

A new species and a newly recorded species of the genus *Megaselia* Rondani (Diptera: Phoridae) from China

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Abstract: A new species of the genus *Megaselia* Rondani (Diptera: Phoridae), *M. lanceoseta* sp. nov., from Heilongjiang, China, is described. The main diagnosis characters are as follows: anepisternum hairy, without bristles; notopleuron with three bristles, without notopleural cleft; scutellum with two pairs of bristles; epandrium with robust hairs; each cercus with two down-curved bristles; proctiger with two long, willow-leaf-shaped terminal bristles. The species *Megaselia humeralis* (Zetterstedt) is newly recorded from China. The type specimens are deposited in the Natural History Museum of Shenyang University (NMSU), Shenyang, China.

Key words: Phoroidea; taxonomy; scuttle flies

中国异蚤蝇属一新种—新纪录种（双翅目：蚤蝇科）

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摘要: 记述了采自中国黑龙江的双翅目蚤蝇科 1 新种: 柳叶异蚤蝇 *Megaselia lanceoseta* sp. nov.。本种主要鉴别特征为: 中侧片具毛, 缺鬃; 背侧鬃 3 根, 缺背侧裂; 小盾片鬃 2 对; 生殖背板两侧被鬃状毛; 肛侧片每侧各具 2 根下弯的鬃; 载肛片端鬃呈柳叶状。本文还在我国首次记录了阔径异蚤蝇 *Megaselia humeralis* (Zetterstedt)。新种模式标本保存在沈阳大学自然博物馆。

关键词: 蚤蝇总科; 分类; 蚤蝇

Introduction

Megaselia Rondani is the largest genus of the family Phoridae, which includes more than 1400 described species. The life histories within this single genus are more diverse than the rest of the family combined, with some *Megaselia* species being predators, parasitoids, kleptoparasites, and commercial pests (Hartop & Brown 2014).

In the early years of the last century the China species of *Megaselia* were mainly recorded by Brues (1911, 1924), Schmitz (1926, 1933) and Borgmeier (1967). Since 1990, this genus has been studied by the first author and his co-workers (Liu 1998a, b; Liu *et al.* 2014; Liu & Chen 2019; Fang & Liu, 2005a, b; Fang *et al.* 2009a, b; Fang & Liu 2012; Fang & Liu 2015). At present, 70 species have been recorded in China (Liu 2020). In this paper, a

new species and a newly recorded species are described and illustrated from Heilongjiang, NE China.

Material and methods

Specimens were collected by sweeping nets and stored in 80% ethanol. The head, legs and wing were detached and mounted on slides according to the method of Disney (1994). Photos were made using Leica M205A and Leica DM2500B microscope with the help of a CCD 450 multi-focus imaging system. The terms used were followed McAlpine (1981). The type specimens are deposited in the Natural History Museum of Shenyang University (NMSU), Shenyang, China.

