

# One new species of *Everestiomyia* Townsend (Diptera: Tachinidae) from western China

Bo HAO<sup>1</sup>, Hongying HU<sup>2</sup>, Junjian LI<sup>1</sup>, Chuntian ZHANG<sup>1</sup>①

1. College of Life Science, Shenyang Normal University, Shenyang, Liaoning 110034, China

2. College of Life Science and Technology, Xinjiang University, Urumqi, Xinjiang 830046, China

**Abstract:** *Everestiomyia* Townsend, 1933 (Diptera: Tachinidae) belongs to the tribe Ernestiini in the Tachininae. One new species of this genus from the Altun Mountains of Xinjiang, western China was found and is described: *Everestiomyia nudiculata* Zhang **sp. nov.** Figures of the type and male terminalia are provided.

**Key words:** Calyptratae; Tachininae; Ernestiini; taxonomy

## 中国西部珠峰寄蝇属一新种（双翅目：寄蝇科）

郝博<sup>1</sup>, 胡红英<sup>2</sup>, 李君健<sup>1</sup>, 张春田<sup>1</sup>①

1. 沈阳师范大学生命科学学院, 辽宁 沈阳 110034; 2. 新疆大学生命科学技术学院, 新疆 乌鲁木齐 830046

**摘要:** 珠峰寄蝇属（双翅目：寄蝇科）隶属寄蝇亚科埃内寄蝇族。本文记述中国西部新疆阿尔泰山该属 1 新种：裸眼珠峰寄蝇 *Everestiomyia nudiculata* Zhang **sp. nov.**, 提供了模式标本和雄性尾器图。

**关键词:** 有瓣蝇类；寄蝇亚科；埃内寄蝇族；分类

## Introduction

Townsend (1933) named the genus *Everestiomyia* (Diptera: Tachinidae: Tachininae: Ernestiini = Cuphocerotini) with type species *Everestiomyia antennalis* Townsend from one male type specimen (deposited in NHM: the Natural History Museum, London) from the north slope of Mt. Everest, Rongbuk Glacier, 16500 ft. Himalaya, Tibet, China. Chao & Shi (1982), Herting (1984), Chao *et al.* (1998), Tschorsnig & Richter (1998), O'Hara, Shima & Zhang (2009), and O'Hara *et al.* (2019) reported *Everestiomyia* from the Palaearctic high Himalayas, on the Qinghai-Tibet plateau. The specimens of *E. antennalis* Townsend from Tibet (Rutog, 5100 m; southern Domar hot spring, 5200 m) and Qinghai (Madoi, 4480 m), China had been collected by Xuezhong ZHANG and examined by Chao & Shi (1982). During a study of the tribe Ernestiini in China, the tachinid specimens from the Altun Mountains of Xinjiang, western China were examined and one species of *Everestiomyia* is recognized as new to science and described herein. Figures of bodies and male terminalia are provided. The currently recorded two species of *Everestiomyia* are distributed in the Western, southern, eastern and northern edges of the Qinghai-Tibet Plateau and near Xinjiang, China.

Accepted 2 December 2020. Published 25 March 2021. Published online 6 February 2021.

① Corresponding author, E-mail: chuntianzhang@aliyun.com

## Material and methods

The tachinid specimens of this study were deposited in the Insect Collection of Shenyang Normal University (SYNU) and the Insect Collection of Xinjiang University, Urumqi (XJU). The morphological terminology used in the descriptions follows Cumming & Wood (2017). The specimens were examined with Zeiss Stemi SV11 stereomicroscopes. Measurements follow Tschorsnig and Richter (1998). Images were taken with a Leica 205A stereomicroscope.

## Taxonomy

### Genus *Everestiomyia* Townsend, 1933

*Everestiomyia* Townsend, 1933: 466 (original description). Type species: *Everestiomyia antennalis* Townsend, 1933: 466 (original description).

