

Notes on species of *Hybos* Meigen (Diptera: Hybotidae) from Hong Kong

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Замечания о видах *Hybos* Meigen (Diptera: Hybotidae) из Гонконга

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Abstract. The genus *Hybos* Meigen, 1803 is reported for the first time from Hong Kong territory. Two species were here found: *Hybos particularis* Yang, Yang et Hu, 2002 and *Hybos negrobovi* **sp. nov.**

Key words. Diptera, Empidoidea, China, new species.

Резюме. Род *Hybos* Meigen, 1803 указывается впервые для Гонконга. Два вида были здесь обнаружены: *Hybos particularis* Yang, Yang et Hu, 2002 and *Hybos negrobovi* **sp. nov.**

Ключевые слова. Diptera, Empidoidea, Китай, новый вид.

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Introduction

The genus *Hybos* Meigen, 1803 is the largest genus of the Hybotinae with over 230 known species worldwide. Twenty-four species are known from the Palaearctic Region and 194 species from the Oriental Region (Yang et al., 2007; Yang, 2008; Plant, 2013; Shamshev et al., 2013, 2015). Less species are actually known from the other realms: by two from the Afrotropical and Nearctic Regions, 14 from the Neotropical and six from the Australasian Regions (Yang et al. 2007). Such low figures are probably due to the lack of recent revisions of this genus in these realms.

Hybos is characterized by the following combination of the characters: Rs short; cell cup usually distinctly longer than bm; R₄₊₅ and M₁ usually divergent; eyes narrowly but distinctly separated on face; proboscis long and spine-like, as long as head or longer, lacking pseudotracheae; hind femur usually strongly thickened with strong ventral setae (Yang, Yang, 2004; Plant, 2013). The major references dealing with the Palaearctic and Oriental *Hybos* species are as follows: Brunetti (1920), Melander (1928), Frey (1938, 1953, 1954), Saigusa (1963, 1965), Smith (1965), Chvála (1983), Yang, Yang (2004), Huo et al. (2010), Wei et al.

(2016), Plant (2013), Shamshev et al. (2013, 2015), and Kanavalová et al. (2021). The Chinese species of *Hybos* were revised by Yang and Yang (2004), and 135 species are known to occur in China (Cao et al., 2018, Yang et al., 2018) including the two species reported here from Hong Kong.

This paper is prepared in memory of Professor Oleg Pavlovich Negrobov.

Material and methods

The specimens were examined and illustrated using a ZEISS Stemi 2000–c. Genitalic preparations were made by macerating the apical portion of the abdomen in cold 10 % NaOH for about six hours. Terms used for adult structures follow primarily those of Cumming and Wood (2009). The type specimens are deposited in the Entomological Museum of China Agricultural University (CAU), Beijing and the University of Hong Kong (HKU), Hong Kong. The following abbreviations are used: acr – acrostichal bristle(s), ad – anterodorsal bristle(s), av – anteroventral bristle(s), dc – dorsocentral bristle(s), ppn – postpronotal humeral bristle(s), npl – notopleural bristle(s), oc – ocellar bristle(s), pd – posterodorsal bristle(s), prsc – prescutellar bristle(s), psa – postalar bristle(s), pv – posteroventral bristle(s), sc – scutellar bristle(s).

Taxonomic part

Hybos negrobovi sp. nov.

<http://zoobank.org/DBE2C144-EE12-4042-BCBC-9B37836357DF>

(Figs 1–9)

Type material. *Holotype*: male, CHINA: *Hong Kong*, Ping Shan Chai, 14–28 April 2018, Malaise trap in forest, M341 (50QKK), 22°29'22.75"N 114°11'8.81"E, 140 m, C. Barthelemy leg. (CAU). *Paratypes*: 8 males, 8 females, same data as holotype; 2 males, 1 female, Ping Shan Chai, 31 March – 14 April 2018 (M338); 4 males, 6 females, Ping Shan Chai, 28 April – 12 May 2018 (M344), C. Barthelemy leg. (CAU, HKU).

