

# 维蟋属分类研究及两新种记述

## (直翅目:蟋蟀科:距蟋亚科)

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**摘要:**对维蟋属 *Valiatrella* 进行了系统研究,并记述 2 新种:多突维蟋 *V. multiprotubera* sp. nov. (雄性, 云南) 和片维蟋 *V. laminaria* sp. nov. (雄性, 贵州); 同时报道中国 1 新记录种:姊妹维蟋 *V. sororia* (Gorochov, 2002) (贵州)。新种模式标本保存于河北大学博物馆。

**关键词:**直翅目; 蟋蟀科; 距蟋亚科; 维蟋属; 分类

中图分类号: Q969 文献标识码: A 文章编号: 0454-6296(2007)03-0281-05

### A taxonomic review on the genus *Valiatrella* Gorochov (Orthoptera: Gryllidae: Podoscirtinae) with descriptions of two new species

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**Abstract:** The genus *Valiatrella* Gorochov, 2005 was studied systematically. At present, it includes 3 species, of which only one species was reported from China. In this paper, we described two new species from China, *V. multiprotubera* sp. nov. (male, China: Yunnan) and *V. laminaria* sp. nov. (male, China: Guizhou), and a new record of *V. sororia* (Gorochov, 2002) in China (China: Guizhou). Type specimens of new species are deposited in the Museum of Hebei University.

**Key words:** Orthoptera; Gryllidae; Podoscirtinae; *Valiatrella*; taxonomy

维蟋属 *Valiatrella* 系 Gorochov(2005)为 *Valia* Gorochov, 1985 命名的新属名, 后者已由 Alekseev (1979)先用于膜翅目昆虫, 模式种为 *Valia pulchra* Gorochov, 1985。Gorochov(2002)曾报道采自越南的 1 新种, 姊妹维蟋 *Valiatrella sororia* (Gorochov, 2002), 并将 *Madasumma bimaculata* Chopard, 1928 移至维蟋属, 同时认为黄缘穴蟋 *Calypotrypus flavomarginatus* Hsia et Liu, 1992 是 *Valiatrella pulchra* (Gorochov, 1985)的同物异名。到目前为止, 维蟋属共记录 3 种; 中国仅记录 1 种: 丽维蟋 *Valiatrella pulchra* (Gorochov, 1985)。维蟋属已知分布范围包括中国南方、越南和不丹。

本文对维蟋属进行了系统地研究, 列出了分种检索表和种的分布地, 描述了 2 新种及 1 中国新记录种。新种模式标本保存于河北大学博物馆。

### 维蟋属 *Valiatrella* Gorochov, 2005

*Valia* Gorochov, 1985, *Nasekomye Vietnam* [Insects of Vietnam]: 20–22; Ingrisch, 1997, *Senkenberg. Biol.*, 77(1): 48; Gorochov, 2002, *Zoosyst. Ross.*, 10(2): 331–335. Preoccupied by Alekseev, 1979.

*Valiatrella* Gorochov, 2005, *Zoosyst. Ross.*, 13(2): 181; Otte et al., 2006, Orthoptera Species Online (Version 2.3).

**属征:**体中型, 较扁平。头小, 单眼不明显, 稍凹陷; 触角第 1 节明显宽于额突。前胸背板梯形, 基部较宽, 向端部渐窄, 背片两侧缘明显。前翅镜膜宽大于长, 端区较长; 后翅长于前翅。雄性肛上板或多或少分开, 呈裂叶状。雄性外生殖器稍不对称, 阳茎基背片端部背面具 1 对尖的向背方弯曲的小钩, 腹面具 1 对较大的向腹面弯曲的钩, 其上生 1 簇

基金项目: 国家自然科学基金项目(30670252); 河北大学校基金项目

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收稿日期 Received: 2006-05-22; 接受日期 Accepted: 2006-11-14

