



A Pliensbachian gastropod and bivalve fauna from the Mola Hill (Betic Cordilleras, Spain)

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Abstract - First registration of an Alpine type Pliensbachian benthic molluscan assemblage from the Betic Cordilleras. With 1 figure and 1 photoplate.

I n t r o d u c t i o n - Benthic molluscs seem to be excellent palaeo-(bio)geographical indicators, they could help to track the course of (plate)-tectonic evolution. However, the number of published Jurassic data are extremely low, especially from the Mediterranean area where numerous blocks of different palaeogeographic origin have got into allochthonous geological position. In this situation, even a little fauna in bad state of preservation, like the available one, may serve important data.

The material has been collected and the geological setting is outlined here by M. INESTA; gastropod and bivalve data are given by J. SZABÓ and I. SZENTE, respectively. The specimens are deposited at the Palaeontological Section of the Novelda Municipal History Museum (Alicante).

LOCALITY

The fauna was collected at Mola Hill near town Novelda (Betic Cordilleras, Prov. Alicante, SE Spain). This hill is a relatively small, isolated block, belonging to the easternmost part of the External Subbetic Zone (AZEMA 1977). The lithology is typical to that of submerging carbonate platform: massive, white limestone with little megafossil content as underlying beds and rhythmic alterations of grey or pink pelagic marls and limestones as overlying beds. The matrix, relative rich in fossils, is a bluish-gray, sometimes marly limestones, transitional between the platform and the pelagic sediments. The cooccurring fossils are cephalopods (ammonites and belemnites), gastropods, bivalves and brachiopods. The ammonites indicates belonging to the Domerian substage of the locality (det. J. C. BRAGA, Univ. Granada): Arietoceras bertrandi (KILIAN), Leptaleoceras ugdulnai (GEMMELLARO), Leptaleoceras canavarii (GEMM.), Amaltheus margaritatus (MONFORT) and Protogrammoceras sp. Palaeobiogeographically, the Betic Cordilleras are a part of the Jurassic Mediterranean Ammonite Province (BRAGA et al. 1984).

BENTHIC MOLLUSCS

The fossils are poorly preserved, the originally aragonitic shells are dissolved so the specimens have become inner moulds, sometimes with shell remains. Pectinids (and brachiopods) are shelly but usually badly damaged. In

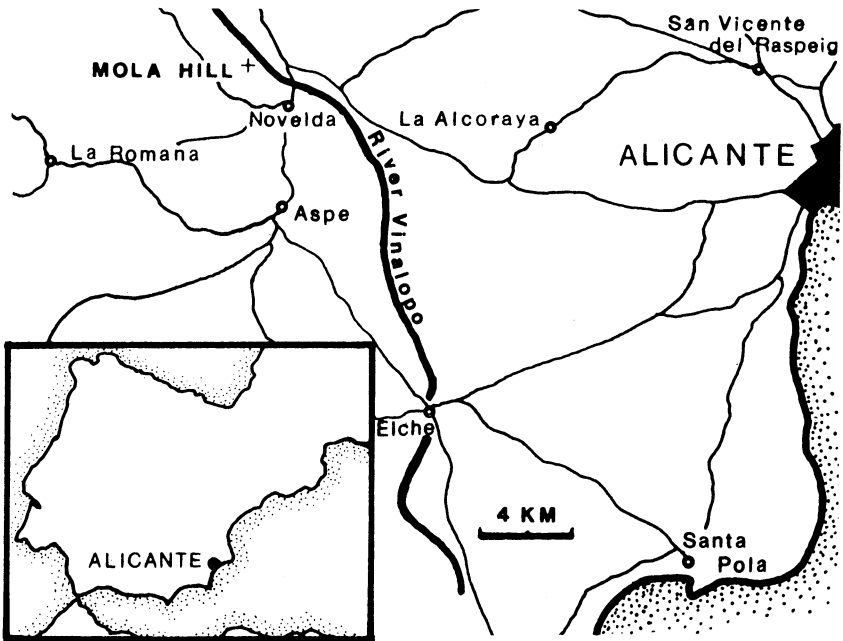


Fig. 1. Geographical position of the locality

most cases of the identification, the usage of open nomenclature has been necessary. In spite of these and the relatively low specimen number (35), a rather diverse assemblage can be outlined:

