

广西产钩蚕蛾属三新种 (鳞翅目: 蚕蛾科)

Three New Species of *Mustilia* from Guangxi (Lepidoptera: Bombycidae)

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摘要 描述来自广西龙胜天平山及兴安猫儿山的钩蚕蛾属 (*Mustilia*) 三新种: 半灰钩蚕蛾 *M. semiravida* Yang, 顶瘤钩蚕蛾 *M. terminata* Yang 及秃顶钩蚕蛾 *M. glabrata* Yang。附雄蛾及外生殖器图片, 与近似种进行了比较, 讨论了此属分类鉴定中的问题。

关键词 鳞翅目 蚕蛾科 钩蚕蛾属 新种

The Bombycidae is a small family of Lepidoptera, but rich in China. The genus *Mustilia* Walker with four species in the Himalayas and India, it is an Oriental Region genus, but some of them extending into the Palearctic Region. Although the Indian species *M. sphingiformis* Moore has been recorded from some provinces of China, but it's not true, perhaps they are species complex and contain many different species, and even mix with other genus. In the present paper the author described three species of *Mustilia* from Guangxi Zhuang Autonomous Region, all are new to science, and the type specimens are kept in the Insect Collections of Beijing Agricultural University.

1 *Mustilia semiravida* Yang, sp. nov. (Figs. 1, 4)

Holotype ♂, Mt. Maershan 2 100 m, August 20, 1992, collected by Yang Jikun and Yang Chunqing.

Male: length of body 23 mm, expanse of wings 52 mm. A robust species with typical characters of this genus, but antennae bipectinated to two-fifth length. Head and thorax yellowish-brown, scapulae

grey, abdomen dark red brown, Forewing much produced at apex, inner half to the postmedial line entirely grey, a black spot at end of cell; the outer half from postmedial line to outer margin red brown, and with reins brownish-yellow distinctly, Hindwing brownish-yellow, the inner half red-brown. Male genitalia (Fig. 4) tegumen with a pair of slender and curved lateral processes, the uncus bicornted, valve with costa tubercle short and broad.

This new species distinguished from other species of this genus by the forewing with red-brown and grey colours half and half distinctly.

2 *Mustilia terminata* Yang, sp. nov. (Figs. 2, 5)

Holotype ♂, Huaping: Hongtan, June 12, 1963 collected by Yang Jikun.

Male: length of body 23 mm, expanse of wings 52 mm, A red-brown species closely allied to the *Mustilia orthocosta* Yang from Zhejiang province described recently, but differs by the basal half of costal margin of forewing slightly inflected. Male genitalia (Fig. 5) valva with the tubercle of costa near to the apex, and larger than the above new species (*M. semiravida* Yang), the lateral processes of tegumen

much stout and hook-like curved.

3 *Mustilia glabrata* Yang, sp. nov. (Figs. 3, 6)

Holotype ♂, Mt. Maershan 2 100 m, August 19, 1992 collected by Yang Jikun and Yang Chunqing at light. Paratypes: 2 ♂♂ as the holotype; and 2 ♂♂, Xing'an County: Huajiang, August 25, 1992 collected by Yang Jikun.

Male: length of body 19~20 mm, expanse of wings 46~50 mm. Body red-brown, except the meso- and postthorax chiefly grey in colour. Forewing yellowish-brown with distinct dark brown maculations, hindwing with the costal half orange yellow, and inner half red-brown, with two dark brown lines. Allied to the type species of this genus *M. falci pennis* Walker from Sikkim, but differs by the inner and postmedial lines much sharp angled below the costa. The bipectinated part of antenna also shorter than half of length. Male genitalia (Fig. 6) very different by the uncus, and valv simple without costa tubercle.

