

A new *Pseudosimnia* (Gastropoda : Cypraeoidea) from the Mediterranean and the near Atlantic region

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Abstract: A new species of **Ovulidae** Fleming, 1822, *Pseudosimnia angusta* sp. nov., is described from the Mediterranean and the near Atlantic region. Its general aspect falls between *Pseudosimnia carnea* – but with a rostrate, slenderer, less bulbous and lighter shell –, and *Pseudosimnia juanjosephii* – but with a more colourful and less rhomboid shell, with less angular edges.

Introduction: Despite well-established shell dealers' repeated claim that many shells are no more available because some places have "dried-up" or are now inaccessible for some geopolitical regions, the shell supply has never been as high as today. This has led up to the point that a lot of new **Ovulidae** have recently been available in significant amounts, unlike what the aforementioned dealers pretend, and could be described. This statement even applies to Mediterranean and near-Atlantic shells, for which no more new discoveries were to be expected. For instance, and despite 99% or almost all European shells are often thought to have already been described, the last **Ovulidae** from this area, *Simnia hiscocki* (Lorenz & Melaun) and *Simnia jacintoii* (Fehse & Trigo), were reported as late as 2011 and 2015, respectively. Such late discoveries, however, are easily explained by the higher amount of available material, allowing comparative studies and therefore the splitting into different species of what was formerly believed to be a single one.

Herein, specimens presenting consistent differences with the famous *Pseudosimnia carnea* (Poiret, 1789) are presented and discussed. Although the latter species is known to be quite variable and has indeed been given many former taxa, either as subspecies, forms or any other types of variants now all considered as synonyms, the author believes that the present description corresponds to an overlooked, new species in the genus

Pseudosimnia Schilder, 1927. This statement will have to be confirmed, however, by further studies based on the animal, which is still unknown.

Abbreviations

MNHN: National Museum of Natural History, Paris, France

L: shell length

W: shell width

H: shell height

Sytematics:

Family **OVULIDAE** Fleming, 1822

Subfamily **Prionovolvinæ** Fehse, 2007

Genus *Pseudosimnia* Schilder, 1927

Type species: *Bulla carnea* Poiret, 1789

Pseudosimnia angusta sp. nov.

Plate 1; Plate 2: Figs A-I; Plate 3: Fig A;
Plate 4 Figs C-H



Plate 1: *Pseudosimnia angusta* sp. nov. Holotype (MNHN IM-2000-33175); 13.52 × 6.89 × 5.55 mm.

Material examined: 12 fully adult shells of *Pseudosimnia angusta* sp. nov. were examined and one picture of the same species found on the Internet was considered as well (Pl. 2, Fig. I; L = 10 mm; W = 5.0 mm; H = 4.4 mm; depth unknown), all originating from the Mediterranean and the near Atlantic, off the Moroccan coastline in the region of the Gibraltar Strait, more exactly in the area ranging from Tangiers to Oued Laou (Morocco). As they were caught by fishermen specialised in red coral and jealously guarding the secrecy of their best fishing places, no precise coordinates are available. Many *Pseudosimnia carnea* (Poiret, 1789) from the same Moroccan area were also considered for the sake of comparison, as well as specimens of *Pseudosimnia juanjosensii* (Pérez & Gómez, 1987) from the Gibraltar Strait and from the Atlantic.

Type Material: Holotype: Pl. 1, L = 13.52 mm; W = 6.89 mm; H = 5.55 mm; 80 m deep (MNHN IM-2000-33175); **Paratype 1:** Pl. 2, Figs A; L = 12.11 mm; W = 6.28 mm; H = 5.32 mm; 80 m deep; **Paratype 2:** Pl. 2, Fig. B; L = 12.32 mm; W = 6.58 mm; H = 5.46 mm; 80 m deep; **Paratype 3:** Pl. 2, Fig. C; L = 9.29 mm; W = 5.01 mm; H = 4.23 mm; 80 m deep; **Paratype 4:** Pl. 2, Fig. D; L = 11.84 mm; W = 6.07 mm; H = 5.01 mm; 80 m deep; **Paratype 5:** Pl. 2, Fig. E; L = 12.61 mm; W = 6.65 mm; H = 6.00 mm; 80 m deep; **Paratype 6:** Pl. 2, Fig. L = 12.03 mm; W = 6.60 mm; H = 5.69 mm; 80 m deep; **Paratype 7:** Pl. 2, Figs G; L = 12.96 mm; W = 6.80 mm; H = 5.98 mm; 80 m deep; **Paratype 8:** Pl. 2, Fig. H; L = 11.57 mm; W = 6.37 mm; H = 5.50 mm; 80 m deep; **Paratype 9:** Not shown; L = 11.82 mm; W = 6.46 mm; H = 5.34 mm; 80 m deep; **Paratype 10:** Not shown; L = 11.32 mm; W = 6.22 mm; H = 5.39 mm; 80 m deep; **Paratype 11:** Not shown; L = 9.97 mm; W = 5.46 mm; H = 4.69 mm; 80 m deep.

