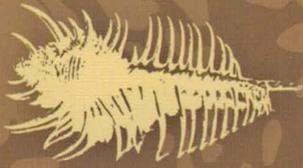
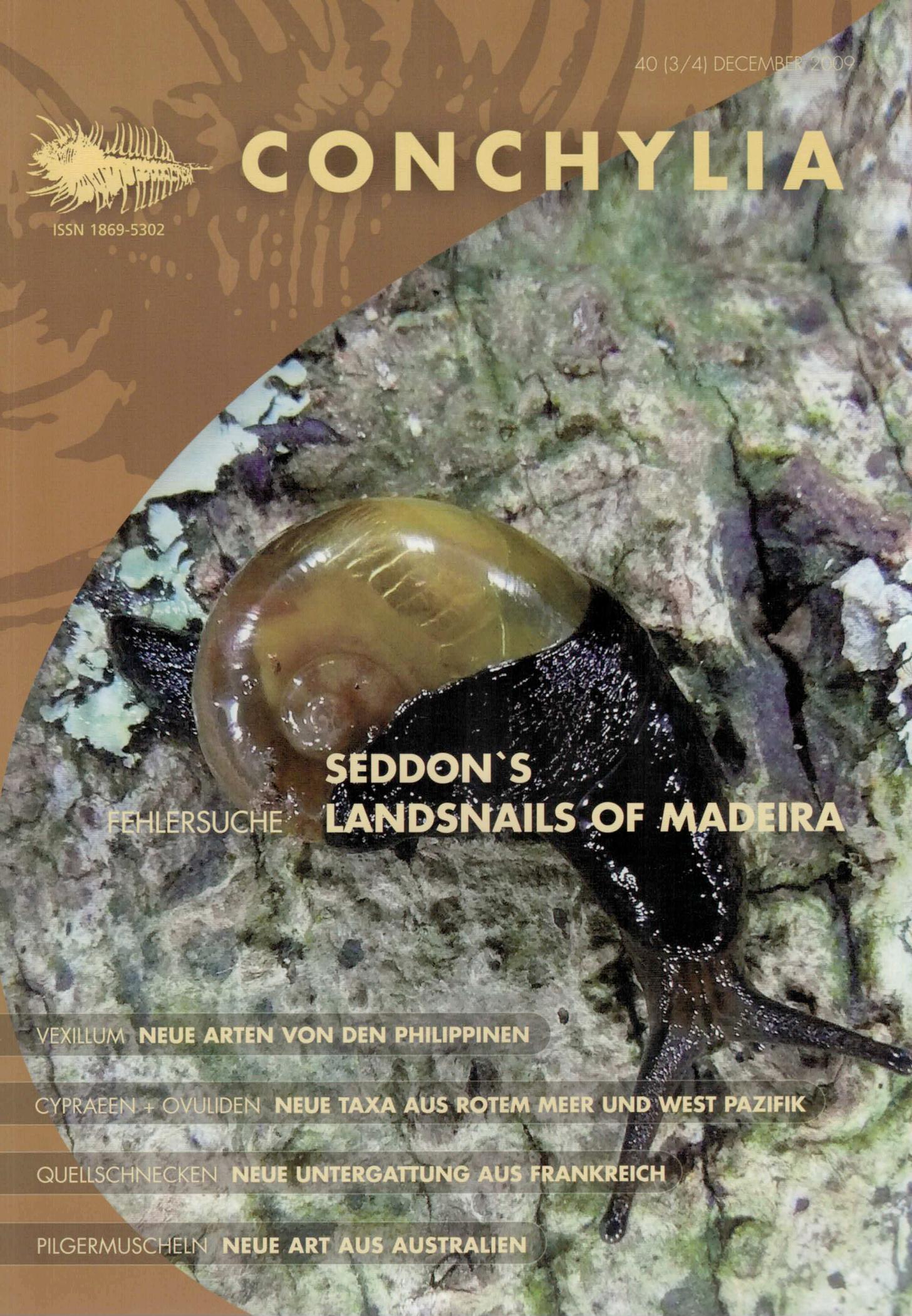


