The genus *Laevicardium* in the NE Atlantic, the Mediterranean Sea and West Africa

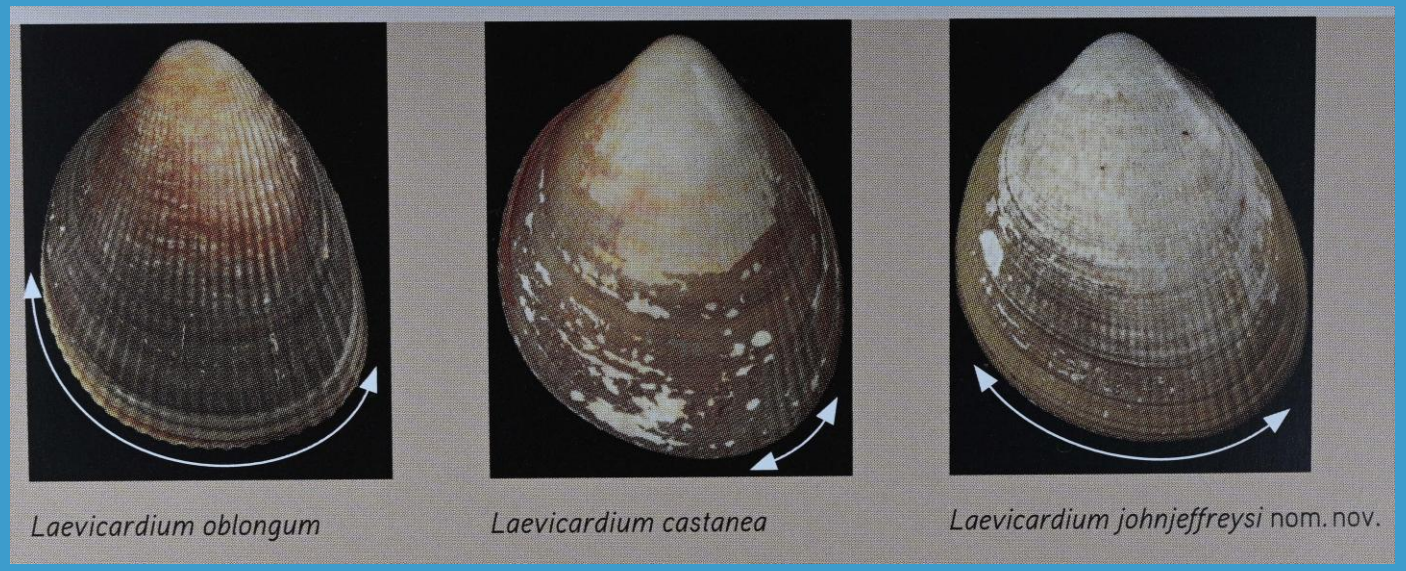
new insights and comments on recent publications

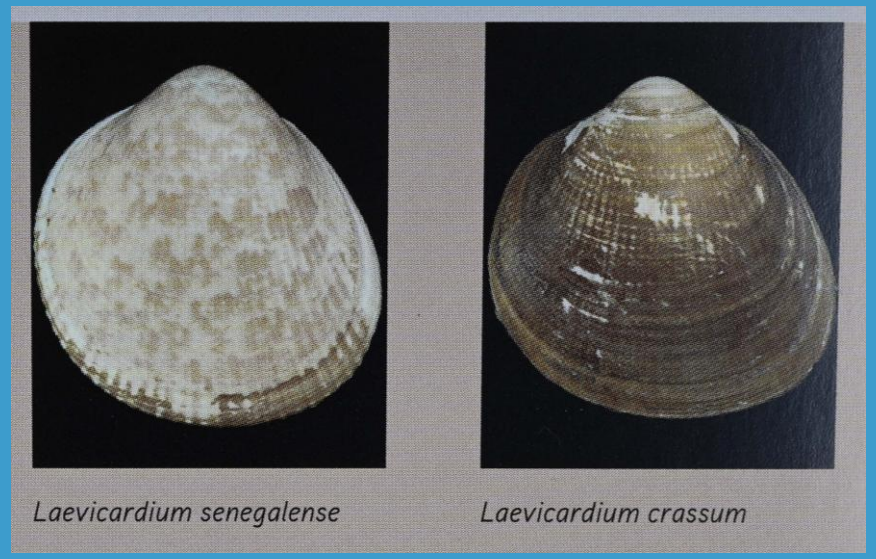
by Frank Nolf & Steve Hubrecht

The genus *Laevicardium* is so far represented by five species (ter Poorten, 2024):

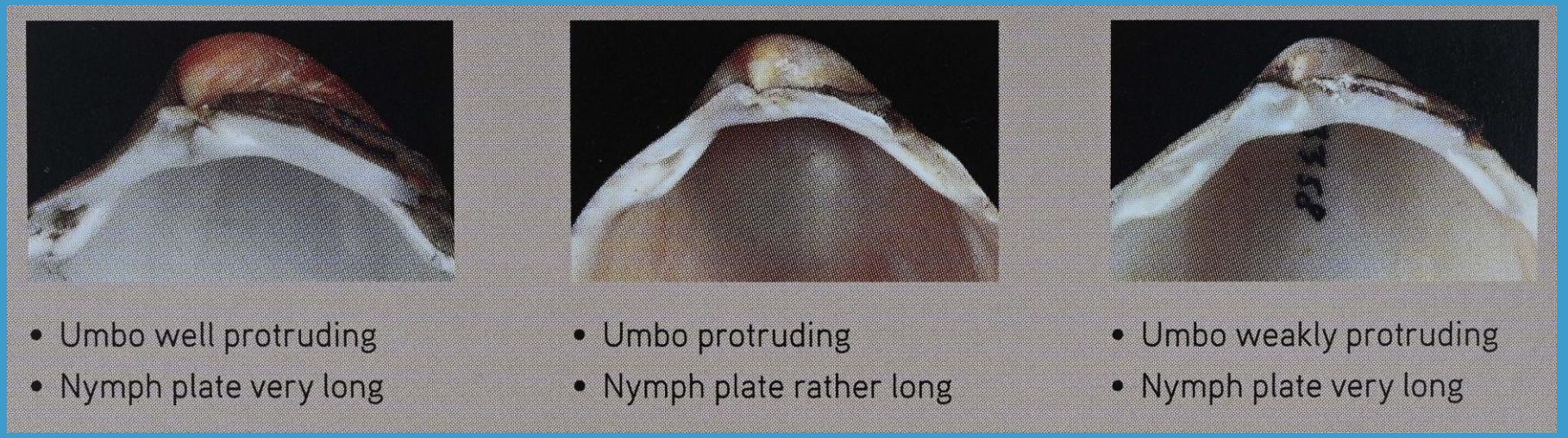
- *Laevicardium oblongum* (Gmelin, 1791)
- *Laevicardium castanea* Vidal, 2005
- *Laevicardium johnjeffreysi* ter Poorten, 2024
- *Laevicardium crassum* (Gmelin, 1791)
- *Laevicardium senegalense* (Dautzenberg, 1891): we consider this form as a West African representative of the nominal species *L. crassum* and, therefore, a **junior synonym**.

Comparison of the external ribbing between the different species [photos by ter Poorten (2024)]





Comparison of the umbones between the different species [photos by ter Poorten (2024)]



- Umbo well protruding
- Nymph plate very long

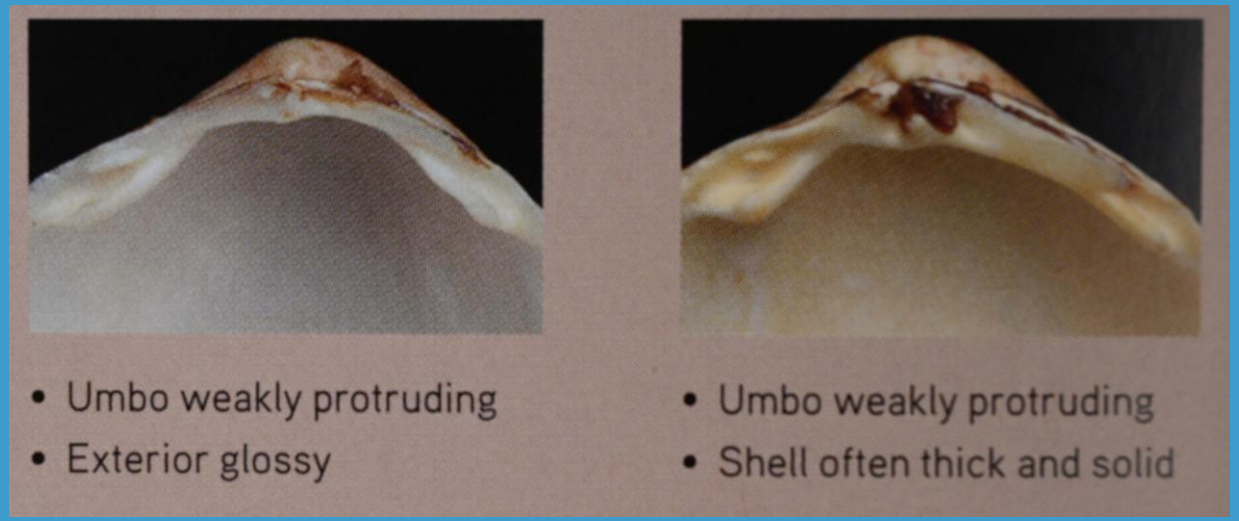
L. oblongum

- Umbo protruding
- Nymph plate rather long

L. castanea

- Umbo weakly protruding
- Nymph plate very long

L. johnjeffreysi



- Umbo weakly protruding
- Exterior glossy

L. senegalense

- Umbo weakly protruding
- Shell often thick and solid

L. crassum

Laevicardium oblongum (Gmelin, 1791)