All paratypes in coll. author.

Type locality, habitat and distribution: The holotype and the 11 paratypes were all fished in the Moroccan waters close to the Gibraltar Strait, mostly on its Mediterranean side, at a depth of 80 m. The specimens were recovered in red coral *Corallium rubrum* (Linnaeus, 1758) wherein the species lives, on rock bottom in muddy waters. The depth at which the specimen pictured on the Internet was trawled is unknown.

Description: Shell small, oblongly ovate, lightweight but solid, smooth on the major part, except for the dorsum where finely incised concentric striae are generally restricted to terminal collars. Both terminals of same length, protruding. Anterior terminal elongated and blunt, posterior terminal only very slightly twisted, almost straight. Funiculum clearly distinct, triangular and smooth. Aperture narrow. Labrum calloused and slightly

flattened, finely denticulate. Terminal ridge elongated and steep. Shell glossy and somewhat translucent.

Colouration from pale red to pale purple through reddish orange or pink, with a paler band at mid-dorsum. Distinct yellow suture line along the labral margin and the terminal collars. Callosities white to pale yellow.

Remarks: Except for paratype 11, all specimens were trawled alive, but were unfortunately recovered dead and dry in the shell so that no description of the animal can be done at this time.

The host is *Corallium rubrum* (Linnaeus, 1758), in which *P. carnea* also lives, and with which *P. angusta* sp. nov. was collected and probably overlooked so far among the many *P. carnea* found there.

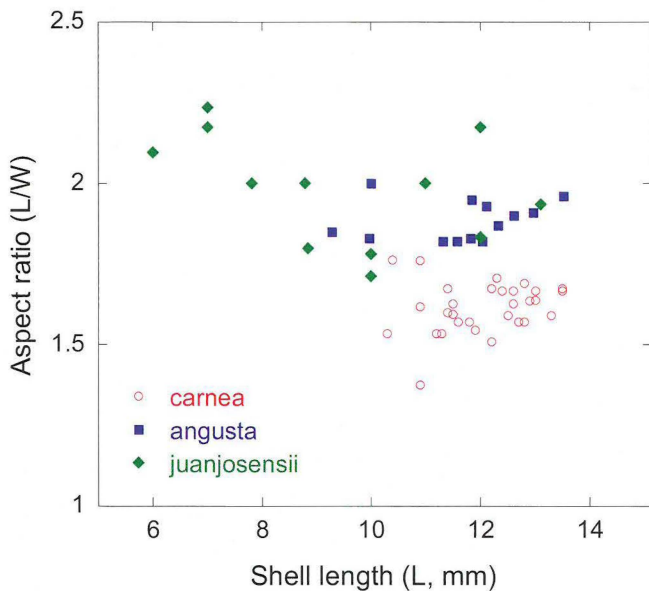
Discussion: Because of its general morphology, the present new species indisputably belongs to the genus *Pseudosimnia* (Schilder, 1925). According to Cate, the shells of *Pseudosimnia* are “fairly small, pyriform, inflated, with unusually broad projecting terminals, and, for the most part, lacking significant dorsal and ventral incised striation”. Lorenz and Fehse add that the shells are “mostly lightweight, [with] dorsum usually with a characteristic irregular, maleate surface, and striae on either terminal; ventrum hardly calloused; inner adaxial carinal ridge absent; fossula indistinct; labral lip rather narrow and thin”. Such a definition agrees with the former description of *P. angusta* sp. nov., although no maleate surface was observed.

The main consistent difference between *P. angusta* sp. nov. and *P. carnea* is the much slenderer and more oblong shape. Although the shell is pyriform, it lacks the bulbously inflated contour which is so specific of *P. carnea*. Additionally, the terminals are more prominent and the posterior one is either very slightly twisted or not at all, giving *P. angusta* sp. nov. a rostrate shape. As a result, the “aspect ratio” here defined as the ratio of the length to the width of the shell (L/W), is consistently higher in *P. angusta* sp. nov. than in *P. carnea*, as seen in Fig. 1.

