European Journal of Taxonomy 981: 38–51
https://doi.org/10.5852/ejt.2025.981.2809
ISSN 2118-9773
www.europeanjournaloftaxonomy.eu
2025 · Liu M.-M. *et al.*

Research article

urn:lsid:zoobank.org:pub:E1A848DD-ABDF-478B-89AF-F6C9E8BA42DF

Review of the *Aglaostigma niuae* group (Hymenoptera: Tenthredinidae) with descriptions of four new Chinese species

Meng-Meng LIU[1,2,3], Ze-Jian LI[2,*] & Mei-Cai WEI[3,*]

[1] College of Ecology, Lishui University, Lishui, Zhejiang 323000, P.R. China.
[2] Provincial Postdoctoral Research Station, Scientific Research and Management Center of East China Medicinal Botanical Garden, Lishui Forestry Bureau, Lishui, Zhejiang 323000, P.R. China.
[3] College of Life Science, Jiangxi Normal University, Nanchang, Jiangxi 330022, P.R. China.

[*] Corresponding authors: lizejian2006@163.com; weimc@126.com
[1] Email: liummy2012@163.com

[1] urn:lsid:zoobank.org:author:5CCE88FB-A9E9-4366-9166-2D9B50FAF1B8
[2] urn:lsid:zoobank.org:author:A562ACC9-2A83-4B50-B3FB-A5005614256E
[3] urn:lsid:zoobank.org:author:BED96AE8-B3AE-4B8B-A4DD-917628C745E9

Abstract. The *Aglaostigma niuae* group is established, and its diagnosis is briefly discussed. Four new species of the *A. niuae* group from China are described and illustrated: *A. hejunhuai* sp. nov., *A. leucotarsalina* sp. nov., *A. niuae* sp. nov., and *A tricoloricorne* sp. nov. A key to all species of the *A. niuae* group is provided.

Keywords. Sawfly, China, morphology, taxonomy, Tenthredininae.

Liu M.-M., Li Z.-J. & Wei M.-C. 2025. Review of the *Aglaostigma niuae* group (Hymenoptera: Tenthredinidae) with descriptions of four new Chinese species. *European Journal of Taxonomy* 981: 38–51. https://doi.org/10.5852/ejt.2025.981.2809

Introduction

The genus *Aglaostigma* Kirby, 1882, established by Kirby in 1882, is a member of the tribe Perineurini Rohwer, 1911, as designated by Rohwer in 1911, within the family Tenthredinidae Latreille, 1818 (order Hymenoptera). This genus contains 57 known species and 2 known subspecies worldwide, primarily occurring in the Palaearctic and Oriental regions, with one Holarctic species (Taeger *et al.* 2010; Liu *et al.* 2024). The genus *Aglaostigma* resembles *Tenthredopsis* Costa, 1859, *Lagidina* Malaise, 1945, and *Perineura* Hartig, 1837, but can be distinguished from *Tenthredopsis* by the absennce of an occipital carina on the head and metatarsomere 1 significantly shorter than the combined length of the metatarsomeres 2–5. From *Lagidina* and *Perineura* it is distinguished by its truncated clypeus, and a tarsal claw with a large inner tooth, slightly shorter than the outer tooth.

To date, 31 species of *Aglaostigma* have been recorded from China (Liu *et al.* 2024). In this study, we describe and illustrate four new species from China, namely: *A. hejunhuai* sp. nov., *A. leucotarsalina* sp. nov., *A. niuae* sp. nov., and *A. tricoloricorne* sp. nov. As they are similar in general morphology, such as several middle segments of the antennae being yellowish white, the body largely reddish brown, and the malar space about 2 × broader than the diameter of the median ocellus, they are here placed in the newly proposed and defined *A. niuae* group. A key to distinguish the Chinese species of the group is provided, based on morphological characters.

Material and methods

Specimens were collected with entomological sweep nets in forest areas of Hubei, Shaanxi, Sichuan, Zhejiang provinces and Tibet Autonomous Region in China.

The specimens were examined with a Motic-SMZ-171 stereo microscope. Images of adults were taken with a Nikon D700 digital camera and a Leica Z16APO microscope. The genitalia were examined with a Motic BA410E microscope and photographed with a Motic Moticam Pro 285A. Images were focus-stacked using Helicon Focus (HeliconSoft, Kharkiv, Ukraine) and further processed with Adobe Photoshop CS ver. 11.0.

All holotypes and paratypes are deposited in the Asian Sawfly Museum, Nanchang, Jiangxi Province, China (ASMN).

Abbreviations for morphological terms

OOCL = distance between the lateral ocellus and the occipital carina or the hind margin of the head
OOL = shortest distance between the compound eye and the lateral ocellus
POL = distance between the margins of the lateral ocelli

The terminology of genitalia follows Ross (1945) and that of general morphology follows Viitasaari (2002). For a few terms (e.g., middle fovea and lateral fovea), we follow the terminology outlined by Takeuchi (1952).

Results

Class Insecta Linnaeus, 1758
Order Hymenoptera Linnaeus, 1758
Family Tenthredinidae Latreille, 1818
Subfamily Tenthredininae Latreille, 1818
Tribe Perineurini Rohwer, 1911 (sensu Wei & Nie 1998)
Genus *Aglaostigma* Kirby, 1882

Aglaostigma niuae species group

Diagnosis

Body thin and long; in females, body mostly reddish brown, partly black, yellow or yellowish white; in males, body mostly black, partly yellowish white or reddish brown; antennae slender, with several segments ranging from yellowish white to reddish brown, conspicuously longer than head and thorax combined, usually slightly longer than abdomen; mesoscutellum yellow (partly yellowish white in male); abdominal terga 2–6 laterally yellowish white; clypeus almost truncate; postocellar area usually narrow and long, 2–4 × broader than long; metatarsomere 1 not shorter than following 3 tarsomeres combined; valvula 3 not shorter than valvifer 2; lancet narrow and long, with 11–14 serrulae, denticles clear and usually large.

Morphologically, the *A. niuae* group and the *A. malaisei* group are similar. However, compared to the *A. niuae* group, the *A. malaisei* group is characterized by the more body robust, thicker but not slender antennae that are nearly as long as the abdomen, the malar space as broad as the diameter of median ocellus, and the postocellar area is usually twice as broad as long.

