

## A New Species of the Genus *Glypta* (Hymenoptera: Ichneumonidae: Banchinae) from South Korea

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### ABSTRACT

One of the largest genera of subfamily Banchinae, the genus *Glypta* has been reported 505 species in the World. In this study, the genus *Glypta* is reported for the first time from South Korea. Twelve species are recognized, one of which is described as new: *Glypta clypeorostrata* sp. nov. We diagnose 11 newly recorded species (*G. biauriculata*, *G. breviterebra*, *G. densepunctata*, *G. extincta*, *G. fronticornis*, *G. incisa*, *G. media*, *G. nigrina*, *G. talitzkii*, *G. tamanukii*, and *G. touyaensis*) and provide a key along with digital images of 12 South Korean species.

**Keywords:** Eastern Palaearctic, Glyptini, key, taxonomy, unrecorded species

### INTRODUCTION

*Glypta* Gravenhorst is the largest genus of tribe Glyptini comprising 505 species with a worldwide distribution (Watanabe, 2017). As a member of the tribe Glyptini Cushman and Rohwer, *Glypta* can be distinguished as follows: fore wing without areolet, fore tibial spur not reaching middle of fore basitarsus, prepectal carina present, and upper hind part of head not strongly impressed and without teeth (Townes, 1970). The genus *Glypta* was originally erected as a subgenus of *Pimpla* by Gravenhorst (1829) and then Förster (1869) proposed *Conoblasta* and *Diblastomorpha* as two related genera of *Glypta*. The latter two genera were then treated as subgenera of the genus *Glypta* (Förster, 1869), but until recently, there were various opinions regarding their taxonomic position (Momoi, 1963; Townes, 1970; Kuslitzky, 1974, 2007; Aubert, 1978; Gauld et al., 2002).

According to the most recent study on these groups, *Diblastomorpha* has become an independent genus (Watanabe and Maeto, 2013), whereas *Glypta* and *Conoblasta* have been treated as a tentative species group of *Glypta* (Watanabe and Maeto, 2014).

Species belonging to the genus *Glypta* are known as koinobiont endoparasitoids, mainly of leaf roller lepidopteran larvae (Tortricidae) (Townes, 1970), but they also attack a variety

of pests such as sawflies, long-horned beetle, and weevils (Yu et al., 2016).

In this paper, we report the genus *Glypta* for the first time from South Korea with a new species (*Glypta clypeorostrata* sp. nov.) and 11 newly recorded species (*G. biauriculata*, *G. breviterebra*, *G. densepunctata*, *G. extincta*, *G. fronticornis*, *G. incisa*, *G. media*, *G. nigrina*, *G. talitzkii*, *G. tamanukii*, and *G. touyaensis*). We also provide diagnoses and a key along with digital images.

### MATERIALS AND METHODS

The materials used in the present study were collected using a sweep net and Malaise traps, after which they were deposited in the Georim Entomological Institute (GEI, Daegu, Korea). All type specimens of the new species have been deposited at GEI and the National Institute of Biological Resources (NIBR, Incheon, Korea). Distributional data mainly followed those of Yu et al. (2016). The collection localities of provinces in South Korea are abbreviated as follows: CB, Chungcheongbuk-do; GB, Gyeongsangbuk-do; GG, Gyeonggi-do; GN, Gyeongsangnam-do; GW, Gangwon-do; JB, Jeollabuk-do; JN, Jeollanam-do. Other abbreviations used in the present study are as follows: BAUER, Wendelstein, Germany (R. Bauer

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collection); GEI, Georim Entomological Institute, Daegu, South Korea; SEHU, the Laboratory of Systematic Entomology, Hokkaido University, Faculty of Agriculture, Entomological Institute, Sapporo, Japan; IZU, Instytut Zoologiczny Uniwersytetu, Wrocław; KU, the Entomological laboratory of Kagoshima University, Kagoshima, Japan; ZIS, Zoological Institute, Russian Academy of Sciences, Russia; ZI, Zoologiska Institutionen, Sweden.

Specimens were examined using an AxioCam MRc5 camera attached to a stereomicroscope (Zeiss SteREO Discovery V20; Carl Zeiss, Göttingen, Germany), processed using AxioVision SE64 software (Carl Zeiss), and optimized with a Delta imaging system (i-solution; IMT i-Solution Inc. Vancouver, Canada). The morphological terminology followed that of Townes (1969).

## RESULTS

Order Hymenoptera

Family Ichneumonidae

Subfamily Banchinae Wesm., 1845

### Genus *Glypta* Gravenhorst, 1829

*Glypta* Gravenhorst, 1829: 3. Type species: *Glypta sculpturata* Gravenhorst.

*Conoblasta* Förster, 1869: 165. Type species: *Pimpla ceratites* Gravenhorst.

*Hemiepialtes* Ashmead, 1906: 177. Type species: *Hemiepialtes glyptus* Ashmead.

*Foveoglypta* Hellén, 1915: 57. Type species: *Glypta monstrosa* Hellén.

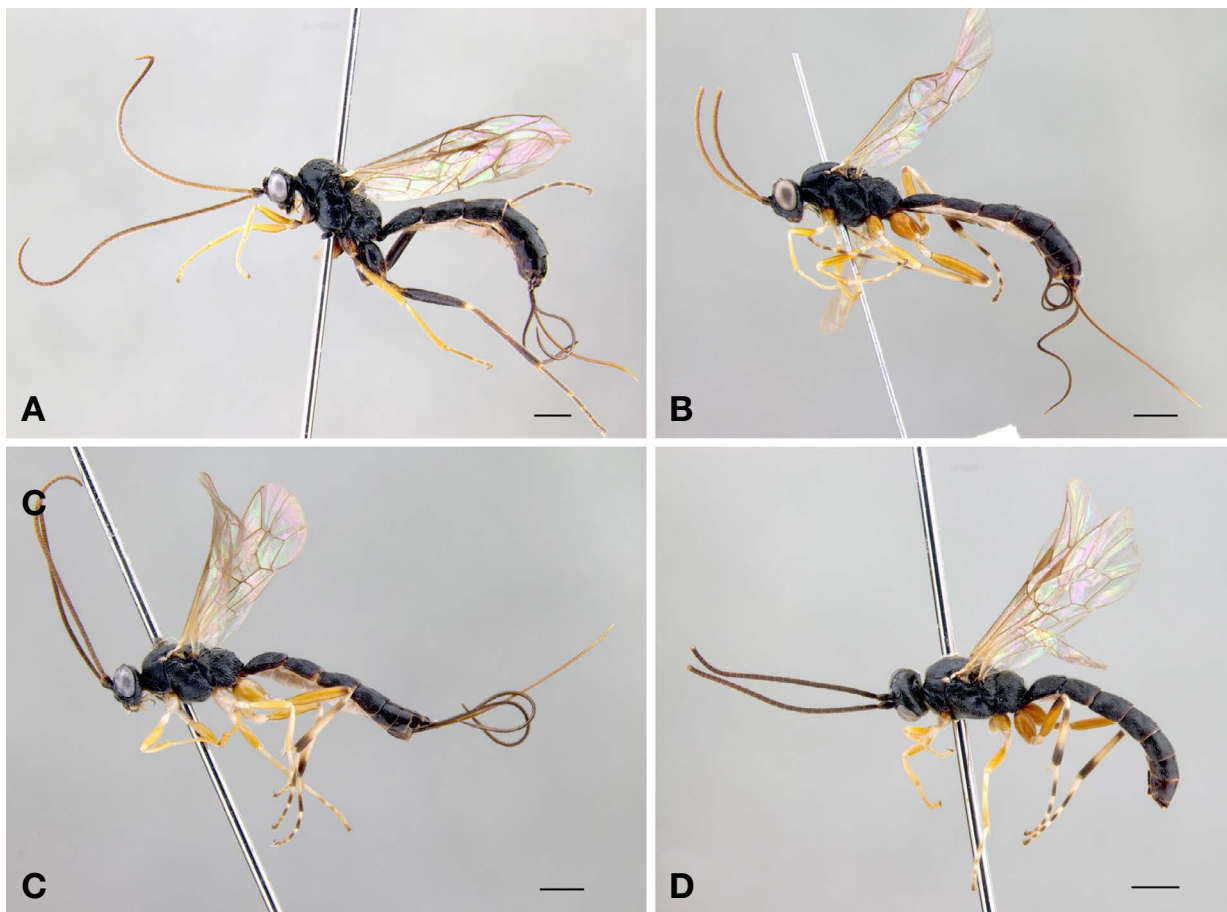
### Key to species of the genus *Glypta* from South Korea

