

FIVE NEW SPECIES OF THE GENUS *EXECHIA* WINNERTZ FROM CHINA¹⁾ (DIPTERA : MYCETOPHILIDAE)

WU Hong

(Zhejiang Forestry College, Lin 'an 311300)

ZHENG Le-Yi

(Department of Biology, Nankai University, Tianjin 300071)

Abstract Six species of *Exechia* Winnertz from China are recorded in this paper, of which five species are described as new to science and one species is reported for the first time from China. The type specimens are deposited in Zhejiang Forestry College.

Key words Diptera, Mycetophilidae, Exechiini, *Exechia*, new species.

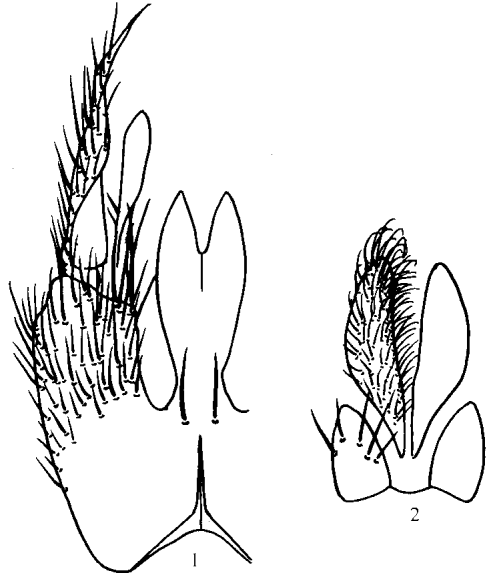
Exechia Winnertz is a large genus present worldwide. There are nearly 60 known Palaearctic species and many Nearctic species. Seventeen Oriental species have been described but *Exechia* is poorly known from other regions. The present paper adds 5 new species and 1 new record species to China. The type specimens are deposited in Zhejiang Forestry College.

1 *Exechia accisa* sp. nov. (Figs. 1-2)

. Wing length 2.3 mm. Head blackish brown. Antennae brownish subequal to combined length of head and thorax; flagellar segments with a length subequal to width. Pronotum brown. Mesoscutum dark brown. Pleura and mediotergite brown. Wing clear brownish yellow. Cross vein 1.4 times as long as m-stalk. Halter yellow. Legs yellow. Fore metatarsus 1.1 times as long as tibia. Middle metatarsus 0.9 time as long as tibia. Middle tibia with 11 *a*, 4 *p*, 3 *p-d*. Hind tibia with 6 *a*, 3 *p*, 6 *p-d*. Abdominal segments 1-3 brown, segments 4-6 blackish brown. The male genitalia are shown in Figs. 1-2.

Holotype ♂, Dangchang (34°04' N, 104°21' E), Gansu 11 Aug. 1980, collected by YANG Chi-Kun, No. 890018.

This species is allied to *Exechia maculipennis* (Stannius, 1831), but can be separated from the latter by the structure of cerci and ventral stylomere of gonostylus.



Figs. 1-2 *Exechia accisa* sp. nov.

1. male genitalia, ventral view 2. tergite 9 and cerci

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2) Present address: Department of Biology, Nankai University, Tianjin 300071.

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2 *Exechia changbaiensis* sp. nov. (Figs. 3-4)

. Wing length 3.2 mm. Head blackish brown. Antennae brown, with scape, pedicel and base of 1st flagellum brownish yellow; 0.9 time as long as head and thorax; flagellar segments 1.2 times as long as wide. Pronotum brown. Mesoscutum dark brown. Pleura and mediotergite brown. Wing clear brownish yellow. Cross vein 1.4 times as long as m-stalk. Halter yellow. Cross vein r-m 2.4 times as long as m-stalk. Halter yellow. Legs brownish yellow, but base of middle and hind femora dark brown ventrally. Fore metatarsus 1.1 times as long as tibia. Middle metatarsus 0.9 time as long as tibia. Middle tibia with 20 *a*, 6 *p-v*, 8 *p*, 5 *p-d*. Hind tibia with 11 *a*, 6 *p*, 7 *p-d*. Abdominal tergites 1-3 brown, with anterior 2/3 of tergite 3 yellow; tergites 4-6 dark to blackish brown. Sternites 1-3 brownish yellow, sternites 4-6 brown. The male genitalia are shown in Figs. 3-4.



