

滇、鄂产果蝇三新种

(双翅目:果蝇科)

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关键词 双翅目 果蝇科 拱背果蝇属 果蝇属 新种 云南 湖北

本文报道拱背果蝇属 1 新种: 条纹拱背果蝇 *Lordiphosa vittata*, sp. nov., 果蝇属 2 新: 利川果蝇 *Drosophila (Drosophila) lichuanensis*, sp. nov., 透茎果蝇 *Drosophila (Drosophila) perlucida*, sp. nov., 模式标本均藏于中国科学院昆明动物研究所。

1. 条纹拱背果蝇 *Lordiphosa vittata*, 新种 (图 1-4)

雄: 体长约 3.0 mm, 翅长约 3.0 mm。

头部: 复眼红色, 被密集的微毛。触角第 2 节黄色, 具两根粗刚毛。第 3 节淡黄色。触角芒背侧 4 分枝毛, 腹侧 2 分枝毛。端叉中等大。下颚须淡黄色, 顶端具 1 刚毛, 表面具散生的小毛。单眼三角区黄色, 具几对小刚毛, 单眼鬃长且外倾。额黄棕色。口上片亦黄棕色。额具额毛, 额为头宽的 1/2, 颜黄色, 鼻瘤低, 颊黄色, 约为复眼最大直径的 1/6。后头中央黑色。orb₁ 与 vti 相比更靠近 orb₃, orb₂/orb₁ ca. 1/4, orb₃/orb₁ ca. 4/5, 髭长且黑, or₂ 细短, or₂/or₁ ca. 1/2。

胸部: 背板浅棕色, 背中鬃间具两条隐约可见的棕色条纹。小盾片淡棕色。正中刚毛 6 列。前背中鬃/后背中鬃 ca. 3/5, 前背中鬃与后背中鬃间的距离为两前背中鬃间距离的 1/2。小盾片前鬃外伸, 后鬃内倾。SI ca. 0.25。前腹侧板鬃短且细。足黄色, 中足胫节具端鬃, 前中后 3 对足胫节均具亚端鬃。前足基跗节及第 2 跗节具似性梳状的鬃, 黄色, 比一般的性梳小得多, 基跗节长为其余各跗节长之和, 末跗节淡棕色。翅透明, 后横脉非烟色。R₂₊₃ 端稍弯向前缘脉, R₄₊₅ 与 M₁ 几乎平行。C₁-鬃 2 根, 上面一根更长, C ca. 3.7, 4C ca. 0.7, 4V ca. 1.6, 5X ca. 1.9, ac ca. 2.5, C3F ca. 2/5。平衡棒浅黄色。

腹部: 背板浅棕色, 每节具很窄的后缘黑横带。围阳体 (图 1) 黄色, 生殖弓具长鬃约 23 根, 被微毛, 下端尖。肛板亦具鬃及微毛, 下缘尖, 具约 6 根黑鬃。抱器 (图 2) 窄长, 亚端至亚中具 1 齿列, 约 10 齿, 端内侧具散生的方向向上的簇鬃。阳体 (图 3, 4): 阳茎不与后阳基侧突融合, 端部具簇毛, 前阳基侧突黄色, 侧面观“C”形。后阳基侧突融合呈屋脊

状,包着阳茎与前阳基侧突。

正模♂,云南昆明筇竹寺,1988-Ⅲ-11,梁醒财采。

鉴别特征:该种似三裂拱背果蝇 *Lordiphosa tripartita* (Okada) 1966,尤其表现在围阳体与阳体的结构上,但细微结构有所差别,另该种在胸部背板具2隐约可见的条纹。