1. Species with a horn or projection(s) on frons ..... 2  
 ..... (*Conoblasta* species group) ..... 2
- Species without any projection on frons ..... 6  
 ..... (*Glypta* species group) ..... 6
2. Frons with a median projection between each antennal socket ..... 3
- Frons with a pair of horn-like lamella above each antennal socket ..... *G. biauriculata*
3. Metasoma entirely with much long hairs. First flagellomere of antenna 2.0 times as long as second flagellomere ..... *G. tamanukii*
- Metasoma with few short hairs. First flagellomere of antenna less than 1.5 times as long as second flagellomere ..... 4
4. Coloration of hind tibia clearly contrasted, whitish-yellow with black sub-basal band, ventral surface, and apical

- part. Hind basitarsus with basal yellow area shorter than its black area ..... *G. extincta*
- Coloration of hind tibia contrasted, sometimes with indistinct border, yellow with black sub-basal band and apical part. Hind basitarsus with basal yellow area nearly same length of its black area, or shorter than its black area ..... 5
5. Metasoma entirely black. Ovipositor shorter than metasoma ..... *G. densepunctata*
- Metasoma blackish brown with yellowish brown apical margin of each 1st–3rd tergites. Ovipositor longer than metasoma ..... *G. touyaensis*
6. Metasoma entirely black or blackish red ..... 7
- Metasoma yellowish brown or reddish brown ..... 11
7. Frons with developed crease above antennal socket .....  
 ..... *G. media*
- Frons without any developed crease above antennal socket ..... 8
8. Only posterior transverse carina of propodeum present .....  
 ..... *G. incisa*
- Posterior transverse carina complete; anterior transverse carina present except costula; lateromedian longitudinal carina weakly present; lateral longitudinal carina absent ..... 9
9. Ovipositor sheath rather long, more than 2.0 times as long as hind tibia. Antenna with more than 35 flagellomeres ..... 10
- Ovipositor sheath very short, 1.2 times as long as hind tibia. Antenna with 29 flagellomeres ..... *G. breviterebra*
10. Clypeus strongly projected apically. Mandible long and tapered, upper tooth as long as lower tooth. Ovipositor sheath 0.7 times as long as fore wing, 2.3 times as long as hind tibia ..... *G. clypeostrata*
- Clypeus with normal form, round apically. Mandible tapered, upper tooth slightly longer than lower tooth. Ovipositor sheath 0.8 times as long as fore wing, 3.6 times as long as hind tibia ..... *G. nigrina*
11. Frons with a transverse crease above antennal socket .....  
 ..... *G. fronticornis*
- Frons without any developed crease above antennal socket ..... *G. talitzkii*

### *Conoblasta* species group

According to Watanabe and Maeto, 2014, frons with a median horn between each antennal socket or a pair of projections above the antennal sockets. In South Korean species, only one *Glypta biauriculata* has a pair of projections (strongly developed crease form), other four species (*G. densepunctata*, *G. extincta*, *G. tamanukii* and *G. touyaensis*) have a strongly developed horn.



**Fig. 1.** Habitus in lateral view. A, *Glypta biauriculata*; B, *G. densepunctata*; C, *G. extincta*; D, *G. tamanukii*. Scale bars: A–D=1.0 mm.

**1. *Glypta biauriculata* Strobl, 1901 (Fig. 1A)**

*Glypta biauriculata* Strobl, 1901: 18. Type: ♀, type locality: Austria; type depository: unknown.

*Glypta laminata* Kuslitzky, 1973: 1583. Type: ♀, type locality: Russia; type depository: ZIS.

**Material examined.** South Korea: [GG]: Yangpyeong-gun, Yongmun-myeon, Yeonsu-ri, Mt. Yongmunsan, 1♀, 19 Sep–15 Oct 2009, Lim JG; [GW]: Wonju-si, Socho-myeon, Hakgong-ri, Mt. Chiaksan, 3♀♀, 20 Jun–19 Jul 2013, Lee JW.

**Diagnosis.** Female. Fore wing 4.5–6.3 mm, Body 6.3–7.5 mm.

Face flat, 0.5 times as long as wide. Clypeus convex with long pubescence, 0.7 times as long as wide. Frons flat, shiny with pair of horns between antennal sockets (Fig. 2A). Malar space 2.0 as long as basal mandibular width. Inner margins of eye parallel. Antenna filiform with 39 flagellomeres. 1st flagellomere 1.4 times as long as 2nd flagellomere. Posterior transverse carina of propodeum interrupted at middle. Anterior transverse and lateral longitudinal carinae of propodeum

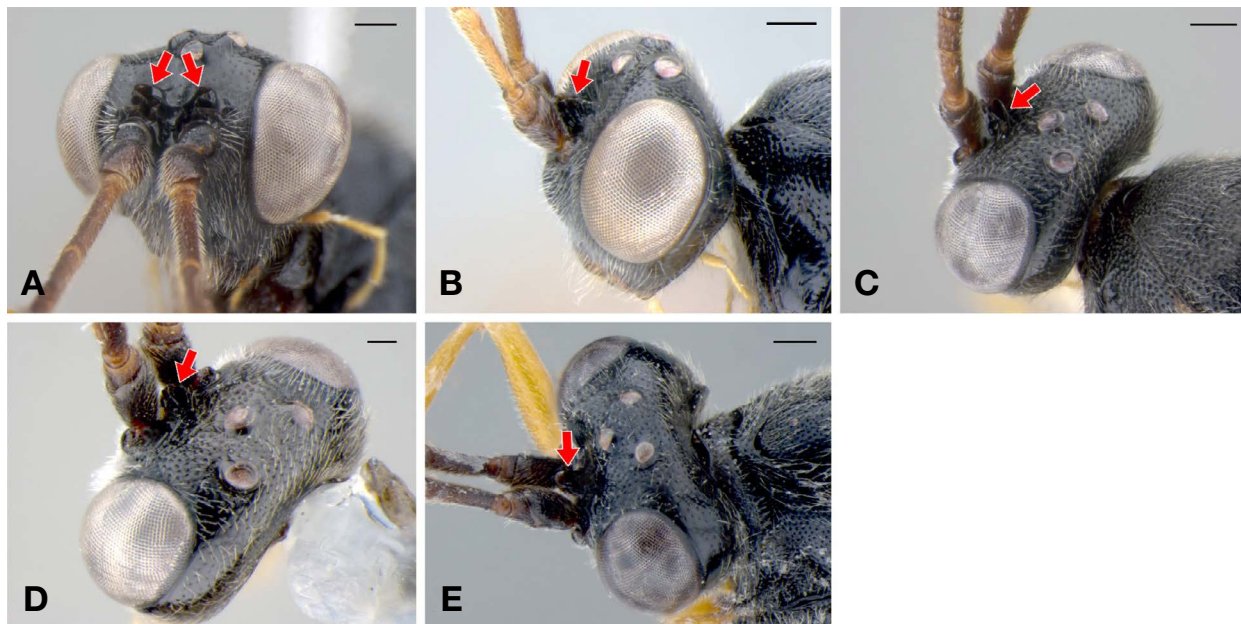
partly present. Metasoma densely irregularly punctate, punctures partly tend to merge. 1st tergite 1.3 times as long as apical width, dorso-median carina present only in basal part, median longitudinal carina absent. 2nd–3rd tergites with pair of distinct oblique grooves. 4th tergite with weak groove. Ovipositor sheath 0.5 times as long as fore wing, 1.6 times as long as hind tibia.

Black. Antenna brown with bright apical part. Tegula and subtegular ridge yellow. Hind coxa, trochanter, and femur black. Trochantellus bright yellow. Tibia gradate brown sub-basal to black apical with bright yellow base. Tarsus and tarsal claw brown. Metasoma black.

**Distribution.** South Korea (new record), Japan, Russia (Buryatskaya Respublika; Chita Oblast; Primorsky Krai; Sakhalin Oblast), Austria, Czech Republic, Germany, Hungary, Poland, Romania.

**2. *Glypta densepunctata* Watanabe & Maeto, 2014 (Fig. 1B)**

*Glypta (Conoblasta) densepunctata* Watanabe & Maeto,



**Fig. 2.** Frontal horn of *Conoblasta* group. A, *Glypta biauriculata*; B, *G. densepunctata*; C, *G. extincta*; D, *G. tamanukii*; E, *G. touyaensis*. Scale bars: A-C, E=0.2 mm, D=0.1 mm.

2014: 20. Type: ♀, type locality: Japan; type depository: KU.

**Material examined.** [South Korea]: [GB]: Gyeongsan-si, Daehak-ro, 280, Yeongnam Univ., 1♀, 25 Apr–6 May 2013, Lee JW; Yeongyang-gun, Subi-myeon, Sinwon-ri, 1♀, 18 May 2001, Lee JW.

