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Authors: Liu, Xiaoyan, Shi, Li, and Yang, Ding

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DISCOVERY OF SUBGENUS *NEOILLIESIELLA* (DIPTERA: EMPIDIDAE) IN THE ORIENTAL REGION, WITH DESCRIPTION OF A NEW SPECIES FROM SOUTHERN TIBET

XIAOYAN LIU[1, 2], LI SHI[1, 3, *] AND DING YANG[1, *]
[1]Department of Entomology, College of Agronomy and Biotechnology, China Agricultural University, Beijing 100193, China

[2]Hubei Insect Resources Utilization and Sustainable Pest Management Key Laboratory, College of Plant Science and Technology, Huazhong Agricultural University, Wuhan 430070, China

[3]College of Agronomy, Inner Mongolia Agricultural University, Hohhot 010019, China

*Corresponding authors; E-mail: lishilauxaniid@gmail.com (LS); dyangcau@aliyun.com (DY)

ABSTRACT

Subgenus *Neoilliesiella* of the genus *Heleodromia* in the subfamily Trichopezinae (Diptera: Empididae) is distributed only in eastern Europe with 2 known species. Recently this rare subgenus was found in the Oriental Region. One new species, *Heleodromia* (*Neoilliesiella) orientalis* **sp. nov.**, is described from southern Tibet. A key to the species of the subgenus is presented.

Key Words: dance fly, *Heleodromia* (*Neoilliesiella) orientalis* **sp. nov.**, Oriental Region, Tibet

RESUMEN

El subgénero *Neoilliesiella* del género *Heleodromia* en la subfamilia Trichopezinae (Diptera: Empididae) esta distribuido solamente en el este de Europa con 2 especies conocidas. Recientemente, se encontró esta subgénero raro en la Región Oriental. Se describe una nueva especie, *Heleodromia* (*Neoilliesiella) orientalis* **sp. nov.**, del sur del Tíbet. Se presenta una clave para las especies del subgénero.

Palabras Clave: mosca danza, *Heleodromia* (*Neoilliesiella) orientalis* **sp. nov.**, Región Oriental, Tíbet

The genus *Heleodromia* Haliday, 1833 belongs to the subfamily Trichopezinae (Diptera: Empididae) with 26 known species distributed in the Holarctic and Oriental regions (Yang et al. 2007; Sinclair et al. 2011; Liu et al. 2012; Wang et al. 2013). This genus is characterized by the following features: first flagellomere with uniformly very thin apex; proboscis long and thickened; R_{4+5} not forked, anal cell with acutely pointed posterodistal corner; male genitalia strongly swollen and elongated like some Hemerodromiinae (Collin 1961; Saigusa 1963; Wagner 1985; Wagner et al. 2004; Liu et al. 2012). It contains 2 subgenera, *Heleodromia* and *Neoilliesiella* (Wagner 1985; Wagner & Özdikmen 2006; Yang et al. 2007).

Subgenus *Neoilliesiella* Wagner et Özdikmen, 2006 may be separated from subgenus *Heleodromia* by the pregenital segments being rather thick with sternites 7–8 not reduced in size and male genitalia not bean-shaped, while in subgenus *Heleodromia* the pregenital segments are distinctly narrowed with sternites 7–8 reduced in size and male genitalia are bean-shaped (Wagner 1985; Wang et al. 2013). This subgenus is distributed only in Eastern Europe with the following 2 known species: *Heleodromia* (*Neoilliesiella*) *banatica* Wagner, 1985 from Romania and *Heleodromia* (*Neoilliesiella*) *pectinulata* (Strobl, 1898) from Bosnia and Herzegovina, Croatia. These 2 known species were well described and illustrated by Wagner (1985).

Tibet with its peculiar biodiversity is a plateau region in Asia, located in the north east of the Himalayas. It is the highest region on earth, with an average elevation of 4,900 metres (16,000 ft). It mostly belongs to the Palaearctic Region except that Southern Tibet is considered as Oriental. But the fauna of dance flies in Tibet is poorly known (Yang & Yang 2004; Yang et al. 2007). Here we report our recent discovery of this rare subgenus in the Oriental Region with one new species, based on specimens collected by Dr. Gang Yao from the subtropical forest in southern Tibet in 2013. A key to the species of this subgenus is presented.

