Conus musivus Trovao, 1975=*C. alexandrinus*, Kaicher, 1977

C. musivus :- Original description: Concha de perfil conico e linhas direitas. Coloraçao branca com desenhos de linhas longitudinais irregulares castanhas, geralmente te muito interrompidas formando dessa maneira pequenas flâmulas de forma triangular, castanhas e brancas, que se unem na parte anterior da concha, formando geralmente uma mancha castanha.
Aparecem por vezes exemplares com as linhas menos interrompidas formando assim manchas de maiores dimensóes, outros ainda com poucas linhas, ficando quási brancos.

Espira muito várivel, desde elevada a muito baixa, mantendo-se as córes base, e o desenho em relaçao com a ultima volta da concha.
Abertura: labio muito fino,direito ligeiramente mais afastado da parte anterior da columela.
Interior de coloraçâo branca,bordado por um filete castanho
Periostracum; muito fino amarelo transparente.

Shell with conical profile and straight sides. White coloration with pattern of irregular brown longitudinal lines, usually strongly interrupted, forming small triangular-shaped patches, brown and white, that unite in the anterior part of the shell, generally forming a brown stain. Sometimes the lines are less interrupted thus forming blotches of larger dimensions, other specimens have fewer lines, becoming almost white.

The shell varies greatly, from high spire to very low, keeping the base colours, and the pattern in relation to the last whorl of the shell.

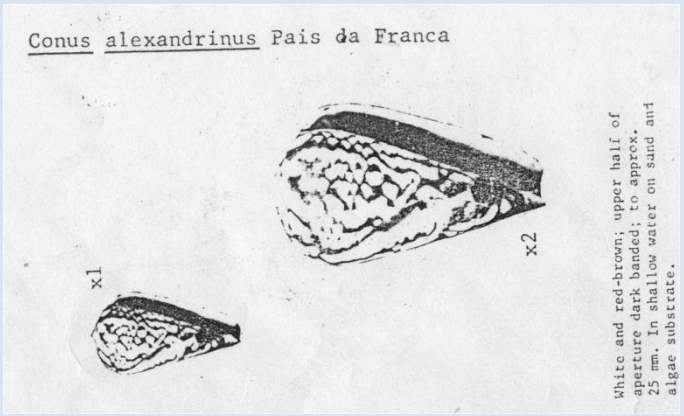
Aperture: very thin lip, slightly sloping widening at the anterior part of the columella. Interior of white colour with a brown edge.

Periostracum: very thin, yellow, transparent.

Comment: The name *C. musivum* had been used previously. There was much scholarly debate as to whether musivus and musivum are considered the same name. As a result, Trovão decided in 1978 to rename the shell as *C. tevesi*. Meanwhile in 1977 Kaicher

produced her set of cone cards including C. alexandrinus which is judged to be the same species as Trovão's shell. Currently the Worms database accepts that musivum and musivus are homonyms. Therefore the correct name is *C. alexandrinus*, this being the earliest valid name.

Kaicher, 1977



Holotype *C.alexandrinus* USNM

Kaicher, *Conus alexandrinus* description: Shell white and red-brown; upper half of aperture dark banded. To approx 25mm"

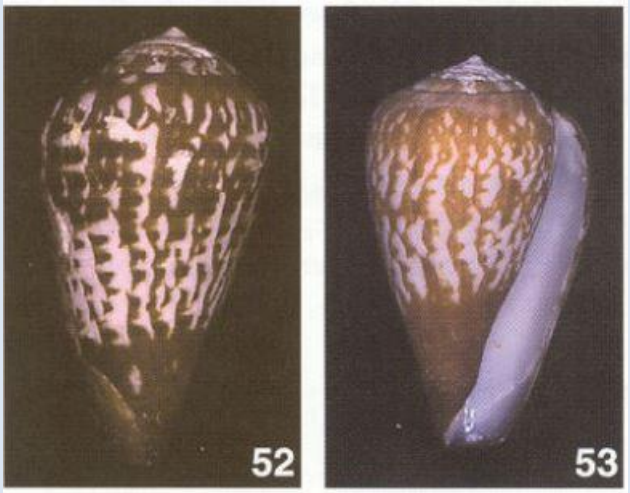
Comment: Kaicher believed the shell in the USNM *C. alexandrinus* had been described by Paes da Franca but there is no record of such a description.

Fernandes & Röckel, 1983 consider *C. musivus* to be a synonym of *C. bulbus*.

