

A New Record of Parasitic Wasp, *Rhogadopsis obliqua* (Hymenoptera: Braconidae: Opiinae), from South Korea

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한국산 미기록 고치벌 *Rhogadopsis obliqua* (벌목: 고치벌과: 꽃파리고치벌아과)에 대한 보고

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ABSTRACT: The genus *Rhogadopsis* Brethes, 1913 (Hymenoptera: Braconidae: Opiinae), which mostly parasitizes mining flies (Diptera: Agromyzidae), has been considered to subgenus in the genus *Opius* Wesmael, 1835. However, according to having the derived wing venation and forming a monophyletic clade, the genus *Rhogadopsis* is elevated to generic rank. As results of faunal survey in Yeoseo-do, Jeonnam, South Korea, the male specimen of *Rhogadopsis obliqua* were collected by sweeping. Diagnosis, description, distribution and diagnostic illustration of *Rhogadopsis obliqua* are provided.

Key words: Ichneumonoidea, Morphological identification, Koinobiont, Natural enemy, Parasitoid

초록: *Rhogadopsis*속은 주로 굴파리에 기생하는 고치벌로 *Opius*속의 아속으로 여겨져왔다. 그러나 시맥의 형태와 단계통 분기군을 형성함에 따라 *Rhogadopsis*속은 속으로 격상되었다. 전라남도 여서도에서의 동물상 조사 결과, *Rhogadopsis obliqua*의 수컷 표본을 쓸어 잡기로 채집되었다. *Rhogadopsis obliqua*의 기술과 진단 형질 도판을 수록한다.

검색어: 맵시벌상과, 활물기생, 형태동정, 천적, 기생벌

The subfamily Opiinae is one of the large koinobiont endoparasitoid groups in the cyclostome braconid wasp (Hymenoptera: Ichneumonoidea) and distributes worldwide, with over 2,000 species (Yu et al., 2016). As opiine braconid wasps attack the dipterans such as the flies in Agromyzidae (mining fly) and Tephritidae (fruit-fly), some members are known as biological control agency commercially (Ovruski et al., 2000; Wharton, 1997).

The genus *Rhogadopsis* has been used as subgenus in the

genus *Opius*, but as morphological characters (having a propodeum with a medio-longitudinal carina and derived wing venation) and molecular data, *Rhogadopsis* is elevated to the genus (Li et al., 2013). Although Papp (1989) described *Rhogadopsis parvungula* from North Korea, it is reported in National Species List of South Korea, without collection in South Korea (NIBR, 2022). As results of a taxonomic study, we newly report *Rhogadopsis obliqua* which has no biological information to date from South Korea. We are provided diagnosis, description, and illustrations of diagnostic characters.

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Materials and Methods

The examined specimen were collected by sweeping in Is. Yeoseo-do, Cheongsan-myeon, Wando-gun, Jeollanam-do on July 2, 2020. The examined specimen was preserved in 80% ethyl alcohol for making dried specimen. The specimen is deposited in Kunsan National University (KSNU). We used LEICA DMC2900 digital camera and LEICA M205 C microscope (Leica Geosystems AG) for observation and photo-

graphy in this study. Illustrations were stacked using Helicon software (Helicon Soft). Terminology used for morphological characters followed van Achterberg (1993).