Geographic range: mainly Mediterranean Sea, but also

- Bay of Biscay
- Canary Islands
- Angola

photos by ter Poorten (2024)

General characteristics

- the largest species (60-90 mm);
- elongate oval, inflated, or even subquadrangular in outline;
- approximately 33 distinct ribs;
- ribbing covers the entire central part of the shell;
- umbo well protruding
- shell creamish white or pinkish white

***L. oblongum* (Gmelin, 1791)**

Port-Vendres, S France. Dredged by fishermen. 1960

H. 73.54 L. 61.31 mm – coll. FN03672d

***L. oblongum* (Gmelin, 1791)**

Port-Vendres, S France. Dredged by fishermen. 1960

H. 79.92 L. 61.02 mm – coll. FN03672d

***L. oblongum* (Gmelin, 1791)**

Malaga, southern Spain. Trawled by fishermen.

H. 63.08 L. 54.40 mm – coll. FN03672

***L. oblongum* (Gmelin, 1791)**

Mouth of Rio Sado, Portugal. In mud between tides near the Armada Pier.
June 2000.
H. 34.91 L. 34.54 mm – coll. Johan Verstraeten.

***L. oblongum* (Gmelin, 1791)**

Mouth of Rio Sado, Portugal. In mud between tides near the Armada Pier.
June 2000.
H. 39.63 L. 36.58 mm – coll. Johan Verstraeten.

***L. oblongum* (Gmelin, 1791)**

Mouth of Rio Sado, Portugal. In mud between tides near the Armada Pier.
June 2000.
H. 42.39 L. 41.68 mm – coll. Johan Verstraeten.

***L. oblongum* (Gmelin, 1791)**

Enez, Turkey, Aegean Sea. In sand. Trawled at a depth of 10 m. June 2016.

Juvenile specimen.

H. 34.70 mm L. 30.71 mm. Coll. Steve Hubrecht.

***L. oblongum* (Gmelin, 1791)**

Savona, Italy. Dived. **Juvenile** specimens.

H. 20.16 mm L. 19.89 mm; H. 31.51 mm L. 27.79 mm; H. 38.74 mm L. 34.95 mm.

Coll. Steve Hubrecht.

***L. oblongum* (Gmelin, 1791)**

Off Lagos, Algarve, southern Portugal.

Taken by fishing boats using gill nets, set at 50-80 m depth.

H. 42.45 mm L. 39.71 mm. Coll. Steve Hubrecht.

***L. oblongum* (Gmelin, 1791)**

Cabo Tres Forcas, Melilla, Spanish Morocco.

Trawled by fishermen. 1968

H. 56.98 L. 47.87 mm – coll. FN03672a

***L. oblongum* (Gmelin, 1791)**

Rochebonne Bank, S of La Rochelle Bay of Biscay, W France.
Trawled by Belgian fishermen at a depth of 180 m. July 2010.
H. 63.75 L. 49.91 mm – coll. FN03672b

Important remark

The locality of this specimen (Bay of Biscay) was ‘considered incorrect’ by ter Poorten (2024), as the information was sourced from Belgian fishermen.

It is noteworthy that he accepted the same locality data as being correct for *L. johnjeffreysi* (coll. TP3358, figs 9-10), provided by the same Belgian fishermen through Jean-Paul Kreps (Knokke, Belgium), whose collection is now housed by F. Nolf.

We must acknowledge that this concerned a single specimen, but this catch is now confirmed by an additional specimen from northern Spain (Roland Scaillet, personal communication).

It is clear that information provided by fishermen must always be subject to critical scrutiny. However, we question whether all the data presented in **‘A Taxonomic Iconography of Living Cardiidae’** can be considered entirely reliable, as most specimens worldwide have been trawled by fishermen rather than collected by Jan Johan ter Poorten himself.

Specimens of *L. oblongum* were reported by Rolan Mosquera, E., Otero Schmitt, J. & Rolan Alvarez, J. (1989) from off Vigo (NW Spain, E Atlantic). Unfortunately, the figure provided actually depicts a specimen of *L. crassum*. No other reports regarding the presence of *L. oblongum* outside the Mediterranean waters are known by ter Poorten, leading the author of the ‘Cockle Book’ to consider *L. oblongum* as a species restricted to the Mediterranean.

It is not uncommon for molluscs, considered typical Mediterranean molluscs, to be found in East Atlantic waters. Many of them are collected in the Bay of Biscay, including species such as: *Charonia lampas* (L., 1758), *Semicassis saburon* (Bruguière, 1789), *Galeodea rugosa* (L., 1771), *Schilderina achatidea* (J.E. Gray, 1837), *Pseudosimnia carnea* (Poiret, 1789), *Acirsa subdecussata* (Cantraine, 1835), *Hirtomurex squamosus* (Bivona e Bernardi, 1838), …

Laevicardium oblongum is also found in southern regions, as demonstrated by the following catches from the Canary Islands and Angola.

***L. oblongum* (Gmelin, 1791)**

Sardina, Gran Canaria, Canary Islands.

Trawled at a depth of 20-30 m. July 1989.

H. 53.67 L. 47.43 mm – coll. S. Hubrecht.

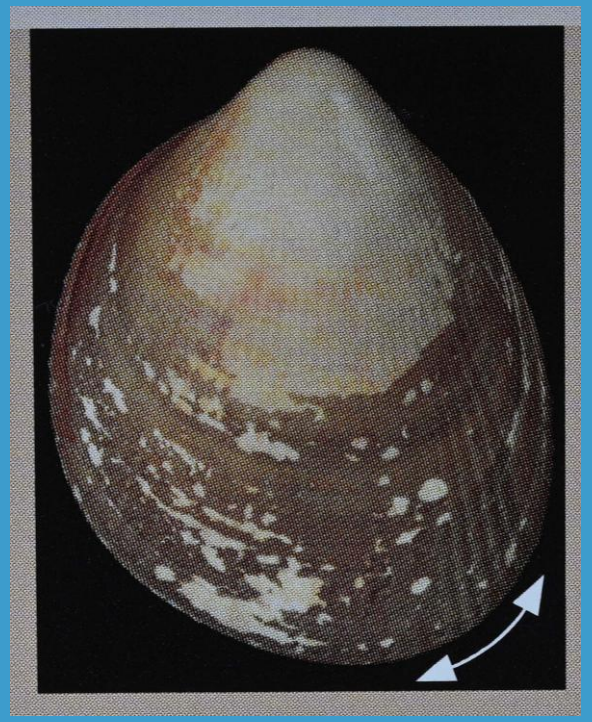
***L. oblongum* (Gmelin, 1791)**

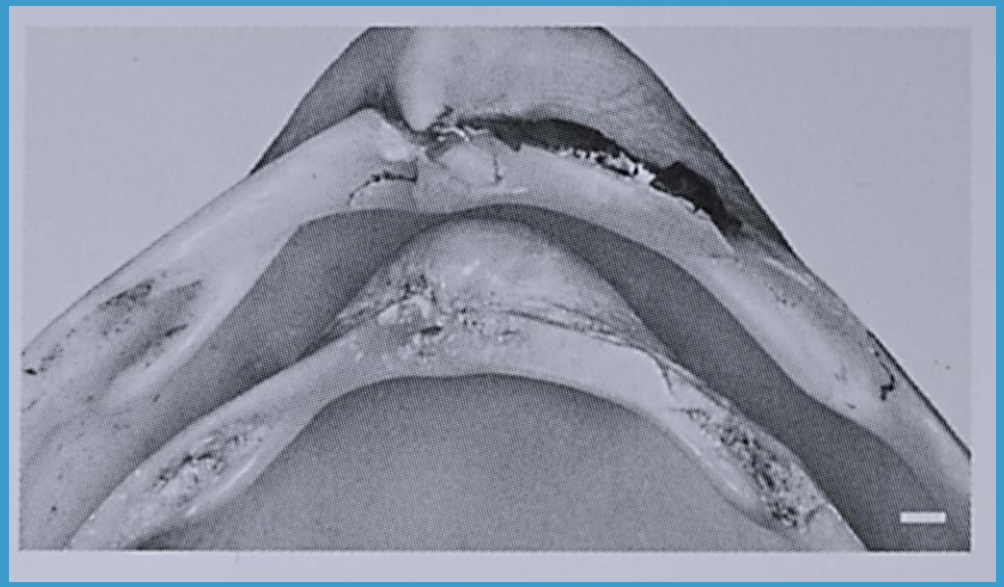
Sumbe (Novo Redondo), Angola. In sand.

