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江西弯螺属一新种记述(肺螺亚纲 柄眼目 扭轴蜗牛科)

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摘要: 整理江西岩溶地貌陆生贝类标本时, 经比对鉴定发现一新种, 即石钟山弯螺 *Sinoennea shizhongshanensis* sp. nov., 隶属肺螺亚纲柄眼目扭轴蜗牛科弯螺属。对新种形态特征和栖息环境进行了详细描述, 用扫描电镜观察了新种齿舌的细微结构, 并与其近似种进行了比较和讨论。

关键词: 肺螺亚纲; 柄眼目; 扭轴蜗牛科; 弯螺属; 新种

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A New Species of the Genus *Sinoennea* (Pulmonata, Styommatophora, Streptaxidae) from Jiangxi Province, China

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Abstract: This paper reports a new species of genus *Sinoennea* Kobelt in China: *Sinoennea shizhongshanensis* sp. nov. The morphological characteristics of the new species were described in detail, and radula was observed with scanning electron microscope. The new species was compared and discussed with related species. The materials were collected from Shizhongshan scenic spot, Hukou county, Jiangxi province of China in 2013. The type specimens had been deposited in the College of Life Science and Food Engineering, Nanchang University, Nanchang, China, and the Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

***Sinoennea shizhongshanensis* sp. nov.** (Plate, 1~5)

Holotype alt. 5.50 mm, diam. 2.50 mm; alt. of aperture 1.90 mm, diam. of aperture 1.40 mm; collected from Shizhongshan scenic spot, Hukou county (29°44.764'N, 116°13.082'E), Jiujiang city, Jiangxi province, China, May 20, 2013.

Paratypes, 25 specimens, alt. 5.20~6.00 mm, diam. 2.50~2.70 mm; alt. of aperture 1.70~2.00 mm, diam. of aperture 1.40~1.70 mm. Collected from Shizhongshan scenic spot, Hukou county, Jiujiang city, Jiangxi province, China, May 20, 2013.

Shell small, thick, solid, lustrous, smooth, ovate-cylindrical. Apex blunt and short, shells light yellow or yellow-brownish in colour, with deep suture. Whorls 8, moderately convex with high spiral part. Top two whorls smooth, following ones with some curve vertically rib-striae. The last whorl is not inflated, it gradually narrowed and lessened near aperture, with 33 rib-striae. Aperture small, heart-shaped. The peristome thick, expanded and reflexed, with 1 big, right bending, flake-form angular lamellae at inner lip, with two nipple-formed teeth in outer lip, connected from shallow to deep which were hard to distinguish. Slightly deep at the bottom of the aperture, there is a big lump-form palatal tooth along the palate with a slender pleat above it. The columellar lip and outer lip are perfectly straight. Umbilicus wide, deep, cavernous.

Radula (Plate, 6~7). Teeth arranged in anteriorly V-shaped rows, each row containing 27~29 teeth with the formula (13-14)-1-(13-14); central tooth small, sharp, triangular with pointed cusp; lateral and marginal teeth undifferentiated, unicuspid and lanceolate; lateral teeth gradually reduced in length and size, outer teeth much smaller and shorter than inner teeth.

Habitat. Usually live in dark and damp limestone mountains and foothills with many humus, often perched under broad-leaved forest, loose and fertile soil, limestone cliff surface or crevices.

Etymology. The name of the new species is based on the type locality Shizhongshan scenic spot, Hukou county.

