

MONTE BOLCA: an Eocene Lagerstätte in Northern Italy

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What's a Lagerstätte?

A **Lagerstätte** is a site of abnormally good quality of preservation (or number of specimens). These sites, e.g., Monte Bolca, are critical to helping paleontologists understand prehistoric life because they preserve fine details that would otherwise degrade over time.

Location



Figure 1. Map showing Monte Bolca site location. The inset maps show the location of the site relative to Italy (left) and the topography of the site (right). The shaded areas correspond to different types of rock [1].

Paleoenvironment

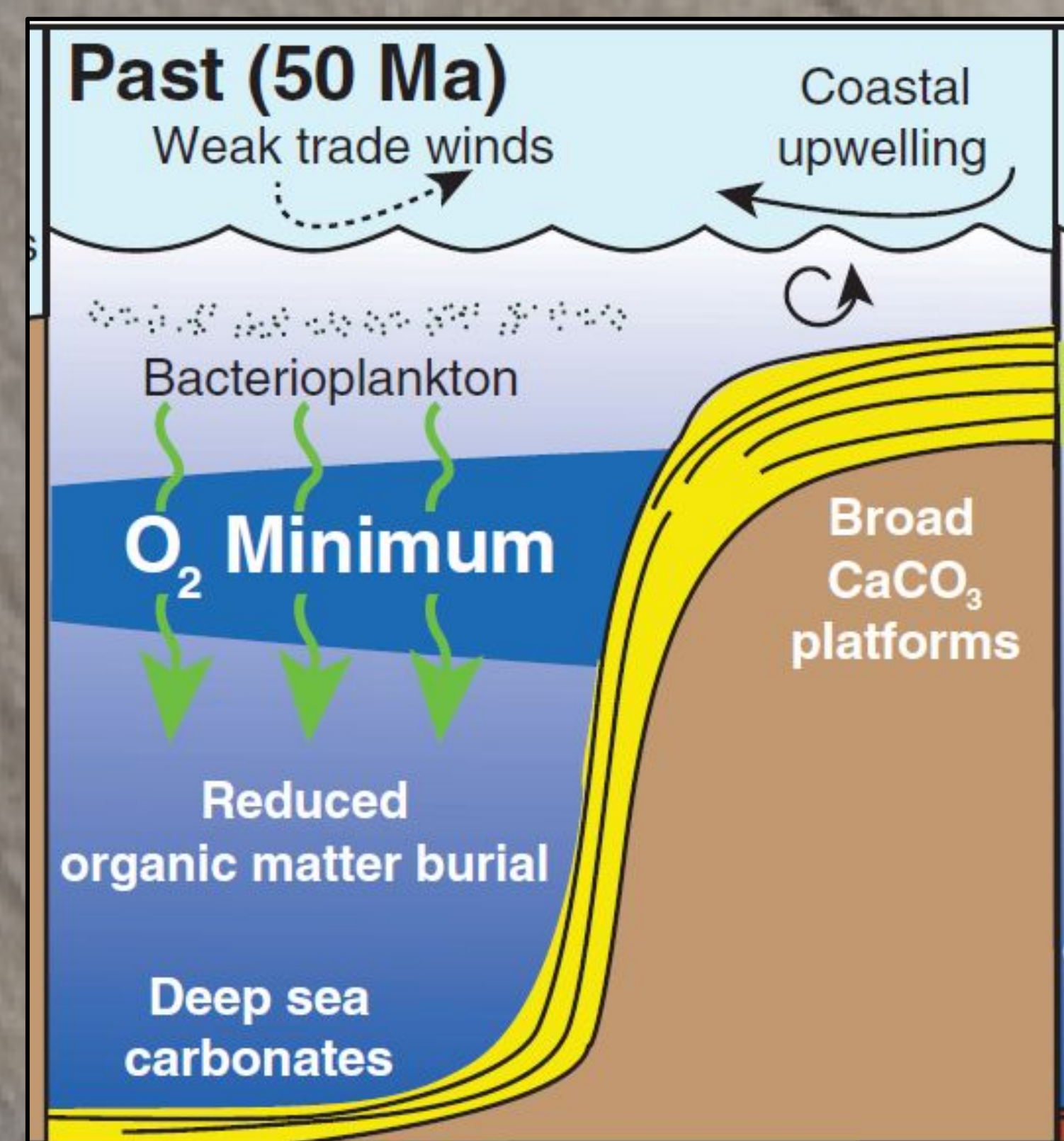


Figure 2. Section of diagram by Norris et. al 2013 showing the Eocene climate. During the Eocene, Monte Bolca was a warm coastal region, with average temperatures significantly warmer than today, lower dissolved oxygen, and higher atmospheric CO₂ [6].

Monte Bolca was lifted during the formation of the Alps from the Tethys Ocean floor in two stages. One was 24 Ma, and the other was between 30 and 50 Ma. The entire formation is about 19 m (62 feet) long, all containing fossils. Due to its coastal location, the formation is mostly composed of types of limestone and calcareous rock. The main fossils of interest are fishes (around 250 species) and algae [4].

Figure 3. *Guus microcephalus* specimen from Monte Bolca. This Lower Eocene fish, characterized by a single dorsal fin and three supraneurals, was the first discovered species of a new genus *Guus* [2].

Example Taxa

