

New and little known species of Dolichopodidae from China (II)

by Ding YANG

Abstract

Nine new species (*Scellus sinensis*, *Syntormon beijingensis*, *S. trisetum*, *S. zhengi*, *Dolichopus altayensis*, *D. basisetus*, *D. hejingensis*, *D. meyeri*, *D. tewoensis*) are described from China. Seven species are newly recorded from China: *Scellus gallicanus* BECKER, *Syntormon pallipes* (FABRICIUS), *Dolichopus jax-articus* STACKELBERG, *D. linearis* MEIGEN, *D. plumitarsis* FALL-EN, *D. simius* PARENT, *D. xanthopyga* STACKELBERG. A key is given for the genera *Scellus* and *Syntormon* from China and for the subgenus *Dolichopus* (*Dolichopus*) from North China.

Key words: Dolichopodidae, new species, China

Introduction

The present paper is the second in a series of papers dealing with the Chinese fauna of Dolichopodidae. Here 9 species are described as new to science, and 7 species are recorded for the first time from China. The types of the new species are mainly deposited in the Insect Collection of China Agricultural University (CAU) except for some paratypes kept in the Institut Royal des Sciences naturelles de Belgique (IRSN).

The following abbreviations are used: acr, acrostichal bristle; ad, anterodorsal bristle; apv, apical ventral bristle; av, anteroventral bristle; d, dorsal bristle; dc, dorsocentral bristle; h, humeral bristle; l, lateral bristle; lsc, lateral scutellar bristle; npl, notopleural bristle; pa, postalar bristle; pd, posterodorsal bristle; pv, posteroventral bristle; sa, postsutural supra-alar bristle; sc, scutellar bristle; su, sutural bristle; v, ventral bristle.

Genus *Scellus* LOEW

Scellus LOEW, 1857, Programm K. Realschule zu Mese-ritz: 22. Type species: *Hydrophorus spinimanus* ZETTER-STEDELT, 1843.

Diagnosis. Antennal scape elongate, distinctly longer than pedicel; first flagellomere with a ventral denticle.

Clypeus laterally separated from eye margin. Palpus small and narrow. acr weak or absent; dc short; 1 h, 1 npl, 1 sa, 1 pa, 2 sc. Propleuron haired, with bristles on lower part. Fore femur distinctly thickened with ventral spines. Mid and hind coxae without outer bristles. Mid and hind femur with several preapical bristles. R4+5 and M convergent. Male abdominal segment 5 with 2 long bands.

The genus *Scellus* is recorded from China for the first time.

Key to species of *Scellus* from China

1. Pteropleuron with 1 finger-like projection; wing hyaline, tinged with brown on antero-apical portion above vein M; 6-7 dc short and hair-like, acr irregularly uniserial. Xinjiang, Qinghai
..... *gallicanus* BECKER
- Pteropleuron without projection; wing dark brown with base and posterior margin pale; 12 dc very short and spine-like, acr absent. Xinjiang
..... *sinensis* sp. nov.

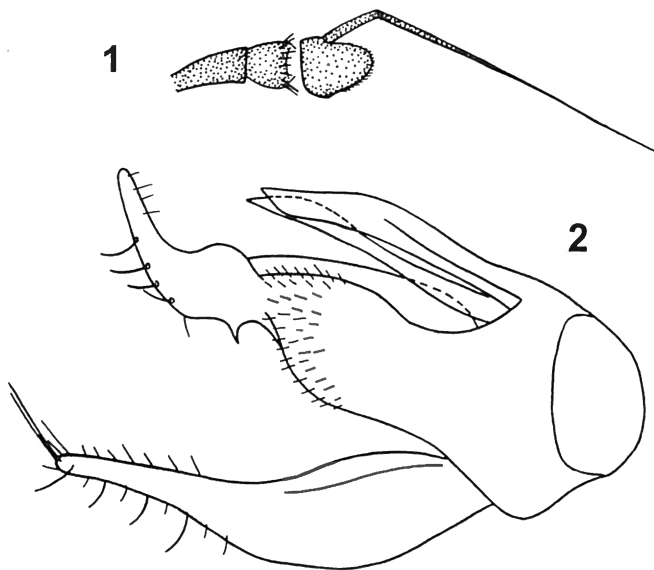
Scellus gallicanus BECKER (Figs. 1-2)

Scellus gallicanus BECKER, 1909, Wien. ent. Ztg. 28(9-10): 326. Type locality: Lautaret, France.

Diagnosis. 6-7 dc short and hair-like, 1-2 most posterior dc long and strong; acr irregularly uniserial. Pteropleuron with 1 finger-like projection. Wing hyaline, tinged with brown on antero-apical portion above vein M; m-cu bordered with brown, M with a brown spot.

Specimens examined. 11 ♂♂ 15 ♀♀, Xinjiang: Heqing (3020 m), 1958. VIII. 5, Changqing LI; 4 ♂♂ 6 ♀♀, Qinghai: Mengyuan, 1989. VII. 13-14, Meicai WEI & Guoqin LIU; 1 ♂ 1 ♀, Qinghai: Mengyuan, 1990. VII. 30, Meicai WEI.

Distribution. China (Xinjiang, Qinghai); France, Russia, Mongolia.



Figs. 1-2. — *Scellus gallicanus* BECKER, male. 1. antenna, lateral view; 2. genitalia, lateral view.

Scellus sinensis sp. nov. (Figs. 3-6)

Diagnosis. First flagellomere truncate apically. Wing rather short, slightly exceeding beyond hind femur; wing dark brown with base and posterior margin pale. acr absent; 12 dc very short, spine-like.

Male. Body length 4.9 mm, wing length 5 mm.

Head metallic green with pale gray pollen; lower portion of face with yellow brown pollen. Hairs and bristles on head black; postero-ventral hairs pale. Antenna black; first flagellomere nearly as long as wide, truncate apically; arista with basal segment 0.3 times as long as apical segment. Proboscis black with black hairs; palpus black with pale and black hairs.

Thorax metallic green with pale gray pollen; mesonotum with one pairs of dark black narrow median stripes. Hairs and bristles on thorax black; humerus with 1 bristle and 1 short hairs. acr absent, 12 dc very short and spine-like. Propleuron pale haired, with 3 bristles. Legs black. Hairs and bristles on legs black; fore coxa with 1 short bristle at base, 1-2 anterior bristles near tip and 3 anterior bristles on apical margin. Fore femur with 3 rows of ventral bristles (av and pv strong, v short). Fore tibia with 1 ad, a large ventral lobe at tip, 1 acute projection (bearing 3 strong bristles basally) on inner surface of basal portion. Mid femur with 5 preapical bristles and 4 anterior ventral bristles. Mid tibia with 4 ad, 2 pd, 2 pv; with 16 long spine-like bristles at middle and long curved bristles at apex. Hind femur with 1 preapical bristle and 5 anterior ventral bristle; hind tibia with thick and thin ventral bristles at apex. Relative lengths of segments (excluding coxae, trochanters and femora) of legs LI 6.0: 3.6: 2.2: 1.9: 1.2: 1.0; LII 10.2: 5.3: 2.2: 1.8: 1.2: 1.1; LIII 11.7: 8.0: 3.6: 2.6: 1.7: 1.2. Wing dark brown with base and posterior margin pale; veins black. Squama brown with pale hairs. Halter brownish yellow.

Abdomen metallic green with gray pollen; hairs sparse and short, pale. Male genitalia (Figs. 4-6): Lateral band pale yellow, black basally, with a bundle of long pale hairs on inner surface of apex; epandrium narrow apically, surstylus wide basally with a acute denticle; cercus very narrow apically in lateral view; aedeagus acute apically.

Female. Unknown.