Key to species of the *Aglaostigma niuae* group from China

1. Posterior corner of metepimeron yellow; middle fovea of head deep and large 2
– Metepimeron reddish brown or blackish brown; middle fovea of head shallow and small 3

2. Female: antennomeres 1–4 reddish brown, antennomeres 5–6 yellowish white, antennomeres 7–9 black; head and thorax largely reddish brown, partly with black, yellow or yellowish white maculae; abdominal terga 1–6 (or 8) laterally with broader yellowish white stripe; hind tibia and metatarsomere 1 entirely reddish brown. China (Hubei, Shaanxi) ..... ***A. tricoloricorne*** sp. nov.
– Male: antennal scape, pedicel and dorsal side of flagellum blackish brown, ventral side of flagellum reddish brown; head and thorax largely black, partly with yellowish white maculae, without reddish brown macula; abdominal terga 1–6 laterally with narrower yellowish white stripe; most parts of hind tibia and metatarsomere 1 reddish brown, small parts blackish brown. China (Zhejiang) .... ***A. hejunhuai*** sp. nov.

3. Postocellar area 4 × broader than long; apex of antennomere 5, antennomere 6 yellowish white; metatarsomere 1 mostly light reddish brown, tarsomeres 2–4 yellowish white; pronotum partly reddish brown, posterior yellow; tegula yellowish white to reddish brown; forewings with cross-vein cu-a joining cell 1M at basal 0.3, vein 2r joining cell 2Rs at middle 0.5; middle serrulae of lancet with 6–7 distal denticles, cypsella short. China (Tibet) ..... ***A. niuae*** sp. nov.
– Postocellar area 3 × broader than long; antennomeres 5–6 entirely yellowish white; pronotum, tegula entirely reddish brown; forewings with cross-vein cu-a joining cell 1M at basal 0.4, vein 2r joining cell 2Rs at apical 0.4; middle serrulae of lancet with 3–5 distal denticles, cypsella rather long. China (Sichuan) ..... ***A. leucotarsalina*** sp. nov.

Aglaostigma hejunhuai sp. nov.
urn:lsid:zoobank.org:act:4E89388D-5B9E-478A-9328-9187A5D416ED
Fig. 1

Diagnosis

Body mostly black; dorsal side of antenna blackish brown, ventral side reddish brown; most parts of supraclypeal area, around eyes, part of pronotum, half of tegula, median of mesoscutellum, hind tarsus except for most parts of metatarsomere 1 yellowish white; POL : OOL : OOCL = 1.0 : 3.0 : 1.7; postocellar area 2 × broader than long; antennomere 3 longer than antennomere 4 (1.8 : 1.0), slightly shorter than antennomeres 4 and 5 combined (1.0 : 1.2), length ratio of apical antennomeres 6–9 as 1.0 : 1.1 : 1.0 : 1.0; metatarsomere 1 as long as following 3 tarsomeres combined; tarsal claw with tooth as long as outer tooth; apical margin of subgenital plate inner-concave, penis valve without ergot.

Etymology

The specific epithet '*hejunhuai*' honours Prof. Jun-Hua He's tremendous contribution to the study of Hymenoptera.

Type material

Holotype

CHINA – **Zhejiang Province** • ♂; Mt Xitianmu, Xianrending; 2–4 Jun. 1990; Yong-Gen Lou leg.; ASMN.

Paratypes

CHINA – **Zhejiang Province** • 2 ♂♂; Mt Xitianmu; 6 Jun. 1989; ASMN.

Description

Male

Measurements. Body length 7.0–7.5 mm (N = 3) (Fig. 1A–B).

Coloration (Fig. 1A–B). Body mostly black; following parts yellowish white: palps, basal half of mandibles, labrum, most parts of clypeus, most parts of supraclypeal area, around eyes, parts of pronotum, half of tegula, median of mesoscutellum, posterior margins of katepimeron, posterior corners