The type specimens are deposited in the Entomological Museum of China Agricultural University (CAU), Beijing. Terms used for adult structures and male genitalia follow those of McAlpine (1981). The following abbreviations are used: acr = acrostichal seta(e), av = anteroventral seta(e), dc = dorsocentral seta(e), h = humeral seta(e), npl = notopleural seta(e), ph = posterior humeral seta(e), oc = ocellar seta(e), psa = postalar seta(e), sc = scutellar seta(e).

KEY TO SPECIES OF *NEOILLIESIELLA*

1. Acr 3–4 paired; epandrium basally with dorsal process directed upwards or backwards 2

—. Acr absent; epandrium basally without dorsal process . . . . . *Heleodromia* (*Neoilliesiella*) *orientalis* **sp. nov.**

2. 4 dc; epandrium basally with short dorsal process directed upwards; tergite 8 with a triangular incision at base . . . . . *Heleodromia* (*Neoilliesiella*) *banatica* Wagner

—. 3 dc; epandrium basally with long dorsal process strongly curved backwards; tergite 8 without incision at base . . . . . *Heleodromia* (*Neoilliesiella*) *pectinulata* (Strobl)

HELEODROMIA (NEOILLIESIELLA) ORIENTALIS **SP. NOV.**
(Figs. 1-4)

Diagnosis

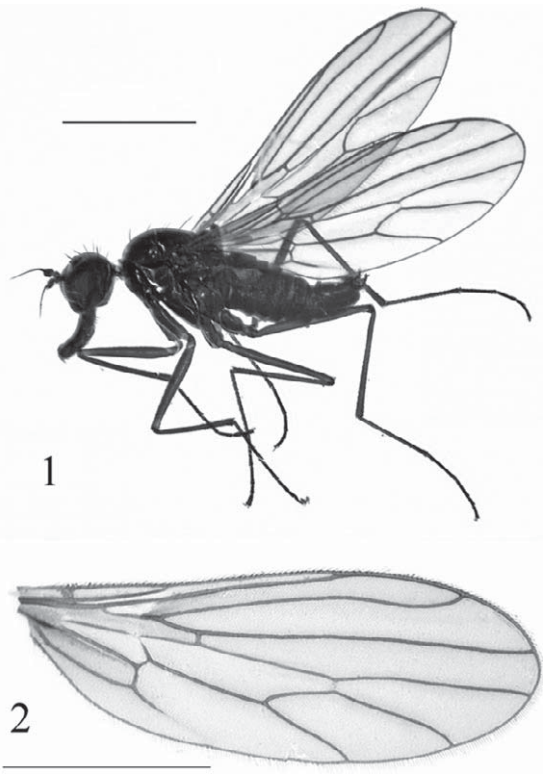
Antenna black. Acr absent. Legs entirely blackish. All femora with short hair-like pale av except 4 basal av of fore femur relatively long. Tergite 8 with distinct mid-anterior incision. Epandrial lobe long finger-like with 7-8 at tip; surstylus long finger-like, distinctly curved, with 6 spines at apical margin.

