





<https://doi.org/10.70590/ice.2025.01.84>  
<http://zoobank.org/urn:lsid:zoobank.org:pub:3895545C-9EDF-4942-8F25-170404E55D6B>



## ● *Pseudocuneopsis heqing* Wang & Wu, 2025, a new junior synonym of *Lamellidens liuovatus* He & Zhuang, 2013 (Bivalvia: Unionidae)



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**Abstract:** *Pseudocuneopsis heqing* Wang & Wu, 2025 **syn. nov.** is designated as a junior synonym of *Lamellidens liuovatus* He & Zhuang, 2013, based on their identical shell morphology and shared type locality. Furthermore, we propose the new combination *Pseudocuneopsis liuovatus* (He & Zhuang, 2013) **comb. nov.** and provide a re-description of this species based on type specimens.

**Keywords:** freshwater mussel, molluscs, taxonomic revision, taxonomy

## ● 河清伪楔蚌为刘氏卵圆蚌之次异名（双壳纲：蚌科）

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**摘要:** 基于完全一致的贝壳形态和相同的模式产地, 河清伪楔蚌 *Pseudocuneopsis heqing* Wang & Wu, 2025 **syn. nov.**, 被指定为刘氏卵圆蚌 *Lamellidens liuovatus* He & Zhuang, 2013 的次异名。此外, 本文提出了新组合刘氏卵形伪楔蚌 *Pseudocuneopsis liuovatus* (He & Zhuang, 2013) **comb. nov.**, 并基于模式标本对该物种进行了重新描述。

**关键词:** 河蚌, 贝类, 分类修订, 分类学

**Citation:** Chen Z-G, Chen H, Ouyang S & Wu X-P 2025: *Pseudocuneopsis heqing* Wang & Wu, 2025, a new junior synonym of *Lamellidens liuovatus* He & Zhuang, 2013 (Bivalvia: Unionidae). *The Indochina Entomologist*, 1 (84): 839–842. [陈重光, 陈辉, 欧阳珊 & 吴小平 2025: 河清伪楔蚌为刘氏卵圆蚌之次异名（双壳纲：蚌科）。中南半岛昆虫学家, 1 (84): 839–842.]  
<https://doi.org/10.70590/ice.2025.01.84>

Accepted by Cheng-Bin WANG: 20.XI.2025; published online: 24.XI.2025

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## ● Introduction

Wang *et al.* (2025) described a new freshwater mussel, *Pseudocuneopsis heqing* Wang & Wu, 2025, from the Heiwanhe River, Jiangkou County, Tongren City, Guizhou Province, China. Nonetheless, our examination reveals that this new species is morphologically identical to *Lamellidens liuovatus* He & Zhuang, 2013, with which it also shares the same type locality. As Wang *et al.* (2025) did not compare their specimens with *L. liuovatus*, we here re-describe *L. liuovatus* based on its type specimens and transfer it to the genus *Pseudocuneopsis* Huang, Dai, Chen & Wu, 2022. Consequently, *P. heqing* is designated as a junior synonym of *L. liuovatus*.

Abbreviations. **ASIZB**: Institute of Zoology, Chinese Academy of Sciences (Beijing, China). **SXNU**: Shanxi Normal University (Taiyuan, China).

## ● Taxonomy

### Family Unionidae Rafinesque, 1820

### Subfamily Unioninae Rafinesque, 1820

### Genus *Pseudocuneopsis* Huang, Dai, Chen & Wu, 2022

### *Pseudocuneopsis liuovatus* (He & Zhuang, 2013) comb. nov.

Fig. 1

*Unio ovatus* Liu, Duan & Wang, 1994 — Liu *et al.*, 1994: 31, fig. 8.

*Pseudobaphia ovatus* — Prozorova *et al.*, 2005: 53.

*Lamellidens liuovatus* He & Zhuang, 2013 — He & Zhuang, 2013: 56, fig. 128.

*Ptychorhynchus liuovatus* — Bolotov *et al.*, 2023: 30, tab. 1.

