

### THREE NEW PSYLLIDS FROM COSTA RICA (Psyllidae: Homoptera)

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The three previously undescribed species of psyllids treated here are from a small group of Central American specimens borrowed from the United States National Museum some time ago. All three species belong to the subfamily Psyllinae.

#### *Psylla bipartita* Tuthill, new species (Figs. 1, 1a, 2, 3)

Length to tip of folded wings, 2.5 mm.

*Color:* Uniformly yellowish green. Antennae dark. Membrane of forewings yellow.

*Structure:* Head small, narrower than thorax, strongly deflexed, nearly vertical. Vertex concave posteriorly, bulging anteriorly over median ocellus. Genal processes 0.66 as long as vertex, blunt, slightly separated, with numerous large setae. Antennae 2.5 to 3 times as long as width of head. Thorax strongly arched. Pronotum nearly vertical, long. Forewings 2.5 times as long as wide, broadly rounded apically; prominent setae on costa, Rs slightly sinuate, pterostigma short, broad. Hind tibiae with small basal spur.

Male proctiger flask shaped, flexed caudad in apical third. Forceps bipartite, lateral lobe spatulate, in lateral view sharply bent cephalad near base, parallel-sided to rounded apex, inner lobes arising near base, slender, sharply incurved apically, sharp apically, longer than lateral lobes. Female genital segment 0.5 as long as rest of abdomen; dorsal valve sinuate to attenuate spinose apex; ventral valve shorter than dorsal, deep narrow notch at apex.

*Holotype*, male, no. 58220, United States National Museum, allotype, female, 7 male and 5 female paratypes collected at PASO ANCHO DE SAN SEBASTIAN, COSTA RICA, on *Inga laurina* Willd., December 1, 1935, by C. H. Ballou. Holotype, allotype and paratypes in United States National Museum, paratypes in author's collection.

This species is quite typical of the genus in general appearance, having somewhat the facies of *P. striata* Patch but is dis-

tinct from all previously described species known to the author in the peculiar male genitalia.

***Psylla multiplex* Tuthill, new species**

(Figs. 4, 5)

Length to tip of folded wings, 3 mm.

*Color*: Unicolorous, yellow. Wings hyaline. Veins of forewings yellow.

*Structure*: Head short, narrower than thorax, strongly deflexed. Vertex broad, slightly emarginate on caudal margin, strongly bulging anteriorly, with numerous short heavy setae. Genal processes 0.5 as long as vertex, blunt, strongly divergent. (Antennae broken on unique specimen at hand). Eyes large, prominent. Thorax strongly arched. Pronotum strongly inclined, nearly vertical anteriorly, setate. Forewings 2.5 times as long as wide, broadly rounded apically, costa sparsely setate toward base, Rs slightly sinuate, pterostigma very small, marginal cells large. Hind tibiae with small basal spur.

Male proctiger straight, narrowed in apical third. Forceps short, covered with long slender setae, bilobed; outer lobe broad and flattened, in lateral view broad, cephalic margin straight, caudal margin rounded, apex black, sharply bent mesad, second black projection below apex; inner lobe very flat, broad, twisted mesad apically to sharp tip, caudal and apical margins black.

*Holotype*, male, no. 58221, United States National Museum, VILLA QUESADA, SAN CARLOS REGION, COSTA RICA, taken from *Crotalaria retusa* L., March 26, 1934, by C. H. Ballou.

This species is similar to *P. bipartita* but is somewhat larger, the genal processes are markedly shorter and more divergent and the male genitalia are distinctive.

