

# Description of a New Species of the Genus *Tiphia* (Tiphidae, Hymenoptera) from Korea

Jeong-Kyu Kim\* and Seung-Pil Han

Department of Biological Sciences, Hanseo University, Chungcheongnam-do 356-706, Korea

## ABSTRACT

*Tiphia sulcatus* Kim and Han, sp. nov., is described based on specimens collected in Korea. In addition, a diagnosis, and digital images are provided.

**Key words:** *Tiphia sulcatus*, new species, Korea

## INTRODUCTION

A total of 21 valid Korean species of the genus *Tiphia* Fabricius were recently listed by Han et al. (2007). As a result of our examination of Korean tiphid wasps, we found a new species.

This new species is unusual in having furrow-like preapical puncture band in metasomal tergum I. The combination of the following characteristics also indicates the new specific status of the specimens: hind basitarsus with a distinct groove in the female; lateral face of pronotum microcoriaceous in upper half and finely carinate in lower half, and lacking of distinct groove across the center in both sexes; and presence of a carina in lateral face of sternum V without distinct orifice in the male.

We here provide diagnosis, description, digital images for external morphology, and brief information on collecting site of the new species.

## MATERIALS AND METHODS

Terminology primarily follows Allen and Jaynes (1930) and Tsuneki (1985). All measurements were taken as the maximal length of the structure being measured under an image analyzer.

All the specimens used in this study are deposited in the collection of Insect Diversity Lab. of Hanseo University.

## SPECIES ACCOUNTS

<sup>1</sup>\**Tiphia sulcatus* Kim and Han, new species (Fig. 1)

*Type material.* Holotype. 1 ♀, Weolam-dong, Euiwang-si,

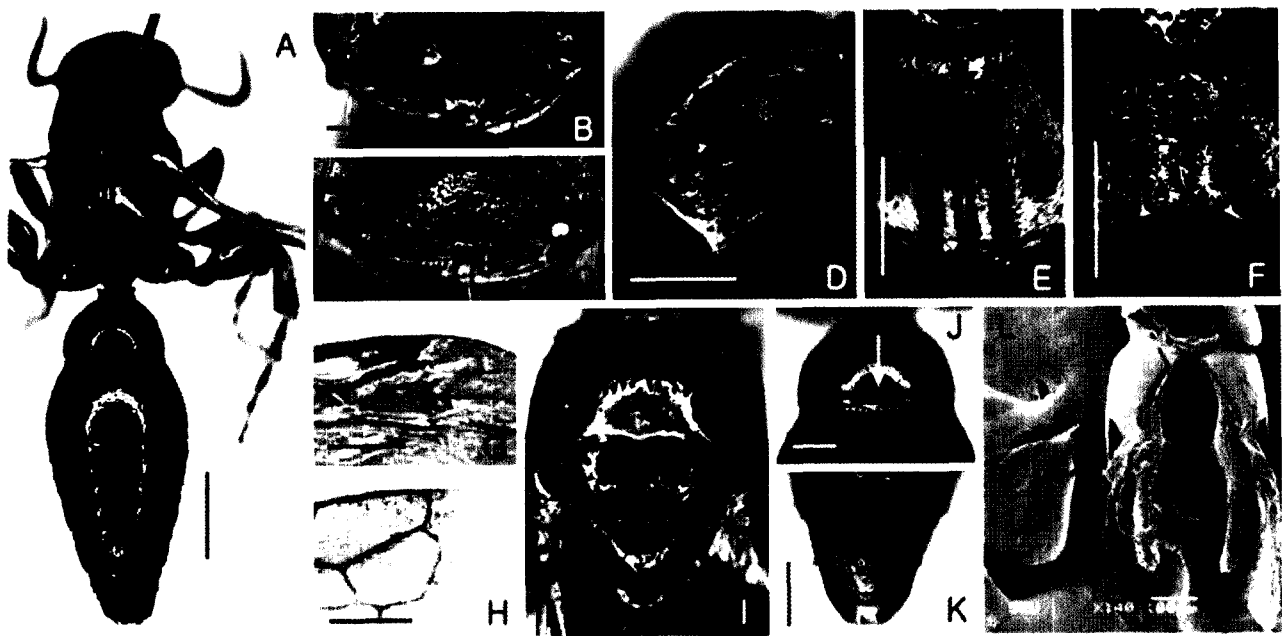
Gyeonggi-do, 8.vi.2007 (S.P. Han). Paratype. 4 ♂♂, Weolam-dong, Euiwang-si, Gyeonggi-do, 8.vi.2007 (S.P. Han).

*Diagnosis.* A furrow-like subapical puncture band of tergum I is the most distinct feature in this species in both sexes. This species is easily distinguished by the combination of the following characteristics: hind basitarsus with a distinct groove in the female; lateral face of pronotum microcoriaceous in upper half and finely carinate in lower half, and lacking of distinct groove across the center in both sexes; presence of a wide carina (not pointed apically) in lateral face of sternum V without distinct orifice in the male.