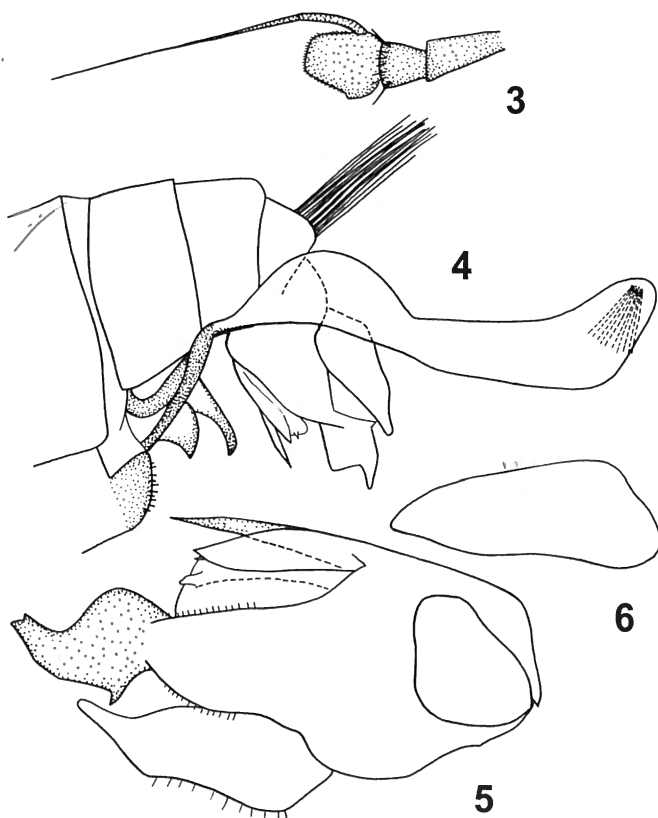
Holotype ♂, Xinjiang: Heqing (2180-2540 m), 1958. VIII. 29, Changqing LI. (CAU)

Distribution. China (Xinjiang).

Remarks. This species is similar to *paramonovi* STACKELBERG from Armenia, but may be separated from the latter in the following points: in male, the lateral band with a bundle of long yellow hairs only at apex, and mid tibia with 16 av; in *paramonovi*, the lateral band with a bundle of short yellow hairs near middle and at apex, and mid tibia bears 8-10 av (NEGROBOV, 1978).

Genus *Syntormon* LOEW

Syntormon LOEW, 1857, Programm K. Realschule zu Meseritz: 35. Type species: *Rhaphium metathesis* LOEW, 1850.



Figs. 3-6. — *Scellus sinensis* sp. nov., male. 3. antenna, lateral view; 4. apical portion of abdomen, lateral view; 5. genitalia, lateral view; 6. cercus, dorsal view.

Diagnosis. Eyes short pale haired, distinctly separated in both sexes; face narrowing downward. Antennal pedicel with finger-like projection inserted into incision of first flagellomere; first flagellomere elongated, arista subapical or apical. Proboscis and palpus small. acr usually uniserial, 6 strong dc; 1 h, 2 npl, 1 su, 2 sa, 1 pa; 2 paired sc, lsc short and hair-like. Propleuron pale haired. Mid and hind coxae with 1 outer bristle. Mid and hind femur with 1 preapical bristle; mid and hind femur with 1 av. Wing: R4+5 and M weakly convergent apically.

This genus is easily identified by the thumb-like projection of the pedicel inserted into the first flagellomere. Two species have been known from China (NEGROBOV, 1991; DYTE, 1975). Here 4 species are added to the Chinese fauna with descriptions of 3 new species.

Key to species of *Syntormon* from China

1. Hind tarsomere 1 without baso-ventral projection 2
- Hind tarsomere 1 with baso-ventral projection ... 5
2. Hind tibia and tarsus not flattened laterally without feather-like hairs 3
- Hind tibia and tarsus flattened laterally with feather-like hairs. Qinghai *zhengi* sp. nov.
3. Hind tarsus normal 4
- Hind tarsus somewhat shortened, its tarsomere 1 somewhat thickened and tarsomere 2 with apico-ventral digitiform projection. Jiangsu, Shanghai, Zhejiang, Taiwan *flexibile* BECKER
4. All coxae reddish yellow; squama brown with black hairs. Taiwan *detritus* BECKER
- Fore coxa yellow, mid and hind coxae blackish; squama yellow with pale hairs. Fujian *trisetum* sp. nov.
5. acr uniserial; baso-ventral projection on hind tarsomere 1 with 2 curved spines. Xinjiang *pallipes* (FABRICIUS)
- acr irregularly paired; baso-ventral projection on hind tarsomere 1 with 4 irregular processes. Beijing *beijingensis* sp. nov.

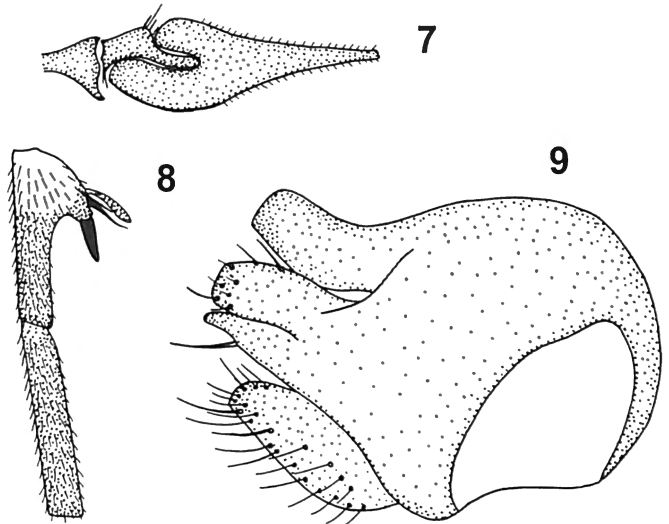
Syntormon beijingensis sp. nov. (Figs. 7-9)

Diagnosis. Arista apical. Hind tarsomere 1 with baso-ventral projection bearing 4 irregular processes. acr irregularly paired.

Male. Body length 2.6 mm, wing length 3.0 mm.

Head metallic green with pale gray pruinosity; frons somewhat polished with thin pollen. Hairs and bristles on head black; middle and lower postocular hairs (including ventral hairs) pale. Antenna entirely black; first flagellomere 3.0 times as long as wide, tapering toward apex; arista [partly broken] apical. Proboscis and palpus black with pale hairs.

Thorax metallic green with pale gray pruinosity. Hairs and bristles on thorax black; 15-16 irregularly paired acr, short and hair-like; 6 uniformly strong dc. Legs yellow;



Figs. 7-9. – *Syntormon beijingensis* sp. nov., male. 7. antenna, inner lateral view; 8. hind tarsomeres 1-2, lateral view; 9. male genitalia, lateral view.

fore coxa yellow, mid and hind coxae black; fore and mid tarsi from tip of tarsomere 1 onward brown to dark brown, hind tarsus black with base of tarsomere 1 yellow. Hairs and bristles on legs black; coxae with only pale hairs, mid and hind coxae with 1 outer bristle, mid and hind femora with 1 preapical bristle; fore tibia with 1 pd; mid tibia with 3 ad, 1 pd and 1 av; hind tibia with 2 ad, 3 pd and 1 av; hind tarsomere 1 with baso-ventral projection bearing 4 irregular processes. Relative lengths of segments of legs LI 5.0: 2.8: 1.1: 1.0: 0.7: 0.75; LII 6.7: 3.2: 1.3: 1.1: 0.9: 0.8; LIII 8.2: 2.0: 2.1: 1.7: 1.1: 1.0. Wing hyaline; veins black; R4+5 and M weakly convergent apically, CuAx ratio 0.6. Squama yellow with pale hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black, but tergite 1 with some long pale hairs laterally. Male genitalia (Fig. 9): Epandrium somewhat quadrate, cleft apically, with acute dorsal lobe and wide ventral lobe; hypandrium rather wide and curved; cercus distinctly longer than wide, with wide apex.

Female. Unknown.

Holotype ♂, Beijing: Sanbao, 1973. V. 10, Yongshan SHI. (CAU)

Distribution. China (Beijing).

Remarks. This species is similar to *fuscipes* (VON ROSER) from the Palaearctic region, but may be easily separated from the latter by the hind tarsomere 1 with baso-ventral projection with 4 irregularly processes.

Syntormon pallipes (FABRICIUS)

Musca pallipes FABRICIUS, 1794, Ent. Syst. 4: 340. Type locality: "Germania".

