

NOTA CIENTÍFICA

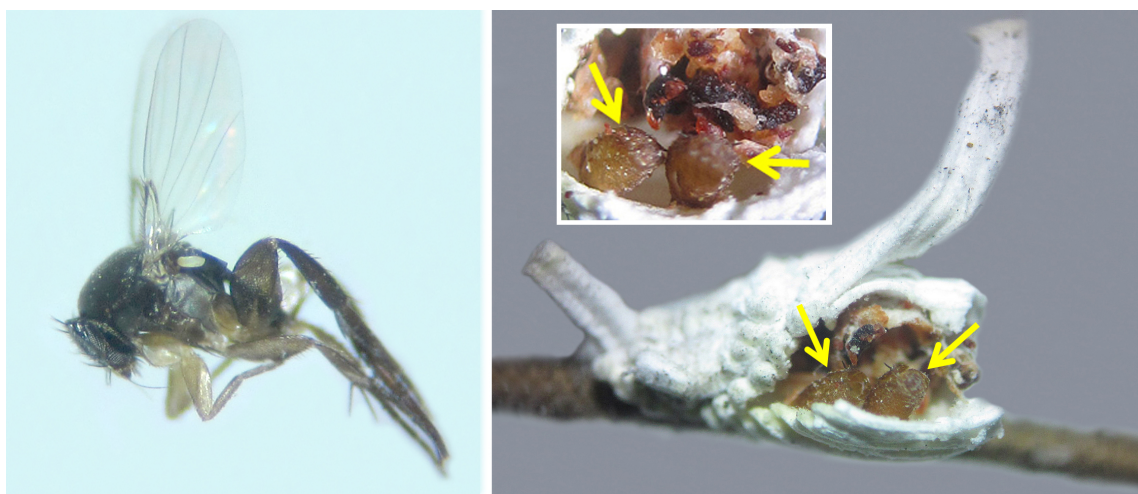
FIRST REPORT OF *SYNEURA COCCIPHILA* (COQUILLET, 1895) (DIPTERA: PHORIDAE), AS A PREDATOR OF THE FLUTED SCALE *CRYPTICERIA MULTICATRICES* KONDO & UNRUH, 2009 (HEMIPTERA: MONOPHLEBIDAE)**Stephen D. Gaimari***Plant Pest Diagnostics Center, California Department of Food and Agriculture, 3294 Meadowview Road, Sacramento, CA 95832, USA, e-mail: stephen.gaimari@cdfa.ca.gov***Edgar Mauricio Quintero Q. & Takumasa Kondo***Corporación Colombiana de Investigación Agropecuaria (CORPOICA), Centro de Investigación Palmira, Colombia, e-mail: emquinteroq@gmail.com; takumasa.kondo@gmail.com*

Figure 1. *Syneura cocciphila* (Coquillett). Left. Adult. Right. Two pupae (see arrow) inside ovisac of *Crypticeria multicatrices*. Inset. Pupae close-up. Photos by T. Kondo.

Since 2010, the multicatrices fluted scale *Crypticeria multicatrices* Kondo & Unruh (Hemiptera: Monophlebidae: Iceryini) has been reported as a serious pest attacking numerous plants including palms, various fruit trees and ornamental plants on the island of San Andres, Colombia (ICA 2010), and more recently on the neighboring island of Providencia (Kondo et al. 2012). According to Kondo et al. (2012), the multicatrices fluted scale was introduced into the islands of San Andres and Providencia, probably through infested ornamental plants brought from mainland Colombia where the insect is endemic to. Besides an entomopathogenic fungi, *Paecilomyces* sp. (Quiroga et al. 2011), and

an unidentified species of lacewing (Chrysopidae), no other natural enemies have been found on the islands (Kondo et al. 2012). On the other hand, in mainland Colombia, Kondo et al. (2012) found various natural enemies, including at least two hymenopterous parasitoids extracted from the adults, two coccinellids that feed on eggs and nymphs, an unidentified species of Chrysopidae and the larvae of an unidentified phorid fly (Phoridae). The first author identified reared adults of the phorid fly mentioned in the study by Kondo et al. (2012), and as a result, here we report for the first time the presence of *Syneura cocciphila* (Coquillett) (Diptera: Phoridae) (Figure 1) feeding on *C. multicatrices*,

and provide some biological information.

According to Autuori (1928), *Syneura cocciphila* (as *S. infrapospita* Borgmeier & Schmitz, a junior synonym of *S. cocciphila*) is known to attack *Icerya purchasi* Maskell (Hemiptera: Monophlebidae), a species also included in the tribe Iceryini (Unruh & Gullan 2008a, b). During another study carried out on the island of Montserrat, Bartlett (1978) reported *S. cocciphila* as attacking *Crypticerya montserratensis* (Riley & Howard), a closely related species of *C. multicatrices* (Kondo & Unruh 2009; Unruh & Gullan 2008, as an undescribed species from Colombia). Ciomperlik (2010) reported that *S. cocciphila* was reared from *Crypticerya genistae* (Hempel), which was recently found to be invasive in Puerto Rico. He noted that this was not an intentional introduction, but rather probably occurred along with the invasion of the scale, as was also the case in both Barbados and Florida. Ciomperlik (2010) also noted that *S. cocciphila* is likely at least partly responsible for the significant reductions in pest scale prevalence in Barbados and Florida, along with the coccinellid beetle *Anovia circumclusa* (Gorham). It appears that *S. cocciphila* specializes on scale insects of the tribe Iceryini, family Monophlebidae.

Judging by the damage caused to the specimens of *C. multicatrices*, the larvae of *S. cocciphila* feeds on the body contents of the adult scale and also on

the eggs within the ovisac. Pupation occurs inside the damaged insect body, within the ovisac (Figure 1, right) or just outside it. The phorid flies usually leave a circular emergence hole at the posterior end of the ovisac, or less frequently directly on the scale insect body. All eggs inside each studied ovisac were dried leaving visible only the egg chorions (see inset on figure 1). On average there were about 1.4 flies per scale (99 phorid flies were obtained from 69 scale insects), and each scale harbored between 1-4 pupae. Based on this single set of observations, *Syneura cocciphila* has potential to be used as a natural enemy of the invasive fluted scale *C. multicatrices* on the islands of San Andres and Providencia as part of a classical biological control program, since it apparently was not introduced to these islands along with the invasive pest scale species, as it has in other places.

Material studied. *Syneura cocciphila* (Coquillett). Colombia: Valle del Cauca, Cali, 03°27'45.5"N, 76°29'0.23"W, 976 m, 13.vi.2012, E. M. Quintero, reared from pupae found on insect body or from ovisac of *Crypticerya multicatrices* Kondo & Unruh (Hemiptera: Monophlebidae) on *Caesalpinia peltophoroides* Benth. (Fabaceae), 75 specimens deposited at the insect collection of the Plant Pest Diagnostics Center, California Department of Food and Agriculture (12 specimens), and at the insect collection of Corpoica, Palmira Research Station (69 specimens in 75% alcohol).

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