H. 49.92 L. 48.61 mm – coll. F. Nolf

Laevicardium castanea Vidal, 2005

Geographic range: Western part of the Mediterranean Sea, southern Portugal, Madeira, Canary Islands, Mauritania, Senegal





photos by ter Poorten (2024)

General characteristics

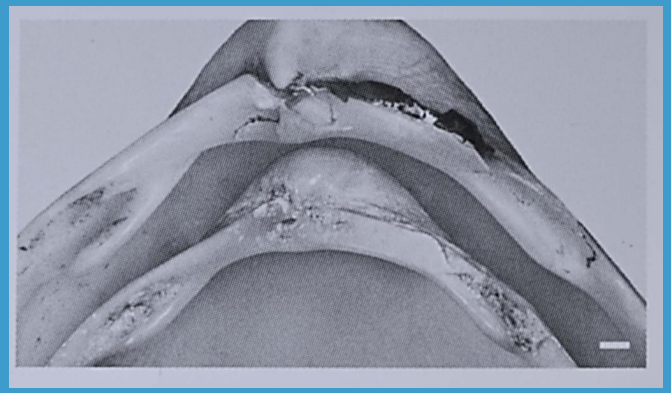
- shell is elongate oval in shape, slightly oblique when fully mature;
- the smallest species among the others;
- ribbing nearly obsolete across the entire surface of the shell;
- umbo protruding;
- interior of the valves frequently brown in colour

***L. castanea* Vidal, 2005**

Off Ponta de Piedade, Lagos, Algarve, Portugal.

From octopus traps at 50-60 m depth. 2012.

H. 16.91 mm L. 15.69 mm – coll. S. Hubrecht



***L. castanea* Vidal, 2005**

Cabo Tres Forcas, Melilla, Spanish Morocco.

Trawled by fishermen. 1968

H. 33.57 mm L. 29.32 mm – coll. FN12358

***L. castanea* Vidal, 2005**

Benicarlo, Spain. Trawled by fishermen. 1972.

H. 32.22 mm L. 27.64 mm. Coll. Steve Hubrecht.

***L. castanea* Vidal, 2005**

Sant Carles de la Rapita, Tarragona, Spain.

Trawled by local fishermen. 1990.

H. 35.39 mm L. 29.75 mm. Coll. Steve Hubrecht.

Laevicardium johnjeffreysi ter Poorten, 2024

Geographic range: **S**outhern Ireland, The English Channel, Bay of Biscay, NW Spain

photos by ter Poorten (2024)

General characteristics

- shape is elongate oval, slightly oblique and somewhat globose when fully mature;
- smaller than *Laevicardium crassum*;
- ribbing typically features 35-40 ribs, which are present across nearly the entire surface of the shell;
- umbo weakly protruding;
- interior of the shell often brown in colour in specimens from the Bay of Biscay

***L. johnjeffreysi* ter Poorten**

Start Point, SW England, Great Britain.

Trawled by Belgian fishermen. March 1971.

H. 47.89 mm L. 42.54 mm – coll. FN07730

***L. johnjeffreysi* ter Poorten**

Start Point, SW England, Great Britain.

Trawled by Belgian fishermen. March 1971.

H. 56.55 mm L. 49.05 mm – coll. FN07730

***L. johnjeffreysi* ter Poorten**

Start Point, SW England, Great Britain.

Trawled by Belgian fishermen. March 1971.

H. 56.63 mm L. 47.60 mm – coll. FN07730

***L. johnjeffreysi* ter Poorten**

Hand Deeps, Channel Islands, UK.

Trawled by Belgian fishermen at -95 m. March 2006.

H. 53.31 mm L. 48.16 mm – coll. F. Nolf

***L. johnjeffreysi* ter Poorten**

Hand Deeps, Channel Islands, UK.

Trawled by Belgian fishermen at -95 m. March 2006.

H. 52.71 mm L. 46.12 mm – coll. F. Nolf.

***L. johnjeffreysi* ter Poorten**

Rochebonne Bank, S of La Rochelle, Bay of Biscay.

Trawled by Belgian fishermen at -140 m. July 2010.

H. 45.56 mm L. 41.67 mm – coll. FN07730b

***L. johnjeffreysi* ter Poorten**

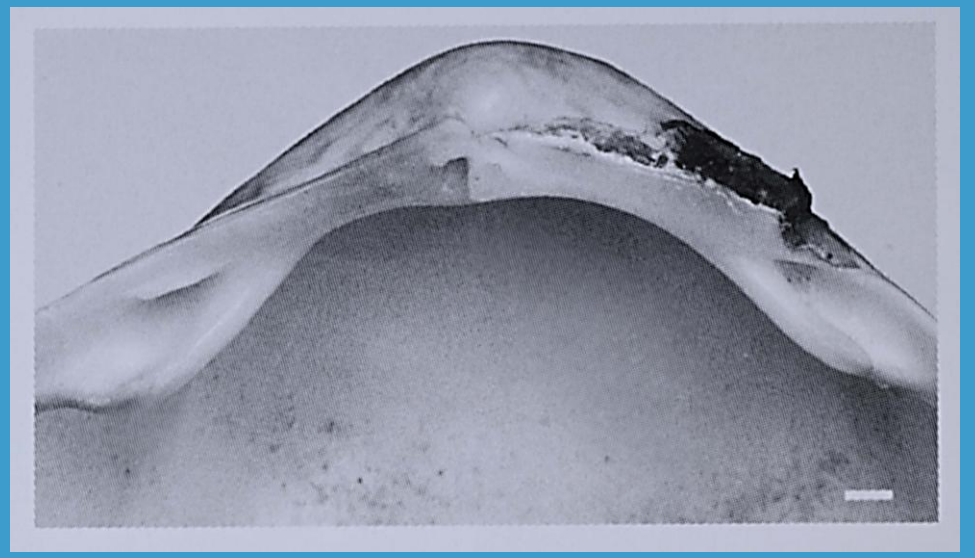
Rochebonne Bank, S of La Rochelle, Bay of Biscay.
Trawled by Belgian fishermen at -140 m. July 2010.
H. 49.37 mm L. 43.98 mm – coll. FN07730b

***L. johnjeffreysi* ter Poorten**

Rochebonne Bank, S of La Rochelle, Bay of Biscay.
Trawled by Belgian fishermen at -140 m. July 2010.
H. 52.69 mm L. 45.67 mm – coll. FN07730b

Laevicardium senegalense (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)

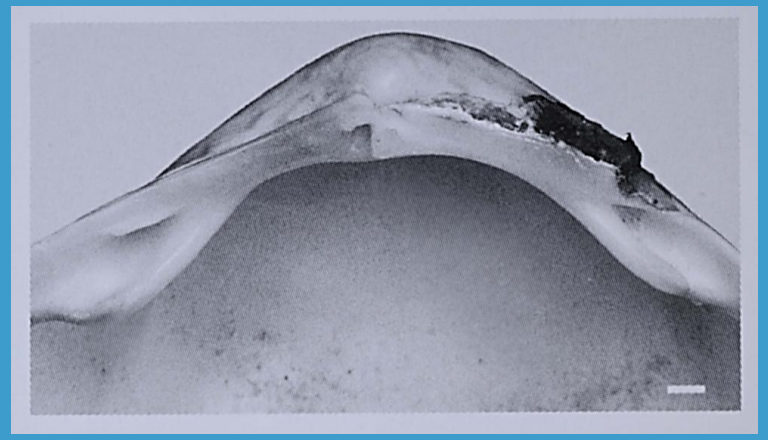
Geographic range: Canary Islands, W Morocco, Mauritania, Cape Verde Islands, Senegal, Ivory Coast, Angola



photos by ter Poorten (2024)

General characteristics

- shells are as long as they are broad;
- most specimens smaller than *Laevicardium crassum*, as they represent juvenile or subadult individuals of that species;
- ribbing (38-44) very weak;
- umbo is weakly protruding;
- exterior of shells often with reddish-brown markings, resembling those of juvenile *L. crassum* specimens

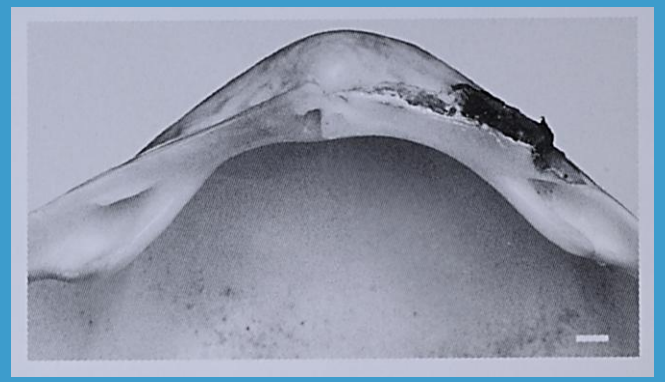


***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Western Sahara.

Trawled by fishermen at a depth of 50-60 m.

H. 41.55 mm L. 39.26 mm – coll. S. Hubrecht



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Lassarga, Dakhla, Western Sahara.

In trammel nets set between 30-40 m deep. On sandy rock bottom with hydrozoans.

H. 22.13 mm L. 21.86 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Lassarga, Dakhla, Western Sahara.

In trammel nets set between 30-40 m deep. On sandy rock bottom with hydrozoans.