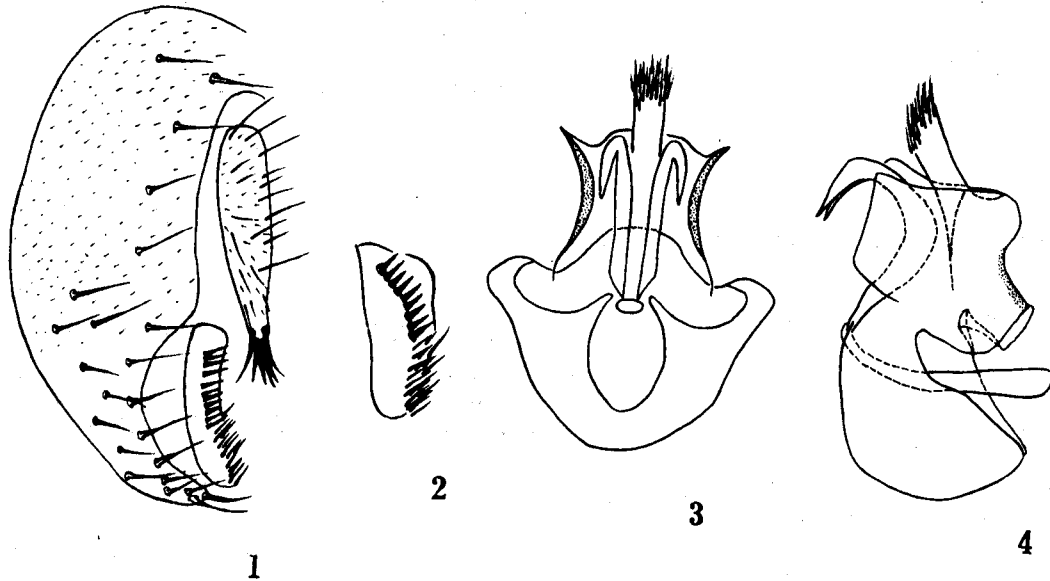


图1-4 条纹拱背果蝇 *Lordiphosa vittata* sp. nov.

1. 围阳体(侧面观)(periphallitic organs, lateral view); 2. 抱器(腹面观)(surstylus, ventral view); 3. 阳体(正面观)(phallic organs, ventral view); 4. 阳体(侧面观)(phallic organs, lateral view)

2. 利川果蝇 *Drosophila* (*Drosophila*) *lichuanensis*, 新种(图5-7)

雄:体长约3.0 mm,翅长约3.0 mm。棕色种。

头部:复眼红色,被密集的微毛。触角第2节浅棕色,具2根粗刚毛。第3节浅棕色。触角芒背侧4分枝毛,腹侧2分枝毛,中轴内侧具短毛,端叉中等大。下颚须浅棕色,顶端具1长刚毛,表面具散生的小毛。单眼三角区及额区棕色,单眼鬃长且外倾。口上片棕色。额为头宽的1/2。颜浅棕色,鼻瘤不达前缘。颊浅棕色。颊高约为复眼最大直径的1/5。 orb_1 与 vti 相比更靠近 orb_3 , orb_2/orb_1 ca. 2/5, orb_2 细,着生于 orb_1 与 orb_3 的外侧且近 orb_3 。 orb_3/orb_1 ca. 1, or_3/or_1 ca. 2/5。髯粗长, or_2 细且短, or_2/or_1 ca. 2/5。

胸部:背板浅棕色,背中鬃内侧具2棕色纵条纹,前方融合,背中鬃外侧棕色纵条纹仅达横沟处。小盾片浅棕色。侧板浅棕色。肩鬃2,上面1根更长。正中刚毛6列。背中鬃4对,额外的两对位于正常背中鬃之前,横沟前后各1对。两对中鬃位于背中鬃间、前背中鬃前。背中鬃和中鬃与第4对背中鬃的相对长度为:1st ca. 1/2, 2nd ca. 7/12, 3rd ca. 3/4, 前中鬃 ca. 5/12, 后中鬃 ca. 0.46。第1背中鬃与第2背中鬃间的距离、第2背中鬃与第3背中鬃间的距离、第3背中鬃与第4背中鬃间的距离为第3背中鬃间距离的1/2。小盾片前鬃内伸,后鬃内伸且交叉。SI ca. 0.55,中间的腹侧板鬃特别细短。足黄色,中足胫节具端鬃,前、中、后3对足胫节均具亚端鬃。前足基跗节长为其余各分跗节长之和,中、后

足基跗节长比其余各分跗节长之和更长。翅透明,前后横脉非烟色。 C_1 -鬃2,几乎等长。 R_{4+5} 与 M_1 几乎平行。 C ca. 2.6, $4C$ ca. 0.8, $4V$ ca. 1.4, $5X$ ca. 1.2, ac ca. 2.4, $C3F$ ca. 1。平衡棒灰白色。

