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***Anacithara* (Conoidea, Turridae): a new genus to West Africa**

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Abstract: Two previously known species from West Africa are assigned to the genus *Anacithara* Hedley, 1922 and they are the first record of this genus in West African. The “lost” species *Mangelia angulosa*, Smith, 1871 is illustrated with type and fresh material; *Cythara maltzani*, Knudsen, 1952, which has been generalized with the genus *Haedropleura* Bucquoy, Dautzenberg & Dollfuss, 1883 is also transferred to the genus; their habitat ranges are defined and extended.

Resumen: Se atribuyen al género *Anacithara* Hedley, 1922, hasta ahora no mencionado para la fauna de Africa occidental, dos especies ya conocidas. La “olvidada” *Mangelia angulosa*, Smith, 1871 es ilustrada con material tipo y actual. *Cythara maltzani*, Knudsen, 1952, que ha sido ubicada con frecuencia en el género *Haedropleura* Bucquoy, Dautzenberg & Dollfuss, 1883, se transfiere también a este género. Sus hábitats son definidos y extendidos.

Introduction: *Anacithara* Hedley, 1922 is a genus in the superfamily Conoidea and family Turridae, subfamily Crassispirinae McLean, 1971; known from the Oligocene to the Miocene and probably the Pliocene and Recent from the Indo-Pacific (Powell, 1966).

It was originally placed in the subfamily Mangelliinae Fischer, 1887 (within the family **Conidae** Fleming, 1822), but Kilburn (1994), who made a complete description of the genus, showing its radula and describing three new species from South Africa, transferred it to the subfamily Crassispirinae McLean, 1971 (within the family **Turridae** H. & A. Adams, 1853), due to the discovery of a radula significantly similar to *Haedropleura* Bucquoy, Dautzenberg & Dollfuss, 1883 and the presence of an operculum, another non-mangelliine characteristic. Puillandre *et al.* (2008) confirmed its placement in this subfamily after genetic studies.

The genus had not been recorded from West Africa, but the study of small turrid shells from the area, especially from Angola, concluded that two species belong to this genus and therefore are the subject of this work. One of them is *Mangilia angulosa* Smith, 1871, which was last mentioned by Tryon, 1884; the other is *Cythara maltzani* Knudsen, 1952, usually placed in the genus *Haedropleura* Bucquoy, Dautzenberg & Dollfuss, 1883.

Abbreviations

BMNH	The Natural History Museum, London
MHNS	Museo de Historia Natural "Luis Iglesias", Universidad, Santiago de Compostela, Spain (coll. E. Rolán)
ZMUC	Zoologisk Museum, Copenhagen
CJH	collection of Juan Horro, Vigo, Spain
CPR	collection of Peter Ryall, Maria Rain, Austria
s	shell, without soft parts
f	fragment of a shell
j	juvenile
sp	specimen, with soft parts

Taxonomic part

Family Turridae Swainson, 1840
 Subfamily Crassispirinae McLean, 1971

Genus *Anacithara* Hedley, 1922

Type species: *Mangilia naufraga* Hedley, 1909 (o. d.)

Anacithara angulosa (E.A. Smith, 1871)
 (Figs 1-8, 14, 17, 18, 19)

Type material: Syntype series of eight shells, BMNH n° 1870.1.12.39

Type locality: Whydah (now Dahomey), West Africa.

Other material studied: 2 shells from Palmeirinhas, south of Luanda, Angola, 30 m., 1 shell Miamia, Ghana 15/20 m. (MHNS); 1 shell Miamia Ghana 15/20 m. (CJH); 1 shell dredged -23m. Volta Estuary off Ada-Foah, Ghana (CPR)

Original description: *Testa parva, ovata, pallido-brunnea; anfract. 6, primi 4 convexi, polita, simplices, caeteri media angulati, costis validis, curvatis, rematis (in anfract. ultimo 6) ornati: transversim exilissime striati; atriae supra costas indistinctae; apertura subovata, spiram fere aequans; columella callosa, superne tuberculata; labium incrassatum; canalis perbrevis.*

Additional description: Shell (Figs 1-8) elongate, solid, shiny and of an almost uniform pink colour, lighter on the axial ribs, where some darker bands can be seen. The protoconch (Fig. 13) is smooth, multispiral, apically lighter, with about $2\frac{1}{2}$ whorls, with no apparent separation to the teleoconch, and a diameter of 700 μm . Teleoconch with 4 whorls, scarcely convex, suture shallow; axial ribs are very slightly prominent, scarcely opisthocline on first whorls and orthocline on the last one; there are 7-8 ribs on the first two whorls and only 7 on the last one, the spire finishing in an externally thickened lip. The spiral sculpture is formed by incised narrow grooves, 5-6 on first whorls, 13-14 on the penultimate whorl and about 30 on the last whorl. Under high magnification a dense microsculpture of pits (Figs 17, 18) can be seen on the interspaces. Aperture ovoid elongate with a short and very wide siphonal canal. External lip with a narrow peristome, adherent to the columella.