Plate 3 compares the holotype of *P. angusta* sp. nov. with 2 specimens of *P. carnea* from the same area (Morocco, Gibraltar Strait): one with the very typical inflated pyriform shape, and one having a rostrate morphology. Even the rostrate specimen is not as slender and lightweight as *P. angusta* sp. nov.

The main difference with the other species in the genus *Pseudosimnia* (Schilder, 1925) which can be found in the same area, *P. juanjosensii*, is the far less rhombohedral shape and the corresponding less angular dorsum, the different colour and the less oblique anterior terminal. Whereas most *P. juanjosensii* are white to yellow, *P.*

angusta sp. nov. is rather fresh pink to red, in agreement with the host on which it feeds. However, the recent observation of several specimens of *P. juanjosensii* in the Mediterranean, some of them much more colourful than what is known for the material from the Atlantic (Micali et al, 2013, is confusing the issue. A few shells that are simultaneously rostrate, rhomboid, and pink with a pale band at mid-dorsum may be somewhat difficult to assign to either *P. angusta* sp. nov. or to *P. juanjosensii*. Therefore, it is possible that *P. carnea*, *P. angusta* sp. nov. and *P. juanjosensii* belong to a species-complex whose extreme variants can be positively identified but which admits intermediary forms for which the question is still open. Plate 4 suggests such a problem when various shells belonging to the 3 aforementioned species are put next to each other and artificially presented with the same size. One might indeed argue that a complete gradation can be found, as done in a former paper in which synonyms crossing several valid genera were suggested, but the present author believes that this way of doing is misleading when only one specimen is considered for establishing such a gradation (see Simone, 2007). When more than 10 specimens are considered, as has happened here, consistent characteristics become obvious, even if a few shells still fall between well-established species. So there is a probability of species-complex for *P. carnea*.



