The presence of *Venus verrucosa* Linnaeus, 1758 in the E Atlantic waters and assignment of *Venus damasoi* Cossignani, 2015 as a junior synonym

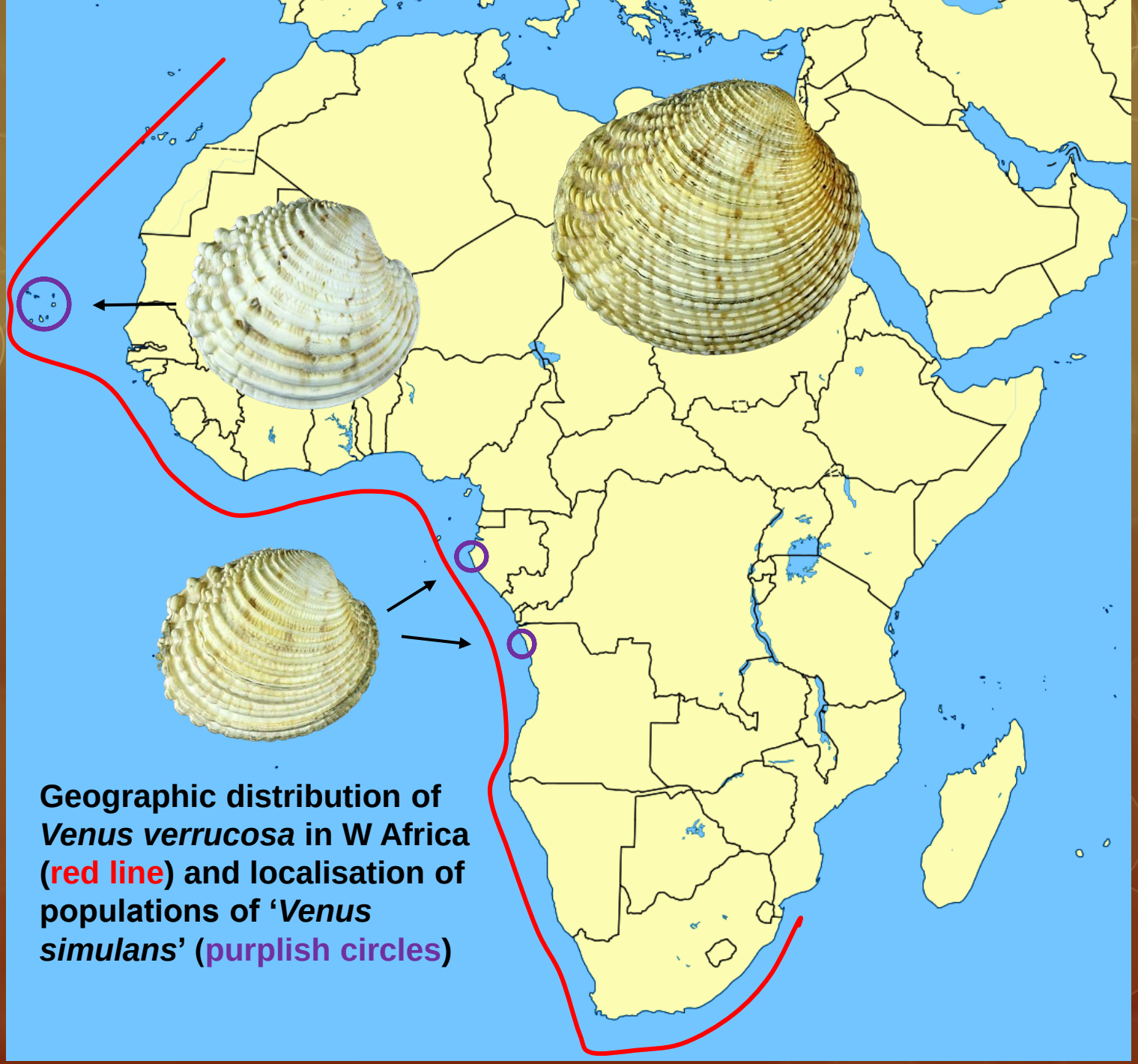
Speaker: Frank Nolf

All specimens figured in this presentation belong to the collections of
Steve Hubrecht (SH)
F. Nolf (FN)
and
Johan Verstraeten (JV)