**Diagnosis.** Female. Fore wing 5.5–6.0 mm, Body 7.0–7.3 mm.

Face slightly convex, densely and regularly punctate with pubescence, 0.6 times as long as wide. Mandible tapered; upper tooth as long as lower tooth. Frons flat, shiny with a single horn between antennal sockets (Fig. 2B). Malar space 1.3 as long as basal mandibular width. Antenna filiform with 34 flagellomeres. 1st flagellomere 1.4 times as long as 2nd flagellomere. Mesoscutum flat with dense punctures tending to merge at middle. Posterior transverse carina of propodeum complete. Lateral longitudinal carina weakly present on lateral section of propodeum. Metasoma densely regularly punctate. 1st tergite 1.3 times as long as apical width; dorso-median carina present only in basal part, median longitudinal carina absent. 2nd–4th tergite with pair of oblique grooves. Ovipositor sheath 0.8 times as long as fore wing, 2.3 times as long as hind tibia.

Black. Clypeus and mandible blackish brown except black apical part of mandible. Antenna brownish yellow. Tegula and subtegular ridge yellow. All coxae orange, trochanters and trochantelli bright yellow. Hind femur orange with black dorso-

apical spot, tibia yellow with brown sub-basally and black apically, tarsus bright yellow with black apically, tarsal claw brown.

**Distribution.** South Korea (new record), Japan.

### 3. *Glypta extincta* Ratzeburg, 1852 (Fig. 1C)

*Glypta extincta* Ratzeburg, 1852: 112. Type: unknown.

*Glypta nigriventris* Thomson, 1889: 1325. Lectotype: ♀, type locality: Sweden; type depository: ZI.

**Material examined.** [South Korea]: [GG]: Osan-si, Su-cheong-dong, 332-1 mulhyanggi arboretum, 1♀, 16 Apr–31 Aug 2012, Kwon YD, Ji YM; [GW]: Hyangrobong, 1♀, 17 Sep 1967, Kim CW.

**Diagnosis.** Female. Fore wing 8.0 mm, Body 12.0 mm.

Face slightly convex, densely and finely punctate with much long pubescence, 0.7 times as long as wide; middle part tumid with small tubercle at middle. Frons flat, shiny with a single horn between antennal sockets; apex rather sharp (Fig. 2C). Malar space 1.2 as long as basal mandibular width. Antenna filiform with 37 flagellomeres. 1st flagellomere 1.3 times as long as 2nd flagellomere. Metapleuron polished with dense, irregular punctures and much long pubescence. Only posterior transverse carina of propodeum completely present. Mesosoma densely regularly punctate. 1st tergite 1.4 times as long as apical width; dorso-median carina present only in basal half. Ovipositor sheath 0.8 times as long as fore wing, 2.1 times as long as hind tibia.

Black. Clypeus brown with yellow basal edge. Mandible black with reddish black mandibular teeth. Antenna brown with yellow ventral part; scape and pedicel brownish black with yellow ventral spot. Dorso-posterior corner of pronotum yellow. Hind coxa brownish yellow; trochanter and trochantellus bright yellow; femur brownish yellow with brown apically; tibia yellow with brown subapically and apically; tarsus yellow with brown apical half; tarsal claw brown.

**Distribution.** South Korea (new record), Japan, Russia (Chelyabinsk Oblast; Yaroslavl Oblast), Mongolia, Austria, Belgium, Bulgaria, Czech Republic, late Czechoslovakia, Denmark, Faeroe Islands, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, Moldova, Norway, Poland, Romania, Turkey, U.K.

#### 4. *Glypta tamanukii* Uchida, 1928 (Fig. 1D)

*Glypta tamanukii* Uchida, 1928: 73. Lectotype: ♀, type locality: Russia; type depository: SEHU.

**Material examined.** [South Korea]: [GB]: Gyeongsan-si, Dae-dong, Yeungnam Univ., 1♂, 10–17 Apr 2009, Lee JW.

**Diagnosis.** Male. Fore wing 5.0 mm, Body 8.0 mm.

Face slightly convex, densely and finely punctate with long hairs; weakly tumid with punctures less than other part medially; 0.7 times as long as wide. Frons flat, shiny, with a small single horn between antennal sockets (Fig. 2D). Vertex with dense and fine punctures and long hairs. Malar space as long as basal mandibular width. Antenna filiform with 37 flagellomeres. 1st flagellomere 2.0 times as long as 2nd flagellomere. Propodeum in dorsal view densely regularly punctate; posterior transverse carina complete; lateromedian longitudinal carina present only in basal half. Metasoma densely regularly punctate with much long hairs. 1st tergite 1.3 times as long as posterior width; dorso-median carina present up to basal half. 2nd–4th tergites with pair of weak oblique grooves.

Black. Face entirely black with only yellow maxillary palpus and labial palpus. Antenna brown. Dorso-posterior corner of pronotum with small yellow spot. Hind coxa brown; trochanter, trochantellus and femur brownish yellow; tibia brownish yellow with brown apically; 1st–2nd tarsal segments brown with yellow basally; 3rd–5th tarsal segments and tarsal claw brown. Metasoma blackish brown basally with bright brown apex.

**Distribution.** South Korea (new record), Russia (Khabarovsk Krai; Primorsky Krai; Sakhalin Oblast).

#### 5. *Glypta touyaensis* Watanabe & Maeto, 2014 (Fig. 3A)

*Glypta (Conoblata) touyaensis* Watanabe & Maeto, 2014: 29. Type: ♀, Type locality: Japan; type depository: KU.

**Material examined.** [South Korea]: [GB]: Jukbyeon-myeon,

Uljin-gun, 1♀, 31 May 2012, Lee JW; Yongyang-gun, Mt. Yeongdeungsan, 1♀, 19 Jul 1997, Lee JW.

**Diagnosis.** Female. Fore wing 5.5–6.3 mm, Body 7.5–8.0 mm.

Face slightly convex, densely and regularly punctate with pubescence, 0.5 times as long as wide. Frons flat, shiny with a large median horn between antennal sockets, apex relatively pointed (Fig. 2E). Malar space 1.0 as long as basal mandibular width. Antenna filiform with 34 flagellomeres. 1st flagellomere 1.5 times as long as 2nd flagellomere. Mesosoma shiny with dense punctures and pubescence. Mesoscutum slightly convex with dense punctures. Both sides near tegula weakly and obtusely produced posteriorly. Only posterior transverse carina of propodeum complete. Metasoma densely regularly punctate, punctures tending to higher dense at last segment of tergite. 1st tergite 1.3 times as long as apical width, its dorso-median carina present only in basal part, median longitudinal carina absent. Ovipositor sheath 1.4 times as long as fore wing, 3.2 times as long as hind tibia.

Black. Clypeus and mandible blackish brown except for black mandibular teeth. Antenna brown with blackish brown apically. All coxae, femora orange with brown apically of hind femur. Fore trochanter and trochantellus bright yellow. Tibia and tarsus yellow. Tarsal claw brown. Mid trochanter gradate orange basal to bright yellow apically. Trochantellus bright yellow. Tibia yellow with bright yellow basally and apically. Basitarsus bright yellow. 2nd–4th tarsal segments gradate bright yellow basal to orange apical. 5th tarsal segment and tarsal claw brown. Metasoma blackish brown with yellowish brown apical margin of each 1st–3rd tergites.

**Distribution.** South Korea (new record), Japan.

#### *Glypta* species group

According to Watanabe and Maeto, 2014, frons sometimes with a transverse crease above each antennal socket but not formed into projection. In South Korean species, frons just simple and smooth or with developed crease above antennal socket.

