

Supplementary Material for TORMOS, J., J. D. ASÍS, D. CIBRIÁN-TOVAR, V. D. CIBRIÁN-LLANDERAL, U. M. BARRERA, G. MELIKA AND J. PUJADE-VILLAR—**Description of the Mature Larva of *Synergus filicornis* (Hymenoptera: Cynipidae: Synergini), with Notes on the Immature Larvae.** Florida Entomologist 97(2) (June, 2014) at <http://purl.fcla.edu/fcla/entomologist/browse> .

Corresponding author: Dr. J. Tormos
Unidad de Zoología, Facultad de Biología,
Universidad de Salamanca
37071-Salamanca, (Spain)
Phone: 34 923 294463, Fax: 34 923294515
E-mail: tormos@usal.es

ABSTRACT

The final instar larva of *Synergus filicornis* (Cameron) (Hymenoptera: Cynipidae: Synergini) is described and illustrated. Morphological structures of a diagnostic value are discussed. The most remarkable character states shown by the mature larva of this species lie in the integument, which unlike the rest of described cynipoid mature larvae, presents tegumental differentiations. Additionally the antennal orbits, unlike those of other described *Synergini* mature larvae, did not present one seta on each antennal orbit. The immature larvae can be differentiated from the mature larva by the following characters: a) number and location of sensorial tegumental differentiations on the head, b) number of sensilla on the maxillary palpi, and c) morphology of the mandibles. The determination of the mandibles size, in this species, permits the estimation of the larval stages number.

Key Words: Cynipoidea, larval phase, morphology, phylogeny

RESUMEN

Se describe la larva madura de *Synergus filicornis* (Cameron) (Hymenoptera: Cynipidae: Synergini). El carácter diagnóstico básico más relevante, mostrado por este último estado larvario, radica en que el tegumento, a diferencia del resto de larvas maduras descritas de Cynipoidea, presenta diferenciaciones. Adicionalmente, las órbitas antenales, a diferencia de otras larvas maduras descritas de Synergini, no presentan una seta en cada órbita antenal. Las larvas inmaduras se diferencian de las larvas maduras en los siguientes estados de carácter: a) número y situación de las diferenciaciones tegumentarias sensoriales de la cabeza, b) número de las sensilas de los palpos maxilares y c) morfología de las mandíbulas. El tamaño de las mandíbulas permite, en esta especie de inquilino, estimar el número de estados larvarios.

