Systematic review of the land snail genus *Neocepolis* Pilsbry, 1891 (Pulmonata: Camaenidae) from north Vietnam

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Abstract

By examination of the shell, radula and genital morphology and comparison with type material of the two known species, we reassess the status of *Neocepolis* Pilsbry, 1891, a poorly known genus of Vietnamese camaenids. Previously recognised solely on the basis of shell characters, we identify features of genital morphology that confirm the specific status of *Neocepolis meracha* (Mabille, 1888) and *N. morleti* (Dautzenberg and d’Hamonville, 1887) and the validity of *Neocepolis* as a distinct genus within a clade that includes *Camaena* and *Camaena* (Camaenella).

Keywords: Taxonomy, Pulmonata, Camaenidae, Neocepolis, systematics, Vietnam

Introduction

The Camaenidae exemplify the land snail fauna of Indochina in being diverse and rich in endemic species (Vermeulen & Maassen 2003). The family is also representative of the regional fauna in being little studied and poorly known. This particularly applies to the endemic camaenid genus *Neocepolis* Pilsbry, 1891, which consists of just two described species for which relationships with other camaenid genera are unknown. Early studies on *Neocepolis* were conchological investigations largely carried out by nineteenth century French naturalists such as P. Dautzenberg, H. Fischer, L. d’Hamonville and J. Mabille, and the group has not been revised for about 100 years. Material from recent surveys in North Vietnam allowed us to review the status of *Neocepolis* and examine features of the internal anatomy for the first time. We consider that it is important to set our findings on record as a step towards gaining an understanding of this difficult group.

*Neocepolis* Pilsbry, 1891 was erected as a section within *Obba* Beck, 1837, and characterised by possession of a dome-shaped shell with descending aperture, a flared apertural lip and columella with an obtuse tooth (Pilsbry 1891, 1894; Schileyko 2003).
Based on a review of shell characters, Pilsbry (1894), followed by Thiele (1931), classified *Neocepolis* as a subgenus of *Camaena* Albers, 1850. *Neocepolis* was subsequently recognised as a distinct genus (Zilch 1960; Richardson 1985; Vaught 1989). Known from the two species *N. merarcha* (Mabille, 1888) and *N. morleti* (Dautzenberg & d’Hamonville, 1887), *Neocepolis* is restricted to Tonkin (=northern Vietnam) (Pilsbry 1891, 1894).

**Material and methods**

Snails were sampled from several localities in northern Vietnam. Adult shells were measured for height (H), diameter (D) and whorl count (Kerney & Cameron 1979). Shell height/shell width ratios \( h/d \) ratio were calculated as a measure of shape (Kerney & Cameron 1979). Radulae were extracted and examined under a scanning electron microscope (JEOL, JSM-5410 LV), recording shape and teeth formulae, following Sutcharit and Panha (2006). Features of the genitalia were examined in at least three examples of each of the two species.

**Anatomical abbreviations**

Descriptions of the genitalia are with reference to proximal being proximal to the genital orifice. The following abbreviations are used in the descriptions of anatomy as described in Wurtz (1955) and Sutcharit and Panha (2006): a, anus; ag, albumin gland; at, atrium; au; auricle; e, epiphallus; fl, flagellum; fo, free oviduct; gd, gametolytic duct; gs, gametolytic sac; hd, hermaphroditic duct; i, intestine; k, kidney; l, lung; mc, mantle collar; ov, oviduct; p, penis; pn, pneumostome; pp, penial pilaster; pr, penial retractor muscle; puv, pulmonary vein; pv, penial verge; r, rectum; ta, talon; ur, ureter; v, vagina; vd, vas deferens; ve, ventricle; vp, vaginal pilaster.

**Institutional abbreviations**

CUMZ, Chulalongkorn University, Museum of Zoology, Bangkok, Thailand; MNHN, Muséum National D’Histoire Naturelle, Paris; SMF, Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main.

**Systematic account**

**Family CAMAENIDAE**

Genus *Neocepolis* Pilsbry, 1891

*Type species.* *Helix merarcha* Mabille, 1888 by original designation in Pilsbry 1891, pp. 234, 235.