#### 6. *Glypta breviterebra* Momoi, 1963 (Fig. 3B)

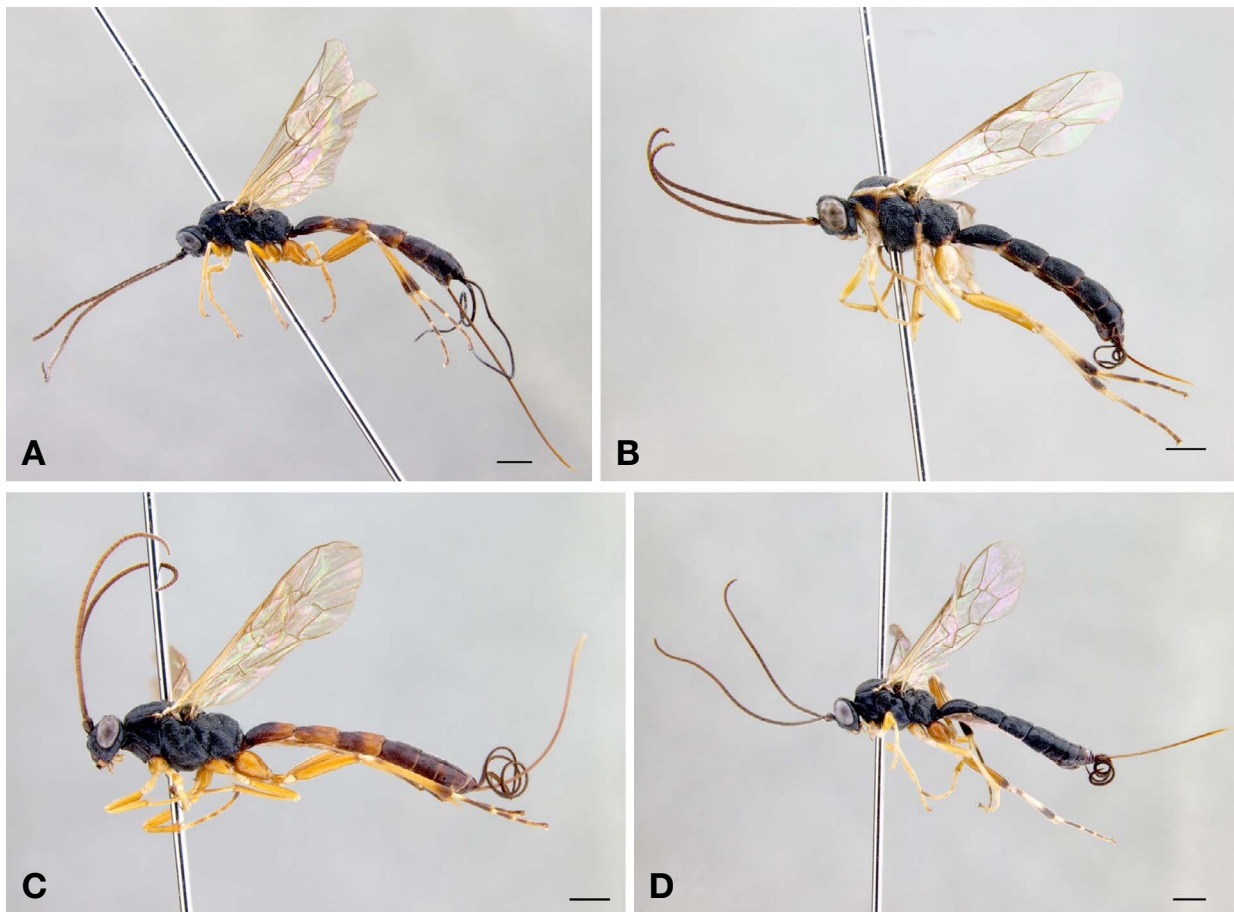
*Glypta (Glypta) breviterebra* Momoi, 1963: 116. Type: ♀, type locality: Japan; type depository: SEHU.

**Material examined.** [South Korea]: [CB]: Danyang-gun, Danyang-eup, Cheongdong-ri, Mt. Sobeaksan, 1♀, 14 Sep–14 Oct 2005, Lee JW; [GG]: Namyangju-si, Choan-myeon, Songchon-ri, Mt. Ungilsan, 1♀, 17–31 Aug 2009, Lim JO.

**Diagnosis.** Female. Fore wing 9.0 mm, Body 13.0 mm.

Face slightly convex, densely and regularly punctate with pubescence, punctures tending to merge; its middle part rather





**Fig. 3.** Habitus in lateral view. A, *Glypta touyaensis*; B, *G. breviterebra*; C, *G. fronticornis*; D, *G. incisa*. Scale bars: A–D=1.0 mm.

strongly tumid with a few punctures; 0.6 times as long as wide. Frons strongly rugose-punctate except a small smooth area just above each antennal socket, its smooth area margined with dorsally transverse rugulae. Vertex with dense close rugosopunctures and few pubescence. Malar space 0.9 as long as basal mandibular width. Antenna filiform with 29 flagellomeres. 1st flagellomere 2.0 times as long as 2nd flagellomere. Mesosoma entirely polished with dense, deep punctures and pubescence. Mesoscutum convex with regular punctures. Propodeum in dorsal view regularly punctate; posterior transverse carina complete; anterior transverse carina present except costula; lateromedian longitudinal carina weakly present; lateral longitudinal carina absent. Metasoma densely regularly punctate, tending to merge partly. 1st tergite 1.1 times as long as posterior width; its dorso-median carina present to basal half. 2nd tergite 0.9–1.0 times as long as maximum width. Ovipositor sheath 0.4 times as long as fore wing, 1.2 times as long as hind tibia.

Black. Clypeus and mandible yellow except for brown mandibular teeth. Antenna brown. Upper margin and lower corner

of pronotum yellow. Dorso-anterior corner of mesopleuron yellow. Vento-posterior of mesopleuron with small yellow spot. Fore and mid coxae, trochanters and trochantelli whitish yellow; femora, tibiae and tarsi yellow; tarsal claws brown. Hind coxa orange with yellow on dorsal half; trochanter and trochantellus yellow; femur orange; tibia tan yellow with black subapically and apically; basitarsus gradate from tan yellow basally to brown apically; 2nd tarsal segment brown with tan yellow basally; 3rd–5th tarsal segments and tarsal claw brown. Metasoma entirely black. Subgenital plate brown.

**Distribution.** South Korea (new record), China (Henan), Japan, Russia (Primorsky Krai).

**7. *Glypta clypeorostrata* Kang and Lee sp. nov. (Fig. 4)**  
<http://zoobank.org/7DAEE8AF-C23B-41BC-8110-DE37EEE619BD>

**Material examined.** Holotype: South Korea, [GN]: Gaum-san-gun, Chubu-myeon, Mt. Seodaesan, ♀, 24 May 2002, Lee JW (GEI). Paratypes [GB]: Cheongdo-gun, Mt. Unmunsan,

3♀♀, 17 May–22 Jun 2014, Lee JW; Cheongdo-gun, Unmun-myeon, Haksodaepokpo, 1♂♂, 17 May–22 Jun 2014, Lee JW; ditto, 1♀, 8 Jun–1 Jul 2013, Lee JW; [GB]: Cheongdo-gun, Unmun-myeon, Simsimgyegok, 6♀♀, 17 May–22 Jun 2014, Lee JW; ditto, 1♂♂, 19 Apr–14 May 2014, Lee JW; Cheongdo-gun, Unmun-myeon, Ssalbawi, Mt. Unmunsan, 1♀, 7 Jun–12 Jul 2013, Lee JW; Gyeongsan-si, Dae-dong, Yeongnam Univ., 1♀, 20–27 May 2013, Lee JW; Jeongeup-si Jangseong-gun, Bukha-myeon, 1♀, 21 Jun 2005, Kim KB; [GG]: Euijeongbu-si, Howon-dong, Wondobong valley, 2♀♀, 7 Jun–7 Sep 2010, Lee JW; Mt. Cheonmasan, 1♀, 4 Jun 1983, Lee JW; Namyangju-si, Choan-myeon, Songchon-ri, Mt. Unjilsan, 1♀, 27 May–10 Jun 2009, Lim JO; [GN]: Hapcheon-gun, Bongsan-myeon, Apgok-ri, San 150-3, 1♀, 4 Jun–10 Jul 2014, Lee JW; [GW]: Inje-gun, Girin-myeon, Mt. Bangtaesan, 1♀, 24 Jun–19 Jul 2013, Lee JW; Samcheok-si, Wondeok-eup, Sagok-ri, Sagokbungyo, 1♂♂, 6 May 2000; Wonju-si, Heungeop-myeon, Maeji-ri, Yeonsei Univ., 1♀, 29 May–5 Jul 2015, Han HY; Wonju-si, Socho-myeon, Hakgong-ri, Mt. Chiaksan, 1♀, 9–20 Jun 2013, Lee JW; [JB]: Jeongeup-si, Jangseong-gun, Bukha-myeon, Sajabong, 1♂♂, 22 Jun 2005, Chung DK; Muju-gun, Mupung-myeon, Hyeonnea-ri, San 3, Mt. Bekseoksan, 1♂♂, 21 May–4 Jun 2015, Lee JW; [JN]: Jangheung-gun, Bukha-myeon, Cheongryangwon, Mt. Naejangsan, 1♀, 4–22 Jun 2006, Lee JW; Seoul, Nowon-gu, Mt. Suraksan, 1♀, 30 May 1998, Lee JK (GEI); [GB]: Cheongdo-gun, Mt. Unmunsan, 1♀, 17 May–22 Jun 2014, Lee JW (NIBR).