Venus verrucosa Linnaeus, 1758

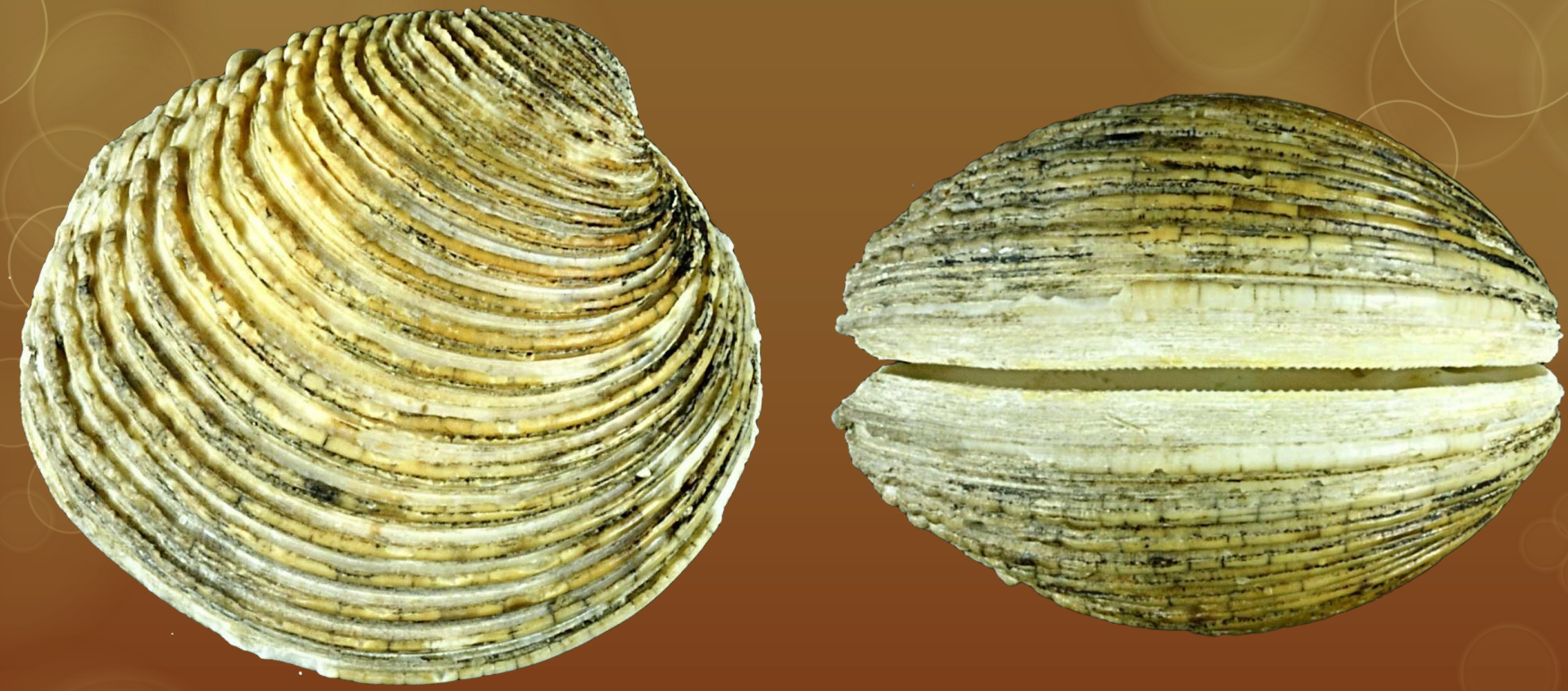
- Shallow burrower in sand, fine or mixed gravel of E Atlantic waters (W Scotland to South Africa) from 3 to 100 m.

- A population of smaller, shorter and more globose specimens lives in the Cape Verde Islands, but similar shells are even found in Gabon and Angola (*Venus damasoi* T. Cossignani, 2015).



Geographic distribution of *Venus verrucosa* in W Africa (red line) and localisation of populations of '*Venus simulans*' (purplish circles)

The following pictures illustrate specimens of *Venus verrucosa* L., 1758 from the British Isles in the north, the Mediterranean Sea and the West African coasts towards KwaZulu-Natal in the southeast.



