

The type of *Aplosmilia vidali* Angelis d'Ossat, 1905 (Scleractinia; Early Cretaceous)

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Resumen

LÖSER, H. El tipo de *Aplosmilia vidali* Angelis d'Ossat, 1905 (Scleractinia; Cretácico temprano). Se revisa la especie de coral escleractinio *Aplosmilia vidali* Angelis d'Ossat, 1905 del Cretácico inferior y se le asigna un lectotipo. La forma solitaria pertenece al género *Tiarasmilia* y es probablemente un sinónimo anterior a la especie-tipo de este género, *Tiarasmilia casteri* Wells, 1932.

Palabras clave: Scleractinia, corales, España, Cretácico.

Abstract

The Early Cretaceous Scleractinian coral species *Aplosmilia vidali* Angelis d'Ossat, 1905 is revised and a lectotype is designated. The solitary coral belongs to the genus *Tiarasmilia* and is probably a senior synonym of the type species of this genus, *Tiarasmilia casteri* Wells, 1932.

Key words: Scleractinia, corals, Spain, Cretaceous.

INTRODUCTION

Angelis d'Ossat was the first palaeontologist who reported systematically on Early Cretaceous corals from the area SW of Barcelona, mainly from around Castellví de la Marca. He was followed by Vidal, Bataller and Reig Oriol. Many coral species are known from this area, and many new species were established during the last 100 years. During the times of d'Ossat and Bataller, methods were different. Samples were rarely cut or provided with a polished section. Various species are therefore in need of revision, based on the original type material. The collection of Angelis d'Ossat is divided between two institutions: the Museo di Paleontologia in Roma (Italy) and the Museu de Geologia de Barcelona-MCNB (Spain). The collections of Bataller and Reig Oriol are almost completely conserved in the Museo Geológico del Seminario de Barcelona; only a few samples are in other places such as the Vinseum in Vilafranca de Penedés. In this short contribution, one coral species established by Angelis d'Ossat is revised.

STUDY AREA

The coral bearing marls SW of Barcelona belong to the Montmell Fm. (García, 1982), which crops out at the SE part of the province Tarragona and the SW corner of the province Barcelona, both in the Catalonia (NE Spain). The formation was originally assigned to the Aptian-Albian, later (Löser & Decrouez, 2000) restricted to the Late Aptian, but newer studies show that it belongs to the earliest Albian (Tardefurcata zone; Moreno-Bedmar *et al.*, 2009). Corals occur in two levels, a lower bed made

almost exclusively of solitary corals of the genera *Plesiosmilia* and *Angelismilia* (among others) and an upper bed consisting predominantly of colonial corals of the genera *Actinastraeopsis*, *Astraeofungia*, *Cryptocoenia*, *Dimorphastrea*, *Diplogyra*, *Microsolena*, *Placocolumastrea*, *Stelidioseris*, and *Polyastropsis*. Principal outcrops are the sample locations around Castellví de la Marca (e.g. Can Pascol [Can Pascual in former literature], Cal Morgades), and the localities Marmellar (sometimes as Marmellà in former literature), Cal Xuec, and Masarbonés. The Fm. Can Xuec (García, 1982) is here considered synonymous with the Fm. Montmell.

MATERIAL

Coral skeleton and sediment do not contrast well and fine skeletal microstructures are rarely preserved. The preparation of the material is laborious because only a small percentage of samples deliver thin sections of a high contrast. The examined specimen was therefore only cut in two pieces; a thin section was not prepared. Apart from the material found in the collections mentioned above, the author collected material at various sample points that is now kept at the Bayerische Staatssammlung in Munich (Germany). Among this material there is no other sample of *Aplosmilia vidali*.

SYSTEMATIC DESCRIPTION

Abbreviations. Collection abbreviations are as follows: MGB, Museu de Geologia de Barcelona – Museu de Ciències Naturals de Barcelona, Spain; MPUR, Museo di Paleontologia, Roma, Italy. The abbreviations used in the synonymy lists follow Matthews (1973): *, earliest valid publication of the species name; v, the specimen was observed by the author. Quotations provided with neither a description nor an illustration are not cited here.

