台灣昆蟲 26: 391-398 (2006)
Formosan Entomol. 26: 391-398 (2006)

Dialeuropora photiniana (Young) comb. nov. and Redescription of *Dialeurolonga malleswaramensis* Sundararaj (Hemiptera: Aleyrodidae)

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ABSTRACT

A new combination, *Dialeuropora photiniana* (Young), is proposed for *Aleurodicus photiniana* Young from China. An Indian species, *Dialeurolonga malleswaramensis* Sundararaj, is redescribed in detail with figures of the puparium, and the adult morphology for this species is provided for the first time.

Key words: Aleyrodidae, new combination, redescription, China, India

Introduction

The whitefly species, *Aleurodicus photiniana,* was described by Young (1997) from China (Shanghai). It remained in the same genus until we could examine the material of this species donated by Mr. Liangen Chen from the Shanghai Botanical Garden, China. Our observations confirmed that this species does not fit into the genus *Aleurodicus* Douglas of the subfamily Aleurodicinae Quaintance and Baker and belongs to the genus *Dialeuropora* Quaintance and Baker of the subfamily Aleyrodinae Westwood. Possibly, Young (1997) placed this species in the genus *Aleurodicus* due to the presence of dorsal simple pores and excluded lingula. The genus *Aleurodicus* possesses subdorsal compound pores often with either a central process, an agglomerate, or a ring-like pore, legs with a claw, and lingula usually with four setae. The genus *Dialeuropora* is recognized by the presence of submarginal subcircular pores, thoracic tracheal combs, and submarginal setae. This species exhibits none of the characters of the genus *Aleurodicus* and agrees with the generic description of *Dialeuropora*. Hence, a new combination, *Dialeuropora photiniana* (Young), is proposed for *Aleurodicus photiniana* Young. The line drawing for the puparium of this species is given for reference.

Further, the whitefly species, *Dialeurolonga malleswaramensis*, was described by Sundararaj (2001) from *Polyalthia longifolia* (India). We collected some puparia and adults of this species from the same locality and host plant from

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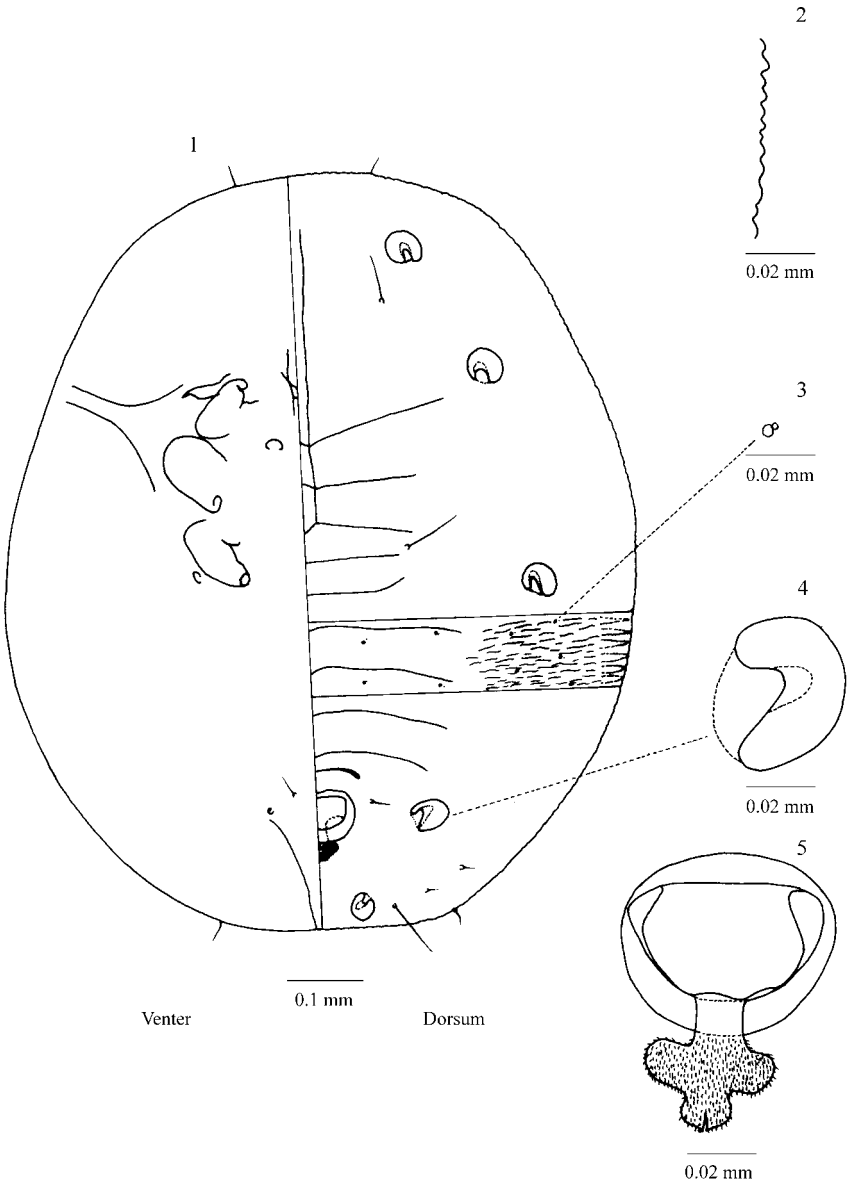
India. Our observations revealed the need for redescription of this species as the original description was found to be inadequate in terms of dorsal setae and ventral characters. A detailed morphological description for pupa is given, and for the first time, the adult male and female of this species are described with figures.

