

The *Hercostomus ulrichi* group from Palaeartic China (Diptera: Dolichopodidae)

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A new species group, the *Hercostomus ulrichi* group, is established. The species of this group are reviewed. The following two species are described as new to science: *Hercostomus anae* sp. n. and *H. geniculatus* sp. n.

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1. Introduction

The genus *Hercostomus* Loew is distributed worldwide with about 600 known species. There were 28 known species from China before 1995, of which only 11 species are distributed in continental China (Dyte 1975, Negrobov 1991). The 225 species of *Hercostomus* have been added to the fauna of China since 1995 mainly based on the work of Wei (1997), Yang and Grootaert (1999), Yang and Saigusa (1999a,b, 2000, 2001a,b,c,d, 2002), Yang and Yang (1995), Zhang and Yang (2003), Zhang, Yang and Masunaga (2004, 2005). Up to now, 253 species of *Hercostomus* are known to occur in China.

The taxonomic status of *Hercostomus ulrichi* Yang is still not clear. Here we enclose it in one new species-group i.e. the *Hercostomus ulrichi* group together with two new species, *Hercostomus anae* sp. n. and *Hercostomus geniculatus* sp. n. The types of new species are deposited in

the Entomological Museum of China Agricultural University, Beijing.

2. Taxonomy

The following abbreviations are used: acr – acrostichal, ad – anterodorsal, av – anteroventral, dc – dorsocentral, LI – fore leg, LII – mid leg, LIII – hind leg, pd – posterodorsal, pv – posteroventral, v – ventral.

2.1. The *Hercostomus ulrichi* group

Diagnosis. Thorax and abdomen chiefly yellow. Lower postocular bristles yellow. First flagellomere large and elongated; arista with long basal segment (0.7–1.0 times as long as apical segment). Epandrial lateral lobe long and strip-like with several long bristles; cercus band-like,

rounded apically with strong bristles.

The *ulrichi*-group includes the following 3 species: *Hercostomus ulrichi* Yang, 1996, *H. anae* sp. n. and *H. geniculatus* sp. n. This group is distributed in the Palaeartic China except *H. ulrichi*, also extended to the Oriental China.

Remarks. The *Hercostomus ulrichi* group is somewhat similar to the *Hercostomus flavimaculatus* group in having the thoracic pleuron yellow, the middle and lower postocular bristles pale, all coxae yellow, and male cercus band-like, usually with some strong apical bristles, but can be separated from the latter by the arista indistinctly minutely pubescent with the rather long basal segment and the epandrial lateral lobe long and strip-like.

2.2. Key to species of the *Hercostomus ulrichi* group from China

1. Antenna black; first flagellomere 1.9 times longer than wide, pointed apically. Sichuan (Nanping) *H. ulrichi* Yang, 1996
 - Antenna chiefly brown; first flagellomere 2.2–2.3 times longer than wide, somewhat obtuse apically 2
2. *Arista* with basal segment as long as apical segment; lateral lobe on epandrium weakly curved. Beijing (Xiaolongmen) *H. anae* sp. n.
 - *Arista* with basal segment 0.7 times as long as apical segment; lateral lobe on epandrium strongly curved and geniculate. Beijing (Xiaolongmen) *H. geniculatus* sp. n.

2.3. *Hercostomus anae* sp. n. (Fig. 1)

Material examined. Holotype ♂: Beijing: Xiaolongmen Forest Park, 10.VIII.2002, Leg. Shuwen An.

Diagnosis. Arista indistinctly pubescent with basal segment as long as apical segment. Lateral lobe on epandrium weakly curved.

Description. Male. Head metallic green with pale gray pollen. Face narrower than first flagellomere. Hairs and bristles on head black; lower postocular bristles yellow, postero-ventral hairs pale. Antenna brown with narrow base of first flagellomere brownish yellow; first fla-

