

Cypraeidae type material in the Kornel Kovacs Collection, Sydney, Australia

I. Paratypes of fifteen nominal taxa

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Abstract

Paratype material of fifteen nominal taxa of Cypraeidae held in the Kornel Kovacs Collection, Sydney, Australia, is documented photographically. The taxa were described between 1989 and 2025 and include both extant and fossil representatives. Standardised dorsal, ventral, and two lateral views are provided for each specimen. No taxonomic or nomenclatural changes are proposed. This contribution establishes a permanent, citable record of paratype material held in a private collection. The majority of the paratypes are figured here for the first time.

Keywords: Cypraeidae; paratypes; type material; private collections; fossil taxa; photographic documentation; zoological nomenclature

INTRODUCTION

Type specimens form the basis of zoological nomenclature. While holotypes are typically deposited in museums, paratypes are often distributed among multiple institutions and occasionally private collections. Access to paratype material may therefore be limited, and published illustrations in original descriptions are often few in number or reproduced at small scale.

In the family Cypraeidae, shell morphology and colour pattern remain central to taxonomic identification at both species and subspecies levels. High-resolution photographic documentation provides a stable means of recording these characters and facilitating access to paratype material when direct examination is not possible.

This paper presents photographic documentation of fifteen paratypes of Cypraeidae held in the Kornel Kovacs Collection (Sydney, Australia). No taxonomic reassessment is undertaken; the purpose of this contribution is strictly documentary.

MATERIALS AND METHODS

All illustrated specimens are paratypes of validly published nominal taxa within Cypraeidae. The material is held in the Kornel Kovacs Collection, Sydney, Australia. Nomenclature and authorship follow the original descriptions; current combinations follow MolluscaBase, accessed in 2026.

Specimens were re-measured using digital callipers and shell length is reported in millimetres to one decimal place. Length is defined as the maximum distance from the posterior extremity to the anterior extremity of the shell.

Locality data refer to the illustrated paratype only and follow the specimen label. For the complete locality information associated with the type series, including the formal type locality, see the original descriptions cited for each taxon.

All specimens were photographed in a controlled studio setting using a Sony A7R III camera equipped with a Sony FE 90 mm f/2.8 Macro G OSS lens mounted on a tripod. Images were captured remotely using Helicon Remote and stacked using Helicon Focus. Specimens were photographed in standardised dorsal, ventral, and lateral orientations. Specimens were not altered in any way; image adjustments were limited to curves and levels, minor desaturation where LED lighting produced artificial colour saturation, and removal of extraneous artefacts such as minute brush fibres and dust particles. Only a small number of distracting reflections were reduced; most reflections were retained.

SYSTEMATICS

Extant taxa

Genus *Umbilia* Jousseaume, 1884

Umbilia armeniaca diprotodon Lorenz & Beals, 2013, Fig. 1

Umbilia hesitata suprastrata Govaert, Deprez & Vandenberghe, 2015, Fig. 2

Umbilia capricornica capricornica Lorenz, 1989, Fig. 3

Genus *Zoila* Jousseaume, 1884

Zoila eludens stricklandi Lorenz, 2015, Fig. 4

Genus *Bistolida* Cossmann, 1920

Bistolida stolidi lorrainae Lorenz, 2017, Fig. 5

Genus *Purpuradusta* Schilder, 1939

Purpuradusta fimbriata insolita C. P. Meyer & Lorenz, 2017, Fig. 6

Genus *Lyncina* Troschel, 1863

Lyncina ventriculus johnclarki C. P. Meyer & Lorenz, 2017, Fig. 7

Genus *Cypraeovula* Gray, 1824

Cypraeovula fusciorubra elsonum Lorenz & Liltved, 2022, Fig. 8

Genus *Leporicypraea* Schilder, 1927

Leporicypraea mappa curvati Beals & Lum, 2017, Fig. 9

Leporicypraea rosea ultraviola Lorenz & Bridges, 2014, Fig. 10

Genus *Naria* Gray, 1837

Naria citrina dauphinensis (Lorenz, 2002), Fig. 11

Genus *Hiraseadusta* Habe, 1954

Hiraseadusta hirasei lagostrophus (Lorenz, 2025), Fig. 12

Genus *Mauritia* Troschel, 1863

Mauritia gibba vandammei Erdmann, 2021, Fig. 13

Fossil taxa

Naria korneli (Fehse & Vicián, 2021), Fig. 14

Genus *Zonarina* Sacco, 1894

Zonarina liviae Fehse & Vicián, 2004, Fig. 15

FIGURES

Figure 1

Umbilia armeniaca diprotodon Lorenz & Beals, 2013

Paratype #38. Not figured in the original description.