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# CONCHYLIA



**FEHLERSUCHE** **SEDDON'S LANDSNAILS OF MADEIRA**

**VEXILLUM NEUE ARTEN VON DEN PHILIPPINEN**

**CYPRAEEN + OVULIDEN NEUE TAXA AUS ROTEM MEER UND WEST PAZIFIK**

**QUELLSCHNECKEN NEUE UNTERGATTUNG AUS FRANKREICH**

**PILGERMUSCHELN NEUE ART AUS AUSTRALIEN**

## Two new species of Ovulidae from the Western Pacific (Gastropoda: Ovulidae)

By FELIX LORENZ, Buseck-Beuern (Germany)

Figs 1-8

### Abstract

*Kuroshiovolve lacanientae* n. sp. is described from the Philippines and compared with its sister-species *K. shingoi*. *Sandalia bridgesi* n. sp. is a new species from deep water off the eastern coast of China. Its transparent shell distinguishes the new species from its congeners.

### Zusammenfassung

*Kuroshiovolve lacanientae* n. sp. wird von den Philippinen beschrieben und mit der Schwesterart *K. shingoi* verglichen. *Sandalia bridgesi* n. sp. ist eine Art aus dem Tiefwasser vor der östlichen Küste Chinas, die sich durch ihr transparentes Gehäuse von verwandten Arten unterscheidet.

### Keywords

*Kuroshiovolve lacanientae*, *Sandalia bridgesi*, new species, Philippines, Eastern China.

### Introduction

The family Ovulidae has recently been revised comprehensively (LORENZ & FEHSE, 2009). The attention given to this interesting group of gastropods has since increased considerably. Many species are still undescribed or under revision. This paper describes two of them.

### *Kuroshiovolve lacanientae* n. sp.

**Material:** Three live taken specimens, all from 50-52 m depth just off Punta Engaño, Mactan Is., Cebu, Philippines.

Holotype: 29.5 mm. Male specimen. Coll. MNHN 21257

Paratype 1: 32.6 mm. Female specimen. Coll. LORENZ

Paratype 2: 27.9 mm. Female specimen. Coll. LORENZ



Fig. 1: Living animals: Left, *K. lacanientae* n. sp. Paratype 2; right, *K. shingoi* (Photo E. GUILLOT DE SUDIRAUT)



Fig. 2: The wavy colour pattern of *K. lacanientae* n. sp. (left, Paratype 2; middle, Holotype; right, Paratype 1)

**Description:** Shell thin, but not transparent. Extremely narrow, straight cylindrical. The terminals are blunt and not bordered, they are straight. There is no funiculum but a very slight twist posteriorly. The aperture is straight, equally narrow except in the fossular section where the edentate labrum is distinctly declivous. There is no development of callus but the labral lip appears to be folded outwards, forming a collar of equal width bordering the dorsum and the extremities. The dorsum is glossy, with regular longitudinal furrows towards the extremities, and few, very fine irregular transverse striae just above the canals. The lateral collar and the base are covered with numerous microscopic granules.

The colouration is cream, with wavy yellow to orange longitudinal lines. These are not obvious at first sight, but under magnification.

The paratypes reveal a variability only in general colour, ranging from cream to rich red-brown. In darker shells, the peculiar wavy lines are more obvious (Fig. 2).

The living animal has a thick but transparent brown mantle showing four to five prominent wart-like papillae lined up along the shell's periphery on either side. The siphon is large, funnel-shaped and brown, without ornamentation. The posterior outlet is also funnel-shaped. The tentacles are brown at their base, yellow at the tips, with a paler area inbetween. The foot is pale red-brown (Fig. 1, left).

