

## A peculiar new species of *Neurigona* (Diptera: Dolichopodidae) from North China, Palaearctic Region

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### Abstract

A peculiar new species, *Neurigona zhangae* sp. nov., is described from North China (Palaearctic region).

**Key words:** Dolichopodidae, *Neurigona*, North China, new species.

### Introduction

The genus *Neurigona* Rondani belongs to the subfamily Neurigoninae. It was erected by RONDANI (1856) with the following characters: thorax and abdomen usually yellow with black markings; M weakly or strongly bent apically and convergent with  $R_{4+5}$ ; legs slender, especially tibiae; abdominal segment 1 remarkably enlarged (PARENT, 1938) and abdominal segment 5 in male sometimes with a ventral projection. *Neurigona* has a worldwide distribution and 145 species are known. Eight species occur in the Palaearctic Region (NEGROBOV, 1987, 1991; NEGROBOV and FURSOV, 1988; PÂRVU, 1996) and 24 species are recorded in the Oriental Region (DYTE, 1975; YANG and SAIGUSA, 2001a–b). Sixteen species are known so far from Chinese mainland (PARENT, 1944; YANG, 1999; YANG and SAIGUSA, 2001a–b, 2005; ZHANG, YANG and GROOTAERT, 2003).

During our recent study of dolichopodid specimens from North China, an area belonging to the Palaearctic Realm, we came upon a peculiar species in having the apical portion of the wing round and widened, the apical portion of vein  $R_{4+5}$  strongly bent backward, the apical portion of M strongly bent backward, then upward and joining the costa before the wing tip, and the chiefly metallic green thorax with yellow humerus and propleuron.

Material was collected by different collectors with net sweeping in forest of Beijing outskirts. All specimens are preserved in 75 percent alcohol in the Entomological Museum of China Agricultural University, Beijing.

The following abbreviations are used: acr - acrostichal bristle, ad - anterodorsal bristle, dc - dorsocentral bristle, h - humeral bristle, LI - fore leg, LII - mid leg, LIII - hind leg, npl - notopleural bristle, oc - ocellar bristle, pd - posterodorsal bristle, pvt - postvertical bristle, sa - supraalar bristle, su - sutural bristle, v - ventral bristle, vt - vertical bristle.

### *Neurigona zhangae* sp. nov. (Figs. 1-8)

**DIAGNOSIS:** Thorax dark metallic green except humerus, scutellum, propleuron and metapleuron yellow. Wing with broad apical portion. Fore tarsomere 4 with basal half somewhat swollen and with dense pale hairs; fore tarsomere 5 with 1 elongated claw. Abdominal segment 5 with black ventral projection. Aedeagus with a hook-like subapical process.

**Male.** Body length 6.0–7.0 mm, wing length 4.6–4.7 mm. Length ratio of thorax and abdomen is 1: 1.8.

Head metallic green with pale grey pollen; vertex, frons and face black with dense pale pollen. Face narrowing downward, eyes narrowly separated on middle portion of face. Hairs and bristles on head black; 1 pair of oc black and strong, 1 pair of vt black and strong, 1 pair of pvt black, long and strong, pvt longer than vt; postocular bristles pale, the uppermost one black. Antenna brownish yellow; first flagellomere about as long as wide (Fig. 2); arista brownish with short basal segment. Proboscis yellowish brown with pale hairs; palpus yellow with pale hairs.

**Thorax:** dark metallic green with pale grey pollen, propleuron shining black; propleuron pale yellow, humerus pale yellow, mesonotum dark metallic green with pale lateral margin; scutellum dark yellow with small basal lateral black spot; pteropleuron with anterior part shining black and posterior part brown to yellow, metapleuron pale yellow. Hairs and bristles on thorax black. 3 short anterior and 6 long strong posterior dc, 9–10 irregularly paired acr, 1 long h and 1 short hair, 1 su, 2 npl, 2 sa. Propleuron with 2–3 pale hairs on upper portion and 1 yellow bristle and 3 pale hairs on lower portion. Scutellum with 2 pairs of bristles, apical pair long and strong, but basal pair short and hair-like.