Figs. 3-4 *Exechia changbaiensis* sp. nov.

3. male genitalia, ventral view 4. tergite 9 and cerci

Holotype ♂, Changbaishan (42°02' N, 128°08' E), Jilin, 24 Aug. 1985, collected by YANG Chi-Kun, No. 880332.

This species is similar to *Exechia cincta* Wintertz, 1863, but the structure of gonostylus is different.

3 *Exechia kunashirensis* Zaitzev, 1996

Exechia kunashirensis Zaitzev, 1996. *Int. J. Dipterol. Res.*, 7(2):67. Type locality: Kuril Is.

New record to China.

Material examined. 1 ♂, Wenshui County: Guandishan (37°53' N, 111°29' E), Shanxi, 2 Aug. 1981, collected by YANG Chi-Kun, No. 880277; 1 ♂, Guiyang (26°35' N, 106°42' E), Guizhou, 29 Aug. 1987, collected by YANG Chi-Kun, No. 880063.

Distribution. China: Shanxi (Guandishan), Guizhou (Guiyang); Kuril Is.

4 *Exechia melasa* sp. nov. (Figs. 5-6)

. Wing length 2.6 mm. Head black brown. Antennae brown, with scape, pedicel and base of 1st flagellum brownish yellow; subequal to combined length of head and thorax; flagellar segments 1.2 times as long as wide. Pronotum blackish brown. Mesoscutum black brown. Pleura and mediotergite dark brown. Wing clear brownish yellow. Cross vein r-m 1.9 times as long as m-stalk. Halter brownish yellow. Legs brownish yellow, but base of middle and hind femora brown ventrally. Fore metatarsus 1.2 times as long as tibia. Middle metatarsus 0.9 time as long as tibia. Middle tibia with 22 *a*, 4 *p-v*, 6 *p*, 4 *p-d*. Hind tibia with 6 *a*, 3 *p*, 4 *p-d*. Abdominal tergites 1, 4 dark brown; tergites 2-3 brown, with anterior angles and sides of tergite 3 broad and yellow; tergites 5-6 blackish brown. Sternites brown, with sternites 2-3 yellowish brown. The male genitalia are shown in Figs. 5-6.

Holotype ♂, Deqing County: Moganshan (30°36' N, 119°51' E), Zhejiang, 18 Apr. 1992,

collected by WU Hong, No. 920038.

This species is allied to *Exechia pseudocincta* Strobl, 1910, but the structure of gonostylus is different.

5 *Exechia quadriclema* sp. nov. (Figs. 7-9)

. Wing length 1.9-2.5 mm. Head blackish brown. Antennae brown, 0.8 times as long as head and thorax; flagellar segments 0.8 time as long as wide. Pronotum brown. Mesoscutum brownish yellow, with 3 brown longitudinal stripes. Pleura and mediotergite brown. Wing clear brownish yellow. Cross vein r-m 2.0 times as long as m-stalk. Halter yellow. Legs brownish yellow, but apical and ventral middle parts of hind femur brown. Fore metatarsus 1.1



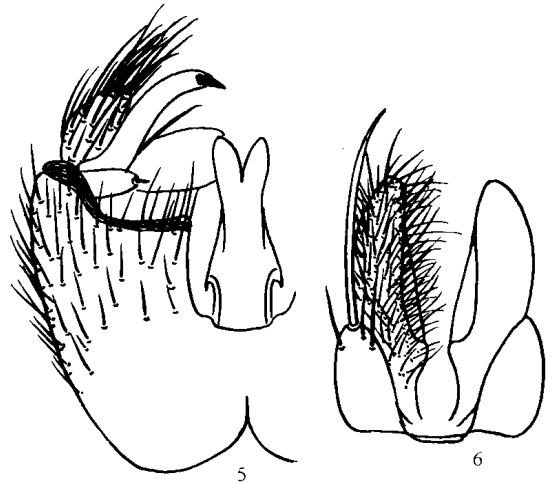
Figs. 7-9 *Exechia quadriclema* sp. nov.

