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GENUS *EUHYBUS* (DIPTERA: EMPIDIDAE) NEWLY FOUND IN SHAANXI PROVINCE WITH DESCRIPTION OF A NEW SPECIES

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ABSTRACT

The genus *Euhybus* has only 6 known species in the Oriental Region, which are distributed in Guangdong and Taiwan of south China and in southern Tibet of southwestern China. Here this genus is reported in Shaanxi Province of Northwest China for the first time. One species, *Euhybus qinlingensis* **sp. nov.**, is described as new to science. A key to the known species in China is provided.

Key Words: dance fly, *Euhybus qinlingensis*, Shaanxi

RESUMEN

El género *Euhybus* tiene sólo 6 especies conocidas en la Región Oriental, que se distribuyen en Guangdong y Taiwan al sur de China y en el sur del Tíbet al sudoeste de China. Aquí este género se reporta por primera vez para la provincia de Shaanxi al noroeste de China. Se describe *Euhybus qinlingensis* **sp. nov**., como nueva especie para la ciencia. Se presenta una clave para las especies conocidas en China.

Palabras Clave: mosca danza, *Euhybus qinlingensis*, Shaanxi

Euhybus Coquillett comprises 64 known species worldwide, including 14 species in the Nearctic Region, 46 in the Neotropical Region and 6 in the Oriental Region (Yang et al. 2007; Liu et al. 2011; Wang et al. 2013). We have not found major differences between New and Old World species. As this genus is weakly defined, it is likely paraphyletic and needs to be more clearly identified, especially in comparison to the Neotropical *Neohybos* Ale-Rocha & Carvalho (Wang et al. 2013). All the Oriental species are endemic to Guangdong and Taiwan of South China and Tibet of Southwest China.

Shaanxi Province is located in northwest China. It includes portions of the Loess Plateau straddling the middle reaches of the Yellow River in addition to the Qinling Mountains across the southern part of this province. Here *Euhybus* is newly recorded from Shaanxi Province. A new species, *Euhybus qinlingensis* **sp. nov.**, is found in Qinling Mountains. The type is deposited in the Entomological Museum of China Agricultural University, Beijing (CAU). Morphological terminology follows McAlpine (1981) and Cumming & Wood (2009). The following abbreviations are used: acr = acrostichal seta(e), ad = anterodorsal seta(e), av = anteroventral seta(e), d = dorsal seta(e), dc = dorsocentral seta(e), h = humeral seta(e), oc = ocellar seta(e), npl = notopleural seta(e), pd = posterodorsal seta(e), prsc = prescutellar seta(e), psa = postalar seta(e), pv = posteroventral seta(e), sc = scutellar seta(e), v = ventral seta(e).

GENUS *EUHYBUS* COQUILLETT

Diagnosis

Eyes contiguous or nearly so beneath antennae in both sexes. Proboscis distinctly shorter than head, thickened, apically obtuse with pseudotracheae (not constricted for piercing); palpus short. R_{4+5} and M_1 convergent apically (occasionally parallel); anal cell longer than basal cells; Rs rather short (Liu et al. 2004; Wang et al. 2013).

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Distribution

Oriental, Nearctic and Neotropical Regions.

KEY TO SPECIES OF *EUHYBUS* IN CHINA [MODIFIED FROM WANG ET AL. (2013)]

1. Arista minutely pubescent; costal cell and anal lobe enlarged; hind tibia with 2-3 dorsal setae 2

—. Arista bare; costal cell and anal lobe not enlarged; hind tibia without dorsal setae 4

2. Thorax black; legs black, at most tarsomeres 1–2 dark yellow; hind femur at most twice as thick as mid femur 3

—. Thorax brownish yellow; legs dark brownish yellow except tarsomeres 3–5 dark brown; hind femur 2.5 times as thick as mid femur. Guangdong ..... *E. sinensis* Liu, Yang & Grootaert

3. At most mid tarsomeres 1–2 yellow; first flagellomere blackish. Tibet ..... *E. nigritarsis* Wang, Li & Yang

—. Tarsomeres 1–2 on all legs dark yellow; first flagellomere dark brownish yellow. Guangdong ..... *E. nanlingensis* Yang & Grootaert

4. Mid tibia yellow or dark yellow; stigma short and rounded, about 1/6 as long as cell R_1, not filling apex of cell r_1 5

—. Mid tibia black; stigma long, about 1/3 as long as cell R_1, completely filling apex of cell r_1. Guangdong ..... *E. xui* Yang & Grootaert

5. All femora entirely black 6

—. Fore and mid femora black with brownish yellow or dark brownish yellow tips. Tibet ..... *E. longiseta* Wang, Li & Yang

6. First flagellomere 2 times longer than wide; right surstylus without marginal denticles. Taiwan..... *E. taiwanensis* Liu, Li & Yang

—. First flagellomere 1.5 times longer than wide; right surstylus with marginal denticles. Shaanxi ..... *E. qinlingensis* **sp. nov.**

EUHYBUS QINLINGENSIS **SP. NOV.**
(Figs. 1-6)

Diagnosis

Flagellomere 1.5 times longer than wide. Arista bare. All femora entirely black. Mid tibia dark yellow. Hind tarsomere 1 brownish yellow. Hind tibia without dorsal setae. Costal cell and anal lobe not enlarged. Stigma short and rounded (about 1/6 as long as cell r_1, not filling apex of cell r_1). Hypandrium with subtriangular apical process.