Dimensions: According to original description "Long. 5 mill. Diam. $1\frac{3}{4}$ "; our specimens measure from 4.1 to 6.2 mm.

Distribution: Previously only known from the type locality in Dahomey, we now extend its western distribution to Ghana and to the Luanda area of Angola in the south.

Remarks: Since Smith's original description, which included a very poor and small figure (lam. 75, fig. 10), only Tryon (1884: 256, pl. 22, fig. 67) referred to this species, but he also illustrated a small and ambiguous image. However, study of the type series together with our own material confirms its validity because it is distinct from other West African species. The closest one could be *Anacithara maltzani* (Knudsen, 1952), but it has more prominent and curved axial ribs, a darker colour, a shorter last whorl, a

more prominent external lip, a wider aperture, a less dense microsculpture of pits and the protoconch has a darker apex.

Our specimens completely agree with the type series, although the colour is more pinkish. We suspect the type material is dead-taken and that the colour has faded with age.

The present species is placed in the genus *Anacithara* due to the very similar shape, protoconch and microsculpture with *Anacithara angulicostata* Kilburn, 1994, from Zululand, South Africa. In spite of this similarity, the latter is smaller (holotype 4.8 mm), the last whorl is shorter, the aperture is wider, with 9-10 prominent axial ribs per whorl at its middle and 17-19 feeble spiral grooves on the penultimate whorl, the last one being a more convex whorl, and with more axial ribs.

Anacithara maltzani (Knudsen, 1952)
(Figs 9-13, 15, 16, 20)

Cythara maltzani Knudsen, 1952. *Vidensk. Medd. Fra Dansk naturh. Bd.* 114: 171, pl. 3, fig. 3.

Type material: Holotype (Figs 9, 10)(ZMUC)

Type locality: 50 m. 5°37'N 0°38'E off Ghana.

Other material studied: Ivory Coast: 2 s, 38 m (CJH); 2 s, 48 m, 210° off Miamia, Ghana (CPR), 1 sp, 37 m, dredged off Ada-Foah, Volta estuary Ghana (CPR); Angola: 1 s, 2 j, 1 f, Luanda, 100 m (MHNS); 2 j, Luanda, 80 m (MHNS); 2 s, Luanda, 30 m (MHNS); 2 sp, along Mussulo, 50-70 m (MHNS).

Original description: See Knudsen (1952).

Additional description: Protoconch (Fig. 13) smooth, multispiral, with 2 ¼ whorls and a diameter of about 660 µm. Teleoconch begins with about 10 axial ribs per whorl, which are slightly opisthocline. The spiral sculpture is formed by incised, narrow grooves. Under high magnification small irregular pits can be seen in the interspaces (Figs 15, 16).

Dimensions: Holotype is 7,4 mm.

Remarks: The present species is placed in the genus *Anacithara* due to the very similar shape and protoconch with *Anacithara angulicostata* Kilburn, 1994, from Zululand, South Africa and the previously mentioned *A. angulosa*. The existence of numerous pits in the microsculpture is not mentioned by Kilburn (1994). He rather refers to microscopic striae in one of his species and tubercles in others, indicating that the microsculpture is not constant within the genus.

This species has often been placed in the genus *Haedropleura* and even synonymized with *Haedropleura septangularis* (Montagu, 1803) as in Powell (1966); often confused with other close shells, as in Ardovini & Cossignani (2004: 222) who figured a real one besides another different species (the shell from Senegal is not *Anacithara maltzani*), probably due to the existing confusion in the genus *Haedropleura* in the eastern Atlantic and Mediterranean waters. Some authors unify all of them under that name while other authors separate Mediterranean specimens as a different species, *Haedropleura secalina* (Philippi, 1844) and even in others admitting specific validity of other taxa, such as *H. forbesi* (Locard, 1892). It is not the aim of this paper to build up a revision of the genus *Haedropleura*, so badly needed, even more in West African waters, however we must now state that *A. maltzani* is easy to separate from all European and West African *Haedropleura* because the species of the latter genus have a larger pupoid protoconch, and especially because they have a spiral sculpture of finer and much more numerous spiral striae (Fig. 21) instead of more distant incised grooves (Fig. 20), which are present in *Anacithara angulosa* or *A. maltzani*. Being aware about the close relationship between these two genera, which can only be accurately separated according to radulae characteristics (Kilburn, 1994), we consider that there are reasons enough for this tentative generic assignment.