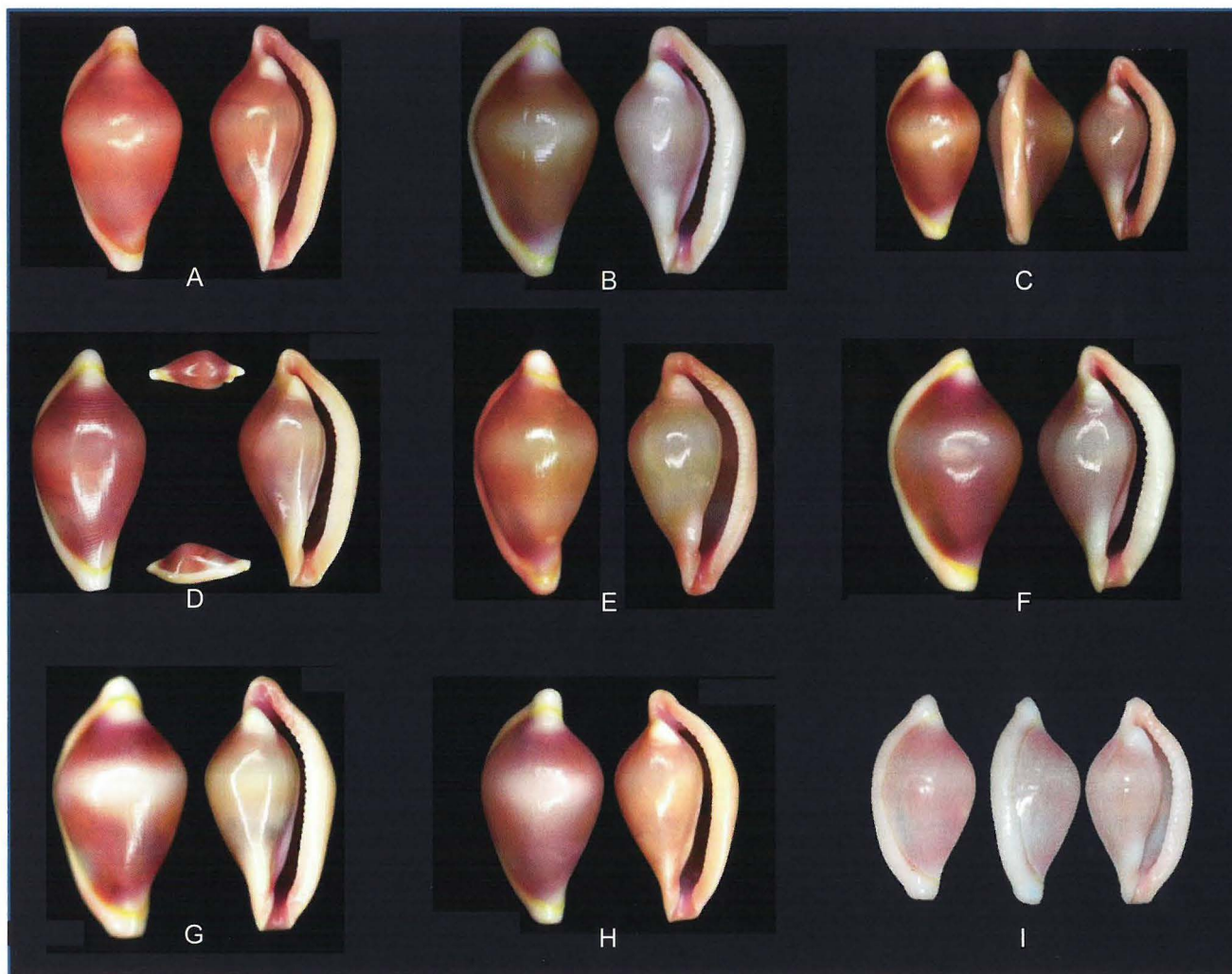


Plate 2. A-I: *Pseudosimnia angusta* sp. nov.

A: Paratype 1; 12.11 × 6.28 × 5.32 mm; **B:** Paratype 2; 12.32 × 6.58 × 5.46 mm; **C:** Paratype 3; 9.29 × 5.01 × 4.23 mm; **D:** Paratype 4; 11.84 × 6.07 × 5.01 mm; **E:** Paratype 5; 12.61 × 6.65 × 6.00 mm; **F:** Paratype 6; 12.03 × 6.60 × 5.69 mm; **G:** Paratype 7; 12.96 × 6.80 × 5.98 mm; **H:** Paratype 8; 11.57 × 6.37 × 5.50 mm; **I:** Specimen from Tangiers; 10 × 5 × 4.4 mm.

