

## First Record of Sphingid Moth, *Macroglossum corythus* (Lepidoptera: Sphingidae) from Korea

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### ABSTRACT

A sphingid species, *Macroglossum corythus* Walker, 1856 is newly recorded from Korea. *Macroglossum corythus* can be characterized by grayish or dark greenish fore- and hindwings, blackish basal, ante- and postmedial lines with a blackish discal dot on the forewing and transverse antemedial line, as well as a strongly dentate postmedial line and a thick, dark brownish tinged subterminal line on the hindwing. The male genitalia of *Macroglossum corythus* can be characterized by the long saccular process of valva and the phallus with one hooked distal process and the large pen-shaped cornutus and a notched ridge. The female genitalia of *Macroglossum corythus* can be characterized by the long tubular ductus bursae and the long ovate corpus bursae with multiple stripes and a long triangular patch of minute signa. To date, six species of the genus *Macroglossum* have been identified in Korea.

**Keywords:** Sphingidae, humming-bird hawkmoth, *Macroglossum*, Korea, new record

### INTRODUCTION

The genus *Macroglossum*, “humming-bird hawkmoth,” comprise more than 120 species worldwide and shows high species richness in the Indo-Australian tropics. The genus was erected by Scopoli (1777) with the type species *Sphinx stellatarum* Linnaeus and the members of the genus are diagnosed by the narrow, grayish to dark gray or black forewings with transverse, often sinuous fasciae, the blackish hindwings with a broad yellow or orange medial to subbasal band, the broad thorax, and the broad abdomen that has lateral and subventral yellow or white patches and the distal fan of flattened scales (Holloway, 1987). Most species are active during daytime, hovering in front of flowers while taking nectar with the tongue, but often collected by a light trap. To date, five species have been known in Korea (Park et al., 1999; NIBR, 2019): *M. stellatarum* (Linnaeus, 1758), *M. bombylans* (Boisduval, 1875), *M. pyrrhostictum* (Butler, 1875), *M. saga* (Butler, 1878), and *M. heliophila* (Boisduval, 1875). Here, we report *M. corythus* Walker, 1856 for the first time from Korea.

Adults were collected using a net during daytime. All col-

lected adults were mounted for examination. For slide preparation of male and female genitalia, each specimen was prepared by boiling the abdomen in 10% KOH for approximately 20 min. Scales and tissues were removed, stained with Chlorazol black, and mounted on slides in Euparal solution. For wing-span measurements, the distance from the tip of the left forewing to the tip of the right forewing was used.

Terminology of adult, including the male and female genitalia, refers to Holloway (1987). All materials were deposited in the Collection of Insects of the Department of Environmental Education, Mokpo National University. Abbreviations are as follows: GN, Gyeongsangnam-do, TL, type locality.

### SYSTEMATIC ACCOUNTS

Order Lepidoptera Linnaeus, 1758

Family Sphingidae Latreille, 1802

Genus *Macroglossum* Scopoli, 1777

<sup>1\*</sup>*Macroglossum corythus* Walker, 1856 (Figs. 1, 2)

Korean name: <sup>1\*</sup>뽕족벌꼬리박각시 (신칭)

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*Macroglossum corythus* Walker, 1856: 92. TL: South India, Ceylon.

*Macroglossum luteata* Butler, 1875: 241. TL: North India, China, Formosa, Philippines, Celebes, Sumba.

*Macroglossum corythus platyxanthum* Rothschild and Jordan, 1903: 661. TL: Ryukyu, Japan.

*Macroglossum iwasakii* Matsumura 1921: 754. TL: Japan.