Palabras Clave: Cynipoidea, fase larvaria, morfología, filogenia

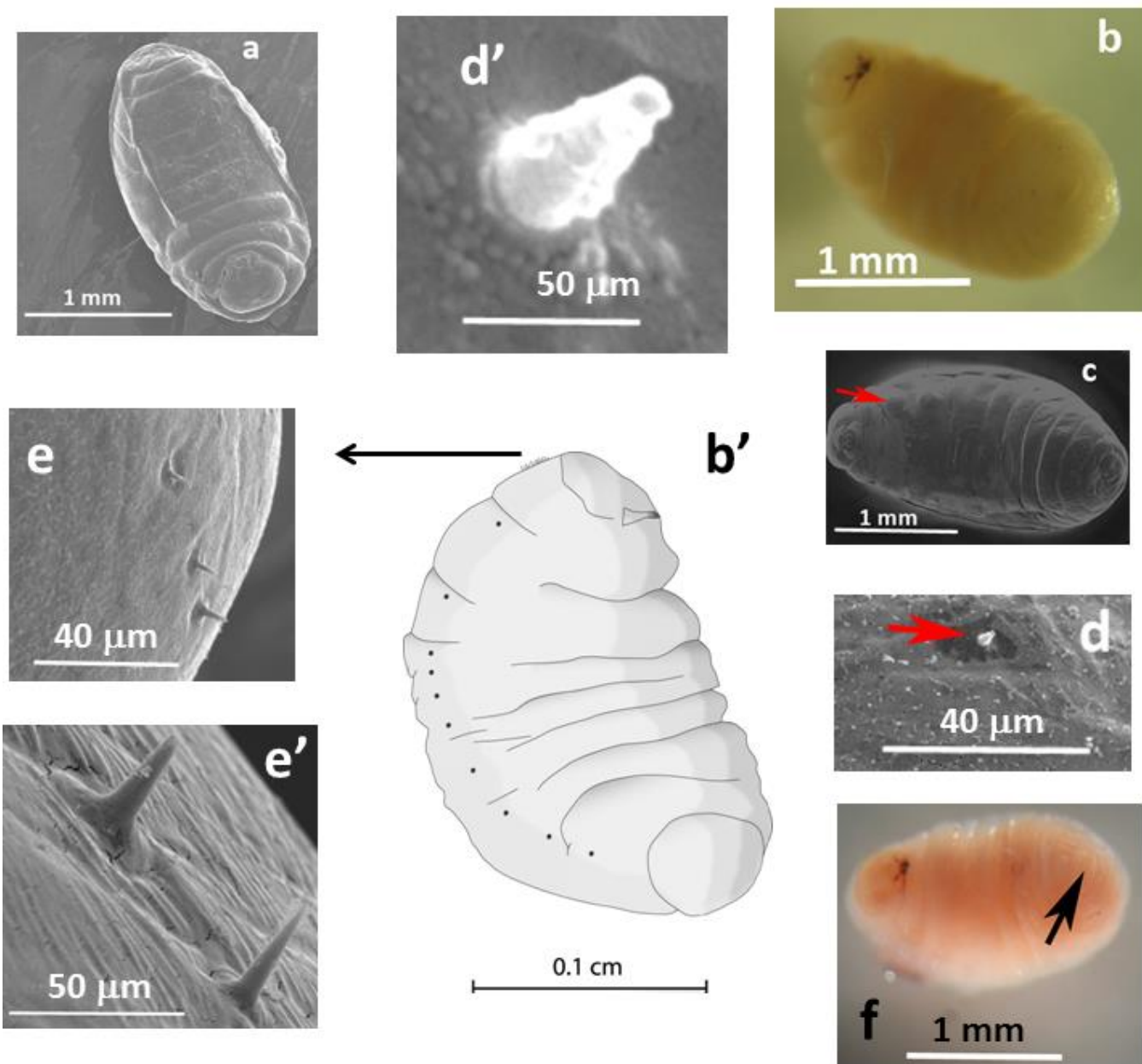


Fig. 1. *Synergus filicornis*: mature larva: 1. General aspect showing the hymenopteriform morphology, with a detail of the ventrally curved body [1a (under SEM), the body is broadest around the middle and tapers gradually to the end], segmentation (1b') and colour (1b), pleural lobes [1c (under SEM), arrow], tegumental differentiations [1d (under SEM), 1d' (under SEM) (detail), 1e (under SEM) (on dorsum of prothorax), 1e' (under SEM) (on dorsum of prothorax, detail), and anal segment (1f, arrow)].

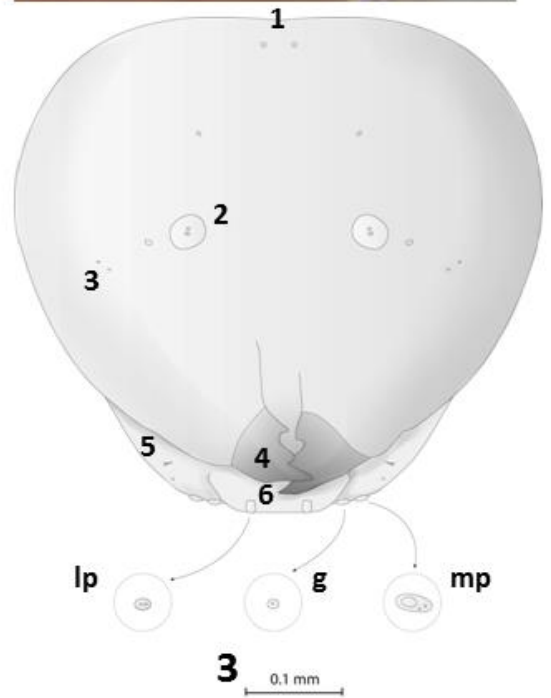
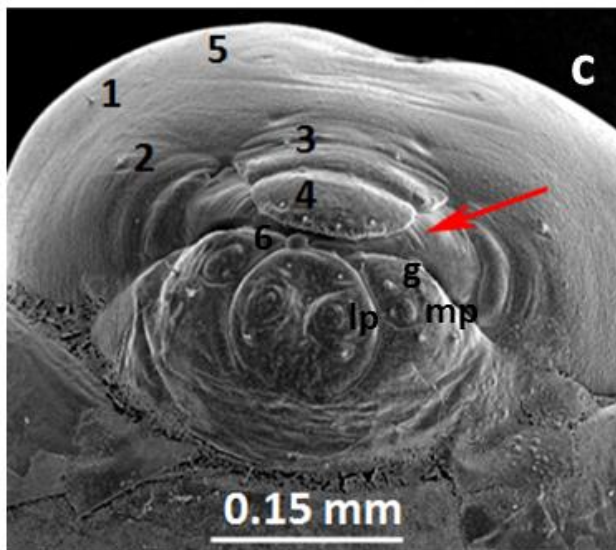
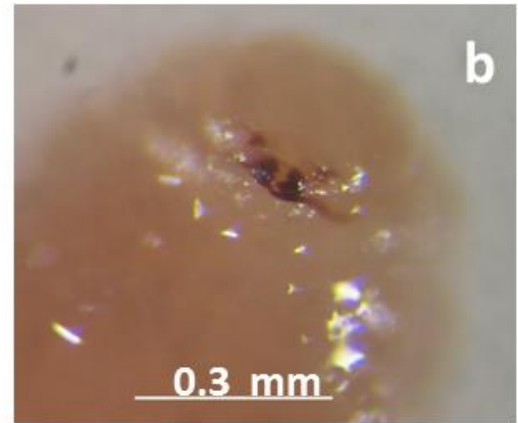
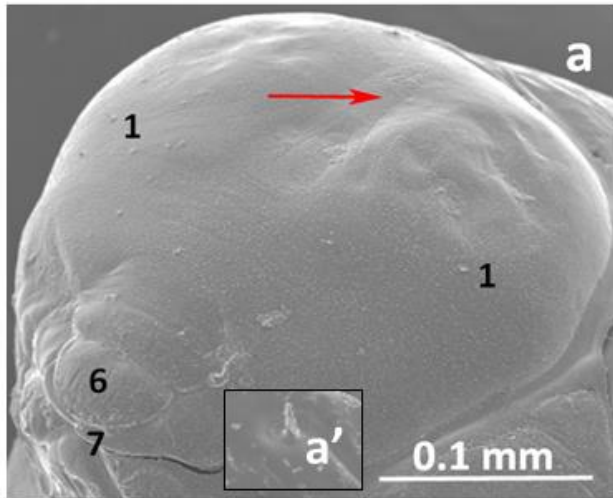


