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## DESCRIPTION OF A NEW CICADA IN THE GENUS *DILOBOPYGA* (HEMIPTERA: CICADIDAE)

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### ABSTRACT

A new cicada species, *Dilobopyga aprina* Lee, **sp. nov.** from Sulawesi is described. This new species is distinguishable from its congeners by the presence of 2 pairs of transverse black spots on the abdominal tergite 3 and the absence of such spots on other tergites and by the unique shape of the upper lobes of pygofer and the long and pointed claspers in the male genitalia.

Key Words: taxonomy, *Dilobopyga aprina*, Sulawesi, Cicadidni, Cosmopsaltriina

### RESUMEN

Se describe una nueva especie de cigarra, *Dilobopyga aprina* Lee, **sp. nov.** de Sulawesi. Se distingue esta nueva especie de sus congéneres por la presencia de 2 pares de manchas negras transversales sobre el terguito 3 del abdomen y por la ausencia de estas manchas sobre los otros terguitos y por la forma distinta de los lóbulos superiores del pigofer y por las pinzas largas y agudas de la genitalia del macho.

The genus *Dilobopyga* Duffels was erected by Duffels (1977) with *Dilobopyga chlorogaster* (Boisduval) as the type species. This genus belongs to the subtribe Cosmopsaltriina of the tribe Cicadini in the subfamily Cicadinae, following the classification of Lee (2008). According to Moulds' classification (2005), the Cosmopsaltriina belongs to the tribe Dundubiini, treating Cicadini as a sister group of the Dundubiini, but the genera of the 4 subtribes of Cicadini—Cicadina, Cosmopsaltriina, Dundubiina, and Tosenina—have many common morphological attributes and are thought to be hardly separable at tribal level.

Twelve species have been described so far in the genus *Dilobopyga*: *D. chlorogaster* (Boisduval, 1835), *D. margarethae* Duffels, 1977 (with 2 subspecies), *D. gemina* (Distant, 1888a) (with 2 subspecies), *D. ornaticeps* (Breddin, 1901), *D. multi-signata* (Breddin, 1901), *D. minahassae* (Distant, 1888b), *D. opercularis* (Walker, 1858), *D. breddini* (Duffels, 1970), *D. similis* Duffels, 1977, *D. alfura* (Breddin, 1900), *D. janstocki* Duffels, 1990, and *D. remanei* Duffels, 1999.

A key to 10 species of *Dilobopyga* was provided by Duffels (1977). In later years, Duffels (1990, 1999) described 2 more species: *D. janstocki* and *D. remanei*.

This paper presents the description of a new species of *Dilobopyga* from Sulawesi, which was found in the collections of the Korea National Arboretum, Pocheon, Korea (KNAM). Morphological measurements were made with Vernier calipers. Morphological terminology follows that of Moulds (2005).

### Description of a New Species

*Dilobopyga aprina* Lee, **sp. nov.**, (Figs. 1-3)

*Type Material.* Holotype: male (Fig. 1), "Sam-puraga, // Sulawesi, Indonesia // VII. 1997 // Coll. Young June LEE" (printed white label) (KNAM). Paratypes: 3 males and 1 female, same data as holotype (KNAM).

*Etymology.* The specific name, *aprina*, means 'of a wild boar' in reference to the fact that the lateral view of the male pygofer reminds the author of the head of a pig.

*Measurements of Types* (in mm, 4 males or 1 female). Length of body: male 33.5 (32.1-35.1), female 26.6; length of fore wing: male 45.4 (44.1-46.1), female 44.8; width of fore wing: male 13.6 (13.4-13.9), female 13.7; length of head: male 3.8 (3.7-3.9), female 4.0; width of head including eyes: male 10.4 (10.2-10.7), female 10.6; width of pronotum: male 11.5 (11.3-11.7), female 11.1; width of mesonotum: male 9.9 (9.6-10.2), female 9.9; wing span: male 99.5 (97.5-101.9), female 96.2.

*Diagnosis.* This new species is distinguishable from any of the described species of *Dilobopyga* by the presence of 2 pairs of transverse black spots on the abdominal tergite 3 of male and the absence of such spots on other tergites. In the male genitalia, this species can be distinguished by the upper lobes of pygofer in lateral view, which are angulated twice on lower side and by the long and pointed claspers.