*Diagnosis*

Shell brown to corneous, globose to depressed, dextral, umbilicate or rimate; surface with striate growth lines. Aperture slightly rounded and descending; lip thickened and expanded; parietal callus thin and transparent. Columella straight, slightly dilated and with obtuse tooth; typically with strong fold inside outer lip, represented externally by a
deep longitudinal groove. Genitalia possess large or small penial verge, long penis and vagina, and short epiphallus and flagellum. Radula possesses a unicuspid and triangular central tooth, bicuspid lateral teeth, tricuspid marginal teeth; ribbed jaw. Pallial anatomy sigmurethrous.

Remarks

*Neocepolis* is known only from Tonkin (Dautzenberg & d’Hamonville 1887; Mabille 1887, 1888; Pilsbry 1891). Species records outside of Tonkin (*sensu* Pilsbry 1891) are either misidentifications or incorrect generic attributions to the camaenids *Chloritis* Beck, 1837, *Camaena*, *Oreobba* Pilsbry, 1894 or the bradybaenid *Phoenicobius* Mörch, 1852 (Pilsbry 1894; Gude 1914; Zilch 1964; Richardson 1983, 1985). *Neocepolis* was diagnosed by possession of a toothed columella, external groove, ribbed surface and smooth embryonic shell (Pilsbry 1891, 1894). Our study demonstrates that *Neocepolis* has simple, camaenid type genitalia.

*Neocepolis merarcha* differs from *N. morleti* in exhibiting a slightly more dome-shaped, brownish shell, slightly narrower umbilicus and with a groove marked on the outside wall. The genitalia are very similar but, on the basis of material examined by us, *N. merarcha* possesses a slightly shorter atrium, smaller penial verge and penial wall without the transverse pilaster present in *N. morleti*.

*Neocepolis merarcha* (Mabille, 1888)
(Figures 1A, B, 2A–C, 4, 5A–D)

*Helix merarcha* Mabille 1888, pp. 74, 75. Type locality: Halong, Tonkin; Pilsbry 1891, p. 235, 236, Plate 32 Figures 42–45.

*Neocepolis merarcha*: Pilsbry 1891, p. 315 (figure legend); Pilsbry 1894, p. 356 (figure legend).

*Camaena* (*Neocepolis*) *merarcha*: Pilsbry 1894, p. 107, Plate 39 Figures 9, 10.

*Helix* (*Obba*) *langsonensis* Bavay and Dautzenberg 1899, p. 29, Plate 1 Figures 1, 1a; Type locality: Lang Son and That Khé, Tonkin.

*Neocepolis cherrieri* Bavay in Dautzenberg and Fischer 1908, p. 174 (footnote), Plate 4 Figures 6–12 (new name for *Helix* (*Obba*) *langsonensis*); Zilch 1960, p. 607, Figure 2128; Zilch 1964, p. 246.

*Neocepolis cherrieri* var. *edentula* Dautzenberg and Fischer 1908, p. 174, Plate 4 Figure 6.

*Neocepolis cherrieri* var. *scrobiculata* Dautzenberg and Fischer 1908, p. 174, Plate 4 Figure 7.

*Neocepolis cherrieri* var. *depressa* Dautzenberg and Fischer 1908, p. 174, Plate 4 Figure 8.

*Neocepolis cherrieri* var. *depressascrobiculata* Dautzenberg and Fischer 1908, p. 174, Plate 4 Figures 9, 10.

*Neocepolis cherrieri* var. *carinata* Dautzenberg and Fischer 1908, p. 174, 175, Plate 4 Figures 11, 12.

Material examined

Between Lang-Son and That-Khé, Vietnam: Lectotype MNHN (Figure 1A). Tonkin, Vietnam: MNHN (7 lots). Tonkin, Vietnam: SMF 26528, 26529, 91084, 297150, 297151. Cuc Phuong National Park, Ninh Binh Province, Vietnam: CUMZ 2550 (Figure 1B), 2551, 2552, 2555, 2577, 2578, 3547.
Measurements

See Table I.

Shell

Shell globose, opaque and rimate; light brown; periostracum thin; surface with regular ribs, rather smooth below periphery. Embryonic shell small, surface smooth (Figure 2A). Spire dome shaped; apex obtuse; sutures shallow but slightly more impressed on last whorl. Whorls 6½, slowly widening and increasing regularly. Last whorl evenly rounded or with very slight peripheral keel. Close to aperture, a transverse groove below the periphery corresponds with lamella inside outer lip. Aperture round, internally brownish. Peristome subcircular, subvertical, descending; parietal callus transparent. Lip whitish, expanded, slightly thickened with short reflection. Columella curved, brownish, expanded across umbilicus, and an obtuse columella tooth, marked externally by a shallow pit (Figure 1A, B).

