

Three Newly Recorded Campoplegine Species (Hymenoptera: Ichneumonidae: Campopleginae) from Korea

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ABSTRACT

We report three newly recorded campoplegine species, *Klutiana jezoensis* (Uchida, 1957), *Dusona maruyamator* Hinz, 1979, *Dusona petiolator* (Fabricius, 1804), for the first time from Korea. Genus *Klutiana* Betrem (1933), is firstly recorded from Korea. Photographs and diagnosis are provided for identification.

Key words: *Klutiana jezoensis*, *Dusona maruyamator*, *Dusona petiolator*, Campopleginae, Ichneumonidae, Korea

INTRODUCTION

The Campopleginae is the third largest subfamily of the family Ichneumonidae with diverse host preferences. 179 species of genus *Dusona* has been reported in Eastern Palearctic region but only ten species in Korea. Three species of the genus *Klutiana* has been reported in Eastern Palearctic, but recorded for the first time from Korea.

All the species of the subfamily Campopleginae are usually endoparasitoids of most extant lepidopteran groups.

In the present study, we add three species of Campopleginae to the Korean fauna: *Dusona maruyamator* Hinz, 1979, *Dusona petiolator* (Fabricius, 1804) and *Klutiana jezoensis* (Uchida, 1957). We provide diagnoses, photographs of diagnostic characters, and distributional data.

MATERIALS AND METHODS

All the materials used in this study have been collected by the authors and other fellow workers or loaned from foreign collections (SEHU and UZMC). Examined specimens are deposited in the Department of Biology, Yeungnam University. Specimens were examined by stereo microscope (Zeiss Stemi SV 11 Apo; Carl Zeiss, Göttingen, Germany) and key characters shown in photographs were produced with a Delta imaging system (i-Delta 2.6; iMTechnology, Daejeon, Korea).

Abbreviations are as follows: TS, Type species; TD, Type Depository; BMNH, The Natural History Museum, Department of Entomology, Cromwell Road, London, England, United Kingdom; NCM, Norwich Castle Museum, Norwich,

United Kingdom; NHRS, Naturhistoriska Riksmuseet, Sektionen för Entomologi, Stockholm, Sweden; SEHU, Systematic Entomology, Faculty of Agriculture, Hokkaido University, Japan; UZMC, Universitets Zoologiske Museum, Copenhagen, Denmark.

TAXONOMIC ACCOUNTS

Order Hymenoptera

Family Ichneumonidae Latreille, 1802

Subfamily Campopleginae Förster, 1869

Genus *Dusona* Cameron, 1901

Dusona Cameron, 1901: 107. TS: *Dusona stramineipes* Cameron, 1901.

Delopia Cameron, 1903: 304. TS: *Delopia cariniscutis* Cameron, 1903=*Dusona cariniscutis* (Cameron, 1903).

Campoplegidea Viereck, 1912: 633. TS: *Campoplex oxyacanthae* (Boie, 1855)=*Dusona mercator* (Fabricius, 1793).

Pseudocasinaria Viereck, 1912: 644. TS: *Casinaria americana* Viereck, 1912=*Dusona americana* (Ashmead, 1890).

Thymarimorpha Viereck, 1913: 384. TS: *Thymarimorpha platygastra* Viereck, 1913=*Dusona gnara* (Cresson, 1874).

Zachrestinus Enderlein, 1921: 38. TS: *Zachrestinus fractocristatus* Enderlein, 1921=*Dusona fractocristata* (Enderlein, 1921).

Idiosomidea Viereck, 1925: 271. TS: *Campoplex photomorphus* (Viereck, 1905)=*Dusona bellula* (Dalla Torre, 1901).

Neodelopia Benoit, 1957: 314. TS: *Neodelopia pauliani* Benoit, 1957=*Dusona pauliani* (Benoit, 1957).

Kartika Gupta and Gupta, 1976: 460. TS: *Kartika aspera* Gupta and Gupta, 1976=*Dusona aspera* (Gupta and Gupta, 1976).