腹部:背板浅棕色,节间膜及腹面灰白色。围阳体(图5)浅棕色,生殖弓被微毛,上部窄,端稍宽圆。下部具长鬃约10根。肛板具微毛及鬃毛,椭圆形,下角与生殖弓相连。抱器齿列具6齿。阳体(图6,7):阳茎正面观端部圆,侧叶呈喇叭状,侧面观似足形,端表面具小刺突。前阳基侧突透明,椭圆形,后阳基侧突缺。阳基内骨短小,棒状。生殖腹板方形,无亚中刺。

正模♂:湖北利川星斗山,800m,1989-VIII-4,梁醒财采。

鉴别特征:该种属 *quadrisetata* 种组,似 *D. (D.) potamophila* Toda & Peng 1989, $C3F$ 几乎占总长。但阳茎形状不同,且阳茎端表面具小刺突,下颚须端并不加宽,具前阳基侧突。尤其是生殖弓与肛板在下端相连,这一特征与 *D. (D.) multidentata* Watabe & Zhang 1990 相似,而 *robusta* 种组的种生殖弓与肛板相连,暗示着该新种与 *robusta* 种组间的系统发育关系。

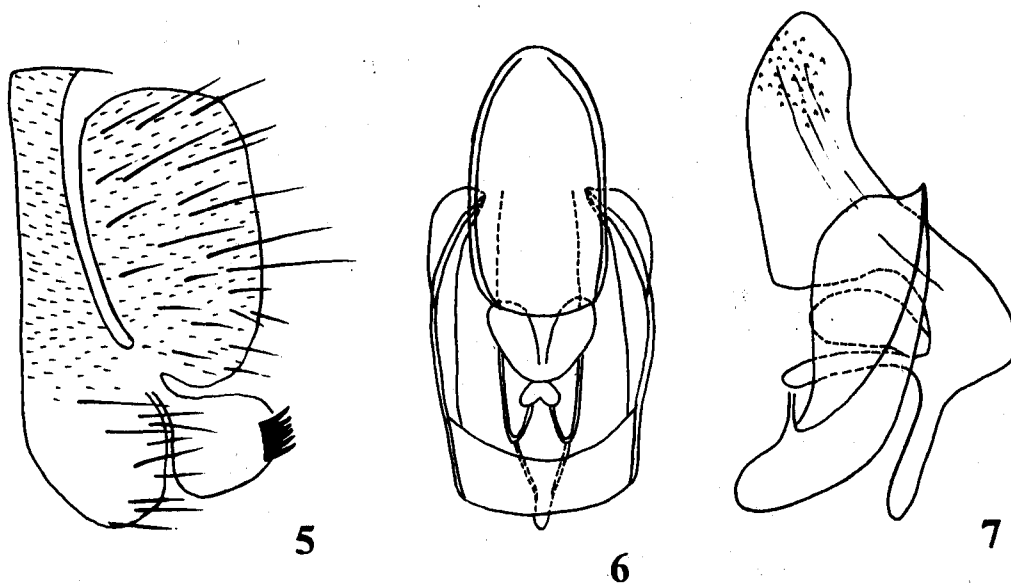


图 5-7 利川果蝇 *Drosophila (Drosophila) lichuanensis*, sp. nov.

5. 围阳体(侧面观)(periphalic organs, lateral view); 6. 阳体(正面观)(phallic organs, ventral view); 7. 阳体(侧面观)(phallic organs, lateral view)

3. 透茎果蝇 *Drosophila (Drosophila) perlucida*, 新种(图 8-12)

♂, ♀: 体长约 2.5 mm, 翅长约 2.5 mm, 黄棕色种。

头部:复眼红色,被密集的微毛。触角第2节浅棕色,具2根长刚毛,第3节灰黄色。触角芒背侧3-5分枝毛,腹侧2分枝毛,端叉小,中轴内侧具短毛。下颚须黄色,顶端具1长刚毛,表面具散生的小毛。单眼三角区及额棕色。单眼鬃长且外倾。口上片棕色。额为头宽的1/2。颜浅黄色,鼻瘤不达前缘,颊浅黄色,颊高约为复眼最大直径的2/9。 orb_1 与 vti 相比更靠近 orb_3 , orb_2/orb_1 ca. 1/2, orb_3/orb_1 ca. 3/4。髯着生处棕色,长且粗,其余口缘