Figure 1. *Neocropolis* spp. from Vietnam, shells. (A) *N. merarcha* (Lectotype MNHN); (B) *N. merarcha* (CUMZ 2550) from Cuc Phuong National Park, Ninh Binh Province, Vietnam; (C) *N. morleti* (Lectotype MNHN); (D) *N. morleti* (CUMZ 2556) from Huu Lien Nature Reserve, Lang Son Province, Vietnam.
Radula

Teeth arranged in anteriorly pointed V-shaped rows, each row containing about 78 (39-(19-21)-1-(19-22)-38) teeth. Central tooth triangular, slightly concave on each side. Lateral teeth bicuspid; ectocone with small and pointed cusp; endocone large, triangular with pointed cusp (Figure 3A). Marginal teeth range from 19 to 22 (Figure 3B). Endocone very small and close to apex of mesococone; mesococone large with pointed cusp; ectocone located basally, with pointed cusp and a deep notch between it and mesococone. Outermost marginal teeth small, endocone and mesococone cusps sharp, ectocone with multiple pointed cusps (Figure 3C).

Jaw crescent shaped, with anteriorly convex cutting margin. Vertical ribs strongly prominent and variable in number (Figure 5A).

Table I. Shell measurements of Neocepolis merarcha and N. morleti. Specimen collections and/or catalogue numbers indicated in parentheses.

| Species and Locality                        | Number of adult shells examined | Ranges, Mean ± SD in mm of | Whorl ranges |
|---------------------------------------------|---------------------------------|-----------------------------|--------------|
|                                             |                                 | Whorl | Shell height | Shell width | h/d Ratio |                        |
| Neocepolis merarcha (Mabille, 1888)         | 103                             | 5 1/8-7 | 14.42–21.70 | 21.69–30.20 | 0.58–0.83 |                        |
| Ranged in Tonkin (MNHN)                    |                                 |      | 17.54 ± 1.80 | 25.55 ± 1.85 | 0.69 ± 0.06 |                        |
| Cuc Phuong National Park,                  | 17                              | 6 7/8-6 3/8 | 20.28–23.22 | 27.44–28.59 | 0.585–0.662 |                        |
| Ninh Binh (CUMZ 2550,                      |                                 |      | 21.56 ± 1.51 | 27.83 ± 0.66 | 0.618 ± 0.039 |                        |
| 2551, 2552, 2577, 2578)                    |                                 |      |              |              |              |                        |
| Neocepolis morleti (Dautzenberg and d'Hamonville, 1887) | 62                              | 6-6 4/8 | 17.51–22.88 | 23.50–31.95 | 0.63–0.79 |                        |
| Ranged in Tonkin (MNHN)                    |                                 |      | 19.96 ± 1.15 | 28.47 ± 1.54 | 0.70 ± 0.03 |                        |
| Huu Lien Nature Reserve, Lang Son          | 19                              | 5 7/8-6 3/8 | 17.61–29.39 | 26.92–34.05 | 0.59–0.87 |                        |
| (CUMZ 2553, 2554,                         |                                 |      | 20.86 ± 2.78 | 31.58 ± 1.86 | 0.66 ± 0.06 |                        |
| 2256, 2558)                                |                                 |      |              |              |              |                        |

Figure 2. Neocepolis spp. from Vietnam, protoconch sculpture. (A) N. merarcha (CUMZ 2555); (B) N. morleti (CUMZ 2558).
Pallial system

Typically sigmurethran and without mantle gland (Figure 4A). Heart (auricle (au) and ventricle (ve)) located left of kidney (on right in figure). Pulmonary cavity approximately five times longer than broad. Pulmonary vein (puv) and venation on lung (l) roof distinct and well developed. Kidney (k) elongated and slender, and extending from posterior of

Figure 3. Neocapris spp. from Vietnam, radula: A–C. N. merarcha (CUMZ 2551); (D–F) N. morleti (CUMZ 2553). (A, D) Central tooth with the first to the second lateral teeth; (B, E) lateral teeth with the tricuspid marginal teeth transition; (C, F) outermost marginal teeth. Numbers indicate order of lateral and marginal teeth. Central tooth indicated by “C”.