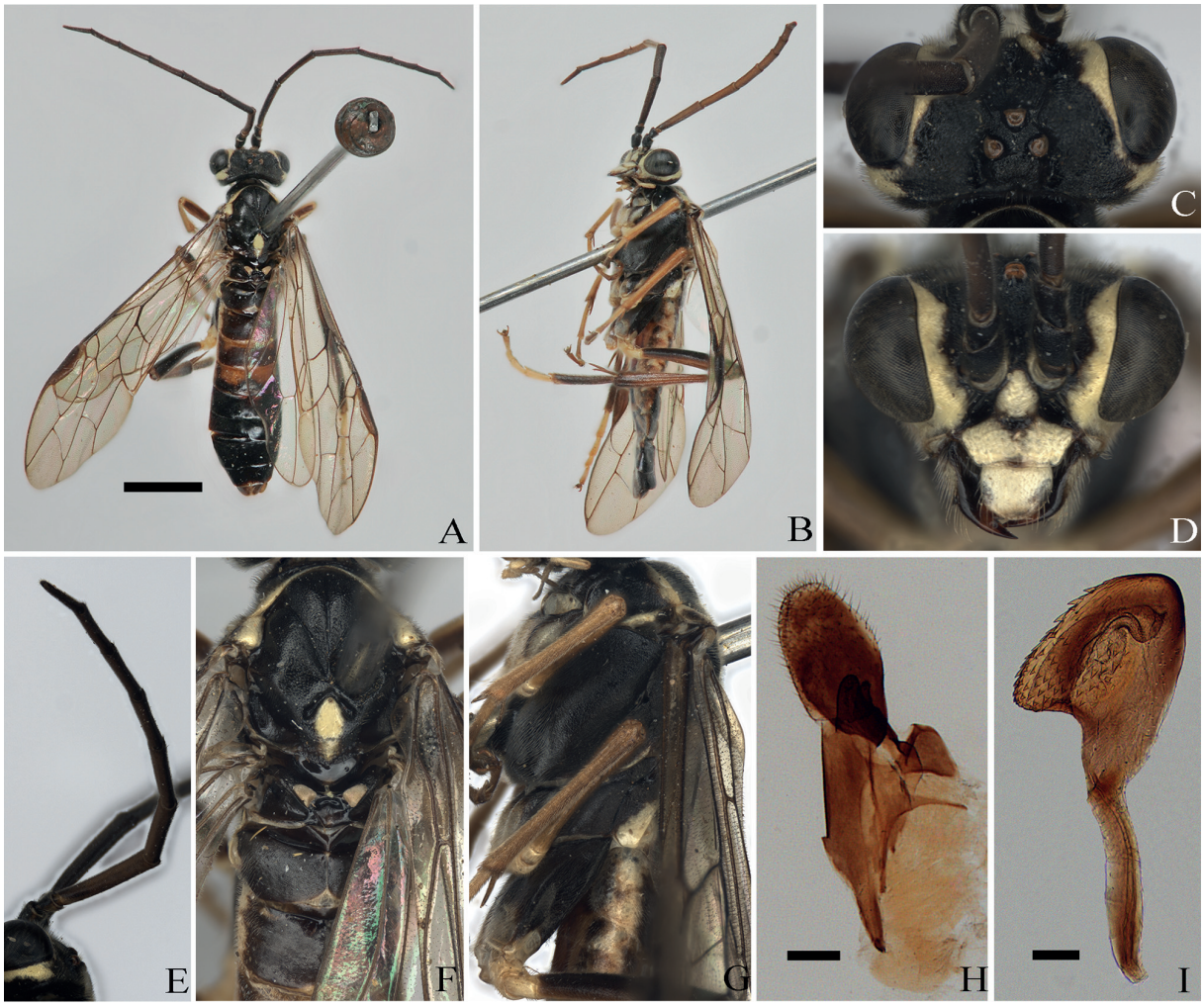

Fig. 1. *Aglaostigma hejunhuai* sp. nov., ♂, holotype (ASMN). **A**. Adult in dorsal view. **B**. Adult in lateral view. **C**. Head in dorsal view. **D**. Head in frontal view. **E**. Antennae in lateral view. **F**. Mesopleuron and metapleuron in dorsal view. **G**. Mesopleuron and metapleuron in lateral view. **H**. Gonoforceps. **I**. Penis valve. Scale bars: A = 2 mm; H = 100 μm; I = 200 μm.

of metepimeron, basal margins of abdominal terga 2–5, lateral of abdominal terga 1–6. Most parts of legs reddish brown; most parts of ventral side of all coxae, all trochanters, hind tarsus except for most parts of metatarsomere 1 yellowish white; dorsal side of all femora, small parts of hind tibia and metatarsomere 1 blackish brown. Body hairs silver; stigma largely blackish brown, vein C yellowish brown, other veins largely blackish brown.

Punctures. Labrum nearly smooth, without distinct punctures; clypeus with some shallow and large punctures; dorsal side of head with clearly dense and minute punctures and microsculpture. Punctures on mesonotum minuter and weaker than head, interspace between punctures with fine microsculpture; mesepisternum with dense and minute punctures and fine microsculpture; mesepimeron with some coarse punctures; metepisternum with minute punctures and microsculpture; posterior part of metepimeron smooth, without distinct puncture or microsculpture. posterior part of mesoscutellum with dense punctures, others smooth. Abdominal tergum smooth, without distinct puncture or microsculpture; other abdominal terga with weak microsculpture, without distinct punctures.

Head. Anterior margin of labrum rounded; anterior margin of clypeus almost truncate, lateral margins slightly obtuse; malar space as broad as the diameter of median ocellus; inner margins of eyes slightly convergent downward (Fig. 1D); middle fovea clear and deep, lateral foveae open, convergent with frontal ridge furrows; interocellar furrow and postocellar furrow slightly weak; lateral postocellar furrow broad and deep, slightly parallel backward, POL : OOL : OOCL = 1.0 : 3.0 : 1.7; postocellar area elevated, mesosulcus weak, 2 × broader than long; in dorsal view, lateral sides of vertex slightly divergent backward, temple 0.5 × broader than diameter of eyes, lateral sides almost parallel (Fig. 1C). Antennae filiform, clearly longer than head and thorax combined; antennomere 3 longer than antennomere 4 (1.8 : 1.0), shorter than antennomeres 4 and 5 combined (1.0 : 1.2) slightly, length ratio of antennomeres 6–9 as 1.0 : 1.1 : 1.0 : 1.0 (Fig. 1E).

Thorax. Posterior corner of metepimeron square and obtuse (Fig. 1G), mesoscutellum low and flat, top rounded (Fig. 1F). Metatarsomere 1 as long as following 3 tarsomeres combined, slightly shorter than following 4 tarsomeres combined, inner apical spur of hind tibia slightly shorter than half of metatarsomere 1; tarsal claw with broad inner tooth, as long as outer tooth.

Wings. Cell 2Rs in fore wing longer than cell 1Rs, outer and lower corner of cell 2Rs strongly extended; vein cu-a joining lower margin of cell 1M at basal 0.3, vein 2r joining upper margin of cell 2Rs at apical 0.3; hind wing with marginal vein, cell anal without petiole; cell M and cell Rs open.

Abdomen. Apical margin of subgenital plate inner-concave, gonoforceps as shown in Fig. 1H; penis valve as shown in Fig. 1I.

Female

Unknown.

Distribution

China (Zhejiang Province).

Remarks

Within the *Aglaostigma niuae* group, only this species is identified as a new species solely based on male specimens. See the above key for detailed differences.

Aglaostigma leucotarsalina sp. nov.
urn:lsid:zoobank.org:act:2B4470AB-DE0F-46F2-A89A-E61885516198
Fig. 2

Diagnosis

Antennomeres 6–8 yellowish white; pronotum and tegula entirely reddish brown; apical ⅓ of hind tibia blackish brown; hind tarsus white; POL : OOL : OOCL = 1.0 : 1.4 : 2.6; postocellar area 3 × broader than long; length ratio of apical antennomeres 6–9 as 1.7 : 1.6 : 1.3 : 1.0; mesoscutellum rounded and elevated;