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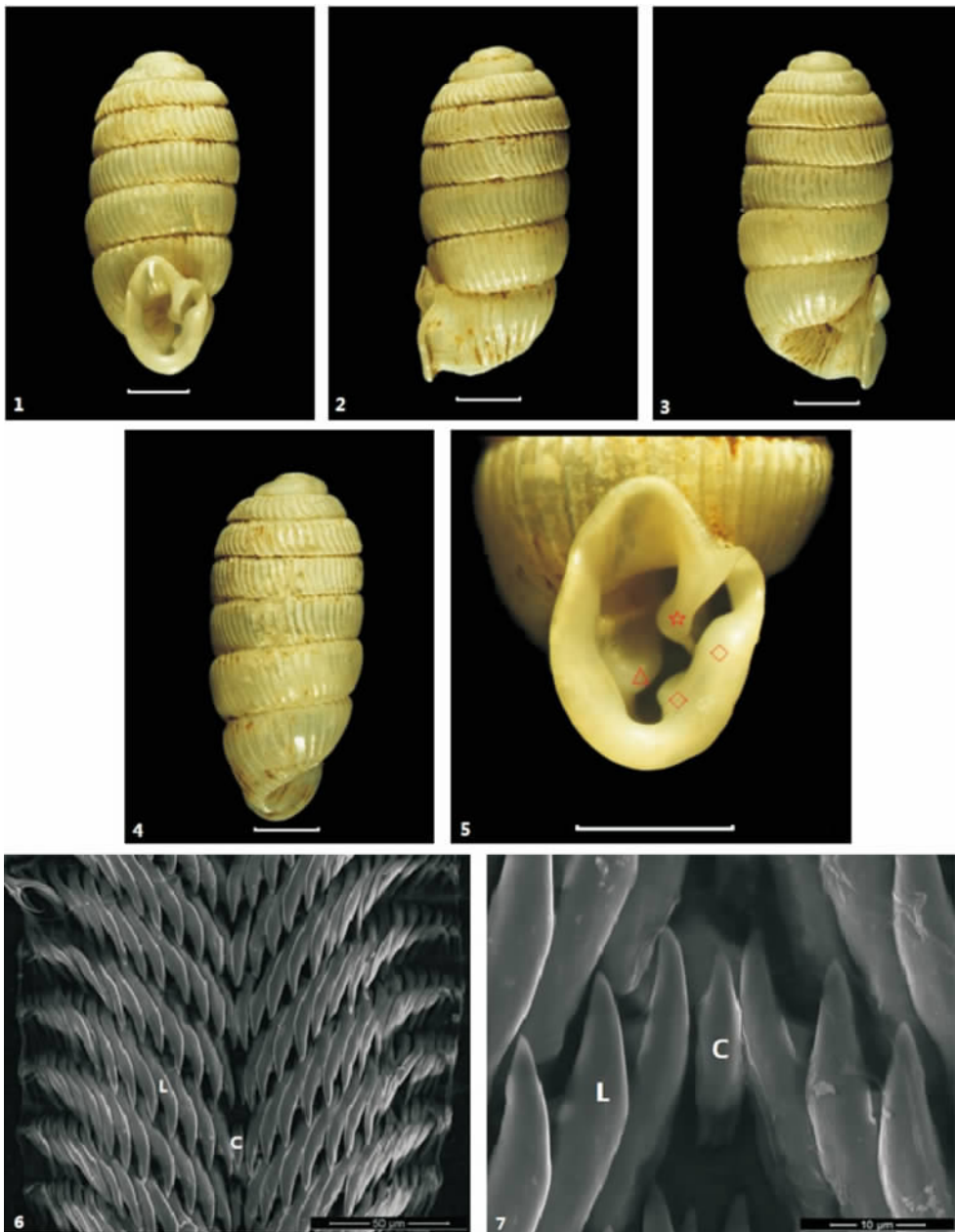
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Key words: Pulmonata; Styommatophora; Streptaxidae; *Sinoennea*; new species

扭轴蜗牛科 Streptaxidae 弯螺属 *Sinoennea* 系 1904 年由 Kobelt 建立。该属特征为: 贝壳小型, 呈卵圆形-圆柱形, 壳口上常具有 1 短粗的角板和 2~4 枚齿 (Richardson, 1988; Schileyko, 2000)。齿舌狭窄。主要分布于东亚、南亚和我国长江流域以南地区 (Thiele, 1931; Zilch, 1961), 目前在报道 15 种 (Gredler, 1881, 1885; Moellendorff, 1881, 1882, 1885,

1887; Heude, 1882; Yen, 1939, 1942; Azuma *et al.*, 1995; 罗泰昌, 陈德牛, 1998; 罗泰昌等, 2004; Panha & Burch, 2004 ~ 2005; 周卫川等, 2006, 2009; 钱周兴, 2008; 欧阳珊等, 2012)。

石钟山弯螺, 新种 *Sinoennea shizhongshanensis* sp. nov. (图版 1~5)。



图版 石钟山弯螺新种 *Sinoennea shizhongshanensis* sp. nov.