The radula shows a typical arrangement of a central tooth and one flanking lateral on either side, framed by two



Fig. 3: *Kuroshiovolva shingoi* AZUMA & CATE, 1971, 25.2 mm, Philippines

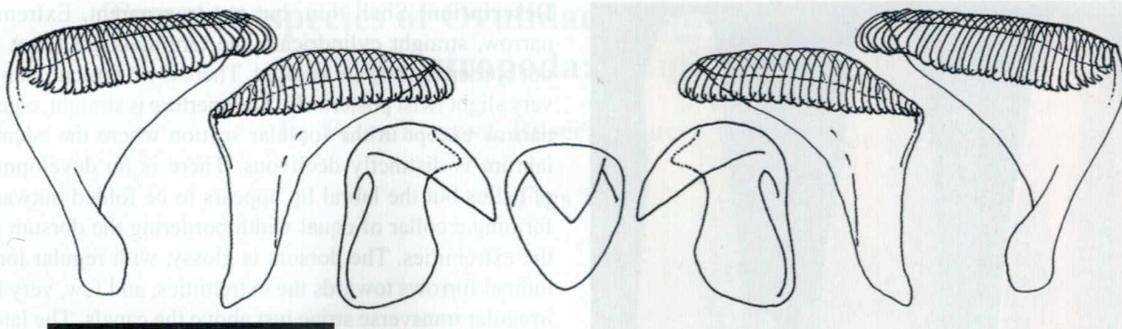


Fig 4: Radula of *K. lacanientae* n. sp. Scale: 0.2 mm

large marginal teeth wearing a comb-like arrangement of 32-38 curled denticles (Fig. 3). Similar radulae are found in related spindle-shaped Ovulidae (e. g. see my drawing in FEHSE 1999, Fig. 1 of *Phenacovolva schmidi* FEHSE & WIESE 1993).

**Distribution, habitat and etymology:** *Kuroshiovolve lacanientae* n. sp. was so far found only in the type locality, Punta Engaño, Mactan Island, Cebu, Philippines, on a large seafan that was tentatively identified as *Plumarella* sp., at 40-55 m by JEAN PIERRE BARBIER, after whose wife RUTH LACANIENIA BARBIER this new species is named.

**Discussion:** The genus *Kuroshiovolve* was so far known only from a single widespread deep-water species, *K. shingoi* AZUMA & CATE, 1971 (Fig. 4). That species also ranges from white to reddish in general colour, but differs from *K. lacanientae* by the upward curved, finely framed extremities, the complete absence of any colour-pattern and the more curved posterior canal. The seemingly obvious difference in size of the types of *K. lacanientae* and most *K. shingoi* does not have any significance, as size varies greatly in some species of Ovulidae, especially those with sexual dimorphism. More interesting to note in this regard is that small specimens of *K. shingoi* are usually males and larger ones are females. Sexual dimorphism in size is not the case in *K. lacanientae* as holotype and paratype 1 where a mating couple.

The animals show obvious differences: the mantle of *K. shingoi* lacks large papillae but has a black reticulated colour-pattern. The siphon of *K. shingoi* is framed with yellow, whereas in *K. lacanientae* it is plain brown. Colouration of mantles may vary infraspecifically in Ovulidae, whereas the ornamentation of siphon and tentacles is very constant (Fig. 1).

The radulae of two specimens of *K. shingoi* illustrated by AZUMA & CATE do not at all correspond with the radulae extracted from the three specimens of *K. lacanientae* n. sp., but a direct comparison based on SEM photos, as well as a study on the variability of radulae within a species of Ovulidae are necessary to ascertain the value of this feature. Apart from the peculiar animal of *K. lacanientae*

n. sp., the fine longitudinal wavy pattern make this species fairly unique among the Ovulidae. It is a species found at moderate depths around 50 m whereas *K. shingoi* is found at 100 m to 450 m. The record of *K. shingoi* from shallower water mentioned by LORENZ & FEHSE (2009) was based on the first finding of *K. lacanientae* n. sp.

Incidentally, an animal and shell of an indeterminate species similar to *K. lacanientae* was illustrated by COLEMAN (2003: 90, Fig. ovul146). That specimen was found on *Astrogorgia* sp. at 35 m at Loloata Is., Papua New Guinea. The mantle shows papillae that are branched and even larger than those of *K. lacanientae* n. sp. It seems that the peculiar genus *Kuroshiovolve* consists of several species with a particular morphology in shell-shape, a parallel to the highly diverse genus *Pellasimnia*, whose species all basically have the same shell-shape and colouration (spindle-shaped with short canals, uniform white to red, with a darker spot on either end).