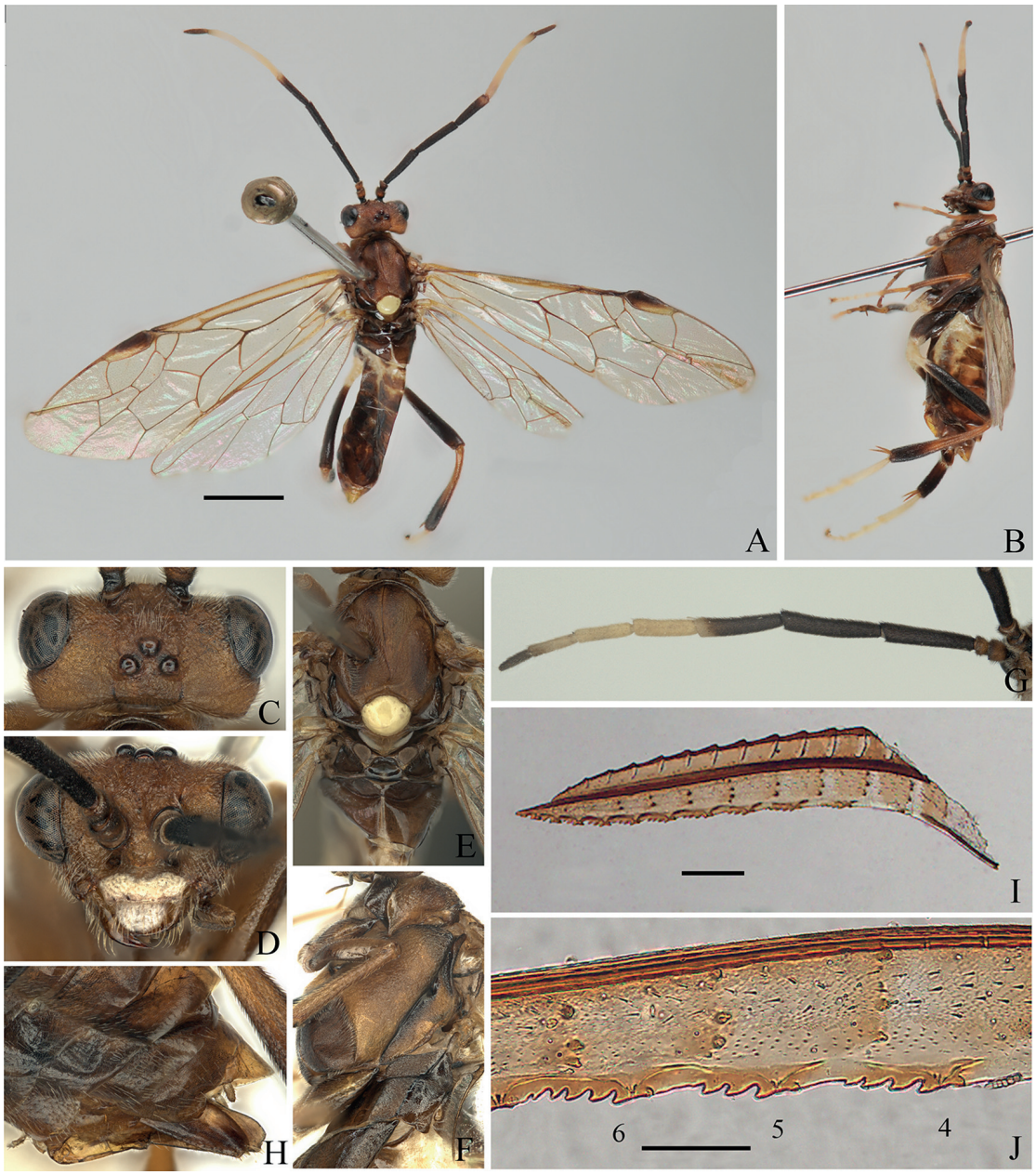

Fig. 2. *Aglaostigma leucotarsalina* sp. nov., ♀, holotype (ASMN). **A**. Adult in dorsal view. **B**. Adult in lateral view. **C**. Head in dorsal view. **D**. Head in frontal view. **E**. Mesopleuron and metapleuron in dorsal view. **F**. Mesopleuron and metapleuron in lateral view. **G**. Antennae in lateral view. **H**. Ovipositor sheath in lateral view. **I**. Lancet. **J**. 4th–6th serrulae. Scale bars: A = 2 mm; I = 200 µm; J = 100 µm.

vein cu-a in the fore wing joining cell 1M at basal 0.4, vein 2r joining cell 2Rs at apical 0.4; lancet with 12 serrulae, denticles large and few, annular sutures 1–2 slightly curved, ventral edge of annulus 1 without denticles, annulus 2 with five denticles; middle serrulae with 1 proximal and 3–5 distal denticles.

Etymology

The specific epithet '*leucotarsalina*' refers to the white hind tarsus.

Type material

Holotype

CHINA – **Sichuan Province** • ♀; Luding County, Mt Hailuogou; 29°603′ N, 102°076′ E; 2200 m a.s.l.; 3 Jul. 2002; Ze-Jian Li leg.; ASMN.

Description

Female

Measurements. Body length 8 mm (N = 1) (Fig. 2A–B).

Coloration (Fig. 2A–B). Body largely reddish brown; labrum, clypeus, apical margin of antennomere 5, antennomeres 6–8, a small macula at median of metascutellum, most parts of abdominal tergum 2, basal margin and lateral parts of tergum 3, lateral parts of terga 4–5 and most parts of abdominal sterna 2–5 yellowish white to white; mesoscutellum yellow; antennomeres 3–4, most parts of antennomere 5, antennomere 9 black; thoracic sterna, metepimeron, lateral areas of metascutellum, most parts of abdomen, most parts of all coxae and femora, apical ⅓ of hind tibia blackish brown. apical margins of middle and hind coxae, most parts of fore trochantellus, middle and hind trochanters, basal margins of middle and hind trochanters, fore and middle tarsomeres 2–4 and hind tarsus white. Body hairs silver; stigma mostly blackish brown, vein C yellowish brown, other veins mostly blackish brown.

Punctures. Labrum nearly smooth, without distinct punctures; clypeus with some shallow and large punctures; dorsal side of head, mesepisternum and metepisternum with markedly dense and minute punctures, weakly shiny; mesonotum with shallower and more minute punctures than head, microsculpture clear; mesipimeron with some coarse and large punctures, microsculpture dense; metepimeron mostly without distinct punctures, with weak microsculpture, strongly shiny. Mesoscutellum and abdominal tergum 1 smooth, without punctures or microsculpture, strongly shiny, other terga with fine microsculpture, without punctures.

Head. Anterior margin of labrum rounded; apical margin of clypeus almost truncate, lateral margins slightly convergent forward; malar space 2 × broader than diameter of median ocellus; inner margins of eyes slightly convergent downward (Fig. 2D); middle fovea slightly broad and shallow, lateral foveae deep and open, joining frontal ridge furrows; interocellar and postocellar furrow slightly thin and shallow; lateral postocellar furrow broad and deep, furrows nearly parallel posteriorly, POL : OOL : OOCL = 1.0 : 1.4 : 2.6; postocellar area elevated, mesosulcus weak, 3 × broader than long; in dorsal view, vertex 0.5 × broader than diameter of eyes, temple 0.5 × broader than diameter of eyes, sides almost parallel (Fig. 2C). Antennae filiform, clearly longer than head and thorax combined; antennomere 3 slightly shorter than antennomere 4 (1.0 : 1.1), or half as long as antennomeres 4 and 5 combined; length ratio of antennomeres 6–9 as 1.7 : 1.6 : 1.3 : 1.0 (Fig. 2G).