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Order SCLERACTINIA Bourne, 1900
 Suborder HETEROGENINA Beauvais, 1974
 Family HETEROCOENIIDAE Oppenheim, 1930

***Tiarasmilia* Wells, 1932**

Type species. *Tiarasmilia casteri* Wells, 1932 by original designation.

***Tiarasmilia vidali* (Angelis d'Ossat, 1905)**

Fig. 1, 1-4

Type. Lectotype MGB 21772 (Barcelona), here designated.

Remarks on the type. Angelis d'Ossat had at least two syntypes, because two different specimens were illustrated:

MGB 21772 as pl. 14, fig. 12bc, and another specimen (now a paralectotype) as pl. 14, fig. 12a. This paralectotype could not be found in the collections of the MPUR or MGB and must be considered lost.

Synonymy

- *v 1905 *Aplosmilia Vidali* d'Angelis d'Ossat: 215, pl. 14, figs. 12a, b, c
- v 1937 *Aplosmilia Vidali* de Angelis 1905 - Bataller, p. 80, text-fig. (refiguration of Angelis d'Ossat)
- v 1947 *Aplosmilia Vidali* de Angelis 1905 - Bataller, p. 43, text-fig. (refiguration of Angelis d'Ossat)
- v 1956 *Aplosmilia Vidali* - Bataller, p. 21, pl. 3, fig. 4 (refiguration of Angelis d'Ossat)

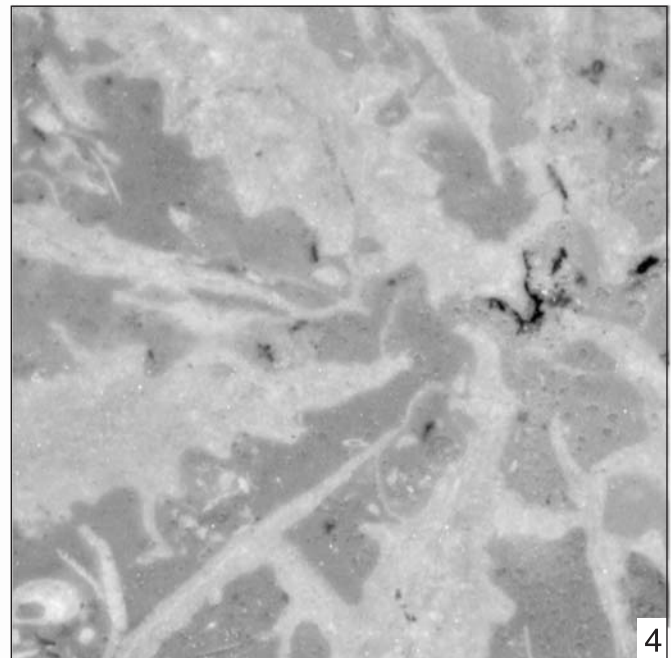
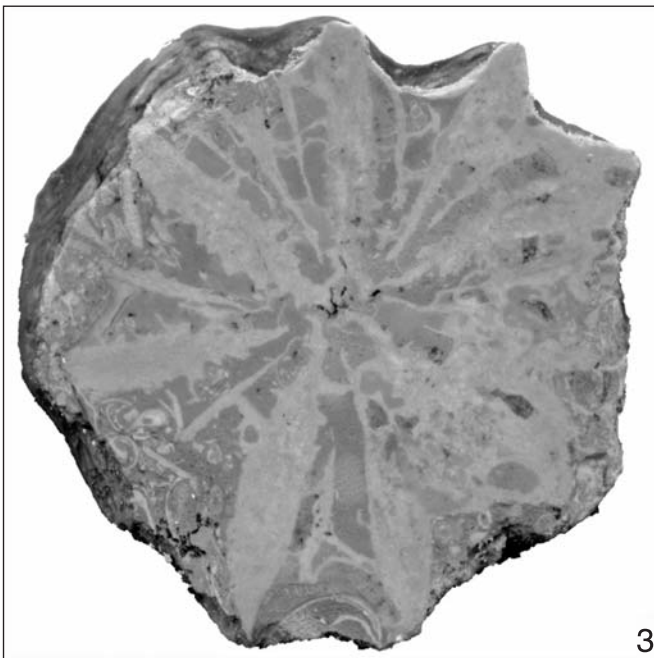
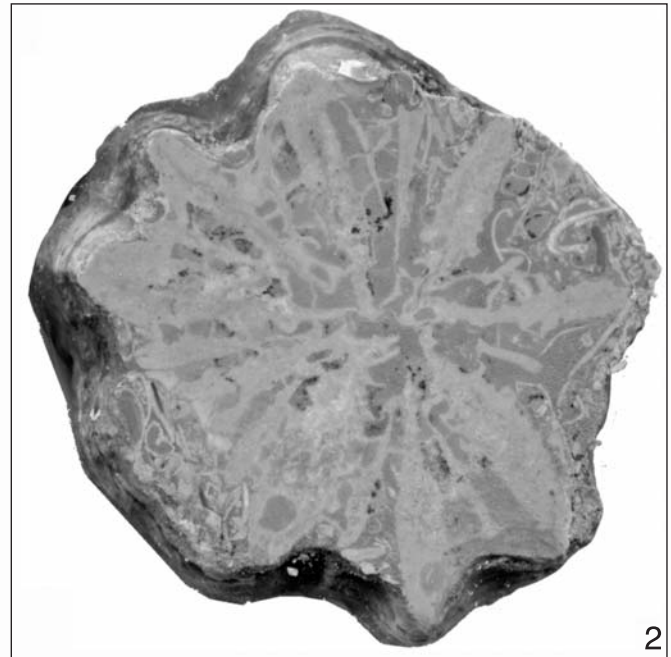