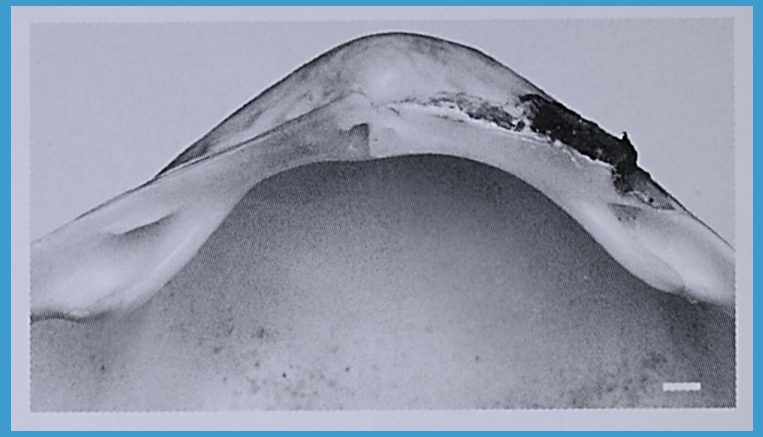
H. 23.05 mm L. 23.16 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Dialo, Toubab, Senegal.

Intertidal on sand. 2015.

H. 34.94 mm L. 31.89 mm – coll. S. Hubrecht



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Bay of Hann, Senegal.

Trawled by fishermen.

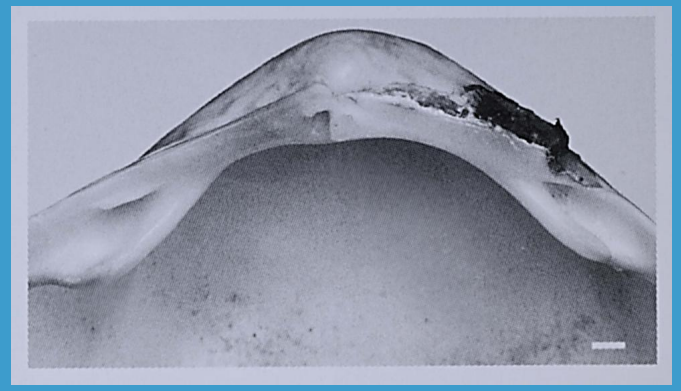
H. 33.65 mm L. 31.55 mm – coll. F. Nolf 12845

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Bay of Hann, Senegal.

Trawled by fishermen.

H. 40.52 mm L. 37.61 mm – coll. F. Nolf 12845



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Bay of Hann, Senegal.

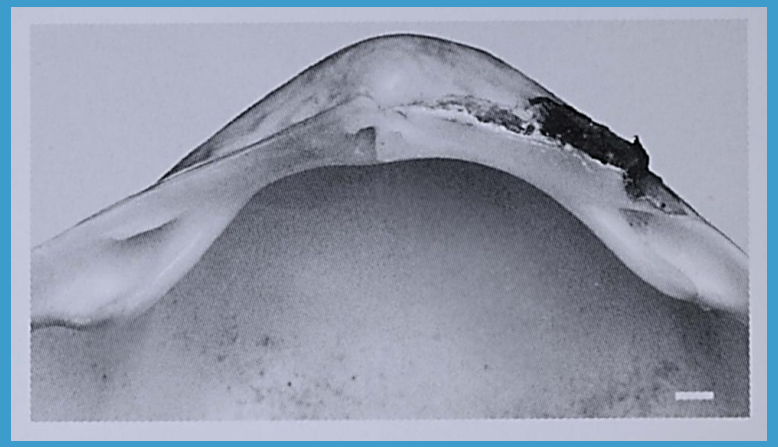
Trawled by fishermen at a depth of 10 m in sand.

H. 28.94 mm L. 27.48 mm – coll. F. Nolf

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

M’bour, Senegal. Trawled by fishermen.

H. 22.61 mm L. 23.52 mm – coll. F. Nolf



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

M’bour, Senegal. Trawled by fishermen.

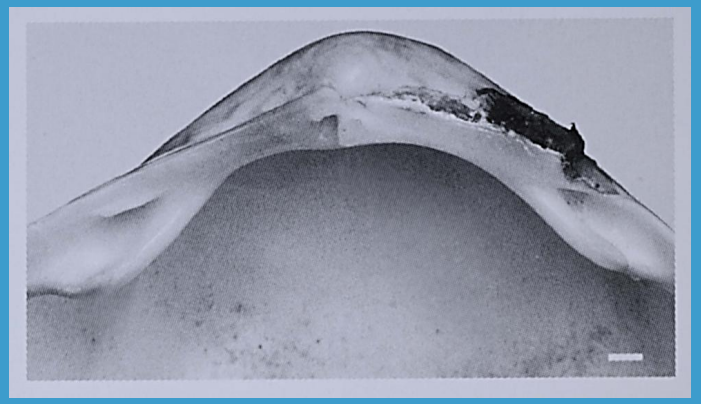
H. 24.56 mm L. 25.57 mm – coll. F. Nolf

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**
M’bour, Senegal. Trawled by fishermen at a depth of 20 m.
H. 33.09 mm L. 32.39 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

M’bour, Senegal. Trawled by fishermen.

H. 23.77 mm L. 24.45 mm – coll. Johan Verstraeten.

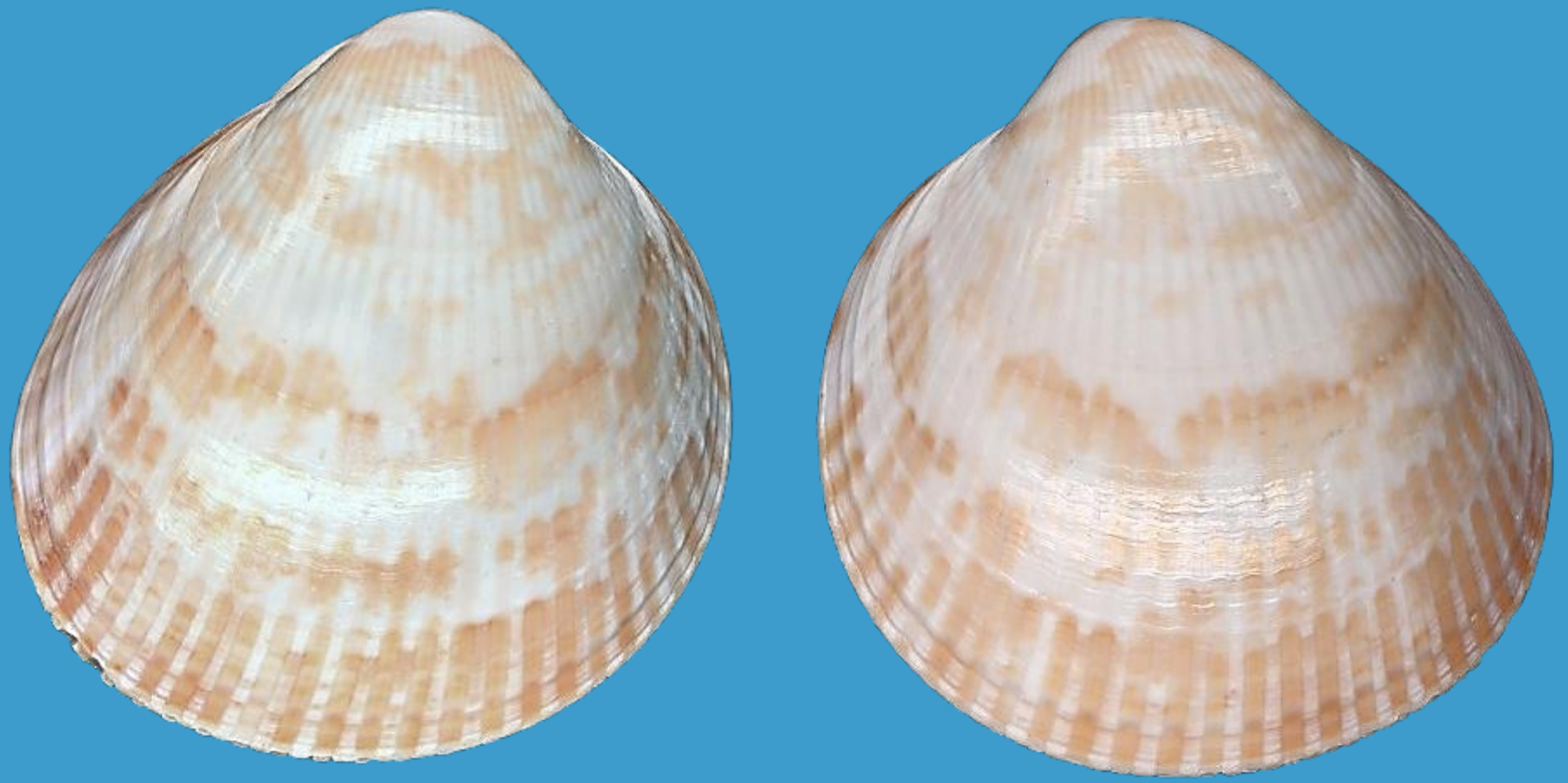


***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Conakry, Guinea-Bissau.

Trawled by fishermen at a depth of 12 m. In sand.

