



# Entomofauna

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## New species of Dolichopodinae from China (Diptera, Dolichopodidae)

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### Abstract

In this paper 5 species of Dolichopodinae (Diptera, Dolichopodidae) are described as new to science: *Hercostomus basiflavus* sp. nov., *H. beijingensis* sp. nov., *H. nanjingensis* sp. nov., *H. spatiosus* sp. nov., and *Hypophyllus sinensis* sp. nov.

### Zusammenfassung

Es werden 5 neue Dolichopodinae-Arten (Diptera, Dolichopodidae) aus China beschrieben: *Hercostomus basiflavus* sp. nov., *H. beijingensis* sp. nov., *H. nanjingensis* sp. nov., *H. spatiosus* sp. nov., and *Hypophyllus sinensis* sp. nov.

### Introduction

The genus *Hercostomus* LOEW, 1857 is distributed worldwide with about 180 known species (CORPUS 1989). Eleven species have been known from continental China (DYTE 1975, NEGROBOV 1991). Four new species of the genus *Hercostomus* are added to the fauna of China. The genus *Hypophyllus* HALIDAY, 1832 is a typical representative of the Palearctic fauna with 7 known species, of which 1 species was known from China (NEGROBOV 1991). One new species of the genus *Hypophyllus* is known to occur in China. The types of the new species are deposited in the Insect Collection of China Agricultural University, Beijing.

### *Hercostomus basiflavus* sp. nov. (Figs. 1-2)

Male. Body length 3.1 mm, wing length 3.8 mm.

Head metallic green with dense grayish pruinosity. Hairs and bristles on head black; ocellar tubercle with 2 strong bristles and 2 short posterior hairs, frons with 1 strong

bristle on postero-lateral corner. Antenna blackish; flagellum 1.2 times as long as wide, somewhat acute apically; arista dark brown, minutely pubescent, with basal segment 0.3 times as long as apical segment. Proboscis dark yellow with black hairs; palpus pale yellow with black hairs.

Thorax yellow, but metallic green dorsally and with grayish pruinosity; mesonotum yellow on anterior margin and antero-lateral area; pteropleuron blackish. Hairs and bristles on thorax black; 5-6 irregularly paired acr, short and hair-like; 6 strong dc; scutellum with 2 strong bristles. Legs yellow; fore and mid tarsi brownish yellow, apex of hind tibia and hind tarsus dark brown. Hairs and bristles on legs black; mid and hind coxae with 1 bristle, mid and hind femora with 1 preapical bristle; fore tibia with 1 anterior dorsal bristle and 2 posterior dorsal bristles, without distinct apico-ventral bristle; mid tibia with 3 anterior dorsal bristles, 2 posterior dorsal bristles and 1 ventral bristle; hind tibia with 4 anterior dorsal bristles, 3 posterior dorsal bristles and 6 weak ventral bristles; hind tarsomere 1 with 1 rather strong ventral bristle at base. Relative lengths of segments (excluding coxae and trochanters) of legs: LI 2.3 : 2.6 : 1.3 : 0.8 : 0.7 : 0.6 : 0.3; LII 3.2 : 3.8 : 1.8 : 1.1 : 0.9 : 0.7 : 0.3; LIII 3.7 : 4.2 : 1.3 : 1.6 : 1.0 : 0.7 : 0.4. Wing slightly tinged with brownish; veins brown; R4+5 and M distinctly convergent, CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green; tergites 1-2 yellow except median portion and posterior margin. Hairs on abdomen black. Male genitalia (Fig. 2): Epandrium much longer than wide, somewhat pointed apically, with lateral lobe narrowly separated from it; cercus narrow and curved; hypandrium furcate apically; aedeagus with apical portion thin and weakly curved upward.

Female unknown.

Holotype ♂, Zhejiang: Gutianshan, 17.VII.1992, Xuexing CHEN.

Distribution. China (Zhejiang).

