

**PSEUDOPHACOPTERON CALILUNGAE, A NEW PSYLLOID  
(HEMIPTERA:PSYLLOIDEA:PHACOPTERONIDAE)  
INJURIOUS TO PILI NUT, CANARIUM OVATUM ENGL.**

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ABSTRACT

A new species of psylloid, *Pseudophacopteron calilungae* Navasero, injurious to pili nut, *Canarium ovatum* Engl., is described. It is the third species under the genus *Pseudophacopteron* to be reported from the Philippines. Observations, so far, indicate that this species infests only the male trees during the flowering season.

**Key words:** Phacopteronidae, Psylloidea, *Pseudophacopteron*, *Pseudophacopteron calilungae*

INTRODUCTION

The genus *Pseudophacopteron* Enderlein of the family Phacopteronidae has a mainly tropical distribution with representatives from South Africa (Capener, 1973), China (Yang and Li 1983), Taiwan (Yang, 1984), Guam, Southern Marianas, India, Sri Lanka, Burma, Thailand, Malaysia, Indonesia (Hodkinson, 1983, 1986) and the Philippines. Two species, *P. tuberculatum* (Crawford) (Crawford, 1915) and *P. floccosum* (Crawford), were previously recorded (Hodkinson, 1983) as occurring locally before the discovery of the new species herein described.

DESCRIPTION

*Pseudophacopteron calilungae* Navasero, n. sp. Figures 1 & 2

**Adult**

**Color.** Head yellow to light brown. Compound eyes and ocelli reddish. Antennal pedicel, tip of first, apical half of second, distal half of third to sixth and whole of seventh and eighth flagellomeres, dark brown; remainder of antennae yellow to light brown. Thoracic sternites reddish brown. Margins of veins except gap near bases of radius, medial branches and cubitus with dark brown bands. Dots and patches on fore and middle legs, patches on femora and whole of second tarsal segments of hind legs dark brown, remainder of legs yellow to light brown. Abdomen dark brown, sparsely and finely pubescent, finely rugulose; abdominal intersegmental membrane yellow to light brown. Hairs on head, thorax and fore wings whitish. Two apical spines on first segment of hind tarsus, thick and black.

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**Morphological details.** Head short, deflexed, including eyes broader than thorax; vertex twice as wide as long; median suture absent. Frons visible from in front. Genal processes moderately separated by frons, scarcely swollen, antero-lateral margins pointed and upturned (Fig. 1b). Compound eyes large, globuse, produced forward. Front ocellus larger than posterior ocelli which are remote from compound eyes. Antennae slender, about  $1\frac{1}{2}$  as long as width of head; scape and pedicel robust, squarish; first to sixth flagellomeres subequal in length, seventh and eighth combined about half as long as sixth; terminal setae very short; rhinaria present on apices of second to eighth flagellomeres (Fig. 1c).

Thorax longer than broad, well arched. Pronotum narrow, V-shaped. Fore wings twice as long as wide, shape and venation typical of the genus; veins sparsely setigerous; medial cell twice as large as cubital cell (Fig. 1a). Legs long and moderately robust; fore- and mid-femora shorter than tibiae; hind femur slightly constricted near its midlength, subequal in length with hind tibia; all tibiae finely setigerous, with apical comb setae; first segment of hind tarsus with two thick apical spines, proximal segment finely rugulose (Fig. 1g).

Female genitalia short (Fig. 1d), dorsal valve tapering, about one and one-half as long as ventral valve, beset with setae as figured; ventral valve with minute setae, slightly invaginated at mid-dorsal side.

Male genitalia short, small (Fig. 1e) protiger twice as long as broad and shorter than forceps, with minute and stiff setae; forceps, slender, sinuate on both sides, tapered apically, outer surface with three longitudinal rows of short setae (Fig. 1f); baso-dorsal margins of subgenital plate well arched than ventral margin; aedeagus two-segmented, basal segment thicker, about one and one-half as long as distal segment.

**Measurements.** Length of body: male, 2.35 mm; female, 2.55 mm; length of antenna: male, 1.15 mm; female, 1.90 mm; width of head: male, 0.75 mm; female, 0.80 mm; length of forewing: male, 1.20 mm; female, 1.63 mm; width of forewing: male, 0.80 mm; female, 0.95 mm.

### Fifth Instar Nymph

Body oval, dark brown, about one and one-fourth as long as wide, dorso-ventrally flattened; outer margins lined with pointed and truncate setisetae, inner margin with short simple setae. Head dorsally well sclerotized. Reddish brown eyes triangular from above and below. Antenna 7-segmented, tapering with two short terminal setae. Thorax well sclerotized, sclerite not separated into distinct segments. Fore wing pad twice as large as hind wing pad; humeral angle broadly rounded, extending beyond posterior margin of head but not reaching the most lateral side of the head. Hind wing pad narrowly transverse, overlapping fore wing pad by one-seventh of its area. Legs short, robust, beset with few thin setae. Anal ring bounded by circular pores, with two pairs of setae on anterior margin. Length of body 1.36 mm; width of body 1.09 mm.