Diagnosis. First flagellomere much elongated (3.7 times longer than high); arista apical, 0.7 times as long as first flagellomere. Hind tarsomere 1 with baso-ventral projection (which bears 2 curved spines). Femora and tibiae yellow except apex of hind tibia black.

Specimen examined. 1 ♂, Xinjiang: Yining (664 m), 1979. VIII. 18, Chi-kun YANG.

Distribution. China (Xinjiang); Palearctic region.

Syntormon trisetum YANG, sp. nov. (Figs. 10-13)

Diagnosis. First flagellomere with oblique outer margin; arista subapical. Hind tarsomere 1 with 3 ventral bristles at base. acr uniserial.

Male. Body length 4.3 mm, wing length 5.1 mm.

Head metallic green with pale gray pruinosity; frons somewhat polished with thin pollen. Hairs and bristles on head black; middle and lower postocular hairs (including ventral hairs) pale. Antenna entirely black; first flagellomere 1.9 times as long as wide, acute apically, with oblique outer margin; arista subapical, black. Proboscis brownish yellow with black hairs; palpus black with pale hairs.

Thorax metallic green except humeri tinged with yellow, with pale gray pruinosity; pollen on mesonotum and scutellum darker. Hairs and bristles on thorax black; 20

uniserial acr, short and hair-like; 6 uniformly strong dc; scutellum medially with some marginal hairs, lsc very short and hair-like. Legs yellow; fore coxa yellow, mid and hind coxae blackish; tarsi from tip of tarsomere 1 onward brown to dark brown. Hairs and bristles on legs black; fore coxa with only pale hairs, mid and hind coxae with black or pale hairs and 1 outer bristle, mid and hind femora with 1 preapical bristle; fore tibia with 3 pd; mid tibia with 3 ad, 2 pd and 2 av; hind tibia with 3 ad, 4 pd, 2 av and 1-2 pv; hind tarsomere 1 with 3 ventral bristles at base. Relative lengths of segments of legs LI 5.0: 3.3: 1.9: 1.2: 0.75: 0.7; LII 7.7: 4.0: 1.9: 1.3: 0.75: 0.7; LIII 9.3: 2.1: 2.4: 1.9: 1.1: 0.75. Wing hyaline; veins black; R4+5 and M weakly convergent, CuAx ratio 1.0. Squama yellow with pale hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black, but tergites 1-2 with some pale hairs. Male genitalia (Figs. 12-13): Epandrium longer than wide, narrow and curved apically, with a thin apical projection; cercus distinctly elongated; hypandrium concave medially and rounded apically.

Female. Unknown.

Holotype ♂, Fujian: Jianyang (270 m), 1960. IV. 4, Yingran ZHANG. (CAU)

Distribution. China (Fujian).

Remarks. This new species is similar to *S. detritus* BECKER from Taiwan, but may be separated from the latter by having the mid and hind coxae blackish and squama yellow with pale hairs. In *detritus*, the squama is brown with black hairs, and all coxae are reddish yellow (BECKER, 1922).

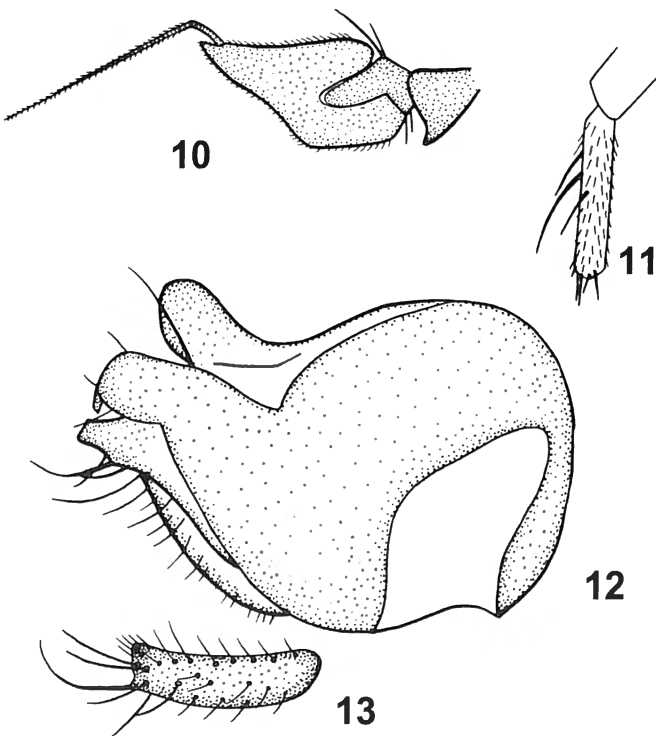
Syntormon zhengi sp. nov. (Figs. 14-16)

Diagnosis. Hind tibia strongly flattened and hind tarsomeres 1-4 weakly flattened, with feather-like dorsal hairs.

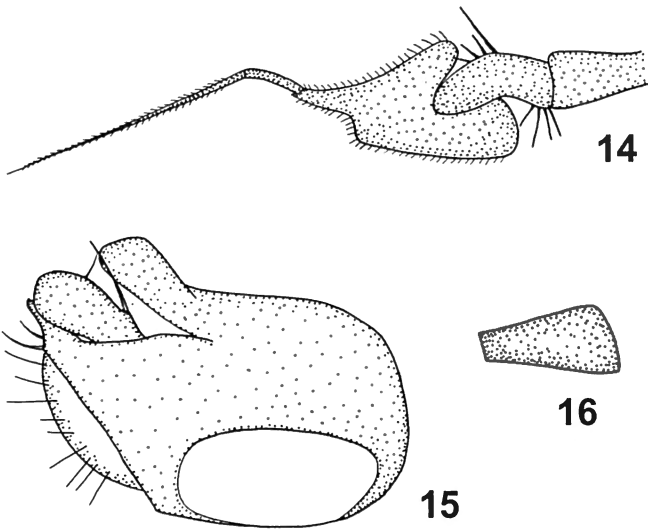
Male. Body length 2.7-2.8 mm, wing length 2.7-2.8 mm.

Head metallic green with pale gray pollen; face silvery white. Hairs and bristles on head black; middle and lower postocular hairs (including ventral hairs) pale. Antenna black; first flagellomere 1.9 times as long as wide, with finger-like apex; arista black, with basal segment 0.25 time as long as apical segment. Proboscis black with black hairs; palpus black with pale hairs.

Thorax metallic green with pale gray pollen. Hairs and bristles on thorax black; 6 strong dc, 6-7 uniserial acr short and hair-like. Legs black; apex of fore femur, middle femur, tip of hind femur, fore and mid tibiae (except apex of mid tibia), base of hind tibia, fore tarsomere 1 (except tip) yellow. Hairs and bristles on legs black; coxae with pale hairs and bristles; mid and hind coxae with black anterior bristles on apical margin. Fore tibia



Figs. 10-13. — *Syntormon trisetum* sp. nov., male. 10: antenna, inner lateral view; 11: hind tarsomere 1, lateral view; 12: genitalia, lateral view; 13: cercus, dorsal view.



Figs. 14-16. - *Syntormon zhengi* sp. nov., male. 14. antenna, inner lateral view; 15. male genitalia, lateral view; 16. cercus, dorsal view.

without distinct bristles; mid tibia with 2 ad, 1 pd and 1 av; hind tibia (except base) strongly flattened, hind tarsomeres 1-4 weakly flattened, with feather-like dorsal hairs; hind tarsomere 1 with 1 slightly bent ventral bristle at middle. Relative length of segments of legs LI 2.8: 1.7: 0.7: 0.5: 0.35: 0.35; LII 4.4: 2.0: 0.9: 0.8: 0.4: 0.4; LIII 6.1: 1.2: 1.1: 0.9: 0.55: 0.5. Wing hyaline; veins black, R4+5 and M convergent, CuAx ratio 0.9. Squama yellow with pale hairs. Halter yellow with short base brown.

Abdomen metallic green with pale gray pollen. Hairs on abdomen black; tergites 1-4 laterally and sternites 1-4 with pale hairs, but pale hairs on tergite 1 longer. Male genitalia (Figs. 15-16): Epandrium longer than wide, very narrow apically, with ventral lobe rounded apically; cercus somewhat narrow and truncate apically; hypandrium rather wide.

