

# An overview of the Middle Triassic actinopterygians from Alcover, Mont-ral and El Pinetell (Catalonia, Spain)

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## Abstract

The fossils from the Alcover dolomites have been known since 1963. The laminated Alcover dolomite Unit (“Pedra d’Alcover”) is up to 70-80 m thick, and fills the interreefal depressions. Stratigraphically, it is placed in the upper Ladinian (Middle Triassic). Anoxic and hypersaline conditions were developed periodically during the deposition of the Alcover Unit. The main facies are massive dolmicritic beds (1-10 cm thick) and thin-bedded laminated dolmicrites. Locally convoluted beds with intraformational folds and slides are present.

The fossil assemblage is allochthonous and composed of land plants, jellyfishes, brachiopods, molluscs, arthropods, echinoderms, fishes, and reptiles. The reputation of these localities is based on the fact that the fossils are preserved in dolmicrite and of their ichthyofaunal diversity. The Alcover fish fauna is characterized by predominantly medium-sized specimens. Saurichthyiformes and Perleidiformes are the most common actinopterygians in the beds. At present, the better preserved fossil actinopterygians are classified at generic level, and in some cases to family level only. Altogether, 15 genera belonging to 11 families and nine orders have been identified. These are: *Ptycholepis*, *?Boreosomus*, *Saurichthys*, *Colobodus*, *Perleidus*, *?Ctenognathichthys*, *Peltoperleidus*, *?Cleithrolepididae* indet., *Peltopleurus*, *Peripeltopleurus*, *?Platysiagum*, *Luganoia*, *Eosemionotus*, *Archaeosemionotus*, *Allolepidotus*, *Eoegnathus*, *?Caturus*, *?Ophiopsis*, and *?Pholidophoridae* indet.

## Introduction

Although the intensive excavation of laminated dolmicrites in the Alcover zone started in the 1960’s, the stone had previously been used in the 15th century to make gravestones and tables (BARBERÀ 1979). The first known fossils were found in 1963 by quarry workers in “La LLuera”, a site near Alcover, where the commercial excavation first started. It was then that VIA & VILLALTA (1966) and VILLALTA & VIA (1966) began their studies of these fossils with two papers about limulids and a new coelacanth fish. MÖLLER (1969) wrote a short paper on the sedimentology. In a meeting of the “Real Sociedad Española de Historia Natural”, Dr. VIA read a communication about decapod crustaceans found in Alcover beds; this work was published in 1975 (VIA & VILLALTA 1975). In a monograph about Alcover fishes, BELTAN (1972) described one new crossopterygian and 19 actinopterygians (two new genera and five new species). Later, she published additional papers on the fishes (BELTAN 1975, 1984). A paper about a reptile with supposed aviform characters was published by ELLENBERGER (1977); this interpretation was refuted by SANZ & LÓPEZ (1984). Other publications on Alcover fossils and outcrops include: CHERBONNIER (1976) on holothurians; ROMERO & VIA (1977) on limulids; ESTEBAN et al. (1977) on sedimentology; BARBERÀ (1979), a general view of Alcover/Mont-ral fossils; VIA (1987a, b) on limulids; VIA & CALZADA (1987) on insects; CALVET et al. (1987), CALVET & TUCKER (1988, 1995a, b), and CALVET et al. (1990) on stratigraphy and sedimentology.

In 1991, the Centre d’Història Natural de la Conca de Barberà (CHNCB) began a field study of the Alcover dolmicrite outcrops in El Pinetell, a municipality in the district of Montblanc, situated about 10 km distance from the classical Alcover localities. To date, the CHNCB has collected some plant remains, a number of bivalve molluscs and brachiopods, two mysidacean crustaceans, two limulids, and a few fishes

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