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Two species of *Dolichomitus* Smith, 1877 (Hymenoptera, Ichneumonidae, Pimplinae) parasitizing borers of *Juglans mandshurica* Maxim. and a key to species known from China

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Abstract. Two species of *Dolichomitus* Smith, 1877 emerged from the trunks of *Juglans mandshurica* Maxim. in Kuandian and Benxi Manzu Autonomous Counties, Liaoning, in the Palaearctic part of China. One new species, *D. juglanse* Sheng & Li sp. nov., reared from *Menesia flavotecta* Heyden, 1886 and *Mesosa myops* (Dalman, 1817) (Cerambycidae), is described and illustrated. A key to the species of *Dolichomitus* known from China is provided.

Keywords. Ephialtini, *Dolichomitus*, key, *Menesia flavotecta*, *Mesosa myops*, *Juglans mandshurica*, Cerambycidae.

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Introduction

Dolichomitus Smith, 1877 (Ichneumonidae Latreille, 1802, Pimplinae Wesmael, 1845) is a relatively large genus of Darwin wasps, comprising 85 species (Choi *et al.* 2016; Yu *et al.* 2016; Matsumoto 2018; Araujo *et al.* 2020; Di Giovanni *et al.* 2021). The Oriental species were revised by Gupta & Tikar (1976). The Palaearctic species were revised locally by Kasparyan (1981), Fitton *et al.* (1988), Mevi-

Schütz (2006), Kasparyan & Khalaim (2007), Sheng & Sun (2010) and Varga (2012). A key to Western Palaearctic species was provided by Zwakhals (2010).

Twenty-four species, including three subspecies, have been known from China (Wang *et al.* 1997; Sheng & Sun 2002, 2009, 2010; Sheng *et al.* 2004; Lin 2005; Zhou *et al.* 2013; Yu *et al.* 2016; Chen *et al.* 2017) and a key to Chinese species was provided by Sheng and Sun (2010).

Almost 230 hosts of *Dolichomitus* have been recorded in the literature (Yu *et al.* 2016), of which all reliable host records are wood borers (Townes *et al.* 1960; Gupta & Tikar 1976; Constantineanu & Pisica 1977; Fitton *et al.* 1988; Sheng & Sun 2010; Zwakhals 2010; Petersen-Silva *et al.* 2012; Yu *et al.* 2016), mostly belonging to six families: Buprestidae Leach, 1815, Cerambycidae Latreille, 1802, Curculionidae Latreille, 1802 (Coleoptera Linnaeus, 1758), Pyralidae Latreille, 1802, Sesiidae Boisduval, 1828, Tortricidae Latreille, 1803 (Lepidoptera Linnaeus, 1758) and Xiphydriidae Leach, 1819 (Hymenoptera Linneaus, 1758). Half of the hosts are Cerambycidae (Yu *et al.* 2016).

In this paper, two species parasitizing borers of the trunks of *Juglans mandshurica* Maxim. are reported from China. One new species is described and a key to all known Chinese species of *Dolichomitus* is provided.

Material and methods

Institutional abbreviations

CBDPC = Center for Biological Disaster Prevention and Control, National Forestry and Grassland Administration, Shenyang, P.R. China
HUM = Hokkaido University Museum, Sapporo, Japan
KPMNH = Kanagawa Prefectural Museum of Natural History, Odawara, Japan
NHMUK = Natural History Museum, London, UK
ZISP = Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia
ZSM = Zoologische Staatssammlung München, Munich, Germany

Morphological terminology is mostly based on Broad *et al.* (2018). Images were taken using a Leica M205A stereo microscope with LAS Montage MultiFocus. The key to Chinese species of *Dolichomitus* was modified from Sheng & Sun (2002, 2010) and Sheng *et al.* (2004). All type specimens are deposited in the Insect Museum of CBDPC.

Specimen collection

Rearing parasitoids

In the last eight years, the authors have been exploring in Kuandian and Benxi Manzu Autonomous Counties, Liaoning Province, situated at the southern border of the Eastern Palaearctic part of China. The trunks and branches of *Juglans mandshurica* Maxim., with diameters of 8–20 cm, were collected from trees naturally infested by wood-boring insects in Kuandian and Benxi Manzu Autonomous Counties, and reared in the laboratory of CBDPC at room temperatures of 20–23°C. The trunks and branches were stored in 80 cm long, 50 cm wide and 120 cm high cages. All cages (with trunks and branches) were checked daily for borer insects and parasitoid emergence. After the emergence of borer insects and parasitoids was complete, all remaining trunks and branches were dissected to record their condition (i.e., status of borer insects and parasitism).

Direct collection

Parasitoid adults were collected using a sweep net on the trunks and branches of *Juglans mandshurica* in China: Kuandian and Benxi, Liaoning.

Results

Taxonomy

Class Insecta Linnaeus, 1758
Order Hymenoptera Linnaeus, 1758
Superfamily Ichneumonoidea Latreille, 1802
Family Ichneumonidae Latreille, 1802
Subfamily Pimplinae Wesmael, 1845
Tribe Ephialtini, Hellén 1915

Genus ***Dolichomitus*** Smith, 1877

Dolichomitus Smith, 1877: 411.