Male

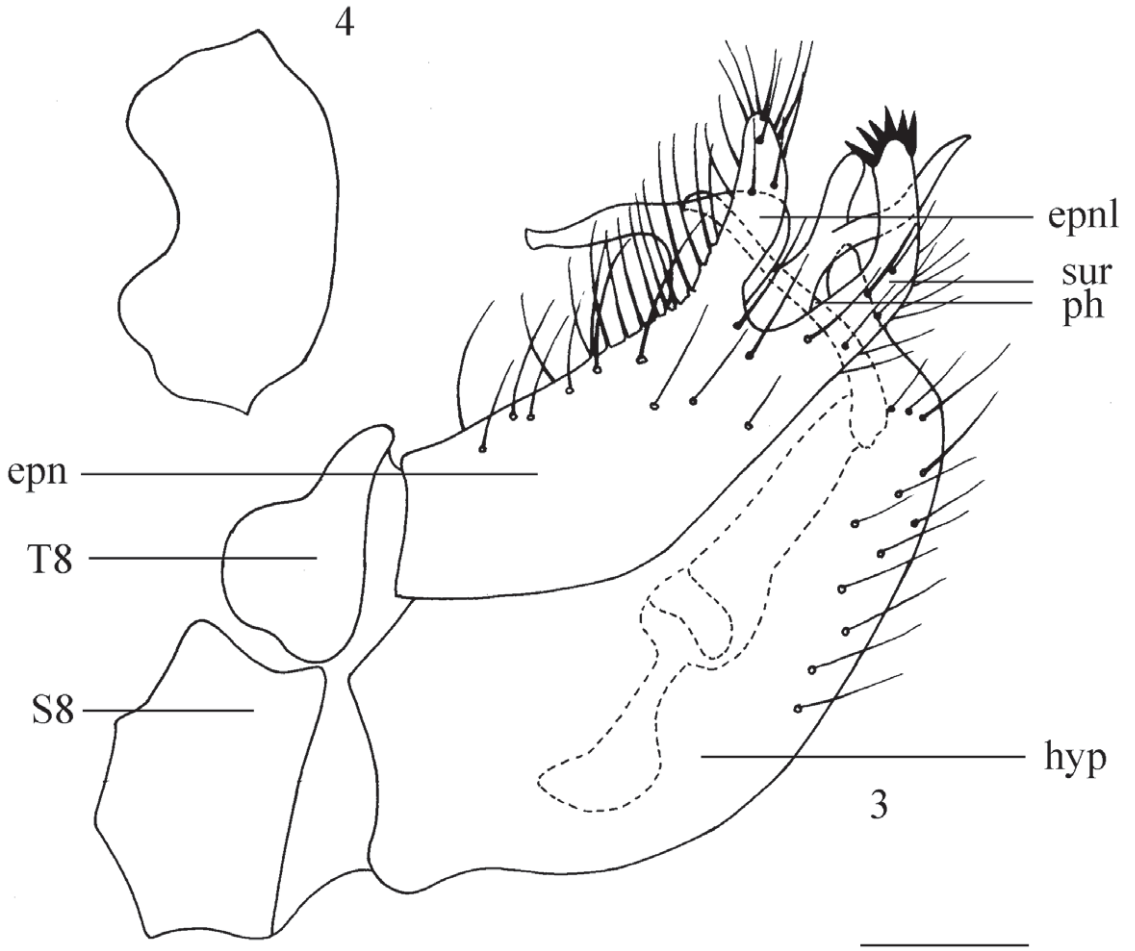
Body length 2.2-2.5 mm, wing length 2.7-2.9 mm (Fig. 1).

Head black with pale gray pollen. Eyes very narrowly separated on face, dark brown. Setae and setulae on head black except posteroventral surface with brownish setulae; ocellar tubercle distinct with pair of long oc. Antenna black; first flagellomere basally nearly quadrate, apically uniformly very thin, 1.6X longer than wide; arista very long, 1.9-2.0X as long as the first flagellomere; pedicel with circle of black subapical hairs, first flagellomere and arista very short micropubescent. Proboscis long thick, apically curved forward, 0.8X as long as head height, blackish with blackish or brownish setulae. Palpus blackish with blackish setulae, apically with 4 long weak blackish dorsal setae.

Thorax black with pale gray pollinosity. Setae and setulae on thorax black; pronotum with 1 seta laterally; 1 short h, 1 short ph, 1 npl, acr absent, 4 long dc, 1 long psa; scutellum with 2 long sc. Legs entirely blackish. Setulae and setae on legs blackish except those on coxae pale; all femora with row of very short pale av setulae except fore femur basally with 4 long av setulae slightly shorter than femur thickness. Fore femur 1.2X as thick as mid femur, mid and hind femora subequal in thickness. Wing (Fig. 2) hyaline, slightly tinged grayish; veins dark brown. Squama dark brown, bordered with dark yellow setulae. Halter dark brown, knob basally with 3-4 dorsal setulae and 3-4 ventral setulae.



Figs. 1 and 2. *Heleodromia* (*Neoilliesiella*) *orientalis* **sp. nov.** 1. Male adult, lateral view; 2. Male wing. Scale bar = 1 mm.



Figs. 3 and 4. *Heleodromia* (*Neoilliesiella*) *orientalis* **sp. nov.** (male). 3. Genitalia, lateral view; 4. Tergite 8, dorsal view. Abbreviations: epn = epandrium; epnl = epandrial lobe; hyp = hypandrium; ph = phallus; s8 = sternite 8; sur = surstylus; t8 = tergite 8. Scale bar = 0.1 mm.

Abdomen black with pale gray pollinosity; hypopygium partly brownish yellow. Setulae and setae on abdomen dark yellow except hypopygium with some blackish setulae and setae.