鬃细弱, or_2/or_1 ca. 1/3。

胸部:背板棕色,背中鬃间具隐约可见的2条纹,条纹间色更浅,前方有时融合,背中鬃着生处色浅。小盾片棕色,侧板浅棕色。肩鬃2,上面1根更长。正中刚毛6列。背中鬃4对,额外的2对位于正常背中鬃之前,横沟前后各1对。2对中鬃位于背中鬃间、前背中鬃前。背中鬃和中鬃与第4对背中鬃的相对长度为:1st ca. 0.55 (0.44-0.7), 2nd ca. 0.5 (0.3-0.63), 3rd ca. 0.66 (0.6-0.73), 前中鬃 ca. 0.39 (0.2-0.55), 后中鬃 ca. 0.39 (0.3-0.5)。第1背中鬃与第2背中鬃间的距离、第2背中鬃与第3背中鬃间的距离、第3背中鬃与第4背中鬃间的距离分别为第3背中鬃间距离的0.49 (0.42-0.66)、0.46 (0.37-0.57)、0.47 (0.37-0.57)。小盾片前鬃内伸,后鬃内伸且交叉。SI ca. 0.57 (0.36-0.71)。足黄色,中足胫节具端鬃,前、中、后3对足胫节均具亚端鬃,基跗节长为其余各分跗节长之和。翅透明,前后横脉非烟色。 C_1 -鬃2,几乎等长。 R_{4+5} 与 M_1 几乎平行。 C ca. 2.97 (3.37-2.72), $4C$ ca. 0.77 (0.66-0.92), $4V$ ca. 1.57 (1.0-1.88), ac ca. 2.43 (2.0-3.0), $5X$ ca. 1.5 (1.2-1.75), $C3F$ ca. 0.73 (0.63-0.82)。平衡棒灰白色。

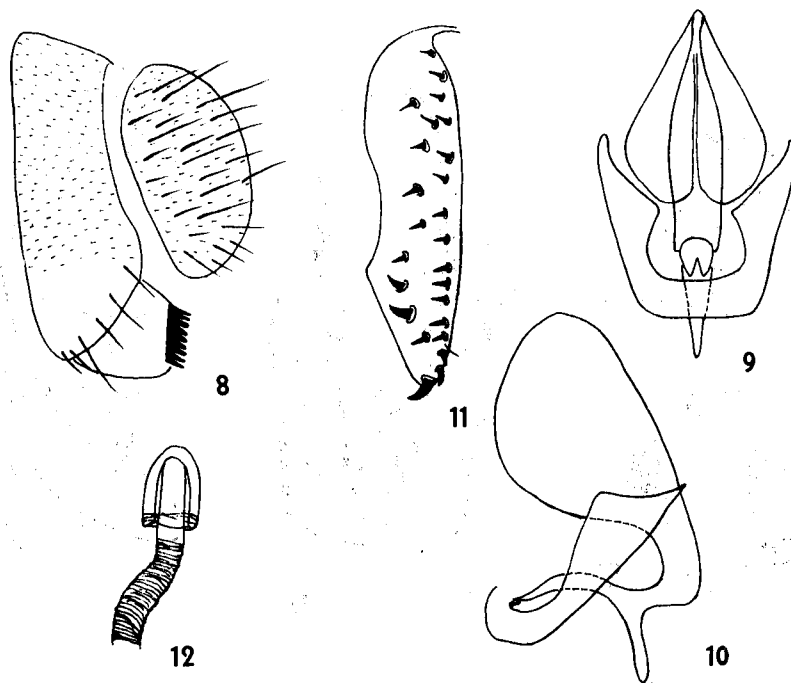


图8-12 透茎果蝇 *Drosophila (Drosophila) perlucida* sp. nov.