Type species

Dolichomitus longicauda Smith, 1877.

Diagnosis

The diagnosis of the genus was modified from Townes (1969) and Sheng & Sun (2010).

Apical portion of clypeus impressed, apical margin always with deep median notch (Fig. 2). Occipital carina complete, strongly dipped dorsomedially. Fore wing vein M&RS usually opposite 1cu-a; areolet present, large. Hind wing vein 1-cu shorter than cu-a. Tarsal claws of female with large basal lobe. Lateromedian longitudinal carinae of propodeum nearly always more or less present anteriorly. Anterior two tergites almost equal length. Tergite 2 with anterolateral oblique grooves cutting off triangular areas, these grooves more longitudinal than transverse. Tergites 3 and 4 nearly always with distinct lateral swellings. Subapical portion of ovipositor partially subtended by distinct dorsal lobe of lower valve, lobe always with distinct ridges.

Key to the species and subspecies of *Dolichomitus* Smith, 1877 known from China (females only)

1. Dorsal lobe of lower valve of ovipositor with 2 ridges, which are strongly convergent dorsally 2
– Dorsal lobe of lower valve of ovipositor with at least 3 ridges, which are not convergent dorsally 4

2. Tergites 2 and 3 with distinct dense punctures, without transverse wrinkles. Tergite 3 1.0–1.35 × as long as posterior width. Ovipositor sheath slightly longer than body. Base of lateromedian longitudinal carinae of propodeum weak ..... ***D. pterelas*** (Say, 1829)
– Tergites 2 and 3 with distinct fine transverse wrinkles, partly with fine punctures. Tergite 3 1.5–1.75 × as long as posterior width. Ovipositor sheath at least 1.5 × as long as body. Lateromedian longitudinal carinae of propodeum distinct 3

3. Middle coxa 2.6 × as long as maximum width. Hind coxa 2.0 × as long as maximum width. Tergite 3 partly with distinct fine punctures. Pterostigma yellow brown. Hind coxa black. Dorsal profile of hind femur brownish black ..... ***D. matsumurai*** (Uchida, 1928)
– Middle coxa 2.0 × as long as maximum width. Hind coxa 2.5 × as long as maximum width. Tergite 3 with indistinct fine punctures. Pterostigma blackish brown. Hind coxa red. Hind femur red brown ..... ***D. imperator*** (Kriechbaumer, 1854)

4. Ovipositor sheath at least 2.5 × as long as body 5
– Ovipositor sheath not more than 2.0 × as long as body 8

5 Mandible unspecialized, not bent medially. Dorsal lobe of lower valve of ovipositor with 6–7 ridges. Coxae red to reddish brown 6
– Mandible strongly bent medially inward almost at right angle. Dorsal lobe of lower valve of ovipositor with 5 ridges. Coxae black 7

6. Frons with fine punctures. Lateromedian longitudinal carinae of propodeum absent. Tergites indistinctly punctate. Tergite 2 about as long as posterior width. Ovipositor sheath at least 3.5 × as long as body. Basal 3 ridges of dorsal lobe of lower valve of ovipositor strongly reclivous. Apical portion of hind tibia brownish black. Hind tarsus black ..... ***D. cephalotes*** (Holmgren, 1860)
– Frons with fine transverse aciculations. Anterior 0.4 of lateromedian longitudinal carinae of propodeum present. Tergites with dense coarse punctures. Tergite 2 longer than posterior width. Ovipositor sheath at most 3.0 × as long as body. Basal ridges of dorsal lobe of lower valve of ovipositor distinctly arched backward. Hind tibia and tarsus red brown .. ***D. atratus*** (Rudow, 1881)

7. Median portion of tergite 1 rugulose, antero-median portion between latero-median carinae with fine transverse wrinkles. Fore femur entirely yellow brown ..... ***D. khasianus*** Gupta & Tikar, 1976
– Tergite 1 irregularly rugulopunctate, without transverse wrinkles. Posterior profile of fore femur with distinct longitudinal black spot ..... ***D. flavicrus*** Matsumoto, 2018

8. Dorsal lobe of lower valve of ovipositor with at least 5 ridges 9
– Dorsal lobe of lower valve of ovipositor with 3–4 ridges 14

9. Lower half of mesepisternum with dense setae. Ovipositor sheath all most 2.0 × as long as fore wing [Median flagellomeres of male strongly expanded and white ventrally] . ***D. sericeus*** (Hartig, 1847)
– Mesepisternum with sparse fine setae. Ovipositor sheath not more than 1.7 × as long as fore wing 10

10. Tergite 2 1.7 × as long as posterior width. Tergite 3 1.4 × as long as posterior width. Dorsal lobe of lower valve of ovipositor with 6 ridges ..... ***D. songxianicus*** Sheng, 2004
– Tergite 2 1.0–1.5 × posterior width. Tergite 3 quadrate or slightly longer than posterior width 11