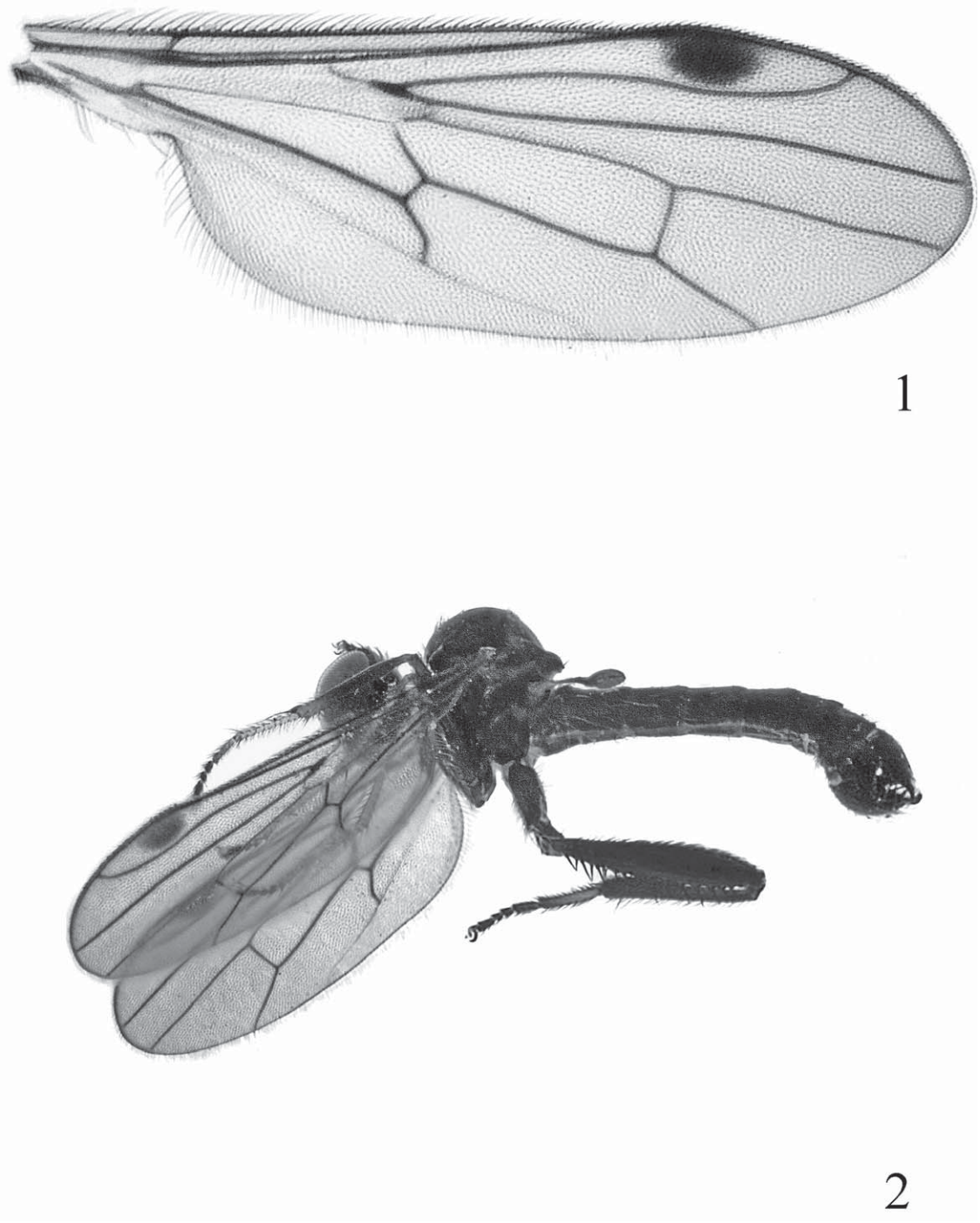
Male

Body length 3.1 mm, wing length 2.7 mm.

Head black with pale gray pollinosity. Eyes brown with enlarged upper facets dark yellow. Setae and setulae on head black; ocellar tubercle weak, with 2 long oc and 2 short posterior setulae. Antenna blackish; pedicel with circlet of subapical setulae; first flagellomere nearly as long as scape + pedicel, 1.5 times longer than wide, without dorsal setae; arista 4.5 times as long as first flagellomere, dark brown, bare, with apical 1/4 thin. Proboscis brownish, distinctly shorter than head, thickened, nearly obtuse apically; palpus dark brown with 1 long curved seta at extreme tip.