Taxonomy

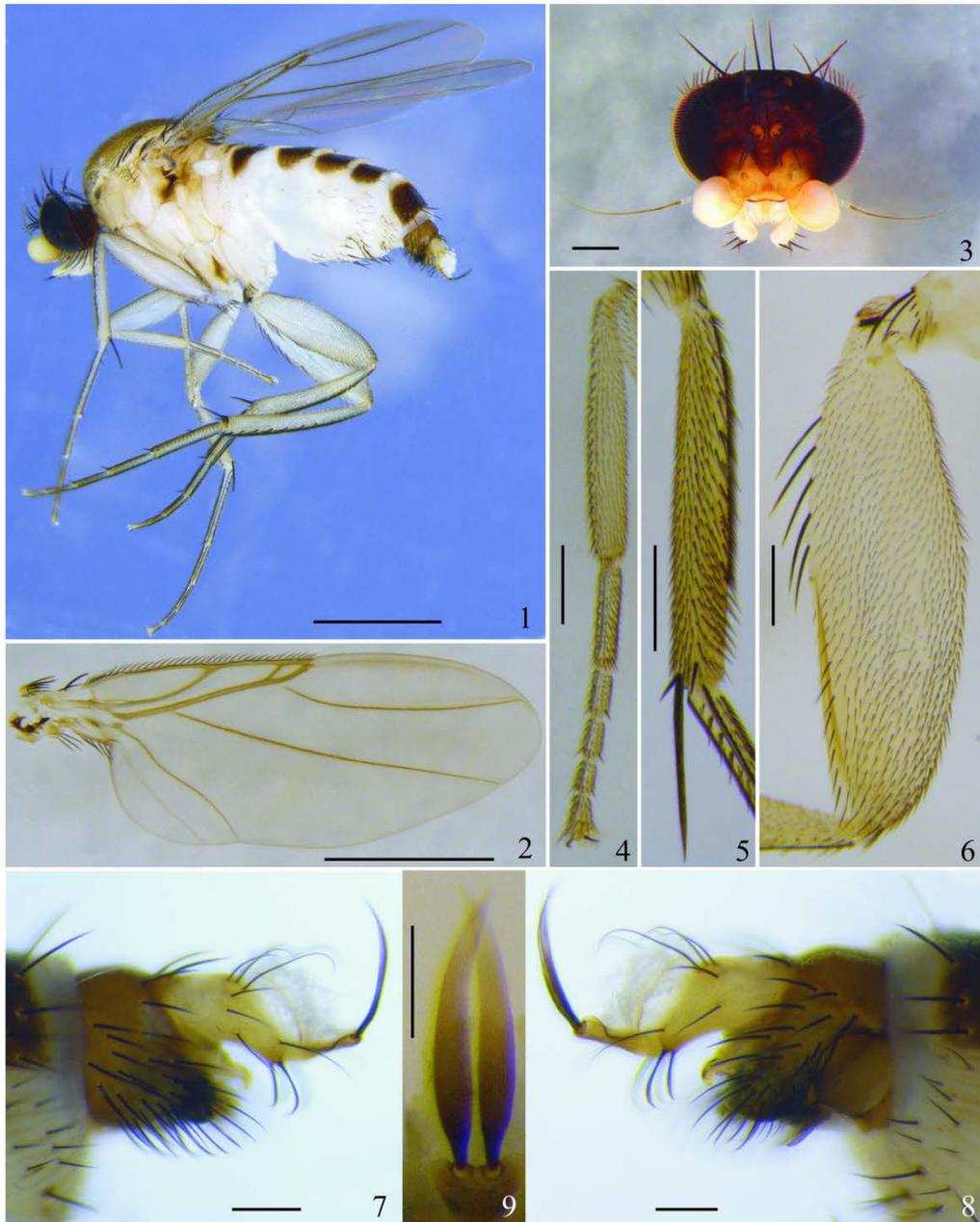
1. *Megaselia lanceoseta* sp. nov. (Figs 1–9)

Description. Male (Fig. 1). Frons (Fig. 3) dark brown, a little broader than long, with 16–18 hairs. Second row of frontal bristles slightly convex. Upper frontal bristles closer together than lower frontal bristles, the latter closer to eye margin than to median furrow. Lower pair of supra-antennal bristles as long as upper pair. Postpedicel subglobose, pale yellow, without subcuticular pit sensilla (SPS). Arista yellow brown, subapical. Pubescence of third aristomere shorter than diameter of first aristomere. Sensilla at base of third aristomere well separated. Palpus pale yellow, with 5–6 bristles and some hairs. Proboscis with pale yellowish labrum and labella.