***Dialeuropora photiniana* (Young) comb. nov.** (Figs. 1-5)

Aleurodicus photiniana Young, 1997: J. Shanghai Agric. College 15(2): 137-143.
Dialeuropora photiniana (Young): Dubey and Ko **comb. nov.**
Material examined: CHINA: SHANGHAI: Shanghai Botanical Garden, 5 puparia on slide, ex *Photinia serrulata*, no date, Liangen Chen. SHANGHAI: Shanghai Botanical Garden, 22 puparia on 4 slides (NTU COLL).
Host plant: *Photinia serrulata* (Rosaceae) (Chen, 1997).
Distribution: China: Shanghai Botanical Garden (Chen, 1997).
Remarks: This species agrees with the generic characters of *Dialeuropora* Quaintance and Baker and differs from the generic characters of the genus *Aleurodicus* Douglas into which it was previously placed. Hence, this species is assigned to the genus *Dialeuropora*. The description furnished by Chen (1997) is adequate.
Economic importance and biology: This species is known to have seriously damaged only *Photinia serrulata*, possibly causing leaf chlorosis and defoliation. It completes 3 generations per year in Sanghai; for the biological characters of its stages see Chen (1997).

***Dialeurolonga malleswaramensis* Sundararaj** (Figs. 6-19)

Dialeurolonga malleswaramensis Sundararaj, 2001: Entomon 26: 191-194.
Puparium: White, with secretion of a little wax; oval, broadest at meso-metathoracic region and constricted towards caudal end; 1.54-1.76 mm long, 1.26-1.46 mm wide; found singly on the undersurface of leaves. Margin smoothly crenulate; 11-15 crenulations in 0.1 mm; thoracic and caudal tracheal pores distinct with inner teeth or fimbriae (Fig. 6); anterior and posterior marginal setae respectively 18 and 28 μm long.
Dorsum: Dorsum distinctly tassellated. Longitudinal molting suture reaching margin and transverse molting suture reaching outer submedian area. A pair of minute tubercles on submedian area of pro-, meso-, and metathorax present, sometimes absent. Submedian pockets on pro-mesothoracic segment suture discernible. Submedian depressions present on all cephalothoracic and abdominal segments. Submarginal lines distinct, unbranched, reaching subdorsum. Median length of abdominal segment VII shorter than VIII (Fig. 7).
Chaetotaxy: Cephalic setae 22 μm long, 1st abdominal setae 21 μm long, 8th abdominal setae 17 μm long and caudal setae not discernible. Subdorsum with a row of 12 pairs of capitate setae, arranged regularly, 8.5-10 μm long (Fig. 8). Vasiform orifice suboval, rather elongate, notched at hind end, 74-86 μm long, 66-80 μm wide; operculum subcircular, 50-59 μm long, 50-60 μm wide. Lingula tip slightly exposed, spinose, and included (Fig. 9). Thoracic tracheal furrows absent while caudal tracheal furrow indicated. Pores and porettes scattered throughout dorsum.
Venter: A pair of ventral abdominal setae 27 μm long, 65-78 μm apart. Thoracic and caudal tracheal folds with prominent stipples. Antennae reaching base of prothoracic legs. A pair of minute setae present at base of pro-, meso-, and metathoracic legs, each 8.5 μm long, a pair of minute setae present at base of rostrum, 9 μm long.
Material examined: INDIA: KARNATAKA: Bangalore, 11 puparia, India: Karnataka: Bangalore, ex *Polyalthia longifolia*, 20 Jan.