Venus verrucosa var. *tumida* B.D.D., 1893
off Waterford, Ireland, UK – trawled by Belgian fishermen
H. 41.77 mm L. 45.59 mm - FN

Venus verrucosa var. *ornata* B.D.D., 1893
Le Verdelet, Le Val-André, Brittany, France - in sand at extreme low tide – 6 April 2012
H. 28.13 mm L. 33.49 mm - FN

Venus verrucosa var. *transversa* B.D.D., 1893
Le Verdelet, Le Val-André, Brittany, France -
in sand at extreme low tide – 6 April 2012
H. 37.41 mm L. 44.71 mm - FN

Venus verrucosa Linnaeus, 1758
Ile Tudy, Finistère, Brittany, France –
in sand at extreme low tide – 29 March 2002
H. 54.80 mm L. 61.90 mm - FN

Venus verrucosa Linnaeus, 1758
Peñiscola, Spain - trawled by fishermen - April 1971
H. 61.31 mm L. 69.04 mm - FN

Venus verrucosa var. ornata B.D.D., 1893
Hiliomili, Gulf of Maliakos, Greece -
in sand - dived at a depth of 3 m - July 2006
H. 31.50 mm L. 36.98 mm - FN

Venus verrucosa var. ornata B.D.D., 1893
Hiliomili, Gulf of Maliakos, Greece -
in sand - dived at a depth of 3 m - July 2006
H. 33.84 mm L. 38.99 mm - FN

Venus verrucosa Linnaeus, 1758
Lagonisi, Sithonia, Greece -
in mud of lagoon - dived at a depth of 10 m
H. 29.27 mm L. 33.63 mm - FN

Venus verrucosa Linnaeus, 1758
Lagonisi, Sithonia, Greece -
in mud of lagoon - dived at a depth of 10 m
H. 40.19 mm L. 48.08 mm - FN

Venus verrucosa Linnaeus, 1758
Attiki, Euvoic Gulf, Ag. Apostoli, Greece - in sand – September 1969
H. 34.29 mm L. 39.44 mm - FN

Venus verrucosa Linnaeus, 1758
Playa del Reducto, Arrecife, Lanzarote, Canary Islands, Spain - on sand at low tide - May 1971
H. 30.06 mm L. 35.07 mm - FN

Venus verrucosa Linnaeus, 1758
Rio de Oro, Western Sahara, Morocco
in sand – snorkeled at a depth of 2 m - 2000
H. 30.03 mm L. 34.21 mm - FN

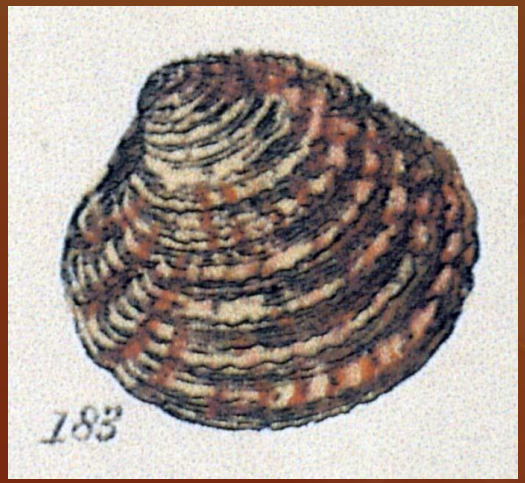
Venus simulans / *Venus verrucosa simulans* / *Venus verrucosa* forma *simulans* G.B. Sowerby I in Darwin, 1844

From the original description:

- a fossil shell from a tertiary deposit, beneath a great basaltic stream on Santiago, Cape Verde Islands;
- intermediate in its characters between *Venus verrucosa* Linnaeus of the British Channel and *Venus rosalina* Rang of West Africa;
- broad, obtuse, concentric ribs divided into tubercles, more circular than *Venus verrucosa.*

Main differences from *V. verrucosa*:

- shell smaller and shorter, max. 40 mm;
- thicker and more solid, very globose;
- posterior margin sometimes truncated;
- surface with stronger and bulbus commarginal ribs;
- thicker warts compared to the sharpe lamellae in *V. verrucosa*;
- geographic range apparently restricted to the Cape Verde Islands.



GEOLOGICAL OBSERVATIONS

ON THE

VOLCANIC ISLANDS,

VISITED DURING THE VOYAGE OF H. M. S. BEAGLE,

TOGETHER WITH

SOME BRIEF NOTICES ON THE GEOLOGY OF AUSTRALIA AND THE CAPE OF GOOD HOPE.