11. Upper end of epicnemial carina reaching front edge of mesopleuron. Pterostigma blackish brown. Dorsal lobe of lower valve of ovipositor with 6 ridges ..... ***D. tuberculatus tuberculatus*** (Geoffroy, 1785)
– Upper end of epicnemial carina not reaching front edge of mesopleuron. Pterostigma yellow brown 12

12. Ridges of dorsal lobe of lower valve of ovipositor densely evenly arranged, strongly inclivous ..... ***D. populneus*** (Ratzeburg, 1848)
– Ridges of dorsal lobe of lower valve of ovipositor not evenly arranged, at least basal ridges vertical 13

13. Fore wing vein M&RS opposite 1cu-a. Hind wing vein 1-cu distinctly shorter than cu-a. Tergites 2 and 3 each about as long as posterior width. Basal ridges of dorsal lobe of lower valve of ovipositor vertical. Hind tibia red brown ..... ***D. messor messor*** (Gravenhorst, 1829)
– Fore wing vein M&RS slightly postfurcal. Hind wing vein 1-cu almost as long as cu-a. Tergites 2 and 3 transverse. All ridges of dorsal lobe of lower valve of ovipositor vertical. Basal portion of hind tibia yellow, apical brownish black ..... ***D. brevissimus*** Sheng, 2009

14. Dorsal lobe of lower valve of ovipositor with 3 ridges 15
– Dorsal lobe of lower valve of ovipositor with 4 ridges 17

15. Hind wing vein 1-cu slightly shorter than cu-a. Tubercles of tergites 3–5 indistinct. Ovipositor sheath 4.7 × as long as hind tibia ..... ***D. debilis*** Sheng, 2002
– Hind wing vein 1-cu approximately 0.3 × as long as cu-a. Tergites 3–5 with distinct tubercles. Ovipositor sheath more than 5.0 × as long as hind tibia 16

16. Malar space 0.4 × as long as basal width of mandible. Postocellar line 0.5 × as long as ocular-ocellar line. Mesopleuron with sparse punctures. Hind coxa black ..... ***D. triangustus*** Wang, 1997
– Malar space 0.2 × as long as basal width of mandible. Postocellar line 0.8 × as long as ocular-ocellar line. Mesopleuron with dense punctures. Hind coxa red brown ..... ***D. jiyuanensis*** Lin, 2005

17. Lateromedian longitudinal carinae of propodeum strongly divergent posteriorly. Tergite 2 quadrate. Maxillary and labial palpi dark brown. Tegula yellow, posterior margin blackish brown. Apical portion of hind femur black. Hind coxa red ..... ***D. diversicostae*** (Perkins, 1943)
– Lateromedian longitudinal carinae of propodeum parallel, or absent. Other characters not entirely as above, tergite 2 usually longer than posterior width, maxillary and labial palpi yellow or reddish brown, or tegula dark, or hind coxa black 18

18. Tergites 3–4 elongate, distinctly longer than posterior width 19
– Tergites 3–4 almost quadrate, or transverse 21

19. Mandible strongly bent medially almost at right angle. Face with dense white setae. Lateromedian longitudinal carinae of propodeum distinctly present anteriorly. Fore and middle legs reddish to yellowish brown ..... ***D. mandibularis*** (Uchida, 1932)
– Mandible normal, not strongly bent medially. Face without dense white setae. Other characters not entirely as above 20

20. Lateromedian longitudinal carinae of propodeum present anteriorly. Hind coxa, trochanter and femur red to reddish brown ..... ***D. mesocentrus*** (Gravenhorst, 1829)
– Lateromedian longitudinal carinae of propodeum absent. Hind leg entirely black ..... ***D. melanomerus tinctipennis*** (Cameron, 1899)

21. Mesopleuron smooth except anterior margin finely punctate. Fore and middle coxae yellow ..... ***D. splendidus*** Sheng, 2002
– Anterior half of mesopleuron with dense punctures. Fore and middle coxae black or brown 22

22. Propodeum with dense punctures and setae, lateromedian longitudinal carinae absent. Basal 2 ridges of dorsal lobe of lower valve of ovipositor strongly curved medially ..... ***D. fortis*** Sheng, 2002
– Propodeum with correspondingly sparse punctures and setae, lateromedian longitudinal carinae distinctly present. Basal ridges of dorsal lobe of lower valve of ovipositor straight or slightly curved 23

23. Coxae brown to red brown. Lateromedian longitudinal carinae of propodeum reaching to posterior 0.25 ..... ***D. dux*** (Tschek, 1869)
– Coxae black. Lateromedian longitudinal carinae of propodeum weak, at most reaching to middle of propodeum 24

24. Tergites 2 and 3 each longer than posterior width. Mesosternum black ..... ***D. melanomerus macropunctatus*** (Uchida, 1928)
– Tergite 2 as long as posterior width. Tergite 3 quadrate or transverse. Mesosternum yellow brown or black 25

