



Short Communication

Pupina peguensis Benson, 1860 (Mollusca: Pupinidae): tracing a long lost molluscan type

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Abstract

Here, we have reported a type *Pupina peguensis* Benson, 1860 lost long from a general lot of the Zoological Survey of India (ZSI) and provided an accession number to the specimen as “holotype”. This pupinid snail was donated by the Asiatic Society of Bengal to the Indian Museum and thereafter, transferred to the ZSI. Unfortunately, the specimen was overlooked or has been misplaced with general collections. During the current revision of Benson’s molluscan types, we have found this specimen and assigned the status of a holotype based on norms of the International Code of Zoological Nomenclature (ICZN). The detailed illustration and original descriptions are presented in the paper along with an accession number. The original and modified descriptions are also provided.

Keywords: Asiatic Society of Bengal (ASB), Holotype, Indian Museum, Pupininae

Introduction

The malacofaunal research in India started dates back to the 18th century, promoted mostly by the Asiatic Society of Bengal, before the establishment of the Indian Museum and the Zoological Survey of India (ZSI). The first and the pioneering work on the Indian Mollusca was that of British malacologist William Henry Benson during the period from 1829–1865 (Naggs, 1997). During this period, approximately 250 species of land and freshwater molluscs were described and housed in the Zoological Museum at Cambridge, Asiatic Society (Museum Asiatic Society of Bengal), British Museum, London and Cantor’s Chinese Collections. With the formation of the Indian Museum, most of the natural history collections of Asiatic Society were transferred to the Indian Museum and later shifted to the Zoological Survey of India, after its establishment in 1916.

The financial crunch for maintaining the natural history collection materials in the Museum of Asiatic Society of Bengal, lead to donation and transfer of these materials to the Indian Museum in 1866. Among the pioneer malacologists, majority of described species

were those of the William Henry Benson and record reveals that out of the 143 species listed in the Museum collections at that point of time, 67 (48%) had been described by Benson (Naggs, 1997). It is presumed that, since Benson left India and distributed his materials freely to individuals in India, the present material was one of them, which was remained uncatalogued, although he described the species and deposited in the Museum of Asiatic Society of Bengal (ASB). Thereafter, when the materials were transferred from the Museum of Asiatic Society of Bengal to the Indian Museum, this material remained unattended and laying in the general voucher collections lot, without cataloguing even after the transfer of materials to ZSI. It is to be noted that although Nevill (1878) listed this material as part of the Mollusca of Indian Museum, he never registered and given the status of a type specimen. Nevertheless, *Pupina peguensis* Benson, 1860 deserve as a holotype, being a valid species need a cataloguing number, as per Art. 73.1.1 of ICZN (International Code of Zoological Nomenclature). We are also presenting a detailed original description, illustration and original label of the species.

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Systematics

Family PUPINIDAE L. Pfeiffer, 1853

Subfamily PUPININAE L. Pfeiffer, 1853

Genus *Pupina* M. Vignard, 1829

Vignard, 1829: pp. 439–440, pl. 11.

Type species: Pupina keraudrenii M. Vignard, 1829 by monotypy

Diagnosis: Shell elongate ovate, smooth, with a shining enamel-like coating; peristome simple, thickened or reflexed, with two canals, the upper at the suture, the lower oblique at the middle of the columellar margin. Operculum thin, membraneous, and narrowly coiled.

Pupina peguensis Benson, 1860

(Figures. 1 A-F)

Pupina peguensis Benson 1860: p. 192; Pfeiffer 1865: p. 95; Theobald 1876: p. 41; Nevill 1878: p. 300; Godwin-Austen 1897: p. 40, pl. 69, fig. 3; Gude 1921: p. 197.

Pupina blanfordi non Theobald 1870, pl. 7, fig. 6.

Pupina (Tylotoechus) peguensis. Kobelt & Möllendorff 1897: p. 147; 1899: p. 43; Kobelt 1902: p. 319.

Type locality: ‘Shuay-Gheen’ Burma [Shwegyin, Bago District, Myanmar]; leg. Captain Berdmore, coll. ex. c. Asiatic Society.

Type material: Holotype, NZSI M.32940/9

Measurement: SH 6.5 mm, SW 4.5 mm

Original description: Testa imperforata, subgloboso-ovata, laevigata, polita, pellucida, cornea; spira convexo-conica, apice acutiusculo, sutura callosomarginata; anfractibus 4½, ultimo spiram superante, antice breviter ascendente, ad basin foveato; apertura subverticali, sursum spectante, circulari, angulo acuto superne adjecto, callo parietali superne et lamella intrante munita; columella profunde incisa, canalem extus progredientem lingua lata superiore obtectum callisque duobus extus divergentibus marginatum exhibente; peristomate expansiusculo; margine dextro, supra medium arcuato, basali que crassiusculo obtusis. Long. 6, diam. 3½ mill. (After, Benson, 1860: pp. 192-193).