H. 23.99 mm L. 23.39 mm – coll. F. Nolf 12845c

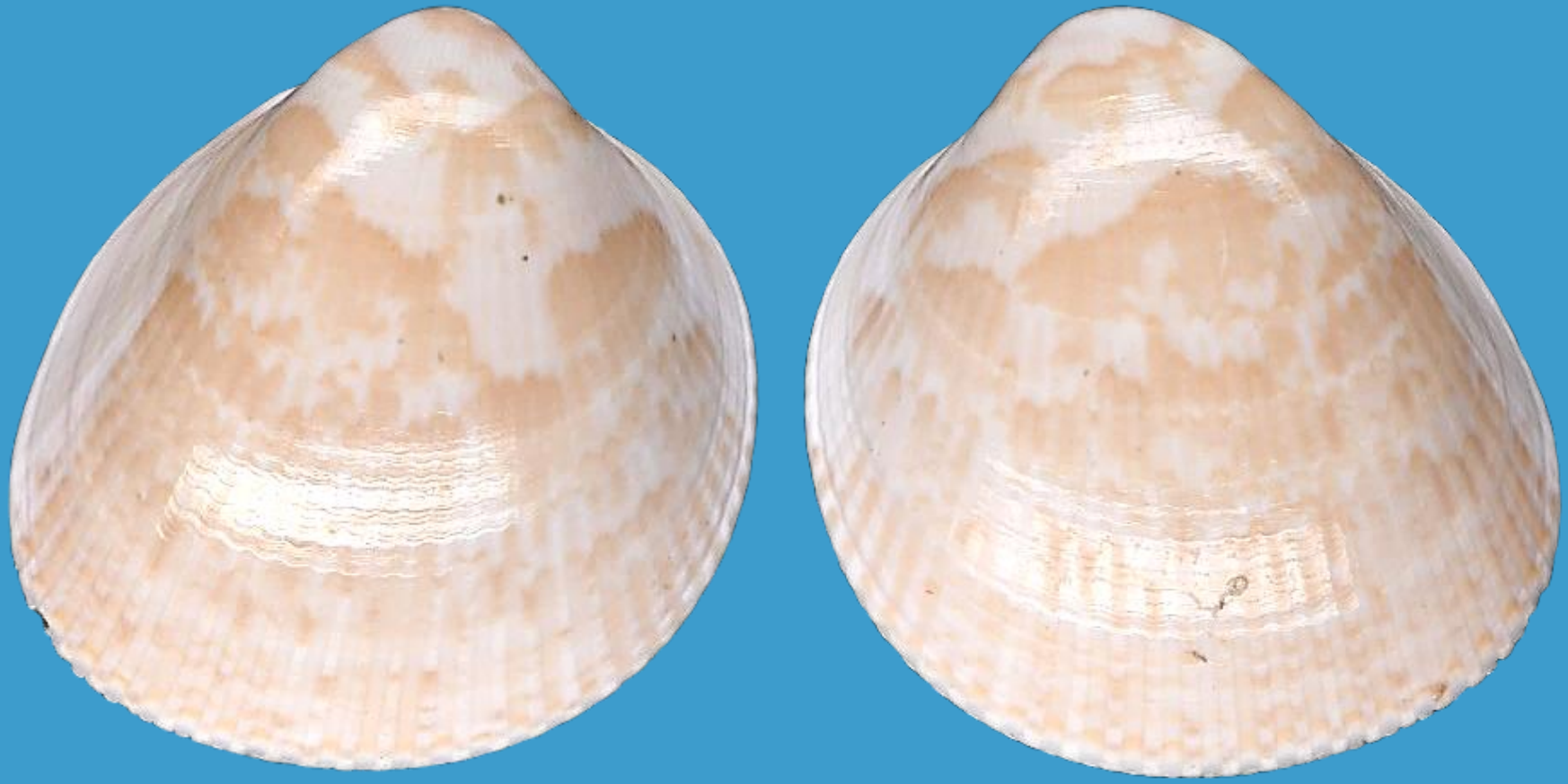


***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Conakry, Guinea-Bissau.

Trawled by fishermen at a depth of 12 m. In sand.

H. 24.15 mm L. 23.47 mm – coll. F. Nolf 12845c



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Conakry, Guinea-Bissau.

Trawled by fishermen at a depth of 12 m. In sand.

H. 23.98 mm L. 23.33 mm – coll. F. Nolf 12845c

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Conakry, Guinea-Bissau.

Trawled by fishermen at a depth of 12 m. In sand.

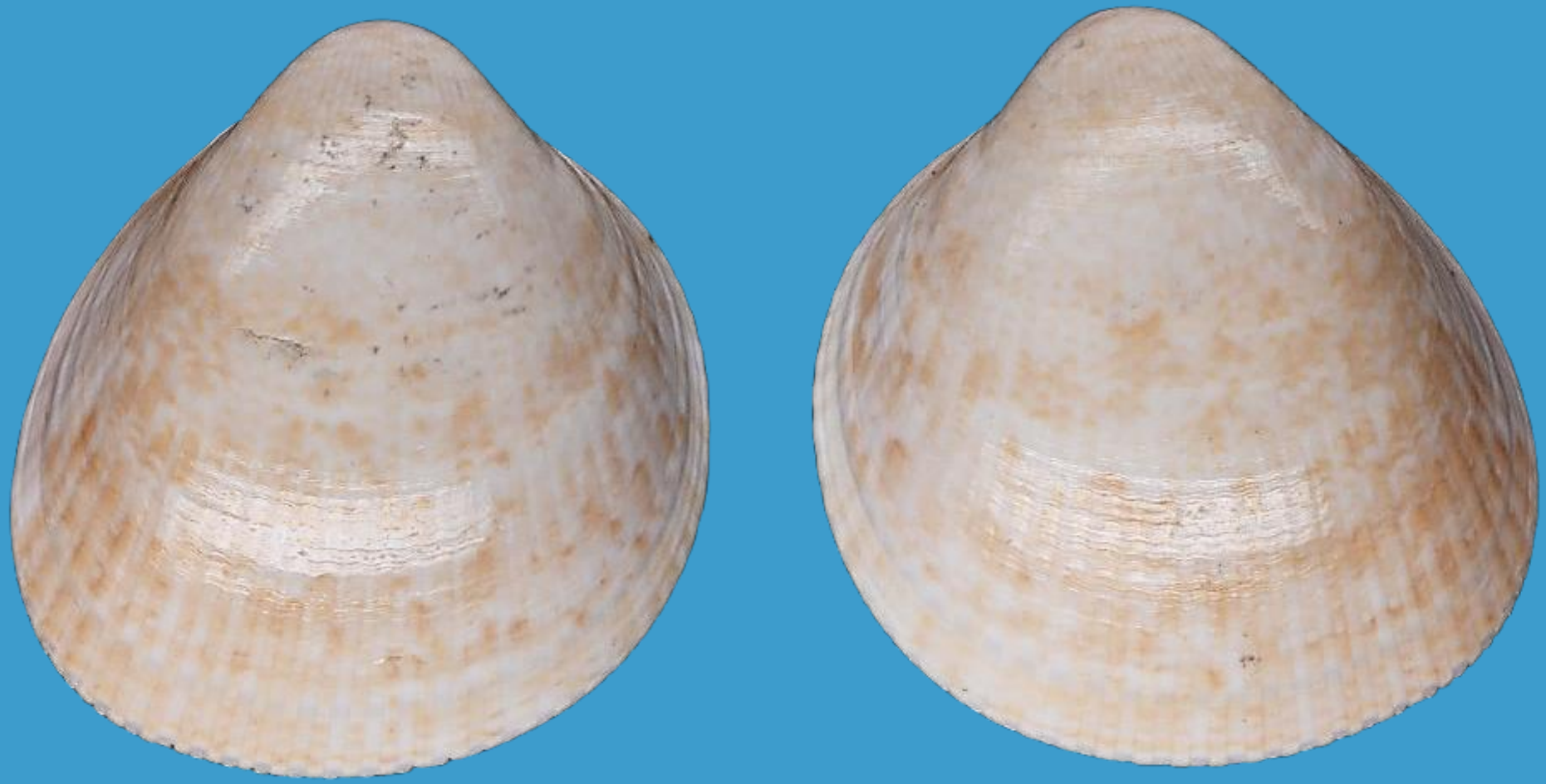
H. 24.03 mm L. 22.46 mm – coll. F. Nolf 12845c

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Conakry, Guinea-Bissau.

Trawled by fishermen at a depth of 12 m. In sand.