25. Propodeum (Fig. 7) almost as long as maximum width, slightly expanded medially. Tergite 2 (Fig. 8) 0.9 × as long as posterior width. Mesosternum (Fig. 1) yellow brown or black ..... ***D. juglanse*** Sheng & Li sp.nov.
– Propodeum (Fig. 13) distinctly longer than maximum width, median portion not expanded. Tergite 2 (Fig. 14) 1.1–1.2 × as long as posterior width. Mesosternum entirely black ..... ***D. nakamurai*** (Uchida, 1928)

Dolichomitus juglanse Sheng & Li sp. nov.
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Figs 1–12

Diagnosis

Gena (Fig. 3), vertex (Fig. 4) and frons shiny. Median portion of vertex behind stemmaticum with correspondingly dense punctures. Malar space about 0.3 × as long as basal mandibular width. Postocellar line approximately 0.8 × as long as ocular-ocellar line. Flagellomeres elongate. Mesopleuron (Fig. 6) with large posteromedian smooth shiny area. Fore femur weakly compressed, 4.0 × as long as maximum width; outer profile of middle tibia with sparse short tooth-like setae. Areolet pentagonal (Fig. 10). Propodeum (Fig. 7) in dorsal view slightly expanded medially; anterior 0.3 of lateromedian longitudinal carinae present. Second tergite 0.85 × as long as first tergite. Lower portions of anterior 2 ridges of lower valve of ovipositor (Fig. 9) distinctly reclivous, posterior 2 slightly inclivous or subvertical. Mesosternum yellow brown or black.

Differential diagnosis

The new species is similar to *D. nakamurai* (Uchida, 1928), but can be distinguished from the latter by the postscutellum being shiny, transverse, with sparse fine punctures; the propodeum (Fig. 7) almost as long as its maximum width, evenly expanded medially; tergite 2 (Fig. 8) shorter than its maximum width; mesosternum (Fig. 1) yellow brown or black; tegula dark-brown to brown; hind femur dark red-brown. *Dolichomitus nakamurai* (Figs 13–14): postscutellum matt, quadrate, with dense punctures; propodeum (Fig. 13) distinctly longer than maximum width, not expanded medially; tergite 2 (Fig. 14) 1.1–1.2 × as long as posterior width; mesosternum entirely black; tegula yellow; hind femur reddish brown.

Etymology

The specific epithet is derived from the host's food plant.

Material examined

Holotype

CHINA • ♀; Liaoning, Kuandian Manzu Autonomous County; 12 Mar. 2021; reared from *Mesosa myops* (Dalman, 1817); Jun Lü leg.; CBDPC.

Paratypes

CHINA • 7 ♀♀, 27 ♂♂; Liaoning, Benxi Manzu Autonomous County; 30 Aug.–23 Sept. 2014; reared from *Mesosa myops* (Dalman) by Mao-Ling Sheng and Tao Li; CBDPC • 12 ♀♀, 159 ♂♂; same collection data as for holotype; 25 Dec. 2020–10 April 2021; CBDPC • 13 ♀♀, 87 ♂♂; same collection data as for preceding; 11 Dec. 2021 to 20 Jan. 2022; reared from *Menesia flavotecta* Heyden, 1886; Jun Lü leg.; CBDPC.