*Description. Female* (holotype only): Body length (measured from the anterior margin of head to the posterior margin of the metasomal tergum VI) 6.5 mm (Fig. 1A). Lateral apical margin of clypeus weakly rounded; median apical production trapezium in shape, and its apical margin almost truncate (Fig. 1B). Frontal groove present in lower frons. Pronotal carina weak, but distinct. Upper half of lateral face of pronotum microcoriaceous and lower half finely carinate, without a distinct groove across center (Fig. 1D). Posterolateral margin of tegula without groove. Ratio of basal width, apical width and length of propodeal areola (BAWL) 1 : 0.8 : 2.2; median carina of propodeal areola complete throughout the length (Fig. 1E). Lateral groove of sternum I present in posterior half of the segment, and its anterior narrowed portion smooth without carinae. Hind basitarsus with a distinct groove, and two spines in its outer face (except for apical marginal one). Second intercubital vein distinctly sinuate (Fig. 1G).

Clypeus with dense punctures except for its median apical impunctate smooth portion. Lower frons densely punctate, punctures getting smaller and denser toward clypeus. Upper frons and lateral part of ocelli with sparse punctures irregularly set, interspaces more than 2X as long as puncture diameter; interspaces of upper frons weakly microcoriaceous; area behind posterior ocelli moderately punctate, interspaces almost as long as puncture diameter; posterior marginal

\*To whom correspondence should be addressed  
Tel: 82-41-660-1349, Fax: 82-41-688-3403  
E-mail: kwasp@chol.com



**Fig. 1.** *Tiphia sulcatus* Kim and Han, sp. nov. A, General habitus, ♀, holotype; B, Clypeus, ♀; C, Clypeus, ♂; D, Lateral face of pronotum; E, Propodeal dorsum with areola, ♀; F, Propodeal dorsum with areola, ♂; G, Part of forewing, showing sinuated second intercubital vein (arrow), ♀; H, Part of forewing, showing widely rounded second intercubital vein, ♂; I, Mesosoma, dorsal view, ♀; J, Metasomal tergum I showing puncture band (arrow), ♀; K, Pygidium, ♀; L, Genitalia, dorsal view, ♂ (left: outer clasper dissected). Scale bars=1 mm (A), 0.5 mm (B-K).

portion of vertex densely punctate. Anterior punctate part of pronotal dorsum, measured dorsomedially, 1.5X as long as posterior impunctate part; interspaces of anterior part of pronotal dorsum microcoriaceous; punctures on pronotum almost unique in size, and somewhat regularly distributed. Posterior lateral margin of tegula sparsely micropunctate. Mesopleuron sparsely punctate, and interspaces microcoriaceous. Median part of mesoscutum reticulate. Scutellum punctate in its marginal parts, and punctures on posterior margin larger. Metanotum densely micropunctate in its marginal part, and in its median part punctures large and sparse (Fig. 1I). Posterior face of propodeum coarsely sculptured, but with a dull (somewhat flat, low and wide), slightly convergent median ridge. Puncture band on tergum I nearly forming a furrow due to fusing of composed punctures (Fig. 1J, arrow); anterior declivitous part of tergum I with a patch of micropunctures; dorsum of tergum I polished with sparse small punctures. Tergum II moderately punctate except for subapical puncture band. Tergum III moderately to densely punctate in basal and apical portion (the central smooth area almost same as the punctate area in width). Tergum IV-V densely punctate except for central lateral parts of dorsum. Pygidium densely punctate in its basal half (Fig. 1K).

Upper frons, vertex, pronotum, mesoscutum with whitish hairs irregularly distributed. Lower frons with appressed whitish sparse hairs. Lower part of antennal scape with

erect hairs as long as ones in vertex. Punctate area of terga with hairs similar to ones in vertex, especially basal and apical ones denser. Sternum I with dense whitish hairs half as long as ones in vertex. Pygidium with whitish hairs in its sculptured area.

Body black except for reddish brown in mandible, maxillary palp, labial palp, tegula, antennal segments, posterior margin of pronotum, and larger parts of tarsi.

*Male:* Much as in female except for following details. Body smaller, the length (measured from the anterior margin of head to the posterior margin of the metasomal tergum VII) 5.0-5.5 mm. Median apical production of clypeus trapeziform, but its apical margin weakly emarginate (Fig. 1C). Pronotal carina distinct. Anterior punctate part of pronotal dorsum slightly narrower, or as long as posterior impunctate part. BAWL of propodeum areola 1 : 1 : 1.5 as in Fig. 1F (in one paratype, median carina interrupted in the middle). Sternum I with shallow lateral groove in its posterior one-third. Sternum V with a carina on each posterior lateral part, but without distinct orifice. The ends of second cubital cell slightly exceeding end of radial cell; second intercubital vein widely rounded (Fig. 1H). Clypeus densely punctate in its entire face without impunctate area. Upper frons distinctly microcoriaceous. Mesoscutum distinctly microcoriaceous. Genitalia as in fig. 1L; apical lobe of aedeagus somewhat long and convergent.

*Distribution.* Korea (Gyeonggi-do).

*Etymology.* Named after the characteristic furrow-like sub-apical puncture band on tergum I.

*Remarks.* This species is very similar to *T. vernalis* in general habitus. However, the latter has a normal preapical puncture band on tergum I (i.e. not furrow-like), a patch of micro-punctures in median part of vertex, and one (to three) weak short longitudinal groove(s) in median posterior margin of pronotal dorsum.

All the specimens of this species were collected either during their flight or while resting in the bank of a reservoir covered with short grass.

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