Male genitalia (Figs. 3 and 4). Tergite 8 and sternite 8 not reduced; tergite 8 with distinct anterior incision. Epandrium and hypandrium much elongated and rather large, subequal in length. Epandrial lobe long finger-like with 7-8 setulae at tip; surstylus long finger-like, distinctly curved, with 6 short spines at apical margin.

Female

Unknown.

Type Material

HOLOTYPE ♂, CHINA: Tibet, Medog (N 29° 19' 41.38" E 95° 19' 55.55"), 80K, 1000 m, 2013. IX.12, Gang Yao (in 75% alcohol, deposited in CAU). Paratypes: 3♂♂, same data as holotype (in 75% alcohol, deposited in CAU). These specimens were collected from the subtropical forest with a sweep net.

Distribution

China (Tibet) (Fig. 5).

Remarks

Among 3 *Neoilliesiella* species, 2 European species *H.* (*N.*) *banatica* and *H.* (*N.*) *pectinulata* seems to be very similar in having 3-4 paired acr and epandrium with the well developed dorsal process (Wagner 1985). *H.* (*N.*) *orientalis* may be easily separated from 2 European species by the absence of acr and epandrial dorsal process.

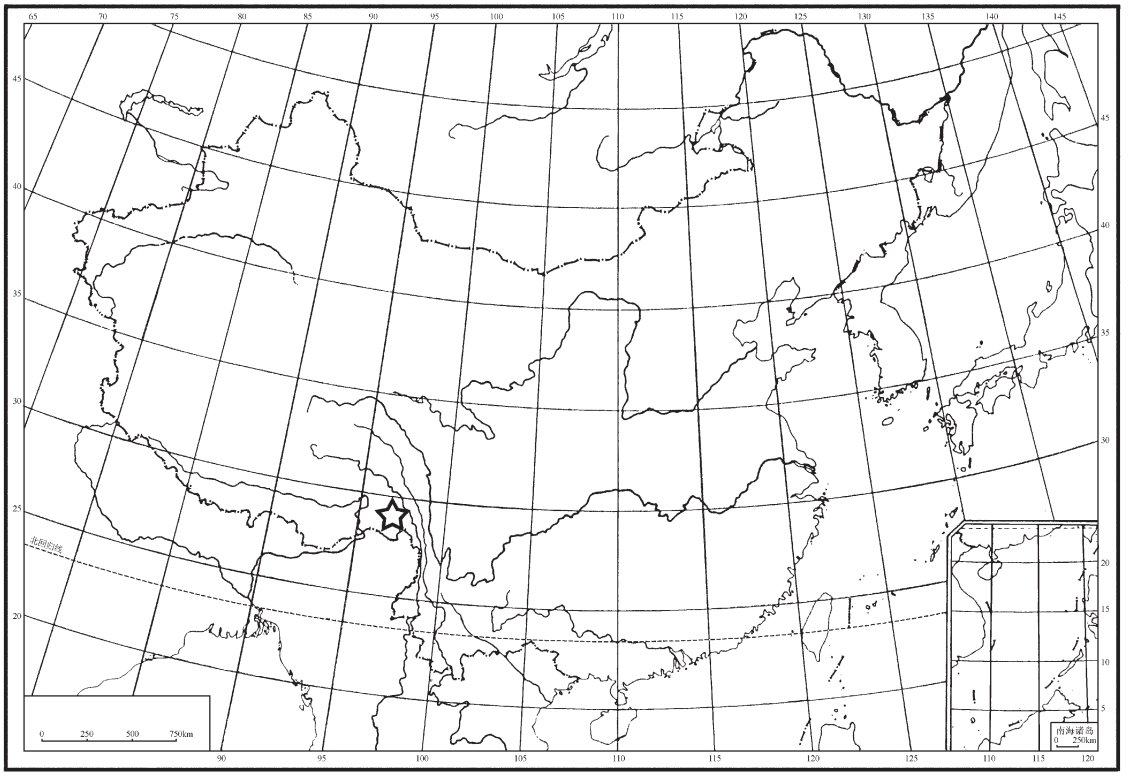


Fig. 5. Distribution of *Heleodromia* (*Neoilliesiella*) *orientalis* **sp. nov.**

Etymology

The specific name refers to the Oriental distribution of this new species.

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