Key words Lepidoptera, Bombycidae, *Mustilia*, new species

鳞翅目(Lepidoptera)的蚕蛾科(Bombycidae)是主产于亚洲的一个小类群,中国的区系最丰富,包括世界闻名的家蚕 *Bombyx mori* (L.) 和未经饲养驯化的野生种野蚕 *B. mandarina* (Moore), 以及为害桑树的桑蠹(*Rondotia menciaana* Moore)等在内,已知有30余种。钩蚕蛾属(*Mustilia* Walker)是东洋区的属,特别是在印度北部较多,记载有4种,其中 *M. falci pennis* Walker 也向西北部延伸到古北区。我国曾记载有印度种 *M. sphingiformis* Moore, 称为“钩翅楮蚕蛾”分布于福建^[1]和湖南、广西、云南、西藏^[2]; 但从其描述和图片来看均非该种,而是多种混淆的复合体。

钩蚕蛾属的特征是体型较大,翅展一般在50 mm左右,印度种大的可达90 mm;前翅的顶角极突出呈镰刀状,属模式种 *M. falci pennis* Moore 的本名即为镰翅之意,体型颇似某些钩蛾科的种类,故属名不按其原意 must- (新鲜)而称之为钩蚕蛾属。前翅前缘直或基半微凹,外缘在凸出的顶角下深凹,臀角明显;翅脉 Cu_2 出自中室后缘中部, Cu_1 与 M_3 远离, M_2 位于中室端的中上部, M_1 与 R_{2-5} 共柄出自中室上角, R_1 则稍靠内。后翅短阔,前缘弧弯,臀角圆

突,内缘微凹;翅脉 Cu_2-M_2 同前翅, M_1 与 R_2 紧靠出自中室上角, $Sc+R_1$ 与中室前缘近基部由一短的斜脉(实为 R_1 的基段)相连。触角较短,约为前翅前缘的1/3长,基半部长,双栉状,端半部极短的锯齿状;下唇须短小,不伸过额端;喙短小,但不微弱。雄外生殖器的背兜宽阔,钩形突端分2叶,且一对上弯的背兜侧突,抱器背端具凹洼和突起,阳茎基环下方具一对多刺的叉突。

钩蚕蛾属的幼期仅印度的 *M. phaeopera* Hampson 有记载,寄主为山茶属 *Camellia caudata* 植物。我国的这类蚕蛾较多,最近曾记述了浙江等地的种类并分出一新属;本文仅描述广西的3新种,模式标本均保存在北京农业大学昆虫标本馆。

1 半灰钩蚕蛾,新种 *Mustilia semiravida* Yang, sp. nov. (图 1, 4)

雄体长23 mm,翅展52 mm。头部复眼大,灰褐色具黑斑;额区三角形,与下唇须均呈黄褐色;触角基部一小半双栉状,主干背面及触角基部均呈银白色,鞭节栉支及触角端半黄褐色。胸部黄褐,肩片多灰色鳞毛;前翅顶角极度突伸,翅前缘基半微凹,前翅外缘至外横线呈红褐色,其间的翅脉黄褐色极显著;外横线以内至翅基为灰色,仅前缘有狭窄的红褐色边,中室端一小黑点并沿脉略延伸呈三岔。后翅黄褐色,外缘中部至内缘为红褐色,横线均不完整。腹部暗红褐色,雄外生殖器(图4)背兜侧突细长而钩弯,中段较粗,钩形突端部呈V形凹缺成二尖端;抱器端部渐窄而圆突,抱器背具短而宽的瘤突,基部的一对叉突狭长而尖,密生小刺。

新种前翅内半灰色而易与同属其他种区分,故以此特点为名。

正模♂,广西猫儿山2 100 m,1992-08-20。杨集昆,杨春清采于灯下。

2 顶瘤钩蚕蛾,新种 *Mustilia terminata* Yang, sp. nov. (图 2, 5)

雄体长23 mm,翅展52 mm。头部红褐色,复眼灰褐具大黑斑;触角基部及双栉状部分的主干白色,栉支及触角端部大半均黄褐色。胸部和腹部均为红褐色。前翅前缘微凹,顶角甚突出,翅尖至中室端的端半红褐色,基半包括后缘则为黄褐色,横线较明显,中室一小黑圆点不沿脉伸展。后翅前半黄褐色而后半红褐,有2条明显的横线。雄外生殖器(图5)背兜侧突粗壮而较均匀,向上钩弯;钩形突顶端V形深

