

Supplementary Material for EL-DESOUKY AMMAR AND DAVID G. HALL–Retracted Stylets in Nymphs of the Asian Citrus Psyllid are Held Externally against the Clypeus by a Special Paired Organ Not Found in the Adults. Florida Entomologist 96(1) (March 2013) at <http://purl.fcla.edu/fcla/entomologist/browse>

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SUMMARY

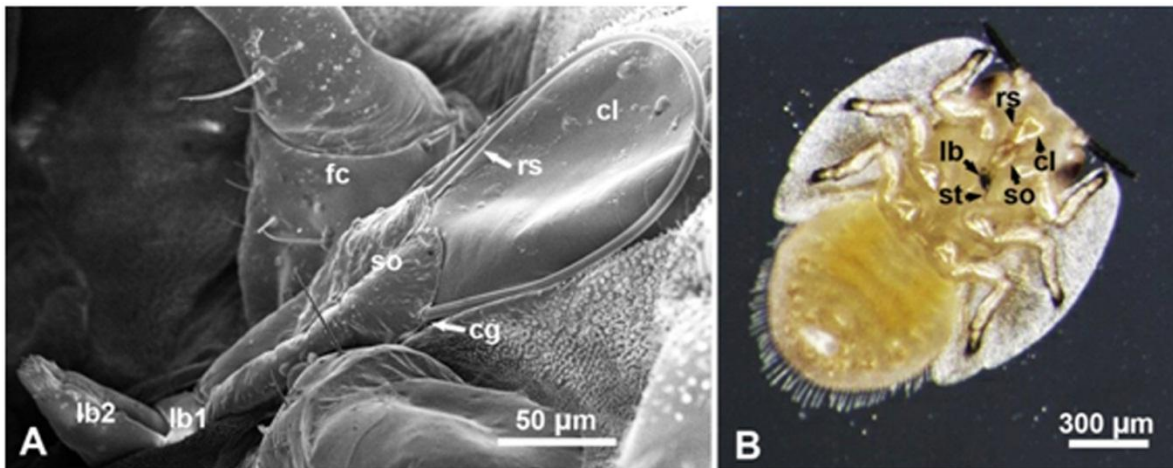
Differences in ultrastructure of the mouthparts in nymphs and adults of the Asian citrus psyllid *Diaphorina citri* (Hemiptera: Psyllidae), vector of the bacterium associated with citrus huanglongbing disease, were studied using scanning electron microscopy. The number of sensilla on the labial tip in nymphs was greater than that in adults. Furthermore, during the resting (non-feeding) periods, the retracted/looped stylets in the adults are hidden inside a bag called the crumena, whereas the fully or partially retracted stylets in nymphs are externally visible between the clypeus and 2 large projections, not found in the adults, at the base of the labium. These projections, that we called ‘stylet-holding organ’, were found also in nymphs of the melaleuca psyllid, *Boreioglycaspis melaleuca*, retracted/looped stylets,

Key Words: *Boreioglycaspis melaleuca*, stylet-holding organ, looped stylets

RESUMEN

Se utilizó el método de ecografía microscópica electrónica con el fin de determinar la ultraestructura del aparato bucal de las ninfas y adultos del psílido Asiático de los cítricos *Diaphorina citri* (Hemiptera: Psyllidae), el cual es el vector de la bacteria asociada con la enfermedad de ‘huanglongbing’. El número de sensilla en la punta del labio en las ninfas fué mayor que el encontrado en los adultos. Mas aún, durante períodos de descanso (sin alimentarse) del insecto, los estiletes del adulto estan escondidos/encorvados en una bolsa llamada crumena, mientras que los estiletes de las ninfas estan completamente o medio escondidos/encorvados y pueden ser vistos externamente entre el clypeo y dos proyecciones grandes. Estas proyecciones no se encuentran en la base del labio de los adultos. Estas proyecciones que nosotros llamamos ‘organo de soporte del estilete’, fueron encontradas también en los estiletes escondidos/encorvados de las ninfas del psílido de la melaleuca, *Boreioglycaspis melaleuca*.

Palabras Clave: *Boreioglycaspis melaleuca*,organo de soporte del estilete, estiletes encorvados



Suppl. Fig. 3. A. SEM (ventro-lateral view) of the head of *Diaphorina citri* showing the flat aspect of the stylet-holding organ (so). B. A micrograph taken from a video of a feeding 5th instar *D. citri* nymph, showing the extended tip of the stylets (st) and the partially retracted/looped part of the stylets (rs): cg, clypeal groove, cl, clypeus; lb, labium; lb1 & lb2, labial segments 1 & 2; rs, retracted/looped stylets; so, stylet-holding organ. NOTE: A color image of a feeding 5th instar nymph.

Supplementary video 1. Asian citrus psyllid nymph (5th instar) feeding through a transparent membrane. Note the moving, brownish, partially extended stylets and the retracted/looped part of the stylets held between the stylet-holding organ and the clypeus (these parts are labeled in Suppl. Fig. 3B).

Supplementary video 1 can be accessed at
<http://purl.fcla.edu/fcla/entomologist/browse>