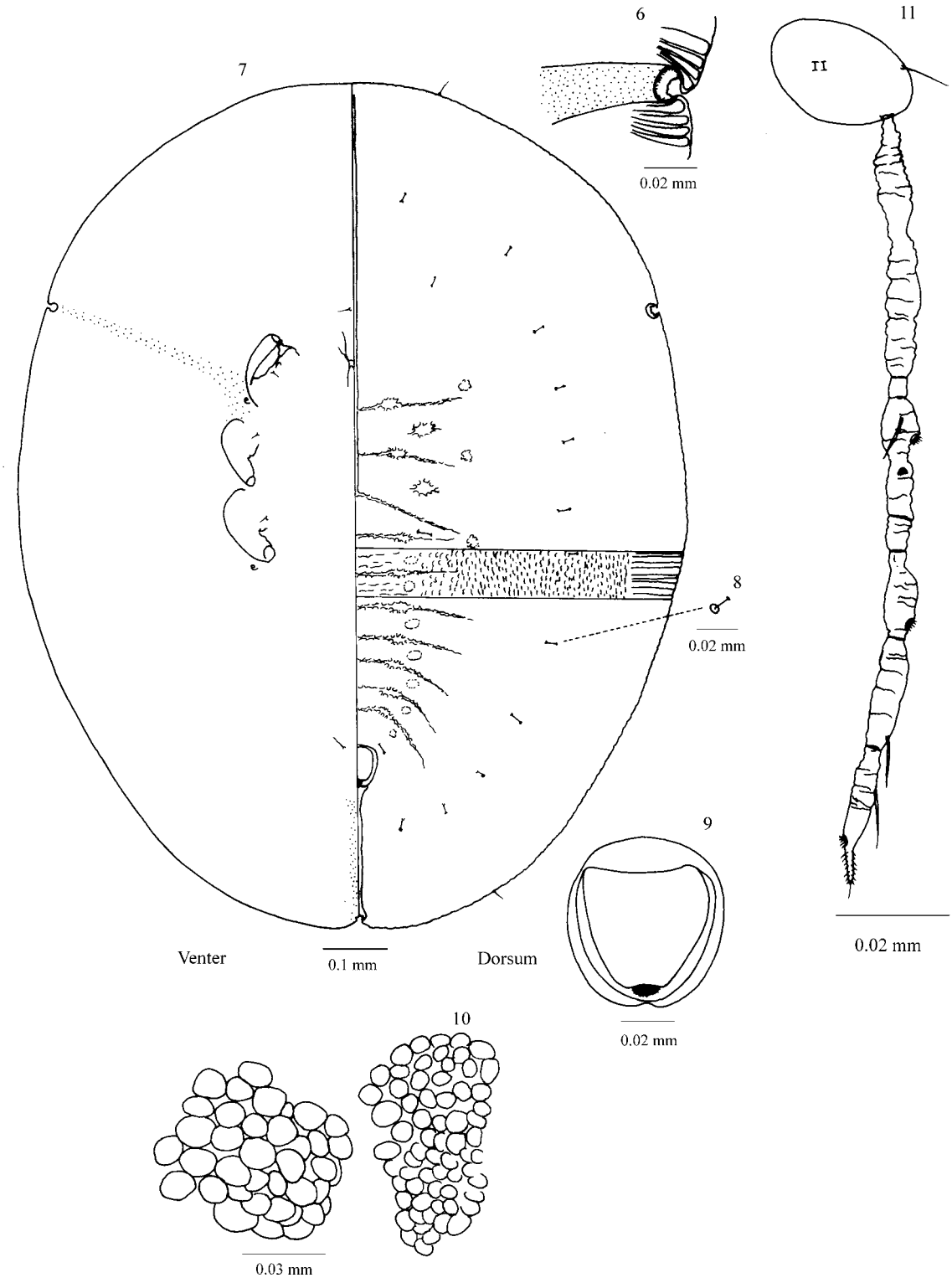


Figs. 1-5. *Dialeuropora photiniana* (Young): 1. puparium; 2. margin; 3. dorsal pore; 4. submarginal pore; 5. vasiform orifice.

