Scientific Note

Interception of an eastern North American scorpionfly (Mecoptera: Panorpidae) captured in California

The North American distribution of the Holarctic genus *Panorpa* Linnaeus, 1758 (Panorpidae) lies almost entirely east of the Rocky Mountains, only reaching as far west as Utah (Byers 1962, Gurney 1937, Penny 2006, Triplehorn & Johnson 2005). We report here a male of the eastern scorpionfly *Panorpa helena* Byers, 1962 represented in the collection of an entomology student at California State University, Chico. The specimen was taken by sweep net on 1 May 2012 in Chico, California, in an urban setting with mixed planted and weedy vegetation, at approximately 39° 43.859N W 121° 49.387W. The collecting labels read: “USA/CA/Butte Co/Chico/1 May 2012/ Jeff Mabry, collector.” Although the graduate student collector recalls witnessing an automobile with Texas license plates towing a trailer with Utah plates near the collection locality, no other remarkable features were noted. As far as we can tell, this record represents an accidental introduction of *P. helena* and its first known capture on the Pacific coast. As with the single Utah record reported by Gurney (1937) for this species, we do not suspect that a permanent population exists. Our methods of species determination are given below.

The terminal abdominal segments (Abd 6-9) of the pinned male specimen were removed and soaked in water for one hour. This part of the abdomen was then transferred to a 10% solution of KOH and water to clear all soft internal structures. After sufficient clearing (approximately 2 hours), the terminal portion of the abdomen was transferred back to distilled water for one hour before permanent storage in 70% ethyl alcohol. The forewings were removed after slow rehydration (24 hours). Color photomicrographs of the abdomen, genital bulb and forewings were taken under a Zeiss Stemi SV6 microscope fitted with an intermediate phototube, 0.5× camera adapter, and a Lumenera Infinity 2-2C (1/1.8 inch CCD sensor) video camera and Infinity Analyze image capture software. The figures of adult male characters were produced from 10-29 photomicrographs taken at successively deeper focal planes that were combined and simultaneously focused using Helicon Focus 5.3 software. Photographic adjustments were made using the curves control function in Adobe Photoshop CS3.

The California male specimen conforms to the original description of *P. helena* based upon seven males and 11 females (Byers 1962). Male diagnostic characters include: Sixth abdominal tergum produced dorsally in short, subconical lobe (Fig. 1). Genital bulb with hypovalves of nearly uniform width throughout, sometimes widened beyond mid-length, extending to dististyle bases or slightly beyond (Figs. 2-6). Dististyle simple with a shallow saucerlike and excavated basal process on mesal surface (Fig. 2). Two or (rarely) three strong spines at inner, posterior apex of each basistyle (Fig. 2). Ventral parameres gently curved, their tips not crossing, with subapical barbs present on both sides (Figs. 2, 4, 6). The forewings of our specimen differ slightly from the original description (“marginal spots normally absent, but the first sometimes very weakly indicated”). Although small, our male appears to have a weakly pigmented first marginal spot (Fig. 7, right arrow), and a better-defined second marginal spot.