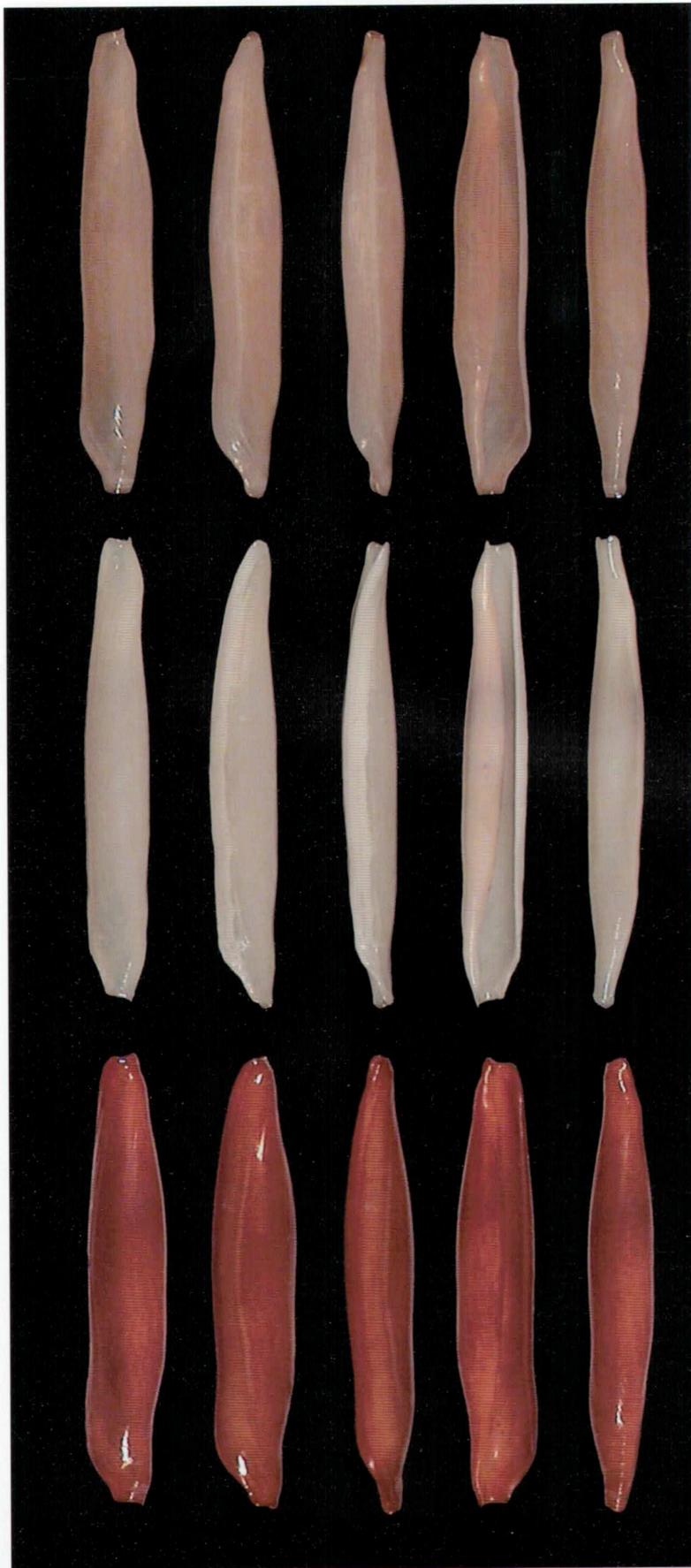


Fig. 5: *Kuroshiovolya lacanientae* n. sp.:  
top row, Holotype;  
middle row, Paratype 1;  
bottom row, Paratype 2

***Sandalia bridgesi* n. sp.**

**Material:** Twelve live taken specimens, all from 150–200 m depth off the eastern coast of China, Taiwan Strait.

Holotype: 9.2 mm. Coll. MNHN 21258

Paratype 1: 9.0 mm. Coll. LORENZ

Paratype 2: 9.9 mm. Coll. R. BRIDGES, USA

Paratype 3: 10.2 mm, Coll. LORENZ

Paratype 4: 8.9 mm, see LORENZ & FEHSE (2009: pl. 57, fig. 3 “*Sandalia* cf. *triticea*”)

And six further paratypes in the author’s collection and one in coll. DIRK FEHSE, Berlin.