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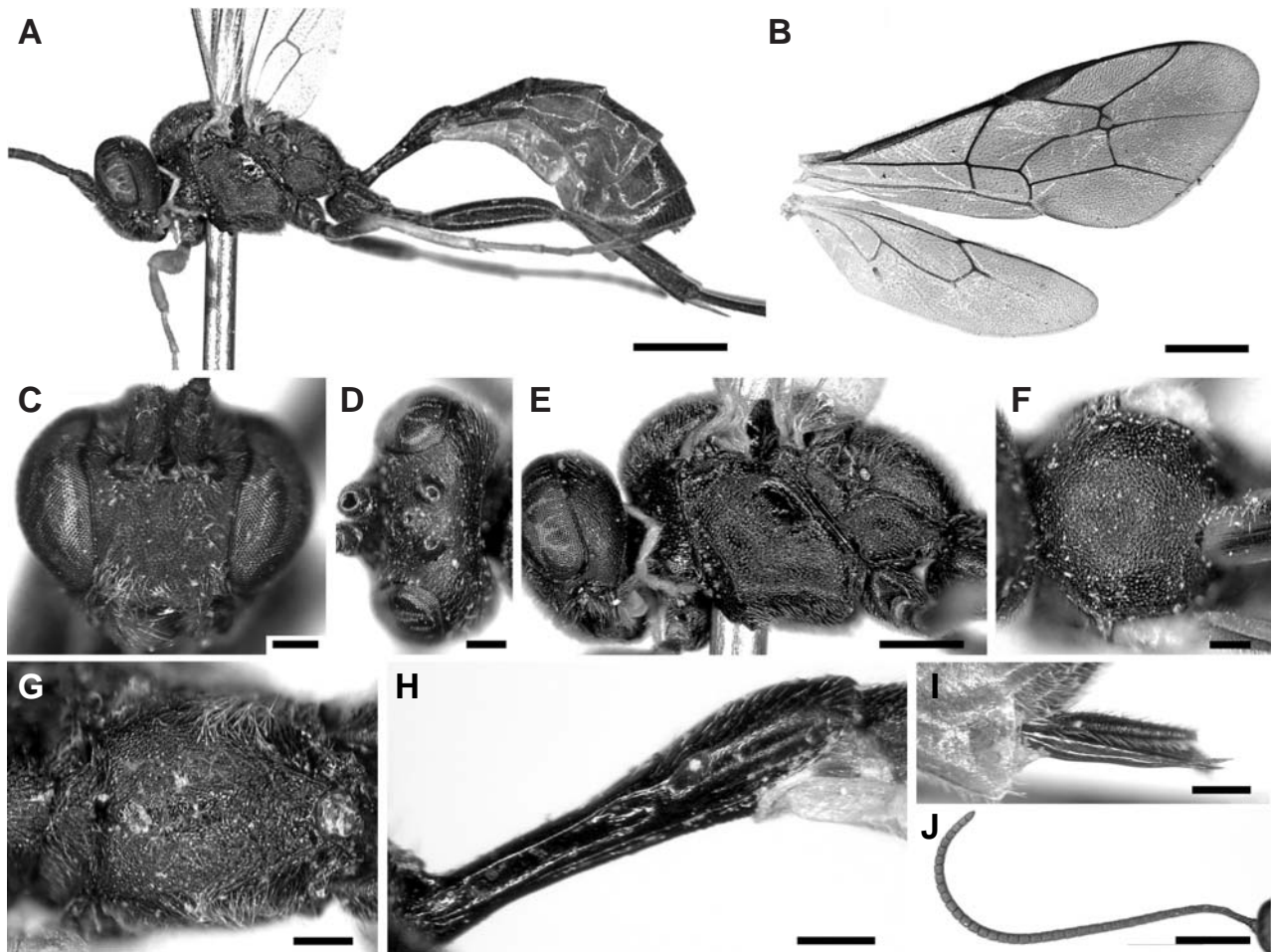


Fig. 1. *Dusona maruyamator*; A, Body in lateral view; B, Wings; C, Head in frontal view; D, Head in dorsal view; E, Mesopleuron in lateral view; F, Mesoscutum; G, Propodeum; H, Petiole; I, Ovipositor; J, Antenna. Scale bars=1 mm (A, B, J), 0.2 mm (C, D, F, G, I), 0.5 mm (E, H).