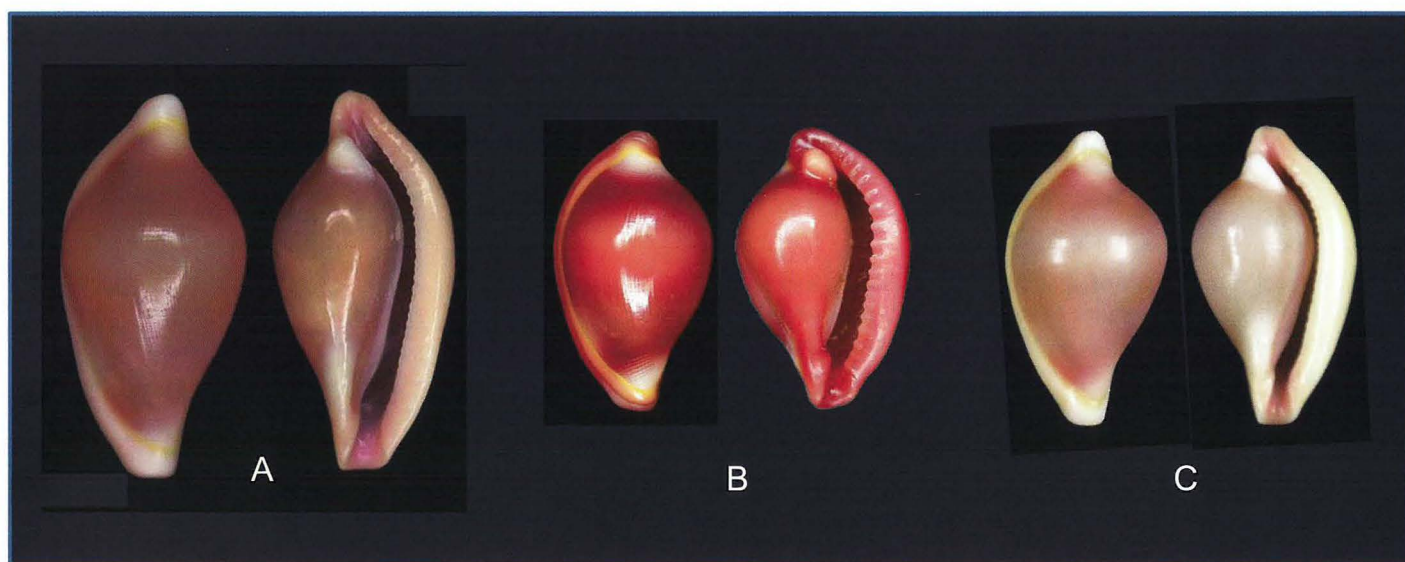


Plate 3: Comparison between *Pseudosimnia angusta* sp. nov. with 2 specimens from the same area (Morocco, Gibraltar Strait): **A:** holotype of *P. angusta* sp. nov.; **B:** typical (though very colourful) specimen of *P. carnea*; **C:** rostrate specimen of *P. carnea*.

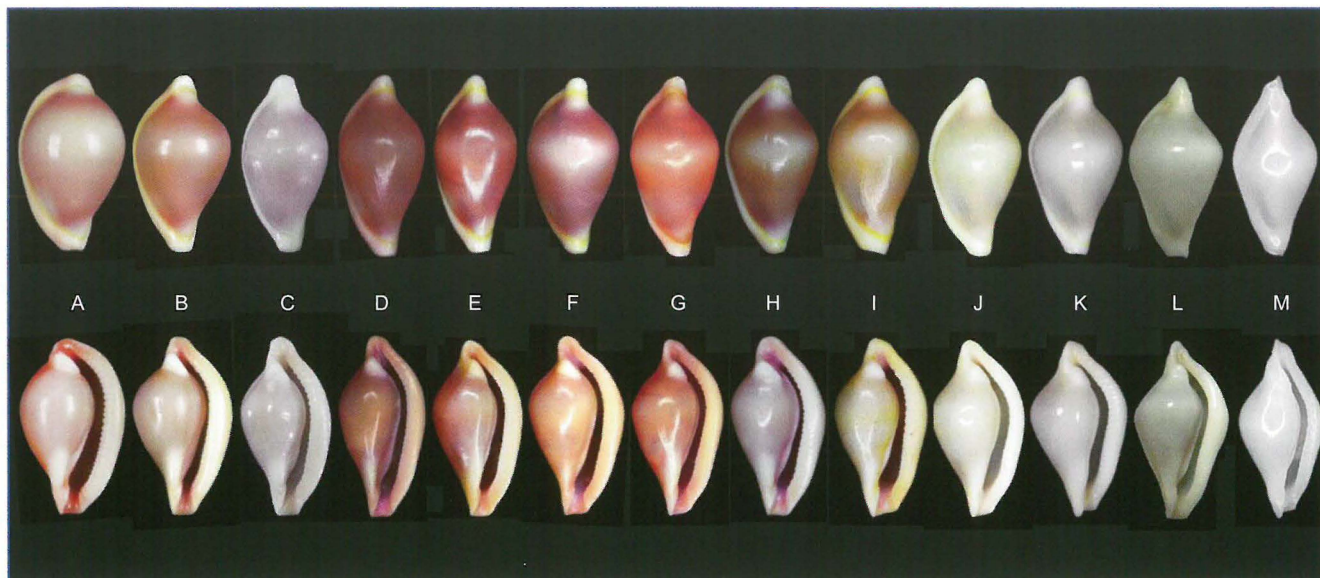


Plate 4: Gradation (not to scale) from *P. carnea* to *P. juanjosensii* through *P. angusta*:

A: typical *P. carnea* (Gibraltar Strait)

B: rostrate *P. carnea* (Gibraltar Strait)

C: *P. angusta* sp. nov. (internet specimen, Tangiers)

D: *P. angusta* sp. nov. (holotype, Gibraltar Strait)

E: *P. angusta* sp. nov. (paratype 4, Gibraltar Strait)

F: *P. angusta* sp. nov. (paratype 8, Gibraltar Strait)

G: *P. angusta* sp. nov. (paratype 1, Gibraltar Strait)

H: *P. angusta* sp. nov. (paratype 2, Gibraltar Strait)

I: *P. cf. juanjosensii* (Gibraltar Strait) (shell more solid, mostly yellow, anterior spatulate and oblique, ...)

J: *P. juanjosensii* (Gibraltar Strait)

K: *P. juanjosensii* (Gibraltar Strait)

L: *P. juanjosensii* (Western Sahara)

M: *P. juanjosensii* (Brasil).