**Description.** Female. Fore wing 6.3 mm, Body 9.0 mm (Fig. 4A).

Head in dorsal view with temple narrowed at angle greater than 45°, rounded (Fig. 4D). Face slightly convex, swollen medially, densely and regularly punctate with pubescence, 0.75 times as long as wide (Fig. 4C). Clypeus convex apically with long pubescence, as long as wide, indistinctly separated from face; apical margin strongly projected without median notch (Fig. 4B). Mandible long and tapered; upper tooth as long as lower tooth. Frons flat, shiny. Vertex with densely close punctures and pubescence. Occipital carina weakly interrupted at middle with complete apically; its lower end joining hypostomal carina at base of mandible. Temple polished with sparse fine punctures. Malar space 1.5 times as long as basal mandibular width. Inner margins of eye parallel. Antenna filiform with 40 flagellomeres. 1st flagellomere 1.5 times as long as 2nd flagellomere.

Mesosoma shiny with dense punctures and pubescence (Fig. 4H). Mesoscutum convex with dense fine punctures. Notaulus absent. Scutellum in profile strongly convex with rather deep punctures. Pronotum broad and shiny with entirely dense fine punctures. Epomia obscure. Mesopleuron polished with dense regular punctures; punctures bigger than these on pronotum.

Epicnemial carina present. Speculum small and concave without punctures. Postpectral carina and sternaulus absent. Metapleuron weakly convex with dense, irregular punctures and pubescence. Pleural carina distinct. Submetapleural carina complete, anterior half developed. Propodeum densely regularly punctate; anterior transverse carina present medially; posterior transverse carina complete; lateromedian and lateral longitudinal carinae weakly present; spiracle oval shaped (Fig. 4E). Fore coxa without ridge antero-dorsally. Fore tibial spur slightly sinuate. All tarsal claws pectinated. Areolet absent (Fig. 4I). Hind wing with 8 hamuli.

Metasoma very stout (Fig. 4G), densely regularly punctate. 1st tergite as long as apical width; dorso-median carina present in basal half (Fig. 4F). 2nd tergite densely punctate, 0.6 times as long as apical width. 2nd–4th tergite with pair of oblique grooves. Ovipositor sheath 0.7 times as long as fore wing, 2.3 times as long as hind tibia.

Color: Black. Head black. Mandible dark brown with yellow mandibular teeth. Antenna yellowish brown with brown apically. Scape black with yellow ventrally. Mesosoma black. Upper-posterior corner of pronotum yellow. Tegula yellow. Fore and mid legs with yellow brown tarsal claws. Hind leg brown with base of femur, apex of tibia and all tarsal segments dark brown. Metasoma entirely black.

Male. Almost same with female. Flagellum with 42–45 segments ( $n = 5$ ).

**Distribution.** South Korea (new record).

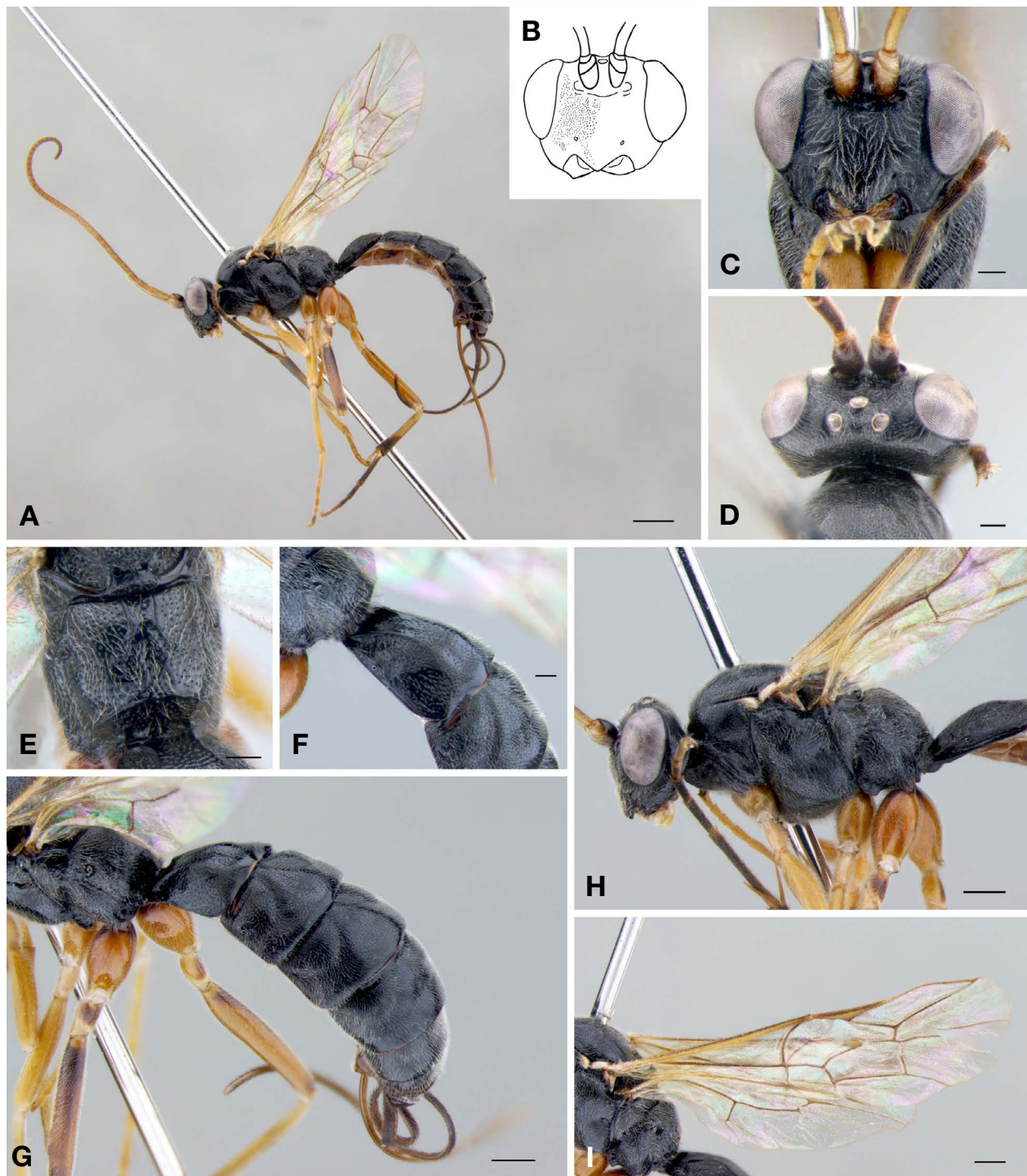
**Etymology.** The name comes from Latin noun “clipeus” and adjective “rostrata” meaning “beak-like clypeus”.

**Remarks.** With the entirely black body, yellow antenna and bright legs, the species is similar to *G. nigrina*, from which it differs by rather short ovipositor and strongly projected clypeus.

### 8. *Glypta fronticornis* Gravenhorst, 1829 (Fig. 3C)

*Pimpla fronticornis* Gravenhorst, 1829: 17. Type: unknown; type depository: IZU.

**Material examined.** [South Korea]: [GB]: Gyeongsan-si, Daehak-ro, 280 Yeongnam Univ., 1♂♂, 30 Aug–25 Oct 2013, Lee JW; Mungyeong-si, Dongro-myeon, Saegdal-ri, 1♀, 25 May 2007, Park SJ; Yeongyang-gun, Irwol-myeon, Mt. Irwolsan, 1♀, 24 Jun 2014, Kang GW; [GN]: Hamyang-gun, Mt. Wolgyeongsan, 1♀, 28 Sep 1997, Lee JW; Hapcheon-gun, Gaya-myeon, Mt. Gayasan, 1♂♂, 22 Aug 2000, Lee JW; Ulju-gun, Sangbuk-myeon, Icheon-ri, 1♀, 6–13 Jun 1989, Lee JW; [GW]: Cheolam-dong, 1♀, 19 May 1991, Park JS; Goseong-gun, Jinburyeong, 1♀, 13 Jun 1992, Ryu SM; Hongcheon-gun, Bukbang-myeon, Gwangwon Prov. Environment Research Park, 1♀, 29 Jun–16 Jul 2012, Jang SJ; ditto, 2♀♀, 16–31 Jul 2012; Inje-gun, Misan-ri, Mt.



**Fig. 4.** *Glypta clypeostrata* sp. nov.: A, Habitus in lateral view; B, Drawing of head; C, Head in frontal view; D, Head in dorsal view; E, Propodeum; F, First tergite; G, Metasoma; H, Thorax in lateral view; I, Wings. Scale bars: A=2.0 mm, C-F=0.2 mm, G-I=0.5 mm.