BEING THE SECOND PART OF
THE GEOLOGY OF THE VOYAGE OF THE BEAGLE,
UNDER THE COMMAND OF CAPT. FITZROY, R.N.
DURING THE YEARS 1832 TO 1836.

BY

CHARLES DARWIN, M.A., F.R.S.,

VICE-PRESIDENT OF THE GEOLOGICAL SOCIETY, AND NATURALIST TO THE EXPEDITION.

Published with the Approbal of the Lords Commissioners of Her Majesty's Treasury

LONDON:
SMITH, ELDER AND CO., 65, CORNHILL.

1844.

DESCRIPTION OF FOSSIL SHELLS, BY G. B. SOWERBY, ESQ., F.L.S.

APPENDIX.

DESCRIPTION OF FOSSIL SHELLS,

By G. B. SOWERBY, Esq., F.L.S.

SHELLS from a tertiary deposit, beneath a great basaltic stream, at St. Jago in the Cape de Verde Archipelago, referred to at p. 4 of this volume.

3. VENUS SIMULANS. *G. Sowerby.*

Testâ rotundatâ, ventricosâ, lævisculâ, crassâ; costis obtusis, latiusculis, concentricis, anticè posticeque tuberculatim solutis; areâ cardinali posticâ alteræ valvæ latiusculâ; impressione subumbonali posticâ circulari: long. 1·8, *alt.* 1·8, *lat.* 1·5, *poll.*

A shell which is intermediate in its characters, taking its place between the *Venus verrucosa* of the British Channel and the *V. rosalina* of *Rang* of the western coast of Africa, but sufficiently distinguished from both by its broad, obtuse, concentric ribs, which are divided into tubercles both before and behind. It is also of a more circular form than either of those species.

