

## FIRST RECORD OF A CHITON (MOLLUSCA: POLYPLACOPHORA) FROM THE EOCENE OF ITALY

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**Key words:** Mollusca, Polyplacophora, Eocene, Grola Quarry, NE Italy.

### ABSTRACT

A single intermediate chiton valve has been found at the Grola Quarry (Cornedo Vicentino, Vicenza, NE Italy), a classic locality of Veneto region attributed to the Lutetian Stage (middle Eocene), in the so-called "San Giovanni Ilarione Horizon". The valve is incomplete and poorly preserved in volcanoclastic matrix, thus the articulamentum is not visible. The lateral area of the valve, the best preserved area, shows a sculpture of radial striae of pustules, which, however, may represent what remains of eroded radial ribs, a typical sculpture of the genus *Chiton*. For this reasons it is unfortunately impossible to assign it both to generic and specific level, but it is interesting because it represents the first record of a chiton from the Eocene of Italy.

**Parole chiave:** Mollusca, Polyplacophora, Eocene, Cava Grola, Italia settentrionale.

### RIASSUNTO

Una piastra intermedia di chitone (Mollusca, Polyplacophora) è stata raccolta a Cava Grola (Cornedo Vicentino, Vicenza), una classica località del Veneto le cui formazioni sono attribuite all'"Orizzonte di San Giovanni Ilarione" (Eocene medio, Lutetiano). La piastra è incompleta ed in condizioni di conservazione non ottimali, preservata in matrice vulcanodetritica e quindi l'articulamentum non è visibile. L'area laterale della piastra, la parte meglio conservata, presenta una scultura formata da strie radiali di pustule, che però potrebbero anche rappresentare ciò che rimane in caso di erosione di costole radiali, tipiche del genere *Chiton*. Per questi motivi non è possibile una determinazione sia a livello generico che specifico, ma il ritrovamento è estremamente interessante in quanto si tratta della prima segnalazione di un chitone dall'Eocene italiano.

### INTRODUCTION

A large number of Neogene chiton species have been described from Italy (Sacco, 1897; Malatesta, 1962; Laghi, 1977; Dell'Angelo & Palazzi, 1989; Dell'Angelo *et al.*, 1999, 2001, 2012; Chirli, 2004), but only a species from Oligocene (*Stenoplax veneta* Dell'Angelo & Palazzi, 1992) and none from Eocene or Paleocene. This is undoubtedly due to the scarce number of fossiliferous strata preserving tiny or fragile mollusks and also to the difficulty to recognize chiton valves in rocks fragments.

This situation motivated us to undertake research on the few beds known to contain smaller malacofaunal elements, and our efforts have produced the finding of a single valve of a chiton species, here described.

### MATERIALS AND METHODS

The collected single chiton valve was found by one of the authors (E. Quaggiotto) in the Grola Quarry (a quarry no longer active), during many years of research in the Lessini region, and it is now deposited in the Geological and Paleontological Museum of the Padova University (reg. n. MGPD 31416).