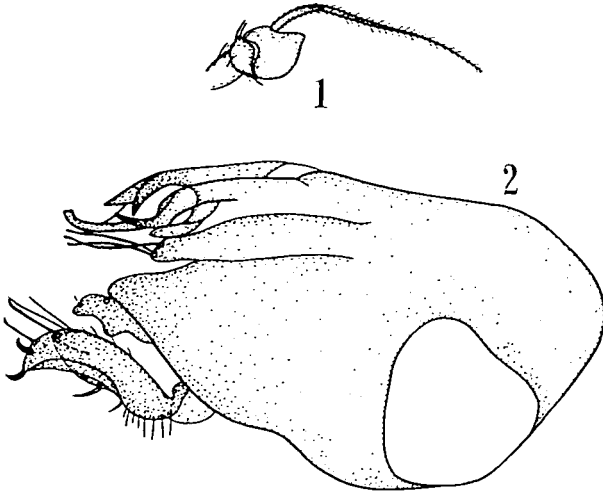
Remarks. This new species is very similar to *H. luteipleuris* PARENT, 1944 from Shanxi, China. It can be separated from the latter by having the antenna blackish, R4+5 and M distinctly convergent apically, abdomen metallic green with yellow spots only on tergites 1-2. In *luteipleuris*, the antenna is yellow with apical half of flagellum darker, R4+5 and M slightly convergent, abdomen yellow with narrow anterior border of segments black (PARENT 1944).

### *Hercostomus beijingensis* sp. nov. (Figs. 3-4)

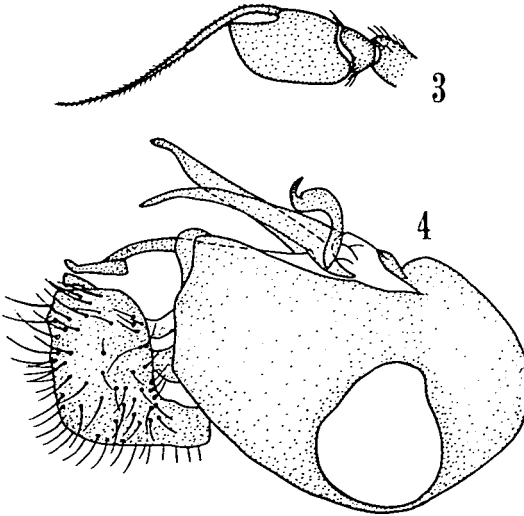
Male. Body length 5.8 - 6.0 mm, wing length 5.3 - 5.5 mm.

Head metallic green with dense grayish pruinosity. Hairs and bristles on head black; ocellar tubercle with 2 strong ocellar bristles and 3 very short posterior hairs, frons with 1 strong bristle on postero-lateral corner. Antenna black; flagellum 1.8 times longer than wide, somewhat acute apically; arista black, minutely pubescent, with basal segment 0.6 times as long as apical segment. Proboscis dark brownish yellow with black hairs; palpus black with black hairs.

Thorax metallic green with grayish pruinosity. Hairs and bristles on thorax black; 7-8 paired acr, short and hair-like; 6 strong dc; scutellum with 2 strong bristles. Legs yellow; fore tarsomere 5 and mid and hind tarsomeres 2-5 darker. Hairs and bristles on legs black; mid and hind coxae with 1 bristle, mid and hind femora with 1 preapical bristle; fore tibia with 1 anterior dorsal bristle, 2 posterior dorsal bristles and 1 ventral bristle, and 1 indistinct apico-ventral bristle; mid tibia with 3-4 anterior dorsal bristles,



**Figs. 1-2. *Hercostomus basiflavus* sp. nov.:**  
1) antenna, lateral view; 2) male genitalia, lateral view.



**Figs. 3-4. *Hercostomus beijingensis* sp. nov.:**  
3) antenna, lateral view; 4) male genitalia, lateral view.

2 posterior dorsal bristles and 3 ventral bristles; hind tibia with 3 anterior dorsal bristles, 3 posterior dorsal bristles and 7 rather weak ventral bristles; hind tarsomere 1 with 3 short ventral bristles. Relative lengths of segments of legs: LI 3.7 : 4.0 : 2.3 : 1.3 : 1.0 : 0.7 : 0.5; LII 4.8 : 6.0 : 3.1 : 1.7 : 1.3 : 0.8 : 0.5; LIII 5.3 : 6.8 : 2.0 : 2.8 : 1.6 : 1.0 : 0.65. Wing slightly tinged with brown; veins brown; R4+5 and M distinctly convergent, CuAx ratio 0.8. Squama yellow with blackish hairs. Halter yellow.

Abdomen metallic green with black hairs. Male genitalia (Fig. 4): Epandrium much longer than wide, with wide apical portion; cercus nearly quadrate, with one thin projection at middle of outer margin which is directed inward; hypandrium slender and acute apically, with one hook-like projection at base; aedeagus slender and somewhat curved, geniculate apically.

Female unknown.