Pallial system

Typically sigmurethran and without mantle gland (Figure 4A). Heart (auricle (au) and ventricle (ve)) located left of kidney (on right in figure). Pulmonary cavity approximately five times longer than broad. Pulmonary vein (puv) and venation on lung (l) roof distinct and well developed. Kidney (k) elongated and slender, and extending from posterior of
Figure 4. *Neocepolis merarcha* from Vietnam (CUMZ 2550). (A) Pallial complex; (B) pneumostome.
cavity for approximately one-third length of pulmonary cavity. Ureter (ur) sigmoid, closed tube arising from apex of kidney, extending along right side of kidney, recurving adjacent to rectum (r). Anus (a) adjacent to mantle collar (mc) (Figure 4B).

Genitalia

Atrium (at) short (n=4). Penis (p) cylindrical, long and reaching similar length to vagina; proximally enlarged; distally tapering to narrow tube. Epiphallus (e) narrow and short; flagellum (fl) slightly longer than epiphallus. Vas deferens (vd) a long and small tube, extending from free oviduct to distal epiphallus. Penial retractor muscle (pr) long and slightly thickened (Figure 5B).

Internally, penial verge (pv) small, conical and long; surface with thin longitudinal ridges and wrinkles. Penial wall ribbed, forming a series of swollen longitudinal pilasters (pp); proximally, wall relatively smooth. Smooth pilasters occupy the middle of the penial chamber and encircle tip of penial verge. (Figure 5C).

Vagina (v) a cylindrical tube held in position by series of muscle bands rising from foot floor. Gametolytic duct (gd) long; proximally broader and cylindrical; distally tapering to small, long tube and terminating with swollen gametolytic sac (gs). Free oviduct (fo) relatively long; oviduct (ov) enlarged with curled lobules. Albumen gland (ag) curved ligulate (Figure 5B). Hermaphroditic duct (hd) convoluted and connected to head of talon (ta) (Figure 5D).

Internal walls of vagina possess several smooth longitudinal vaginal pilasters (vp). Proximally with small crenulated ridges; distally becoming smooth-surfaced ridges (Figure 5C).

Other features

Preserved specimens of N. merarcha exhibit a long and narrow foot, blackish integument and mantle cavity, dorsally a pale stripe runs along the entire body length. The lung roof exhibits a uniform distribution of black pigmentation. All examined specimens exhibited a longitudinally divided head wart, located between the superior tentacles.

Distribution

Neocepolis merarcha has a restricted distribution, early records were from Ha Long, Lang Son and That Khé, northern Vietnam (Mabille 1888; Pilsbry 1891; Dautzenberg & Fischer 1908). Our material was collected from Cuc Phuong National Park, Ninh Binh Province in a limestone karst area covered with evergreen forest, located about 160 km south of Hanoi.

Remarks

Neocepolis merarcha as understood by us, exhibits a wide range of shell form, associated with several named “varieties” of uncertain status based on degree of shell elevation and nature of apertural barrier (Dautzenberg & Fischer 1908). The material collected by us closely corresponds with the nominotypical form, distinguished from the other five “varieties” by possession of an elevated or dome-shaped shell and obtuse columella tooth (Mabille 1888; Dautzenberg & Fischer 1908). Additional material is needed before the status of these “varieties” can be assessed meaningfully.
Figure 5. *Neocepolis* spp. from Vietnam, jaw and genitalia. A–D. *N. merarcha* (CUMZ 2551; May, 1999) and E–H. *N. morleti* (CUMZ 2553; May, 1999). (A, E) Jaws; (B, F) general view of genital system; (C, G) internal structure of penis, atrium and vaginal chamber; (D, H) a connection of hermaphroditic duct and talon.
One specimen exhibited 22 mite-cysts on the lung roof and distributed from around the kidney base, being most abundant proximal to the pneumostome.

*Neocepolis morleti* (Dautzenberg and d’Hamonville, 1887)

(Figures 1C, D, 2B, 3D–F, 5E–H)

*Helix morleti* Dautzenberg and d’Hamonville 1887, p. 217, Plate 8 Figure 3. Type locality: road from Bach Ninh to Lang Son, Tonkin; Pilsbry 1891, p. 240, Plate 65, Figures 80, 81.