8. 围阳体(侧面观)(periphallial organs, lateral view); 9. 阳体(正面观)(phallic organs, ventral view); 10. 阳体(侧面观)(phallic organs, lateral view); 11. 导卵器(ovipositor); 12. 受精囊(spermatheca)

腹部:背板浅棕色,节间膜及腹面灰白色。围阳体(图8)黄色,生殖弓被微毛,下端圆,具鬃毛约6根。肛板椭圆形,具鬃毛及微毛,抱器具齿列,约9齿。阳体(图9、10):阳茎白色透明,中央稍裂开,正面侧面观均加宽,前后阳基侧突均缺。生殖腹板方形,无亚中刺。导卵器(图11)黄色,稍宽,端稍窄,端齿及2-3个盘齿粗大,缘齿约16,盘齿约8。受精囊(图12)加长,圆锥形,内陷深,基部具横皱。

正模♂,湖北鹤峰(下坪),870 m,1989-VI-29,梁醒财采。

配模♀,同上,副模3♂♂,11♀♀,同上。

鉴别特征:该种属 *quadrissetata* 种组,似 *D. (D.) beppui* Toda & Peng, 1989,尤其是围阳体与受精囊,但阳茎的结构似 *D. (D.) potamophila*,侧面正面观均加宽,白色透明,但下颚须端不加宽,导卵器与两种均不同。

参 考 文 献

- 张文霞,甘运兴. 1986. 昆明果蝇八新种描述(双翅目:果蝇科). 动物学研究, 7(4): 351-365.
- 张文霞. 双齿果蝇种组(*denticeps* species-group)的分类地位及4新种记述.(双翅目:果蝇科). 昆虫分类学报, 15(2): 144-154.
- Okada, T. 1971. Systematic and biological analysis of the *denticeps* group, with description of two new species (Diptera: Drosophilidae). *Bull. Biogeog. Soc. Jpn.* 26(5): 29-38.
- Okada, T. 1990. New taxonomic changes in the family Drosophilidae (Diptera), *Jpn. J. Ent.* 58(1): 154.
- Toda, M. J. & T. X. Peng. 1989. Eight species of the subgenus *Drosophila* (Diptera: Drosophilidae) from Guangdong Province, southern China. *Zool. Sic.* 6: 155-166.
- Watabe, H., X. C. Liang & W. X. Zhang. 1990. The *Drosophila polychaeta* and the *D. quadrissetata* species-groups (Diptera: Drosophilidae) from Yunnan Province, southern China. *Zool. Sic.* 7: 459-467.

THREE NEW SPECIES OF DROSOPHILID FLIES (DIPTERA: DROSOPHILIDAE) FROM YUNNAN AND HUBEI, CHINA

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Key words: Diptera, Drosophilidae, *Lordiphosa*, *Drosophila*, new species, Yunnan; Hubei

This paper deals with three new species of Drosophilid flies. All types are deposited in Kunming Institute of Zoology, Academia Sinica.

1. *Lordiphosa vittata* sp. nov. (Figs. 1-4)

This species is closely related to *Lordiphosa tripartita* (Okada) 1966. It is especially similar to the latter in shape of periphallallic and phallic organs, but differs from the latter in detail. ♂ cheek *ca.* 1/6 as broad as the greatest diameter of eye, or_2/or_1 *ca.* 1/2. Mesonotum brownish, with 2 obscure longitudinal stripes between dorsocentrals. Thoracic pleura brownish yellow. Scutellum brownish. SI *ca.* 0.25, anterior sternopleural short and

thin. C3F *ca.* 2/5. Abdominal tergites brownish, each tergites with narrow caudal black bands. Periphallial organs (Fig. 1) yellow, epandrium pubescent, with *ca.* 23 bristles, apically pointed. Cercus pubescent and setigerous, ventral margin tapering, with *ca.* 6 black large bristles. Surstylus (Fig. 2) long and narrow, with *ca.* 10 primary teeth in 1 row, with many recurved setae on caudoventral part. Phallic organs (Figs. 3, 4): aedeagus unfused to posterior paramere, apically hirsute. Anterior paramere yellow, C-shaped in lateral view. Posterior parameres fused in to a roof-shape.

Holotype ♂, Bamboo Temple, Kunming, Yunnan Province, 11-III-1988, collected by Liang Xingcai.