Class Gastropoda

- Worthenia superstes SZABÓ, 1980
- Ptychomphalus? sp.
- Pyrgotrochus sp.
- Lewisiella sp.
- Neritopsis sp.
- Amberleya (Eucyclus) alpina (STOLICZKA, 1861)
- Amberleya (Eucyclus) sp.
- Eucyclomphalus hierlatzensis AMMON, 1892
- ? Oonia pennina (PARONA, 1892)
- indet spp. (2)

Class Bivalvia

- Entolium (Entolium) lunare (ROEMER, 1839)
- Pseudopecten (Pseudopecten) equivalvis (SOWERBY, 1826)
- Pectinidae spp. (3)
- Praeconia sp.
- indet spp. (4)

CONCLUSIONS

Pliensbachian gastropods show a definite provincialism in the Western Tethyan Region (SZABÓ 1988). Three main faunal types are separable, one in the classical "Middle European" and two within the "Mediterranean Province". The taxonomical composition of the Mola Hill gastropods suggests belonging to one of the Mediterranean, the "Alpine" faunal type. All the species, having been identifiable, are characteristic Alpine forms, they have never occurred

in a fauna of the other two types. The widely distributed Amberleya (E.) alpina can be regarded as one of the "palaeobiogeographical indices" of the "Alpine Subprovince", a part of the Mediterranean (Ammonite) Province, inhabited by the gastropods of the Alpine faunal type. On supraspecific taxonomic levels, the most important Alpine feature is the conservatism (or archaism; see more details in SZABÓ 1988) of the faunula. Like in other Alpine faunas, but not in non-Alpine ones, most of the species belong to Archaeogastropoda. An only specimen of ? Oonia pennina (PARONA, 1892) seems to be a member of an order of higher evolutionary levels (Caenogastropoda). However, it is necessary to call the attention that Discohelix species have not been found in the Mola Hill faunula though they, at least D. orbis (REUSS, 1852) and/or D. excavata (REUSS, 1852), have not yet been lacking from the Pliensbachian Alpine faunas.

It is necessary also to mention that the identifiable gastropod species have occurred usually in older (Late Sinemurian - Carixian) beds in other localities.

The bivalve species do not bear any special palaeoecologic or palaeogeographic nor biostratigraphic meaning.

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Explanations to Plate I.

- 1 = Worthenia superstes SZABÓ, 1980: x1 (079 LM 3)
 2 = Ptychomphalus ? sp.: x2 (080 LM 3)
 3-4 = Pyrgotrochus sp., 3 = x1 (013 LM 2), 4 = shelly base of another specimen, x1 (019 LM 2)
 5 = Lewisiella sp.: basal view, showing the characteristic, thick, median callosity, x1 (071 LM 3)
 6 = Neritopsis sp.: x2 (050 LM 3)
 7 = Amberleya (Eucyclus) alpina (STOLICZKA, 1861): x1 (070 LM 3)
 8 = Eucyclomphalus hierlatzensis AMMON, 1892: x1 (007 LM 3)
 9 = Amberleya (Eucyclus) sp.: x1 (036 LM 3)
 10 = ? Oonia pennina (PARONA, 1892): x1 (010 LM 3)
 11 = Pseudopecten (Pseudopecten) equivalvis (SOWERBY, 1826): x1 (038 LM 3)
 12 = Entolium (Entolium) lunare (ROEMER, 1839): x1 (013 LM 1)
 13-14 = Praeconia sp.: x2 (042 LM 3)

Plate I.