Systematic Accounts

Family Braconidae Nees von Esenbeck, 1811

Subfamily Opiinae Blanchard, 1845

Genus *Rhogadopsis* Brèthes, 1913

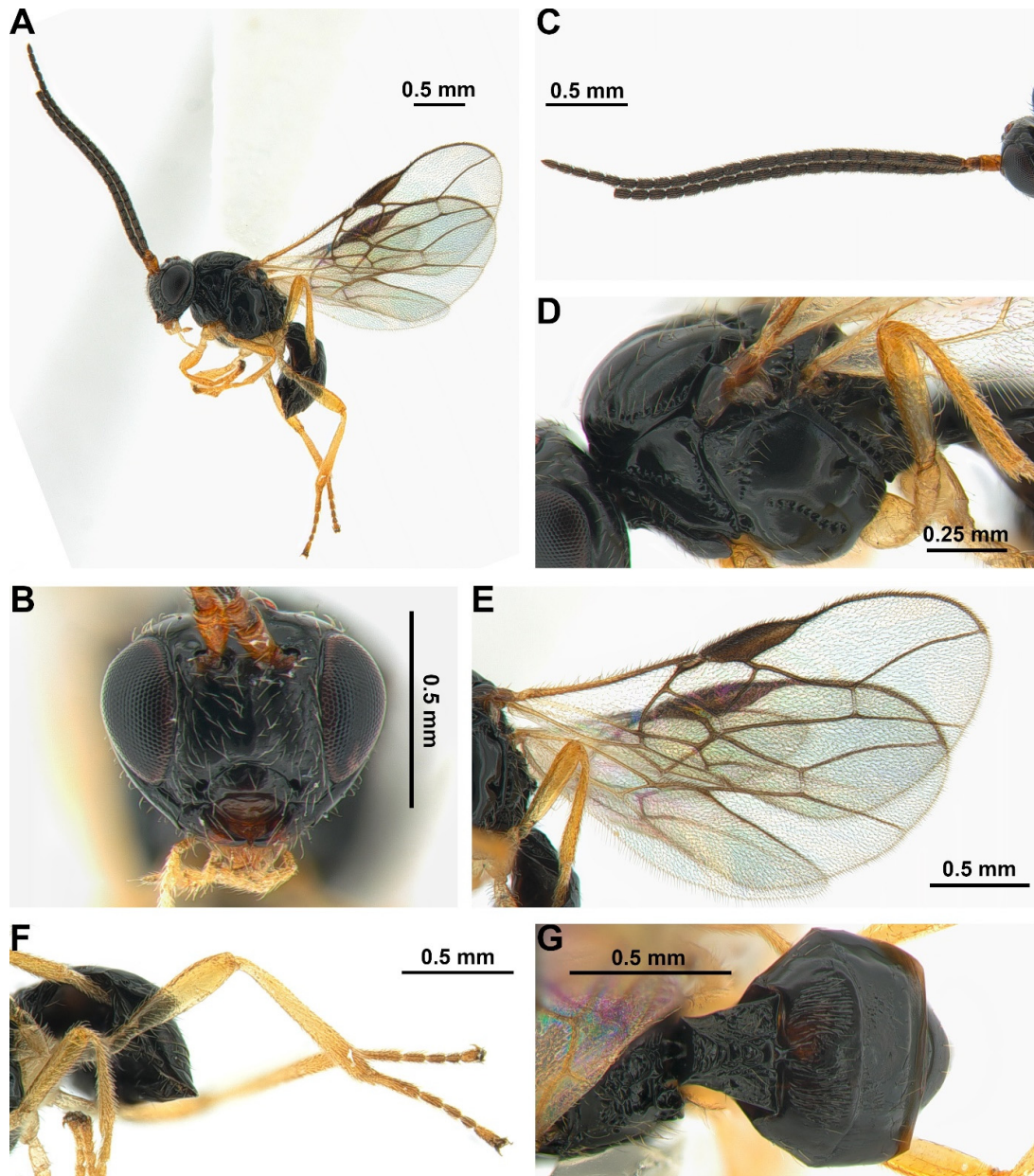


Fig. 1. Habitus of *Rhogadopsis obliqua* Li et al., 2013: A, whole body in lateral view; B, head in frontal view; C, antenna; D, mesosoma in lateral view; E, wings; F, hind leg in lateral view; G, metasoma in dorsal view.

Lissosema Fischer, 1971: 359. Type species: *Opius parvungula* Thomson, 1895

***Rhogadopsis obliqua* Li et al., 2013 빛줄가슴어리고치벌(신칭) (Figs 1A-E)**

Rhogadopsis obliqua Li et al., 2013: 160-163.

Diagnosis

Total length of body 2.47 mm (Fig. 1A), total length of fore wing 2.51 mm; scape of antenna and annellus brown; Vein m-cu of fore wing longer than vein 2-SR+M; vein 1r-m of hind wing 0.76 times as long as vein 1-M; ventro-posterior of pronotum and anterior of metapleuron crenulate; medio-posterior depression of mesoscutum round-shape; medio-longitudinal carina of propodeum present.

Description. **Head** (Figs 1B, C): Antenna with 26 segments and 1.12 times as long as fore wing, length of third segment 1.02 times as long as fourth segment; face with yellowish setae; clypeus smooth and concave but medio-ventral rim of clypeus slightly convex, width of clypeus 2.3 times its medio height; hypoclypeal depression present; malar suture present; malar space 0.71 times maximum width of mandible. **Mesosoma** (Fig. 1D): Length of mesosoma 1.39 times its height; pronope present; mesoscutum smooth and glabrous with few setae, medio-posterior depression of mesoscutum round-shape; notauli absent on disc, only slightly crenulate anteriorly; groove of ventro-posterior of pronotum crenulate; epicnemial area mainly smooth; precoxal sulcus oblique and crenulate; groove of anterior of metapleuron crenulate; scutellar sulcus deep and crenulate; medio-longitudinal carina of propodeum present, propodeum mainly rugose. **Wing** (Fig. 1E): covered with brown setae overall; length of pterostigma of fore wing 3.75 times its maximum width; vein r of fore-wing oblique and short; 1-M and SR1 slightly curved; m-cu postfurcal; r:3-SR:SR1=2:15:21; CU1b medium sized; first subdiscal cell closed. **Legs** (Fig. 1F): Length of femur of hind leg 0.8 times as long as tibia of hind leg and with setae. **Metasoma** (Fig. 1G): Metasoma mainly glabrous; length of first tergite 1.41 and 1.13 times as long as second tergite and its apical width; first tergite densely rugose reticulately; second tergite rugose medially with setae, third tergites smooth.

Colour. (Fig. 1A). Black excepting antenna, wing and leg; antenna, and mandible, dark brown; leg, yellowish-brown; pterostigma and veins, brown.

Distribution. South Korea (new, Jeonnam Prov.), China (Hunan).

Biology. Unknown.

Specimen examined. South Korea, 1♂ (KSNU): Yeoseo-ri, Cheongsan-myeon, Is. Wando, Jeonnam, 33°59'15.1"N, 126°55'04.6"E, 02.VII.2020, Hyojoong Kim leg.

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Statements for Authorship Position & Contribution

Han, Y.: Kunsan National University, Student in Ph.D.; Designed the research, wrote the manuscript and conducted the experiments

Kim, H.: Kunsan National University, Professor, Ph.D.; Examined specimens and designed the research

All authors read and approved the manuscript.

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