Female. Unknown.

Holotype ♂, paratype 1 ♂, Qinghai: Mengyuan, 1990. VII. 30-VIII. 4, Meicai WEI. Paratype 1 ♂, Qinghai: Mengyuan, 1989. VII. 18, Meicai WEI. (CAU & IRSN)

Distribution. China (Qinghai).

Remarks. This species is somewhat similar to *smirnovi* STACKELBERG, but may be separated from the latter by having the hind tibia strongly flattened and straight with feather-like dorsal hairs. In *smirnovi*, the hind tibia is thickened and curved (NEGROBOV, 1975). This species is named after Prof. Leyi ZHENG.

Genus *Dolichopus* LATREILLE

Dolichopus LATREILLE, 1796, *Precis carat. gen. Ins.*: 159. Type species: *Musca unguolata* LINNAEUS.

Diagnosis. Eyes in both sexes short haired and distinctly separated. Antennal scape haired dorsally; arista subapical and 2-segmented. acr short and hair-like, 5-6 strong dc; 1 h, 2 npl, 1 su, 2 sa, 1 pa; 2 paired sc, lsc short and hair-like. Propleuron haired with 1 strong bristle on lower portion. Mid and hind coxae with 1 outer bristles; mid and hind femora with 1-2 preapical bristles. Hind tarsomere 1 with strong dorsal bristles. Wing usually with costal callus; R4+5 and M convergent apically; M somewhat bent, sometimes with rudimentary M2. Male cercus with some marginal denticles.

Here the species of the subgenus *Dolichopus* from North China are reviewed. Ten species are added to the Chinese fauna with descriptions of 5 new species.

Key to species (male) of subgenus *Dolichopus* (*Dolichopus*) from North China

1. Femora partly or wholly black 2
 - Femora wholly yellow 11
2. Postocular hairs wholly black 3
 - Middle and lower postocular hairs yellow 5
3. Hind femur with black long ventral bristles 4
 - Hind femur without long ventral bristles. Xinjiang *xinjianganus* YANG
4. All tibiae black; mid and hind femora with 2 preapical bristles. Xinjiang *altayensis* sp. nov.
 - Fore and mid tibiae yellow; mid and hind femora with 1 preapical bristle. Shanxi ... *lepidus* STAEGER
5. Fore tarsomere 5 flattened 6
 - Fore tarsomere 5 normal 7
6. Fore tarsomere 5 deeply incised apically and bilobate. North China *sagittarius* LOEW
 - Fore tarsomere 5 weakly incised apically. Qinghai *meyeri* sp. nov.
7. Hind femur without long ventral bristles 8
 - Hind femur with long ventral bristles 10
8. All tibiae black 9
 - Tibiae (except apical 1/4 of hind tibia) yellow; mid tarsomere 1 with 1 dorsal bristle at base. Xinjiang *basisetus* sp. nov.
9. Hind tarsomere 1 with 1 d. Tibet
 - *roborovskii* STACKELBERG
 - Hind tarsomere 1 with 3 d. Xizang, Qinghai, Sichuan *shii* YANG
10. Ventral bristles on hind femur yellow; hind tibia black with basal 1/3 yellow. Xinjiang
 - *clavipes* MEIGEN
 - Ventral bristles on hind femur black; hind tibia yellow with apical 1/3 black. Xinjiang
 - *xinyuanus* YANG
11. Fore or mid tarsus partly flattened 12
 - Tarsi normal 17
12. Fore tarsus partly flattened 13
 - Mid tarsomere 1 flattened with lateral feather-like hairs; mid tibia with brown dorsal stripe. Xinjiang, Tibet, Nei Monggol, Shanxi, Hebei, Helongjiang ...
 - *plumipes* SCOPOLI
13. Fore tarsomere 5 deeply incised and bi-lobed ... 14

- Fore tarsomere 5 at most weakly incised and not bilobate 15
14. Arista simple. Qinghai *hejingensis* sp. nov.
- Arista thickened apically *sagittarius* LOEW
15. Costal callus indistinct; face without hairs 16
- Costal callus long; face with pale hairs. North China *nacalceatus* PARENT
16. Hind femur with short hairs apically. Nei Mongol, Helongjiang, Hebei *plumitarsis* FALLEN
- Hind femur with long ventral hairs. Nei Mongol, Helongjiang *simius* PARENT
17. Hind femur with long ventral bristles 18
- Hind femur without long ventral bristles 21
18. M weakly bent without rudimentary M2 19
- M strongly bent with rudimentary M2. Xinjiang, Nei Mongol, Ningxia, Jilin, Helongjiang, Shanxi, Hebei *martyнови* STACKELBERG
19. Apico-ventral bristle on fore tibia indistinct 20
- Apico-ventral bristle on fore tibia long; hind tibia strongly thickened with long dorsal and ventral hairs. Xinjiang *jaxarticus* STACKELBERG
20. Hind femur with black ventral bristles; mid and hind femora with 2 preapical bristles; squama black haired. North China *angustipennis* KERTESZ
- Hind femur with pale ventral bristles; mid and hind femora with 1 preapical bristle; squama pale haired. Helongjiang, Nei Mongol *orientalis* PARENT
21. Fore tibia with 1 a long apico-ventral bristle 22
- Fore tibia without apico-ventral bristle 28
22. M strongly bent nearly in right angle, with rudimentary M2 23
- M smoothly bent, without rudimentary M2 26
23. Squama pale haired 24
- Squama black haired 25
24. Costal callus long and thick. Shandong, Shanghai, Jiangsu *erroneus* PARENT
- Costal callus short and punctiform. Tianjin, Beijing, Hebei *aubertini* PARENT
25. Costal callus long and thick. Helongjiang, Jilin, Shaanxi, Shanghai *cuneipennis* PARENT
- Costal callus short and punctiform. Beijing, Henan, Shaanxi, Sichuan, Anhui, Zhejiang, Jiangsu *bigeniculatus* PARENT
26. First flagellomere much elongated and acute apically 27
- First flagellomere as long as wide and obtuse apically; costal callus long and thick. Nei Mongol, Helongjiang *linearis* MEIGEN
27. Arista arising at middle of first flagellomere; hind tarsomere 1 with 1 dorsal bristle. Xinjiang, Nei Mongol, Shanxi *longicornis* WIEDEMANN
- Arista arising near base of first flagellomere; hind tarsomere 1 with 2 dorsal bristles. Gansu *tewoensis* sp. nov.
28. Male genitalia black 29
- Male genitalia yellow; coxae yellow except mid coxa with a very small black spot. Helongjiang *xanthopyga* STACKELBERG
29. Squama black haired 30

- Squama pale haired. North China . *divisus* BECKER
30. Antenna wholly yellow. North China *vaillanti* PARENT
- First flagellomere black; hind tibia thickened apically. Gansu, Nei Mongol, Hebei .. *agilis* MEIGEN

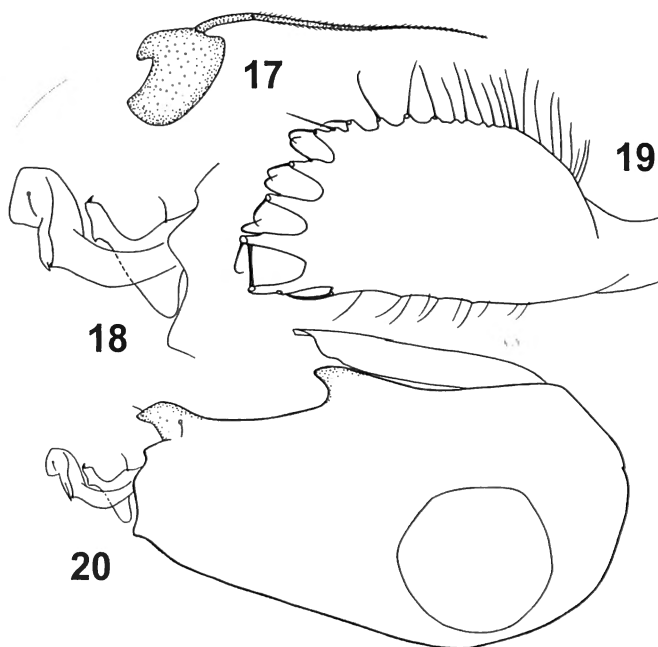
Dolichopus altayensis sp. nov. (Figs. 17-20)

Diagnosis. Antenna entirely black. Postocular bristles wholly black. Propleuron black haired. Legs (except knees) black. Mid and hind femora with 2 preapical bristles; hind femur with black long ventral bristles on apical half. Hind tarsomere 1 rather long, nearly as long as hind tarsomeres 2-3.