Description

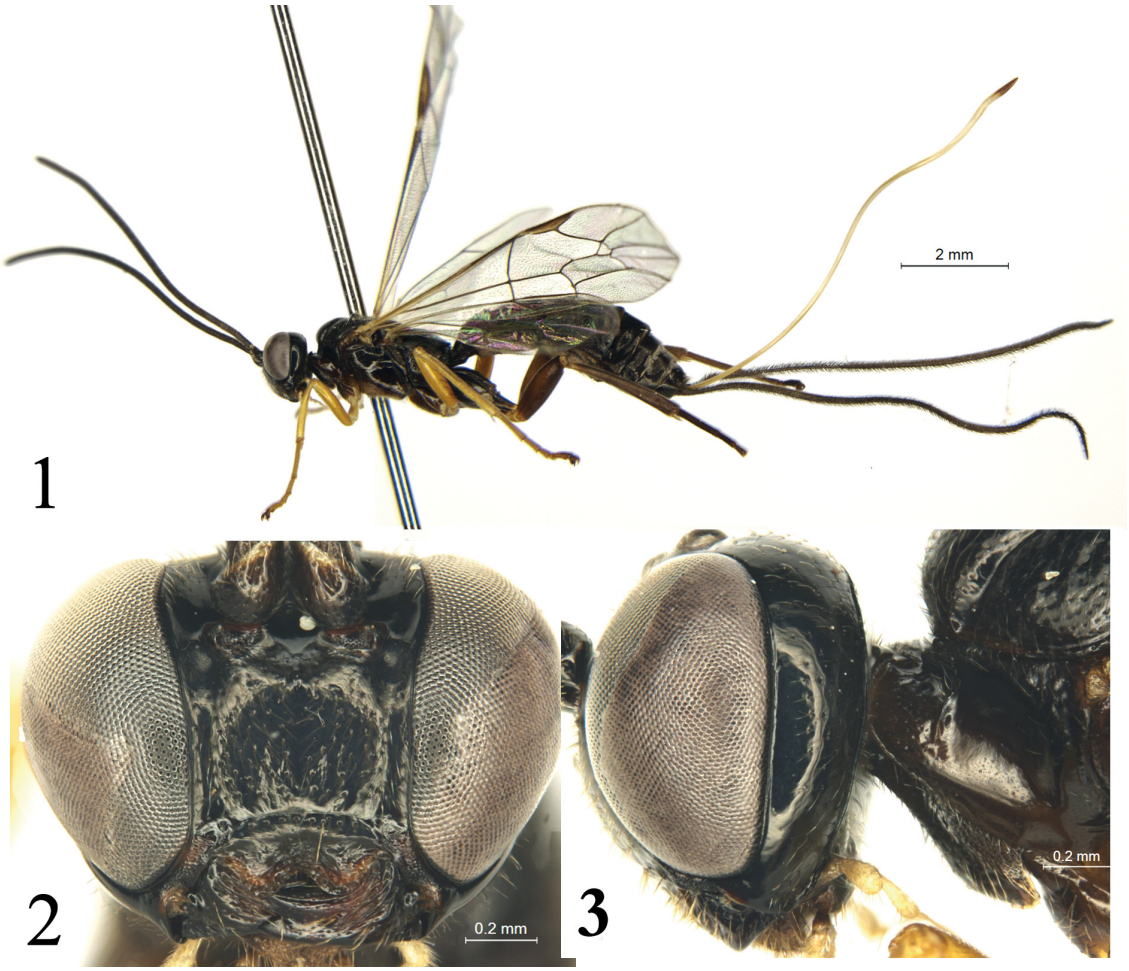
Female

Measurements. Body (Fig. 1) length 8.0–8.5 mm. Fore wing length 7.5–7.7 mm. Antenna length 6.5–6.8 mm. Ovipositor sheath length 8.0–8.5 mm.

Head. Inner orbits distinctly convergent ventrally, slightly concave near antennal sockets. Face (Fig. 2) 1.3–1.4 × as wide as long, shiny, slightly convex, with correspondingly sparse, fine punctures and darkish brown setae, distance between punctures 1.5–4.0 × diameter of puncture; upper margin between antennae evenly concave, with median small tubercle. Clypeal sulcus distinct, with row of punctures.

Clypeus 2.3–2.4 × as wide as long, unevenly shagreened, upper portion almost shiny. Mandible with uneven punctures and brown setae; upper tooth as long as lower tooth. Malar area granular. Malar space about 0.3 × as long as basal mandibular width. Gena (Fig. 3), vertex (Fig. 4) and frons shiny. Gena with sparse fine punctures, from eye margin to occipital carina convergent posteriorly. Median portion of vertex behind stemmaticum with correspondingly dense punctures. Postocellar line approximately 0.8 × as long as ocular-ocellar line. Antenna with 29–31 flagellomeres; flagellomeres elongate, penultimate almost quadrate. Ratio of length from first to fifth flagellomeres: 7.5:6.1:6.0:5.9:5.8. Occipital carina complete, joining hypostomal carina above base of mandible, approximately 0.5 × length to base of mandible.