Diagnosis. Palpus with 1 terminal setula. R_{4+5} and M_1 somewhat parallel apically. Legs entirely black. Mid tibia with 3 very long ad. Hypandrium slightly longer than wide, apically weakly incised with short acute process.

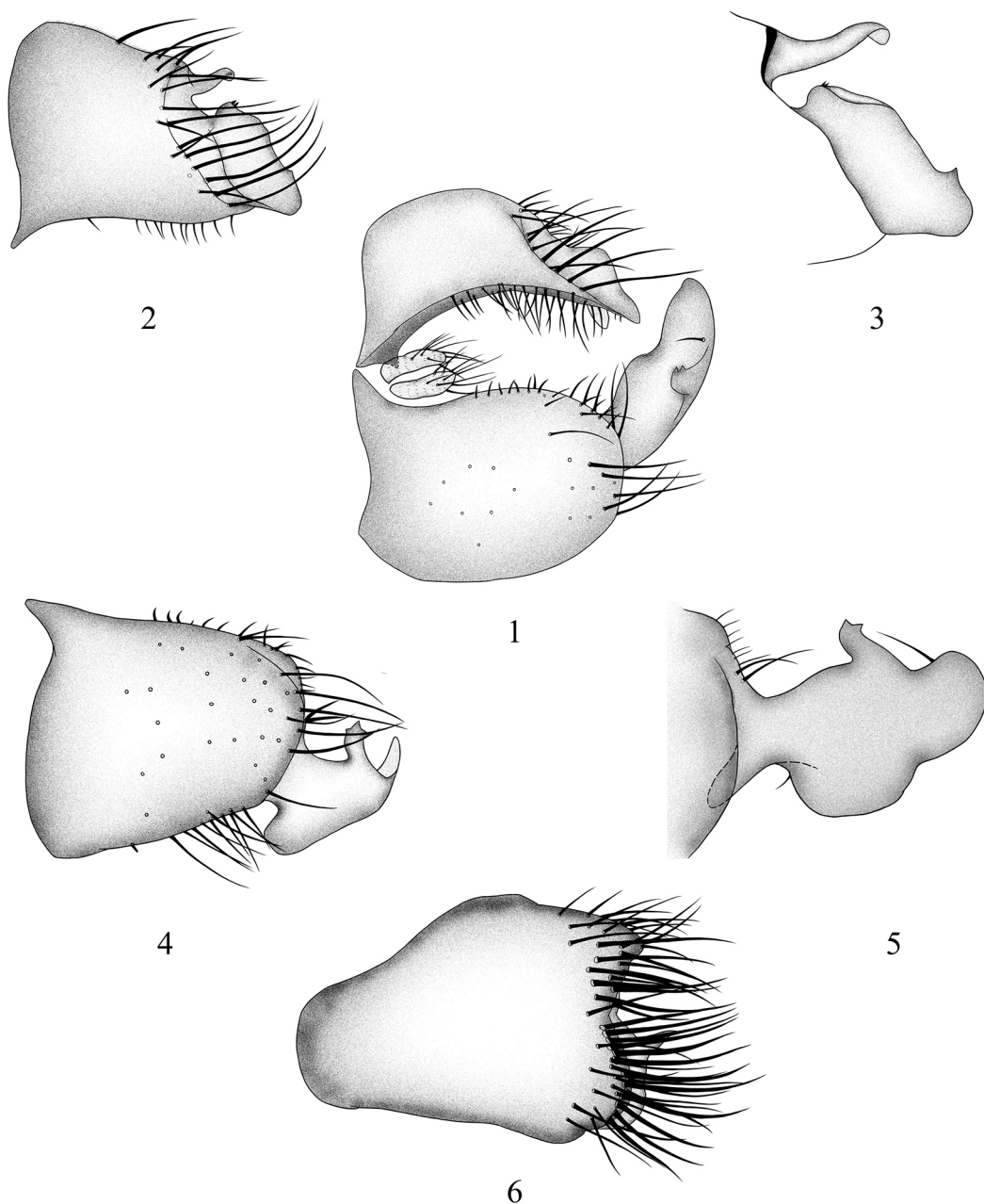
Description. *Male*. Body length 3.9–4.3 mm, wing length 4.0–4.1 mm. Head black with grey pollinosity. Eyes contiguous on frons, brownish-yellow, with distinctly enlarged upper facets dark yellow. Setulae and setae on head black; ocellar tubercle distinct, with 2 long oc and 2 short posterior setulae. Antenna blackish; scape without setulae, pedicel with circlet of black subapical setulae; first flagellomere elongate, slightly longer than scape and pedicel combined, lacking dorsal setulae; arista distinctly longer than basal 3 antennal segments, very short blackish pubescent except apical 1/4 or so thin and bare. Proboscis slightly shorter than head, blackish. Palpus slender, blackish, with 1 blackish terminal setula.