Male. Body length 7.8 mm, wing length 7.6 mm.

Head metallic green with pale gray pollen; face 1.4 times as wide as first flagellomere, with white pollen. Hairs and bristles black; postocular bristles wholly black. Antenna black; first flagellomere 1.2 times longer than wide, obtuse apically; arista black with basal segment 0.25 times as long as apical segment. Proboscis and palpus black, with black hairs.

Thorax metallic green, with pale gray pollen. Hairs and bristles black; 8-9 irregularly paired acr short and hair-like, 6 strong dc; scutellum with some short hairs on dorsal surface and apical margin. Propleuron black haired with 1 black bristle on lower part. Legs black except knees dark yellow. Hairs and bristles on legs black; mid and hind coxae with 1 outer bristle; mid and hind femora with 2 preapical bristles; hind femur with black long



Figs. 17-20. – *Dolichopus altayensis* sp. nov., male. - 17. first flagellomere, lateral view; 18. apical processes, lateral view; 19. cercus, lateral view; 20. genitalia, lateral view.

ventral bristles on apical half. Fore tibia with 5 ad, 5 pd, 1 short apv; mid tibia with 6 ad, 1 d, 4 pd, 2 av, and 1 pv; hind tibia with 7 ad, 2 d, 7 pd, and 2 av; hind tarsomere 1 with 2-3 ad, 5 pd, 2 l. Relative lengths of segments of legs LI 9: 4.7: 2.2: 1.7: 1.1: 1.1; LII 14.7: 9.0: 3.0: 2.5: 1.8: 1.2; LIII 13.2: 9.9: 5.4: 3.3: 2.1: 1.2. Wing hyaline; veins black; R4+5 and M somewhat convergent apically; costal callus indistinct; M weakly bent, without rudimentary M2; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black. Male genitalia (Figs. 18-20): Epandrium much longer than wide, with somewhat acute lateral lobe; cercus longer than wide, with finger-like marginal denticles; hypandrium acute apically.

Female. Unknown.

Holotype ♂, Xinjiang: Altay (2600 m), 1960. VIII. 2, Shuyong Wang. (CAU)

Distribution. China (Xinjiang).

Remarks. This new species is similar to *maculipennis* ZETTERSTEDT from the Palaearctic region, but differs from the latter in the following points: face white; wing hyaline, without darker patch, outer cross vein not infuscated; hind tarsomere 1 with 2-3 ad and 5 pd. In *maculipennis*, face dull brownish grey; wing with a darkish patch on anterior part near tip and with outer cross vein infuscated; hind tarsomere 1 with 3 bristles above (D'ASSIS FONSECA, 1978; STACKELBERG, 1933).

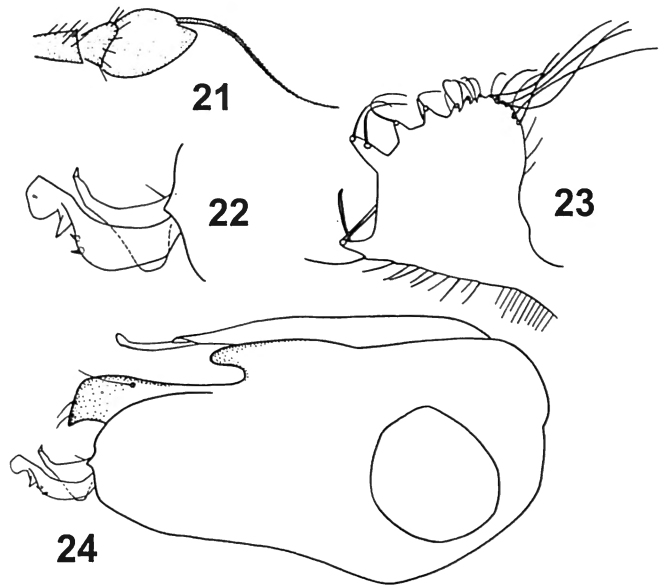
Dolichopus basisetus sp. nov. (Figs. 21-24)

Diagnosis. Antenna black. All coxae and femora (except tips) black. Mid tarsomere 1 with 1 strong dorsal bristle at base.

Male. Body length 4.3 mm, wing length 4.3 mm.

Head metallic green with pale gray pollen; face as wide as first flagellomere, with brownish yellow pollen. Hairs and bristles black; middle and lower postocular hairs including ventral hairs pale yellow. Antenna black; first flagellomere 1.3 times longer than wide, more or less acute apically; arista black with basal segment 0.55 times as long as apical segment. Proboscis and palpus black, with black hairs.

Thorax metallic green, with pale gray pollen. Hairs and bristles black; 8 irregularly paired acr short and hair-like, 6 strong dc; scutellum with some short marginal hairs. Propleuron pale haired with 1 black bristle on lower part. Legs black; tips of all femora, all tibiae (except apical 1/4 of hind tibia), and fore and mid tarsomere 1 (except tip) yellow. Hairs and bristles on legs black; mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical bristle. Fore tibia with 2-3 ad, 2-3 pd, 3 pv and 1 short apv; mid tibia with 4 ad, 2 pd and 1 av; mid



Figs. 21-24. — *Dolichopus basisetus* sp. nov., male. - 21. antenna, lateral view; 22. apical processes, lateral view; 23. cercus, lateral view; 24. genitalia, lateral view.

tarsomere with 1 long d at base; hind tibia with 5 ad, 1 d, 4 pd, and 1 av; hind tarsomere 1 with 3 d and 2 short l. Relative lengths of segments of legs LI 4.8: 2.4: 1.1: 0.9: 0.5: 0.6; LII 7.2: 3.9: 2.1: 1.7: 1.1: 0.9; LIII 8.0: 3.6: 3.7: 2.3:?:?. Wing nearly hyaline; veins black; R4+5 and M somewhat convergent apically; costal callus punctiform; M bent without rudimentary M2; CuAx ratio 0.5. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black. Male genitalia (Figs. 22-24): Epandrium much longer than wide, with a distinct lateral lobe; cercus nearly quadrate with finger-like marginal denticles; hypandrium somewhat acute apically; aedeagus thin and curved apically.

Female. Unknown.

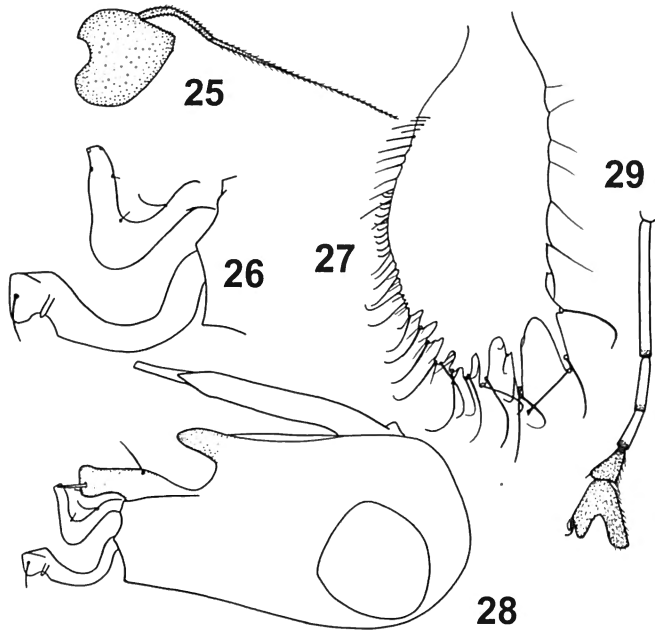
Holotype ♂, Xinjiang: Laoniaoqia (2600 m), 1959. VII. 9, Shuyong WANG. (CAU)

Distribution. China (Xinjiang).