长毛;阳茎基外侧突稍骨化,囊形,位于阳茎基背片的近端部;导向杆较小,半膜质,缺明显的刚毛。

维蟋属与玛玳蟋属 *Madasumma* Walker, 1869 相

似,主要区别单眼不明显,前胸背板和雄性肛上板的形状以及雄性外生殖器的结构明显不同。

#### 维蟋属分种检索表

- |  |  |
|--|--|
| 1 雄性肛上板裂叶基部明显分开;体背面黑色或灰褐色              | 2  |
| 雄性肛上板裂叶基部稍分开;体背面浅黄色                    | 4  |
| 2 雄性肛上板裂叶片状,明显分开;外生殖器内突纤细              | 片维蟋 <i>V. laminaria</i> sp. nov.         |
| 雄性肛上板裂叶锥状,相互靠近;外生殖器内突粗大                | 3  |
| 3 体背面大部分黑色;雄性肛上板裂叶较长(见 Gorochoy, 2002) | 丽维蟋 <i>V. pulchra</i> (Gorochoy)         |
| 体背面大部分灰褐色;雄性肛上板裂叶较短(见 Gorochoy, 2002)  | 姊妹维蟋 <i>V. sororia</i> (Gorochoy)        |
| 4 雄性阳茎基背片基缘具 1 个片状突起,肛上板侧叶内缘具数个微小突起    | 多突维蟋 <i>V. multiprotuberata</i> sp. nov. |
| 雄性阳茎基背片基缘具 3 个片状突起,肛上板侧叶内缘缺小突起         | 双斑维蟋 <i>V. bimaculata</i> (Chopard)      |

#### Key to species of the genus *Valiatrella* Gorochoy

- |   |                                     |
|---|-------------------------------------|
| 1 Male supra anal plate with two lobes distinctly separated from each other at base; dorsum of body mostly black or grayish brown | 2                                   |
| Male supra anal plate with two lobes indistinctly separated from each other at base; dorsum of body mostly light yellow           | 4                                   |
| 2 Male supra anal plate lobes laminatus and far from each other; ectophallus apodeme thin   | <i>V. laminaria</i> sp. nov.        |
| Male supra anal plate lobes conical and near to each other; ectophallus apodeme stout   | 3                                   |
| 3 Dorsum of body mostly black; male supra anal plate lobes long (cf. Gorochoy, 2002)  | <i>V. pulchra</i> (Gorochoy)        |
| Dorsum of body mostly grayish brown; male supra anal plate lobes short (cf. Gorochoy, 2002)                                       | <i>V. sororia</i> (Gorochoy)        |
| 4 Male epiphallus with one lobe at proximal margin, supra anal plate lobes with several small protuberances along inner margins   | ...                                 |
| Male epiphallus with three lobes at proximal margin, supra anal plate lobes without protuberances along inner margins             | ...                                 |
| Male epiphallus with three lobes at proximal margin, supra anal plate lobes without protuberances along inner margins             | <i>V. multiprotuberata</i> sp. nov. |
| Male epiphallus with three lobes at proximal margin, supra anal plate lobes without protuberances along inner margins             | <i>V. bimaculata</i> (Chopard)      |

#### 1. 丽维蟋 *Valiatrella pulchra* (Gorochoy, 1985)

*Valia pulchra* Gorochoy, 1985, *Nasekomye Vietnama* [Insects of Vietnam]: 22–23; Gorochoy, 2002, *Zoosyst. Ross.*, 10(2): 332.

*Calyptotrypus flavomarginatus* Hsia et Liu, 1992, *Insects of Wuling Mountains Area, Southwestern China*. 106–107.

*Valiatrella pulchra*: Otte et al., 2006, *Orthoptera Species Online* (Version 2.3).

观察标本:中国贵州:道真(大沙河), 1♂, 2004. VIII. 17, 石福明采;中国湖南:通道(木脚), 1♂, 2004. VII. 26, 王继良采。分布:中国(贵州, 湖南);越南。

#### 2. 姊妹维蟋 *Valiatrella sororia* (Gorochoy, 2002) 中国新纪录

*Valia sororia* Gorochoy, 2002, *Zoosyst. Ross.*, 10(2): 332–334.