Thorax black with grey pollinosity. Setulae and setae on thorax black; setulae on scutum short, somewhat sparse; ppn absent, 2 npl (posterior npl long), irregularly quadriserial acr, uniserial hair-like dc nearly as long as acr, 1 long prsc, 1 psa slightly shorter than prsc; scutellum with 6 short marginal setulae (2 setulae between sc) and 2 long sc. Legs entirely black, with black setation. Fore femur as thick as mid femur, hind femur twice as wide as mid femur. Fore and mid femora each with row of very long thin pv. Hind femur with 5 long ad along entire length and 1 dorsal seta at extreme tip, with about 3 rows of spinose ventral setae on tubercles (av relatively long). Fore and mid tibiae and tarsomere 1 with some long setulae. Fore tibia with 1 ad at middle. Mid tibia with 3 very long ad; apically with 1 very long av and 1 short pv. Hind tibia with row of 8–9 short ad setulae and 8 long pd setulae; apically with 1 very long erect subapical pd. Hind tarsomeres 1–2 with several short thick ventral setae. Wing nearly hyaline, slightly tinged brownish; stigma long, dark brown; veins dark brown, R_{4+5} and M_1 somewhat parallel apically. Squama brownish-yellow with long yellow setulae. Haltere brown with pale yellow knob.

Abdomen rather short and thick, distinctly curved downward, somewhat shiny blackish or black with pale grey pollen; hypopygium distinctly thickened, thicker than pregenital segments. Setae and bristles on abdomen dark yellow except dorsum with some blackish setae and bristles at middle; those on hypopygium blackish to black.

Genitalia as in Figs 1–6. Left epandrial lamella slightly wider than right epandrial lamella, basally with weak concave inner margin; left surstylus long thick, with short median process at inner margin (Fig. 5). Right epandrial lamella with concave inner margin; right surstylus short wide, with thin outer process and very wide inner process. Hypandrium 1.2 times longer than wide, apically weakly incised with a short acute process.