1. 贝壳侧面观 (lateral view of shell), 2. 贝壳右侧面观 (right lateral of shell), 3. 贝壳左侧面观 (left lateral of shell), 4. 贝壳背侧面观 (dorsal lateral of shell), 5. 壳口放大 (aperture enlarge), 6~7. 齿舌形态 (radula morphology)
☆. 角板 (angular lamella), ◇. 外唇齿 (palatal teeth), △. 轴缘齿 (palatal tooth), C. 中央齿 (central tooth), L. 侧齿 (lateral teeth)
1~5 比例尺 (scale bars): — = 1 mm

正模标本 壳高 5.50 mm,壳宽 2.50 mm,壳口高 1.90 mm,壳口宽 1.40 mm;副模标本 25 个,壳高 5.20 ~ 6.00 mm,壳宽 2.50 ~ 2.70 mm,壳口高 1.70 ~ 2.00 mm,壳口宽 1.40 ~ 1.70 mm。正、副模标本均采自江西省九江市湖口县石钟山景区(29°44.764'N,116°13.082'E) 2013 年 5 月 20 日。

正模标本及一部分副模标本保存于南昌大学生命科学与食品工程学院标本室,另一部分副模标本保存于中国科学院动物研究所标本馆。

形态特征 贝壳小型,壳质厚,结实,有光泽,呈卵圆柱形,壳顶钝,壳面为乳白色或淡黄褐色,缝合线深,呈锯齿状。有 8 个螺层,各螺层均匀增长,膨大,螺旋部高,壳顶 1 ~ 2 个螺层光滑,无肋纹,其下各螺层壳面具有稀疏成纵行排列的肋纹。体螺层不膨大,靠近壳口处逐渐变窄,缩小;具有 33 条肋纹。壳口狭小,呈心形,口缘厚,外翻。壳轴垂直,壳口内唇上有 1 枚较大、向右弯折、呈片状的角板,外唇口缘有 2 枚乳头状齿,这 2 枚齿由浅及深连接在一起,不易区分。在壳口底部稍深的位置,轴缘处有 1 枚较大的块状轴缘齿,轴缘齿上方有一细长条褶皱。脐孔大而深,呈洞穴状。

齿舌(图版,6~7) 齿舌排列整齐,每行都呈“V”形,包含 27 ~ 29 个齿,齿式为(13-14)-1-(13-14)。中央齿 1 个,对称单齿型,齿小且顶端尖锐,呈细长的三角形;侧齿和缘齿形状没有差别,对称单齿型,比中央齿粗长,呈矛尖形;侧齿的长和粗由内到外逐渐减小,外缘的齿比里面的细短(Sutcharit *et al.*, 2010)。

栖息环境 一般生活在阴暗潮湿,多腐殖质石灰岩山区和丘陵地带,常栖息于阔叶林下,松散肥沃的土壤里,石灰岩石壁表面或缝隙中。

词源 新种种名源于本种的采集地。

讨论 新种与福州弯螺 *Sinoennea fuzouensis* Zhou and Chen 2006 在外部形态上相似,但后者个体较小,壳口略窄(壳高 4.43 ~ 5.21 mm,壳宽 2.43 ~ 2.58 mm;壳口高 1.71 ~ 2.00 mm,壳口宽 1.43 ~ 1.54 mm),并且新种在壳口底部稍深的位置,轴缘处有 1 枚较大的块状轴缘齿,轴缘齿上方有一细长条褶皱,后者没有轴缘齿,故而有所区别。

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