***Dusona maruyamator* Hinz, 1979 (Fig. 1)**

Dusona maruyamator Hinz, 1979: 215. Type: female, TD: SEHU.

Materials examined. KOREA: Gyeongsangbuk-do, Gyeongsan-si, Daedong Yeungnam Univ., 22 Apr.-1 May 2006 (J.W. Lee) 1 ♀; Daejeon, Daejeon Univ., 1-17 May 2006 (J.K. Choi) 4 ♀ ♀; Jeollabuk-do, Jeongeup-si, Naejang-dong, Wonjeogam, 28 Apr.-28 May 2006 (J.K. Choi) 1 ♀.

Diagnosis. Face and antennae black; mandible yellowish brown; tegula yellow; fore legs yellow except for coxae black, trochanter and trochantellus yellow and black; mid legs yellow except for coxae black, trochanter and trochantellus yellow and black, femur black; hind legs dark brown except for coxae black, trochanter, trochantellus and femur black.

Face slightly closely punctuate; frons scarcely depressed,

finely and densely rugosely punctate, without wrinkles; clypeus almost flat, with very fine disperse punctuation, margin of clypeus polished, truncated, not separated from face (Fig. 1C); mandibles short and stout, moderately narrow, upper tooth of mandible and lower tooth the same size; temple convex; occipital carina complete; flagellum with 35 segments (Fig. 1J).

Pronotum without epomiaae; mesoscutum finely punctuate, notauli absent (Fig. 1F); scutellum and postscutellum convex, lateral carinae of scutellum absent, epicnemial carina present; speculum strong, weakly polished, striped (Fig. 1E); propodeum partly very finely, rugosely punctuated (Fig. 1G), propodeal spiracle open; prepectal and postpectal carina present; hind tarsal claws short comb; areolet of fore wings present, small, stalked, receiving the second recurrent vein distad of the middle (Fig. 1B); basal hamuli 3, hind hamuli 6; nervellus weakly intercepted.