**Legs:** yellow; fore coxa pale, mid and hind coxae yellow; mid and hind tarsomeres 2–5 brownish to brown. Hairs and bristles on legs black. Fore coxa with pale hairs and 4–6 pale bristles on antero-apical portion; mid coxa with black hairs and 2–3 black anterior and apical bristles; hind coxa with 1 black outer bristle at middle. Fore tibia with row of erect pale short v, apically with yellow comb

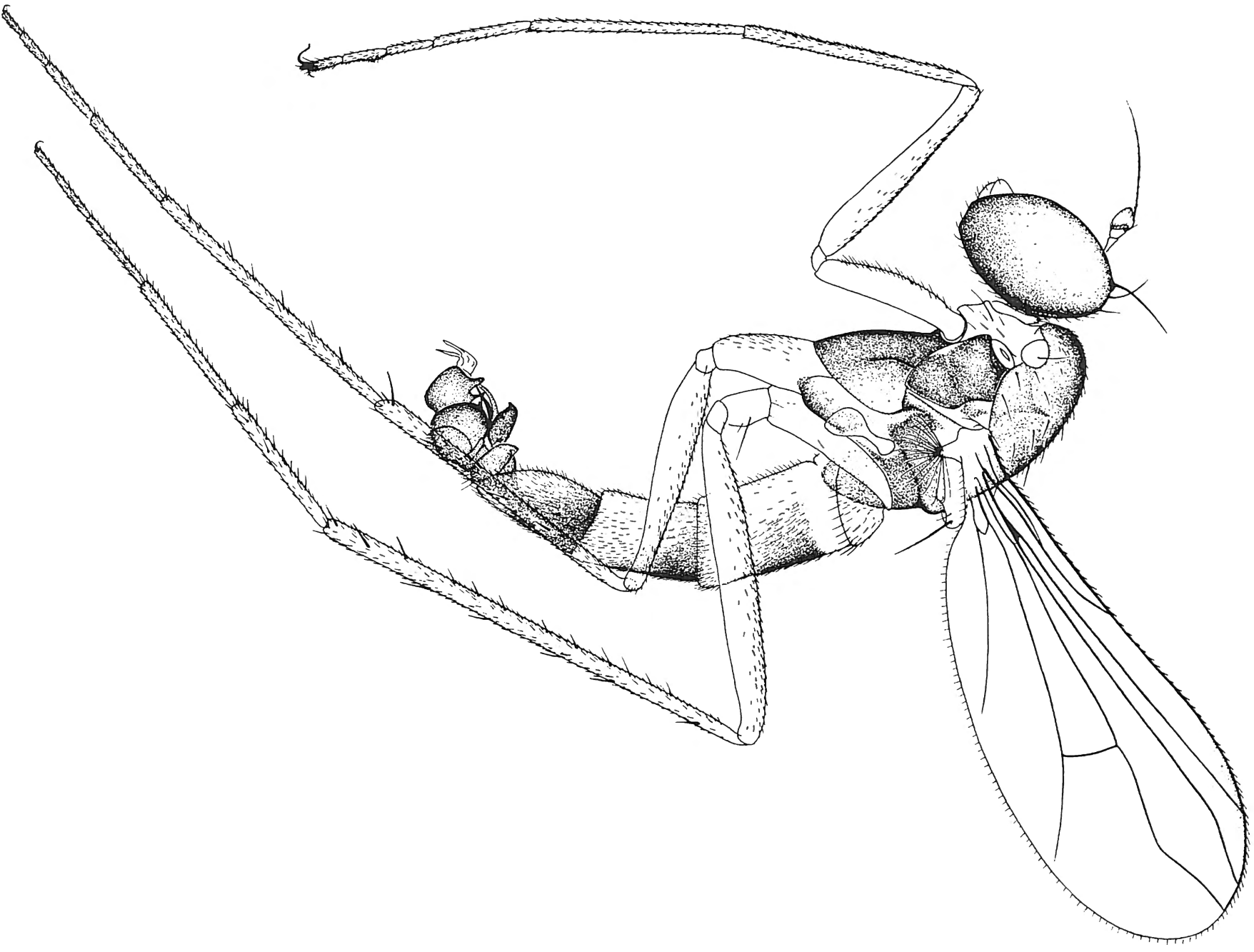
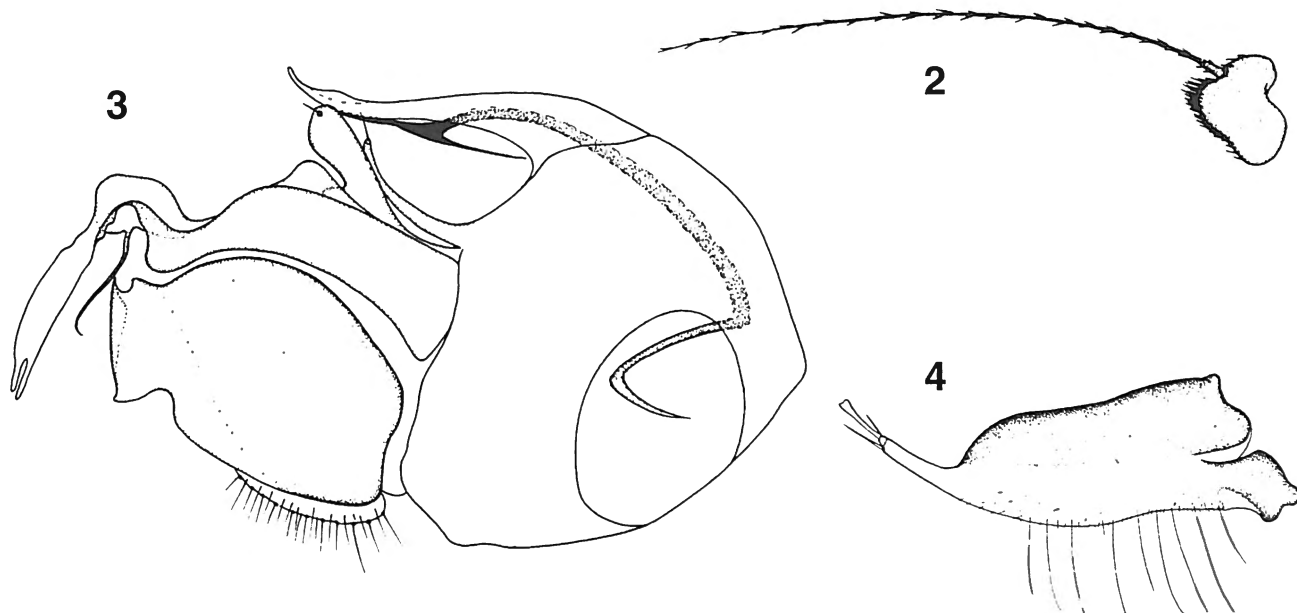


