

A New Species of the Genus *Orvasca* Walker (Lepidoptera: Lymantriidae) from Hainan

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Abstract: One new species of the genus *Orvasca* Walker, e. g., *O. heterocolor* sp. nov. is described from Hainan Island, China. The new species clearly differs from its allied species by hindwing basal half light grey, distal half pale yellow; valva deeply bifid, the dorsal arm broad, rectangular, the ventral arm rather small, triangle-shaped; aedeagus straight, concave near the apex; vesica expanded, with numerous spinules. Images of adult and male genitalia are provided.

Key words: Lepidoptera; Lymantriidae; *Orvasca*; new species; Hainan Island

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海南澳毒蛾属 *Orvasca* Walker (鳞翅目: 毒蛾科) 一新种

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摘要: 描述了海南澳毒蛾属 *Orvasca* Walker 一新种, 即异色澳毒蛾 *O. heterocolor* sp. nov. . 新种与近似种的主要区别在于后翅基半部浅灰色, 端半部淡黄色; 抱器瓣深分叉, 背侧一壁宽大, 长方形, 腹侧一壁相当小, 三角形; 阳茎直, 近端部凹陷; 阳茎端膜膨大, 密被微刺. 提供了成虫和雄性生殖器图片.

关键词: 鳞翅目; 毒蛾科; 澳毒蛾属; 新种; 海南岛

Orvasca Walker, with the type species *O. subnotata* Walker, 1865, belongs to Nygmiiini of Lymantriidae, which has been known from the Indo-Australian Region. The genus was originally proposed in the Limacodidae. Subsequently, it was transferred to the Liparidae, now Lymantriidae, by Moore^[1]. Many members of the genus were formerly placed in *Euproctis* Hübner. Some scholars reviewed the genus *Orvasca* and reported 22 species including 13 Borneo species^[2-7]. Some species within the genus have similar facies to those of *Somena* Walker and *Nygmia* Hübner, but this genus can well be defined by male genital characters: uncus typically short, usually with a rugose protrusion at the ventral side; valva

bifid, often deeply divided, bifurcation always rather unequal; juxta with a flap between the saccular bases of valva and aedeagus sometimes with an apical spur^[2].

Hainan Island, situated at the southern extremity of China, is considered as a hotspot region of biodiversity research^[8]. The taxonomy of Lymantriidae has been studied in the island^[9-11]. To date, however, no species of *Orvasca* has been reported from this region. In the faunistic surveys on moths of Hainan Island at the beginning of April, 2009, we collected three specimens of this genus. Examination of the male genitalia shows that they represent a new species and are herein described and illustrated.

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Materials and methods

The adults were collected by light trapping during the nighttime from Jianfengling National Nature Reserve of Hainan Island. Photograph of adult was taken using a Nikon Coolpix 990 digital camera after spreading wings. Genitalia was dissected in water after the abdomen was macerated in boiled 10% potassium hydroxide for 3–4 min. The dissected genitalia was mounted on sliders in glycerin. The image of genitalia was taken by a Coolsanp camera which connected to a computer and a Carl Zeiss Axio Imager A1 microscope. All the images were dealt with Adobe Photoshop 6.0. Specimens examined were deposited in the Department of Entomology, College of Resources and Environment, South China Agricultural University, Guangzhou, China.

Orvasca heterocolor sp. nov.

Holotype. ♂, Jianfengling National Nature Reserve, Hainan Province, China, 11-IV-2009, leg. Houshuai Wang. Paratypes: 2 ♂, Jianfengling National Nature Reserve, Hainan Province, China, 13-IV-2009, leg. Min Wang.

Description. Male adult (Fig. 1): Wingspan 20 mm, forewing length 9 mm. Head covered with pale