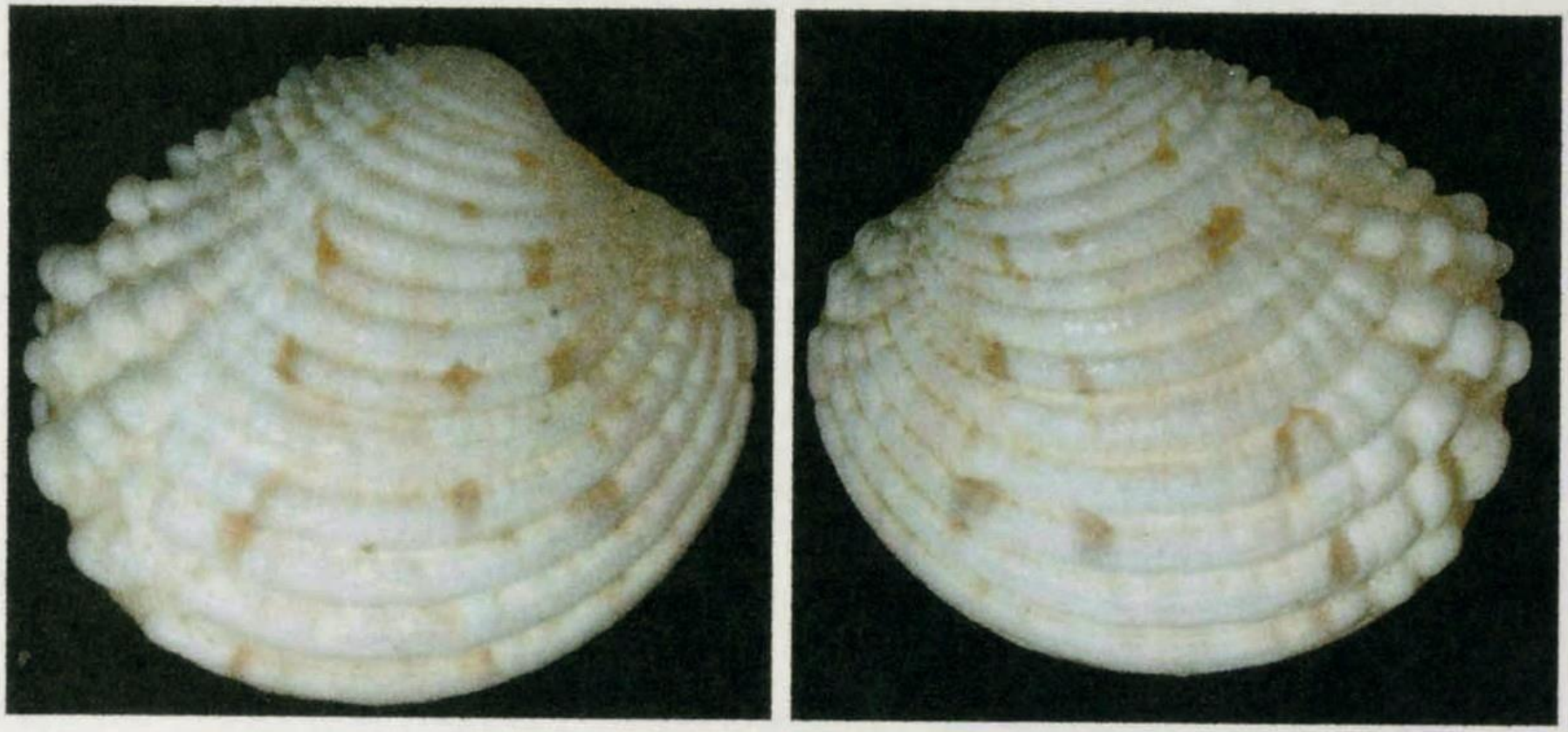
Venus damasoi T. Cossignani, 2015

From the original description:

- shell rounded and globular;
- slightly elongated;
- very robust;
- rough surface with thick warts;
- ivory-white with rare light-brown specks;
- distinguished from *V. verrucosa* by its shape, the smaller size, the ornamenation of the radiating striae, the much more evident tubercles and very rounded shape;
- type locality: Luanda, Angola.

Venus damasoi sp. nov. olotipo (valva destra a Sn.)

Venus damasoi Cossignani, 2015
Malacologia, 88:17



Venus damasoi sp. nov. paratipo 1

Venus damasoi Cossignani, 2015
Malacologia, 88:17

Venus damasoi Cossignani, 2015 is just a form of
Venus verrucosa Linnaeus, 1758
commonly known as
Venus verrucosa var. *simulans* Sowerby in Darwin, 1844
(HUBER, 2010. Compendium of Bivalves, p.360).
This is the typical but not-endemic form of the Cape Verde Islands. It also occurs in Senegal, Gabon and Angola as far as we know.

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
São Vicente, Cape Verde Islands - from SCUBA diver
at a depth of 10-28 m - May 2015 -
H. 27.71 mm L. 31.94 mm - JV

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
São Vicente, Cape Verde Islands - from SCUBA diver
at a depth of 10-28 m - May 2015 -
H. 27.54 mm L. 31.02 mm - JV

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
São Vicente, Cape Verde Islands - from SCUBA diver
at a depth of 10-28 m - May 2015 -
H. 31.48 mm L. 33.24 mm - JV

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Praia Gamboa, São Tiago, Cape Verde Islands -
dived - in sand - 1990 -
H. 25.09 mm L. 26.26 mm - FN

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Praia Gamboa, São Tiago, Cape Verde Islands -
dived - in sand - 1990 -
H. 30.32 mm L. 32.47 mm - FN

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Praia Gamboa, São Tiago, Cape Verde Islands - dived - in sand - 1990 -
H. 32.97 mm L. 33.92 mm - FN

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Praia Gamboa, São Tiago, Cape Verde Islands -
dived - in sand - 1990 -
H. 32.53 mm L. 35.51 mm - FN

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Praia Gamboa, São Tiago, Cape Verde Islands -
dived - in sand - 1990 -
H. 32.58 mm L. 36.96 mm - FN