裂；抱器宽大而端圆，背缘近顶端具大瘤突；基部的对叉突密生粗刺而端部较宽。

正模♂，广西花坪红滩，1963-06-12 杨集昆采于灯下。

此新种与浙江的直缘钩蚕蛾 *M. orthocosta* Yang 较近，但该种前翅前缘平直，雄抱器背的瘤突不近顶端等特点而易区分。新种抱器背的瘤突靠近顶端而以此作为种名。

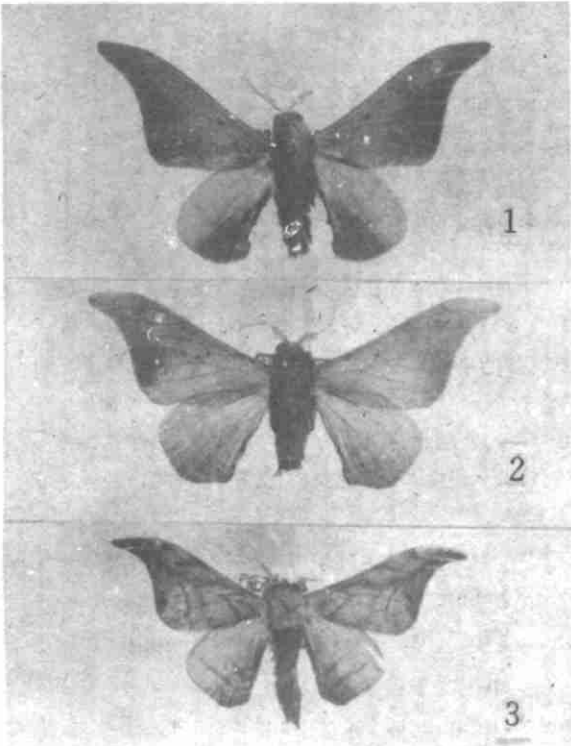


图1~3 广西钩蚕蛾属三新种 (♂♂)

Fig. 1~3 Three new species of *Mustilia* from Guangxi

(♂♂)

1. 半灰钩蚕蛾 *Mustilia semiravida*, sp. n.
2. 顶瘤钩蚕蛾 *M. terminata*, sp. n.
3. 秃顶钩蚕蛾 *M. glabrata*, sp. n.

3 秃顶钩蚕蛾，新种 *Mustilia glabrata* Yang, sp. nov. (图3, 6)

雄体长19~20 mm，翅展46~50 mm。头部红褐色，复眼灰褐具黑斑；触角黄褐色。前胸红褐色，中后胸灰黄，后胸后缘及腹部红褐色。前翅前缘明显凹，顶角甚突伸且尖，翅黄褐色而具明显的暗褐色横线，横线的下半段波状弯曲，上半段则锐折成尖角而伸到前缘；中室端具一黑斑，并向两侧延伸成一黑带，外端沿外横线而向上伸长，翅外缘红褐色。后翅前半橙黄色，后半红褐色，具2条明显的暗褐色横线。雄外生殖器(图6)背兜侧突向上钩弯，抱器端部渐尖，背缘缺瘤突而只有短凹洼；基部的一对叉突极宽大，密生粗刺。