Rolán & Röckel, 2000

Their review in 2000 was undertaken before the ICZN decision on the validity of *C. alexandrinus* and their interpretation was that "musivus" was a valid and a different name from "musivum".

Conus musivus Trovâo, 1975
(Figs.52-53)



Conus musivus Trovao, 1975: Boletim C.P.A.S., 4(2), 1975: 11, pl. 1, fig. 2, pl. 2, figs. 3,4,6.

Conus tevesi Trovao, 1978. *nom. nov*. for *C. musivus* Trovao, non *C. musivum* Broderip, 1833. Boletim C.P.A.S., 4(4): 18.

Type material: Holotype(of *C. musivus*) in CPAS (33.3 x 18.6 mm),depicted by TROVAO (1975, 1994).

Other material studied: Limagens,Santa Maria;
Type locality: "12° 32' E, 13° 26' S". This is near the cape of Santa Maria Bay. So Santa Maria Bay is designated the type locality.

Shell description: Small to moderately small, solid. Last whorl ventricosely conical, outline convex at adapical third, almost straight below. Left side slightly concave near base. Aperture wider at base than near shoulder. Shoulder rounded. Spire of low to moderate height, outline straight to slightly sigmoid. Teleoconch sutural ramps flat to convex, with fine spiral striae. Last whorl smooth and dull, with about 8-10 spiral ribs at base.

Ground colour white to bluish white. Last whorl with brown axial streaks, branching and coalescing to an irregularly tented pattern. Base may be dark brown. Aperture white or purplish-brown, leaving two light bands at shoulder and centre.

Shell morphometry:

L 20-33 mm
RD 0.60-0.78
RSH 0.06-0.15
PMD 0.74-0.80
RW 0.09-0.11 g/mm

Description of animal: Animal pink with some dark dots (TROVAO, 1975b).

Radula: In radula sac 43-60 teeth. Within the shells with a somewhat tented pattern we found some variability in the radular tooth. Only some of them correspond with the radular tooth depicted by TROVAO (1975b). Radulae of the typical morph of *C. musivus* are unusually inconsistent; for instance, the ratio DR/PA ranges in some specimens from 2.2-2.3 to 1.8-1.9 in other ones. This incongruence was neither correlated with a distinct locality nor with the size (ontogenetic changes). It was not possible to discover any sexual dimorphism because of the poor state of conservation of soft parts of the study material. Unknown factors may cause this inconsistence, as perhaps different habitat or food, or a certain degree of genetic flow.

Radula morphometry:
(n = 8)

D 18-27
ABS 40-45°
LC/DR 38-43
DR/PA 1.8-2.3

Egg Capsules: Capsules flat, smooth and with the window escape at the upper part.

Distribution: From Limagens to Santa Maria .Sympatrically living with *C. bulbus, C. neoguttatus, C. variegatus, C. zebroides, C. chytreus, C. carnalis, C. nobrei, C. naranjus,* and *C.albuquerquei*

Habitat: Rocky bottom, almost bare of sand.

Discussion: The name *C. musivus* was replaced by TROVAO (1978), because he assumed pre-occupation by *C. musivum* Broderip, 1833. Since the spelling is different, the original name maintains validity (Art. 57, 58 ICZN). Some specimens may have an intergrading pattern to *C. bulbus*, hence some authors (WALLS, 1979, ROCKEL & FERNANDES, 1982a) supposed synonymity. The radular differences are not significant.
Nevertheless we provisionally accept the validity of *C.musivus*, as near the type locality of *C.* musivus, typically patterned specimens of *C. bulbus* have been collected. If *C. bulbus* and *C. musivus* are the same species, the distribution of the morphs would be irregular: In the Santa Maria-Limagens area C. *musivus* predominates, while it does not appear on the coast from Benguela to Limagens
Note: The WORMS database 2019 reports that musivus and musivum are considered the same name and therefore *C. alexandrinus* is now accepted as the valid name.

Iconography of West African Conidae.

The interpretation highlights the variability of pattern. The rightmost specimen illustrates the difficulty in separating shells from *C. bulbus* specimens.

Today a visit to Limagens will produce an array of colour forms.

As stated in RR2000, shells which are obviously *C. bulbus* from Limagens are hard to find. No obvious specimens were found in a sample of ninety specimens from Limagens.

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DNA Analysis:

There are no records of *C. musivus* or *C. bulbus* being tested.

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