Fig. 3. *Synergus filicornis*: mature larva: Frontal view of the head with the mouthparts with detail of the vertex slightly incised [3 (1), 3a (under SEM), see arrow], antennal orbits [3 (2), 3c (under SEM): 5], sensorial structures: setae [3a, c (under SEM): 1, 3 (3), 3c (under SEM): 2,3,4; 3a' showed a detail of a seta of the labrum], labrum [3a (under SEM): 6], apex of the mandible [3 (4), 3a (under SEM): 7, 3b] and striation on its base [3a (under SEM), see arrow], maxillae [3 (5), 3c (under SEM) showed galea (g), maxillary palpi (mp), setae on external part (ssp) and apex of maxilla (6)], and labium [3 (6), 3c (under SEM) showed labial palpi; 3c show setae behind palpi (sbp)].

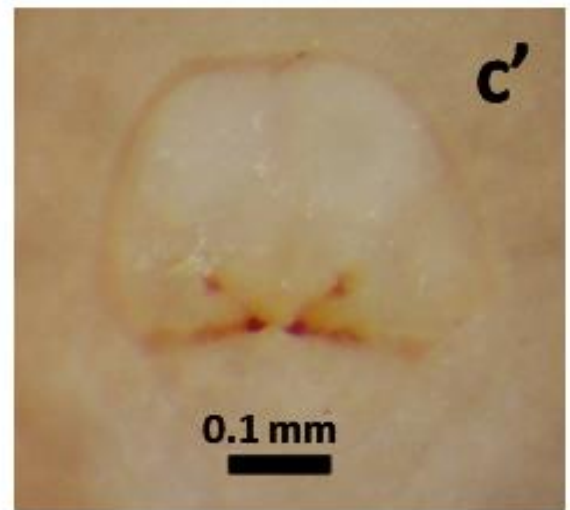
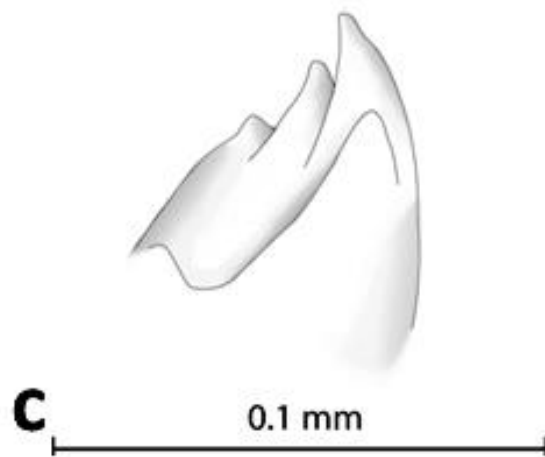
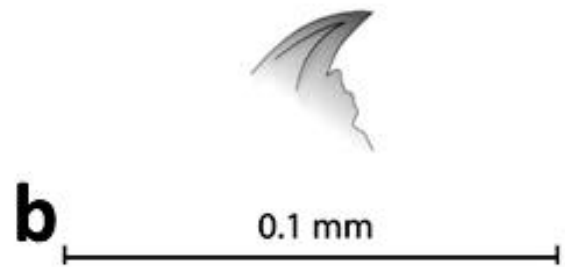
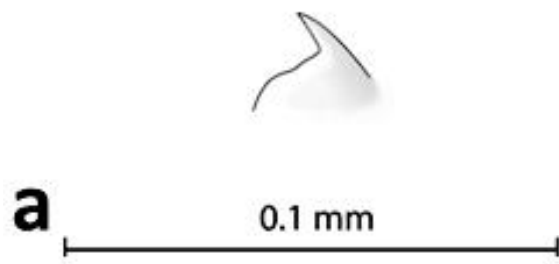


Fig. 5. *Synergus filicornis*: Mandibles with different morphology present in the meconium (a-c). Head of immature larva with detail of mandibles (c').