广西科学 1995年11月 第2卷第4期

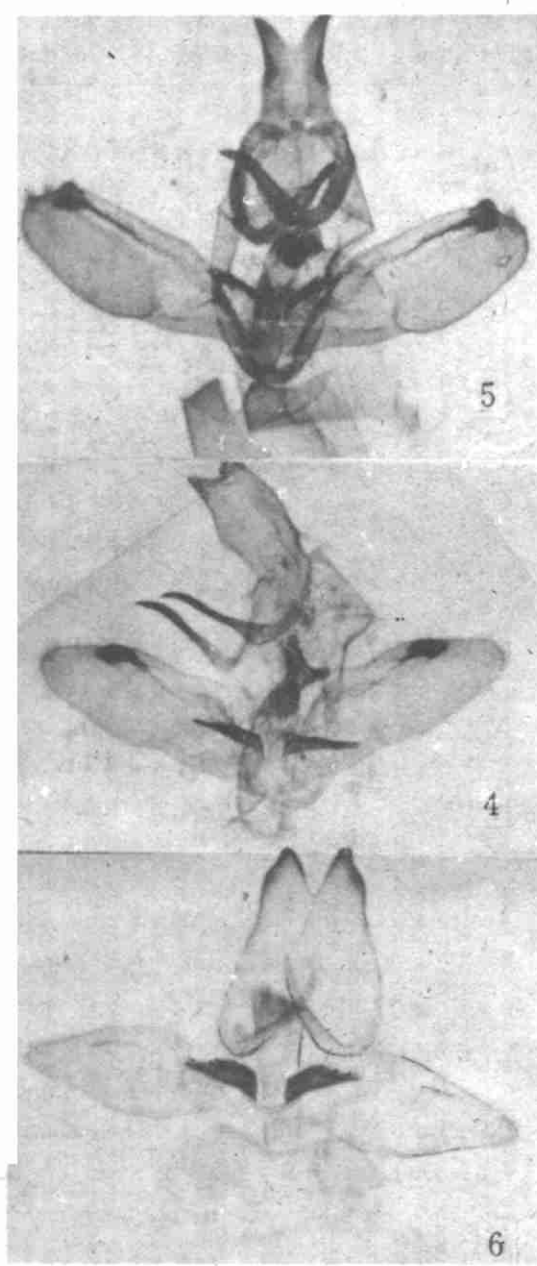


图4~6 广西钩蚕蛾属雄外生殖器

Fig. 4~6 Male genitalias of *Mustilia* from Guangxi

1. 半灰钩蚕蛾 *Mustilia semiravida*, sp. n.
2. 顶瘤钩蚕蛾 *M. terminata*, sp. n.
3. 秃顶钩蚕蛾 *M. glabrata*, sp. n.

正模♂，广西猫儿山2100 m，1992-08-19 杨集昆、杨春清灯诱；副模2♂♂，同正模；另有副模2♂♂，广西兴安县华江乡，1992-08-25 杨集昆采自灯下。

新种前后翅颜色和斑纹与前二种极易区分，外生殖器的特点亦甚鲜明，抱器缺瘤突即可区别于其他种而以此命名。但新种的处貌与锡金的 *Mustilia flacipennis* Walker 则相似，该种前翅的内外横线上段折向前缘明显较新种为钝，而内横线的末端则又明显外折，故可区分。

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down, wagging from left to right, of which movements especially with respect of the symmetrical positions of the ears are of benefit for detecting the sound source of the prey more precisely by creating time and tone differences. [4]

Their legs are relatively long. The feathers are very soft. The leading edges of the wings are frayed like tassels, and the barbules of the feathers are elongated, thus covering the feathers with fluffy coats, and providing an acoustical damping layer, so that sound and air turbulence are much minimized. The mimicry of body colouration (sandy brown) and the soundless flight further facilitate their feeding process.

4 Economic Significance and Rearing Management

In captive feeding, a Little Owl is found to consume 49.7 g of meat for one day [5]. On this basis an owl of this species would have consumed 18 141 g of meat for one year or 900 rats of 20 g in weight. The owl is thus estimated to save about 1.7 tons of grains from being consumed by rats. If seasonal influences are considered, one Little Owl would have devoured 238 rats, 5 small birds, 31 insectivora and 580 in-

sects, etc. Although they sometimes devoured some beneficial animals (such as *Sorex* spp.), it is considered insignificant as compared with the large amount of rats and insects. Hence, the Little Owls are beneficial birds, which are widely spread in the field especially near the human habitations. They are well worthy to be utilized as natural enemies of field rats and insects. They are now listed as Key Protected Species in China. Finally, we suggest that the most important tasks for protecting the Little Owls lie in protecting their breeding habitats, and carrying on active propaganda among the masses conserving the benefits of owls, and at the same time eradicating all the unfounded superstitions about the owls. All directors and scientists of the nature reserves in China should be adequately informed as to the importance of protection.

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致谢

蒙广西科学院尤其做教授多次配合与大力支持, 北京药植所杨春清女士协助猫儿山采集与拍照, 一并顺致谢意。

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