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山华蜗牛 *Cathaica (Cathaica) orestias* (Preston, 1912) 的重描述 (肺螺亚纲, 柄眼目, 巴蜗牛科)

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摘要: 笔者赴甘肃省天水地区调查陆生贝类危害果树时, 发现蜗牛危害各种果树苗木, 经比对鉴定, 发现主要危害种类系山华蜗牛 *Cathaica (Cathaica) orestias* (Preston, 1912)。山华蜗牛原始描述简单, 仅附有一幅手绘的贝壳侧面图, 且将此种归入 *Eulota* 属。笔者对山华蜗牛形态学进行了深入研究, 对其生殖系统进行了解剖, 并附生殖系统解剖图和描述, 可为深入研究这一重要蜗牛物种提供参考。

关键词: 肺螺亚纲; 柄眼目; 巴蜗牛科; 华蜗牛属; 重描述

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Morphological Re-description of *Cathaica (Cathaica) orestias* (Preston, 1912) (Pulmonata, Stylommatophora, Bradybaenidae)

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Abstract: *Cathaica (Cathaica) orestias* (Preston, 1912) was collected on 11th July 2010 in Qinzhou Town (34°06'N, 105°07'E), Tianshui City (Gansu Province, China), and the morphological characteristics was re-described. Subsequently, the reproductive system of *Cathaica (Cathaica) orestias* (Preston, 1912) was anatomized and the specimens were deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

***Cathaica (Cathaica) orestias* (Preston, 1912) (Figs. 1~3)**

Eulota (Cathaica) orestias Preston, 1912 J. Mollus. Stud. 10(1): 11~15.

Cathaica (Cathaica) orestias Yang, 2012

Shell: Shell of *Cathaica (Cathaica) orestias* is small (height 6.9~8.2 mm; diameter 11.5~14.0 mm), thick, lustrous, depressed turbinata, with 5~5.5 whorls. Shell is pale flesh-coloured, painted with a reddish brown supersutural band, which appears as a superperipheral band on the last whorl. Protoconch is smooth. Sutures are deep. Shell has coarsely plicate and very fine wavy, spiral striae, which become more noticeable on the base of the shell. Umbilicus is rather narrow, deep, hole-shaped. Columella is thin, outwardly expanded. Aperture is broad and irregular sub-lunate.

Reproductive system: Atrium is short. Penis is long, without penis sheath and epiphallus. Penial retractor muscle is rather long and moderate thick. Dart sack is bag-shaped, containing one spear-shaped dart, without accessory sack. Mucous gland is composed of one bundle of tubular branches, contained about 20 mucous ducts. Free oviduct and vagina are relatively long. Spermatheca does not reach to the base of albumen gland, and lays on spermoviduct about 3/4 of length from the albumen gland. Ovotestis is composed of three or four clumps of finger-like lobes. Ovotestis duct is long. All soft part is milky white, without pigmentation spot.

Key words: Pulmonata; Stylommatophora; Bradybaenidae; *Cathaica*; morphological redescription

2007 年 6 月在甘肃省天水市秦州区皂郊镇樱 桃园中发现蜗牛零星危害。2009 年 7 月在秦州区、

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麦积区和清水县 20 多个乡镇的果园中发生危害,危害树种有苹果、桃、樱桃、梨、杏、葡萄、西梅等,受害果园面积约 $1.12 \times 10^4 \text{ hm}^2$ 在部分生草制和管理粗放的园片中危害相当严重,并有快速扩散蔓延的趋势(杨军泽,任宏涛,2012)。笔者于 2010 年 7 月间应邀调查该区蜗牛危害果树情况时,发现山华蜗牛 *Cathaica (Cathaica) orestias* (Preston, 1912) 为当地主要的危害果树物种(图 1)。此种系 Preston 于 1912 年确立,将其归入 *Eulota* 属,但仅有壳相的形态描述及附一手绘的贝壳侧面图,这给日后鉴别带来一定困难。2012 年由陈德牛先生鉴定,将此种归入华蜗牛属 *Cathaica* Moellendorff, 1884(杨军泽,任宏涛,2012)。根据壳相特征和生殖系统的特征笔者支持以上属的变更(Ping & Yen, 1933; Yen, 1939; Bieler & Mikkelsen, 1992; 陈德牛,张国庆,2004)。本文对此种蜗牛的壳相形态特征进行了描述,还对此种生殖系统进行了解剖和描述,并附有贝壳三面

照片和生殖系统解剖图。

Cathaica (Cathaica) orestias (Preston, 1912)

Eulota (Cathaica) orestias Preston, 1912 J Mollus Stud, 10(1): 11 ~ 15.