Fig. 1 — *Neurigona zhangae* sp. nov., male



Figs. 2-4 — *Neurigona zhangae* sp. nov., male 2. first flagellomere; 3. genitalia, lateral view; 4. cercus, lateral view.

hairs and 3 short bristles; mid tibia with 2 ad and 3 pd, apically with 3 black bristles; hind tibia with 2 ad and 4 pd, apically with yellow comb hairs and 3 black bristles. Fore tarsus with row of pale short erect v on each segment; fore tarsomere 4 with basal half ventral surface somewhat swollen, with dense pale hairs; tarsomere 5 with long claws (1 much elongated, about as long as tarsomere 5), the claws chiefly black with yellow base. Mid tarsomere 1 shorter than tibia, with 2 rows of 6–7 v. Hind tarsomeres 1–4 each with row of short v; hind tarsomere 1 apically with yellow comb hairs. Relative lengths of tibia and 5 tarsomeres of legs LI 10.7 : 10.0 : 4.7 : 2.3 : 1.8 : 1.3; LII 14.5 : 13.5 : 5.0 : 3.2 : 1.8 : 1.2; LIII 21.0 : 6.7 : 7.0 : 3.8 : 2.3 : 1.3.

*Wing*: hyaline, anterior apical corner brownish; with apical half distinctly broader than basal half, veins black. Apical portion of vein  $R_{4+5}$  strongly bent backward, apical portion of vein M strongly bent backward and then upward, cell  $R4+5$  at widest point 2 times as wide as distance between tips of both  $R_{4+5}$  and M; M joining costa before wing apex;  $R_{4+5}$  and M convergent apically; cross-vein dm-cu about 1.3 times as long as distance between tips of both  $R_{4+5}$  and M, CuAx ratio 0.48; A present. Squama yellow with pale hairs. Halter yellow.

*Abdomen*: brownish yellow with yellow pollen; tergite 1 wholly yellow, tergites 2–4 brownish, each with a large black basal spot, tergite 5 brown; hypopygium black. Abdominal segment 5 with black ventral projection. Hairs and bristles on abdomen chiefly black, segment 4 with pale ventral hairs.

*Genitalia* (Fig. 3-4): Epandrium as long as wide, with 2 lateral processes (one short and thin, another long and thick with lateral processes at middle). Surstylus with wide dorsal lobe constricted at apical 1/5, and long curved ventral lobe with a long thin subapical process.

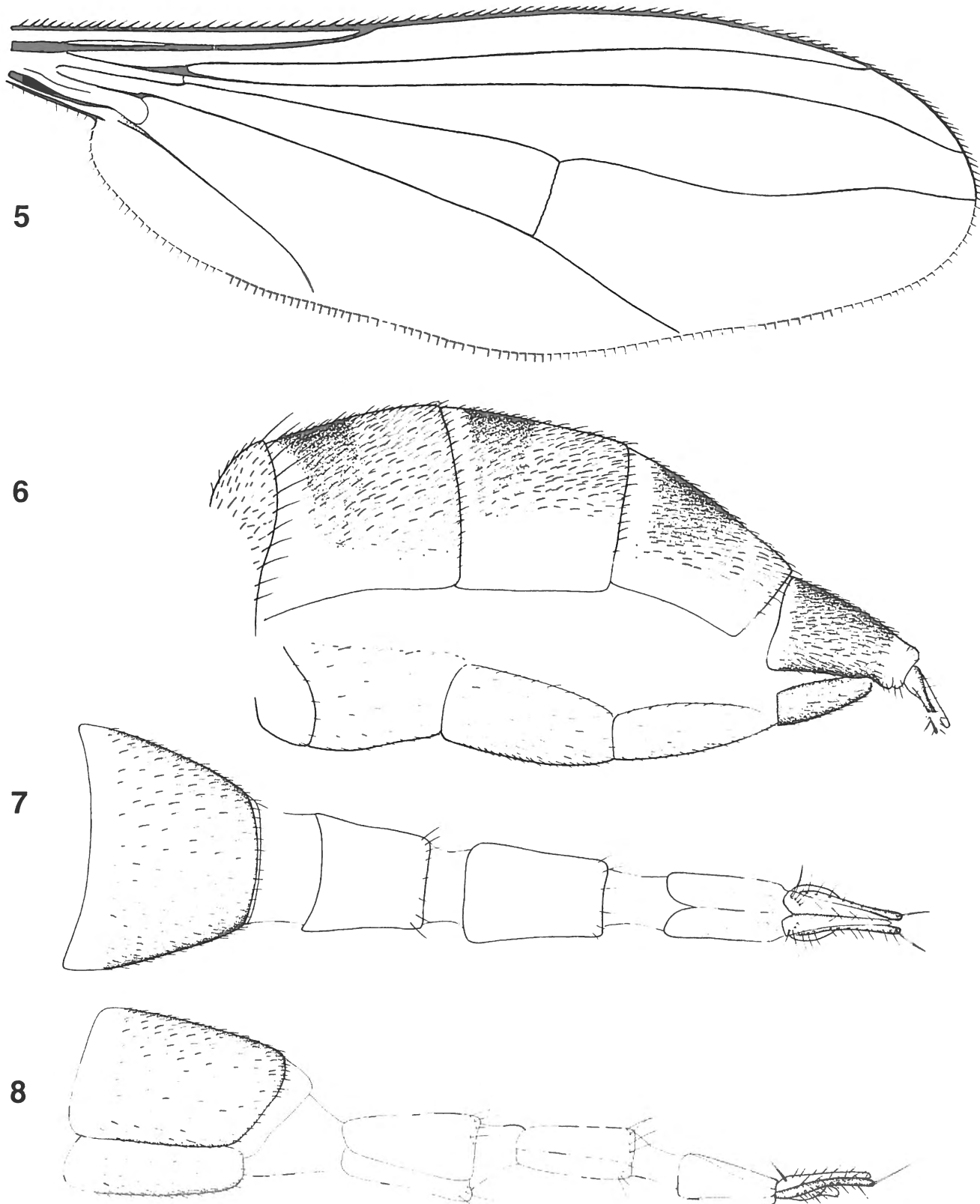
Cercus somewhat round, white, bearing white short hairs. Aedeagus black, slender with a hook-like subapical process. Hypandrium short, narrowing toward sword-like tip.