Diagnosis. Body length 10.5 (8.5–15.0) mm. The vertex of the male about 1/3 (0.3–0.4) the width of the head, and the fronto-orbital plate and parafacial covered with thin silvery pruinosity, parafacial with hairs or setae, lower margin of face protruding forward, a row or tuft of many strong subvibrissae slightly shorter than long vibrissae. The antennae black with a brownish bloom, the postpedicel wide and triangular or axe-like, about 3× longer than pedicel, arista about as long as antenna, thickened nearly to tip, first and second arismomere combined about as long as third arismomere, each arismomere at least 3× longer than wide, prementum about as long as head or eye height. Palpus slender and cylindrical, black; prementum about as long as head height. Eyes with dense long hairs or bare. Prosternum and proepisternum bare. Many postpronotal setae arranged in a triangle or straight line, presutural acrostichal seta absent, three postsutural intra-alar setae, scutellum with at least 4 pairs of marginal scutellar setae; three katepisternal setae; male claws long, hind tibia with two preapical dorsal setae, preapical posteroventral seta about as long as preapical anteroventral seta. Basicosta black, R<sub>1</sub> bare, R<sub>4+5</sub> setose only at base, lower calypter bare on dorsal surface. Abdomen shining black, middorsal depression on abdominal syntergite I + II extending to hind margin, without median marginal seta, tergite III with two median marginal and one to three pairs or rows of median discal setae, tergite IV with a row of marginal and one to three pairs or rows of median discal setae, tergite V with a row of marginal setae and irregular discal setae; sternites exposed (from the literature and specimens examined).

Remarks. This genus is distinguished from other genera of Ernestiini by the following characters: vertex of male 0.3–0.4 width of head, parafacial with hairs or setae, arista thickened nearly to tip, first and second arismomere each at least 3× longer than wide, prementum about as long as head or eye height, a row or tuft of many strong subvibrissae slightly shorter than vibrissae, presutural acrostichal seta absent. This genus is also similar to *Hystriomyia* Portschinsky of the tribe Nemoraeni in the characters of the head and legs, but it is different from the latter in having no long hairs along the outer dorsal margin of lower calypter, and different in shape of cerci and surstyli.

### *Everestiomyia nudiculata* Zhang *sp. nov.* (Figs 1–10)

Head rectangular, eye bare. Frons of male and female more than width of eye, parafacial with two or three rows of setae, lower margin of face strongly protruding forward. Antenna of

male inverted triangular in profile, apical half of palpus reddish brown; prementum about as long as head height. Postpronotal lobe with three setae arranged in a straight line. Lower calypter brown to dark. Abdomen reddish yellow and with inverted triangular black marking on median portion of tergites; tergites III and IV each with three pairs of medial discal setae.

Description. Body length: 10.5–11.0 mm.

Male. Head. Dark brown to black in ground color. Eye bare. Outer surface of fronto-orbital plate and parafacial covered with sparse brownish gray pruinosity. Antenna and arista black, palpus dark brown on basal half and reddish brown on apical half, prementum gleaming dark brown. Head rectangular in profile, its height slightly more than length. Frons widened anteriorly, vertex 0.36–0.40 of head width, frontal vitta nearly parallel on both sides and 1.5–1.8× wider than fronto-orbital plate, parafacial slightly narrower than postpedicel width, lower margin of face strongly protruding forward, acutely triangular in profile, genal height about 0.7 of eye height. 5–6 inner frontal setae slender, two proclinate outer orbital setae, one provertical setae outwardly directed, two proclinate ocellar setae about as long as outer orbital setae or about 2/3 of eye height, situated between anterior and posterior ocelli, inner vertical setae about as long as eye height, stronger than frontal setae and outer vertical setae, two postocellar setae slightly shorter than outer frontal setae, parafacial with two to three rows of densely black long setae. Lower half of gena and occiput with dense long seta-like black hairs. Facial ridge with long setae on lower 1/4, vibrissa inserted above lower facial margin, a row of strong subvibrissae 0.5–0.7× longer than vibrissa. Antenna bluntly triangle-like and postpedicel boot-shaped in profile, postpedicel 1.5–2× longer than wide, and 1.8–2× longer than pedicel, arista bare, thickened from base to near apical 5/6, first aristomere 5–6× and second aristomere 3–4× longer than their diameter, third aristomere about equal to length of first and second aristomeres combined, pedicel with a single short dorsal seta, about as long as pedicel width. Palpi slender, slightly inflated at apex, about 0.8× longer than prementum, with some dense hairs on dorsal and lateral surfaces. Prementum about as long as head height.

Thorax. Dorsum and pleura dark brown, postpronotal lobe dark brown; postalar callus and supra-alar setae area brownish red; scutellum almost wholly reddish yellow, anterior thoracic spiracle brown, posterior spiracle dark brown. Prosternum bare, about 3× longer than wide, proepisternum bare; acrostichal setae area with only 4–6 rows of hairs, without seta, two presutural and three postsutural dorsocentral setae, one presutural and three postsutural intra-alar setae, postpronotal lobe with three setae arranged in a straight line and a tuft of dense seta-like hairs on anterior portion, three or four strong supra-alar setae; if four, third one short, notopleura with two setae, three posthumeral setae, scutellum with 6–8 pairs of equal-sized reclinate marginal setae, apical scutellar setae crossed and slightly longer than scutellum, five or more pairs of dense discal scutellar setae arranged at apex of scutellum; anepisternum with three rows of slender setae on anterior, middle and posterior portions; two to three seta-like hairs among three katapisternal setae, 2–4 pteropleural setae, anepimeron with hairs on anterior half.