Thorax. Posterior corner of metepimeron square and obtuse (Fig. 2F), mesoscutellum rounded and elevated (Fig. 2E); hind femur extended to the end of abdomen, metatarsomere 1 as long as following 3 tarsomeres combined, slightly shorter than following 4 tarsomeres combined, inner apical spur of hind tibia slightly shorter than half of metatarsomere 1; tarsal claw with inner tooth shorter than outer tooth.

Wings. Cell 2Rs in fore wing about as long as cell 1Rs, outer and lower corner of cell 2Rs strongly extended; vein cu-a joining lower margin of cell 1M at basal 0.4, vein 2r joining upper margin of cell 2Rs at apical 0.4; cell anal in hind wing without petiole, cell M and cell Rs open.

Abdomen. Valvula 3 as long as valvifer 2, ovipositor sheath in lateral view as in Fig. 2H. Lancet with 12 serrulae (Fig. 2I), denticles large and few, annular sutures 1–2 slightly curved, ventral edge of annulus 1 without denticles, annulus 2 with five denticles; middle serrulae with 1 proximal and 3–5 distal denticles (Fig. 2J).

Male

Unknown.

Distribution

China (Sichuan Province).

Remarks

This new species can be easily distinguished from other species of the *A. niuae* group by its entirely yellowish white antennomeres 6–8 and entirely black antennomere 9; lancet with 12 serrulae, denticles large and few.

Aglaostigma niuae sp. nov.

urn:lsid:zoobank.org:act:FE0E33B1-0813-4B2F-B061-19F43FE3EB89

Fig. 3

Diagnosis

Apical ⅓ of antennomere 5, antennomere 6 yellowish white; antennomeres 3–4, basal ⅔ of antennomere 5, antennomeres 7–9 black; most parts of pronotum, apical ½ of tegula yellowish white; POL : OOL : OOCL = 1.3 : 1.0 : 3.3; postocellar area 4 × broader than long; length ratio of antennomeres 6–9 as 1.4 : 1.3 : 1.3 : 1.0; metatarsomere 1 slightly longer than following 3 tarsomeres combined; lancet with 11 serrulae, denticles large; ventral edge of annulus 1 without denticles and annular suture 1 curved, annulus 2 with three denticles and annular suture 2 slightly curved; middle serrulae without proximal denticle, with 6–7 distal denticles.

Etymology

The specific epithet '*niuae*' refers to the first name of Dr Geng-Yun Niu, who collected two of the type specimens.

Type material

Holotype

CHINA – **Tibet Autonomous Region** • ♀; Bomi County, Moge; 29°30.738′ N, 96°34.705′ E; 3772 m a.s.l.; 11 Jun. 2009; Mei-Cai Wei leg.; ASMN.

Paratypes

CHINA – **Tibet Autonomous Region** • 2 ♀♀; Bomi County, 24K; 29°48.287′ N, 95°41.914′ E; 3563 m a.s.l.; 21 Jun. 2009; Geng-Yun Niu leg.; ASMN.

Description

Female

Measurements. Body length 8.0 – 8.5 mm (N = 3) (Fig. 3A–B).

Coloration (Fig. 3A–B). Body mostly reddish brown; labrum, clypeus, apical ⅓ of antennomere 5, antennomere 6, most parts of pronotum, apical ½ of tegula, mesoscutellum and lateral sides of abdominal terga 2–7 yellowish white; antennomeres 3–4, basal 2/3 of antennomere 5, antennomeres 7–9, small