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Plate 1

1-8: *Anacithara angulosa* (Smith, 1871)

1-4: paratypes, Whydah (BMNH)

5-7: shell, 6.2 mm, Luanda, Angola

8: shell 5.8 mm, Luanda, Angola

Plate 2

9-13: *Anacithara maltzani* (Knudsen, 1952)

9: holotype, 7.4 mm, Gold Coast (ZMUC)

10-12: shells: 5.7, 5.6, 5.6 mm, Luanda, Angola

13: protoconch

14: *Anacithara angulosa*: protoconch.

Plate 3

15-18: Microsculpture under high magnification

15-16: *Anacithara maltzani*

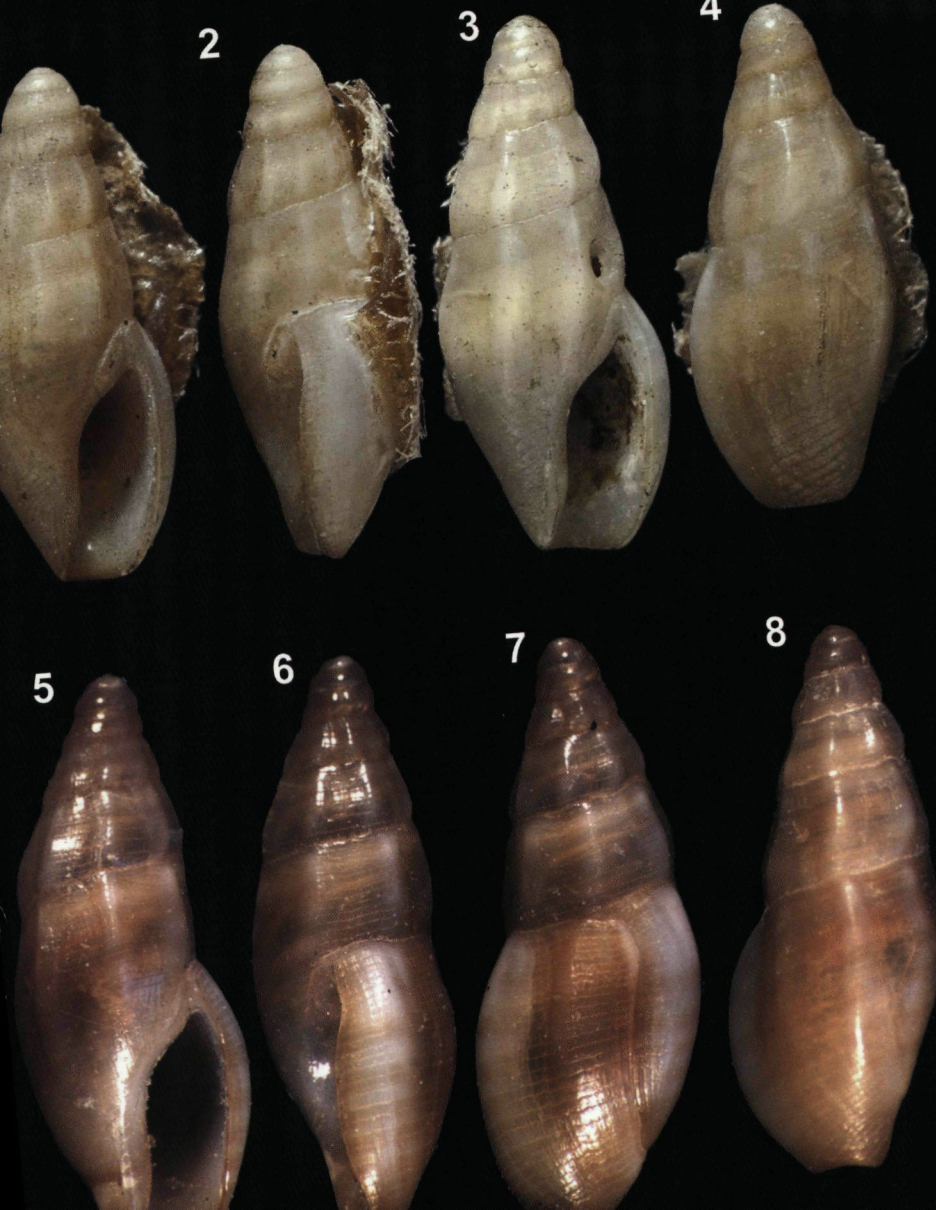
17-18: *Anacithara angulosa*.