Wing. Brownish, hyaline, base yellow; vein yellow; tegula black; basicosta dark brown; costal spine absent or short, less than 1/2 length of crossvein r-m; relative lengths of 2nd, 3rd and 4th costal sectors approximately in ratio of 5 : 8 : 4; cell r4+5 opened narrowly at end; base of R4+5 with three to four setulae dorsally and ventrally; vein M nearly right-angled at

bend, without appendage; vein M from crossvein r-m to crossvein dM-Cu about 4× longer than distance between the bend and crossvein dM-Cu, the latter about equal to the distance between bend and hind wing margin. Lower calypter brown to dark brown, its margin black, with long marginal hairs on outer margin. Haltere brownish yellow on basal half and brown to dark brown on distal half.

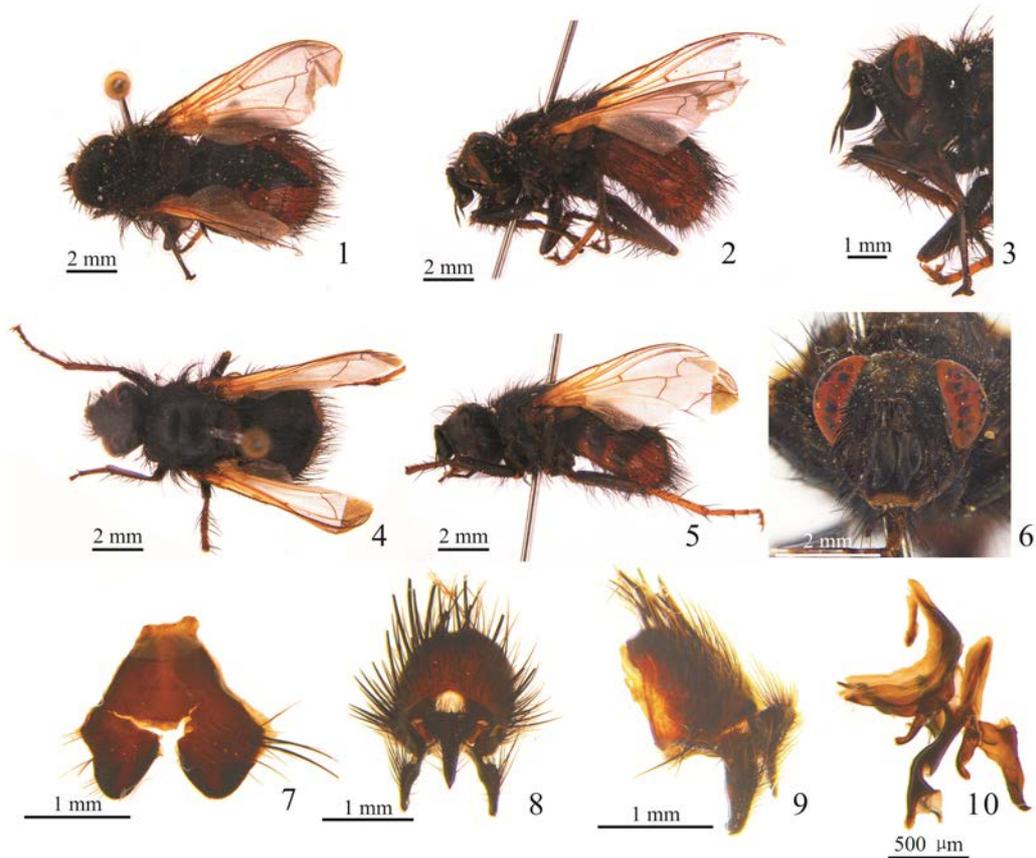
Leg. Coxae and trochanter and most of femora dark brown, apex of femora, tibiae, tarsomeres, and claws reddish yellow, pulvilli yellowish, tarsi with short dense yellow brush-like hairs on ventral surface and black hairs dorsally and laterally; fore claw about as long as 5th tarsomere, fore tibia with a row of five to six anterodorsal setae on basal 3/4, two or three posterior setae, upper one short; mid femur with two strong anterior setae, mid tibia with an irregular row of anterodorsal setae, four or five posterodorsal and two ventral (upper one short) and two or three posterior setae; hind tibia with a row of anterodorsal setae (two or three of them strong), three posterodorsal and two or three ventral setae, two preapical dorsal setae, one preapical anteroventral seta about as long as preapical posteroventral seta.

