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Ammobaculites hiberensis SP. NOV. (FORAMINIFERIDA) FROM THE UPPER MUSCHELKALK OF CATALONIAN RANGERS (SPAIN)

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ABSTRACT

A new species of arenaceous foraminifera, *Ammobaculites hiberensis,* from the Upper Muschelkalk (Upper Ladinian) of the Priorat-Baix Ebre domain (Catalan Basin NE. Spain) is described.

Keywords: *Ammobaculites,* Foraminiferida, Muschelkalk, Triassic, Catalonian Ranges, Spain.

RESUMEN

Se describe una nueva especie de foraminífero arenáceo, *Ammobaculites hiberensis* del Muschelkalk Superior (Ladiniense Superior) del dominio Priorat-Baix Ebre (Catalánides, NE. España).

Palabras clave: *Ammobaculites,* Foraminiferida, Muschelkalk, Triásico, Catalánides, España.

INTRODUCTION

The foraminiferal fauna from the Spanish Triassic is poorly known. Papers about these faunas, either from Betic Ranges, Iberian Range or Catalonian Ranges are very scare (Jacquin, 1985; Rangheard and Colom, 1967; Ruget and Sigal, 1969; Márquez-Aliaga *et al.,* 1987).

A study of Triassic foraminiferal fauna from the Upper Muschelkalk (Rasquera section) from the south area of Catalonian Ranges (Baix Ebre-Priorat domain) has been carried out recently (Márquez *et al.,* 1989).

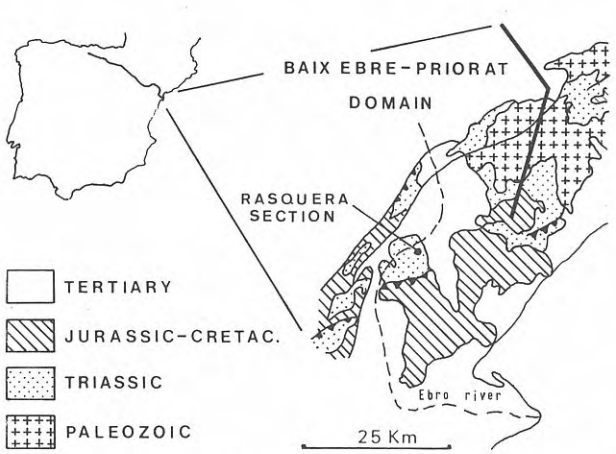

Figure 1. Geographic situation of studied section and geological schema of Baix Ebre-Priorat Domain (Catalonian Ranges, N.E. Spain) (after Calvet *et al.,* in press, modified).

In this region the foraminifera are contained in limestones and as a consecuence have been studied in thin sections. However, the same samples have been treated for isolaiting conodonts allowing the release of isolaited foraminifera assemblages. A new species of arenaceous foraminifera from these assemblages, is described here.

Geographic location of Rasquera section and a geological schema of Baix Ebre-Priorat domain appear in the Fig. 1.

STRATIGRAPHY

The Upper Muschelkalk in the Priorat Baix-Ebre region has been divided into five lithostratigraphic units (Calvet *et al.,* 1987) wich from base to top are: Rojals Unit, Benifallet Unit, Rasquera Unit, Tivissa Unit and Capafons Unit.

The Rasquera Unit is formed (Fig. 2) of limestones, dolomites and shales deposited on a deep ramp (Calvet and Tucker, 1988). Its faunistic assemblages are characterized by *Daonella (D.) lommelli* (Wissmann), bivalves, brachiopods, ammonoids, ostracods, abundant foraminiferids (*Reofax asperus* Cushmann and Waters, *Ammobaculites hiberensis* sp. nov., *Cyclogira pachygyra* (Guembel), *Calcitornella* sp., *Duostomina* cf. *alta* Kristan Tollman, *Oberhauserella mesotriasica* (Oberhauser), Nodosariidae, etc. (Márquez *et al.,* 1989) and conodonts (*Sephardiella mungoensis* (Diebel).