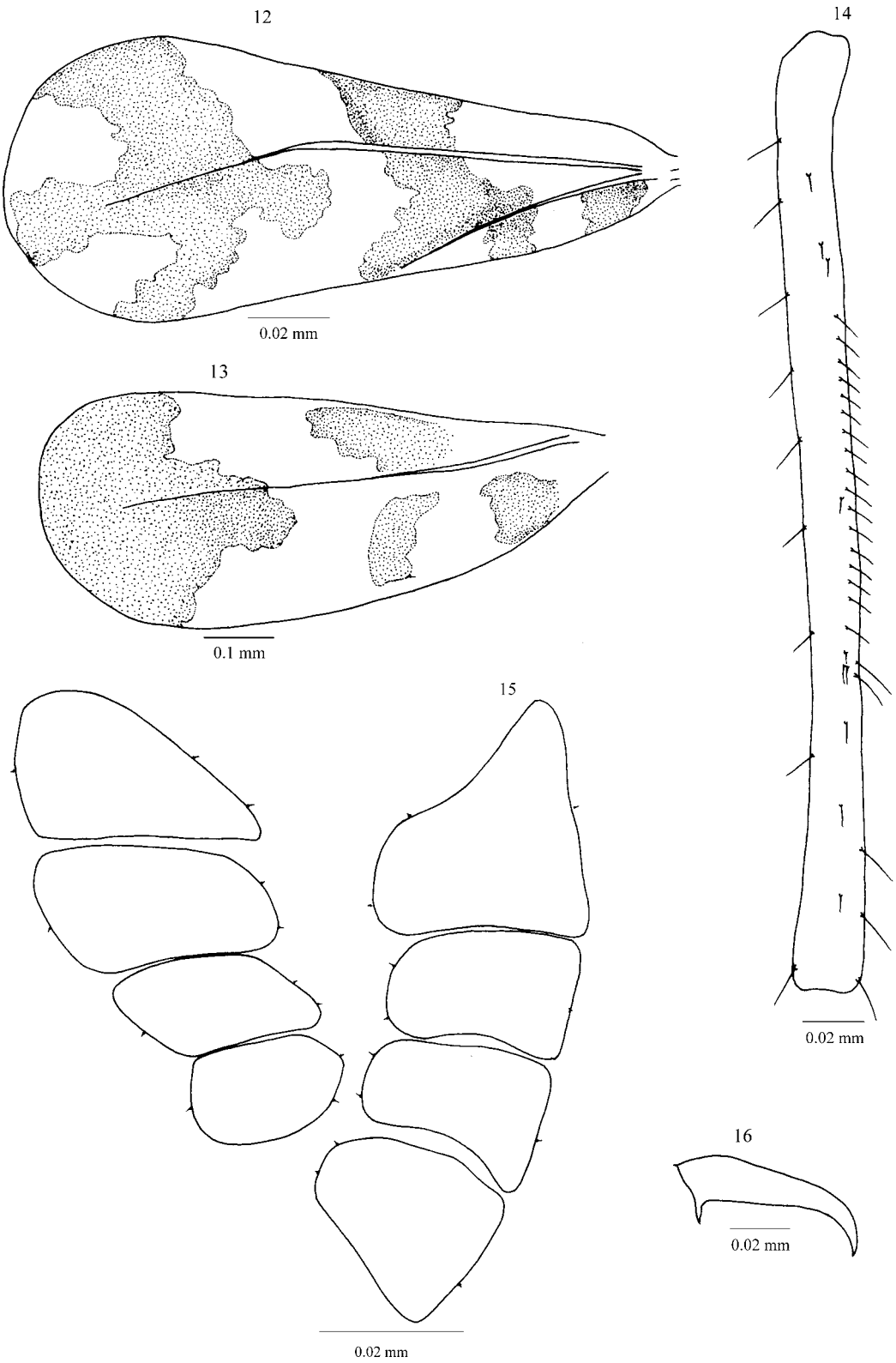
2001, A. K. Dubey (NTU COLL).
Host plant: *Polyalthia longifolia* (Annnonaceae).
Distribution: India: Karnataka.