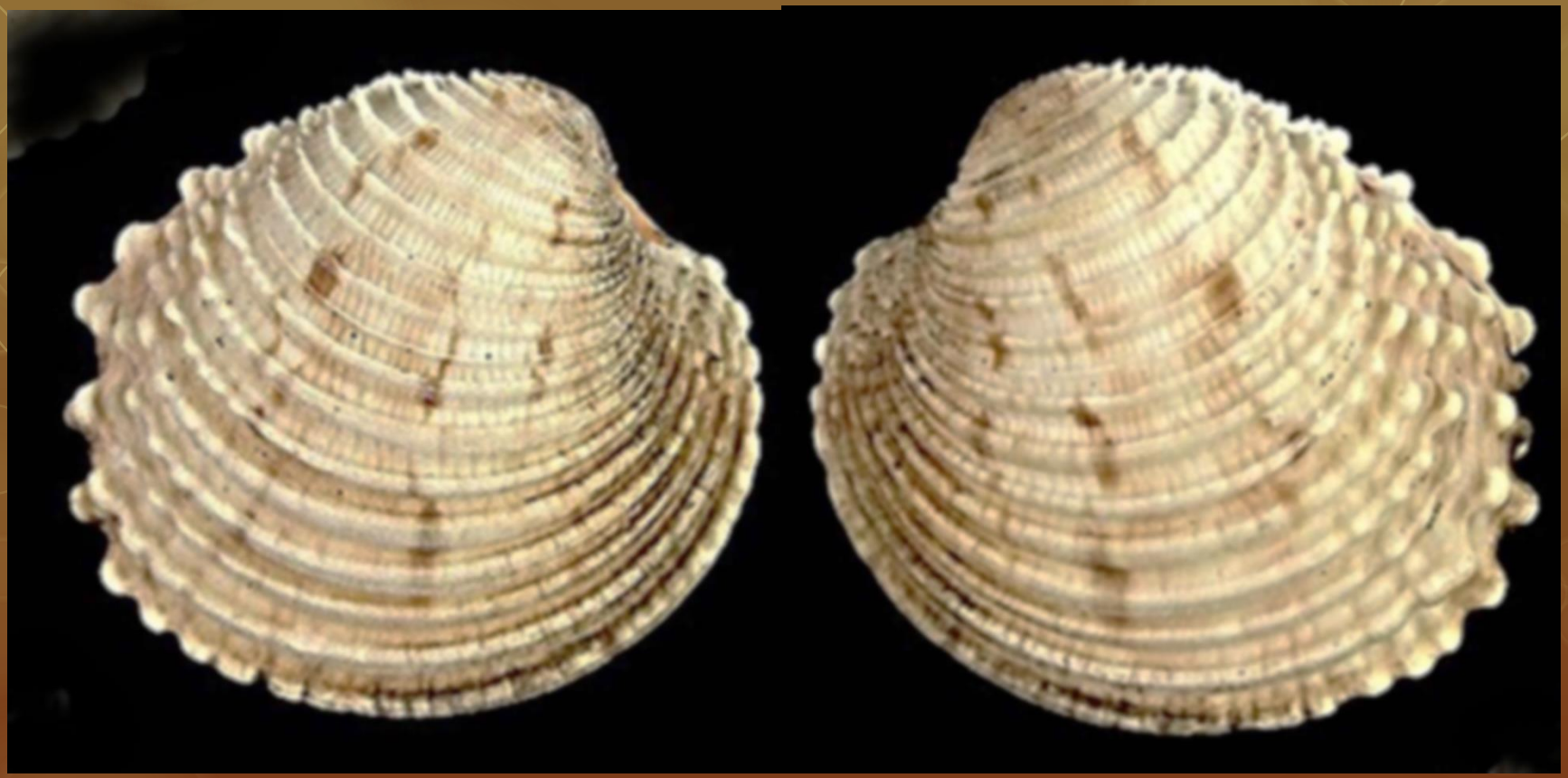
‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Praia Gamboa, São Tiago, Cape Verde Islands -
dived - in sand - 1990 -
H. 38.02 mm L. 41.81 mm - FN

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Sal, Cape Verde Islands
H. 32.30 mm L. 37.34 mm - SH

‘*Venus simulans*’ G.B. Sowerby I in Darwin, 1844
Mindelo, São Vicente, Cape Verde Islands -
alive in sand in car tyre near Fish Market Pier -
28 September 2019
H. 32.41 mm L. 36.35 mm - SH

Even at the same locality, e.g. the Cape Verde Islands, specimens of '*Venus simulans*' show slight differences.

Santa Clara, Gabon - 00°30.5’ N/ 09°19.5’ E -
among rocks on sandy beach - 1985 -
H. 35.66 mm L. 39.84 mm - FN



Luanda, Farol Lagostas, Angola -
dredged at a depth of 40-50 m - 2019 - 35 mm -
De Donder Shells (sold as *Venus damasoi*)

Luanda, Farol Lagostas, Angola -
dredged at a depth of 40-50 m - 2019 - 38 mm -
De Donder Shells (sold as *Venus damasoi*)

Specimens of
Venus damasoi Cossignani, 2015
showed in the two previous pictures do not correspond to neither the description nor the figures in Malacologia.