Length: 102 mm

Collected by Tony Kingdon in December 1995; Thorny Passage, Port Lincoln, South Australia; 35 m; sand among scattered sponges.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 1

Figure 2

Umbilia hesitata suprastrata Govaert, Deprez & Vandenberghe, 2015

Paratype #21. Not figured in the original description.

Length: 79.1 mm

Port Fairy, Victoria, Australia. Trawled; sand in mudholes; 330–370 m.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 2

Figure 3

Umbilia capricornica capricornica Lorenz, 1989

Paratype #13. Lateral (labral and columellar) views figured in the original description (pl. 2).
Length: 67.4 mm

Swains Reef, Queensland, Australia. Trawled, 1986.

- A.** Dorsal view
- B.** Ventral view
- C.** Lateral columellar view
- D.** Lateral labral view



Fig. 3

Figure 4

Zoila eludens stricklandi Lorenz, 2015

Paratype #6. Not figured in the original description.

Length: 39.6 mm

ROV at 85–90 m north-northwest of the Northwest Cape, west of Muiron Island, Western Australia.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 4

Figure 5

Bistolida stolidia lorrainae Lorenz, 2017

Paratype #13. Figured in the original description (pl. 1.4).
Length: 21.9 mm

Conserdine Reef, North Keppel Island, Queensland, Australia.

- A.** Dorsal view
- B.** Ventral view
- C.** Lateral columellar view
- D.** Lateral labral view



Fig. 5

Figure 6

Purpuradusta fimbriata insolita C. P. Meyer & Lorenz, 2017

Paratype #10. Not figured in the original description.

Length: 11.5 mm

Under dead coral slabs, 6–10 m; Christmas and Cocos (Keeling) Islands, Indian Ocean Territory, Australia.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 6

Figure 7

Lyncina ventriculus johnclarki C. P. Meyer & Lorenz, 2017

Paratype #9. Not figured in the original description.

Length: 45.1 mm

Christmas Island, Indian Ocean Territory, Australia.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 7

Figure 8

Cypraeovula fuscorubra elsorum Lorenz & Liltved, 2022

Unnumbered paratype. Not figured in the original description.

Length: 27.8 mm

Danger Point, Dyer Island, Agulhas area, South Africa; 30–35 m.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view