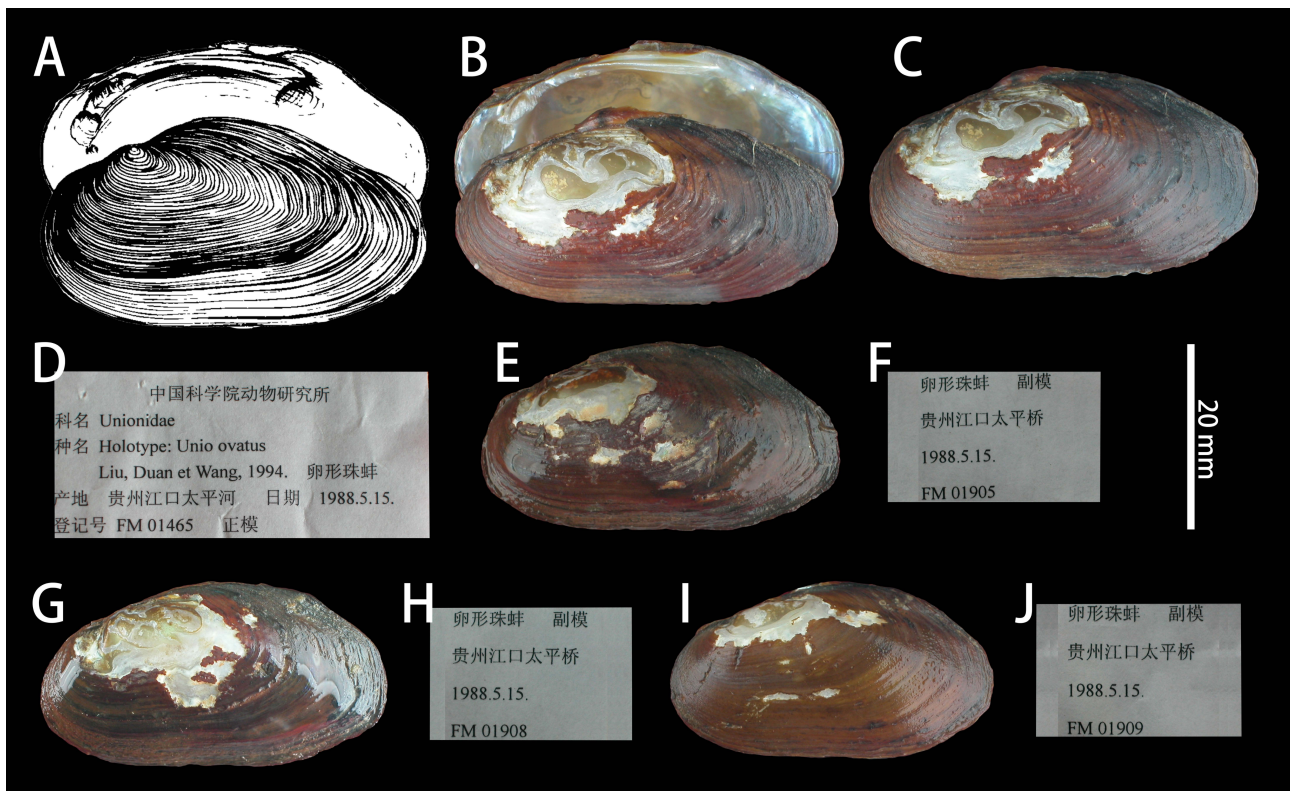
*Pseudocuneopsis heqing* Wang & Wu, 2025 — Wang *et al.*, 2025: 2181–2190, fig. 1, S1. **syn. nov.**

**Material examined.** (Type specimens of *Lamellidens liuovatus*, photo examined. Specimens have been renumbered, so the voucher numbers are different with those of Liu *et al.* (1994) (personal communication with Kaibayier Meng).) Holotype. ASIZB FM 01465, Taipinghe River [太平河], Jiangkou County [江口县], Tongren City, [铜仁市] Guizhou Province [贵州省], China, leg. Yue-Ying Liu [刘月英] & Wen-Zhen Zhang [张文珍], May 15, 1988. Paratypes. ASIZB FM 01904–01905, 01907–01909, 00792, other information same as holotype.

(Type specimens of *Pseudocuneopsis heqing*, photo examined) SXNU\_25081601–25081605, 25081001, 25081003–25081004, Heiwanhe River [黑湾河], Jiangkou County [江口县], Tongren City, [铜仁市] Guizhou Province [贵州省], China, collector and date unknown.

**Diagnosis.** Shell medium-sized, moderately thick, flat, long, sub-glossy. Anterior small, rounded and short; posterior expanded, wide and long, with a indistinct obtuse angle in the middle of posterior margin. Left valve with two pseudocardinal teeth, thick and triangular. Right valve also with one pseudocardinal tooth, thick and triangular. Distributed in the tributaries of the upper Yuanjiang River.

**Re-description.** Shell medium-sized, moderately thick, flat, oblong, sub-glossy. Anterior small, rounded and short; posterior expanded, wide and long, with a indistinct obtuse angle in the middle of posterior margin. Dorsal margin slightly curved downwards and truncated in behind; ventral margin weakly curved or retuse. Umbo inflated, slightly higher the hinge line, located at 1/4 to 1/3 of the dorsal margin, with concentric square carving. Periostacum reddish brown to black with thin growth lines. Posterior slope with an indistinct low secondary posterior ridge end in the angle on the posterior margin. Growth lines arranged in irregular concentric circles. Hinge long. Ligament short and strong. Beak cavities shallow, open. Mantle attachment scars on the pallial line obvious. Anterior adductor muscle scars irregularly oval, deep, smooth; posterior adductor muscle scars long oval, smooth. Left valve with two pseudocardinal teeth, thick and triangular. Right valve also with one pseudocardinal tooth, thick and triangular. Lateral teeth of both valves long and thin. Nacre light orange to white.