Remarks. This species is somewhat similar to *xinjianganus* YANG from Xinjiang in male genitalia, but may be separated from the latter by having the middle and lower postocular hairs pale. It may be separated from *robrovskii* STACKELBERG from Tibet by having the tibiae (except apical 1/4 of hind tibiae) yellow.

Dolichopus hejingensis sp. nov. (Figs. 25-29)

Diagnosis. Antenna black, scape brownish yellow ventrally; first flagellomere as long as wide, more or less



Figs. 25-29. – *Dolichopus hejingensis* sp. nov., male. - 25. first flagellomere, lateral view; 26. apical processes, lateral view; 27. cercus, lateral view; 28. genitalia, lateral view; 29. fore tarsus, lateral view.

acute apically. Male fore tarsomeres 4-5 flattened, with tarsomere 5 bilobate.

Male. Body length 5.3 mm, wing length 5.8 mm.

Head metallic green with pale gray pollen; face silvery white. Hairs and bristles black; middle and lower post-ocular hairs including ventral hairs pale yellow. Antenna black with scape brownish yellow ventrally; first flagellomere as long as wide, more or less acute apically; arista black with basal segment 0.35 times as long as apical segment. Proboscis black and palpus yellow, with black hairs.

Thorax metallic green, with pale gray pollen. Hairs and bristles black; 8-9 irregularly paired acr short and hair-like, 6 strong dc; scutellum with some short marginal hairs. Legs yellow; coxae (except tip) black; fore tarsus with apices of tarsomeres 1-3 and entire tarsomeres 4-5 black; mid tarsus from tip of tarsomere 1 onward brown to dark brown; apex of hind tibia and entire hind tarsus black. Fore tarsomeres 4-5 distinctly flattened, tarsomere 5 bilobate. Hairs and bristles on legs black; mid and hind coxae with 1 outer bristle; mid and hind femora with 1 preapical bristle. Fore tibia with 3 ad, 2 pd and 3 pv, 1 short apv; mid tibia with 5 ad, 2 pd, 2 av, and 1 pv; mid tarsomere with 1 d; hind tibia with 6 ad, 4 pd, 1 d, and 1 av; hind tarsomere 1 with 1 l and 2 ad. Relative lengths of segments of legs LI 6.9: 3.8: 1.7: 1.3: 1.0: 1.7; LII 10: 5.8: 2.7: 2.0: 1.2: 1.1; LIII 10.5: 5.0:?:?:?:?. Wing hyaline; veins black; R4+5 and M somewhat convergent apically; stigma distinct and long; M bent without rudimentary M2; CuAx ratio 0.55. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black.

Male genitalia (Figs. 26-28): Epandrium much longer than wide, with a distinct lateral lobe; cercus longer than wide, with finger-like marginal denticles; hypandrium acute apically; aedeagus thin and straight apically.

Female. Unknown

Holotype ♂, Xinjiang: Hejing (2500-3000 m), 1958. VII. 30, Changqing LI. (CAU)

Distribution. China (Qinghai).

Remarks. This species is allied to *sagittarius* LOEW from the Palearctic region in the shape of fore tarsus, but may be separated from the latter in the following points: arista not thickened apically; femora entirely yellow.

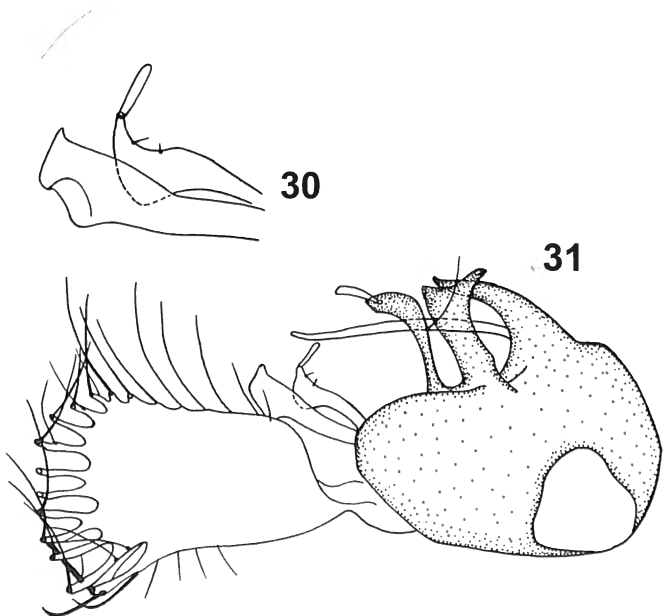
Dolichopus jaxarticus STACKELBERG (Figs. 30-31)

Dolichopus jaxarticus STACKELBERG, 1927. Konowia 6: 225. Type locality: "prov. Syrdarjensis et Samakandica (Tshardary)".

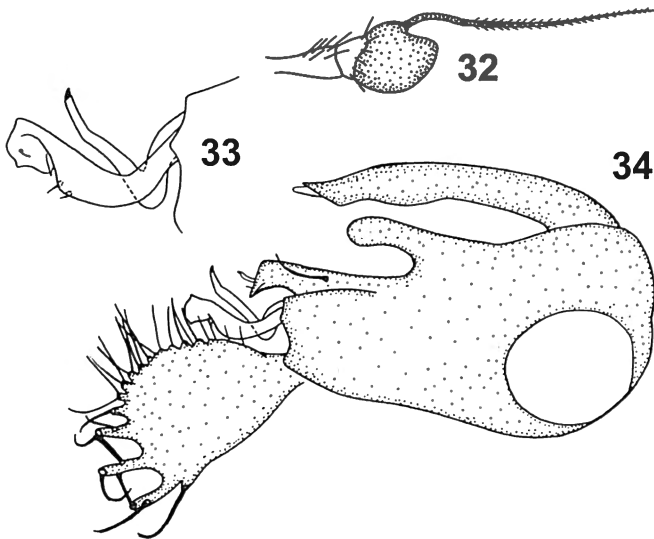
Diagnosis. Hind femur with yellow long ventral hairs on apical half. Hind tibia distinctly thickened with long lateral hairs. Squama pale haired. Male cercus with thin finger-like marginal denticles.

Specimens examined. 1 ♂, Xinjiang: Musuowan (350-438 m), 1957. VII. 7, Chunpei HONG; 1 ♂, Xinjiang: Shache, 1955. V. 14.

Distribution. China (Xinjiang); Kazakhstan, Uzbekistan.



Figs. 30-31. – *Dolichopus jaxarticus* STACKELBERG, male. - 30. apical processes, lateral view; 31. genitalia, lateral view.



Figs. 32-34. — *Dolichopus linearis* MEIGEN, male. - 32. antenna, lateral view; 33. apical processes, lateral view; 34. genitalia, lateral view.

Dolichopus linearis MEIGEN (Figs. 32-34)

Dolichopus linearis MEIGEN, 1824. Syst. Besch. 4: 84. Type locality: not given.

Diagnosis. First flagellomere wholly black. Coxae yellow except mid coxa with a black spot. Fore tibia with 1 long apico-ventral bristle (which is longer than 1/2 of fore tarsomere 1). Costal callus on wing long and thick.

Specimens examined. 2 ♂♂, Nei Monggol: Alihe, 1988. VII.11; 2 ♂♂ 3 ♀♀, Helongjiang: Mohe, 1984. VII. 6-7, Wenjun BU.

Distribution. China (Nei Monggol, Helongjiang); Palearctic region.

Dolichopus meyeri sp. nov. (Figs. 35-38)

Diagnosis. Antenna entirely black. Middle and lower postocular hairs pale. Coxae and femora (except apex) black. Male fore tarsomeres 4-5 flattened.

Male. Body length 3.9-4.0 mm, wing length 4.3-4.5 mm.

Head metallic green with pale gray pollen; face silvery white. Hairs and bristles black; middle and lower postocular hairs including ventral hairs pale yellow. Face 1.2 times as wide as first flagellomere. Antenna entirely black; first flagellomere 1.3-1.4 times longer than wide, acute apically; arista black with basal segment 0.4 times as long as apical segment. Proboscis including palpus black, with black hairs.