Cathaica (Cathaica) orestias Yang, 2012

模式标本产地: 甘肃省东南部海拔 1800 ~ 2700 m 的山区。

标本采集地: 采自甘肃省天水市秦州镇(34°06' N, 105°07' E) 2010 年 7 月 11 日,采集人: 陈德牛。标本均保存于中国科学院动物研究所。

形态描述(图 2 ~ 图 3)

山华蜗牛 *Cathaica (Cathaica) orestias* 由 Preston 于 1912 年订立,模式标本采自甘肃省东南部 1800 ~ 2700 m 山区。其形态特征: 贝壳较小,壳质稍厚,结实,有光泽,呈低矮陀螺形,有 $5 \sim 5 \frac{1}{2}$ 个螺层,前几个螺层增长缓慢,螺旋部低矮,呈低圆锥形,



图 1 山华蜗牛栖息地

Fig. 1 Habitats of *Cathaica (Cathaica) orestias*



图 2 山华蜗牛

Fig. 2 *Cathaica (Cathaica) orestias* (Preston, 1912)

A. 贝壳侧面观 Lateral view of shell, B. 贝壳顶面观 Apical view of shell, C. 贝壳底面观 Antapical view of shell

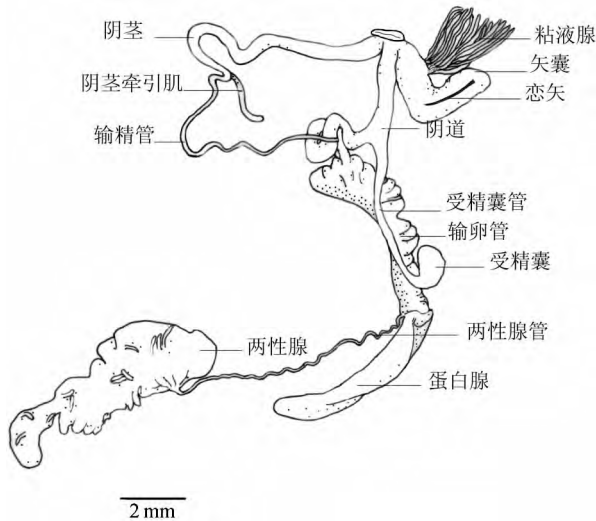


图 3 生殖系统解剖图
Fig. 3 Reproductive system of *Cathaica (Cathaica) orestias*

体螺层膨大,底部平坦,其周缘上有 1 条红褐色色带围绕,其次螺层缝合线上各有 1 条红褐色色带围绕,壳面为淡肉色,壳顶光滑,其余部分有粗糙的褶和有明显的波状刻纹,在贝壳底部更显著。缝合线深,脐孔较狭窄,深,呈孔隙状。壳轴薄,向外扩大,向下降突卷,唇简单,在底部外扩,稍内增厚,呈一条状凸起,壳口宽大,呈不规则的半月形。壳高 6.9 ~ 8.2 mm,壳宽 11.5 ~ 14.0 mm,壳口高 3.7 ~ 5.4 mm,壳口宽 4.2 ~ 6.1 mm。

山华蜗牛生殖系统的结构特征:生殖腔较短,无阴茎基背板,无阴茎鞘,阴茎长,厚度适中;阴茎牵引

肌中等厚度,较长;矢囊长呈 L 形弯曲囊状,无副矢囊,囊中具有一石灰质矛状恋矢;粘液腺一簇,粘液腺管约 20 根,由共同柄自矢囊中部偏上发出;游离输卵管及阴道较长;受精囊与受精囊管分化明显,受精囊呈椭圆形,位于输卵管靠近蛋白腺端 2/3 处,未达蛋白腺;两性腺分叶状,约 3 ~ 4 簇,两性腺管长;各结构均为乳白色,均无色斑。

栖息环境 生活在山区果园灌木丛、草丛中,树木根部,落叶、腐木或石块下。尤其喜欢栖息在腐木落叶下,阴暗潮湿多腐植质的环境,有群居上树的习性,昼栖夜出,大多爬伏在果树枝干、灌木枝头上。

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