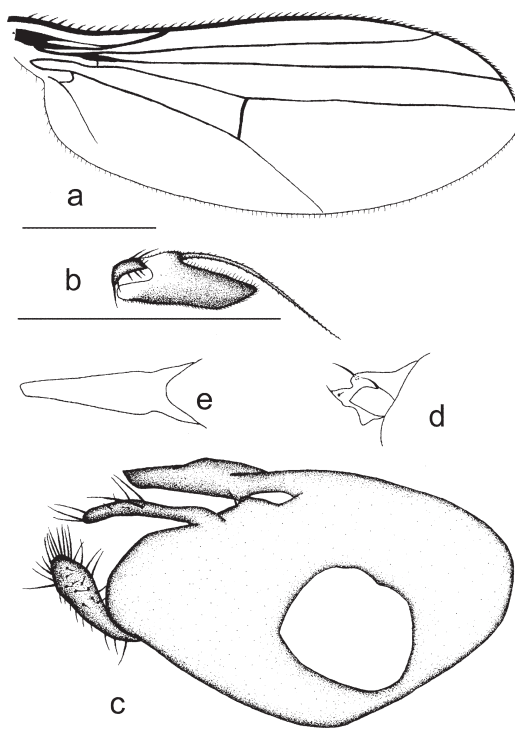


Fig. 1. *Hercostomus anae* sp. n. – a. Wing. – b. Antenna (except scape), lateral view. – c. Male genitalia, lateral view. – d. Apical processes, lateral view. – e. Hypandrium, ventral view. Scale bars 1 mm.

gellomere 2.3 times longer than wide, somewhat obtuse apically; arista brown, indistinctly pubescent, with basal segment as long as apical segment. Proboscis yellow with black hairs; palpus yellow with black hairs.

Thorax yellow; dorsum metallic green except humeri yellow; pteropleuron with 1 black dot on antero-dorsal corner. Hairs and bristles on thorax black; 6 strong dc, 7–8 irregular paired acr short and hair-like; scutellum with 2 pairs of bristles (basal pair short and hair-like). Propleuron with 1 long bristle on lower portion. Legs yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black. Fore coxa with 3 apical bristles, mid and hind coxae each with 1 outer bristle. Mid and hind femora each with 1 preapical bristle. Fore tibia with 1 short ad, apically with 3 short bristles; mid tibia with 2 ad, 2 pd and 1 short av, apically with 4 bristles; hind tibia with 3 ad, 3 pd and 1 short av, apically with 2 bristles. Relative lengths

of tibia and 5 tarsomeres LI 1.15 : 0.65 : 0.3 : 0.25 : 0.1 : 0.15; LII 1.7 : 0.75 : 0.5 : 0.35 : 0.25 : 0.15; LIII 2.0 : 0.5 : 0.65 : 0.45 : 0.3 : 0.15. Wing tinged with grayish; veins brown. R_{4+5} and M weakly convergent; CuAx ratio 0.4. Squama yellow with black hairs. Halter yellow.

Abdomen yellow with posterior margins of tergites 2–7 brown. Hairs and bristles on abdomen black. Male genitalia (Fig. 1c–e): Epanthrium longer than wide; lateral lobe on epanthrium long and strip-like, slightly curved with several bristles; cercus rounded apically with bristles; hypandrium broad and truncate apically in ventral view.

Body length 2.7 mm, wing length 3.7 mm.

Female. Unknown.

Distribution. China (Beijing), Palearctic Realm.

Etymology. The species is named after the collector Ms. Shuwen An.

Differential diagnosis. This new species is somewhat similar to *H. ulrichi* Yang, but may be separated from the latter by the first flagellomere 2.3 times longer than wide and the large cercus. In *H. ulrichi*, the first flagellomere is 1.9 times as long as wide, and the cercus is rather small (Yang 1996).

2.4. *Hercostomus geniculatus* sp. n. (Fig. 2)

Material examined. Holotype ♂: Beijing: Xiaolongmen Forest Park, 9.VIII.2002, leg. Caixia Gao.

Diagnosis. Arista minutely pubescent, with basal segment 0.7 times as long as apical segment. Lateral lobe on epanthrium strongly curved apically and nearly geniculate; cercus uniformly band-like and nearly straight.

Description. Male. Head metallic green with pale gray pollen. Hairs and bristles on head black; lower postocular bristles yellow. Antenna brown with base of first flagellomere brownish yellow; first flagellomere 2.2 times longer than wide, somewhat obtuse apically; arista brown, minutely pubescent, with basal segment 0.7 times as long as apical segment. Proboscis dark yellow with pale hairs; palpus yellow with black hairs.