Thorax black with pale gray pollinosity, except mesoscutum glossy black with posterior portion pollinose. Setae and setulae on thorax black; h absent, 2 long strong npl; hair-like acr biseriate; hair-like dc uniseriate except only 1 posteriormost dc slightly long, 1 psa; scutellum with 8 marginal setulae (2 setulae between sc) and 2 long sc. Legs black except tip of fore tibia and entire mid tibia dark yellow; tarsi blackish except fore and mid tarsomeres 1–2 yellow and hind tarsomere 1 brownish yellow. Setae and setulae on legs black. Fore femur nearly as wide as mid femur; hind femur 2 times as wide as mid femur, with 3 long thin preapical ad. Hind femur with row of long av spines, basal portion with row of pv spines. Fore tibia thickened; apically with 3 thin setae (1 posterior seta long). Mid tibia with 3 ad; apically

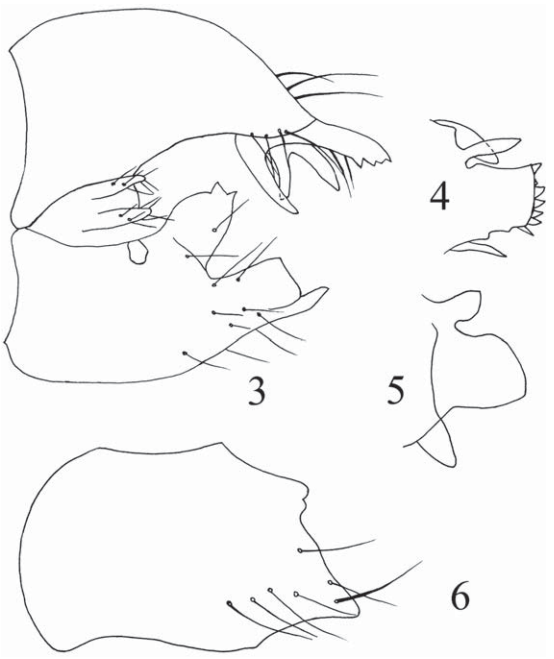
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Figs. 1-2. *Euhybus qinlingensis* **sp. nov.**, male. 1. Wing; 2. Adult.

with 4 thin setae (of which 1 pv is relatively thick, very long, slightly shorter than mid tarsomere 1). Hind tibia without dorsal setae; apically with 1 short thick av, 1 long thin preapical dorsal seta and 1 long pd. Fore and mid tarsomere 1 with several slightly long setulae; mid tarsomere 1 with 1 long pv at base. Hind tarsomere 1 with some short strong ventral setae. Wing (Fig. 2) lightly infuscate; costal vein with longer setae on basal 2/3; dark brown stigma short and rounded (about

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Figs. 3-6. *Euhybus qinlingensis* **sp. nov.**, male. 3. Genitalia, dorsal view; 4. Right surstylus, lateral view; 5. Left surstylus, lateral view; 6. Hypandrium, ventral view.

1/6 as long as cell r_1, not filling apex of cell r_1); veins dark brown, R_{4+5} and M_1 more or less parallel apically. Squama brown with brown setulae. Halter dark brown.

Abdomen subglossy black with gray pollinosity; hypopygium distinctly swollen. Setae and setulae on abdomen blackish except tergites 1–3 with dark yellow setae and setulae and sternites 1–3 with dark yellow setulae.

Male genitalia (Figs. 3–6): Left epandrial lamella slightly narrower than right epandrial lamella, with inner margin weakly incised; left surstylus rather wide, with three apical processes (median process very wide, two lateral processes rather narrow). Right epandrial lamella with slightly incised inner margin; right surstylus rather wide with four apical processes (median process very wide with marginal denticles, three lateral processes narrow and acute). Hypandrium distinctly longer than wide, with subtriangular apical process.

Female

Unknown.

Type Material

HOLOTYPE ♂, CHINA: Shaanxi, Ningshan, Huoditang (N 33° 26' 2.00" E 108° 26' 53.26"), 1505 m, 2013.VIII.14, Yuqiang Xi. The specimen was collected with a sweep net in subtropical forest.

Distribution

China (Shaanxi).

Remarks

The new species is very similar to *Euhybus taiwanensis* Liu, Li & Yang from Taiwan, but may be separated from the latter by the first flagellomere 1.5 times longer than wide and right surstylus with the marginal denticles. In *Euhybus taiwanensis*, the first flagellomere is 2 times longer than wide, and the right surstylus has no marginal denticles (Liu et al. 2011).

Etymology

The specific name refers to the type locality Qinling Mountains.

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