Bangdaesan, 1♂, 25 Jun 1996, Lee JW; Pyeongchang-gun, Jinbu-myeon, Dongsan-ri, 1♂, 2 Jul 1985, Jang GS; Incheon: Bupyeong-gu, Cheongcheon-dong, Incheon Butterfly-Park,

1♂, 1–15 May 2012, Koh MS. [China]: Jilin-seong, He-long-si, Xicheng-lin, Mingyan-chon, 1♀, 25–34 Aug 2009, Lee JW.



**Diagnosis.** Female. Fore wing 6.4–7.7 mm, Body 9.7–10.3 mm.

Face slightly swollen, densely and regularly punctate with long pubescence, 0.5 times as long as wide. Frons flat, shiny with a strongly developed longitudinal crease between antennal sockets. Vertex polished with sparse punctures and pubescence. Malar space 1.5 times as long as basal mandibular width. Antenna filiform with 34 flagellomeres. 1st flagellomere 1.5 times as long as 2nd flagellomere. Mesoscutum strongly convex with dense punctures. Notaulus weak. Only posterior transverse carina of propodeum present. Metasoma densely regularly punctate. 1st tergite as long as apical width, its dorso-median carina present only in basal part. Ovipositor sheath 1.2 times as long as fore wing, 3.4 times as long as hind tibia.

Black. Clypeus and mandibular teeth yellow. Antenna black with brown apically. Upper-posterior corner of pronotum yellow. Fore and mid legs brownish yellow with brown tarsal claws. Hind coxa and femur brownish yellow with brown apically; tibia yellow with brown sub-basally and apically; tarsal segments dark brown with each tarsal segment yellow basally; tarsal claw dark brown. Metasoma entirely brown with reddish. 1st to 3rd tergites with reddish yellow apical half.

**Distribution.** South Korea (new record), Russia (Penza Oblast; Sakhalin Oblast; Sankt Petersburg; Tatarskaya Respublika; Yaroslavl Oblast), Mongolia; Austria; Belgium; Bulgaria; Czechoslovakia; Denmark; Finland; France; Germany; Hungary; Ireland; Italy; Latvia; Lithuania; Moldova; Netherlands; Norway; Poland; Romania; Sweden; Ukraine; U.K.

### 9. *Glypta incisa* Gravenhorst, 1829 (Fig. 3D)

*Glypta incisa* Gravenhorst, 1829: 23. Type: unknown; type depository: IZU.

**Material examined.** [South Korea]: [CB]: Boeun-gun, Songnisan-myeon, Sanae-ri, Mt. Songnisan, Beopjusa, 1♂, 12 May 2000, Lee JW; Cheongwon-gun, Miwon-myeon, Midongsan Arboretum, 1♀, 3 Apr–15 May 2012, Jeong YS; Chungju-si, Suanbo-myeon, Mireuk-ri, 1♀, 26 May 2007, Park SJ; Danyang-gun, Chundong-ri, Mt. Sobaeksan, 1♂, 13 May 1994, Yeo HD; Danyang-gun, Danyang-eup, Cheongdong-ri, Cheongdong valley, 1♂, 30 Apr–21 May 2007, Lee JW; Danyang-gun, Yeongcheon-myeon, Namcheon-ri, 1♀, 12 Jun 2009, Kim CJ; Jecheon-si, Deokasn-myeon, Worak-ri, Deokasnmaepyo, Mt. Woraksan, 1♀, 3–16 Jun 2006, Lee JW; ditto, 1♀, 2–20 Jun 2006; Mt. Sobaeksan, Pirobong, 2♂♂, 12 May 1994, Kim JI; ditto, 1♂, 18 Aug 1994, Kim YS; Seosan-si, Haemi-myeon, Daegok-ri, Hanseo Univ., 1♀, 19 May–4 Jun 2006, Kim JG; Daegu, Dong-gu, Sinmu-dong, San7, 1♀, 11 Jun–14 Jul 2014, Lee JW; Daegu, Nam-gu, Daemyeong-dong, Mt. Apsan, 1♂, 24 Apr 2005,

Lee JW; [GB]: Andong-si, Docheon-ri, 1♂, 4 May 1997, Lee JW; Ceongdo-gun, Unmun-myeon, Munsuseonwon, 1♀, 16 Jul 2013, Lee JW; 1♂, Cheongdo-gun, Budong-myeon, Mt. Juwangsan, 15 May 1987, Lee JW; 1♀, Cheongdo-gun, Unmun-myeon, Keungolgyegok, 12 May 2012, Lee JW; Cheongdo-gun, Unmun-myeon, Mt. Unmunsan, 1♀, 23 May–6 Jun 2008, Lee JW; ditto, 1♀, 6–19 Jun 2008, Lee JW; ditto, 1♀, 24 Jul 2008, Lee JW; Gyeongsan-si, Daehak-ro 280, Yeongnam Univ., 1♀1♂, 30 Aug–25 Oct 2013, Lee JW; Jukjang-myeon, Haok-ri, 1♀, 19 Sep 2004, Lee JW; Yeongju-si, Punggi-eup, Jungnyeong, 1♀, 15–21 May 2009, Lee JW; Yeongyang-gun, Irwol-myeon, Mt. Irwolsan, 1♀, 26 Jun–15 Jul 2014, Han HY; [GG]: Anyang-si, Manan-gu, Kwanag Arb., 1♀, 3–20 May 2009, Lim JO; Mt. Myeongjisan, Kwimok Kwimokkogae, 1♂, 29 Jun 1999, Ryu SM; Namyangju-si, Choan-myeon, Songchon-ri, Mt. Ungilsan, 1♀, 27 May–10 Jun 2012, Lim JO; ditto, 1♀, 27 May–10 Jun 2009, Lim JO; Namyangju-si, Joan-myeon, Songchon-ri, 1♀, 16–30 Jun 2009, Lim JO; Yongin-si, Suji-gu, Mt. Gwanggyosan, 1♀, 15–25 Aug 2008, Lim JO; [GN]: Hapcheon-gun, Bongsan-myeon, Apgok-ri, San 150-3, 1♀, 4 Jun–10 Jul 2014, Lee JW; Uiryeong-gun, Gungnyu-myeon, Byeokgye-ri, 369-6, 1♀, 16 May 2014, Lee SB; [GW]: Dong-gu, Jisandong, Mt. Mudeungsan, 1♂, 16 May 1990, Lee JW; Donghae-si, Samhwa-dong, Mt. Cheongoksan, 1♀, 21 May 2005, Lee JW; Hongcheon-gun, Nae-myeon, Mt. Gyebangsan, 1♂, 1–27 Aug 2013, Lee JW; Hyangrobong, 3♂♂, 13 May 1992, Ryu SM; Inje-gun, Binji-dong, Mt. Bangdaesan, 1♀, 25 Jun 1996, Lee JW; Inje-gun, Hanni-dong, Mt. Bangdaesan, 1♀, 24 Jun 1996, Lee JW; Jeongseon-gun, 1♂, 11 Jun 2011, Lee JW; Mt. Hambaeksan, 1♀, 1 Jul 1999, Lee JW; Mt. Taebaeksan, 2♂♂, 14 May 1992, Lee JW; Samcheok-si, Miro-myeon, Mt. Dootasan, 1♂, 21 May 2005, Lee JW; Taebaek-si, Hyeol-dong, Mt. Taebaeksan, 1♂, 13 Aug 1989, Lee JW; ditto, 1♂, 13 May 1991, Lee JW; ditto, 1♂, 14 May 1992, Lee JW; ditto, 1♀, 1 Jul 1999, Lee JW; Wonju-si, Heungeop-myeon, Maeji-ri, Yeonsei Univ., 2♀♀, 19 May–6 Jun 2011, Han HY; Yanggu-gun, Gachilbong, 2♀♀, 31 May 1992, Lee JW; Yanggu-gun, Gahyeonbong, 1♂, 31 May 1992, Ryu SM; [JB]: Buan-gun, Byeonsan-myeon, Junggye-ri, Byeonsanbando Jiksopokpo, 3♂♂, 5 May 2001, Lee JW; Jeongeup-si, Naejang-dong, Naejangsan Wonjeokgyegok, 1♀, 31 Aug 2008, Lee JW; Jangheung-gun, Gwansan-eup, Mt. Cheongwansan, 1♀, 8–29 Aug 2000, Lee JW; Seoul Dongdaemun-gu, Cheogyangri-dong, 1♂, 21–28 Jun 2005, Choi WL; Seoul Seongbuk-gu Jeongneung, 1♂, 25 May 1996, Im IH.