**Description:** Shell small, inflated-oval. Dorsum and mid-portion of the base transparent. Labrum, tips and the terminal sections of the columellar side calloused. Dorsum glossy and smooth, fine incised striae are visible above the extremities towards the anterior and posterior section. Aperture constricted posteriorly, much wider anteriorly, labrum declivous. Shell forming a ridge-like curl posteriorly. The posterior extremity is rounded and spatulate, with a slight indentation in the transition to the calloused, rounded labrum. There are 26 well produced teeth labrally. The outer margin of the labrum is broad and calloused, forming a slight depression along the border to the dorsum, whose transparency is an extreme contrast to the moderately thick callus of the labrum. The funiculum forms a distinct posterior ridge and is weakly crenulated. There is a weakly produced fossula extending towards the posterior as a weak but visible carinal ridge. The anterior terminal ridge is sharply pointed.

Transparent dorsum and base are pale brown. The tips and the canals are very slightly darker, with a red hue, the labral and terminal callousities are paler, with a yellow hue.

The paratypes show no significant variation either in shape, size or colouration.

**Type locality and distribution:** So far, *Sandalia bridgesi* n. sp. has been found in an area east of Taizhou, Eastern China, 200 km offshore, trawled from 150–200 m. It is found alongside several recently discovered species of Ovulidae that appear endemic to this area (*Serratovolva luteocincta* CELZARD, 2008, *Pellasinia hochmuthi* LORENZ & FEHSE, 2009) and a variety of other rare species (e. g. *Cuspivolva habui* CATE, 1973, *Cuspivolva celzardi* FEHSE, 2008, *Cuspivolva singularis* CATE, 1973).

**Etymology:** Named in honour of RANDY J. BRIDGES, well known to the malacological community as expert in Cypraeidae and shell-microstructure and dear friend of the author.

**Discussion:** The general shape, the funiculum and the formation of the labrum and the columella clearly place the new species into the genus *Sandalia*. It differs from its congeners

by the obvious and striking transparency of the dorsum in contrast to the calloused labrum and terminals. *Sandalia triticea* LAMARCK, 1810 is a common species ranging from Korea to Japan, with considerable conchological variability and an according amount of synonyms (Fig. 7). It may be superficially similar to the new species, but differs by its solid, less transparent, more colourful, often bright red to purple dorsum contrasting paler callousities. The dorsum in *S. triticea* usually has a paler mid-section whereas it is of uniform colour in *S. bridgesi* n. sp. The general shape of *S. triticea* is more pyriform, distinctly tapering anteriorly whereas *S. bridgesi* n. sp. is wider in that area. The funiculum of the new species is more produced in proportion to the shell’s length. *S. meyeriana* CATE, 1973 is a much larger, more solid, more elongate and pointed anteriorly. The fossula in *S. meyeriana* is weakly crenulated and the funiculum is much smaller in proportion. An interesting observation can be made when viewing the shells under ultraviolet light: specimens of *S. triticea* show a bright yellow fluorescence of the terminal collars, the callousities and the dorsal mid-portion, sometimes of the entire shell. In *S. bridgesi* n. sp., only a small area on either end of the shell shows fluorescence: the posterior curl and a small area in the anterior region where the dorsum meets the callousity of the anterior extremity (Fig. 8). The different types of fluorescence observed in some seashells are presently under study (BRIDGES & LORENZ, in progress).