Fig. 1. *Tiarasmilia vidali* (Angelis d'Ossat, 1905), lectotype MGB 21772. 1, complete sample; 2-3, polished section; 4, detail of figure 1.3.

Fig. 1. *Tiarasmilia vidali* (Angelis d'Ossat, 1905), lectotipo MGB 21772. 1, ejemplar completo; 2-3, sección pulida; 4, detalle de la figura 1.3.

Dimensions. Calicular diameter = 19-20mm; number of septa = 6 s1 + 6s2 + 12 s3.

Description. Solitary turbinate coral. Calicular outline circular. Septa compact, in cross section externally thick, getting thinner towards the centre (septal max. thickness 2.5 mm). Symmetry of septa radial and regularly hexamer-
al. Cycles of septa regular. Septal cycles differ in length and thickness. First septal cycle reaches to the centre of the calice, further cycles are subsequently shorter. Septa free. Main septum absent. Septal upper margin smooth, lateral face with remains of apophysal septa, inner margin slightly swollen in places. Pali or paliform lobes absent. Costae present. Synapticulae absent. Columella absent. Endotheca unknown, but dissepiments are visible in the calice. Wall absent, probably due to preservation reasons.

Remarks. The specimen is small and eroded. The delicate apophysal septa are not very well preserved. According to the septal symmetry and the number of septal cycles, the sample corresponds to *Tiarasmilia casteri* Wells, 1932, type species of *Tiarasmilia*.

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Occurrence. Angelis d'Ossat (1905) indicated for the (at least) two type specimens only one locality: Catalonia, province of Barcelona, comarca Alt Penedés, municipality Castellví de la Marca, Can Pascol (Early Albian, Tardefurcata zone). Bataller (1950: 18) gives in a list another locality: prov Tarragona, com Baix Penedés, mun. El Montmell, Marmellar (Early Albian, Tardefurcata zone). This material was not available for study.

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