**Diagnosis.** Female. Fore wing 8.3–9.0 mm, Body 11.9–13.0 mm.

Face slightly convex, densely and regularly punctate with pubescence, 0.57 times as long as wide, swollen medially. Frons flat, shiny. Malar space 0.6 times as long as basal man-

dibular width. Antenna filiform with 39 flagellomeres. 1st flagellomere 1.3 times as long as 2nd flagellomere. Mesoscutum convex with dense punctures. Notaulus strongly present, almost parallel. Scutellum, in profile, strongly convex with deep punctures. Posterior transverse carina of propodeum complete. 1st tergite 1.2 times as long as apical width; its dorso-median carina present on basal half. 2nd tergite densely punctate, as long as apical width. 2nd–4th tergite with pair of oblique grooves. Ovipositor sheath 0.9 times as long as forewing, 3.6 times as long as hind tibia.

Black. Clypeus and mandible yellow with black mandibular teeth. Basal part of antenna dark brown tending to brownish apically. Mesosoma black. Upper-posterior corner of pronotum yellow. Tegula yellow, subtegular ridge brown. Hind coxa and femur orange with brown apically. Hind tibia dark brown with basal and dorsal yellow part. Hind tarsus and tarsal claw dark brown with yellow basally. Metasoma entirely black.

**Distribution.** South Korea (new record), Russia (Primorsky Krai; Yaroslavl Oblast), Mongolia, Austria, Belarus, Belgium, Bulgaria, Croatia, Czech Republic, Czechoslovakia, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Romania, Sweden, Switzerland, Ukraine, U.K., Yugoslavia.

#### 10. *Glypta media* Momoi, 1963 (Fig. 5A)

*Glypta media* Momoi, 1963: 116. Type: ♀, Type locality: Japan; type depository: SEHU.

**Material examined.** [South Korea]: [GB]: Cheongdo-gun, Gakbuk-myeon, Namsan-ri, 1♀, 15 Sep–21 Oct 2013, Lee JW.

**Diagnosis.** Female. Fore wing 6.0 mm, Body 7.5 mm.

Face weakly convex, densely and regularly punctate with long pubescence, 0.5 times as long as wide. Frons densely punctate with transverse crease above each socket and pair of longitudinal creases between each antennal socket. Temple polished with sparsely fine punctures. Malar space 0.8 times as long as basal mandibular width. Antenna filiform with 29 flagellomeres. 1st flagellomere 1.5 times as long as 2nd flagellomere. Mesoscutum convex with dense punctures. Only posterior transverse carina of propodeum present. Metasoma densely punctate. 1st tergite 1.3 times as long as apical width, dorso-median carina present in basal half. 2nd tergite densely punctate. 2nd–4th tergite with pair of oblique grooves. 1st–4th tergites partly longitudinally striated by coalescent punctures. Ovipositor sheath 0.9 times as long as fore wing, 2.2 times as long as hind tibia.

Black. Clypeus and mandible yellow with brown mandibular teeth. Antenna dark brown. Upper margin of pronotum

yellow. Tegula and subtegular ridge yellow. Fore and mid legs yellow with brown tarsal claws. Hind coxa and femur yellow; trochanter and trochantellus bright yellow. Tarsus bright yellow with brown apically. Basitarsus with brown band subapically. Tarsal claw brown.

**Distribution.** South Korea (new record), Japan, Russia (Primorsky Krai).

#### 11. *Glypta nigrina* Desvignes, 1856 (Fig. 5B)

*Glypta nigrina* Desvignes, 1856: 74. Lectotype: ♀, type locality: U.K.; type depository: NHM

*Glypta ruficeps* Desvignes, 1856: 76. Type: ♀, type locality: U.K.; type depository: NHM.

*Glypta fractigena* Thomson, 1889: 1334. Lectotype: ♀, type locality: France; type depository: ZI.

*Glypta (Glypta) fractigena obscura* Pfankuch, 1924: 210. Type: ♀, type locality: Germany; type depository: lost.

*Glypta clypeodentata* Bauer, 1958: 187. Type: ♀, type locality: Germany; type depository: BAUER.

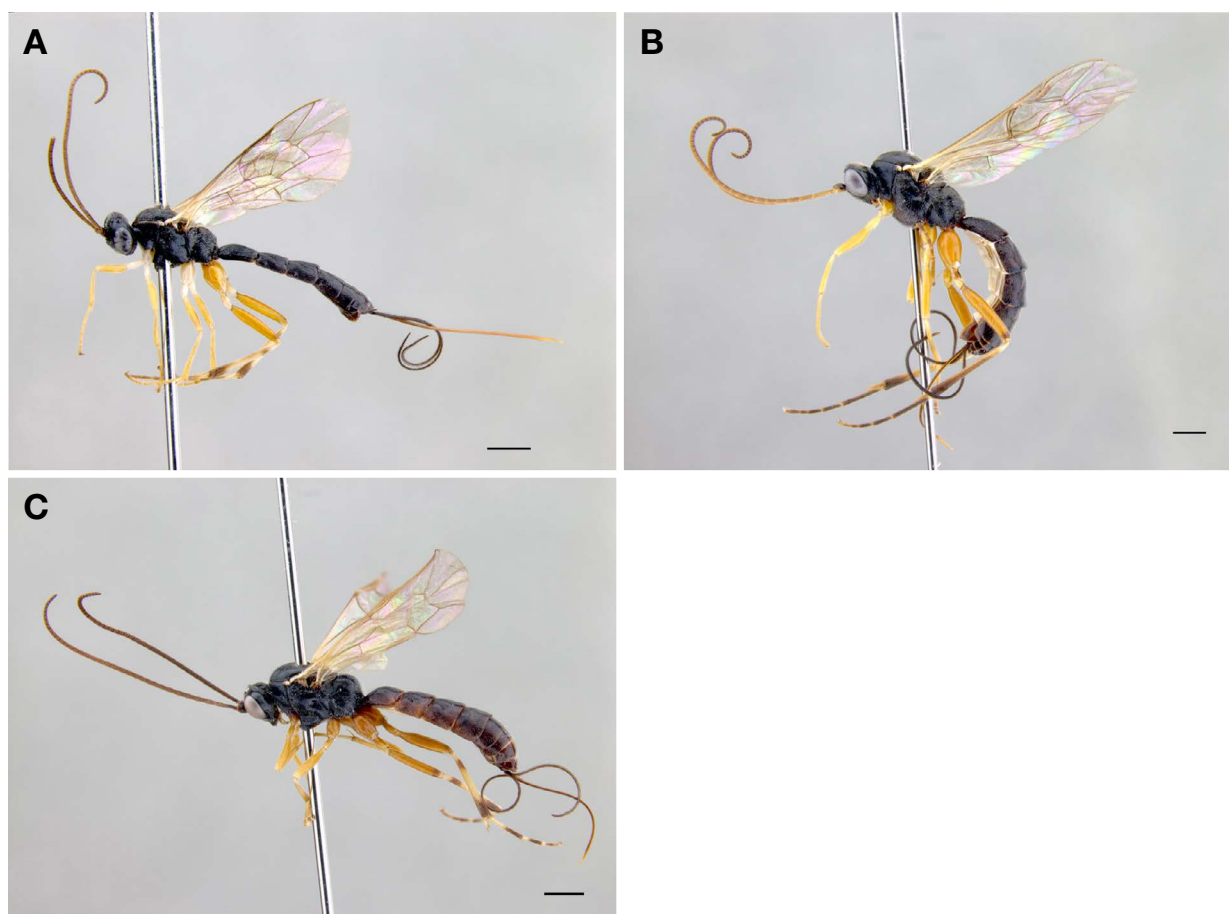
*Glypta habermani* Ozols, 1959: 145. Type: ♀, type locality: Estonia; type depository: unknown.

**Material examined.** [South Korea]: Ulsan, Ulju-gun, Duseo-myeon, Hwalcheon-ri, Gajeong reservoir, 1♀, 2 Jul 2007, Lee JW.

**Diagnosis.** Female. Fore wing 7.3 mm, Body 11.0 mm.

Face slightly convex, densely and regularly punctate with pubescence, 0.5 times as long as wide. Mandible tapered; upper tooth slightly longer than lower tooth. Frons flat, shiny. Malar space 1.3 times as long as basal mandibular width. Inner margins of eye parallel. Antenna filiform with 36 flagellomeres. 1st flagellomere 1.6 times as long as 2nd flagellomere. Mesoscutum flat, coriaceous with dense punctures. Notaulus present. Epomia strong. Propodeum regularly punctate; posterior transverse carina complete; anterior transverse carina present; costula absent; lateromedian longitudinal carina weakly present; lateral longitudinal carina absent; spiracle of propodeum circle shaped. 1st tergite 1.1 times as long as apical width; dorso-median carina present on basal 2/3, median longitudinal carina absent. 2nd tergite densely punctate, 0.7 times as long as apical width. 2nd–4th tergite with pair of oblique grooves. Ovipositor sheath 0.8 times as long as fore wing, 3.6 times as long as hind tibia.