Adult morphology

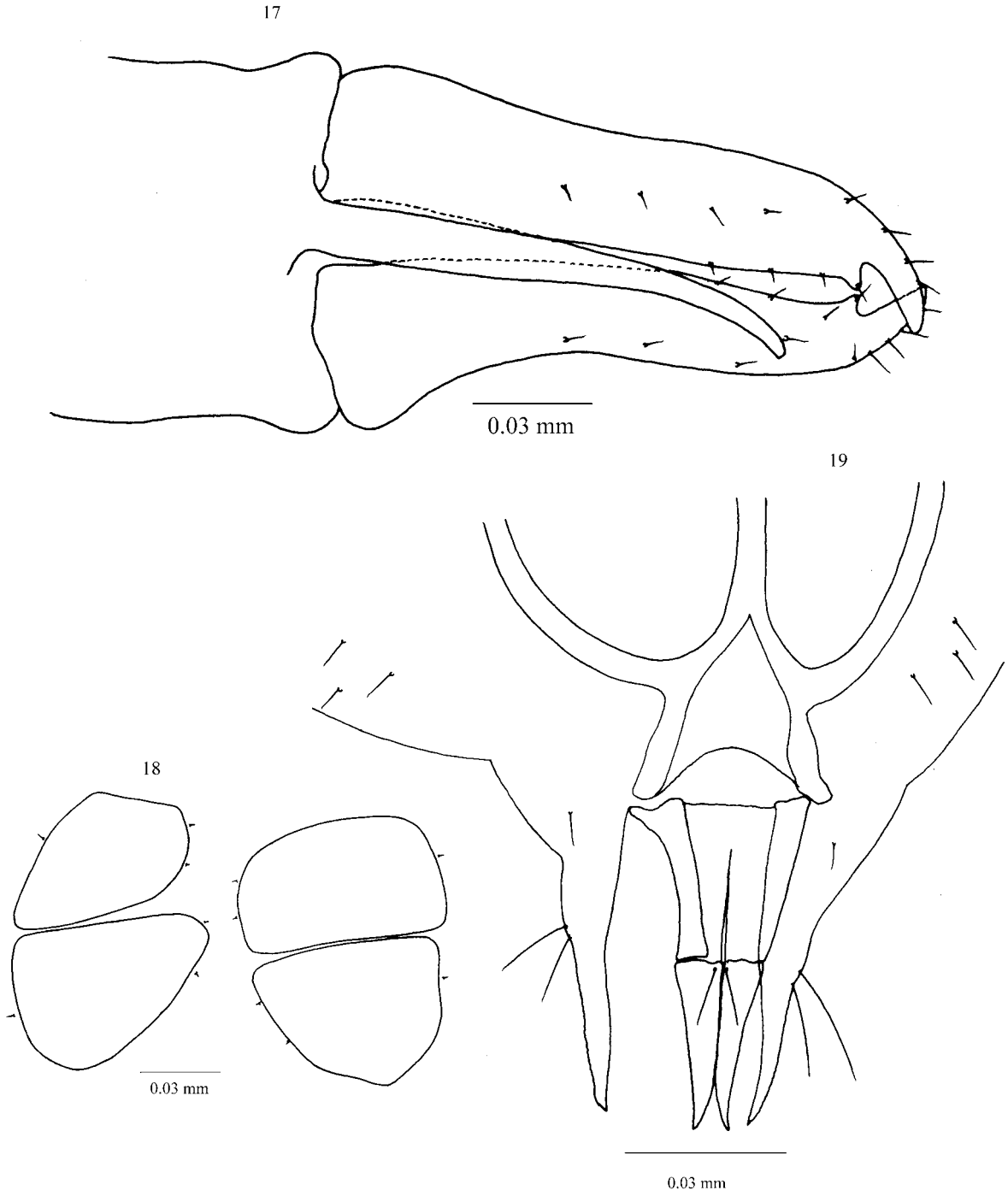
Adult male: Length from vertex to claspers, 0.975 mm. Upper and lower compound eyes not joined (Fig. 10). Antenna: 7-segmented, segment I 2.75 μm long, segment II 6.75 μm long, segment III longest and slightly constricted in middle, subcylindrical, 11.5 μm long, armed with 2 primary sensoria and 1 sensorial cone, sensoria located apically and subapically (Fig. 11), segment IV shortest, subcylindrical,



Figs. 6-11. *Dialeurolonga malleswaramensis* Sundararaj: 6. puparium; 7. thoracic tracheal pore; 8. subdorsal seta; 9. vasiform orifice; 10. compound eye; 11. antenna.