Holotype ♂, paratypes 3 ♂♂, Beijing: Yingtaogou, 30.V.1987, Ding YANG.

Distribution. China (Beijing).

Remarks. This new species is similar to *H. additus* PARENT, 1926 from Shanghai. It may be separated from the latter by having the antenna wholly black, arista with basal segment rather long (0.6 times as long as apical segment). In *additus*, the antenna is yellow with flagellum darker apically, arista has rather short basal segment (STACKELBERG 1929).

#### *Hercostomus nanjingensis* sp. nov. (Figs. 5-6)

Male. Body length 4.2 mm, wing length 4.2 mm.

Head metallic green with dense grayish pruinosity. Hairs and bristles on head black; ocellar tubercle with 2 strong ocellar bristles and 2 very short posterior hairs, frons with 1 strong bristle on postero-lateral corner. Antenna yellow; flagellum (except base) brownish, as long as wide, somewhat acute apically; arista brown, distinctly minutely pubescent, with basal segment 0.4 times as long as apical segment. Proboscis brown with black hairs; palpus black with black hairs.

Thorax metallic green with grayish pruinosity. Hairs and bristles on thorax black; 7-8 irregularly paired acr, short and hair-like; 5 strong dc; scutellum with 2 strong bristles and some short hairs on dorsal surface and apical margin. Legs yellow; coxae blackish; mid and hind tarsi dark brown with tarsomere 1 (except apex) paler. Hairs and bristles on legs black; mid and hind coxae with 1 bristle, mid and hind femora with 1 preapical bristle; fore tibia with 2 anterior dorsal bristles, 2 posterior dorsal bristles and 1 distinct apico-ventral bristle; mid tibia with 4 anterior dorsal bristles, 3 posterior dorsal bristles and 1 ventral bristle; hind tibia with 4 anterior dorsal bristles, 4 posterior dorsal bristles and 2 weak ventral bristles; hind tarsomere 1 with 1 short ventral bristle at base. Relative lengths of segments of legs: LI 3.0 : 3.1 : 1.5 : 0.6 : 0.45 : 0.3 : 0.3; LII 3.9 : 4.2 : 2.0 : 1.0 : 0.9 : 0.6 : 0.3; LIII 4.1 : 4.8 : 1.2 : 1.6 : 1.1 : 0.8 : 0.3. Wing nearly hyaline; veins black; R4+5 and M parallel apically, CuAx ratio 0.7. Squama pale yellow with black hairs. Halter pale yellow.

Abdomen metallic green with black hairs. Male genitalia (Fig. 6): Epandrium rather broad, somewhat narrow apically, with lateral lobe broad and rounded apically; hypopygial foramen located on its base; cercus nearly triangular with distinct marginal denticles; hypandrium moderately long, somewhat narrow apically; aedeagus thin and straight apically.

Female unknown.

Holotype ♂, Jiangsu: Nanjing, 14.VII.1986, Ming XIE.

Distribution. China (Jiangsu).

Remarks. This new species is similar to *H. aerosus* (FALLEN, 1823) from the Palaearctic region (including Taiwan). It may be separated from the latter by having the antenna yellow with flagellum (except base) brownish. In *aerosus*, the antenna is wholly black (STACKELBERG 1929).

*Hercostomus spatiosus* sp. nov. (Figs. 7-8)

Male. Body length 2.9 mm, wing length 2.8 mm.

Head metallic green with dense grayish pruinosity. Hairs and bristles on head black; ocellar tubercle with 2 strong ocellar bristles and 2 very short posterior hairs, frons with 1 strong bristle on postero-lateral corner. Antenna black; flagellum 2.3 times as long as wide, somewhat acute apically; arista black, indistinctly minutely pubescent, with basal segment as long as apical segment. Proboscis brown with black hairs; palpus black with black hairs.

Thorax metallic green with grayish pruinosity. Hairs and bristles on thorax black; 5 irregularly paired ac, short and hair-like; 6 strong dc; scutellum with 2 strong bristles. Legs blackish; apices of femora, tibiae yellow; fore tarsus yellow with tarsomere 5 darker, mid and hind tarsi brown with tarsomere 1 paler. Hairs and bristles on legs black; mid and hind coxae with 1 bristle, mid and hind femora with 1 preapical bristle; fore tibia with 2 weak dorsal bristles and 1 weak apico-ventral bristle; mid tibia with 3 anterior dorsal bristles, 2 posterior dorsal bristles and 1 ventral bristle; hind tibia with 3 anterior dorsal bristles, 3 posterior dorsal bristles and 1 weak ventral bristle; hind tarsomere 1 with 1 short ventral bristle at base. Relative lengths of segments of legs: LI 1.6 : 1.7 : 0.7 : 0.4 : 0.35 : 0.25 : 0.25; LII 2.2 : 2.3 : 1.2 : 0.7 : 0.6 : 0.4 : 0.3; LIII 2.3 : 2.5 : 0.8 : 1.0 : 0.6 : 0.4 : 0.3. Wing hyaline; veins blackish; R4+5 and M parallel apically, CuAx ratio 0.5. Squama pale yellow with black hairs. Halter pale yellow.