2. *Drosophila (Drosophila) lichuanensis* sp. nov. (Figs. 5-7)

♂ Body *ca.* 3.0 mm, wing *ca.* 3.0 mm in length. Palpus normal, with 2 long and numerous small setae. Mesonotum brownish, with 2 obscure longitudinal stripes connected before between dorsocentrals and 2 outside dorsocentrals only reaching suture. Two extra pairs of dorsocentrals present in front of usual ones. Two pairs of acrostichal bristles present between dorsocentral lines, arranged somewhat irregularly. Scutellum and thoracic pleura brownish. SI *ca.* 0.55, mid sternoplural especially short and thin. C *ca.* 2.6, ac *ca.* 0.8, C3F almost equal to 1. Periphallial organs (Fig. 5) brownish, with cercus fused to epandrium at submedian portion, epandrium pubescent, narrow in submedian to upper part, broad below; caudal margin of lower part round, with *ca.* 10 bristles in lower part. Surstylus quadrate, *ca.* 6 primary teeth in straight row on distal margin. Cercus pubescent and setigerous. Phallic organs (Figs. 6, 7) aedeagus foot-shaped in lateral view, trumpet in ventral view. Anterior paramere transparent, ellipsoidal. Posterior paramere absent. Apodeme short and thin. Novasternum without submedian spines. Ventral fragma arc-shaped. This species belongs to *quadrisetata* species-group, resembles *D. (D.) potamophila* Toda & Peng 1989 in having C3F almost equal to 1, but differs from the latter in the shape of aedeagus which with small spines at surface apically. Especially cercus fused to epandrium at submedian portion, this character likes that of *D. (D.) multidentata* Watabe & Zhang 1990. Since the cercus in the *robusta* species-group fuses to epandrium, the same type cercus found in *D. (D.) multidentata* and *D. (D.) lichuanensis*, implies the phylogenetic relationship between these two species and the *robusta* group.

Holotype ♂, Xingdou Mountain, Lichuan, Hubei Province, 800 m, 4-VII-1989, collected by Liang Xingcai.

3. *Drosophila (Drosophila) perlucida* sp. nov. (Figs. 8-12)

♂, ♀: Body *ca.* 2.5 mm, wing *ca.* 2.5 mm in length. Palpus normal, or_2/or_1 *ca.* 1/3. Mesonotum brown, with 2 obscure longitudinal stripes connected in front of mesonotum, paler between 2 stripes and the area of dorsocentrals. Scutellum brown.

Thoracic pleura brownish. Acrostichal setulae in 6 rows. Two extra pairs of dorsocentrals and acrostichal bristles present. SI *ca.* 0.57 (0.36-0.71). C *ca.* 2.97 (3.37-2.72), 4C *ca.* 0.77 (0.66-0.92), C3F *ca.* 0.73 (0.63-0.82). Periphallial organs (Fig. 8) pubescent, with *ca.* 6 bristles in lower part. Surstylus quadrate, with *ca.* 9 primary teeth in straight row on distal margin. Cercus oval, pubescent and setigerous. Phallic organs (Figs. 9, 10): aedeagus broad in both ventral and lateral views, transparent, slightly bilobed. Anterior and posterior parameres absent. Ventral fragma quadrate. ♀ reproductive organs: Ovipositor (Fig. 11) yellow, tapering at tip, medially narrow, with *ca.* 16 marginal teeth in somewhat irregularous and *ca.* 8 distal teeth and 1 short subterminal hair, several teeth larger. Spermatheca (Fig. 12) brown, elongate and conical, horizontally wrinkled basally; introvert deep. This species belonging to *quadrisetata* species-group, is somewhat close to *D. (D.) beppui* Toda & Peng 1989 in having similar periphallial organs and spermatheca, but differs from the latter in aedeagus and ovipositor, aedeagus broad in both ventral and lateral view, transparent. The aedeagus slightly similar to *D. (D.) potamophila*.

Holotype ♂, Xiaping, Hefeng, Hubei Province, 870 m, 29-VII-1989, collected by Liang Xingcai, allotype ♀, ditto. Paratypes: 3♂♂, 11♀♀, ditto.