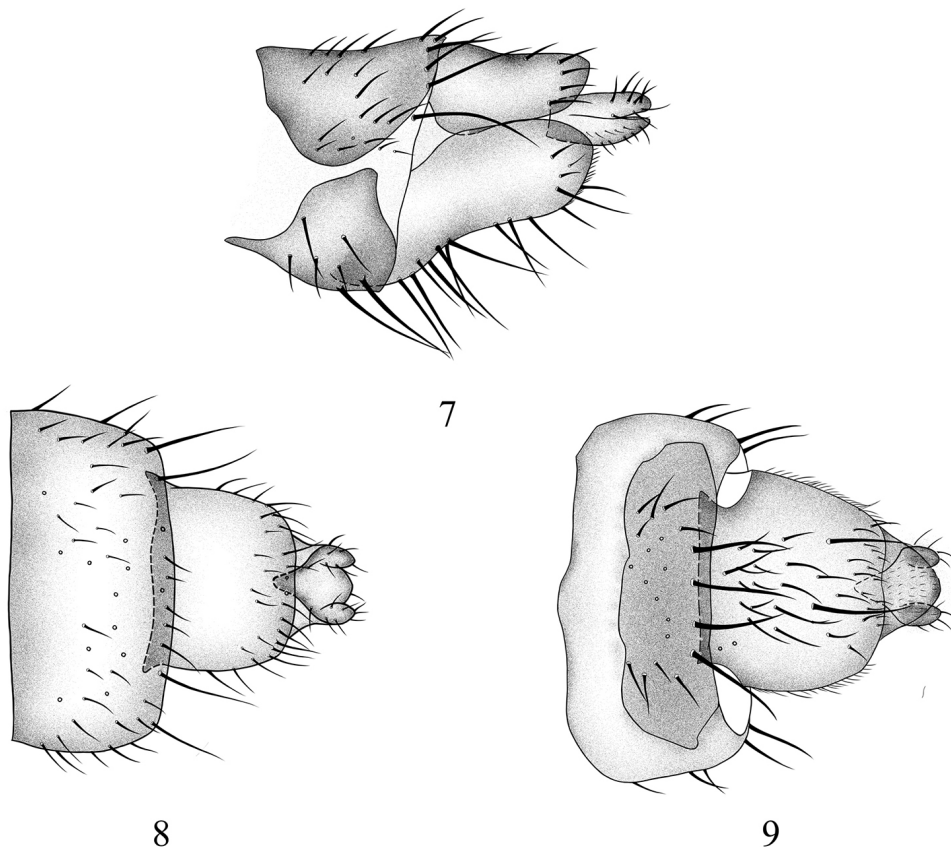
Female. Body length 4.1–4.2 mm, wing length 3.6–3.8 mm. Fore and mid tibiae and tarsomere 1 without long setulae. Terminalia as on Figs 7–9. Tergite 8 slightly shorter than sternite 8; sternite 8 wider than tergite 8; cercus short, digitiform.



Figs 1–6. *Hybos negrobovi* sp. nov. (male). 1 – epandrium and cerci, dorsal view; 2 – right epandrial lamella, lateral view; 3 – right surstylus, lateral view; 4 – left epandrial lamella, lateral view; 5 – left surstylus, lateral view; 6 – hypandrium, ventral view.

Remarks. This new species is similar to *Hybos nankunshanensis* Yang, Gaimari et Grootaert, 2005 in having the legs entirely black and palpus with 1 terminal setula, but may be separated from the latter by the following features: mid tibia with 3 very long ad; hypandrium 1.2 times longer than wide and with a short acute process at apical margin. In *H. nankunshanensis*, the mid tibia has 2 ad, and the hypandrium is 2.1 times longer than wide but without a short acute process at the apical margin (Yang et al., 2005).

Etymology. The new species is dedicated to Professor Oleg Pavlovich Negrobov in memory of his important contribution to the study of Diptera.



Figs 7–9. *Hybos negrobovi* sp. nov. (female). 7 – terminalia, lateral view; 8 – same, dorsal view; 9 – same, ventral view.

***Hybos particularis* Yang, Yang et Hu, 2002**

Hybos particularis Yang, Yang, Hu, 2002: 734; Yang, Yang, 2004: 205; Plant, 2013: 50.

Diagnosis. Legs mostly black except knees, mid tibia and mid and hind tarsomeres 1–2 yellow. Fore tibia with 5–6 very long and thin pv. Hypandrium distinctly longer than wide, apically with a large incision

Material examined. CHINA: 1 male, *Hong Kong*, Ping Shan Chai, 31 March – 14 April 2018 (M338) (HKU); 3 females, Ping Shan Chai, 28 April – 12 May 2018 (M344), C. Barthelemy leg. (HKU).

Distribution. China (Hainan, Hong Kong), Thailand.

Remarks. This species was described originally from Hainan Island, China (Yang et al., 2002), but it is widely distributed in Thailand (Plant, 2013).

Key to species of *Hybos* from Hong Kong

- 1. Legs entirely black; hypandrium 1.2 times longer than wide, apically with a weak incision and a short acute process *Hybos negrobovi* sp. nov.
- Legs mostly black, partly dark yellow; hypandrium about 3.0 times longer than wide, apically with a large incision and without process *Hybos particularis* Yang, Yang et Hu, 2002

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