Abdomen metallic green with black hairs. Male genitalia (Fig. 8): Epandrium distinctly longer than wide, somewhat pointed apically, with lateral lobe truncate apically; cercus widening towards apex, with distinct marginal denticles; hypandrium elongate; aedeagus with apical portion slender and nearly straight.

Female unknown.

Holotype ♂, Hebei: Pingquan, 1200 m, 5.VII.1986, Ding YANG.

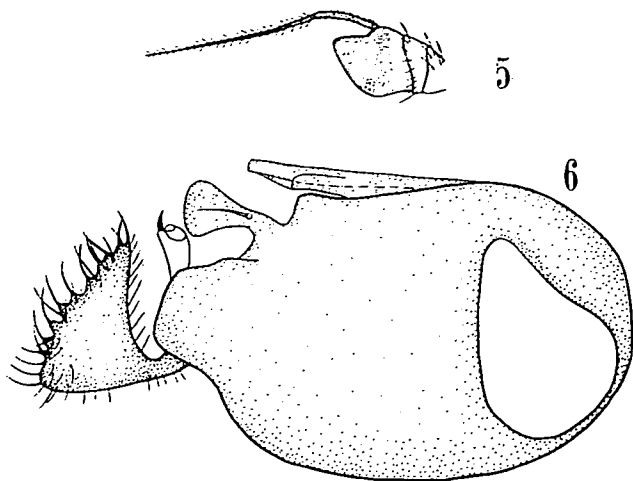
Distribution. China (Hebei).

Remarks. This species is somewhat similar to *H. novus* PARENT, 1926 from Shanghai. It can be distinguished from the latter by having the antenna wholly black with elongate flagellum (2.3 times as long as wide). In *novus*, the antenna is yellow with flagellum (except base) brown and rather short (STACKELBERG 1929).

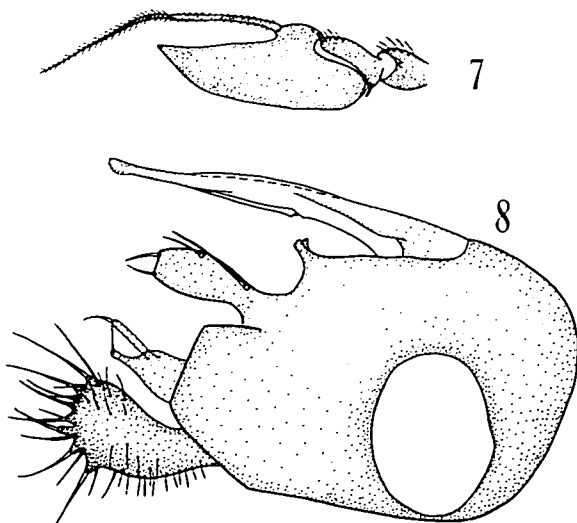
*Hypophyllus sinensis* sp. nov. (Figs. 9-11)

Male. Body length 7.0 - 7.7 mm, wing length 7.7 - 8.0 mm.