### Material examined

Holotype male, 11 male and 10 female paratypes from *Canarium ovatum*, Pili Drive, College, Laguna, 16 September 1994. Additional material: 8 nymphs with the same data as holotype; 2 males, 2 females and 16 nymphs from *C. ovatum*, 15

August 1997, Central Experimental Station, UP Los Baños, College, Laguna. All types in the Entomological Museum, UPLB Museum of Natural History.

### Etymology

This species is named after Dr. Venus J. Calilung, a foremost Filipino aphidologist, who has been the academic adviser of the author from his undergraduate studies up to the present.

### Biological notes and remarks

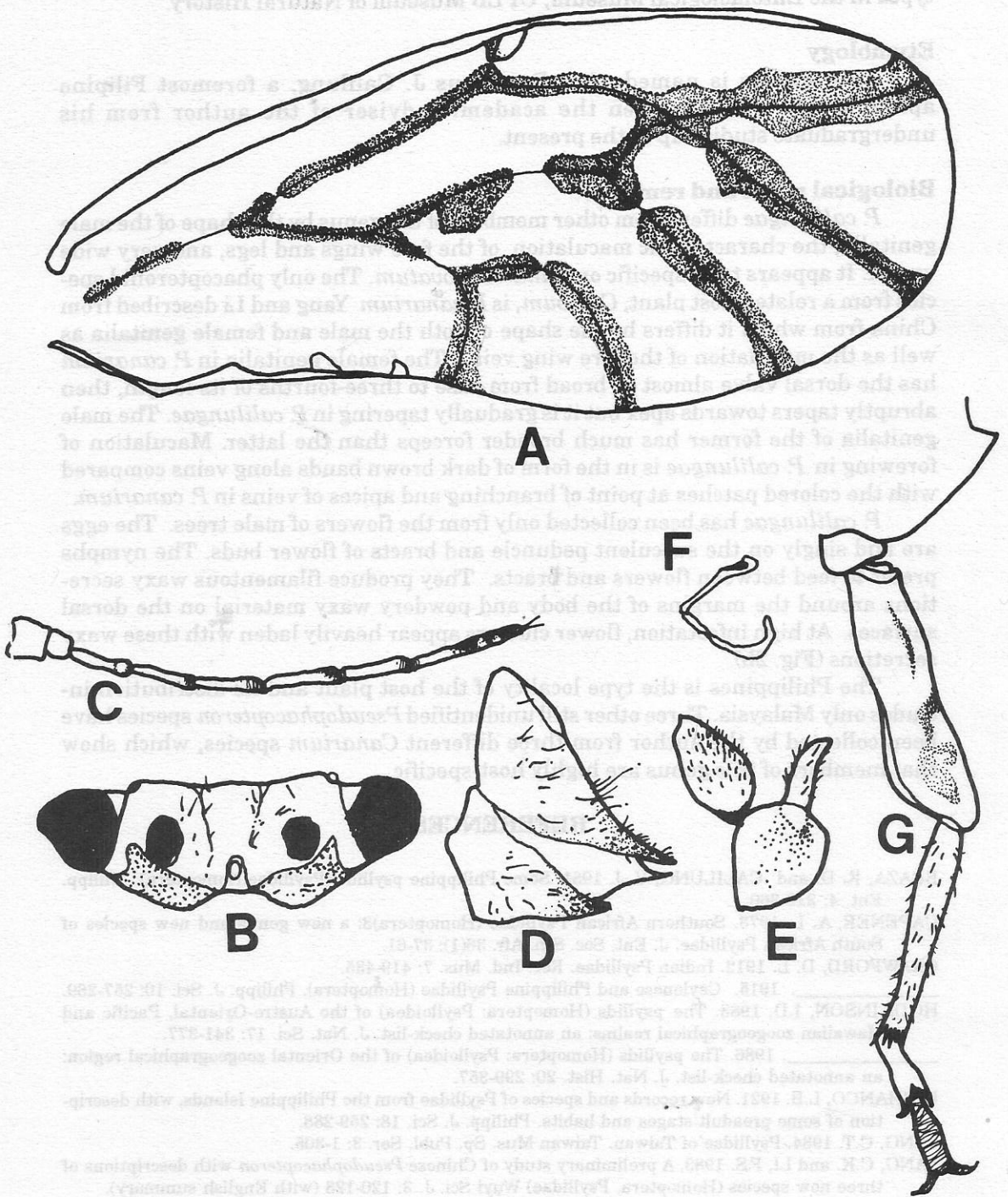
*P. calilungae* differs from other members of the genus by the shape of the male genitalia, the characteristic maculation of the fore wings and legs, and very wide vertex. It appears to be specific on *Canarium ovatum*. The only phacopteronid species from a related host plant, *C. album*, is *P. canarium* Yang and Li described from China from which it differs by the shape of both the male and female genitalia as well as the maculation of the fore wing veins. The female genitalia in *P. canarium* has the dorsal valve almost as broad from base to three-fourths of its length, then abruptly tapers towards apex but it is gradually tapering in *P. calilungae*. The male genitalia of the former has much broader forceps than the latter. Maculation of forewing in *P. calilungae* is in the form of dark brown bands along veins compared with the colored patches at point of branching and apices of veins in *P. canarium*.