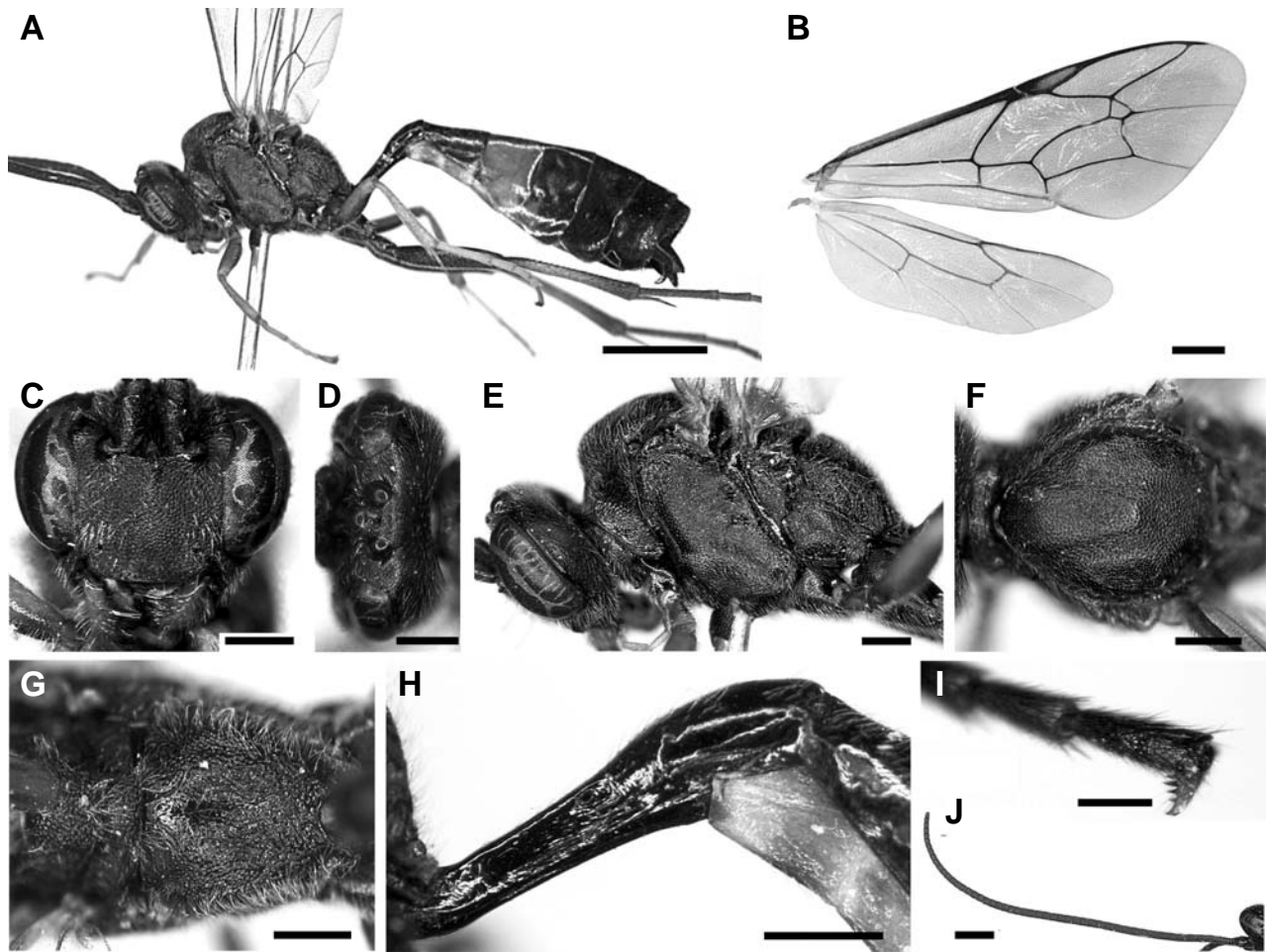


Fig. 2. *Dusona petiolator*; A, Body in lateral view; B, Wings; C, Head in frontal view; D, Head in dorsal view; E, Mesopleuron in lateral view; F, Notauli of mesoscutum; G, Propodeum; H, Petiole; I, Hind tarsal claw; J, Antenna. Scale bars=2 mm (A), 1 mm (B, J), 0.5 mm (C-H), 0.2 mm (I).

Petiole with glymmae (Fig. 1H); thyridium elongate; ovipositor sheath hairly, ovipositor short (Fig. 1I).

Host Records. Unknown.

Distribution. Korea, Japan, Russia.

***Dusona petiolator* (Fabricius, 1804) (Fig. 2)**

Ophion petiolator Fabricius, 1804: 140. Type: female, TD: UZMC.

Campoplex lapponicus (Holmgren, 1860): 37. Type: female, TD: NHRS.

Campoplex punctatus (Bridgman 1886): 345. Type: male, TD: NCM.

Campoplex greeni (Cameron, 1905): 127. Type: female, TD: BMNH.

Campoplex sachalinensis Uchida, 1928: 276. Lectotype: female, TD: SEHU.

Materials examined. KOREA: Daejeon, Daejeon Univ., 16 May-5 Jun. 2006 (J.W. Lee) 1 ♂ 1 ♀; 1-17 May 2006 (J.W. Lee) 1 ♂; Auftria Dom. ? 1 ♀.