7. male genitalia, ventral view 8. gonostylus, lateral view
9. tergite 9 and cerci

latter by wing length shorter than 2.5 mm, flagellar segments with their length shorter than width, and gonostylus apically with strong black bristles.

6 *Exechia tomosa* sp. nov. (Figs. 10-11)

. Wing length 3.9 mm. Head black brown. Antennae brown, with scape, pedicel and base of 1st flagellum brownish yellow; 0.8 time as long as head and thorax; flagellar segments slightly longer than wide. Pronotum dark brown. Mesoscutum black brown, with humeral angles brownish yellow. Pleura and mediotergite brown. Wing yellow brownish, with brown clouds at



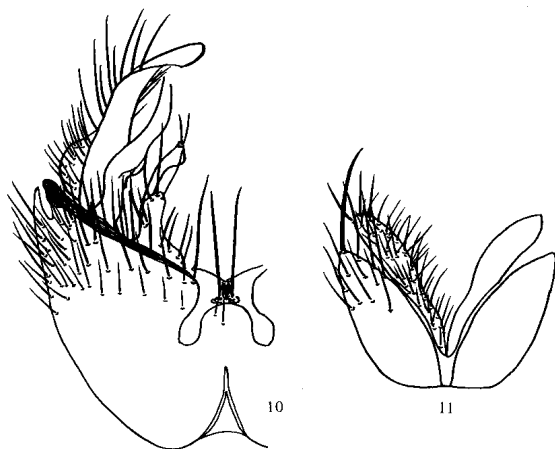
Figs. 5-6 *Exechia melasa* sp. nov.

5. male genitalia, ventral view 6. tergite 9 and cerci

times as long as tibia. Middle metatarsus slightly longer than tibia. Middle tibia with 22 a, 8-11 p-v, 18 p, 5 p-d. Hind tibia with 14-16 a, 5-6 p, 5 p-d. Abdominal tergites brown, with anterior margin of tergite 1 and sides of tergites 3-4 yellow. Sternite 1 yellow, sternites 2-6 brownish. The male genitalia are shown in Figs. 7-9.

Holotype, Kaihua County: Gutianshan (29°16' N, 118°06' E), Zhejiang, 17 Jul. 1992, collected by CHEN Xue-Xin, No. 931972. Paratypes 4, the same locality as holotype, 17-25 Jul. 1992, collected by WU Hong, Nos. 920470, 931902, 931909, 931917; 1, Qingyuan County, Baishanzu (27°45' N, 119°12' E), Zhejiang, 23 Oct. 1993, collected by WU Hong, No. 931427.

This species is allied to *Exechia fulva* Santos Abreu, 1920, but can be separated from the



Figs. 10-11 *Exechia tomosa* sp. nov.
10. male genitalia, ventral view 11. tergite 9 and cerci

subapical part and posterior fork. Cross vein $r-m$ 2.0 times as long as m -stalk. Halter brownish yellow. Legs brownish yellow, but base of middle and hind femora black brown ventrally and dorsally. Middle metatarsus 0.9 time as long as tibia. Middle tibia with $24a$, $6p-v$, $9p$, $4p-d$. Hind tibia with $11a$, $2p$, $6p-d$. Abdomen segments 1-3 blackish brown, segments 4-6 black brown. The male genitalia are shown in Figs. 10-11.

Holotype, Anji County: Longwangshan ($30^{\circ}23'N$, $119^{\circ}24'E$), Zhejiang, 13 May 1996, collected by WU Hong, No. 960117.

This species is allied to *Exechia pollex* Shaw, 1935, but the structure of gonostylus is different.