*Helix mercatorina* Mabille 1887, p. 88, Plate 2 Figures 10, 11. Type locality: Tonkin; Pilsbry 1890, p. 121, Plate 15 Figures 67, 68.

*Neocepolis morleti*: Pilsbry 1891, p. 312 (figure legend).

*Obba morleti*: Pilsbry 1891, p. 323 (figure legend).

*Camaena (Neocepolis) morleti*: Pilsbry 1894, p. 107.

**Material examined**

Than Moi, Tonkin, Vietnam, Lectotype MNHN (Figure 1C). Tonkin, Vietnam: MNHN (10 lots). Tonkin, Vietnam: SMF 26527, 297152, 297153. Huu Lien Nature Reserve, Lang Son Province, Vietnam: CUMZ 2553, 2554, 2256 (Figure 2D), 2558. Cuc Phuong National Park, Ninh Binh Province, Vietnam: CUMZ 2257.

**Measurements**

See Table I.

**Shell**

Shell depressed-globose, somewhat thin, umbilicate, corneous or whitish; periostracum thin and corneous; surface with close, regular ribs and rather smooth below periphery. Embryonic shell small and smooth (Figure 2B). Spire slightly flattened to elevated; apex obtuse to slightly acute; sutures weakly impressed. Whorls 57/8–6 1/2 increasing regularly. Last whorl shouldered to convex. Aperture round, brownish inside. Peristome subcircular, subvertical, descending slightly; parietal callus thin and pellucid to brownish. Lip brownish, expanded, and thickened with a slight reflection. Columella curved, brownish, slightly expanded at base, and an obtuse columella tooth, corresponding to shallow external depression (Figure 1C, D).

**Radula**

Each row contains about 70 (35–(18-20)-1-((17-19)-34) teeth. Central tooth, lateral teeth and marginal teeth (Figure 3D–F) similar to those of *N. merarcha*.

Jaw with strong and prominent vertical ribs, variable in number, very thin transverse growth lines present (Figure 5E).

**Pallial system**

Typically sigmurethrous; the structure of kidney and lung similar to that of *N. merarcha*. 
**Genitalia**

Atrium relatively long \((n=3)\). Penis long cylindrical; proximally enlarged and curved at penial verge; distally tapering to narrow tube. Epiphallus \((e)\) narrow and short; flagellum \((fl)\) relatively long, almost the same size as epiphallus. Vas deferens \((vd)\) a small tube extending from free oviduct to distal epiphallus. Penial retractor muscle relatively long (Figure 5F).

Internal wall of penis corrugated and exhibiting a series of thickened and swollen transverse and longitudinal pilasters, which form a fringe around penial verge tip. Penial verge very large, long conic, curved and with nearly smooth surface. Longitudinal pilasters proximal to genital orifice possesses thin to nearly smooth ridges (Figure 5G).

Vagina \((v)\) narrow, cylindrical and longer than penis, held in position by series of muscles originating from foot floor and inserted on external wall of vagina. Gametolytic duct \((gd)\) long, extending from vagina as a proximally enlarged cylindrical tube; abruptly tapering distally to narrow tube connected to gametolytic sac \((gs)\). Free oviduct \((fo)\) relatively long; oviduct \((ov)\) compact and enlarged to form lobular alveoli. Albumen gland \((ag)\) curved ligulate (Figure 5F). Hermaphroditic duct \((hd)\) contracted, convoluted and connected proximally to talon head \((ta)\) (Figure 5H).

Internally, vagina possesses several longitudinal pilasters \((vp)\), proximally with slightly corrugated and ridged surface transforming distally into smooth-surfaced ridges (Figure 5G).

**Distribution**

*N. morleti* was previously known only from along the road between Bach Ninh and Lang Son Provinces (Dautzenberg & d’Hamonville 1887; Mabille 1887; Pilsbry 1891). Our specimens were collected from Huu Lien Nature Reserve, Lang Son Province, a limestone karst area about 90 km north of Hanoi, and from Cuc Phuong National Park, Ninh Binh Province, about 160 km south of Hanoi.