*P. calilungae* has been collected only from the flowers of male trees. The eggs are laid singly on the succulent peduncle and bracts of flower buds. The nymphs prefer to feed between flowers and bracts. They produce filamentous waxy secretions around the margins of the body and powdery waxy material on the dorsal surfaces. At high infestation, flower clusters appear heavily laden with these waxy secretions (Fig. 2b).

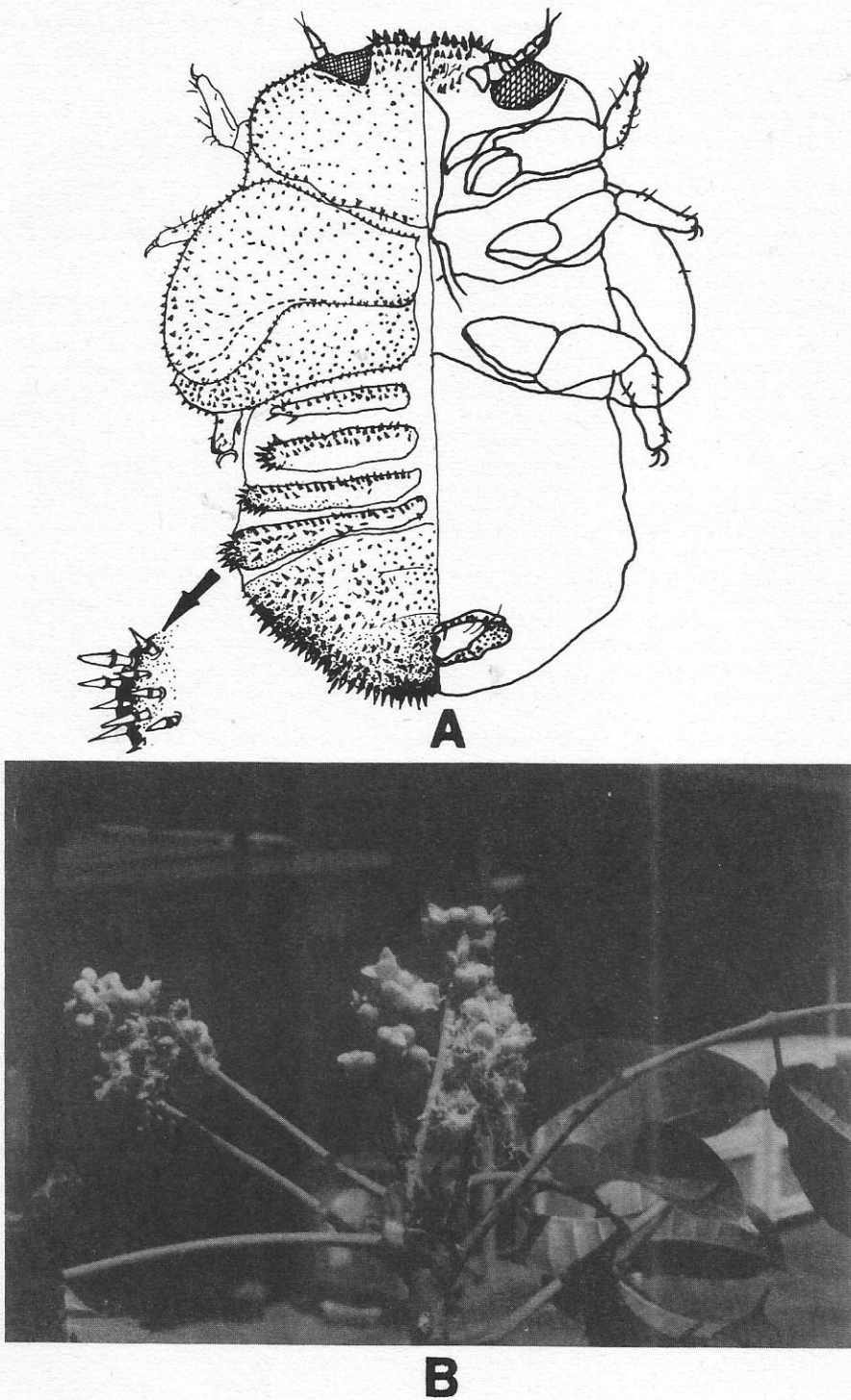
The Philippines is the type locality of the host plant and its distribution includes only Malaysia. Three other still unidentified *Pseudophacopteron* species have been collected by the author from three different *Canarium* species, which show that members of this genus are highly host-specific.

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**Figure 1.** *Pseudophacopteron calilungae* n. sp.: a) forewing, b) head, c) antennae, d) female genitalia, e) male genitalia, f) aedeagus, and g) hindleg.



**Figure 2.** *Pseudophacopteron calilungae*, n.sp.: a) dorsal and ventral aspect of fifth instar nymph, b) waxy secretions on flower cluster of *Canarium ovatum*.