**FIGURE 1.** *Pseudocuneopsis liuovatus* (He & Zhuang, 2013) **comb. nov.**: **A** figure in Liu *et al.* 1994 **B–C** holotype of *P. liuovatus* **comb. nov.**, ASIZB FM 01465 **D** the label of the holotype **E–J** partial paratype of *P. liuovatus* **comb. nov.** and their labels, ASIZB FM 01905, 01908, 01909.

**Measurements.** Holotype of *P. liuovatus* **comb. nov.**: shell length 42.0 mm, height 22.0 mm, width 14.0 mm; paratypes of *P. liuovatus* **comb. nov.**: shell length 33.7–42.2 mm, height 18.5–22.4 mm, width 12.0–13.8 mm (Liu *et al.* 1994). Type specimens of *P. heqing*: shell length 59.33–70.02 mm, height 34.85–37.56 mm, width 22.42–30.40 mm (Wang *et al.* 2025).

**Vernacular name.** 刘氏卵形伪楔蚌 (liú shì luǎn xíng wěi xiē bàng).

**Distribution and ecology.** Widely distributed in the small tributaries of the upper Yuanjiang River [沅江] at eastern of Guizhou Province. Living in the upstream of rivers with pebble and sandy substrates.

**Remarks.** Liu *et al.* (1994) described *Unio ovatus* Liu, Duan & Wang, 1994 from the Taipinghe River at Jiangkou County, Tongren City, Guizhou Province, China. However, this species was a junior homonym of *Unio ovatus* Say, 1817. In an subsequent treatment, Prozorova *et al.* (2005) used the combination *Pseudobaphia ovatus* without providing explanatory justification. Consequently, He & Zhuang (2013) provided the replacement name *Lamellidens liuovatus* He & Zhuang 2013. This taxon was later transferred again by Bolotov *et al.* (2023) to the genus *Ptychorhynchus* Simpson, 1900. All these taxonomic revisions were based solely on shell morphology.

Recently, Wang *et al.* (2025) described a new species, *Pseudocuneopsis heqing*, from the Heiwanhe River, a tributary of the Taipinghe River at Jiangkou County, integrating both shell morphology and molecular phylogeny. Given that the morphology of *P. heqing* is identical to that of *Ptychorhynchus liuovatus* except for being larger, and their type localities are congruent, we propose to transfer *Pt. liuovatus* to the genus *Pseudocuneopsis* and synonymize *P. heqing* as its junior synonym. Furthermore, the morphology of *P. liuovatus* **comb. nov.** is difficult to distinguish from that of *P. yangshuoensis* Wu & Liu, 2023. Nevertheless, based on current molecular phylogenetic evidence, we provisionally maintain *P. yangshuoensis* as an accepted species. The shell morphology of *P. liuovatus* **comb. nov.** is somewhat similar to that of *Nodularia micheloti* (Morlet, 1886), but can be distinguished by the thicker shell and stronger pseudocardinal teeth. Geographically, the two species exhibit allopatric distributions: *P. liuovatus*

comb. nov. is the only species of subfamily Unioninae Rafinesque, 1820 found in small tributaries of the upper Yuanjiang River, whereas *N. micheloti* inhabits the downstream reaches with slower water flow.

The case of Wang *et al.* (2025) underscores the critical importance of comprehensive literature review and examination of type specimens in taxonomy. It also serves as a reminder that the description of new species should not be driven solely by the objective of increasing publication output.

## ● Acknowledgements

We thank three anonymous reviewers for their valuable comments on the manuscript, Kaibayier Meng (Institute of Zoology, Chinese Academy of Sciences) for assistance in examining the type specimens, Ri-Xin Jiang (Institute of Entomology, Guizhou University) for providing information and photos of the Heiwanhe River, Yu-Chen Wang (Chengdu) for providing field investigation results.

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<https://doi.org/10.3897/zse.101.172606>

## ● Additional information

**Author contributions:** Z-G Chen & H Chen conceptualized the paper. Z-G Chen examined the type specimens. All authors have read and agreed to the published version of the manuscript.

**Conflict of interest:** The authors have declared that no competing interests exist.

**Data availability:** All of the data that support the findings of this study are available in the main text.

**Ethical statement:** No ethical statement was reported.

**Funding:** This study was self-funded by the authors.

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