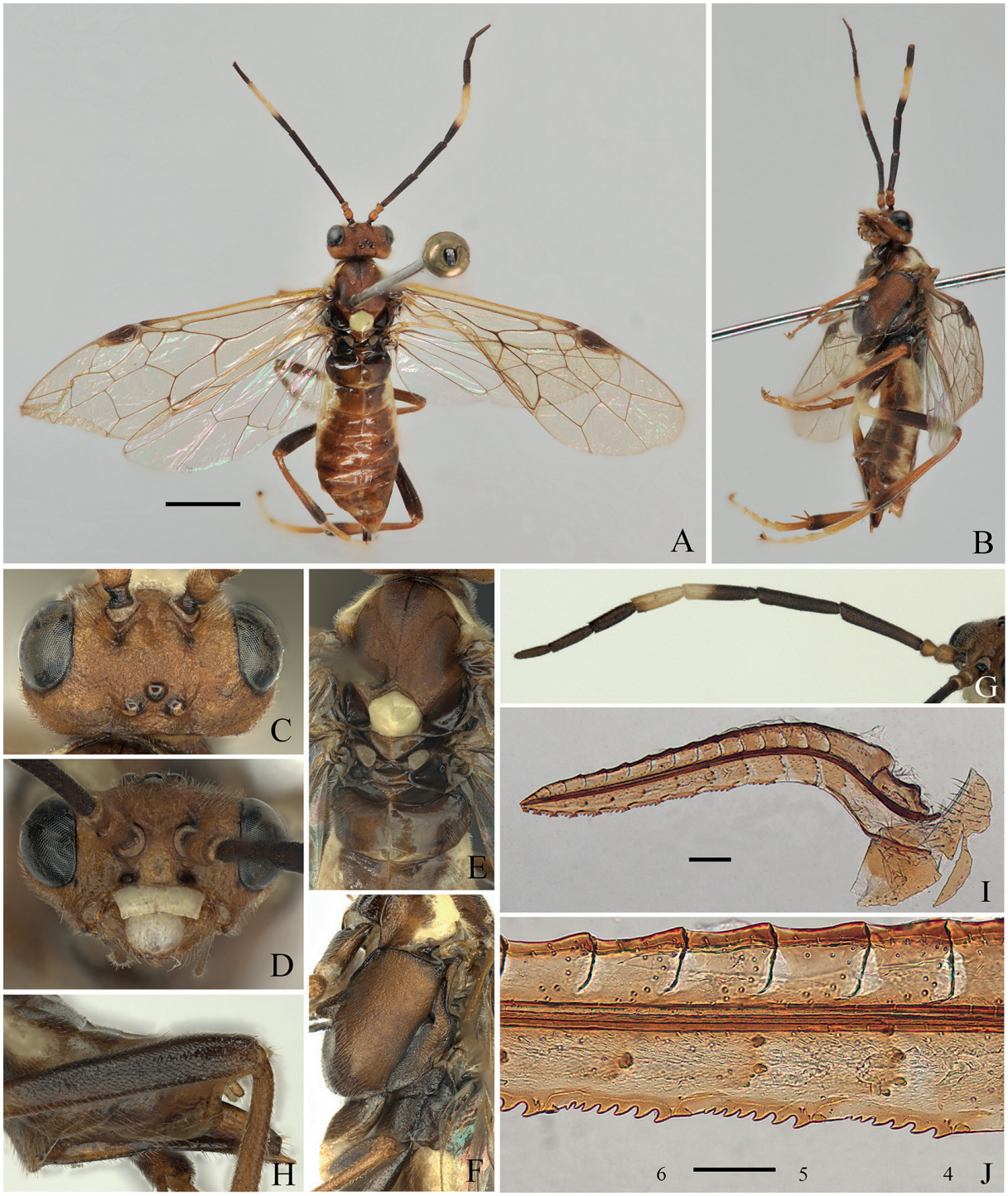

Fig. 3. *Aglaostigma niuae* sp. nov., ♀, holotype (ASMN). **A**. Adult in dorsal view. **B**. Adult in lateral view. **C**. Head in dorsal view. **D**. Head in frontal view. **E**. Mesopleuron and metapleuron in dorsal view. **F**. Mesopleuron and metapleuron in lateral view. **G**. Antennae in lateral view. **H**. Ovipositor sheath in lateral view. **I**. Lancet. **J**. 4th–6th serrulae. Scale bars: A = 2 mm; I = 200 µm; J = 100 µm.

parts of pronotum and mesopleuron, most parts of metapleuron and lateral areas of metascutellum black. Most parts of all coxae and all femora, apex of hind tibia blackish brown. Body hairs silver, vein C yellowish brown, other veins mostly blackish brown.

Punctures. Labrum nearly smooth, without distinct punctures; clypeus with some shallow punctures; dorsal side of head, mesepisternum and metepisternum with conspicuously dense and minute punctures, weakly shiny; mesonotum with shallower and smaller punctures than head, microsculpture distinct; mesipimeron with some coarse and large punctures, microsculpture dense; metepimeron without distinct puncture, with weak microsculpture, strongly shiny. Mesoscutellum and abdominal tergum 1 smooth, without punctures or microsculpture, strongly shiny, other terga with fine microsculpture, without punctures.

Head. Anterior margin of labrum rounded; apical margin of clypeus almost truncate, lateral margins slightly convergent forward; malar space 2 × broader than diameter of median ocellus; inner margins of eyes slightly convergent downward (Fig. 3D); middle fovea well-defined, lateral foveae open, narrow and deep, joining frontal ridge furrows; interocellar and postocellar furrow slightly weak; lateral postocellar furrow broad and deep, slightly parallel backward, POL : OOL : OOCL = 1.3 : 1.0 : 3.3; postocellar area elevated, mesosulcus weak, 4 × broader than long; in dorsal view, vertex 0.5 × broader than diameter of eyes, temple 0.5 × broader than diameter of eyes, sides almost parallel (Fig. 3C). Antennae filiform, clearly longer than head and thorax combined; antennomere 3 slightly longer than antennomere 4 (1.1 : 1.0), clearly shorter than antennomeres 4 and 5 combined (1.0 : 1.8), length ratio of antennomeres 6–9 as 1.4 : 1.3 : 1.3 : 1.0 (Fig. 3G).

Thorax. Posterior corner of metepimeron rounded and obtuse (Fig. 3F), mesoscutellum rounded and elevated (Fig. 3E); hind femur reachig to end of abdomen, metatarsomere 1 slightly longer than following 3 tarsomeres combined, slightly shorter than following 4 tarsomeres combined, inner apical spur of hind tibia slightly shorter than half of metatarsomere 1; tarsal claw with inner tooth shorter than outer tooth.

Wings. Cell 2Rs in fore wing as long as cell 1Rs, outer and lower corner of cell 2Rs extended strongly; vein cu-a joining lower margin of cell 1M at basal 0.3, vein 2r joining upper margin of cell 2Rs at middle 0.5; cell anal in hind wing without petiole, cell M and cell Rs open.

Abdomen. Valvula 3 as long as valvifer 2, ovipositor sheath in lateral view as in Fig. 3H. Lancet with 11 serrulae (Fig. 3I), denticles large; ventral edge of annulus 1 without denticle and annular suture 1 curved, annulus 2 with three denticles and annular suture 2 slightly curved; middle serrulae without proximal denticle, with 6–7 distal denticles (Fig. 3J).

Male

Unknown.

Distribution

China (Tibet Autonomous Region).

Remarks

This species is similar to *A. leucotarsalina*, but differs from the latter as follows: apical ⅓ of antennomere 5 and antennomere 6 entirely yellowish white; most parts of hind metarbasitarsus reddish brown, tarsomeres 2–4 yellowish white; postocellar area 4 × broader than long; POL : OOL : OOCL = 1.3 : 1.0 : 3.3; length ratio of antennomeres 6–9 as 1.4 : 1.3 : 1.3 : 1.0; vein cu-a in fore wing joining lower margin of cell 1M at basal ⅓; lancet with 11 serrulae; middle serrulae without proximal denticle, with 6–7 distal denticles.

Aglaostigma tricoloricorne sp. nov.
urn:lsid:zoobank.org:act:4A1603EF-67ED-4712-AAB5-47DFDEA67E62
Fig. 4

Diagnosis

Antennomeres 1–6 reddish brown to yellowish white, antennomeres 7–9 black; clypeus, tegula, hind tibia and metatarsomere 1 entirely reddish brown; POL : OOL : OOCL = 1.0 : 1.0 : 1.8; postocellar area 2.2 × broader than long; length ratio of antennomeres 6–9 as 1.2 : 1.1 : 1.0 : 1.0; inner apical spur of hind tibia as long as half of metatarsomere 1; tarsal claw with broad and large inner tooth, slightly longer than outer tooth; cell anal in hind wing with short petiole, 0.3 × shorter than vein cu-a; cell 1M closed; valvula 3 longer than valvifer 2; lancet with 14 serrulae, with small denticles; annular suture 1 nearly straight, ventral edge of annulus 1 with weak denticles; annular suture 2 curved, ventral edge of annulus 2 with six denticles; middle serrulae with 1 proximal and 11–13 distal denticles.