*Valiatrella sororia*: Otte et al., 2006, *Orthoptera Species Online* (Version 2.3).

观察标本:中国贵州:雷山(莲花坪) 4♂♂, 1♀, 2005. X. 14, 刘浩宇采;中国贵州:雷山(莲花坪) 10♂♂, 2005. X. 15, 石福明采;中国贵州:雷

山(方祥), 1♂, 2005. X. 18, 石福明采。

分布:中国(贵州);越南。

#### 3. 双斑维蟋 *Valiatrella bimaculata* (Chopard, 1928)

*Madasumma bimaculata* Chopard, 1928, *Rec. Indian Mus* 30: 32–33.

*Calyptotrypus bimaculatus*: Chopard, 1968, In: Beier ed. *Orthopterorum Catalogus*, 12: 366.

*Valia bimaculata*: Gorochoy, 2002, *Zoosyst. Ross.*, 10(2): 34.

*Valiatrella bimaculata*: Otte et al., 2006, *Orthoptera Species Online* (Version 2.3).

未见标本。

分布:不丹。

#### 4. 多突维蟋, 新种 *Valiatrella multiprotuberata* sp. nov.

(图 1~2, 5~10)

雄性:体中型,被绒毛,浅黄色。头较小,红褐色,头顶微凹。触角浅褐色,柄节宽于额突。复眼中部具 1 条黄色横带;中单眼卵圆形,微凹,侧单眼不明显。后缘微凸,侧隆线明显;侧片前、后下角钝

圆,下缘较凸(非半圆形);盘区淡红褐色,前端具 1 对小的浅色圆斑,中部具 1 对较大的椭圆形黑斑;侧片黄色,下缘黑色,上缘沿侧隆线具浅褐色纵带纹。足黄色,前足胫节外侧近基部具黑斑,基部膨大,外侧听器方圆形,内侧听器裂缝状。后足胫节背面及第 2 跗节暗红色,胫节内、外侧分别具 6、5 枚背刺,刺间具小刺。前翅长,超过腹端,黄色,基区中部和多数翅脉暗红色,索区具 1 浅色斑;镜膜发达,宽大于长,具 1 条分脉,6~7 条斜脉;端区较发达,具不很规则的网状脉。后翅长于前翅,黄色。

后胸背腺发达(图 9),黄色。肛上板短,侧叶不明显,后缘内侧色较暗,生许多长毛和数个小突起(图 10)。尾须长,黄色。下生殖板较宽短,端部较尖,略翘起(图 8)。外生殖器骨化较强,端部稍不对称(图 5~7)。

雌性:未知。

体长:♂ 13.5 mm;全长(包括后翅):♂ 21.5 mm;前胸背板长:♂ 3.2 mm;前翅长:♂ 17.0 mm;后足股节长:♂ 10.5 mm。

正模♂,云南:瑞丽(勐秀)(24°06'N,97°50'E),2005.VIII.3,刘浩宇采。

该新种与 *V. bimaculata* (Chopard, 1928) 相似,主要区别:阳茎基背片前缘具 1 片状突;前胸背板盘区不具褐色中线,具 1 对圆形小黑斑和 1 对椭圆形较大的黑斑;前足胫节仅外侧近基部具较大黑斑,其余部分为浅黄褐色;雄性肛上板侧叶内缘具数个黑色小突起。