H. 24.33 mm L. 22.74 mm – coll. F. Nolf 12845c

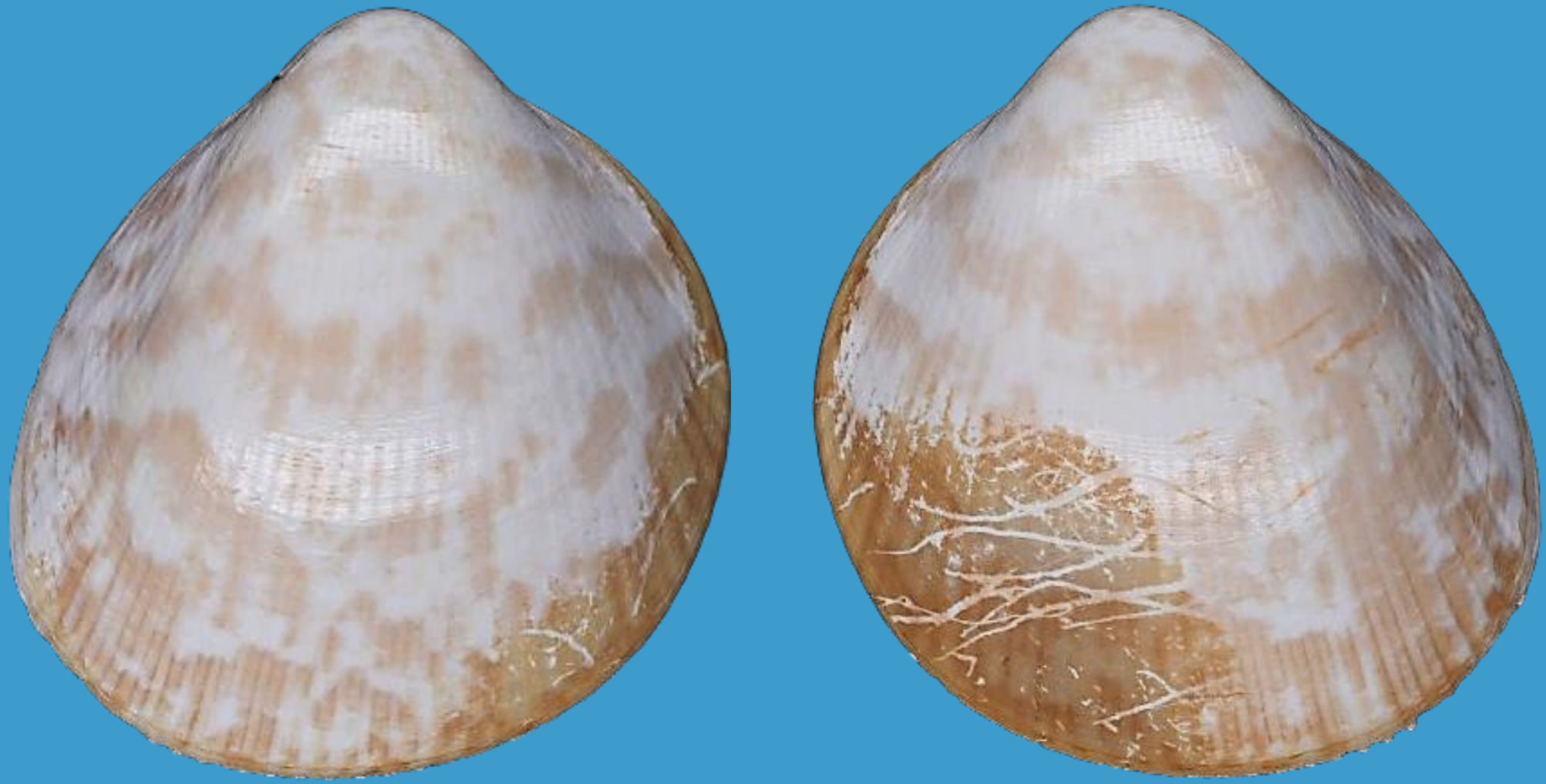


***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Off Conakry, Guinea-Bissau.

Trawled by fishermen at a depth of 12 m. In sand.

H. 24.52 mm L. 23.55 mm – coll. F. Nolf 12845c



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

São Vicente, Cape Verde Islands.

H. 42.96 mm L. 40.92 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Porto Grande, Cape Verde Islands. In small rubble at a depth of 20 m. July 1976.
H. 24.30 mm L. 24.28 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Porto Grande, Cape Verde Islands. In small rubble at a depth of 20 m. July 1976.

H. 24.63 mm L. 24.52 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Porto Grande, Cape Verde Islands. In small rubble at a depth of 20 m. July 1976.
H. 30.27 mm L. 29.25 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

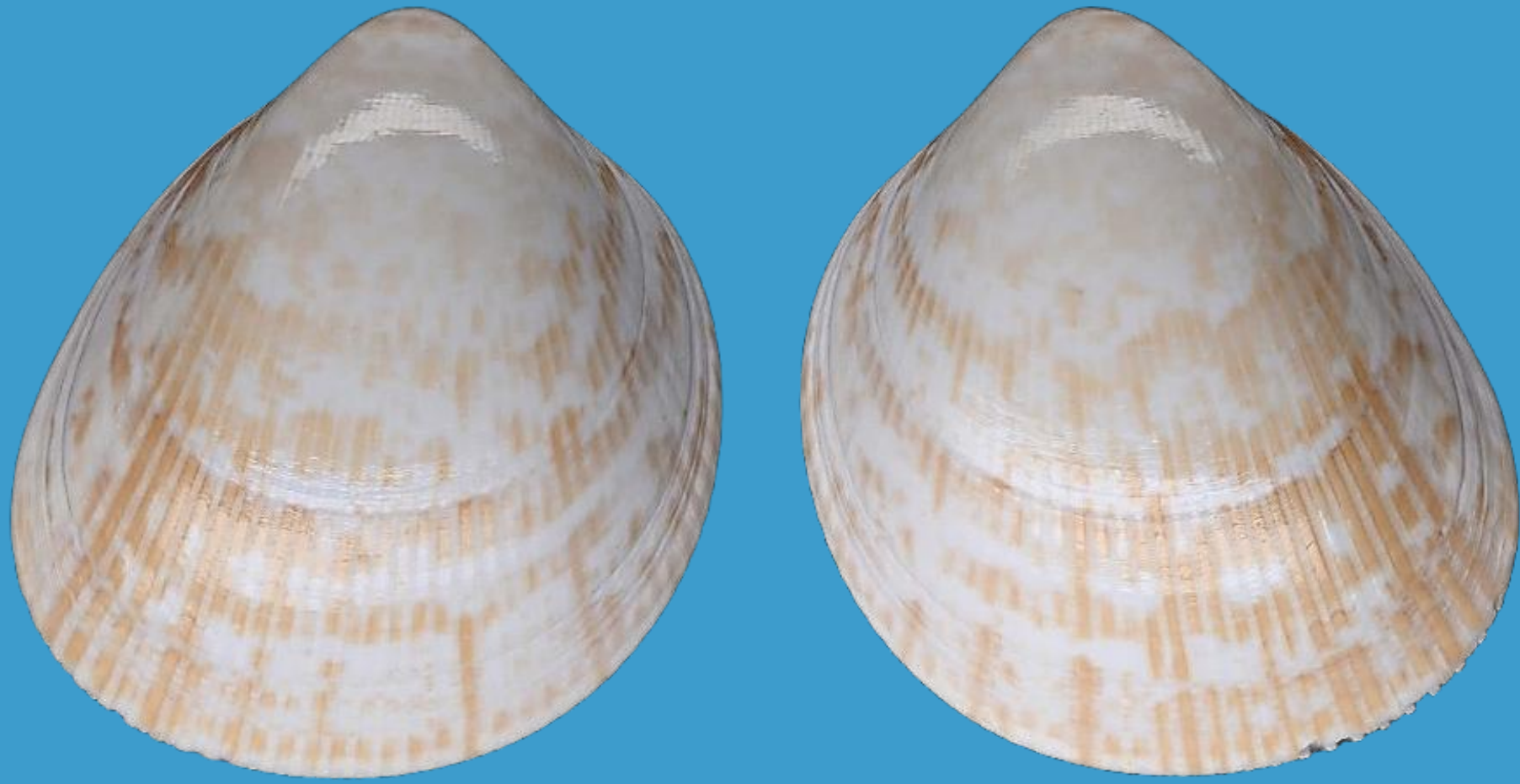
Port Gentil, Gabon. Collected by local trawlers.

