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Spondylus vivarii n. sp. of Lower Cretaceous from NE of Spain

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RESUMEN - Se describe como nueva especie *Spondylus vivarii*. Proviene del Aptiense de Tolodella (Prov. Castellón). NE España.

ABSTRACT – *Spondylus vivarii* is described as a new species. It comes from Aptian of Todolella (Castellón Prov.). NE Spain.

KEY WORDS – Palaeontology, Bivalvia, new species, Aptian, NE Spain.

Between the Bivalvia collected, years ago, in the Maestrazgo Basin (NE Spain), two specimens of *Spondylus* are also collected. The genus has not been cited in Lower Cretaceous of this country and seems to be a new species. So as a taxonomical note is offered, where these specimens are described and the holotype is figurated.

Family Spondylidae Gray, 1826

Género *Spondylus* Linné, 1758

1901 *Spondylus* Linnaeus: Woods, p. 116 (with description of several species)
1969 *Spondylus* Linné: Hertlein & Cox, p. N378.
1973 *Spondylus Linné: Zavarei, passim with synonyms.*
1994 *Spondylus* Linné: Carrasco, passim.

Spondylus vivarii n. sp.

Taxonomical data – The holotype is the figurated specimen. It is stored in the Geologic Museum of Seminary of Barcelona (= MGSB) with the number 63687. It comes from the Aptian of actual municipality of Todolella, outcrop of Mas de Carbó. Gological sheet 544, Forcall. Is named in honour of Santos Vivar, a very good person and "un heroico caballero y un burgalés del pro". His name is changed in latin as Vivarius.

Diagnosis – Small shell nearly equivalve with 18 or 24 radial ribs, 5 of them are stronger in the left valve. The umbonal region is not produced.

Material and measures (mm) - The holotype: dup or length = ca 33, dap or width = ca 28. Specimen nº 65341, from Mirambell (outcrop Masico Perales) dup = 33, dap = ca 28. All them collected by Mn S.Casanova about 1980.

Description – Shell oval, higher than long. Nearly equivalve and equilateral, of small size. Right valve with less inflation than left, covered by 18 nearly equal radial ribs, separated by almost equal grooves. The ribs carry spines, but only the stumps of them remain on some of the ribs. Left valve moderately convex, with umbo less produced, covered by 20 or 24 unequal ribs. Five stronger that are separated by three or two thinners. In the stronger ribs only the bases of the spines are preserved. The ribs are separate by grooves generally of the same width. In both valves the umbonal region is not produced. Ears not preserved.

Distinction with other species - It is only compared with Cretaceous species.

The character of being almost equivalve shells allows to distinguish it from other described *Spondylus*. Specifically *S. striatoscostatus, S. roemeri, S. complanatus* and so on. It is recognized that n. sp. must be considered as primitive

Ecological aspects - The written by Carrasco (1994, page 5) is here reproduced since it is perfectly applied to the new species.

"Fijación a un fondo blando por espinas. Las espinas actuarían a modo de anclaje. Suelen ser conchas equivalvas, equiláteras, con aurículas iguales y las dos valvas con una ornamentación parecida. Se caracterizan también por la ausencia de talón por lo que las valvas se tocan por los ápices."

Other fauna collected in the outcrop – Mn. S. Casanova collected many fauna from the outcrop on several occasions, which he subsequently deposited in MGSB. The list of species is indicated here. In general they are not revised and so it may be confusion of levels.

Mesorbitolina texana texana (Roemer, 1840)
Aphrodina sp.
Panopea gurgitis (Brongniart, 1822)
Lima cottaldina d'Orbigny, 1847
"*Trigonia*" sp.
Pholadomya sp.
Granocardium sp.
Deshayesites sp.
Uhligella sp.
Atraphus sp.
Anchura sp.
Loriolithyis solei (Calzada, 1976)
Sellithyris sella (J. de C. Sowerby, 1823)
Psilothyris tamarinda (J. de C. Sowerby, 1836)
Hyposalenia sp.
Toxaster collegnii Sismonda, 1843
Heteraster oblongus (Brongniart, 1821)
Toxaster sp.
Tetragramma sp.

The set indicates the Aptian in general (from Lower to Upper).