Venus verrucosa **Linnaeus, 1758**

from other West African shores south of the Cape Verde Islands

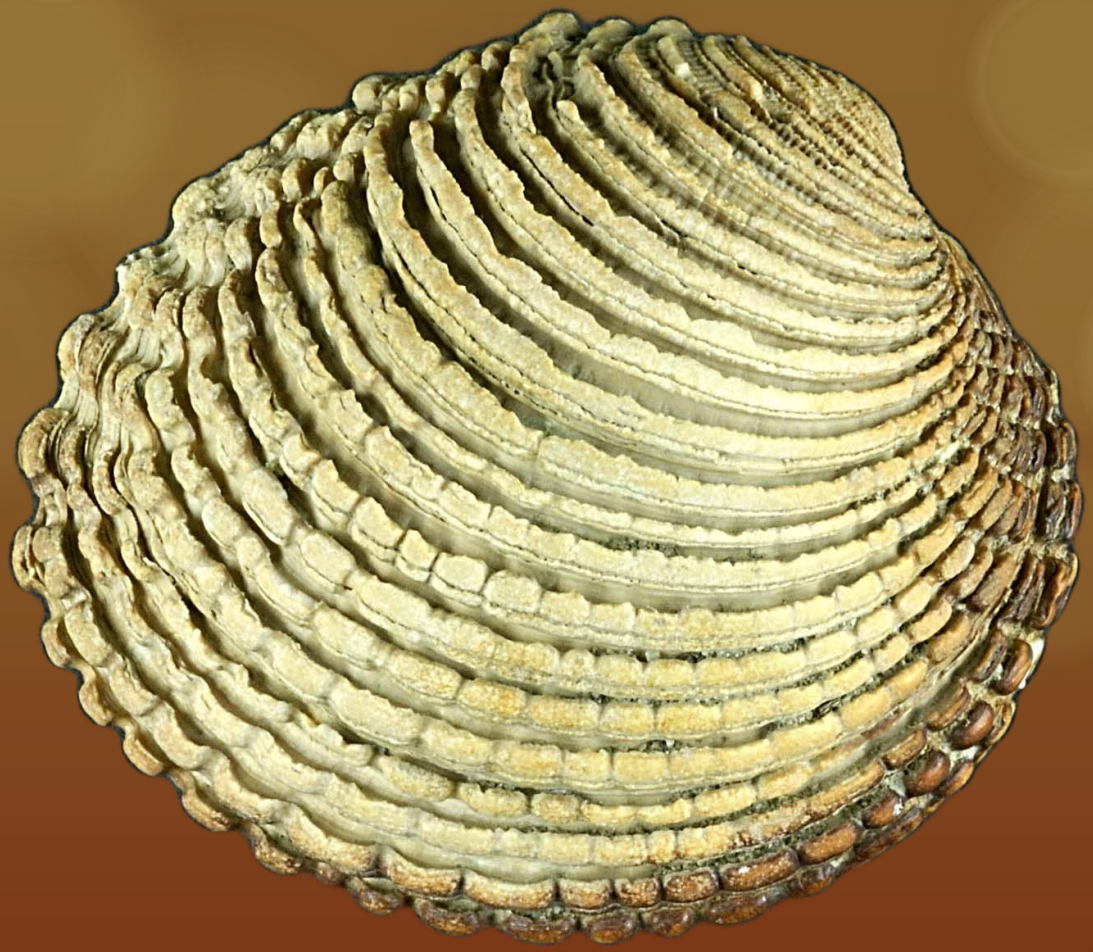
Venus verrucosa Linnaeus, 1758
Point of Hann, off Dakar, Senegal - in sand – dived at a depth of 10 m
H. 41.58 mm L. 49.50 mm - FN

Venus verrucosa Linnaeus, 1758
Bay of Hann, off Dakar, Senegal - dived at a depth of 10-15 m - 1985
H. 43.04 mm L. 50.36 mm - SH

Plage Mondaine, Pointe Noire, Congo Brazzaville in sandy mud - 1989
H. 37.67 mm L. 42.96 mm - JV