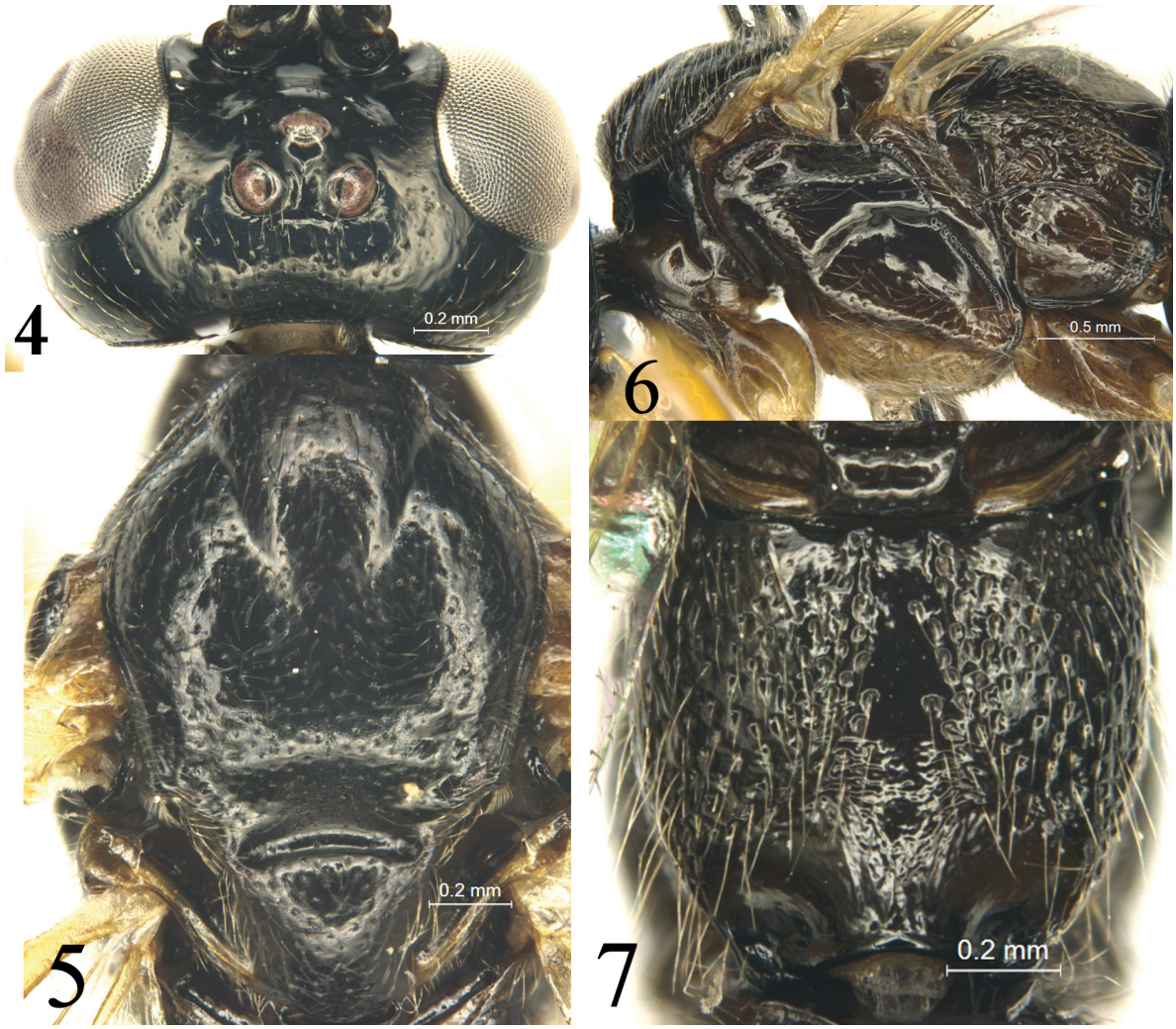
Mesosoma. Pronotum (Figs 3, 6) smooth, shiny; upper posterior portion with uneven fine punctures. Epomia distinct. Mesoscutum (Fig. 5) almost shiny, with uneven punctures, distance between punctures 1.5–4.5 × diameter of puncture. Notauli distinct anteriorly. Scutoscutellar groove almost smooth, shiny, anterior side evenly oblique, posterior side steep. Scutellum slightly convex, with sculpture as mesoscutum. Anterior portion of postscutellum distinctly concave, posterior portion distinctly convex transversely. Mesopleuron (Fig. 6) with large posteromedian smooth shiny area, remainder with sculpture as mesoscutum. Upper end of epicnemial carina reaching to 0.8 distance to subtegular ridge. Metapleuron obliquely convex, upper portion with distinct fine punctures, lower portion almost smooth,



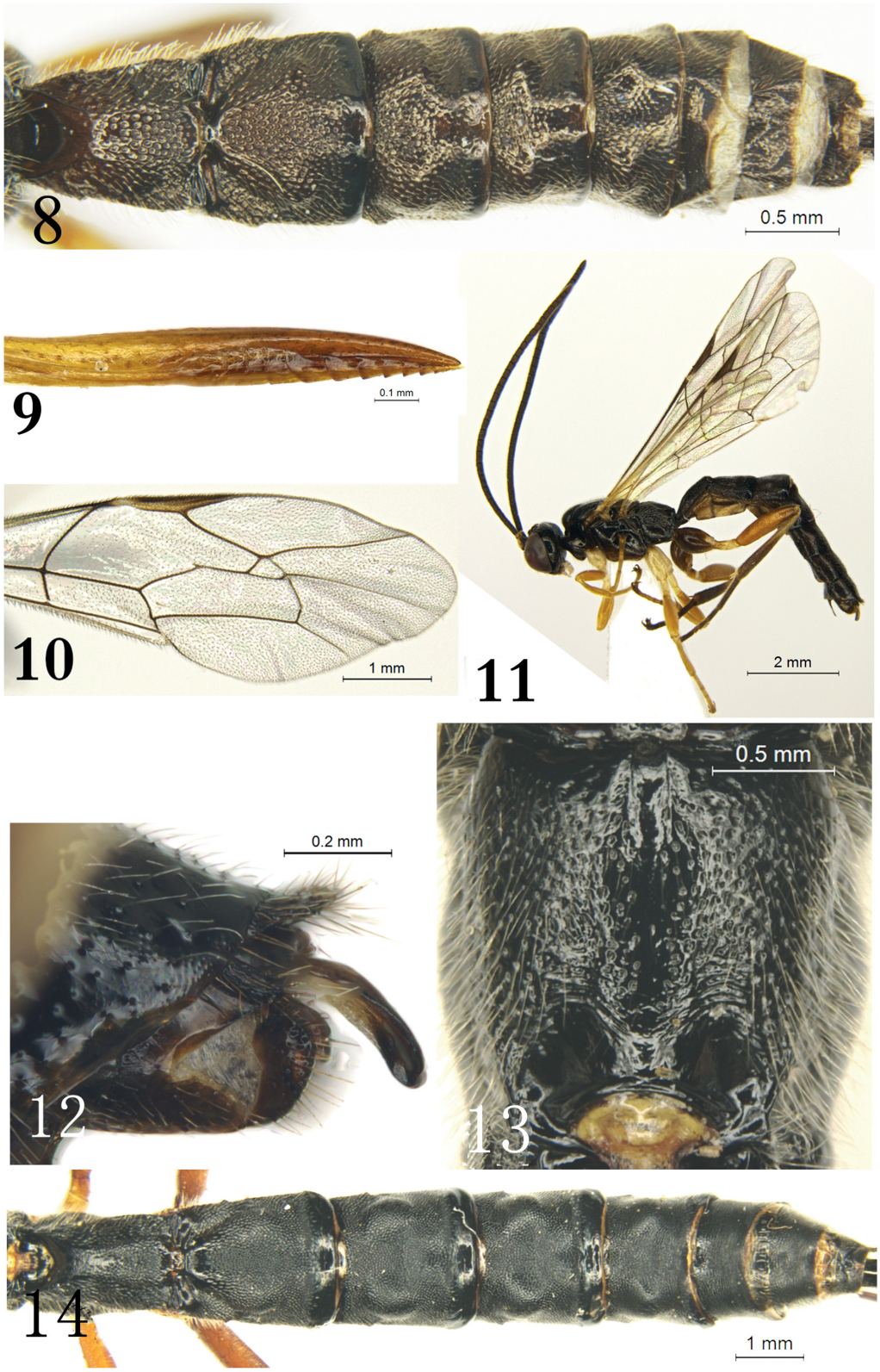
Figs 1–3. *Dolichomitus juglanse* Sheng & Li sp. nov., ♀, holotype (CBDPC). **1**. Habitus, lateral view. **2**. Head, anterior view. **3**. Head and pronotum, lateral view.