词源:依据雄性肛上板侧叶内缘具数个黑色小突起命名。

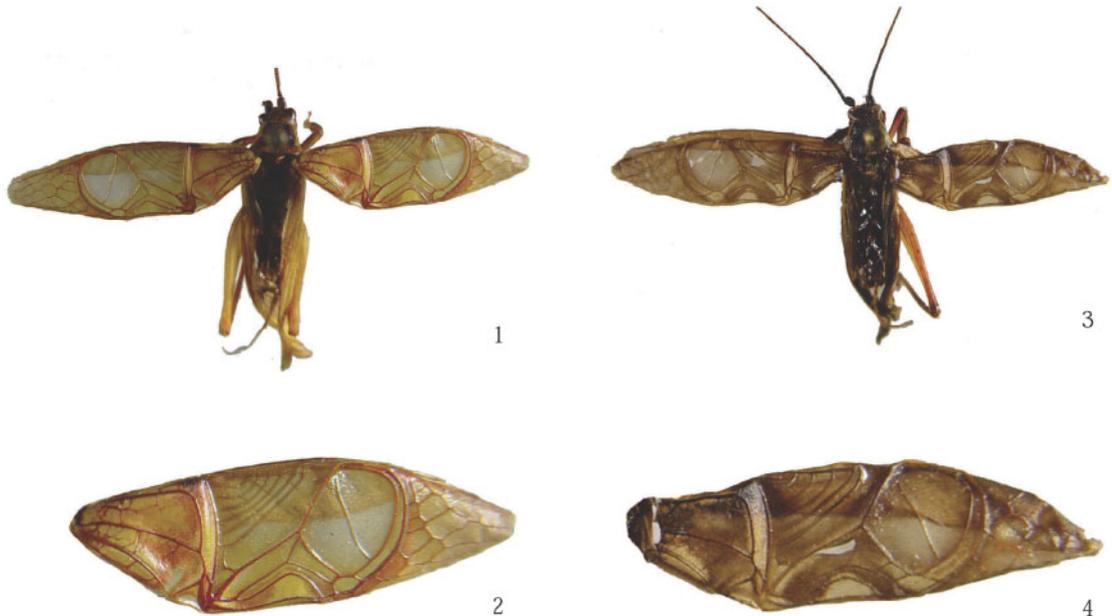


图 1~4 多突维蟋 *Valiatrella multiprotubera* sp. nov. (1, 2) 和片维蟋 *Valiatrella laminaria* sp. nov. (3, 4)

Figs. 1-4 *Valiatrella multiprotubera* sp. nov. (1, 2) and *Valiatrella laminaria* sp. nov. (3, 4)

1, 3: 雄性成虫, 背面观 Male adult, dorsal view; 2, 4: 雄性右前翅, 背面观 Male right tegmen, upper side.

#### 5. 片维蟋, 新种 *Valiatrella laminaria* sp. nov. (图 3~4, 11~16)

雄性: 体中型, 较扁平, 褐色。头背面暗褐色, 腹面黄褐色。触角基部数节黑色, 其余部分黄褐色, 额突稍窄于柄节。复眼杂色, 头部复眼前方具 1 条浅色眼后带, 单眼不明显。下唇须和下颚须端部膨大, 黄褐色, 下颚须端部 2 节暗褐色。前胸背板梯形, 前缘窄, 较直, 后缘微凸; 侧片的前、后下角钝圆, 下缘略凸; 盘区黑褐色, 前缘和侧缘黄色, 侧片

黄色, 上、下缘黑色。3 对足股节黄褐色; 前足胫节黑色, 近基部膨大, 外侧听器椭圆形, 内侧听器裂缝状; 中足胫节黑色; 后足胫节、跗节褐色, 后足胫节内、外侧分别具 5、6 枚背刺, 刺间具小刺, 基跗节长约等于其余两节之和。前翅褐色, 在基区、索区和发声脉处各具 1 浅色斑; 镜膜发达, 宽稍大于长, 具 1 条分脉, 5~6 条斜脉; 端域较短, 具不规则翅脉。后翅长于前翅, 黄褐色。

