

Supplementary Material for BISTLINE-EAST, ALLISON AND MARK S. HODDLE – *Chartocerus* sp. (Hymenoptera: Signiphoridae) and *Pachyneuron crassiculme* (Hymenoptera: Pteromalidae) are Obligate Hyperparasitoids of *Diaphorencyrtus aligarhensis* (Hymenoptera: Encyrtidae) and Possibly *Tamarixia radiata* (Hymenoptera: Eulophidae). Florida Entomologist 97(2) (June, 2014) at <http://purl.fcla.edu/fcla/entomologist/browse>

Corresponding author: Dr. Mark Hoddle, Department of Entomology, University of California, Riverside, CA 92521; Phone: 951-827-4714; E-mail: mark.hoddle@ucr.edu

SUMMARY

Two species of suspected hyperparasitoids, *Chartocerus* sp. and *Pachyneuron crassiculme*, emerged from parasitized *Diaphorina citri* nymphs collected in Punjab Pakistan over 15-22 Apr 2013. Exposure tests conducted in quarantine on *D. citri* nymphs parasitized by *Tamarixia radiata* and *Diaphorencyrtus aligarhensis*, as well as unparasitized *D. citri* nymphs, confirmed that *Chartocerus* sp. and *P. crassiculme* are hyperparasitoids. Both *Chartocerus* sp. and *P. crassiculme* successfully reproduced on *D. aligarhensis*, with one instance of *P. crassiculme* reproducing on *T. radiata*. There was no emergence from unparasitized *D. citri*.

Key Words: choice test, no-choice test, quarantine

RESUMEN

Dos especies de hiperparasitoides sospechosos, *Chartocerus* sp. y *Pachyneuron crassiculme*, emergieron de ninfas parasitadas de *Diaphorina citri* recolectadas en Punjab Pakistán del 15 al 22 de abril del 2013. Las pruebas de la exposición realizada en cuarentena sobre ninfas de *D. citri* parasitadas por *Tamarixia radiata* y *Diaphorencyrtus aligarhensis*, así como ninfas de *D. citri* no parasitadas confirmaron que *Chartocerus* sp. y *P. crassiculme* son hiperparasitoides. Tanto *Chartocerus* sp. y *P. crassiculme* se reprodujeron con éxito sobre *D. aligarhensis*, con un caso de *P. crassiculme* reproducido sobre *T. radiata*. No hubo emergencia de parasitos de las ninfas de *D. citri* no parasitadas.

