’s hairstreak, Strymon acis bartrami (Comstock & Huntington) (Lycaenidae), occurs locally within the pine rocklands of southern Florida and the lower Florida Keys (Minno & Emmel 1993; Smith et al. 1994), where it is endemic. Due in large part to habitat loss, S. a. bartrami populations have declined considerably during the last several decades (Salvato & Salvato 2010). In response to this, S. a. bartrami was listed as candidate species for federal protection in 2006. Hennessey and Habeck (1991) and Worth et al. (1996) described many aspects of S. a. bartrami natural history. Salvato and Hennessey (2004) and Salvato and Salvato (2008, 2010) also discussed S. a. bartrami ecology and provided a review of known parasites and predators for the species. Although larval parasites have been recorded for other lycaenids throughout the New World (Arnaud 1978; Stireman & Singer 2003a, 2003b), little has been reported for S. a. bartrami. To our knowledge, the only observation of S. a. bartrami larval parasitism was provided by Hennessey and Habeck (1991) who collected a single unspecified braconid wasp from a late instar larva on Big Pine Key, Florida. Tracking the fate of late instar S. a. bartrami larvae is difficult due to the fact that this species tends to pupate in ground litter (Worth et al. 1996; Salvato & Hennessey 2004).

On 11 December 2010 MHS and HLS observed eggs (n = 2) of a parasitoid fly (Diptera: Tachinidae) attached to the cuticle of a late instar S. a. bartrami larva (Fig. 1) in the Long Pine Key region of the Everglades National Park (Miami-Dade County, Florida). The S. a. bartrami larva was encountered on pineland croton, Croton linearis Jacq. (Euphorbiaceae), the only known host plant for the species. After photographing the observation in the field, the parasitized larva was subsequently collected. Within approximately 72 h of the initial observation the white egg casings dropped off the larva, exposing dark spots (necrosis) on the cuticle.

The S. a. bartrami larva was maintained in a screen mesh cage and provided fresh food plants. MHS and HLS have successfully reared numerous S. a. bartrami larvae under these conditions over 15 years of research on this species. However this S. a. bartrami larva, which behaved lethargically in the field and laboratory, fed only minimally until 15 December 2010, when it became moribund while attempting to pupate. Five days later on 20 December 2010 a tachinid larva emerged from the S. a. bartrami larva. The tachinid larva was placed in a small plastic cup containing a layer of soil in which it quickly pupated. An adult fly emerged on 6 January 2011.

The adult fly (Fig. 2) was pinned and sent to JOS who examined and identified it as a female Chetogena scutellaris (Wulp). Often, a male Chetogena specimen is required to determine the particular species, as females in this genus can be nearly indistinguishable (Parchami-