H. 40.99 mm L. 38.74 mm – coll. Johan Verstraeten.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

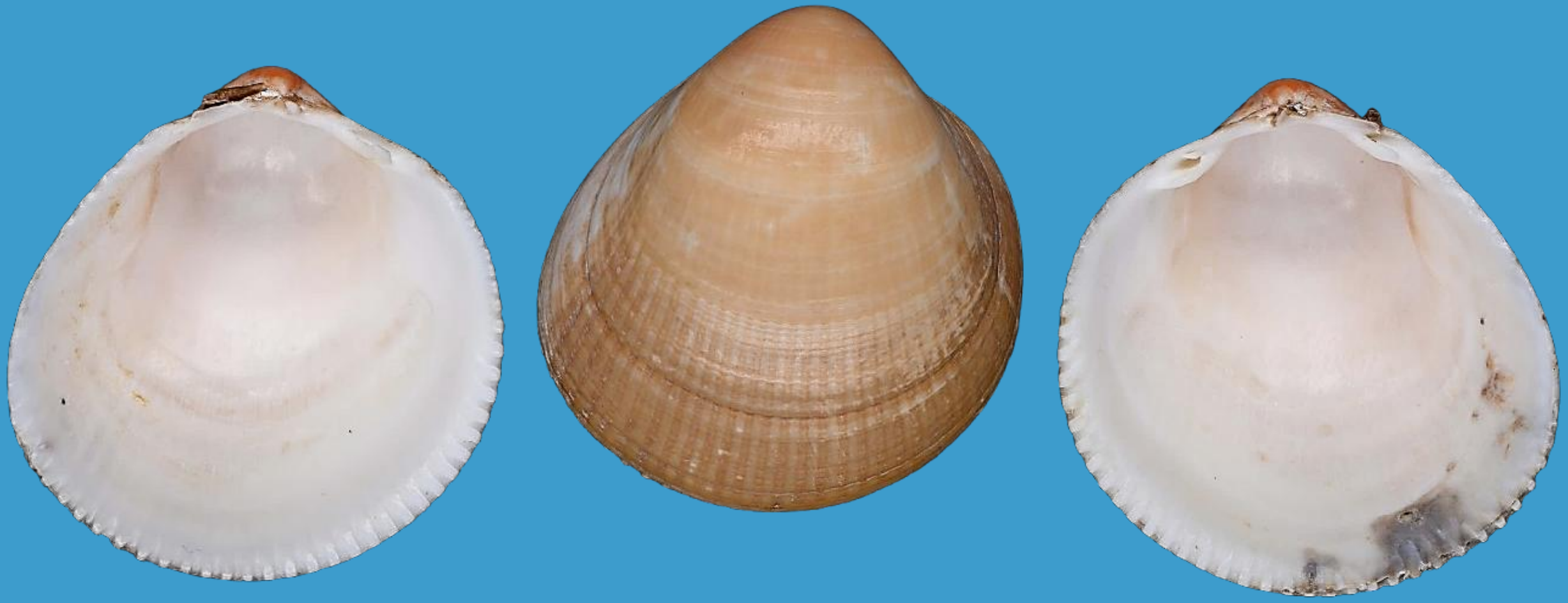
Port Gentil, Gabon. Collected by local trawlers.

H. 41.46 mm L. 38.77 mm. Coll. Johan Verstraeten.



***L. crassum* (Gmelin, 1791)**

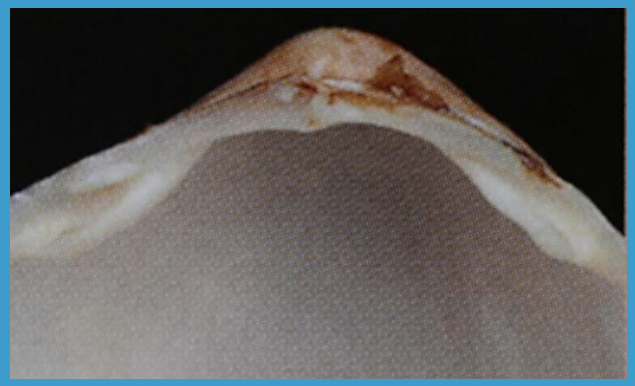
Off Farol das Lagostas, N Luanda, Angola. Trawled by local fishing boats.
25 April 1996.
H. 43.65 L. 39.73 mm – Coll. Steve Hubrecht.



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Quicombo, Angola. Trawled by Belgian fishermen (PEMARCO) at -30 m. 1967.

H. 42.22 mm L. 41.20 mm – Coll. F. Nolf 12345a.



***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Quicombo, Angola. Trawled by Belgian fishermen (PEMARCO) at -30 m. 1967.

H. 42.50 mm L. 41.57 mm – Coll. F. Nolf 12345a.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Baia Farta, Angola. Trawled at a depth of 40-70 m. In sand. September 2014. H. 36.59 mm L. 33.93 mm. Coll. Steve Hubrecht.

***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

Baia Farta, Angola. Trawled at a depth of 40-70 m. In sand. September 2014. H. 36.59 mm L. 33.93 mm. Interior views. Coll. Steve Hubrecht.

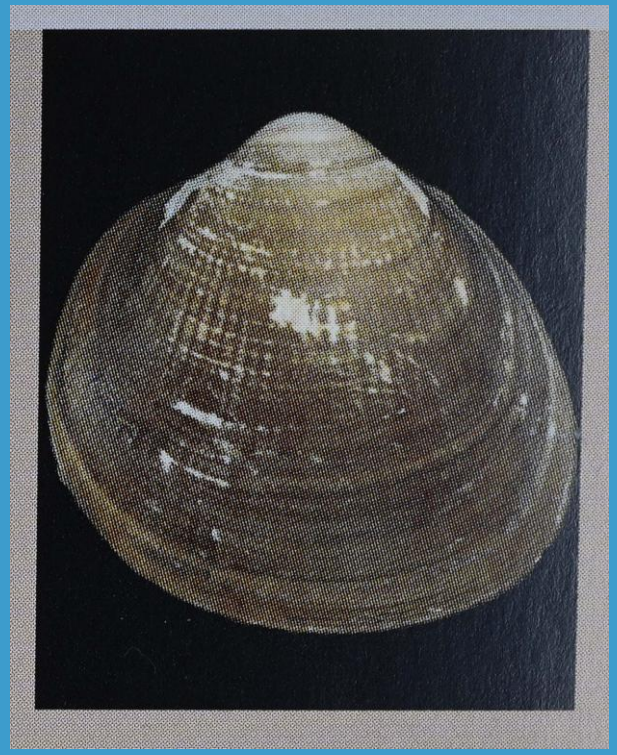
***L. senegalense* (Dautzenberg, 1891) = *L. crassum* (Gmelin, 1791)**

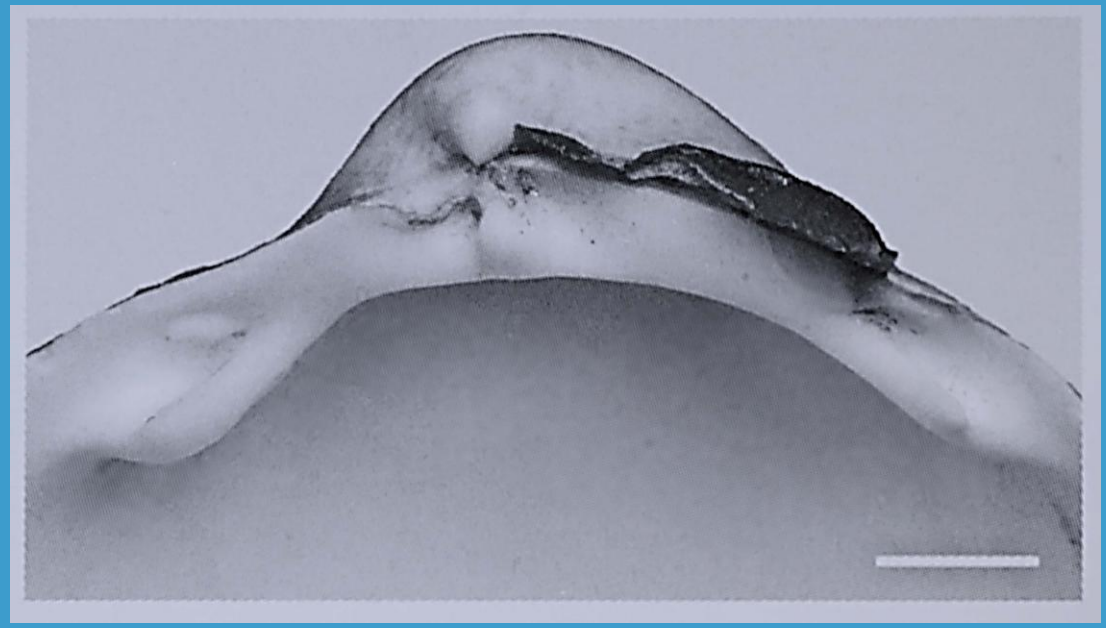
Novo Redondo, Angola. Trawled by fishermen.

H. 42.57 mm L. 39.84 mm. Coll. Steve Hubrecht.

Laevicardium crassum (Gmelin, 1791)

Geographic range: Norway, northern Denmark, British Isles, Bay of Biscay, Portugal, Mediterranean Sea, Canary Islands





photos by ter Poorten (2024)

General characteristics

- shells are as long as they are broad;
- outline very variable: from oval, suboval or oblique to globose, relatively thick to very solid;
- larger than *L. senegalense*;
- ribbing (average number: 40) almost obsolete, not tangible;
- umbo weakly protruding;
- exterior of subadult shells often with reddish-brown markings, resembling *L. senegalense* specimens

***L. crassum* (Gmelin, 1791)**

Bay of Liverpool, W England, Great Britain.

Trawled by Belgian fishermen at -36 m. April 1970.

H. 78.14 mm L. 72.84 mm – coll. F. Nolf 03670.

***L. crassum* (Gmelin, 1791)**

Hand Deeps, 10 miles SW off Plymouth, The English Channel, UK.
Trawled by Belgian fishermen at -95 m. March 2006.
H. 57.19 mm L. 56.21 mm – coll. F. Nolf 03670i.

***L. crassum* (Gmelin, 1791)**

Off Nieuwpoort, Belgium. Trawled by shrimper. In sand. 1971

Trawled by Belgian fishermen at -95 m. March 2006.