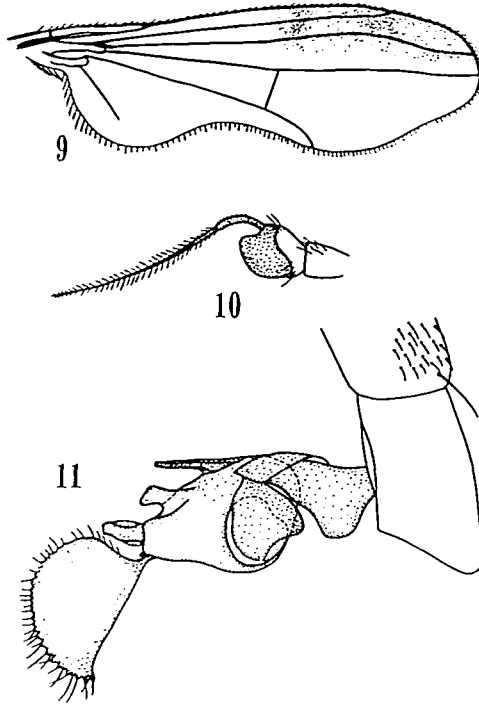
Head metallic green with dense grayish pruinosity. Hairs and bristles on head black, but postero-ventral surface with pale hairs; ocellar tubercle with 2 strong ocellar bristles and 4-6 short posterior hairs, frons with 1 strong bristle on postero-lateral corner. Antennal scape and pedicel yellow, flagellum black, as long as wide; arista black, distinctly minutely pubescent, with basal segment 0.3 times as long as apical segment. Proboscis dark brown with black hairs; palpus dark brownish yellow with black hairs.



**Figs. 5-6. *Hercostomus nanjingensis* sp. nov.:**  
5) antenna, lateral view; 6) male genitalia, lateral view.



**Figs. 7-8. *Hercostomus spatiosus* sp. nov.:**  
7) antenna, lateral view; 8) male genitalia, lateral view.



**Figs. 9-11. *Hypophyllus sinensis* sp. nov.:**  
9) wing; 10) antenna, lateral view; 11) male genitalia, lateral view.

Thorax metallic green with dense grayish pruinosity. Hairs and bristles on thorax black; acr very short and irregular, 6 strong dc; scutellum with 2 strong bristles and some short hairs on apical margin. Legs slender and yellow; fore tarsus brownish yellow, mid and hind tarsi brown to dark brown with tarsomeres 4-5 white. Hairs and bristles on legs black, but femora with some pale ventral hairs, mid and hind tarsomeres 4-5 with white hairs. Mid and hind coxae with 1 bristle; mid femur with 1 preapical bristle, hind femur with 2 preapical bristles; fore tibia with 1 anterior dorsal bristle, 2 posterior dorsal bristles, 2 posterior ventral bristles and 1 long apico-ventral bristle; mid tibia with 4 anterior dorsal bristles, 2 posterior dorsal bristles, and 2 ventral bristles; hind tibia with 8-9 long anterior dorsal bristles, 5-6 long posterior dorsal bristles, 9-10 long ventral bristles. Wing distinctly incised at mid posterior margin, nearly hyaline, tinged with dark brown on apico-anterior field; veins dark brown; R4+5 and M distinctly convergent, CuAx ratio 0.7 - 0.8. Squama yellow with blackish hairs. Halter yellow.

Abdomen metallic green with black hairs. Male genitalia (Fig. 11): Epandrium longer than wide, somewhat narrow apically, with lateral lobe rather broad; hypopygial foramen located on its basal portion; cercus rather large with many very short marginal denticles; hypandrium slender apically; aedeagus slender and nearly straight apically.

Female. Body length 5.9 - 6.1 mm, wing length 6.8 - 7.0 mm. Similar to male except as follows: Eyes rather widely separated. Legs shorter; mid and hind tarsomeres 4-5 dark brown with black hairs; apico-ventral bristle on fore tibia indistinct; hind tibia with 4-5 anterior dorsal bristles, 4 posterior dorsal bristles and 4-5 anterior ventral bristles.

Holotype ♂, allotype ♀, paratypes 11 ♂♂ 6 ♀♀, Hubei: Shennongjia, 1700 m, 29.VI.1984, Chi-kun YANG and Xinli WANG. Paratypes 7 ♂♂ 3 ♀♀, Gansu: Kangxian, 800 m, 30.VII.1980, Chi-kun YANG; 1 ♂, Gansu: Kangxian, 1200 m, 29.VII.1980, Fasheng LI; 2 ♂♂, Gansu: Chenxian, 29.VII.1980, Fasheng LI; 1 ♂, Gansu: Gangu, 1230 m, 26.VII.1980, Fasheng LI; 1 ♂, Shaanxi: Ningshaan, 19.VI.1985, Chi-kun YANG.

Distribution. China (Hubei, Gansu, Shaanxi).

Remarks. This new species can be easily separated from *H. luteicornis* PARENT, 1944 from Shaanxi of China, by having the antennal flagellum wholly black, male hind tibia with many long bristles, male cercus nearly semicircular. In *luteicornis*, the antennal flagellum is yellow with apical half black, on male hind tibia many long hairs absent, male cercus nearly triangular (PARENT 1944).

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