Figs. 12-16. 12. forewing; 13. hindwing; 14. hindtibia; 15. male abdominal plates; 16. aedeagus.



Figs. 17-19. 17. male genitalia; 18. female abdominal plates; 19. female genitalia.

2.25 μm long, segment V subcylindrical, 3.5 μm long with a primary sensoria, segment VI 2.5 μm long, segment VII subcylindrical, 2.25 μm long with a sensorial cone subapically, a primary sensorium, a seta at the tip, and a series of microsetae. Wings: Forewing 107.5 μm long, 45 μm wide, widest at apical 1/3, mottled in a specific pattern, wing venation reduced to radius and cubitus, not reaching margin, and radius slightly curved downward in middle (Fig. 12); hindwing 8.75 μm long, 4.25 μm wide, widest at apical 1/3, mottled (Fig. 13). Legs: Mesotibia 29.5 μm long, with rows of spines, distal tarsus 8 μm long; hindtibia 33 μm long (Fig. 14), proximal tarsus 13.5 μm long, distal tarsus 8.5 μm long, each distal tarsus ending with 2 claws and a paronychium, 4 setae each on proximal and distal tarsus (3 in a row on submedian area and apically near claw); metatibial comb usually with 22 spines, metatibia with a brush on middle area comprising 2 setae and a seta close to it. Four abdominal plates, each with a minute seta on outer margin and 2 on inner margin (Fig. 15). Anterior and posterior plates usually reduced in size.

Genitalia: Aedeagus 12.75 μm long, 2.5 μm wide at base, shorter than clasper, thick at base, gradually tapering towards apex, apical end pointed and curved (Fig. 16). Clasper 4 μm at base, 15.75 μm long, setae on mid-region (4 setae dorsally, 4 setae subapically, and 3 setae on inner subapical margin); subapical tooth present with a pair of setae (Fig. 17).

Adult female: Most characters similar to those of male. Vertex to tip of ovipositor 1.675 mm long. Eyes: Upper and lower compound eyes not joined as in males. Antenna: Seven-segmented, segment I 2.75 μm long, segment II 7.5 μm long, segment III 13.75 μm long, segment IV 4.5 μm long, segment V 2.75 μm long, segment VI 4.75 μm long, segment VII 5 μm long, 4 primary sensoria with 2 on segment III subapically and 1 each on segments V and VII subapically, apical end of segment VII with many minute setae and 1 long seta. Wings: Forewing 145 μm long, 60 μm wide, widest at apical 1/3, mottled in a specific pattern (Fig. 12); hindwing 137.5 μm long, 50 μm wide, widest at apical 1/3, mottled, radius not reaching margin (Fig. 13). Legs: Mesotibia 50 μm long, proximal tarsus 11 μm long, distal tarsus 9 μm long; hindtibia 50 μm long, proximal tarsus 12 μm long, distal tarsus 10 μm long; brush as in male; a seta at end of each claw sometimes appearing like a claw. Two abdominal plates, each with 1 microsetae on outer margin and 2 on inner margin (Fig. 18).

Genitalia: Two pairs of setae on gonapophysis on outer subapical margin, 1 pair centrally and 3 pairs on basal region. A pair of setae on median area of unpaired gonapophysis (Fig. 19), unpaired gonapophysis diverted apically.

Acknowledgments

We thank C. M. Zhou, Shanghai Institute of Entomology, Academia Sinica, Shanghai, China (SIE) for her assistance in specimen preparation. We extend our cordial thanks to Prof. Zhi-Yi Luo (SIE) and Liangen Chen (Shanghai Botanical Garden, Shanghai, China) for providing the material for study.

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Received: September 16, 2006
Accepted: October 31, 2006

Dialeuropora photiniana (Young) 新組合以及 *Dialeurolonga malleswaramensis* Sundararaj 之重新描述 (半翅目：粉蝨科)

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摘　要

本文記錄中國產粉蝨科昆蟲 *Dialeuropora photiniana* (Young) 爲 *Aleurodicus photiniana* Young 之新組合；重新描述印度產 *Dialeurolonga malleswaramensis* Sundararaj。文中並附幼蟲期以及成蟲之圖繪。

關鍵詞：粉蝨科、新組合、重新描述、中國、印度。

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