Etymology

The species epithet '*tricoloricorne*' refers to the three-colored antenna.

Type material

Holotype

CHINA – **Shaanxi Province** • ♀; Foping County, Daguping; 33°34.612′ N, 107°46.553′ E; 1320 m a.s.l.; 28 Apr. 2006; Mo-Jun He leg.; ASMN.

Paratypes

CHINA – **Hubei Province** • 1 ♀; Yichang City, Mt Shennongjia, Yinyuhe; 31°34.005′ N, 110°20.370′ E; 2100 m a.s.l.; 17 May 2012, Ze-Jian Li leg.; ASMN. – **Shaanxi Province** • 1 ♀; Foping County, Yueba; 33°32.962′ N, 107°49.212′ E; 1085 m a.s.l.; 29 Apr. 2006; Xun Zhu leg.; ASMN. – **Unknown province** • 1 ♀; Temple Dele (unknown province); 24 Feb. 1957; ASMN.

Description

Female

Measurements. Body length 8.0 – 8.5 mm (N = 4) (Fig. 4A–B).

Coloration (Fig. 4A–B). Body mostly reddish brown; labrum, stripes on inner orbit, antennomeres 5–6, posterior margin of pronotum, middle parts of mesepisternum, posterior of median mesoscutal lobes, mesoscutellum, metascutellum, lateral sides of abdominal terga 1–4, small maculae of lateral sides of terga 5–6, posterior margins of terga 1–2, center of posterior margin of tergum 3, most parts of tergum 4 yellowish white; antennomeres 1–4 reddish brown to yellowish brown; antennomeres 7–9, front area of torulus, lateral foveae, ocellus area, anterior sides of pronotum, notaulus, margins and lateral areas of mesoscutellum, most parts of mesoscutellar appendage, margins of mesepisternum, most parts of mesepimeron, small parts of metepisternum, metepimeron black. Most parts of all coxae and hind femur blackish brown; all trochanters, hind tarsomeres 2–4 yellowish white. Body hairs silver; stigma blackish brown, vein C yellowish brown, other veins mostly blackish brown.

Punctures. Clypeus, ocellus area, most parts of temple, lateral corners of pronotum, most parts of mesepimeron, metepimeron with slightly dense and minute punctures, microsculpture fine; mesonotum and mesepisternum with fine microsculpture, without punctures; abdominal tergum 1 with distinct microsculpture, other terga with fine microsculpture, without punctures.

Head. Anterior margin of labrum rounded; apical margin of clypeus almost truncate, lateral margins convergent forward slightly; malar space 2× broader than the diameter of median ocellus; inner

margins of eyes convergent downward slightly (Fig. 4D); middle fovea distinct, lateral foveae open, broad and deep, joining frontal ridge furrows; interocellar furrow weak, postocellar furrow slightly broad and shallow; lateral postocellar furrow broad and deep, furrows posteriorly nearly parallel; POL : OOL : OOCL = 1.0 : 1.0 : 1.8; postocellar area elevated, mesosulcus weak, 2.2 × broader than long; in dorsal view, vertex 0.5 × broader than diameter of eyes, temple 0.5 × broader than diameter of eyes, sides almost parallel (Fig. 4C). Antennae filiform, clearly longer than head and thorax combined, as long