Black and reddish. Clypeus brown. Mandible dark yellow with black mandibular teeth. Antenna yellow with brown apically. Scape black dorsally. Mesosoma black. Upper-posterior corner of pronotum yellow. Mesopleuron partly reddish. Hind legs orange; tibia and tarsus dark brown with bright basal part. Tarsal claw dark brown. Metasoma blackish red with black apically of each tergite.



**Fig. 5.** Habitus in lateral view. A, *Glypta media*; B, *G. nigrina*; C, *G. talitzkii*. Scale bars: A-C=1.0 mm.

**Distribution.** South Korea (new record), Mongolia, Austria, Belarus, Belgium, Bulgaria, Czech Republic, Czechoslovakia, Germany, Hungary, India, Ireland, Moldova, Netherlands, Norway, Pakistan, Poland, Romania, Spain, Switzerland, U.K.

**12. *Glypta talitzkii* Kuslitzky, 1974 (Fig. 5C)**

*Glypta (Glypta) talitzkii* Kuslitzky, 1974: 120. Type: ♀, type locality: Moldova; type depository: ZIS.

**Material examined.** [South Korea]: [GB]: Cheongha-myeon, Yugye-ri, 1♀, 4 Jul 2003, Lee JW; Gyeongsan-si, Dae-dong, Yeungnam Univ., 1♀, 22 Jun 1993, Lee EJ; [GN]: Hamyang-gun, Hamyang-eup, 1♂, 14 Aug 1997, Lee JW; Miryang-si, Danjang-myeon, Gucheon-ri, Sajayeong, 1♀, 4-10 Jun 1998, Lee JW.

**Diagnosis.** Female. Fore wing 6.3–6.5 mm, Body 8.1–8.6 mm.

Face slightly convex, swollen medially, densely and regularly punctate with pubescence, 0.6 times as long as wide. Frons flat, shiny. Malar space 1.1 as long as basal mandibular width.

Antenna filiform with 35 flagellomeres. 1st flagellomere 1.4 times as long as 2nd flagellomere. Mesoscutum flat with dense fine punctures. Notaulus weak. Epomia distinct. Propodeum in dorsal view densely regularly punctate; in lateral view very stout, precipitous; only posterior transverse carina present. 1st tergite stout, as long as posteriorly broad, its median dorsal carina present in basal half. 2nd tergite densely punctate, 0.7 times as long as apical width. 2nd–4th tergites with pair of oblique grooves, both basal sides strongly swollen. Ovipositor sheath 0.6 times as long as fore wing, 1.7 times as long as hind tibia.

Black with reddish brown metasoma. Clypeus and mandible entirely dark brown. Antenna brown. Scape black dorsally. Upper posterior corner yellow. All legs yellow. Hind tibial apex and apical half of each tarsal segments dark brown. Hind tarsal claw brown. Metasoma black with reddish brown each tergite apically.

**Distribution.** South Korea (new record), Russia (Primorsky Krai), Moldova, Ukraine.

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**CONFLICTS OF INTEREST**

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

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**REFERENCES**

- Ashmead WH, 1906. Descriptions of new Hymenoptera from Japan. *Proceedings of the United States National Museum*, 30:169-201.
- Aubert JF, 1978. Les Ichneumonides ouest-paléarctiques et leurs hotes 2. Banchinae et Suppl. aux Pimplinae. *Laboratoire d'Evolution des Etres Organises, Paris and EDIFAT-OPIDA, Echauffour*, pp. 1-318.
- Bauer R, 1958. Neue Ichneumoniden aus Franken (Hymenoptera, Ichneumonidea). *Beiträge zur Entomologie*, 8:181-189.
- Desvignes T, 1856. Catalogue of British Ichneumonidae in the collection of the British Museum, London, pp. 1-120.
- Förster A, 1869. Synopsis der Familien und Gattungen der Ichneumoniden. *Verhandlungen des Naturhistorischen Vereins der Preussischen Rheinlande und Westfalens*, 25:135-221.
- Gauld ID, Sithole R, Gómez, JU, Godoy C, 2002. The Ichneumonidae of Costa Rica. 4. *Memoirs of the American Entomological Institute*, 66:1-768.
- Gravenhorst JLC, 1829. *Ichneumonologia Europaea. Pars III. Sumtibus auctoris, Vratislaviae*, pp. 1-1097.
- Hellén W, 1915. Beiträge zur Kenntnis der Ichneumoniden Finlands I. Subfamily Pimplinae. *Acta Societatis pro Fauna et Flora Fennica*, 40:1-89.
- Kuslitzky WS, 1973. Two new species of Ichneumon flies of the genus *Glypta* (Hymenoptera, Ichneumonidae) from the Asiatic part of the USSR. *Zoologicheskii Zhurnal*, 52:1582-1584 (in Russian with English summary).
- Kuslitzky WS, 1974. Systematics of the genus *Glypta* Grav. (Hymenoptera, Ichneumonidae). Descriptions of new species of the genus from the USSR. *Entomologicheskoye Obozreniye*, 53:404-409 [*Entomological Review*, 53:118-121].
- Kuslitzky WS, 2007. Banchinae. In: *Key to the insects of Russia Far East. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Pt 5 (Ed., Lelej AS). Dalnauka, Vladivostok*, pp. 433-472 (in Russian).
- Momoi S, 1963. Revision of the Ichneumon-flies of the tribe Glyptini occurring in Japan (Hymenoptera: Ichneumonidae). *Notes on Lycorina ornata Uchida & Momoi, 1959. Insecta Matsumurana*, 25:98-117.
- Ozols EY, 1959. New species of Ichneumonidae from Latvian SSR. *Fauna Latvijas SSR (Riga). Trudy Instituta Biologii Akademii Nauk Latv. SSR*, 2:121-145 (in Russian with German summary).
- Pfankuch K, 1924. Ein Beitrag zur Ichneumoniden-Fauna Nord-schleswigs. III. *Zeitschrift für Wissenschaftliche Insektenbiologie*, 19:208-215.
- Ratzeburg JTC, 1852. Die Ichneumoniden der Forstinsecten in forstlicher und entomologischer Beziehung. *Dritter Band. Berlin*, pp. 1-272.
- Strobl G, 1901. Hymenoptera aus Ungarn und Siebenbürgen. *Gesammelt von Professor Gabriel Strobl und Professor Thahammer. Verhandlungen und Mitteilungen des Siebenbürgischen Vereins für Naturwissenschaften in Hermannstadt*, 50:43-79.
- Thomson CG, 1889. XXXIX. Öfversigt af arterna inom släktet *Glypta* (Grav.). *Opuscula Entomologica, Lund*, 13:1321-1353.
- Townes HK, 1969. The genera of Ichneumonidae, Part 1. *Memoirs of the American Entomological Institute. No. 11. American Entomological Institute, Ann Arbor, MI*, pp. 1-300.
- Townes HK, 1970. The genera of Ichneumonidae, Part 3. *Memoirs of the American Entomological Institute. No. 13 (1969). American Entomological Institute, Ann Arbor, MI*, pp. 1-307.
- Uchida T, 1928. Dritter Beitrag zur Ichneumoniden-Fauna Japans. *Journal of the Faculty of Agriculture, Hokkaido Imperial University*, 25:1-115.
- Watanabe K, 2017. The tribe Glyptini (Hymenoptera, Ichneumonidae, Banchinae). In: *The insects of Japan, Vol. 8 (Ed., The Entomological Society of Japan). Touka Shobo, Fukuoka*, pp. 1-402.
- Watanabe K, Maeto K, 2013. Review of the subgenus *Diblastomorpha* Förster, 1869, of the genus *Glypta* Gravenhorst, 1829 (Hymenoptera, Ichneumonidae, Banchinae). *Japanese Journal of Systematic Entomology*, 19:129-137.
- Watanabe K, Maeto K, 2014. Taxonomic status of the subgenus *Conoblata* Förster 1869 of the genus *Glypta* Gravenhorst 1829 with revision of Japanese species (Hymenoptera, Ichneumonidae, Banchinae). *Zootaxa*, 3755:1-32. <https://doi.org/10.11646/zootaxa.3755.1.1>
- Yu DS, Van Achterberg C, Horstmann K, 2016. *Taxapad 2016, Ichneumonoidea 2015. Database on flash-drive [Internet]. Dicky Sick Ki Yu, Ottawa, Accessed 1 Jan 2016, <http://www.taxapad.com>*.

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