Thorax pale yellow, with yellowish brown scutum and scutellum. Anepisternum with strong hairs, without differentiated bristles; notopleuron with three bristles, without notopleural cleft. Rest of scutum with a post-alar and a prescutellar dorsocentral bristle each side. Scutellum with two pairs of bristles, which are equal in length. Wing (Fig. 2) length 2.84–2.85 mm. Costal index 0.52–0.53. Costal ratios 3.58–3.59 : 2.23–2.24 : 1. Longest costal cilia 0.08–0.09 mm. Vein Sc fully developed and reaching R_1 . No hair at base of vein Rs. Vein M_1 originates beyond fork of vein Rs. Vein CuA_1 wavy-curved. Vein A_1+CuA_2 pale brown and obscure at base. Axillary ridge with five feathered hairs which are longer than costal cilia. Veins yellowish brown; membrane lightly but distinctly tinged yellowish brown. Haltere with yellow stem and pale yellow knob. Legs (Figs 4–6) yellow, without a brownish patch at tip of hind femur. Fore tibia without bristles. Fore tarsus slender, with posterodorsal hair palisades on tarsomeres 1–4; ratios of lengths of fore tarsomeres ca. 4.5 : 1.6 : 1.5 : 1 : 1.47. Near-dorsal palisade of mid tibia extends seven-eighths of length, and with 6–8 differentiated posterodorsal hairs behind this palisade. Hind femur with 5 robust hairs below basal half, and distinctly longer than longest hairs of anteroventral row of outer half. Hind tibia with 8–10 differentiated, almost bristle-like, posterodorsal hairs.

Abdominal tergites brown, with sparse hairs except for a few longer ones at rear margins of tergite VI. Venter pale yellow, with several long robust hairs on segments 3–6. Male terminalia (Figs 7–9) brown and anal tube pale yellow. Left side of epandrium triangular, with about 30 robust, uniform hairs. Right side of epandrium rod-like, end-rounded, with about 30 robust hairs. Cerci with 6–8 hairs which are shorter than terminal bristles of proctiger, each

with two down-curved bristles. Proctiger with two, long, willow-leaf-shaped terminal bristles.



Figures 1–9. *Megaselia lanceoseta* **sp. nov.** 1. Body, left view; 2. Wing; 3. Head, anterior view; 4. Fore tibia and tarsus, anterior view; 5. Mid tibia, posterior view; 6. Hind femur, anterior view; 7, 8. Male terminalia, left and right view; 9. Terminal bristles of proctiger, posterior view. Scale bars = 1 mm (Figs 1, 2); 0.2 mm (Figs 3–6); 0.1 mm (Figs 7–9).

Female. Unknown.

Etymology. The species epithet refers to the character of the terminal hairs of the

proctiger.

Holotype. ♂, **China**, Heilongjiang, Qitaihe, 45°24'45.9"N, 130°11'3.78"E; 499 m, 24-VII-2019, Jiao ZHANG & Zixuan LIU; **Paratype.** 1♂, same data as holotype.

Diagnosis. Anepisternum hairy, without differentiated bristles; notopleuron with three bristles, without notopleural cleft; scutellum with two pairs of bristles; both sides of epandrium with uniformly robust hairs; each cercus with two strong down-curved bristles; terminal bristles of proctiger long, willow-leaf-shaped.

Remarks. In the key by Disney (1989), the species will run to 7 on page 4, to *M. meigeni* (Becker, 1901). However, this new species has hairs on anepisternum; each cercus with two down-curved bristles and terminal bristles on proctiger willow-leaf-shaped. In the keys of Borgmeier (1967), this species will run to couplet 26 of group I on page 201, to *M. setaria* Malloch, 1912 from Indonesia. But this new species is different from the latter in having the willow-leaf-shaped terminal bristles of the proctiger, two down-curved bristles on each cercus and no terminal black patch on hind femur.

2. *Megaselia humeralis* (Zetterstedt, 1838)

Trineura humeralis Zetterstedt, 1838: 796.

Specimens examined. 1♂, **China**, Heilongjiang, Yichun, 282 m; 47°25'19.5"N, 128°31'58.2"E. 03-VIII-2019, Jiao ZHANG & Zixuan LIU.

Diagnosis. Anepisternum bare; scutellum with two pairs of bristles; Hairs below basal half of hind femur weaker than anteroventral row of outer half; win vein Rs greatly thickened; haltere knob yellow; both sides of epandrium with uniformly hairs; and anal tube shorter than top of epandrium.

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