Diagnosis. Head and scape black; mandible yellow; apex of mandible brown; tegula dark brown; forelegs yellow except for coxae black, trochanter and trochantellus yellowish black, femur yellowish brown; mid legs yellow except for coxae black, trochanter and trochantellus yellowish black; hind legs yellowish brown except for coxae, trochanter, trochantellus and femur black; tergite black except for third tergite reddish brown.

Face finely closely punctuate; vertex finely punctuate more than face; clypeus flat, finely and rather densely punctuate, apex part of clypeus truncate, clypeus not separated from face (Fig. 2C); temple with fine dense punctuation; occipital carina complete; flagellum with 49 segments (Fig. 2J); pronotum densely rugose laterally, with longitudinal

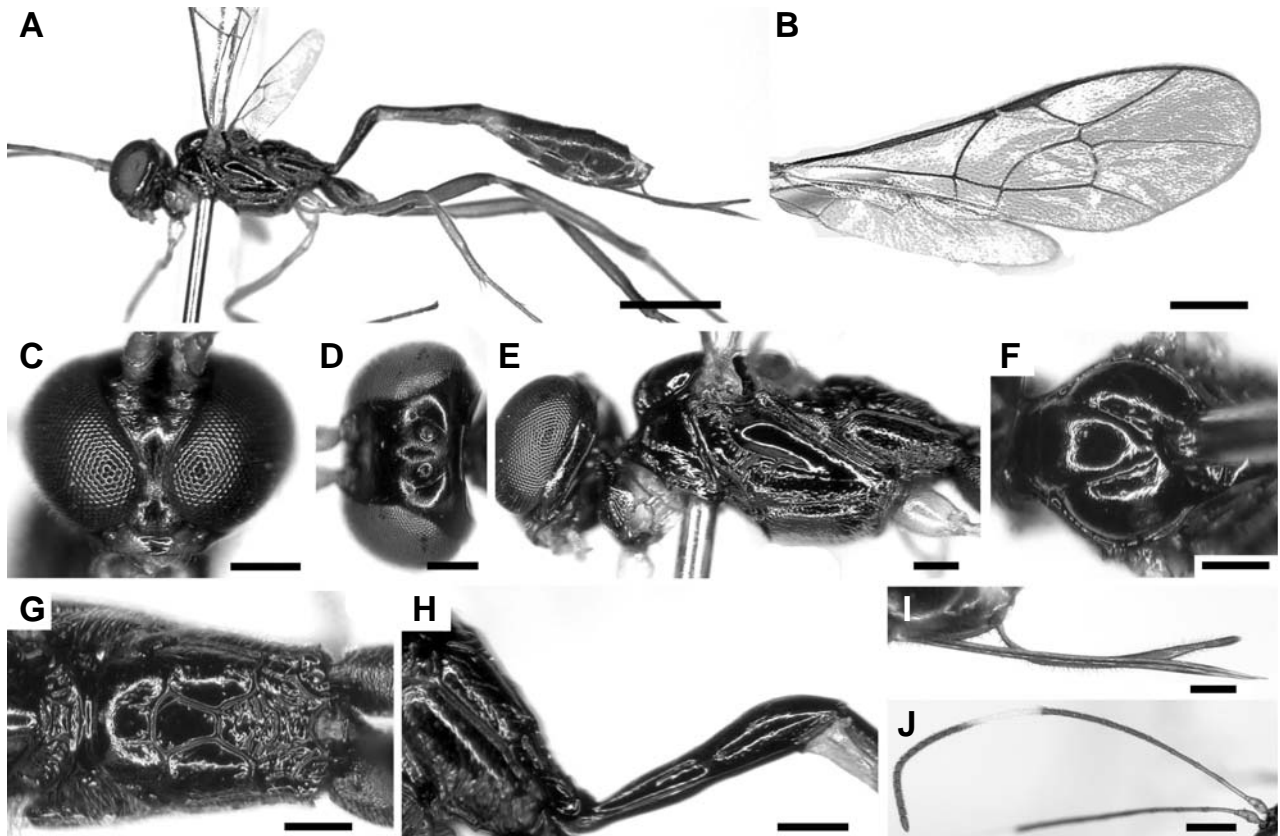


Fig. 3. *Klutiana jezoensis*; A, Body in lateral view; B, Wings; C, Head in frontal view; D, Head in dorsal view; E, Mesopleuron in lateral view; F, Notauli of mesoscutum; G, Propodeum; H, Petiole; I, Ovipositor; J, Antenna. Scale bars=1 mm (A), 0.5 mm (B, J), 0.2 mm (C-I).

wrinkles ventrally, pleural part of prepectus rugose-punctate and with wrinkles, epomia of pronotum absent; mesoscutum closely punctate and shining background, notauli complete (Fig. 2F); scutellum and postscutellum convex; epicnemial carina present; speculum very strongly present, closely finely punctate (Fig. 2E); mesopleural suture indentation; propodeum roughly punctate (Fig. 2G), propodeal spiracle small; areolet of fore wings a square, stalk absent (Fig. 2B), receiving the second recurrent vein at or slightly distad of the middle; basal hamuli with 3, distal hamuli with 7; nervellus slightly intercepted; hind tarsal claws pectinate (Fig. 2I); glymmae of petiole absent (Fig. 2H), thyridium oval form.

Host Records. [Lepidoptera: Geometridae] *Hydriomena impluviata*, *Pareulype berberata*, *Rheumaptera hastate*, *Rheumaptera hastate gothicata*, *Rheumaptera prunivorata* (Yu et al., 2005).