H. 50.73 mm L. 48.91 mm – coll. F. Nolf 03670b.

***L. crassum* (Gmelin, 1791)**

In shell grit from ‘Buiten Ratel’ sandbar, off Koksijde,
pumped on the beach of Oostende, Belgium. April 2008.
H. 28.16 mm L. 29.11 mm – **juvenile** specimen - coll. F. Nolf 03670d.

***L. crassum* (Gmelin, 1791)**

In shell grit from ‘Buiten Ratel’ sandbar, off Koksijde,
pumped on the beach of Oostende, Belgium. April 2008.
H. 22.38 mm L. 23.61 mm – **juvenile** specimen - coll. F. Nolf 03670d.

***L. crassum* (Gmelin, 1791)**

Carnac-Plage, Morbihan, Brittany, W France.

On sand at extreme low tide. 29 September 2007.

H. 42.57 mm L. 44.05 mm - coll. F. Nolf 03670c.

***L. crassum* (Gmelin, 1791)**

Rochebonne Bank, S of La Rochelle, Bay of Biscay, W France.
Trawled by Belgian fishermen at -95 m. March 2006.
H. 50.94 mm L. 50.98 mm – coll. F. Nolf.

***L. crassum* (Gmelin, 1791)**

Rochebonne Bank, S of La Rochelle, Bay of Biscay, W France.
Trawled by Belgian fishermen at -95 m. March 2006.
H. 58.01 mm L. 55.44 mm – coll. F. Nolf 03670e

***L. crassum* (Gmelin, 1791)**

Harbour of Cambados, off Vigo, Galicia, NW Spain.

Collected on muddy bottom close to trawlers. 19 October 1985.

H. 47.95 mm L. 50.61 mm – coll. Johan Verstraeten.

***L. crassum* (Gmelin, 1791)**
Quarteira, Portugal. August 1988.
H. 58.64 mm L. 54.57 mm – coll. Johan Verstraeten.

***L. crassum* (Gmelin, 1791)**

Olhão, Algarve, Portugal.

Trawled from sandy bottom at a depth of 6-10 m. January 2008.

H. 33.49 mm L. 34.32 mm – coll. Johan Verstraeten.

***L. crassum* (Gmelin, 1791)**

Olhão, Algarve, Portugal.

Trawled from sandy bottom at a depth of 6-10 m. January 2008.

H. 34.48 mm L. 35.50 mm – coll. Johan Verstraeten.

***L. crassum* (Gmelin, 1791)**

Olhão, Algarve, Portugal.

Trawled from sandy bottom at a depth of 6-10 m. January 2008.

H. 35.31 mm L. 34.91 mm – coll. Johan Verstraeten.

Left: *L. oblongum* (Gmelin, 1791) – right: *L. crassum* (Gmelin, 1791)
Southern Portugal.
coll. Johan Verstraeten.

***L. crassum* (Gmelin, 1791)**

Off Barcelona. Trawled by fishermen.

H. 27.49 mm L. 28.48 mm – **juvenile** specimen -

Coll. F. Nolf 03670h.

***L. crassum* (Gmelin, 1791)**

Off Barcelona. Trawled by fishermen.

H. 36.86 mm L. 35.03 mm.

Coll. F. Nolf 03670h.

***L. crassum* (Gmelin, 1791)**
Ponta Kriza, Croatia. 2017.
H. 26.01 mm L. 25.16 mm. – **juvenile** specimen -
Coll. Steve Hubrecht.

***L. crassum* (Gmelin, 1791)**
Ponta Kriza, Croatia. 2017.
H. 29.23 mm L. 26.78 mm. – **juvenile** specimen -
Coll. Steve Hubrecht.

***L. crassum* (Gmelin, 1791)**

Enez, Turkey, North Aegean Sea. In sand at a depth of 10 m. July 2015.

H. 31.24 mm L. 28.57 mm.

juvenile specimen - Coll. Steve Hubrecht.

***L. crassum* (Gmelin, 1791)**

Sardina, Gran Canaria, Canary Islands.

Trawled by fishermen at a depth of 15-20 m. September 1990.

H. 62.91 mm L. 59.32 mm - coll. S. Hubrecht.

***L. crassum* var. *ponderosa* (B.D.D., 1892)**

SW England, Great Britain. Trawled by fishermen at a depth of 35 m.

H. 69.11 mm L. 70.68 mm - coll. F. Nolf 07729.

***L. crassum* var*. rotundata* (Jeffreys, 1864)**
Plage GoasTrez, Trébeurden, Brittany, France.
In sand at extreme low tide. 30 March 2002.
H. 64.23 mm L. 64.25 mm - coll. F. Nolf 08859a.

***L. crassum* var*. rotundata* (Jeffreys, 1864)**

Rochebonne Bank, South of La Rochelle, Bay of Biscay, W France.
Trawled by Belgian fishermen at a depth of 80 m. July 2010.
H. 73.41 mm L. 73.97 mm - coll. F. Nolf 08859b.

***L. crassum* var*. devians* (B.D.D., 1892)**

Cardigan Bay, W England, Great Britain.

Trawled by Belgian fishermen at a depth of 36 m. July 2010.

H. 59.83 mm L. 59.19 mm - coll. F. Nolf 07728.

Comments

No single morphological characteristic conclusively differentiates the various species of *Laevicardium*.

L. oblongum demonstrates a relatively consistent morphology, particularly in its overall shape, which is nearly elongate-subquadrangular. This species is also notable for its larger size and the presence of pronounced grooves. The number of ribs is on average 33.

L. johnjeffreysi is characterised by its oval shape and a slightly glossy surface, whereas *L. crassum var. rotundata* could arguably be regarded as a distinct species when similar morphological criteria are applied.

The taxonomic status of ***L. castanea*** and ***L. senegalense*** is rather questionable. The brown colouration of *L. castanea* is not a consistent feature and is also observed in *L. crassum* and, in particular, in specimens of *L. johnjeffreysi* from the Bay of Biscay.

The description of ***L. senegalense*** appears to be based on juvenile or subadult specimens, which cannot be distinguished from smaller specimens of ***L. crassum***. Additionally, the reddish-brown markings attributed to *L. senegalense* are also present in small specimens of *L. crassum*. Both have the same average number of ribs (40), but the ribs are weaker in *L. crassum*.

We do not concur with **von Cosel & Gofas (2019)** who classify the West African representatives of *Laevicardium crassum* as a **subspecies**. The authors note that, '*apart from the smaller size, the somewhat thinner shell and the more colourful appearance, there are no fundamental differences between* L. crassum senegalense *and the nominal subspecies*'.

Specimens of *L. crassum* and *L. senegalense* are not confined to isolated habitats but instead inhabit continuous marine environments. Moreover, both ‘species’ share the same characteristics, making it nearly impossible to distinguish juvenile specimens of *L. crassum* from average representatives of the West African shells.

Most recently, **ter Poorten (2024)** described and illustrated *L. senegalense* as a **distinct species,** in contrast to its earlier classification as a variety, as originally proposed by Dautzenberg (1891).

Ter Poorten was notably influenced by Vidal (2005), who introduced the subspecies *L. oblongum castanea, L. oblongum senegalense (Dautzenberg, 1891)* and *L. oblongum gibba* (Jeffreys, 1863); ter Poorten sought to bring order to the chaos of data, conflicting opinions, and geographic distributions created by Vidal, opting to use specific names instead.

In contrast, we align with the perspective of **Hylleberg** (2004), regarding ***L. senegalense*** as a **junior synonym** of ***L. crassum*****.**

The differences between the various species described by Vidal and ter Poorten are so indistinct (e.g., the extent of ribbing) that distinguishing them as separate species, is in many cases, highly challenging.
Both authors opted to allocate species to nearly distinct geographic areas as follows:

- ***L. oblongum*** in the Mediterranean Sea
- ***L. castanea*** mainly in southern Portugal and NW Africa
- ***L. johnjeffreysi*** in the British Isles and the Bay of Biscay
- ***L. senegalense*** in West African waters
- ***L. crassum*** in the NE Atlantic and the Mediterranean Sea

Conclusion

The **criteria** outlined by **Vidal** (2005) and ter Poorten (2014) are **vague** and **insufficient** for reliably assigning specific names to the *Laevicardium* species discussed. Primarily, we used the position of the umbo in dozens of specimens as a tool for identification. Although this is one of the most distinctive parameters, it proved inadequate for drawing conclusions, as it exhibited considerable variability, which is influenced by the angle at which the photographs were taken. Furthermore, the nature of ribbing (including rib spacing, number of ribs, and depth of grooves) among all individuals is highly variable, making it an unreliable characteristic.

The current practice of attributing a name to East Atlantic and Mediterranean *Laevicardium* specimens, primarily based on their geographic origin, may appear somewhat simplistic. Nevertheless, this approach functions as a practical identification method, particularly in light of the limited availability of distinguishing characteristics.

There is an urgent need for **DNA-based research** on living specimens, which can be readily obtained through the fishery and expeditions. Such studies are expected to bring clarity and resolution to the taxonomic confusion and inconsistencies in nomenclature and publications that have persisted over the past century.