Thorax metallic green, with pale gray pollen. Hairs and bristles black; 9-10 irregularly paired acr short and hair-like, 6 strong dc; scutellum with some short marginal

hairs. Legs black; all coxae black; apices of all femora, tibiae (except apical 1/4 of hind tibia) yellow; fore and mid tarsi yellow, but from tip of tarsomere 1 onward brown to dark brown. Fore tarsomeres 4-5 distinctly flattened, tarsomere 5 with a weak apical incision. Hairs and bristles on legs black; mid and hind coxae with 1 black outer bristle; mid and hind femora with 1 preapical bristle. Fore tibia with 3 ad, 2 pd and 3 pv, 1 short apv; mid tibia with 6 ad, 2 pd, 2 av and 1 pv; mid tarsomere 1 with 1 d and 2 l; hind tibia with 3-6 ad, 1 d, 4-5 pd and 1 av; hind tarsomere 1 with 1-2 ad, 2 pd and 2 l. Relative lengths of segments of legs LI 5.4: 3.2: 1.3: 1.0: 0.7: 1.1; LII 8.0: 4.2: 1.9: 1.7: 1.1: 0.9; LIII 8.9: 4.5: 3.1: 2.0: 1.3: 1.0. Wing hyaline; veins black; R4+5 and M somewhat convergent apically; stigma punctiform; M bent without rudimentary M2, CuAx ratio 0.35. Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black.

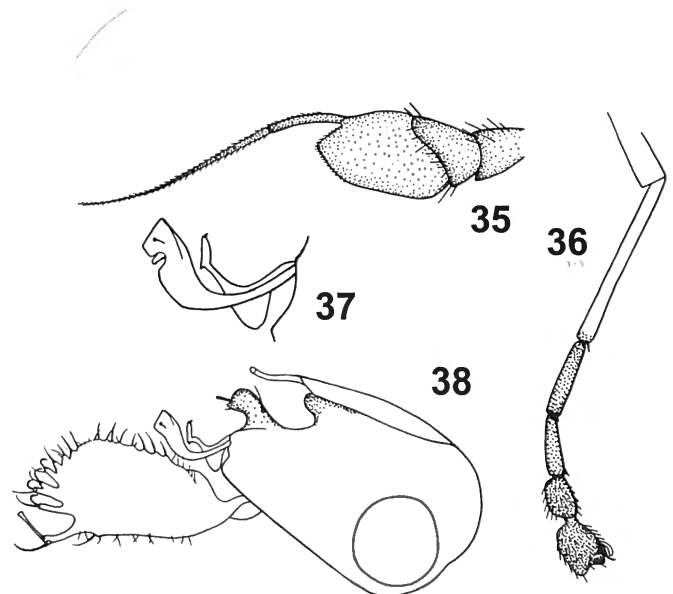
Male genitalia (Figs. 37-38): Epandrium longer than wide, with curved lateral lobe; cercus longer than wide, with finger-like marginal denticles; hypandrium acute apically; aedeagus thin and curved apically.

Female. Body length 3.9-4.1 mm, wing length 4.0-4.3 mm. Similar to male; but mid tarsomere 1 with 1 lateral bristle and 1 dorsal bristle.

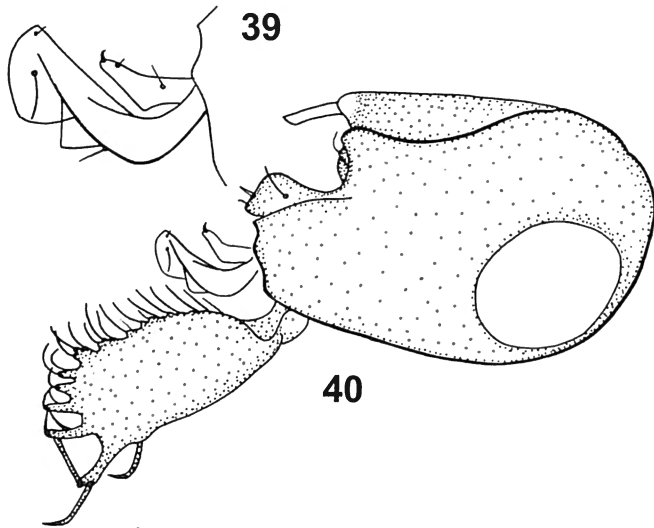
Holotype ♂, paratypes 23 ♂♂ 28 ♀♀, Qinghai: Mengyuan, 1989. VII. 13-18, Meicai WEI. (CAU & IRSN)

Distribution. China (Qinghai).

Remarks. This species is similar to *armeniacus* STACKELBERG from Armenia. In *armeniacus*, all tibiae are black, and the hind femur bears black long bristles on apical half



Figs. 35-38. — *Dolichopus meyeri* sp. nov., male. - 35. antenna, lateral view; 36. fore tarsus, lateral view; 37. apical processes, lateral view; 38. genitalia, lateral view.



Figs. 39-40. — *Dolichopus plumitarsis* FALLEN, male. - 39. apical processes, lateral view; 40. genitalia, lateral view.

(STACKELBERG, 1930). This species is named in honour of Dr. H. MEYER.

Dolichopus plumitarsis FALLEN (Figs. 39-40)

Dolichopus plumitarsis FALLEN, 1823. Monogr. Dolichopod. Sveciae: 10. Type locality. not given (Sweden).

Diagnosis. Fore tarsomeres 4-5 flattened with feather-like dorsal hairs; tarsomere 4 slightly thin, 2.5-3.0 times longer than wide. Hind femur at most with 2-4 pale short ventral hairs. Costal callus on wing indistinct.

Specimens examined. 6 ♂♂ 2 ♀♀, Hebei: Pingquan, 1986. VII. 4-5, Ding YANG; 1 ♂, Helongjiang: Jiamusi, 1984. VII. 1; 2 ♂♂, Helongjiang: Jiamusi, 1985. VIII. 11, Chi-kun YANG; 5 ♂♂ 9 ♀♀, Nei Monggol: Tumd Zuoqi, 1978. VII. 22-23, Chi-kun YANG & Heming CHEN.

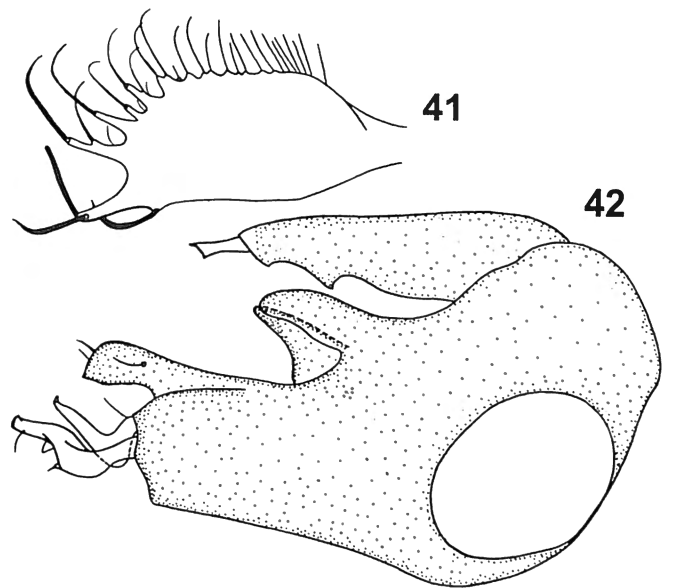
Distribution. China (Hebei, Helongjiang, Nei Monggol); Palaearctic region.

Dolichopus simius PARENT (Figs. 41-42)

Dolichopus simius PARENT, 1927. Congr. Soc. sav. Paris, 1926: 465. Type locality: "Environs d'Irkutsk, Sibirie".

Diagnosis. Fore tarsomeres 4-5 flattened with feather-like dorsal hairs; tarsomere 4 slightly thick, 1.5-2.0 times longer than wide. Hind femur with pale long ventral hairs on apical half. Costal callus on wing indistinct.

Specimens examined. 1 ♂, Helongjiang: Jiamusi, 1984.