后胸背腺深暗褐色, 其上生许多长毛(图 15)。

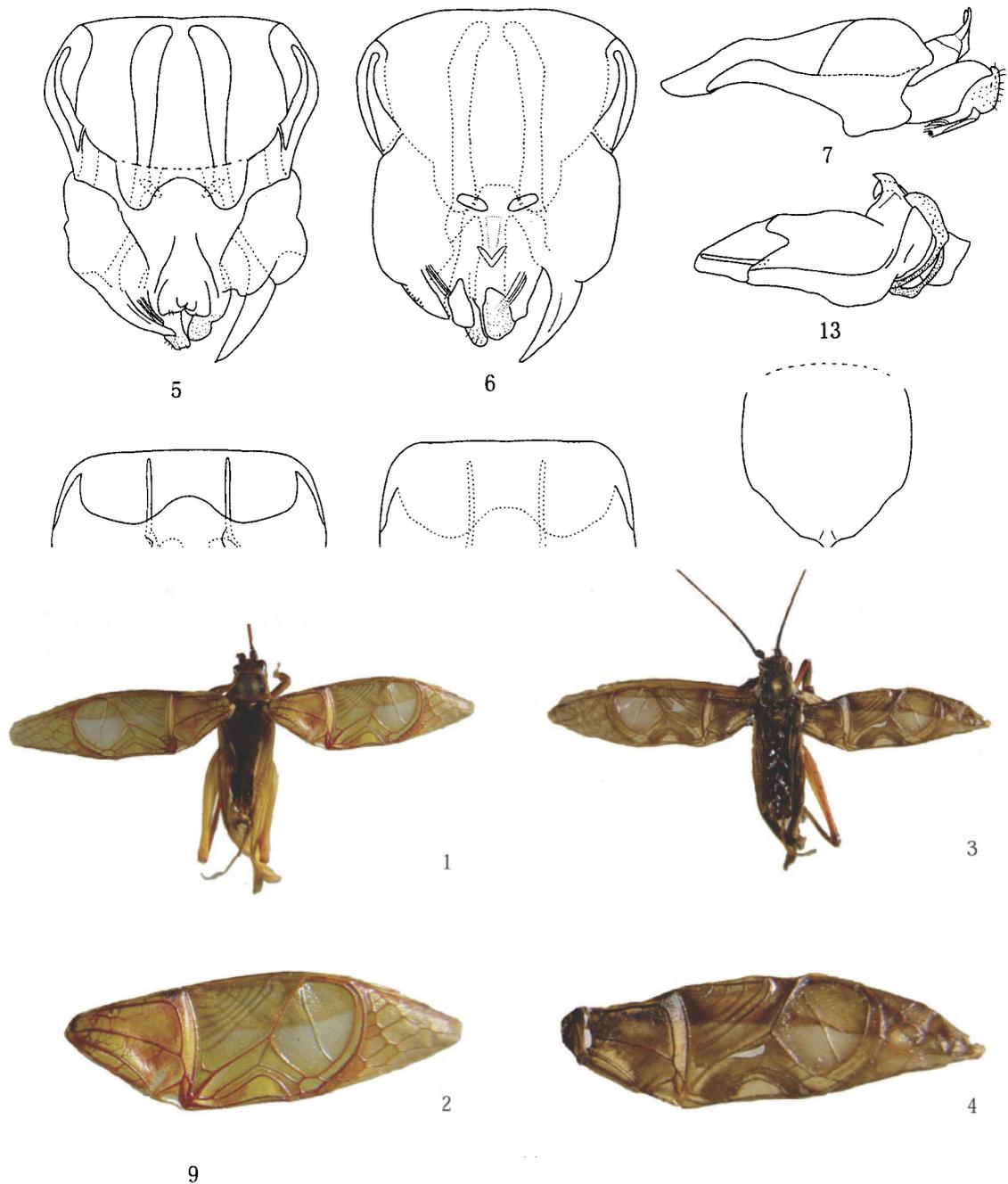


图 5~16 多突维蟋 *Valiatrella multiprotubera* sp. nov. 新种(5~10)和片维蟋 *Valiatrella laminaria* sp. nov. 新种(11~16)

Figs. 5-16 *Valiatrella multiprotubera* sp. nov. (5-10) and *Valiatrella laminaria* sp. nov. (11-16)

5, 11: 雄性外生殖器背面观 Male genitalia, dorsal view; 6, 12: 雄性外生殖器腹面观 Male genitalia, ventral view; 7, 13: 雄性外生殖器侧面观 Male genitalia, lateral view; 8, 14: 雄性下生殖板腹面观 Male subgenital plate, ventral view; 9, 15: 雄性后胸背腺背面观 Male menotal gland, dorsal view; 10, 16: 雄性肛上板背面观 Male supra anal plate, dorsal view.