*Description of Male* (Fig. 1). Ratio of body length to head width about 3.20 (3.05-3.38). Head ochraceous with the following black to fuscous

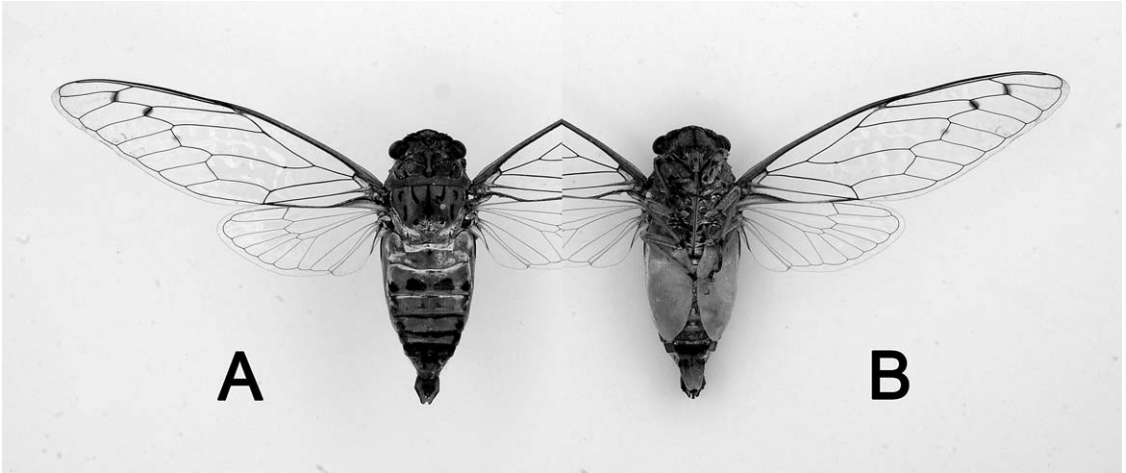


Fig. 1. *Dilobopyga aprina* Lee, **sp. nov.**, holotype, male, Sampuraga, Sulawesi, Indonesia, VII-1997. A. dorsal view. B. ventral view.

markings: a median large spot enclosing ocelli, of which anterior end reaching frontoclypeal suture; a pair of large spots on both sides of the median spot, which are similar-sized with the median spot, separated from the median spot by grooves, and of which lateral ends reaching compound eyes; and sometimes a pair of tiny spots on sides of lateral ocelli. Distance between lateral ocelli and compound eyes about as wide as or slightly wider than twice distance between 2 lateral ocelli. Postclypeus slightly swollen. Antennae dark brown. Ventral part of head ochraceous with black to fuscous markings. Postclypeus with fasciae along anterior 5 transverse grooves, a median longitudinal fascia of which anterior part divided into 2 parts, and a transverse fascia along posterior margin. Anteclypeus with a pair of oblique el-

liptic spots on about posterior  $\frac{1}{2}$  to  $\frac{2}{3}$ . Rostrum black to fuscous apically; passing center or posterior margin of sternite II. Lorum margined with black to fuscous except about anterior  $\frac{1}{4}$ . Gena with a transverse fascia between postclypeus and compound eye, of which inner end touching postclypeus but outer end not touching compound eye.

Pronotum ochraceous. Inner area of pronotum with a pair of central longitudinal fasciae, extending from anterior margin of pronotum to pronotal collar and dilated both anteriorly and posteriorly, a pair of short, oblique branches from middle of the central longitudinal fasciae along paramedian fissures, a pair of fasciae along lateral fissures, of which anterior end broadened, and a pair of curved fasciae along lateral margin of inner area, black to fuscous. Pronotal collar without



Fig. 2. *Dilobopyga aprina* Lee, **sp. nov.**, paratype, female, Sampuraga, Sulawesi, Indonesia, VII-1997. A. dorsal view. B. ventral view.