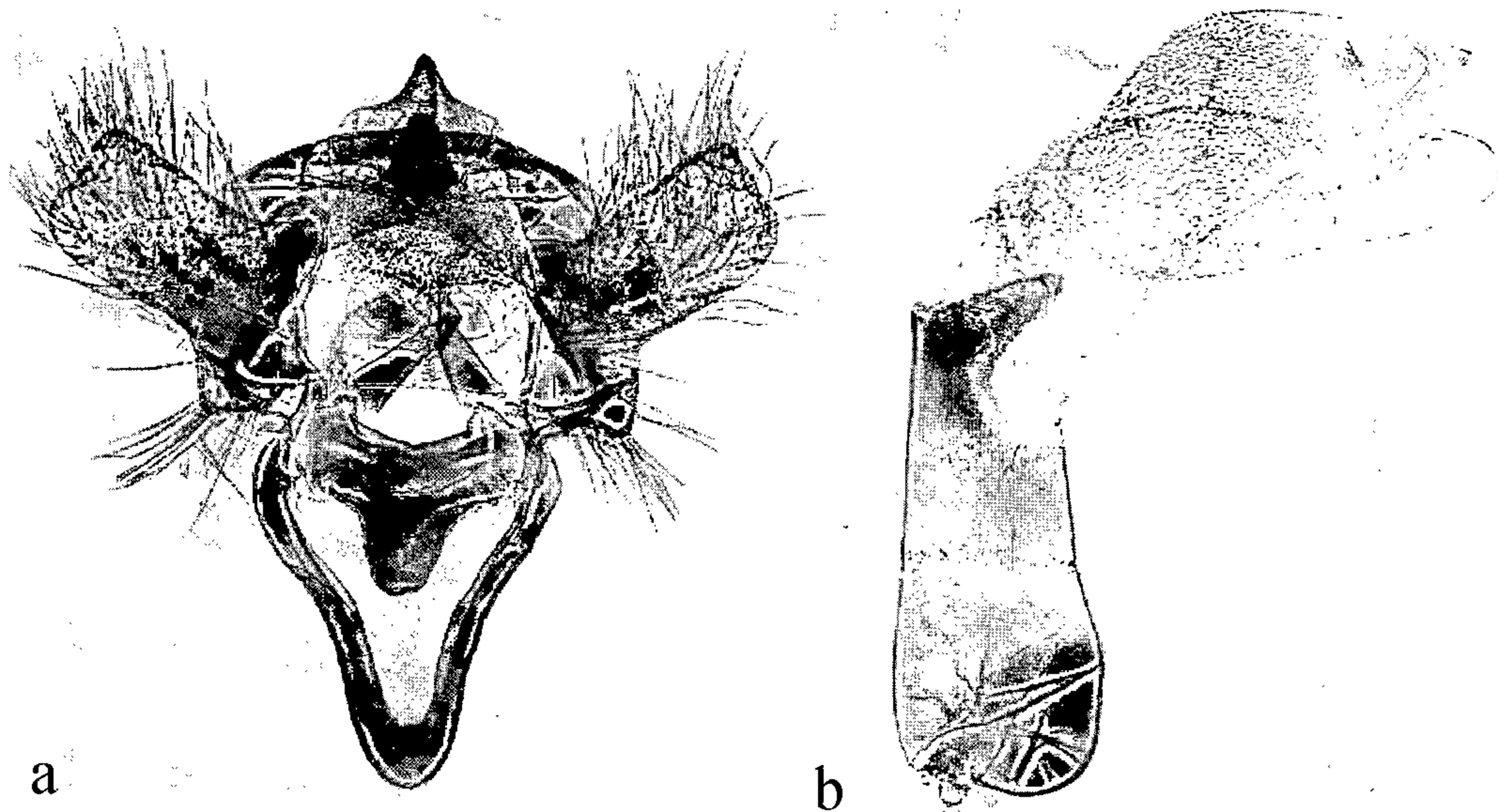
yellow scales on vertex. Antenna light yellowish brown, bipectinate with long branches, each bearing two terminal spinules. Labial palpus upturned, second segment thickened, pale yellow on outer surface, brown on inner surfaces; third segment relatively shorter, pale yellow. Thorax and tegulae brown. Forewing brown, with two whitish median line crossing the brown area, pale yellow at apical angle, central of outer margin and anal angle; venation with R_2 branching off more distally than R_5 , R_5 stalked with R_{2+3+4} , M_1 arising from the upper angle of distal cell, M_2 and M_3 from the under angle of distal cell respectively, M_3 and CuA_1 isolated. Hindwing basal half light grey, distal half pale yellow, fringe pale yellow; venation without M_2 , Rs stalked with M_1 at basal 1/3, M_3 and CuA_1 branching from the under angle of distal cell respectively. Abdomen dark, with orange yellow tuft.

Male genitalia (Fig. 2). Uncus short, broad basally, hooked apically, ventrally with a rugose protrusion. Valva deeply bifid, the dorsal arm broader, rectangular, the ventral arm rather smaller, triangular. Juxta ring-shaped. Saccular flap approximate triangular. Saccus elongate, V-shaped. Aedeagus simple, concave near the apex, about two times as large as dorsal arm of the valve; vesica expanded, with numerous spinules.

Female. Unknown.



Fig. 1 Male adult of *Orvasca heterocolor* sp. nov. (scale = 10 mm)



a: Male genitalia; b: Aedeagus.

Fig. 2 Male genitalia of *Orvasca heterocolor* sp. nov

Remarks. The new species superficially resembles *O. subnotata* Walker, it can, however, easily be distinguished by valva deeply bifid, the dorsal arm broader, rectangular, the ventral arm rather smaller, triangular and a shorter aedeagus. The new species is also similar to *O. bicolor* Heylaerts and *O. limbata* Butler in superficial and genital characteristics, but it can be separated from them by the hindwing light grey at basal half, pale yellow at apical half, valva with the dorsal arm rectangular, the ventral arm triangle-shaped, aedeagus concave near the apex and vesica expanded, with lots of spinules.

Distribution. China (Hainan).

Etymology. The scientific name, *heterocolor* is combined from the latin words "hetero" and "color", referring to hindwing basal half light grey, distal half pale yellow of the new species.

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