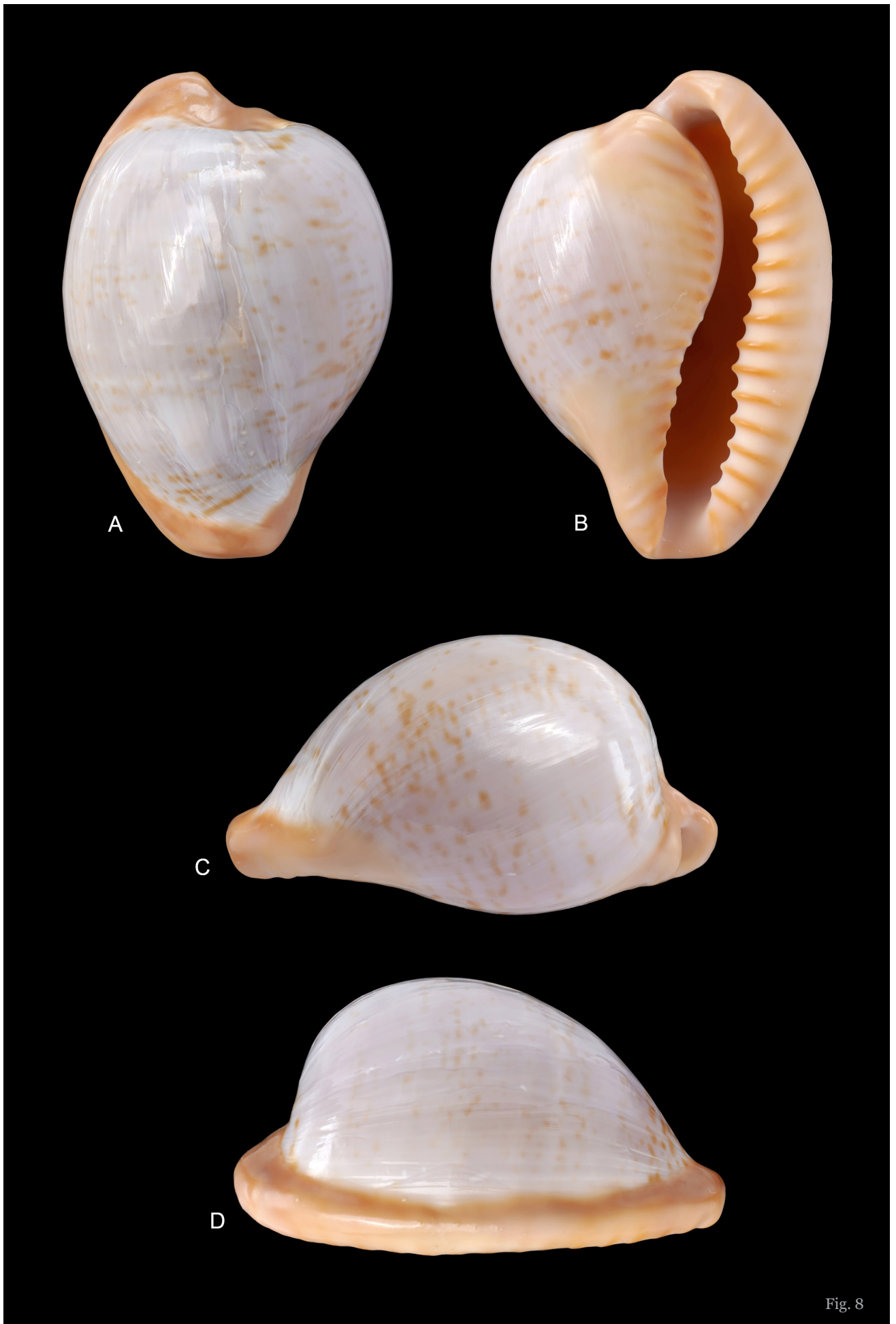


Fig. 8

Figure 9

Leporicypraea mappa curvati Beals & Lum, 2017

Paratype #14. Not figured in the original description.

Length: 71.1 mm

Collected at night by Paul Kanner in November 2000; found in rock crevice at 15 m; Mappa Rock, Taiohae Bay, Nuku Hiva, Marquesas.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 9

Figure 10

Leporicypraea rosea ultraviola Lorenz & Bridges, 2014

Paratype #24. Not figured in the original description.

Length: 70.6 mm

Dived at 15–20 m; Nacala, Mozambique.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 10

Figure 11

Naria citrina dauphinensis (Lorenz, 2002)

Original combination: *Erosaria citrina dauphinensis* Lorenz, 2002

Paratype #36. Not figured in the original description.

Length: 22.4 mm

Tolagnaro (Fort Dauphin), southeastern Madagascar. On rocks; collected by locals in the 1990s.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 11

Figure 12

Hiraseadusta hirasei lagostrophus (Lorenz, 2025)

Original combination: *Austrasiatica hirasei lagostrophus* Lorenz, 2025

Paratype #3. Not figured in the original description.

Length: 55.8 mm

West of False Entrance, Western Australia (26°28'S, 112°30'E); 30 m; on top of cliff sloping to ~260 m; sand among sponges.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 12

Figure 13

Mauritia gibba vandammei Erdmann, 2021

Unnumbered paratype. Not figured in the original description.
Length: 53.6 mm

Bon Island, Phuket, Thailand.

- A.** Dorsal view
- B.** Ventral view
- C.** Lateral columellar view
- D.** Lateral labral view



Fig. 13

Figure 14 (fossil)

Naria korneli (Fehse & Vicián, 2021)

Original combination: *Pustularia korneli* Fehse & Vicián, 2021

Paratype #5. Figured in the original description (pl. 2a–d).

Length: 16.4 mm

North of Wosonari, Gunung Kidul, Yogyakarta, Java, Indonesia.

Type stratum: Late Burdigalian, Early Miocene.