Thorax yellow; dorsum metallic green except humeri yellow; pteropleuron with 1 black dot on

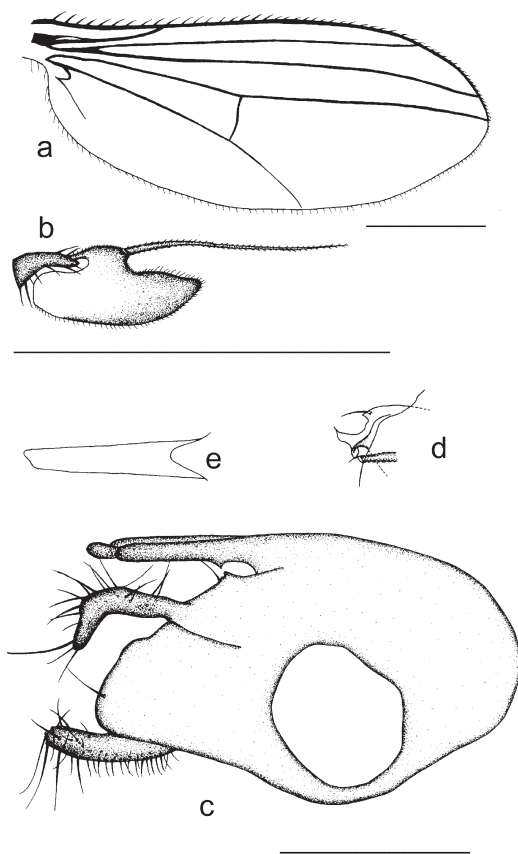


Fig. 2. *Hercostomus geniculatus* sp. n. – a. Wing. – b. Antenna (except scape), lateral view. – c. Male genitalia, lateral view. – d. Apical processes, lateral view. – e. Hypandrium, ventral view. Scale bars 1 mm.

antero-dorsal corner. Hairs and bristles on thorax black; 6 strong dc, 7–8 irregular paired acr short and hair-like; scutellum with 2 pairs of bristles (basal pair short and hair-like). Propleuron with 1 long bristle on lower portion. Legs [hind tarsomeres 4–5 broken] yellow; all coxae yellow; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black. Fore coxa with 3 apical bristles, mid and hind coxae each with 1 outer bristle. Mid and hind femora each with 1 preapical bristle. Fore tibia without distinct bristles, apically with 2 bristles; mid tibia with 2 ad, 2 pd and 1 pv, apically with 4 bristles; hind tibia with 3 ad, 3 pd, 3 thin av and 1 pv, apically with 2 bristles. Relative lengths of tibia and 5 tarsomeres LI 1.25 : 0.55 : 0.25 : 0.2 : 0.1 : 0.15; LII 1.75 : 0.75 : 0.4 : 0.3 : 0.25 : 0.2; LIII 2.0 : 0.5 : 0.6 : 0.5 : ? : ?. Wing tinged with grayish; veins

brown. R_{4+5} and M convergent; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen yellow with posterior margins of tergites 2–7 brown. Hairs and bristles on abdomen black. Male genitalia (Fig. 2c–e): Epanandrium longer than wide; lateral lobe on epanandrium strongly curved and nearly geniculate with distinct bristles; cercus band-like, nearly straight, and with bristles; aedeagus somewhat thick.

Body length 3.4 mm, wing length 4.1 mm.

Female. Unknown.

Distribution. China (Beijing), Palaearctic Realm.

Etymology. The specific name refers to the geniculate lateral lobe on the epanandrium.

Differential diagnosis. The new species is similar to *H. anae* sp. n., but may be separated from the latter by the lateral lobe on the epanandrium nearly geniculate and the cercus uniformly band-like and nearly straight.

2.5. *Hercostomus ulrichi* Yang, 1996

Hercostomus (Hercostomus) ulrichi Yang, 1996: 240. Type locality: Sichuan (Nanping).

Material examined. Holotype ♂, Sichuan: Nanping (2500m a.s.l.), 4.VIII.1980, leg. Jikun Yang.

Diagnosis. Antenna black; first flagellomere 1.9 times longer than wide and somewhat pointed apically. Lateral lobe on epanandrium nearly straight; cercus rather small.

Distribution. China (Gansu, Henan, Sichuan), Palaearctic Realm and Oriental Realm.

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