On the other hand, the Tivissa Unit is formed (Fig. 2) of limestones, dolomites and shales with ammonoids (*Protachyceras* and *Hungarites*). These

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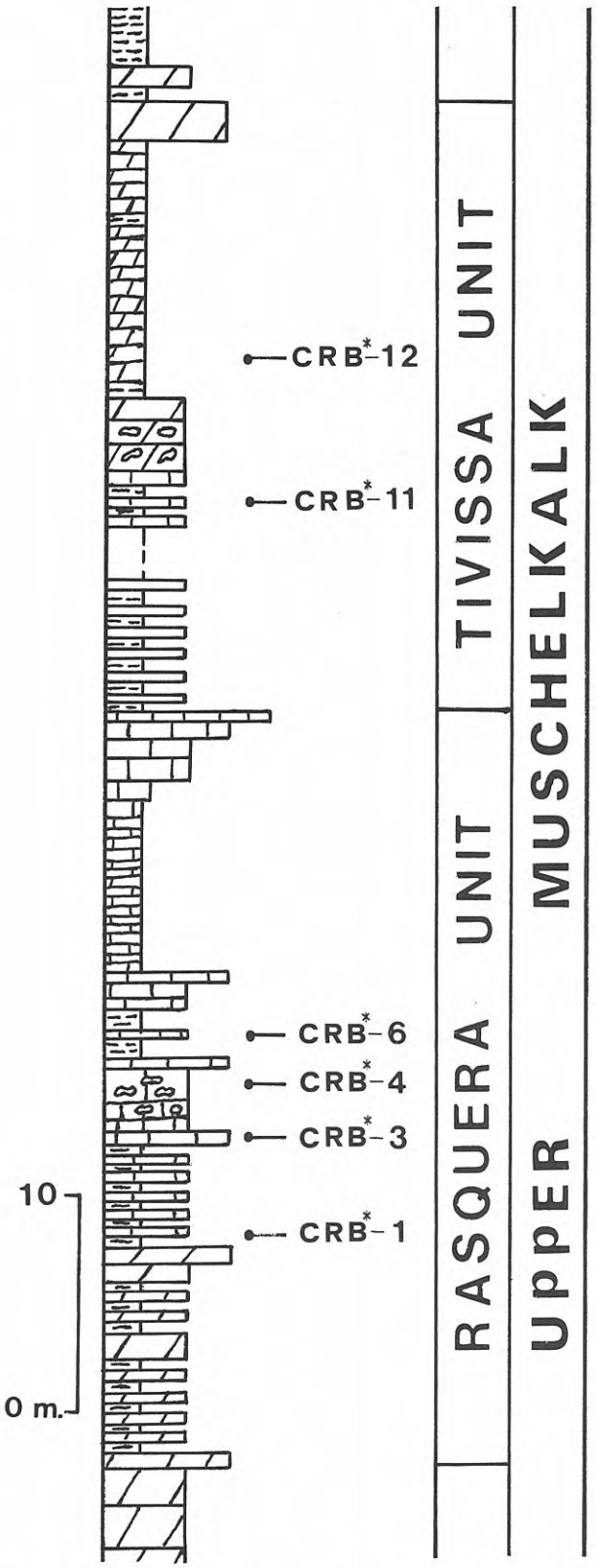


Figure 2. Stratigraphic column of Rasquera Unit and Tivissa Unit from Rasquera section. It is shown the position of samples containing *Ammobaculites hiberensis* sp. nov.

levels are interpreted as outer ramp shallowing to inner ramp deposits (Calvet *et al.,* in press). On the foraminiferal fauna, *Ophthalmidium* sp., *Ammobaculites hiberensis* sp. nov., and some Nodosariidae, have been identified. The conodont association, *Sephardiella mungoensis* (Diebel) and *Pseudofurnishius murcianus* (Boogaard), is characteristic of the Upper Ladinian (Calvet *et al.,* 1987).

SYSTEMATIC PALEONTOLOGY

In this paper the Clasification by Loeblich and Tappan (1987) is used.