19: Operculum of *Anacithara angulosa* (same shell as Fig. 5)

20-21: Comparison of the density of spiral grooves between two genera

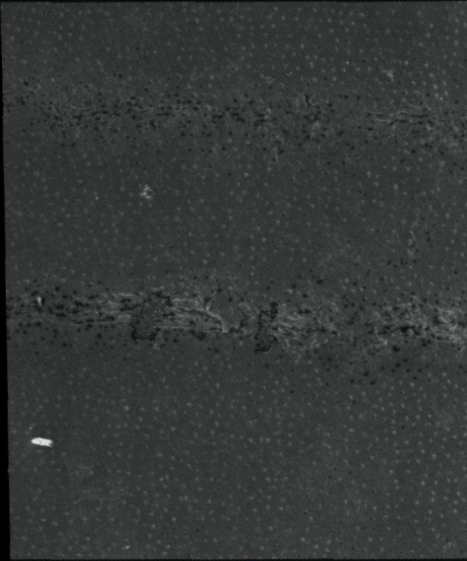
20: *Anacithara maltzani* Luanda, Angola

21: *Haedropleura* sp. Luanda, Angola



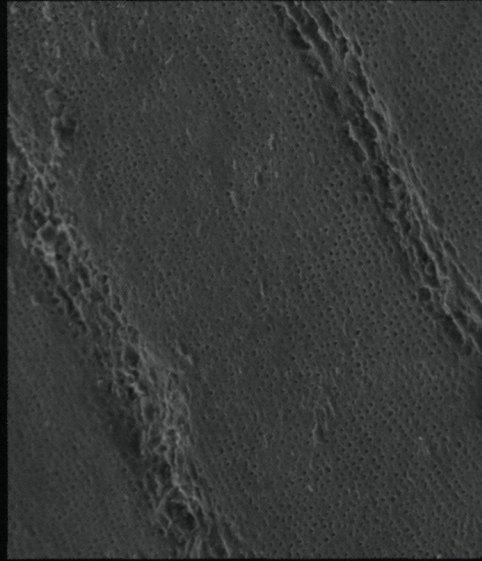


15



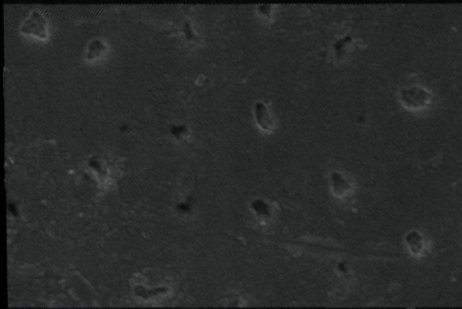
20 μm

17



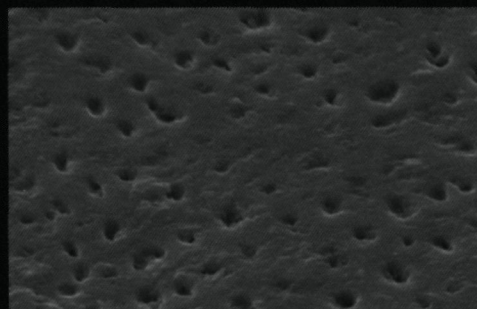
20 μm

16



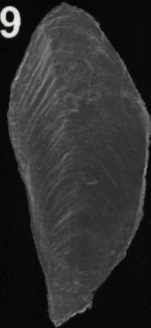
5 mm

18



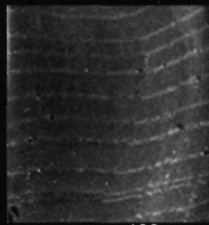
5 mm

19



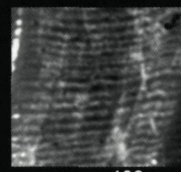
200 μm

20



100 μm

21



100 μm