A. Dorsal view

B. Ventral view

C. Lateral columellar view

D. Lateral labral view



Fig. 14

Figure 15 (fossil)

Zonarina liviae Fehse & Vicián, 2004

Paratype #3. Figured in the original description (pl. 2.1a–d).
Length: 26.4 mm

Middle Miocene (Badenian); Hungary; Paratethys deposits.

- A.** Dorsal view
- B.** Ventral view
- C.** Lateral columellar view
- D.** Lateral labral view

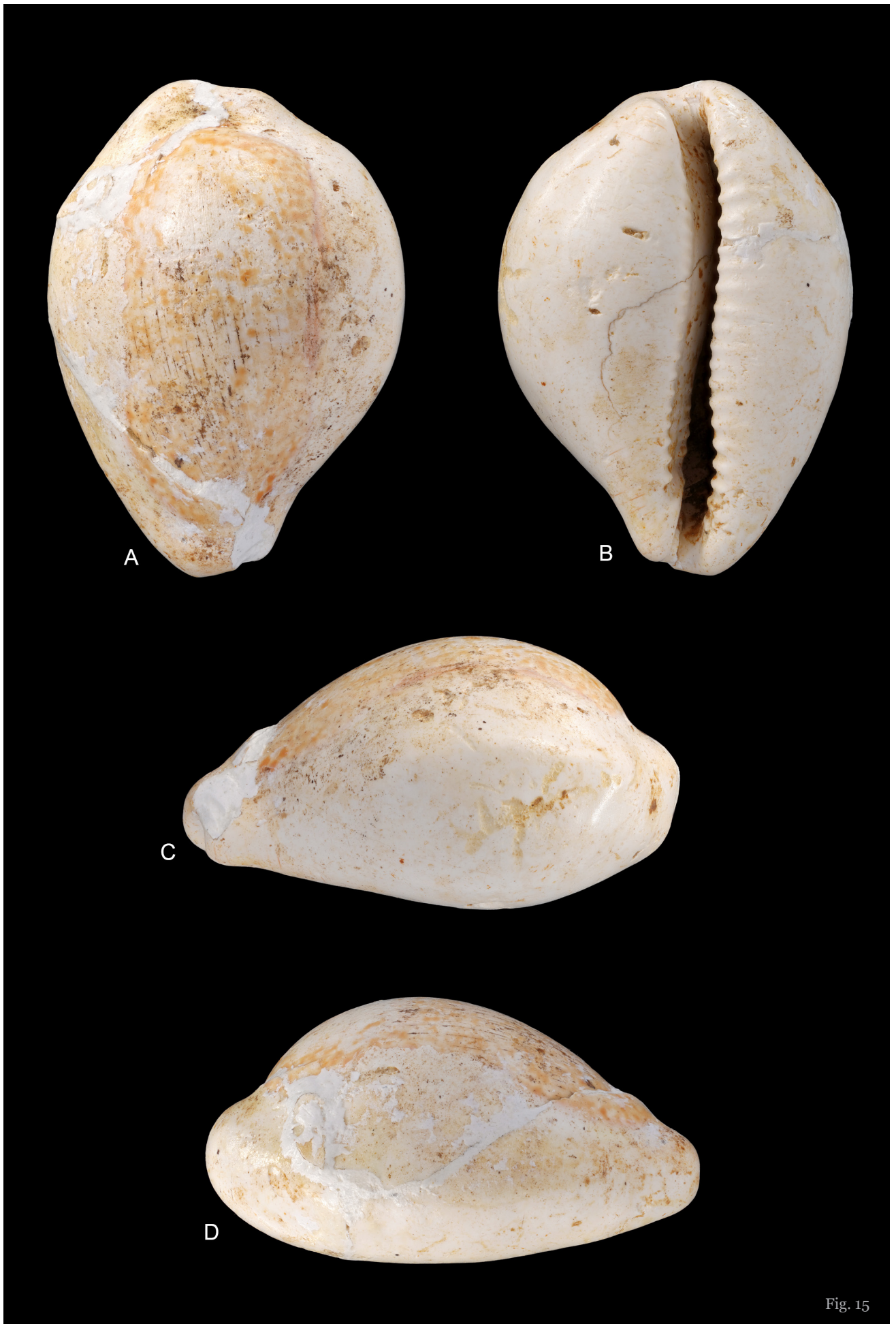


Fig. 15

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