Abdomen. Long and ovate, reddish yellow, syntergite I + II dark brown on half and reddish yellow on posterior half, an inverted trapezoidal black median marking on tergites III and IV, an inverted triangular black median marking on tergite V, tergites VI–IX reddish yellow to orange. Syntergite I + II medially excavated to posterior margin, with four or five lateral marginal setae and a cluster of lateral discal hairs, without median marginal seta. Tergite III with 2–4 dense median marginal setae, six lateral marginal setae, two to three pairs of median discal setae, two or three lateral discal setae; tergite IV with a row of marginal setae, three pairs of median discal setae, three or four lateral discal setae; tergite V with many irregular discal setae and a row of marginal setae. Sternites exposed, sternite I with black hairs on margin, sternite II with 4–6 black setae, sternite III with five or six black setae, sternite IV with 8–10 black setae. Male terminalia and sternite V as in Figures 7–10. Sternite V with broad round lateral lobe and base of lateral lobe protruding outwards. Cerci round at base and acutely triangular at apical 2/3, surstylus bent inwards and its apex narrowed in caudal view, cerci depressed ventrally at middle part, surstylus bent dorsally and its apex with short spine in lateral view.

Female. Frons about 0.43 of head width, frontal vitta about 2× wider than frontal-orbital plate, parafacial narrower than antennal postpedicel width, genal height about 7/11 of eye height; apex of postpedicel nearly right-angled on anterior part, not inflated like boot. Two proclinate outer orbital setae, outer vertical seta outwardly directed, about 0.75× longer than inner vertical seta. Scutellum with five or six pairs of parallel long and dense marginal setae and five pairs of dense discal scutellar setae along marginal setae. Fore claw and pulvilli shorter than 5th tarsomere, mid tibia with four anterodorsal setae, four or five posterodorsal (upper two short), two posterior and two ventral setae, hind tibia with a row of anterodorsal setae (four of them longer), four or five posterodorsal (upper one or two shorter) and three ventral setae. Abdomen ovate, reddish yellow; syntergite I + II, tergites III and IV with large square black marking on median portion except both sides and ventral surface reddish yellow, tergite V trapezoid and flat on distal part, with narrow black median vitta on anterior half, which is about the width between two median marginal setae.

**Holotype.** ♂ (SYNU-In120071), **China**, Xinjiang Uygur Autonomous Region, Bayinguoleng (= Bayingolin) Mongolian Autonomous Prefecture, Ruoqiang County, Altun

Mountains, Kardun high and cold grasslands, 36.93°N 90.24°E, 4101 m, 20-VII-2011, Hongying HU leg. **Paratypes**. 2♂1♀ (SYNU-In120072-3), same data as holotype (XJU, SYNU).



Figures 1–8. *Everestiomyia nudiculata* sp. nov. 1, 2. ♂. Bodies, dorsal and lateral views; 3, 6. ♂. Heads, anterior and lateral views; 4, 5. ♀. Bodies, dorsal and lateral views; 7. Sternite 5, ventral view; 8, 9. Cerci, surstyli and epandrium of male, caudal and lateral views; 10. Phallus (ejaculatory apodeme, aedeagal apodeme, hypandrium, pregonite, postgonite, basiphallus and distiphallus) of male, lateral view.

**Etymology.** Specific epithet is taken from a diagnostic character of this species, its bare eye. It is derived from the Latin adjective *nudus* (= bare) and the noun *oculus* (= eye).

**Remarks.** This species is similar to *E. antennalis* Townsend in appearance. It is also distributed in Tibet, but it is distinguished from the latter in having bare eyes, wider frons in the male, 0.36–0.4 of head width, apical half of palpus reddish brown, scutellum wholly brownish yellow, lower calyptera dark brown, abdomen reddish yellow except for median portion black on tergites, tergites III and IV each with three pairs of median discal setae.

### Acknowledgements

We are thankful to the anonymous referees for their critical review. Dr. Liusheng CHEN,

Guangdong Academy of Forestry, Guangzhou, China (former Associate Prof., Agricultural College, Shihezi University, Xinjiang), provided much assistance to our examination of tachinid specimens at Shihezi University and on the collecting trip in Tianshan Mountains, Xinjiang. This study was supported by the National Natural Science Foundation of China to Chuntian ZHANG (31970443, 31750002).

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