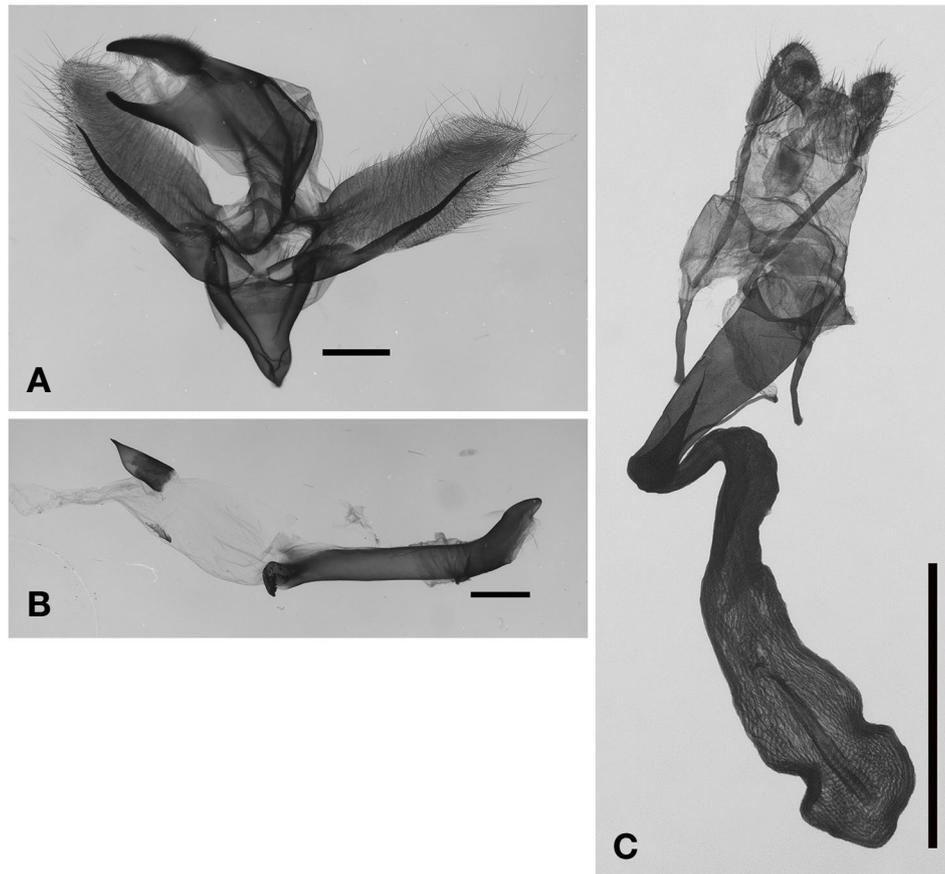
**Material examined.** 1 male 2 females, Korea: GN: Chuk-dong-myon, Sacheon-si, Gyungnam, 35°05'54"N, 128°06'06" E, 35 m above sea level, 16 Aug 2018, 20 Sep 2018, Jeon JA.

**Diagnosis.** Wingspan 50–51 mm. This large brown or dark greenish sphingid species can be distinguished by dark brownish medial lines with medially bent postmedial line of forewing and broad yellowish medial band of hindwing. The male genitalia of *Macroglossum corythus* can be distinguished by the tapered, hairy uncus, the long digitate gnathos, the hairy valva with a long sclerotized sacculus process, the long triangular saccus and the phallus with one hooked distal process (Fig. 2A) and the large pen-shaped cornutus and a notched ridge (Fig. 2B). The female genitalia can be distinguished by the simple antrum, long tubular ductus bursae and long bag-shaped

corpus bursae that show the multiple stripes throughout the bursae and a long triangular patch of minute signa (Fig. 2C).



**Fig. 1.** Adult of *Macroglossum corythus*. Scale bar = 10 mm.



**Fig. 2.** Male and female genitalia of *Macroglossum corythus*. Scale bars: A, B = 1 mm, C = 5 mm.

**Distribution.** Korea, Japan, Taiwan, China, Philippines, Indonesia, Malaysia, Thailand, Vietnam, Bhutan, Bangladesh, India.

**Remarks.** There are five species of *Macroglossum* in Korea: *M. stellatarum* (Linnaeus), *M. bombylans* (Boisduval), *M. pyrrhostictum* (Butler), *M. saga* (Butler), and *M. heliophilum* (Boisduval) (NIBR, 2019). *Macroglossum corythus* are externally similar to *M. pyrrhostictum*, but can be distinguished by the chimney-shaped antemedial band and the sinuous postmedial line of forewing and the narrow and even-width yellow band of hindwing. The male genitalia of *M. corythus* are similar to those of other members of the genus, but can be easily distinguished by the long spinular sacculus process of valva. *Macroglossum corythus* feeds on *Paederia foetida* (Rubiaceae) (Bell and Scott, 1937), *Morinda citrifolia* (Rubiaceae) and *Strychnos nux-vomica* (Loganiaceae) (Pittaway and Kitching, 2018).

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## CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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