Distribution. Korea, Austria, Belgium, Canada, Czecho, Slovakia, Finland, France, Germany, Hungary, India, Ireland, Italy, Japan, Kyrgyzstan, Latvia, Netherlands, Norway, Pakistan, Poland, Romania, Russia, Sri Lanka, Sweden, United Kingdom, U.S.A.

Genus *Klutiana* Betrem, 1933 (Fig. 3)

Klutiana Betrem, 1933: 89. TS: *Klutiana compressa* Betrem, 1933.

Mavandiella Seyrig, 1935: 96. TS: *Mavandiella hemitelina* Seyrig, 1935=*Klutiana hemitelina* (Seyrig, 1935).

***Klutiana jezoensis* (Uchida, 1957)**

Chriodes jezoensis Uchida, 1957: 41. Type: female, TD: SEHU.

Materials examined. KOREA: Gyeongsangbuk-do, Gyeongsan-si, Daedong Yeungnam Univ., 12-19 Aug. 2006 (J.W. Lee) 1 ♀; Gangwon-do, Donhae-si, Samhwadong, Mureung valley, 20 Sept.-2 Oct. 2006 (J.W. Lee) 1 ♀; JAPAN: Hokkaido, 1 ♀ (Holotype).

Diagnosis. Face black; mandible, palpi and scape yellowish brown; tergite dark brown except for third tergite brown. Inner margin of eyes strongly convergent ventrally, eyes hairly; palpi with 3 segments; vertex polished; flagellum with 30 segments, and antennal flagella 10-14 white (Fig. 3J); mesoscutum shining, notauli strongly present (Fig. 3F);

scutellum convex in lateral view, scutellum carinae absent; mesopleuron little punctuated; sternaulus usually sharp through the entire length of mesopleurum; mesopleulum polished; speculum strong and polished (Fig. 3E); areola of propodeum present; propodeum with second pleural area confluent with second lateral area (Fig. 3G); trochanter and trochantellus long; areolet of fore wings absent (Fig. 3B); nervellus of hind wings not intercepted; second tergite longer than petiole; thyridium oval form; ovipositor and ovipositor sheath long (Fig. 3I).

Host Records. Unknown.

Distribution. Korea, Japan, Russia.

Remarks. This species is similar to *K. pentagona* in appearance but can be distinguished by the second pleural area of the propodeum confluent with second lateral area.

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