*Female*. Body length 5.9–6.1 mm, wing length 5.0–5.1 mm. Similar to male, but length ratio of thorax and abdomen is 1 : 1.2, eyes widely separated on face, proboscis and palpus distinctly larger than that of male. Thoracic mesonotum metallic green with posterior lateral corner brownish yellow; propleuron and humerus yellow, scutellum dark yellow with small basal lateral black spot.

*Wing* (Fig. 5): wholly hyaline; with middle portion broader than apical portion, veins black, apical portion of vein  $R_{4+5}$  gently bent backward,  $R_{4+5}$  and M convergent apically; CuAx ratio 0.45. Squama yellow with pale hairs. Halter yellow. Fore tibia with 1 ad at basal 1/4; mid tibia with 4 ad, 3 av and 4 pv; hind tibia with 3 ad, 6 pd and row of 8–9 v; fore tarsomere 4 without swollen basal portion, fore tarsomere 5 without elongated claw.

*Abdomen* (Fig. 6): with segment 1 wholly yellow; tergites 2–4 brownish, each with a large black basal spot, sternites 2–4 yellow, tergite 5 and sternite 5 wholly dark brown. Tergites 6–7 yellow with long brownish lateral spot, tergite 8 bifurcated. Genitalia (Figs. 7-8): Tergite 9+10 long, narrow, yellow with brownish base, bifurcated, with pale yellow hairs; sternite 9+10 short and round, yellow; cercus blackish, long and thin with pale yellow hairs and yellow apical bristles.

*Holotype male*, Beijing, Mentougou, Baihuashan, 2005. VII. 15, Junhua ZHANG (CAU). Paratypes: 1 male: same data as holotype; 1 male and 2 females: Beijing: Mentougou, Baihuashan, 2005. VII. 16, Junhua ZHANG (CAU); 1 male: Beijing: Mentougou, Baihuashan, 2005. VII. 16, Hui DONG & Kuiyan ZHANG (CAU).



Figs. 5-8 — *Neurigona zhangae* sp. nov., female: 5. wing; 6. abdomen, lateral view; 7. abdominal terminalia, dorsal view; 8. abdominal terminalia, lateral view.

**DISTRIBUTION:** Known only from the type locality in Beijing (China).

**ETYMOLOGY:** The specific epithet derives from the collector Junhua ZHANG (Beijing).

**REMARKS:** The new species is easily separated from other known species of the genus by the apical portion of the wing round and widened and aedeagus with a hook-like subapical process.

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