### Acknowledgements

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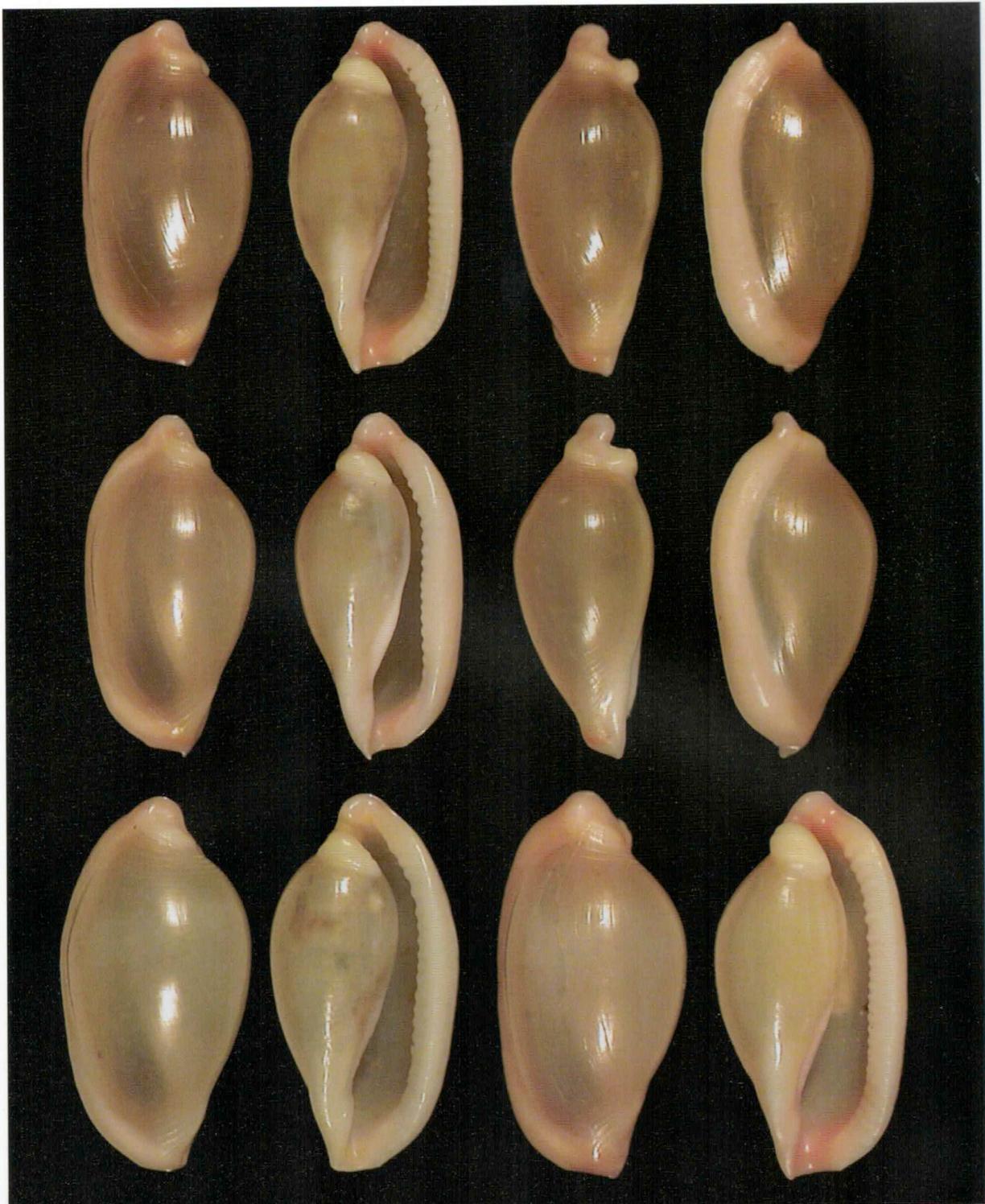


Fig. 6: *Sandalia bridgesi* n. sp.: top row, Holotype; middle row, Paratype 1; bottom left, Paratype 2 - right, Paratype 3



Fig. 7: Variations of *Sandalia triticea* LAMARCK, 1810. Largest shell: 12.5 mm. All from Japan



Fig. 8: Fluorescence of the shells of *S. triticea* LAMARCK, 1810 (left) and *S. bridgesi* n. sp. (right)