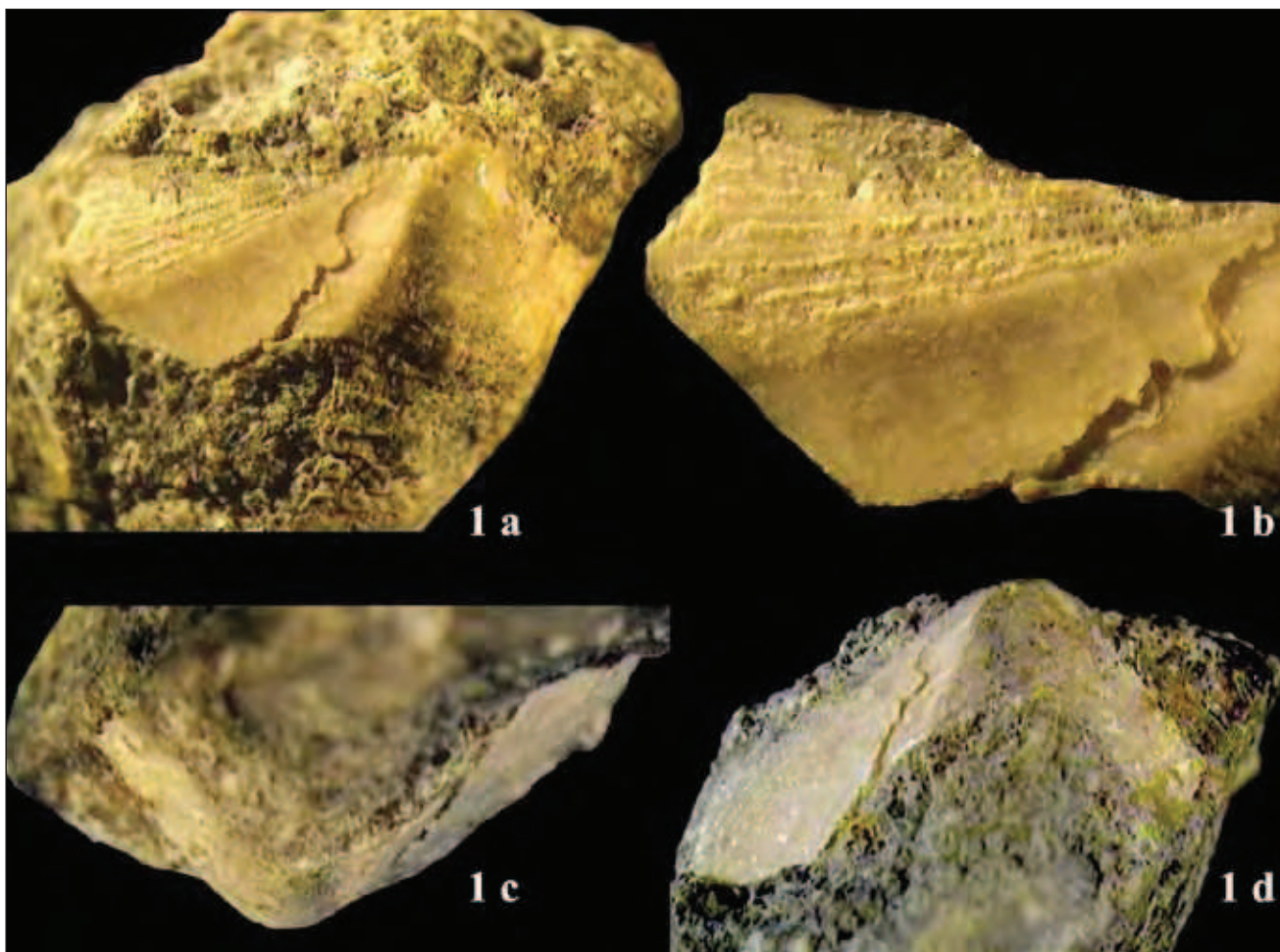
The Grola Quarry of Cornedo Vicentino (Vicenza, Northeastern Italy) is a classic locality in the Eocenic formations of Veneto region, where a great number of fossils were found in the volcanoclastic levels interbedded into nummulitic biocalcarenes, such as gastropods, bivalves, brachiopods, echinids, corals, crustaceans, Bryozoa, Anellida, and algae (Beschin *et al.*, 2005). The Grola Quarry site has been recently studied stratigraphically (Beccaro & De Angeli, 2001; Beschin *et al.*, 2005), and has been attributed to the so-called "San Giovanni Ilarione Horizon" (Quaggiotto & Mellini, 2008), Lutetian in age (middle Eocene). The mollusks from this site were studied by Dal Lago (1901), and a revision of the material stored at the Museo "D. Dal Lago" of Valdagno (Mietto, 1975) gives a list of 130 species (77 gastropods and 53 bivalves).

### SYSTEMATICS

Order Chitonida Thiele, 1909

Suborder Chitonina Thiele, 1909

Superfamily Chitonoidea Rafinesque, 1815



Pl. 1 - 1. Genus indet. sp., intermediate valve (width 8.25 mm) in volcanoclastic matrix, Grola Quarry (Cornedo Vicentino, Vicenza), Lutetian Stage (middle Eocene), "San Giovanni Ilarione Horizon", a-b. Dorsal view, c. Frontal view, d. Dorsal view.

**Genus indet. sp.**  
(Pl. 1, fig. 1a-d)

**Material examined:** one incomplete intermediate valve from Grola Quarry (Cornedo Vicentino, Vicenza), middle Eocene, Lutetian Stage, "San Giovanni Ilarione Horizon".

**Description:** Intermediate valve rectangular, subcarinate, jugal angle ca.  $120^\circ$ , width 8.25 mm (width of the half right valve 6.4 mm), anterior and posterior margins more or less straight, apex well evident, lateral area not raised, with seven radial rows of small, erect pustules, tending to coalesce.

**Remarks:** The bad preservation state of this incomplete intermediate valve prevents a possible diagnosis, even at genus level, but it is interesting nonetheless because it represents the first record of a chiton from the Eocene of Italy. The valve is preserved in matrix, thus the articulation is not visible.

The sculpture of the lateral area, the only one visible in the available valve, is present in species relating to vari-

ous genera, e.g. *Lorica* H. & A. Adams, 1852, *Chaetopleura* Shuttleworth, 1853, *Lepidozona* Pilsbry, 1892. It is not possible to say with certainty if the lateral area may be eroded, in this case it could be represented what remain of seven radiating ribs, a typical structure of the genus *Chiton* Linnaeus, 1758 and others in the family Chitonidae Rafinesque, 1815.

At present 59 identified species are known from Eocene (Dell'Angelo *et al.*, 2011), 35 of which from Europe (17 from France, 12 from Ukraine, 3 from U.K., 2 from Germany and 1 from Hungary). Only species of the genus *Chiton* and *Lorica* are represented from the Eocene of Europe, but the poor preservation of the studied valve does not allow to determine our specimen at generic level.

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