REFERENCES

- Chandler, P. J. 1977. Some fungus gnats of the tribe Exechiini (Dipt., Mycetophilidae) new to the British Isles. Proc. Trans. Br. ent. nat. hist. Soc., **10**:71-85.
- Edwards, F. W. 1925. British fungus gnats (Diptera: Mycetophilidae) with a revised generic classification of the family. Trans. ent. Soc. Lond., 1924:505-670.
- Lastovka, P. and Matile, L. 1974. Mycetophilidae (Diptera) de Mongolie. Acta Zool. Acad. Sci. Hung., **20**:93-135.
- Sasakawa, M. 1993. Fungus gnats associated with flowers of the genus *Arisaema* (Araceae) Part 1. Mycetophilidae (Diptera). Jpn. J. Ent., **61**:783-786.
- Tuomikoski, R. 1966. Generic taxonomy of the Exechiini (Diptera, Mycetophilidae). Ann. ent. fenn., **32**:159-194.
- Winnertz, J. 1863. Beitrag zu einer Monographie der Pilzmücken. Verh. zool.-bot. Ges. Wien, **13**:637-964.
- Zaitzev, A. I. 1996. Six new species of fungus gnats of the tribe Exechiini from Sakhalin and Kuril Islands (Diptera, Mycetophilidae). Int. J. Dipt. Res., **7**:67-70.

中国伊菌蚊属五新种记述¹⁾

(双翅目:菌蚊科)

吴 鸿²⁾

郑乐怡

(浙江林学院 临安 311300)

(南开大学生物系 天津 300071)

摘 要

报道了中国伊菌蚊属 5 新种和 1 新纪录种,绘制了雄性外生殖器特征图。模式标本保存在浙江林学院昆虫标本室。该属为中国新纪录属。

缺凹伊菌蚊,新种 *Exechia accisa* **sp. nov.** (图 1~2)

雄 翅长 2.3 mm。新种与广布于欧洲的 *E. maculipennis* (Stannius, 1831) 相似,但后者的尾须和生殖刺腹突的构造明显不同。正模,甘肃宕昌,1980-08-11,杨集昆采。

长白伊菌蚊,新种 *Exechia changbaiensis* **sp. nov.** (图 3~4)

雄 翅长 3.2 mm。新种与欧洲广布的 *E. cincta* Winnertz, 1863 相近似,但后者的生殖刺突构造不同。正模,吉林长白山岳桦林,1985-08-24,杨集昆采。

国后伊菌蚊 *Exechia kunashirensis* **Zaitzev, 1996**

中国新纪录。

标本记录:1,山西文水关帝山,1981-08-02,杨集昆采;1,贵州贵阳贵州省林业科学研究所,1987-08-29,杨集昆采。分布:山西,贵州;千岛群岛。

黑色伊菌蚊,新种 *Exechia melasa* **sp. nov.** (图 5~6)

雄 翅长 2.6 mm。新种与广布于欧洲的 *E. pseudocincta* Strobl, 1910 相似,但后者的生殖刺突末端无黑褐色粗齿。正模,浙江德清莫干山,1992-04-18,吴鸿采。

四枝伊菌蚊,新种 *Exechia quadriclema* **sp. nov.** (图 7~9)

雄 翅长 1.9~2.5 mm。新种与分布于加那利群岛的 *E. fulva* Santos Abreu, 1920 相似,但后者个体较大(翅长 2.9 mm 以上),触角鞭节长为宽的 1.5 倍,生殖刺突各分支末端无粗黑鬃或刺。正模,浙江开化古田山,1992-07-17,陈学新采。副模 5:4,浙江开化古田山,1992-07-17~25,吴鸿采;1,浙江庆元百山祖,1993-10-23,吴鸿采。

薄片伊菌蚊,新种 *Exechia tomosa* **sp. nov.** (图 10~11)

雄 翅长 3.9 mm。新种与分布于美国的 *E. pollex* Shaw, 1935 相似,但后者的生殖刺背突端部渐尖,末端双尖形。正模,浙江安吉龙王山,1996-05-13,吴鸿采。

关键词 双翅目,菌蚊科,伊菌蚊族,伊菌蚊属,新种。

中图分类号 Q969.44

1) 国家自然科学基金重大项目“基础科学人才培养(特殊学科点)”资助。

2) 现在南开大学生命科学博士后流动站工作。