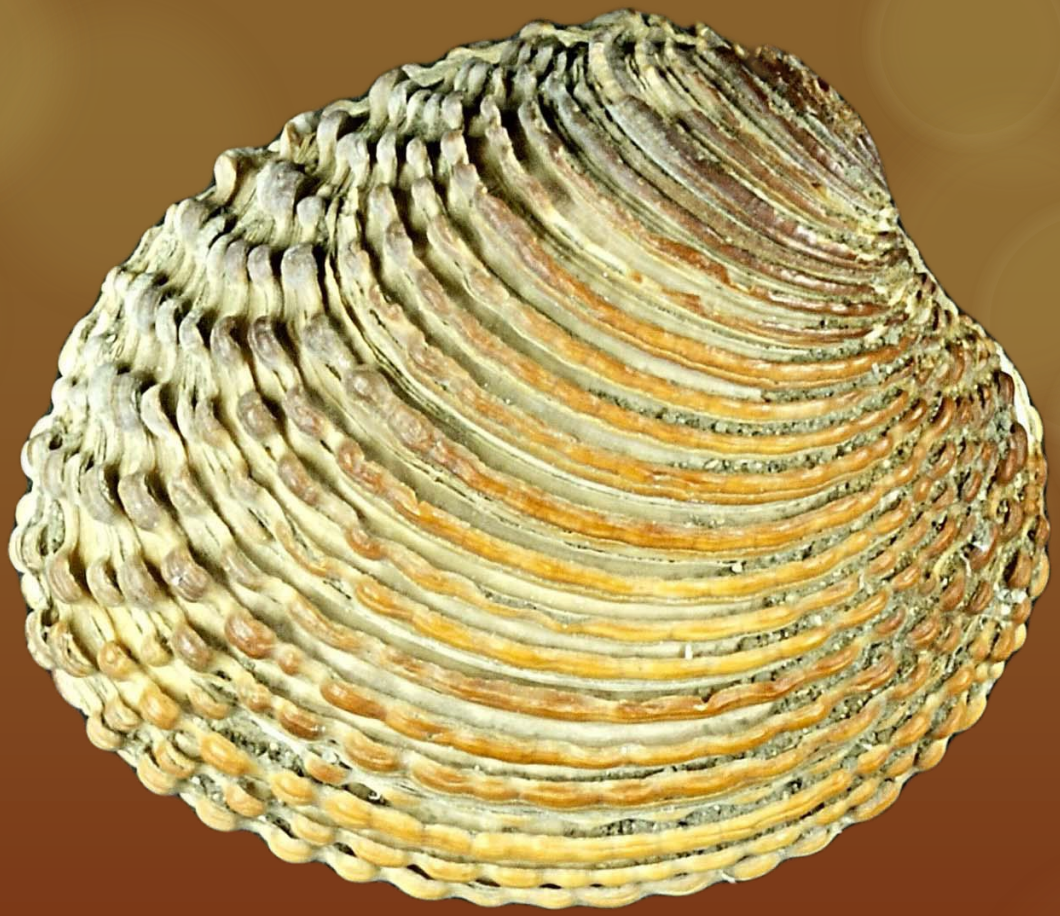
Angola
H. 40.45 mm L. 50.83 mm - SH

Knysna Lagoon, Cape, South Africa - buried in sand at low tide - July 1965
H. 40.22 mm L. 48.49 mm - FN



near Lake Brenton, Knysna Lagoon, Cape, South Africa
alive in mud - 20 December 1979
H. 42.75 mm L. 48.52 mm - SH

False Bay, South Africa
dived - 19 January 1989
H. 46.88 mm L. 53.67 mm - SH



Algoa Bay, Port Elizabeth, South Africa
on mud – dived at a depth of 9 m - 8 January 1986
H. 37.03 mm L. 43.21 mm - SH

Park Rynie, S KwaZulu-Natal, South Africa
dived at a depth of 35 m – on reef
H. 33.97 mm L. 38.504 mm - SH

Conclusion

1° *Venus damasoi* from Angola, possesses the particular characteristics of *V. simulans* from the CVI, even to a greater extent ⟶ *Venus simulans* is not a subspecies of *Venus verrucosa*.

2° *V. verrucosa* and *Venus simulans* are not two different species: the similarity between both is very obvious and they are continuously interconnected through a large series of intermediate forms.

3° The swollen shells with thicker warts from CVI, Gabon and Angola have to be regarded as ecological forms of *Venus verrucosa* until DNA-research will solve this problem.