**Remarks**

Pilsbry (1891) considered that *N. morleti* was closely related to *Camaena platyodon* (Pfeiffer, 1846); the two species sharing the similar shell characters of a depressed shell, toothed columella and descending aperture. Our observations of the genitalia, especially the long penis, large penial verge, triangular central tooth, and ribbed jaw are consistent with there being a close relationship between these two species. However, *N. morleti* differs from *C. platyodon* in having a quite distinct shell form which is monochrome with a ribbed surface, a longer vagina and a transverse penial pilaster (Pilsbry 1891; this study).

The body and head wart in the preserved specimens of *N. morleti* are similar to the former species in almost all characters. Only the slightly light brownish skin and lung roof differ from that of the *N. merarcha*.

**Taxonomic affinity of Neocepolis**

Conchologically, *Neocepolis* and *Camaena* share a descending aperture, reflected lip and elevated spire. Pilsbry (1894) placed *Neocepolis* as a subgenus of *Camaena* and suggested it might be closely related to *Camaena* (*Camaenella*) or *Obba*. A comparison of morphological characters of *Camaena*, *Camaena* (*Camaenella*), *Neocepolis* and *Obba* is given in Table II. Absence of penial verge, epiphallus longer than penis, smooth jaw, nearly flat shell, horizontal and deep descending aperture, continuous lip, and feather-like glandular
appendix (sensu Pilsbry 1894, p. 108) are important characters in distinguishing Obba from Camaena, Camaena (Camaenella) and Neocepolis. The presence of a penial verge, epiphallus shorter than penis, ribbed jaw, depressed to conic shape, discontinuous aperture, and an Indochinese distribution suggest a close relationship between Camaena, Camaena (Camaenella) and Neocepolis. However, an aperture bearing a small columella tooth provides only an apparent affinity between Neocepolis and Camaena (Camaenella) and the resemblance is probably due to homoplasy. In Neocepolis the columella tooth corresponds to an external depression and the parietal callus is thin. In Camaena (Camaenella) the columellar tooth is squarish, a corresponding external depression is absent and the parietal callus forms a thick cord.

Although camaenids are considered to be an ancient group with a fossil record extending to the Lower Cretaceous (Smith et al. 2004), camaenids have a generally conservative range of morphological forms. Although species often exhibit considerable variation, subtle differences have been interpreted as having more significance in camaenid systematics than they might have in other groups and have been widely used to form the basis for recognising camaenid genera (Zilch 1960). We accept that this is a valid approach and on the basis of current evidence consider that Zilch (1960) Richardson (1985) and Vaught (1989) should be followed in recognising Neocepolis as a distinct genus. However, the internal anatomy and radular morphology of most species attributed to these groups are poorly known. More species need to be examined and molecular methods applied before the status of these camaenid genera and phylogenetic relationships between them can be fully evaluated.

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**Table II. Comparative characters between Neocepolis and the other closely related genera.**

| Characters          | Camaena¹ | Camaena (Camaenella)² | Neocepolis³ | Obba⁴ |
|---------------------|----------|-----------------------|-------------|-------|
| Shell shape         | depressed globose or conic | depressed globose | depressed globose to globose | depressed to nearly flat |
| Aperture            | little to not descending, ovate, vertical, without apertural tooth | little descending, oblique, subvertical, with columella tooth | little descending, subcircular, sub vertical, with columella tooth | deeply descending, oblique, ventral, with basal tooth |
| Shell size (diameter) | large (30–75 mm) | small (22–30 mm) | small (21–34 mm) | small (17–43 mm) |
| Peristome           | discontinuous, thick or thin callus | discontinuous, callus thicken like cord | discontinuous, thin callus | continuous, thick or thin callus |
| Epiphallus          | shorter than penis | shorter than penis | shorter than penis | longer than penis |
| Radula and jaw      | central teeth triangular, jaw ribbed | central teeth triangular, jaw ribbed | central teeth triangular, jaw ribbed | central teeth rectangular, jaw smooth |
| Penial verge        | present, rather small | present, large | present, small or large | absent |

Note: Superscript numbers indicate the type species and sources of information. ¹*Camaena cicartricosa* (Müller, 1774): Solem (1992). ²*Camaenella platyodon* (Pfeiffer, 1846): Pilsbry (1892, 1894). ³*Neocepolis merarcha* (Mabille, 1888): Recent study. ⁴*Obba planulata* (Lamarck, 1822): Semper (1877); Pilsbry (1894).
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