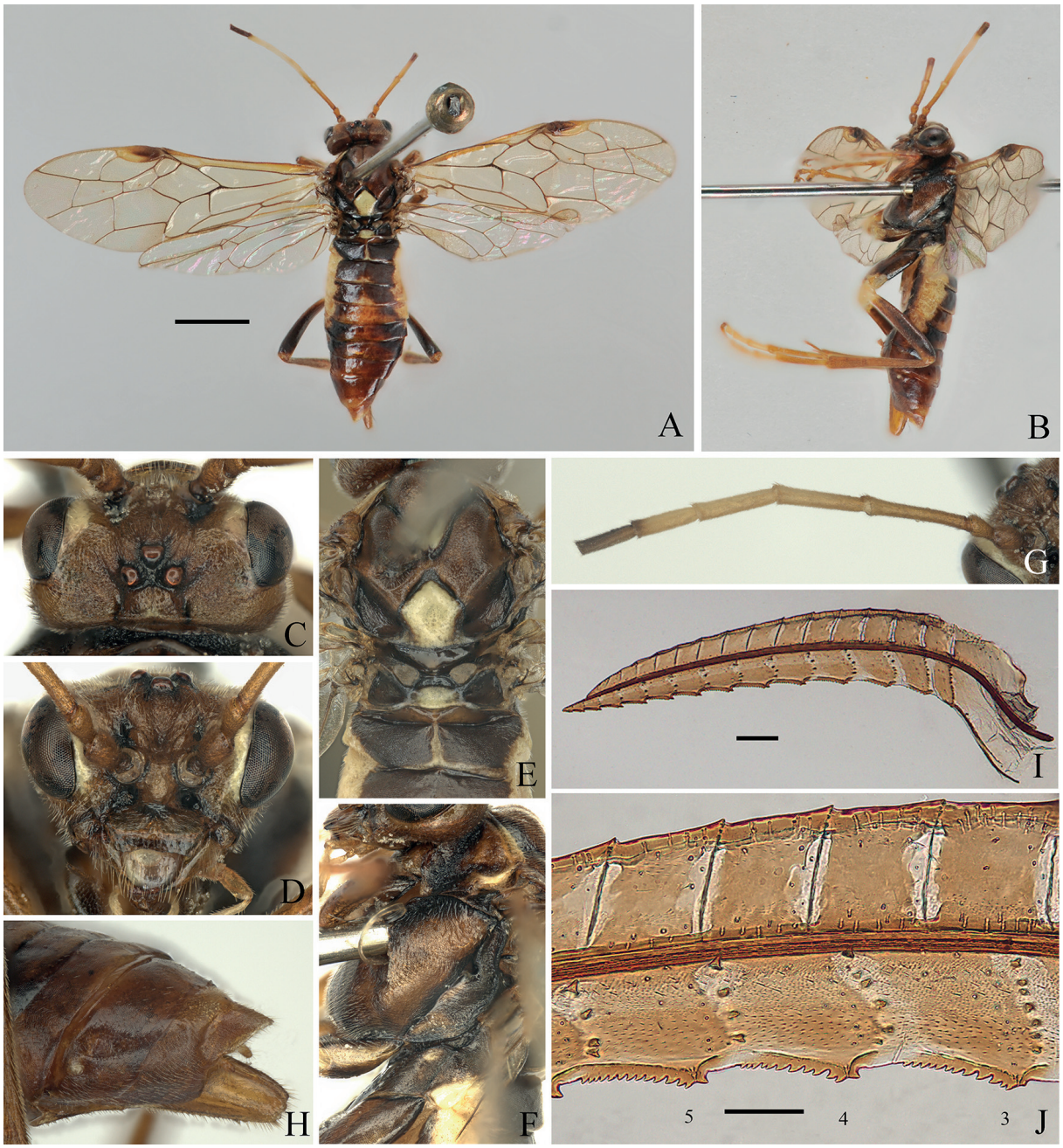

Fig. 4. *Aglaostigma tricoloricorne* sp. nov., ♀, holotype (ASMN). **A**. Adult in dorsal view. **B**. Adult in lateral view. **C**. Head in dorsal view. **D**. Head in frontal view. **E**. Mesopleuron and metapleuron in dorsal view. **F**. Mesopleuron and metapleuron in lateral view. **G**. Antennae in lateral view. **H**. Ovipositor sheath in lateral view. **I**. Lancet. **J**. 3th–5th serrulae. Scale bars: A = 2 mm; I = 200 µm; J = 100 µm.

as abdomen; antennomere 3 slightly longer than antennomere 4 (1.1 : 1.0), shorter than antennomeres 4 and 5 combined (1.0 : 1.7), length ratio of antennomeres 6–9 as 1.2 : 1.1 : 1.0 : 1.0 (Fig. 4G).

Thorax. Posterior corner of metepimeron rounded and obtuse (Fig. 4F), mesoscutellum flat (Fig. 4E); hind femur reaching end of abdomen, metatarsomere 1 as long as following 3 tarsomeres combined, shorter than following 4 tarsomeres combined, inner apical spur of hind tibia as long as half of metatarsomere 1; tarsal claw with broad and large inner tooth, slightly longer than outer tooth.

Wings. Cell 2Rs in fore wing longer than cell 1Rs, outer and lower corner of cell 2Rs extended strongly; vein cu-a joining lower margin of cell 1M at basal 0.3, vein 2r joining upper margin of cell 2Rs at apical 0.4; anal cell in hind wing with short petiole, 0.3 × shorter than vein cu-a; cell 1M closed, short square; cell Rs open.

Abdomen. Valvula 3 longer than valvifer 2, ovipositor sheath in lateral view as shown in Fig. 4H. Lancet with 14 serrulae (Fig. 4I), with small denticles; annular suture 1 nearly straight, ventral edge of annulus 1 with weak denticles; annular suture 2 curved, ventral edge of annulus 2 with six denticles; middle serrulae with 1 proximal and 11–13 distal denticles (Fig. 4J).

Male

Unknown.

Distribution

China (Hubei, Shaanxi provinces).

Remarks

This new species can be easily distinguished from other species of the *A. niuae* group by its three-colored antenna; clypeus, tegula, hind tibia and metatarsomere 1 entirely reddish brown; tarsal claw with inner tooth slightly longer than outer tooth; anal cell in hind wing with a short petiole, cell 1M closed; valvula 3 longer than valvifer 2; lancet with 14 serrulae, with small denticles.

Discussion

Comparing the morphological characteristics of known species of *Aglaostigma* and the four new species, we propose that the latter form a new species group. They are similar in general morphology but differ from other species of *Aglaostigma*. Their distinguishing features include: a thin and long body; slender antennae, with several segments ranging from yellowish white to reddish brown, clearly longer than head and thorax combined, usually slightly longer than abdomen; lateral parts of abdominal terga 2–6 yellowish white; postocellar area usually narrow and long, 2–4 × broader than long; and a narrow and long lancet with clear and usually large denticles of serrulae. This group is named the *A. niuae* group because *A. niuae* best displays its characters.

Based on the known species and existing specimens of *Aglaostigma* from China (including unpublished new species), we tentatively propose dividing the species of *Aglaostigma* into 10 species groups: *A. sinense* group (Liu *et al.* 2024), *A. niuae* group (proposed in this study), *A. tertium* group, *A. malaisei* group, *A. semiluteum* group, *A. lichtwardti* group, *A. fulvipes* group, *A. pingue* group, *A. nebulosum* group, and *A. occipitosum* group (except for the *A. sinense* group and *A. niuae* group, the remaining eight species groups have not yet been published).

Acknowledgments

The authors are deeply grateful to the anonymous referees for valuable comments and suggestions. This research was supported by the scientific research project of Baishanzu National Park (No. 2023JBGS07), the National Natural Science Foundation of China (grant Nos. 31970447 and 32370500) and Special funds for Scientific Research of Postdoctoral Work Station Assessment in Zhejiang Province, China (No. 2023).

References

Liu M.M., Li Z.J. & Wei M.C. 2024. Review of the *Aglaostigma sinense* group (Hymenoptera, Tenthredinidae) with descriptions of three new species from China. *Entomotaxonomia* 46 (2): 147–159. https://doi.org/10.11680/entomotax.2024017

Ross H.H. 1945. Sawfly genitalia: terminology and study techniques. *Entomological News* 61 (10): 261–268.

Taeger A., Blank S.M. & Liston A.D. 2010. World Catalog of Symphyta (Hymenoptera). *Zootaxa* 2580: 1–1064. https://doi.org/10.11646/zootaxa.2580.1.1

Takeuchi K. 1952. *A Generic Classification of the Japanese Tenthredinidae (Hymenoptera: Symphyta)*. Kyoto.

Viitasaari M. 2002. The Suborder Symphyta of the Hymenoptera. *In*: Viitasaari M (ed.) *Sawflies (Hymenoptera, Symphyta) I. A Review of the Suborder, the Western Palaearctic Taxa of Xyeloidea and Pamphilioidea*: 11–174. Tremex, Helsinki.

Wei M.C. & Nie H.Y. 1998. Generic list of Tenthredinoidea s. str. (Hymenoptera) in new systematic arrangement with synonyms and distribution data. *Journal of Central South Forestry University* 18: 23–31.

Manuscript received: 27 July 2024
Manuscript accepted: 20 November 2024
Published on: 7 March 2025
Topic editor: Tony Robillard
Section editor: Gavin Broad
Desk editor: Eva-Maria Levermann