肛上板较短, 两侧叶片状, 明显分离, 内侧被有许多黑色短毛(图 16)。下生殖板较宽, 端部中央变窄(图 14)。外生殖器骨化较弱, 内突不发达(图 11~13)。

雌性: 未知。

体长: ♂ 14.5 mm; 全长(包括后翅):

♂ 23.0 mm; 前胸背板长: ♂ 3.0 mm; 前翅长: ♂ 18.2 mm; 后足股节长: ♂ 10.7 mm。

正模♂ 贵州: 道真(大沙河) (28°53'N, 107°36'E) 2004. VIII. 24, 石福明采。

该新种与 *V. pulchra* (Gorochov, 1985) 相似, 主要区别: 雄性外生殖器内突较细且短; 3 对足股节

完全黄褐色；前胸背板侧片黄色；雄性肛上板两侧叶较短，片状。

词源：种名根据雄性肛上板侧叶呈片状命名。

**致谢** 在对维蟋属的研究中，A. V. Gorochov 博士（俄罗斯）和 S. Ingrisch 博士（德国）提出了宝贵意见，并馈赠了部分文献，谨致谢意。

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### Appendix: Generic diagnosis and brief descriptions of new species

**Generic diagnosis:** Body medium-sized, dorso-ventrally depressed. Head rather small, ocelli somewhat concave, indistinct. Antennae with scapus distinctly broader than rostrum. Pronotum trapeziform, narrow in front, gradually widened backwards, disc with distinct lateral margins. Mirror wider than long, apical area of tegmina quite long; hind wings longer than tegmina. Male supra anal plate more or less bifurcated. Male genitalia slightly asymmetric, apex of epiphallus with a pair of small curved upwards acute hooks, and a pair of large curved downwards hooks and with a distinct tuft of very long setae; ectoparameres more or less sclerotized, almost sac-like, situated near distal part of epiphallus; guiding rod rather small, membranous, without distinct setae.

#### *Valiatrella multiprotubera* sp. nov. (Figs. 1–2, 5–10)

This new species is similar to *V. bimaculata* (Chopard, 1928), but differs in: epiphallus with a protuberance at anterior margin; pronotum without brown middle line, but with a pair of small, round dark spots and a pair of large, oval dark spots; outer side of fore tibiae only with a larger black spot near to base, other part yellowish brown; supra anal plate lobes with several blackish small protuberances along inner margins.

Length of body: ♂ 13.5 mm; length of body with wings: ♂ 21.5 mm; length of pronotum: ♂ 3.2 mm; length of tegmina: ♂ 17.0 mm; length of hind femora: ♂ 10.5 mm.

Holotype: ♂, Mengxiu, Ruili, Yunnan, China (24°06'N, 97°50'E), 3 Aug. 2005, collected by LIU Hao-Yu.

Etymology: “*multi*” (Latin) = many, “*protubera*” (Latin) = protuberance. The specific name refers to supra anal plate lobes with several small protuberances along inner margins in the new species.

#### *Valiatrella laminaria* sp. nov. (Figs. 3–4, 11–16)

This new species is close to *V. pulchra* (Gorochov, 1985), but differs in: ectopallus apodeme short and thin; femur entirely yellowish brown; lateral lobes of pronotum yellow; lateral lobes of supra anal plate short and laminatus.

Length of body: ♂ 14.5 mm; length of body with wings: ♂ 23.0 mm; length of pronotum: ♂ 3.0 mm; length of tegmina: ♂ 18.2 mm; length of hind femora: ♂ 10.7 mm.

Holotype: ♂, Dashaha, Daozhen, Guizhou, China (28°53'N, 107°36'E), 24 Aug. 2004, collected by SHI Fu-Ming.

Etymology: The specific name refers to laminatus lobes of supra anal plate in the new species.

**Acknowledgements** The authors are very grateful to Dr. A. V. Gorochov (Russia) and Dr. S. Ingrisch (Germany), who gave much valuable advice and provided with some references during our study.