CONCLUSIONS

1. A new species of *Spondylus* is described.
2. The vertical range of the genus *Spondylus* is enlarged in Spain to Lower Cretaceous.

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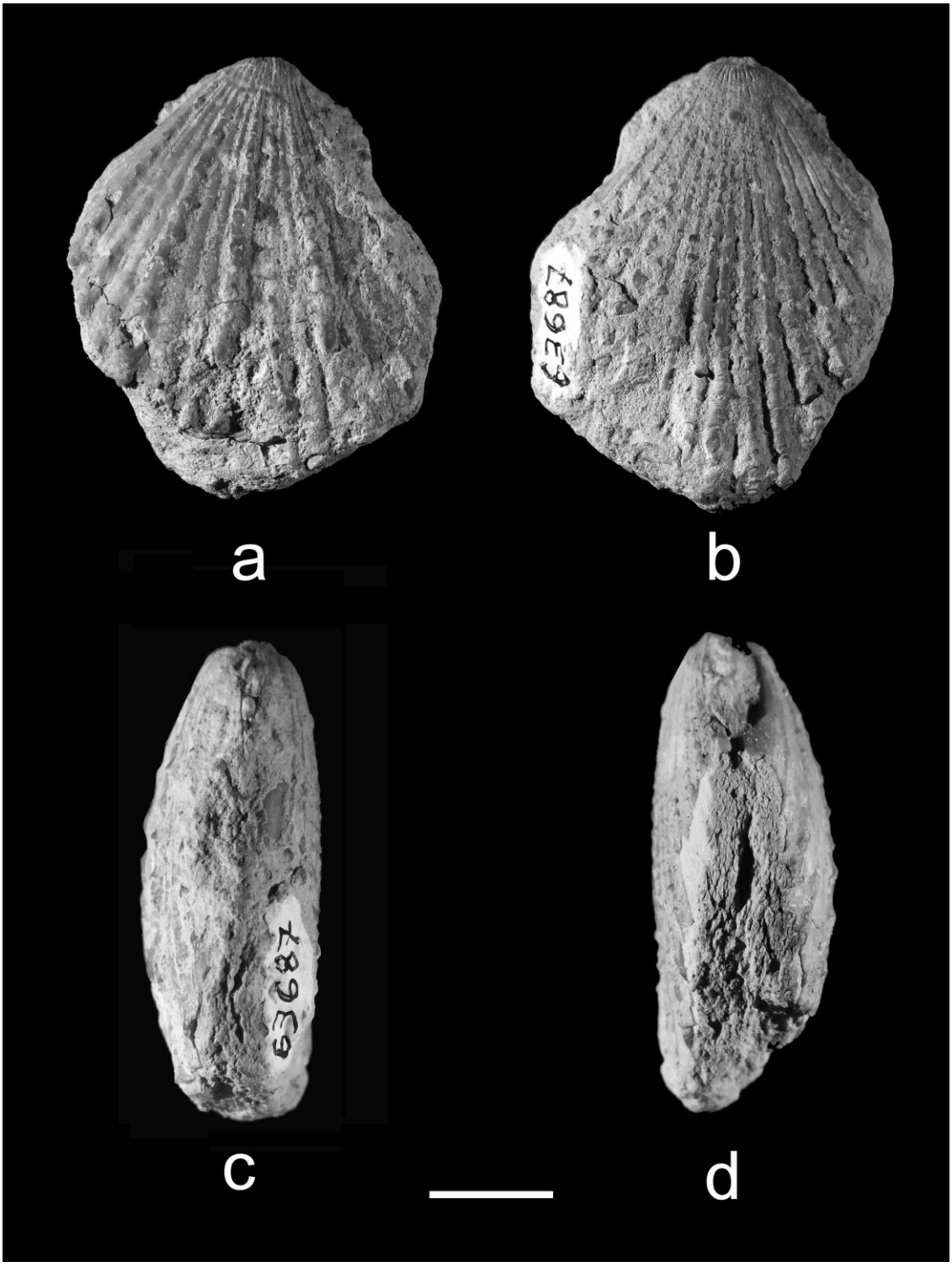

Fig.1 - *Spondylus vivarii* n. sp. Holotype. a: left valve; b: right valve; c: posterior view and d: anterior view. Bar = 1 cm.