ORDER FORAMINIFERIDA Eichwald, 1830
SUBORDER TEXTULARIINA Delage and Hérourd, 1896
Superfamily **LITUOLACEA** de Blainville, 1827
Family **Lituolidae** de Blainville, 1827
Subfamily **Ammomarginulininae** Podobina, 1978

Genus *Ammobaculites* Cushman, 1910

Remarks

Our specimens show almost the same features as the genus *Ammobaculites* (Cushman, 1910; Loeblich and Tappan, 1987). However, in the latter publication the description reads "...rounded in section..." and our specimens are somewhat flattened (Cushman *op. cit.,* didn't describe the section). Another related genus, *Simobaculites,* is flattened but differs from *Ammobaculites* in having an "...early planispiral and evolute coil with about two whorls of six to seven chambers each,..." (Loeblich and Tappan, *op. cit.*) whereas the latter has an "...early portion close coiled,...". So we have tentatively placed the new species in *Ammobaculites.*

Ammobaculites hiberensis sp. nov.

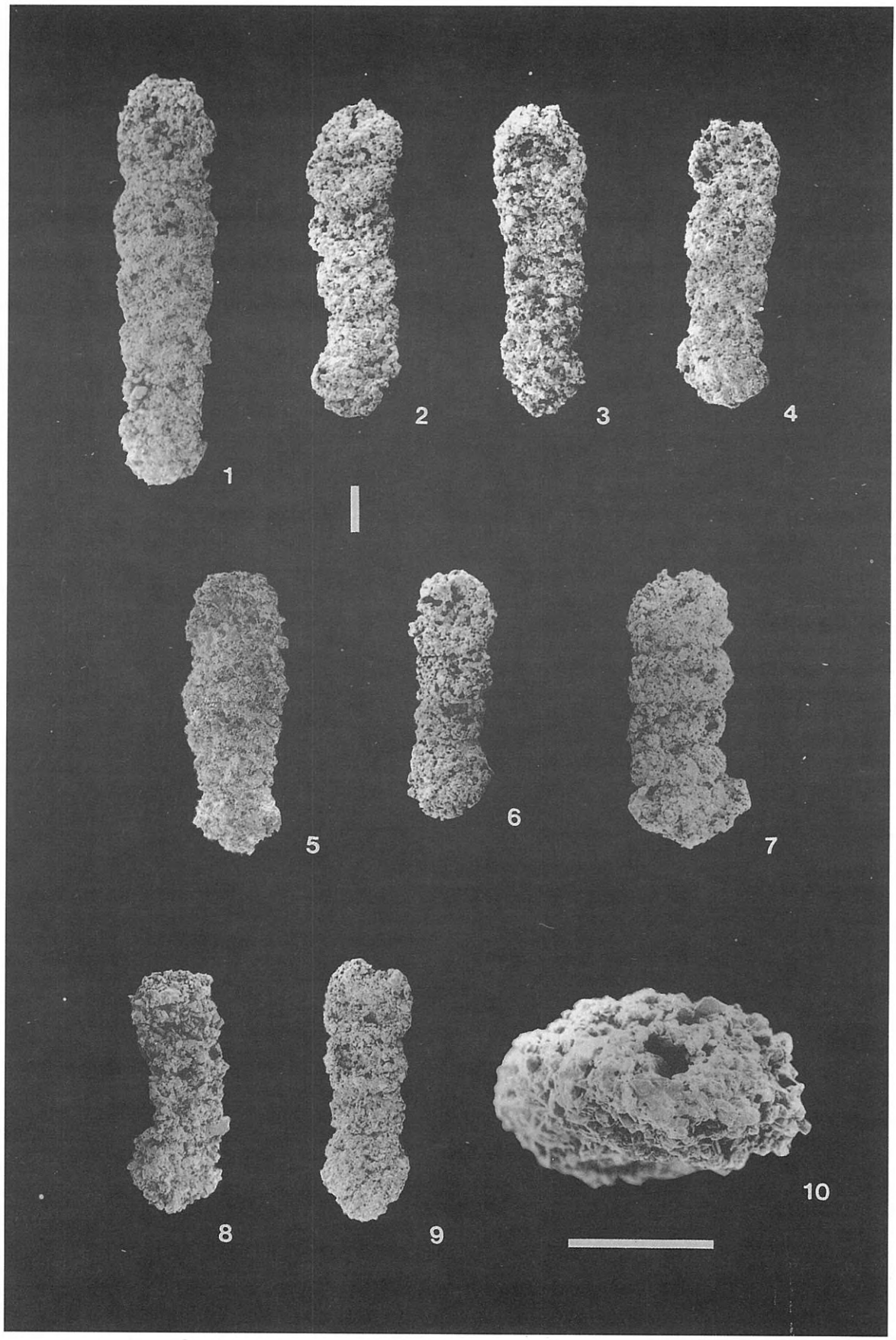
Pl. I, Fig. 1-10

Holotype: The specimen CRB*11-116 (Pl. I, fig. 1).
Paratypes: The specimens CRB*11-205, CRB*11-219, CRB*11-212, CRB*11-125, CRB*11-227, CRB*11-119, CRB*11-229, CRB*11-130, CRB*11-233 (Pl. I, figs. 2-10).
Type locality: Rasquera section, km. 27.200 of the road from Rasquera to Benifallet, near the Ebro river (Tarragona province, Northeastern Spain).
Type level: Upper Ladinian. Tivissa Unit (Upper Muschelkalk) of Priorat-Baix Ebre domain (Calvet *et al.,* 1987).
Etymology: *"Hiberus"* is the ancient Latin name of the Ebro river.
Material: More than 200 specimens from several samples of Rasquera and Tivissa Units.

Plate I

1. Holotype, x80 (bar: 100 microns).
2-9. Paratypes, x80.
10. View of a paratype showing aperture of final chamber, x260 (bar: 100 microns).

Plate I



Dimensions: The holotype is 0.918 mm in length, 0.220 mm in width and 0.055 mm in thickness. 64 complete specimens from the type level have been measured. The means of measurements (in mm) are as follows:

Specimens	Number of specimens	Mean length	Mean width	Mean thickness
With 6 chambers:	3	0.477	0.208	0.061
With 7 chambers:	27	0.537	0.190	0.056
With 8 chambers:	17	0.596	0.201	0.059
With 9 chambers:	12	0.700	0.208	0.061
With 10 chambers:	4	0.807	0.202	0.050

Diagnosis

It is a *Ammobaculites* moderately flattened, with 3-4 chambers in the coiled part, 3-7 in the uniserial portion and almost parallel sides.

Description

The test is straigth, flattened and thin with almost parallel sides. It has a small, rounded proloculus, followed by a serie of 6 to 11 chambers. The first 3-4 chambers are very small in size, compactly joined one to the other and enrolled about the proloculus. The next 3 to 7 chambers are rectilinear and increase quite slowly in size as added. They are uniformly subquadrate in outline, almost as high as wide to slightly wider than high, and closely joined one to the other. Because of the flattening of the test, each chamber appears to slightly overlap the previous one. The sutures are perpendicular to the longitudinal axis of the test. The test wall is coarsely agglutinated. The aperture is a simple terminally situated slit or oval opening.

Remarks

Ammobaculites hiberensis sp. nov. differs from *A. radstadtensis* Kristan-Tollmann, other species from Ladinian, in having fewer and more uniform chambers in the uniserial stage. These chambers are almost as high as wide, whereas in *A. radstadtensis,* the chambers are wider than high. The planispiral part of the test of *A. hiberensis* consists usually of 3 not well differentiated chambers, whereas in *A. radstadtensis* it is very well formed and composed of 5-6 chambers with subglobular outline. According to the descriptions of Koehn-Zaninetti (1969) and Zaninetti (1976) the chambers of *A. radstadtensis* are cylindrical and globular in section, whereas chambers of *A. hiberensis* are flattened.

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