Palabras Clave: prueba de opción, prueba de elección, cuarentena

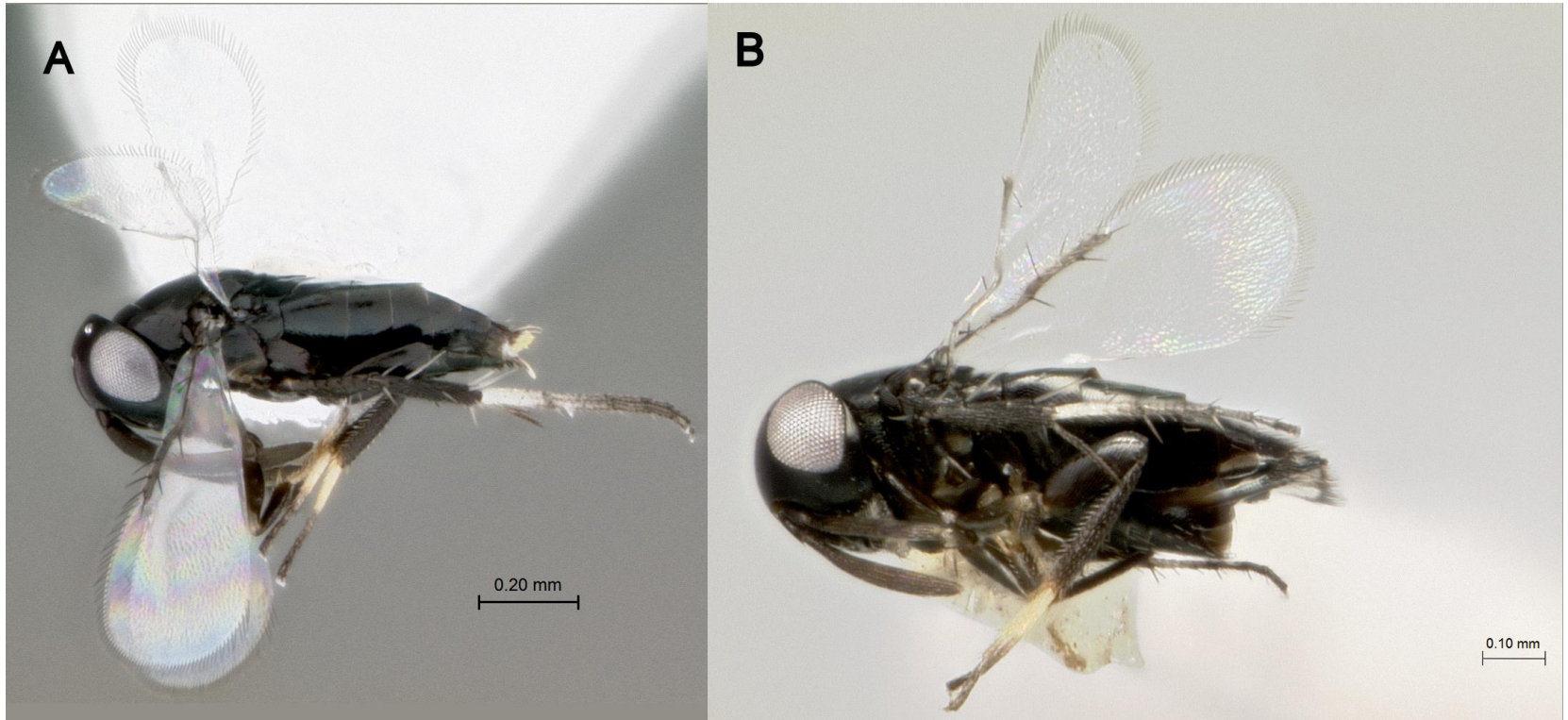


Fig. 1. *Chartocerus* sp. male (A) and female (B).

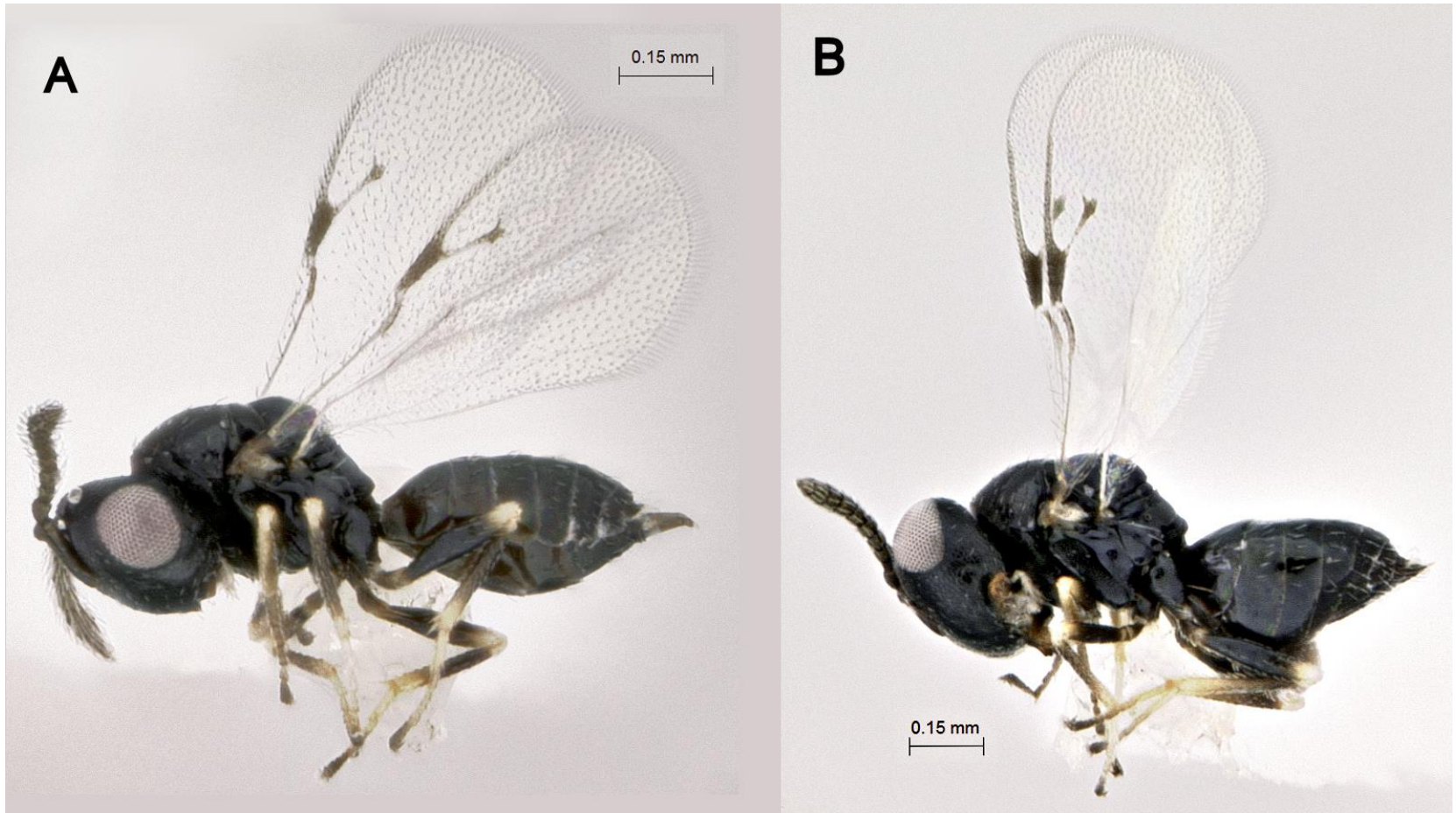


Fig. 2. *Pachyneuron crassiculme* (A) and female (B).