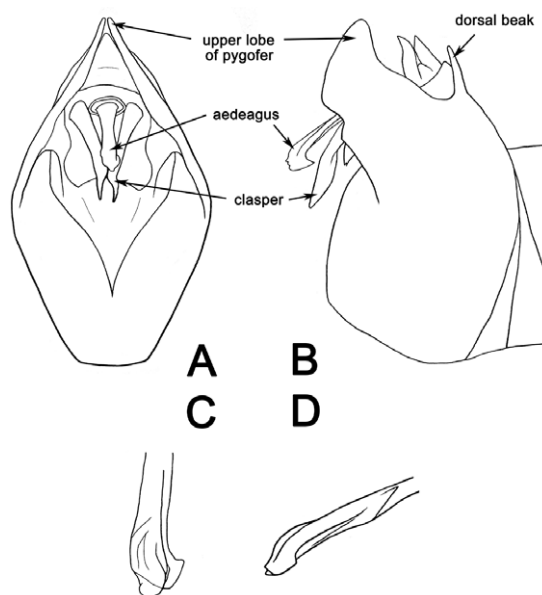


Fig. 3. Male pygofer of *Dilobopyga aprina* Lee, **sp. nov.** A. ventral view. B. lateral view. C. ventral view of aedeagus. D. lateral view of aedeagus.

markings. Anterolateral pronotal collar slightly developed and dentate.

Mesonotum ochraceous with a median longitudinal fascia broadened at posterior  $\frac{1}{3}$ , a pair of small roundish spots enclosing scutal depressions, a pair of inwardly curved fasciae along parapsidal sutures, and 2 pairs of longitudinally arranged curved fasciae on lateral sigilla, of which posterior one longer, black to fuscous. Cruciform elevation ochraceous with fuscous posterior margin medially. Posterior mesonotum and cruciform elevation irregularly covered with white pollinosity. Ventral part of thorax ochraceous.

Legs ochraceous. Fore femur with a small subapical spine as well as primary and secondary spines; fuscous apically and basally and on spines. Fore and mid pretarsi mostly fuscous. Mid and hind tibiae apically fuscous. Fore, mid, and hind pretarsal claws mostly fuscous.

Wings hyaline. Fore wing with an infuscation on radial, radiomedial, and sometimes indistinctly medial crossveins. Venation dark brown in fore wing, ochraceous in hind wing. Basal cell tinged with ochraceous. Basal membrane whitish gray but sometimes tinged with brown. Hind wing jugum whitish gray.

Operculum pale ochraceous very narrowly margined with black on about basal  $\frac{1}{3}$  of lateral margin; long, gradually narrowed to rounded tip, passing posterior margin of sternite VI. Lateral margin of operculum weakly sinuate at base. Basal  $\frac{1}{4}$  of inner margin a little concave. Two opercula nearly touching each other in the middle.

Abdomen obconical, longer than distance from head to cruciform elevation. Abdomen ochraceous with black to fuscous markings; irregularly covered with white pollinosity on tergites 1-5 and 8. Tergite 2 with tiny median spot on anterior margin. Tergite 3 with tiny median spot on anterior margin and 2 pairs of spots transversely arranged along posterior submargin, of which paramedian ones larger than lateral ones. Tergites 4 and 5 each with a pair of lateral spots. Tergites 6 and 7 each with a transverse fascia along anterior margin and a pair of lateral spots, often the fascia and the spots fused with each other in tergite 7. Tergite 8 with irregularly fuscous anterior margin. Posterior margin of tergite 3 wider than anterior margin of mesonotum. Timbal cover grayish ochraceous, quarter round or semicircular. Timbal concealed with timbal cover in dorsal view. Ventral part of abdomen ochraceous. Sternite II with fuscous transverse fascia in the middle. Sternite VII fuscous on anterior  $\frac{1}{2}$  to  $\frac{2}{3}$ .

**Male Genitalia** (Fig. 3). Pygofer diamond-shaped with base truncated in ventral view. Upper lobes of pygofer angulated twice on lower side in lateral view. Upper lobes of pygofer nearly touching each other at apices in ventral view. Dorsal beak long and slender. A pair of claspers present, which are long and pointed at tip. Apex of aedeagus with a sclerotized crest.

**Description of Female** (Fig. 2). Fore wing with an infuscation on radial, radiomedial, medial, and mediocubital crossveins. Operculum narrowly margined with black on about basal  $\frac{2}{3}$  of lateral margin. Lateral margin of operculum a little sinuate at base. Abdominal segment 9 mostly fuscous with some paler parts dorsally and laterally. Ovipositor sheath fuscous, slightly beyond anal styles. Dorsal beak slightly longer than protruding part of ovipositor sheath.

**Distribution.** Sulawesi, Indonesia.

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