shiny. Fore femur weakly compressed, 4.0 × as long as maximum width; outer profile of middle tibia with sparse short thorns. Ratio of length of hind tarsomeres from first to fifth: 15.1:6.5:3.7:1.4:5.1. Wings (Fig. 10) slightly gray, hyaline. Areolet distinctly pentagonal, 2rs-m 0.8 × as long as 3rs-m (Fig. 10). Postnervulus intercepted distinctly below middle. Hind wing vein 1-cu 0.4 × as long as cu-a. Propodeum (Fig. 7) as long as maximum width, evenly convex, median portion in dorsal view slightly expanded; with correspondingly dense punctures and brown setae; median longitudinal area smooth, shiny, posteromedian with indistinct irregular wrinkles; anterior 0.3 of lateromedian longitudinal carinae present. Propodeal spiracle short elliptic, 1.5 × as long as wide.

Metasoma (Fig. 8). Tergite 1 approximately 1.2 × as long as posterior width, with dense punctures; anteromedian portion smooth, concave; latero-median carinae present along lateral margin of anteromedian concavity; spiracle small, circular, located approximately at anterior 0.3 of tergite 1. Tergite 2 approximately 0.85 × as long as tergite 1, 0.9 × as long as posterior width, with dense punctures, distance between punctures 0.1–1.5 × diameter of puncture; posterior margin smooth. Tergites 3–5 with distinct lateral tubercles (Fig. 8). Tergite 3 0.6 × as long as posterior width, anterior portion with sculpture as tergite 2, subposteriorly finely punctate, posterior margin almost smooth. Anterior halves of tergites 4 and 5 with dense fine punctures, medially with irregular indistinct wrinkles. Dorsal lobe



Figs 4–7. *Dolichomitus juglanse* Sheng & Li sp. nov., ♀, holotype (CBDPC). **4**. Head, dorsal view. **5**. Mesoscutum and scutellum, dorsal view. **6**. Mesosoma, lateral view. **7**. Propodeum, dorsal view.



Figs 8–12. *Dolichomitus juglanse* Sheng & Li sp. nov. **8–10**. ♀, holotype (CBDPC). **8**. Metasoma, dorsal view. **9**. Apical portion of ovipositor, lateral view. **10**. Fore wing. **11–12**. ♂, paratype (CBDPC). **11**. Habitus, lateral view. **12**. Apical portion of metasoma, lateral view. **13–14**. *Dolichomitus nakamurai* (Uchida, 1928), ♀ (CBDPC). **13**. Propodeum, dorsal view. **14**. Metasoma, dorsal view.

of lower valve of ovipositor with 4 distinct ridges, lower portions of anterior 2 distinctly reclivous, posterior 2 inclivous (Fig. 9).