Figs. 41-42. — *Dolichopus simius* PARENT, male. - 41. cercus, lateral view; 42. genitalia, lateral view.

VII. 1; 1 ♂, Nei Monggol: Baotou, 1978. VII. 21, Heming CHEN.

Distribution. China (Helongjiang, Nei Monggol); Russia.

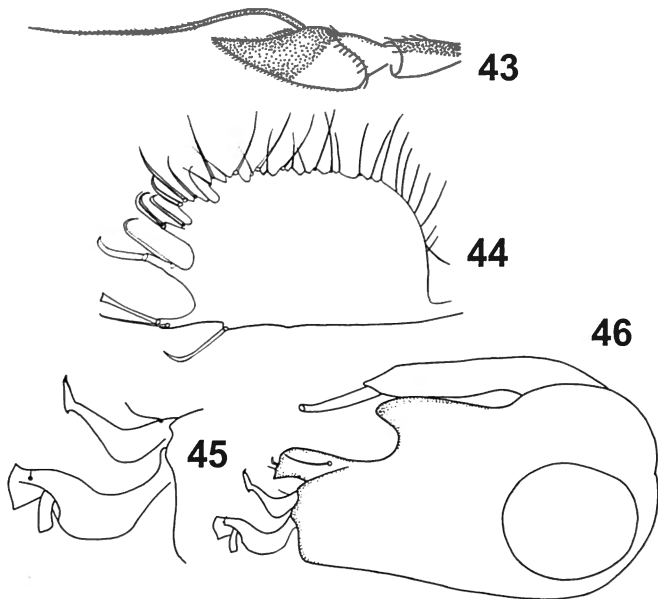
Dolichopus tewoensis sp. nov. (Figs. 43-46)

Diagnosis. First flagellomere distinctly elongated and acute apically; arista arising near base of first flagellomere.

Head metallic green with pale gray pollen. Face silvery white, narrower than first flagellomere. Hairs and bristles on head black, middle and lower postocular hairs pale. Antennal scape and pedicel yellow, darker dorsally; first flagellomere black with baso-ventral area yellow, distinctly elongated (2.2 times longer than wide) and acute apically; arista arising near base of first flagellomere and black, with basal segment 0.6 times as long as apical segment. Proboscis black with blackish hairs; palpus pale yellow with pale hairs.

Thorax metallic green with pale gray pollen. Hairs and bristles on thorax black; 7-8 irregularly paired acr short and hair-like, 6 strong dc; scutellum with short marginal hairs. Propleuron pale haired with 1 black bristle on lower part. Legs yellow; fore and hind coxae yellow, mid coxa black; fore and mid tarsi 1 from tip of tarsomere 1 onward brown to dark brown, apical 1/4 of hind tibia and entire hind tarsus black.

Hairs and bristles on legs black; mid and hind coxae with 1 outer bristle, mid and hind femora with 1 preapical bristle. Fore tibia with 2 ad, 2 pd, 3 pv and 1 slender apv; mid tibia with 4 ad, 2 pd and 1 av; hind tibia with 4 ad, 1 d, 4-5 pd, 1 av; hind tarsomere 1 with 2 d and 1 l. Relative lengths of segments of legs LI 6.2: 2.8: 1.4: 1.1: 0.7: 0.7; LII 8.2: 4.3: 2.2: 1.8: 1.2: 0.9; LIII 8.9: 2.7: 3.8: 2.5:?:?.



Figs. 43-46. — *Dolichopus tewoensis* sp. nov., male. - 43. antenna, lateral view; 44. cercus, lateral view; 45. apical processes, lateral view; 46. genitalia, lateral view.

Wing hyaline; veins black, costal callus long and thick; M bent without rudimentary M2, CuAx ratio 0.65.

Squama yellow with black hairs. Halter yellow.

Abdomen metallic green with pale gray pollen; hairs black. Male genitalia (Figs. 44-46): Epandrium distinctly longer than wide, with distinct lateral lobe; cercus longer than wide, with distinct finger-like denticles; hypandrium acute apically; aedeagus slightly curved apically.

Female. Unknown.

Holotype ♂, Gansu: Tewo (1,700 m), 1980. VIII. 12, Chikun YANG. (CAU)

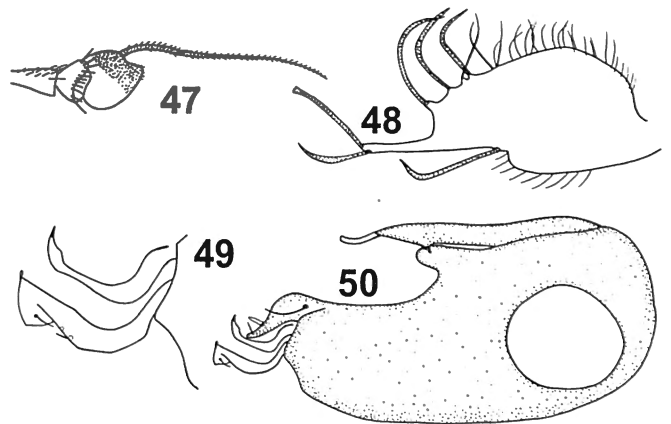
Distribution. China (Gansu).

Remarks. This species is similar to *longicornis* STANINIUS from the Palaearctic region, but may be separated from the latter by having the arista arising near the base of first flagellomere and hind tarsomere 1 with 2 d. In *longicornis*, the arista arises at middle of first flagellomere, and hind tarsomere 1 bears 1 d (STACKELBERG, 1933).

Dolichopus xanthopyga STACKELBERG (Figs. 47-50)

Dolichopus xanthopyga STACKELBERG, 1930. Annu. Mus. Zool. Acad. Sci. USSR 31: 150. *Type locality*: "Siberie".

Diagnosis. First flagellomere blackish with yellow base.



Figs. 47-50. — *Dolichopus xanthopyga* STACKELBERG, male. - 47. antenna, lateral view; 48. cercus, lateral view; 49. apical processes, lateral view; 50. genitalia, lateral view.

Coxae yellow except mid coxa with 1 very small black spot. Hind femur with pale short ventral hairs on apical half; hind tarsomere 1 yellow with 1 d. Costal callus on wing short and thick. Male genitalia yellow.

Specimen examined. 1 ♂, Helongjiang: Ningan, 1985. VIII. 16, Xinke YANG.

Distribution. China (Helongjiang); Russia.

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References

- BECKER, T., 1922. Dipterologische Studien, Dolichopodidae der indo-australischen Region. *Capita Zoologica*, 1(4): 1-247.
- D'ASSIS FONSECA, E.C.M., 1978. Diptera Orthorrhapha Brachycera. Dolichopodidae. *Handbooks for the Identification of British Insects*. Vol. IX Part 5: 90pp. Royal Entomological Society of London.
- DYTE, C. E., 1975. Family Dolichopodidae. In DELFINADO, M. D. & D. E. HARDY (eds.): *A Catalog of the Diptera of the Oriental region*, 2: 212-258. The University Press of Hawaii, Honolulu.
- NEGROBOV, O. P., 1975. A review of the genus *Syntormon* MEIGEN (Diptera, Dolichopodidae) from the Palaearctic. *Entomologicheskoe Obozrenie*. 54(3): 652-664.

NEGROBOV, O. P., 1978. 29. Dolichopodidae. In LINDNER, E. (ed.): *Die Fliegen der Palaearktischen Region*, 4(5), Lief. 319: 387-418 (1978).

NEGROBOV, O. P., 1991. Family Dolichopodidae. In SOOS, A. & L. PAPP (eds.): *Catalogue of Palaearctic Diptera*, 7: 11-139. Budapest.

STACKELBERG, A., 1930-1933. 29. Dolichopodidae. In LINDNER, E. (ed.): *Die Fliegen der Palaearktischen Region*, 4(5), Lief. 51: 1-64; Lief. 71: 65-128.

YANG, D., 1995. The genus *Dolichopus* from Southwest China

(Diptera, Dolichopodidae). *Bulletin de l'Institut Royal des Sciences naturelles de Belgique Entomologie*, 66: 79-83.

Department of Entomology
China Agricultural University
Beijing 100094
China

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