***Euphalerus certus* Tuthill, new species**

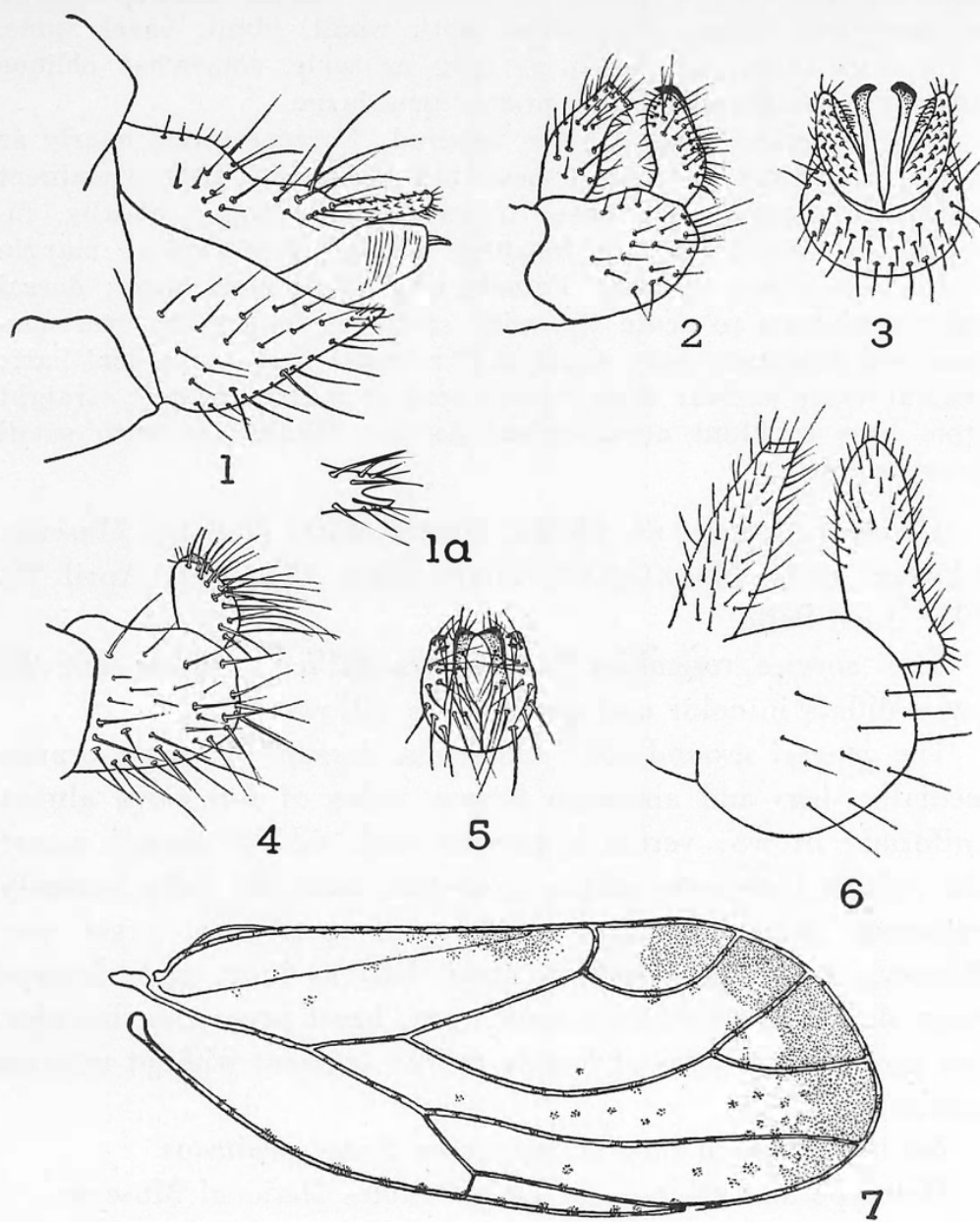
(Figs. 6, 7)

Length to tip of folded wings, 4 mm.

*Color*: Ground color yellow, profusely spotted with small brown dots. Forewings hyaline except maculations as figured.

*Structure*: Entire body finely rugose. Head much narrower than thorax, strongly deflexed. Vertex twice as wide as long, with deep transverse sulcus, overhanging large median ocellus anteriorly. Genal processes 0.5 as long as vertex, rounded, contiguous, somewhat depressed from plane of vertex, with numerous large setae. Antennae slender, slightly more than 2.5 times as long as width of head. Eyes large. Thorax large, strongly arched. Pronotum vertical medially, nearly horizontal at lateral margins.





## EXPLANATION OF FIGURES

- Fig. 1—*Psylla bipartita*, lateral view of female genitalia.  
 Fig. 1a—*Psylla bipartita*, ventral view of tip of ventral valve of female genital segment.  
 Fig. 2—*Psylla bipartita*, lateral view of male genitalia.  
 Fig. 3—*Psylla bipartita*, caudal view of male forceps.  
 Fig. 4—*Psylla multiplex*, lateral view of male genitalia.  
 Fig. 5—*Psylla multiplex*, caudal view of male forceps.  
 Fig. 7—*Euphalerus certus*, forewing.

Mesosternum very strongly developed, produced antero-laterally as prominent lobes. Metatibiae with small, blunt, basal spine. Forewings large, 2.5 times as long as wide, somewhat oblique apically, venation as figured, pterostigma large.

Male proctiger long, slender, tapered. Forceps large, nearly as long as proctiger; in lateral view stout, spatulate, with prominent caudal protrusion near base; in caudal view broad basally, incurved in apical half to touching apices, caudo-apical margin black, irregularly serrate. Female genital segment large; dorsal valve attenuate to acute tip, with scattered long setae over surface and numerous very short stiff retrorse setae on apical half; ventral valve shorter than dorsal, ventral margin almost straight from base to blunt apex, apical portion thickly set with small heavy spines.

*Holotype*, female, no. 58222, United States National Museum, allotype, male, MANZANILLO, COSTA RICA, Chaperno, April 29, 1933, Juan Bello.

This species resembles *Euphalerus gallicola* Ferris but the latter differs in color and structure as follows:

The general ground color cinereous, dorsum of thorax orange medially, legs and abdomen brown, veins of forewings almost uniformly brown; vertex impressed each side of medial suture but without transverse sulcus, pronotum quite flat, long, scarcely depressed anteriorly, spur at base of metatibiae larger and sharper, pterostigma smaller, about half as long, male forceps more slender, tapered to narrow apex, basal projection broader, less prominent, valves of female genital segment without retrorse spines and setae.

No indication of host accompanies these specimens.

Holotype and allotype in United States National Museum.

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### SOL FELTY LIGHT

Dr. Sol Felty Light, Professor of Zoology at the University of California, died at Clear Lake, California, June 21, 1947. He was 61 years old.

Dr. Light was a general zoologist with a broad knowledge of the comparative anatomy and ecology of all invertebrates. However, his greatest contributions to science were in the fields of taxonomy, biology and caste development of termites.

A full account of Dr. Light's entomological work will appear in an early issue of this journal.



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