Coloration (Fig. 1). Black, except for following: apical margin of clypeus and median portion of mandible more or less dark brown. Maxillary palpi and labial palpi yellow-brown. Tegula darkish-brown to brown. Mesosternum brownish yellow. Fore leg except anterior profile and middle femur yellow-brown to brown. Middle tibia darkish brown, tarsomeres brownish black. Middle coxa, hind trochantellus, femur and basal portion of tibia more or less dark red-brown. Pterostigma yellow. Veins brownish black.

Male

Body (Fig. 11) length 8.5–10.0 mm. Fore wing length 6.5–7.9 mm. Antenna with 29–33 flagellomeres. Apical portion of clypeus and median portion of mandible darkish brown. Tergite 1 approximately 1.5 × as long as posterior width. Tergite 2 approximately as long as posterior width. Tergites 3–4 almost shiny, with fine punctures, posterior margins smooth. Paramere (Fig. 12) wide, median portion weakly sclerosis, posterior margin slightly reclivous. Flagellomeres brownish black. Anterior profiles of scape and pedicel, maxillary palpi, labial palpi, fore and middle coxae, all trochanters, base of hind tibia and base of hind first tarsomere whitish yellow. Mesosternum reddish brown to black. Posteromedian portion of pterostigma blackish brown. Veins brownish black. Otherwise similar to female.

Variation

The specimen reared from *Mesosa myops* (Dalman, 1817) in *J. mandshurica* Maxim. distributed in Benxi Manzu Autonomous County have a black mesosternum.

Hosts

Menesia flavotecta Heyden, 1886 and *Mesosa myops* (Cerambycidae).

Host foodplant

Juglans mandshurica (Juglandaceae DC.).

Dolichomitus flavicrus Matsumoto, 2018
Fig. 15

New record for China.

Diagnosis

Body length 25.0–26.4 mm. Fore wing length 17.5–19.2 mm. Ovipositor sheath length 60.6 mm. Face with dense punctures and yellowish-brown setae. Mandible strongly bent medially inward almost at

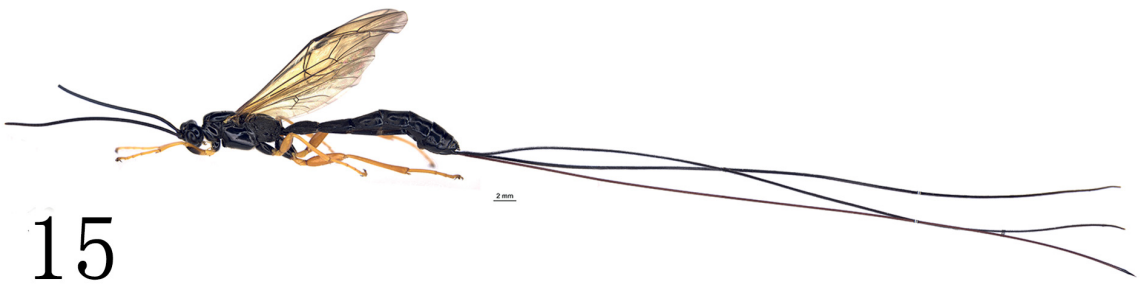


Fig. 15. *Dolichomitus flavicrus* Matsumoto, 2018, ♀ (CBDPC). **14**. Habitus, lateral view.

right angle, upper tooth slightly longer than lower tooth. Malar space about 0.35 × as long as basal width of mandible. Postocellar line approximately 0.8 × as long as ocular-ocellar line. Fore wing vein M&RS almost opposite 1cu-a. Tergite 1 2.0–2.1 × as long as posterior width, almost equal length to tergite 2, latero-median carina comparatively strong anteriorly. Tergite 2 1.5–1.6 × as long as posterior width. Tergites 3–5 with distinct lateral tubercles. Dorsal lobe of lower valve of ovipositor with 5 ridges. Black, except for the following: maxillary palpi, labial palpi, tegula yellow. Pterostigma and veins brownish black. All coxae black.

Material examined

CHINA • 1 ♀; Liaoning, Benxi Manzu Autonomous County; 12 Jun. 2017; Tao Li.; CBDPC • 1 ♀; Liaoning, Benxi Manzu Autonomous County; 20 Jul. 2018; Tao Li.; CBDPC.

Host

Unknown. The specimens were collected on a large branch of *Juglans mandshurica* Maxim., where females of this species were laying eggs into the branch.

Host plant

Juglans mandshurica Maxim. (Juglandaceae).

Discussion

The type specimens of *Dolichomitus juglanse* Sheng & Li sp. nov. reared from *Menesia flavotecta* (Cerambycidae) in trunks of *Juglans mandshurica*, in Kuandian Manzu Autonomous County, have the mesosternum brownish yellow, while the specimens from *Mesosa myops* in *J. mandshurica*, in Benxi Manzu Autonomous County, have the mesosternum black. We conclude that all the specimens belong to the same species, *Dolichomitus juglanse*, because all specimens agree almost entirely in all characteristics except for mesosternum color.

The host, *Menesia flavotecta*, is largely yellow, while another host species, *Mesosa myops*, is largely dark. We conclude that the mesosternum with brownish yellow might be because of its host with brownish yellow colouration. This matter would be studied in the future.

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