Modified description: Shell small (SH 6.5 mm, SW 4.5 mm), imperforate, sub-globosely ovate in shape, smooth and polished surface, yellowish-brown in coloration; Apex obtuse, whorl 4½ and the penultimate whorl convex, body whorl large and globose (4.9 mm); Spire convex and extended, the suture moderately impressed; aperture opening circular and the parietal tooth having well developed strong ridge, and dusky white, slender in shaped. The peristome is thick and broadly extended and form acute angle from above, being added, the is parietal callus moves into the plate from above; and a parietal tooth has strong; the columella deeply cut, tongue is wide is the growing separation between the channel without the previous two divergent margin covered; and for showing the callus; peristome interrupted by two breathing canals in both anterior and posterior sides. The anterior canal look like slit and separated the collumelar region of the shell and forming a long trench for passage of air into the shell, while, the posterior canal continues vertically upward and forming narrow groove for breathing abutted by the thickened outer lip and parietal tooth; and the umbilicus closed (see Figures. 1 A-F).

Distribution: Bago district in Myanmar

Shell comparison: *Pupina peguensis* Benson, 1860 is closely related with *Pupina aureola* Stolizcka, 1872 (= *Pupina arula* Benson, 1856), but, easily distinguished by its small size shell, translucent colour and absence of sculpture.

Remarks: Although, Benson (1860: p. 192) described the species *Pupina peguensis* and clearly stated that the “type” specimen is housed in the Asiatic Society of Bengal, and later transferred to the Indian Museum and subsequently to the Zoological Survey of India, but unfortunately there is no evidence of “type” number. Due to lack of evidence, the former malacologists and curator of the Indian Museum and ZSI placed this type specimen in the general lot. After a thorough investigation and comparison, we confirm that the specimen is undoubtedly of *P. penguensis* which was described and labeled by W.H. Benson (1860), deposited in the Asiatic Society of Bengal. Therefore, firmed the specimen as “holotype” with assigning a new registration number which was previously not available for this species permitted under ICZN (Art. 73.1.1.).



Figure 1. *Pupina peguensis* Benson, 1860; A-F. Holotype, NZSI M.32940/9. G. Original glass tube of the shell with “type” labelled. H. Original label of the type specimen *Pupina peguensis*, with type locality and collector name (AS. Asiatic Society).

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References

- Benson, W.H. 1860. Characters of new Land-Shells from Burmah and the Andamans. *Ann. Mag. Nat. Hist.*, B(3): 190-195. <https://doi.org/10.1080/00222936008697305>
- Godwin-Austen, H.H. 1897 (1882-1920). Land and freshwater mollusca of India, including South Arabia, Baluchistan, Afghanistan, Kashmir, Nepal, Burmah, Pegu, Tenasserim, Malay Peninsula, Ceylon, and other islands of the Indian Ocean. Vols. 1-3. London. <https://doi.org/10.5962/bhl.title.18138>
- Gude, G.K. 1921. Mollusca III (Land Operculates). In A.E. Shipley and A.K. Marshall (eds.) *The Fauna of British India including Ceylon and Burma*. Taylor and Francis, London, 386 pp. <https://doi.org/10.5962/bhl.title.12890>
- ICZN. 1999. International Code of Zoological Nomenclature, 4th edition. The International Trust for Zoological Nomenclature, London. xxix, 306 pp. <https://www.iczn.org/the-code/the-international-code-of-zoological-nomenclature/the-code-online/>
- Kobelt, W. 1902. Cyclophoridae. In W. Kobelt (ed) *Das Tierreich Eine Zusammenstellung und Kennzeichnung der rezenten Tierformen* 16. Berlin, R. Friedländer und Sohn: I-XXXIX + 1662.
- Kobelt, W. and Möllendorff, O.F. 1897. Catalog der gegenwärtig lebend bekannten Pneumonopomen. *Nachrichtsblatt der Deutschen Malakozoologischen Gesellschaft*, 1(3): 73-192.
- Naggs, F. 1997. William Benson and the early study of land snails in British India and Ceylon. *Arch. Nat. Hist.*, 24(1): 37-88. <https://doi.org/10.3366/anh.1997.24.1.37>
- Nevill, G. 1878. Hand list of Mollusca in the Indian Museum, Calcutta, Part I Gastropoda. Trustees of the Indian museum, Calcutta. XV+338 pp. <https://doi.org/10.5962/bhl.title.11957>
- Pfeiffer, L. 1860-1866. Beschreiber und Abbildung, neuer oder kritischer Land und Süßwasser-Mollusken. *Novitates conchologicae*, 2: 139-303.
- Theobald, W. 1876. Catalogue of the land and freshwater shells of British India. pp. 165.
- Vignard. M. 1829. Description du Maillotin (*Pupina*), nouveau genre de coquilles. *Ann. sci. nat., Zool. Biol. Anim.*, 18: 439-440, pl. 11.