

# 1. Introduction to the Bolca *Fossil-Lagerstätten*

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This volume is aimed to be a synopsis of the present knowledge about the world-famous Eocene Bolca *Fossil-Lagerstätten* (Veneto Region, northern Italy). Even if the studies regarding the Bolca area never stopped, the most recent overview of this locality is a short book (in Italian) by Sorbini-Frigo & Sorbini (1999). It came about twenty years after the multi-language book by Stanghellini (1979) and more than twenty-five years after the fundamental book (also in Italian language) by Sorbini (1972). Some new data and ideas were presented by Dalla Vecchia et al. (2005) in an exhibition catalogue, whereas the papers of Tang (2002) and Viohl (2008) testify the international importance and fame of the site.

The contemporary presence in 2014 of four international congresses in Italy, each scheduling a fieldtrip to Bolca, underlined the necessity of an updated summary of the current knowledge about this celebrated locality. Since the meetings will consider different aspects of the Bolca *Fossil-Lagerstätten*, namely the fossil vertebrates, the paleobotany, the taphonomy, and the biostratigraphic/paleoecological features, we thought it would be a good idea to deal with all those topics in a single volume.

Moreover, the new data recently published as articles in scientific journals substantially changed and improved our vision of the Bolca *Fossil-Lagerstätten*. The modern research approaches to the issues solved some problems and raised new ones. The work is still in progress, and a lot of specialists (including many of us) are directly involved in new researches that hopefully will result in further knowledge. Therefore, the reader has to bear in mind that what is presented in this volume is the state-of-the-art, which could be overwhelmed in a near future by new data and new interpretations.

To introduce the contents of this book, we would like to start pointing out that in the Bolca area there is much more than a single *Fossil-Lagerstätte*. The most famous one, which yielded most of the amazingly-preserved fossil fishes (Fig. 1), is the so-called “Pesciara” site. The Monte Postale beds, also with fossil fishes and plants, are maybe slightly less famous, and in the past frequently confused with the Pesciara beds when the locality was reported as ‘Monte Bolca’. Unfortunately, such a toponym in the Bolca area does not exist, even if its use is still widespread both in Italian and foreign scientific



FIG. 1 - Exquisitely preserved specimen of *Eoplatax papilio* (Volta, 1796), an extremely rare batfish from the Ypresian of Bolca (Cerato collection).

literature; we think it's better to avoid using it and to use more specific and valid names (i.e., Pesciara or Monte Postale) to identify clearly the provenance of the fossils.

Anyway, these two sites represent the 'core' of the Bolca area and the main source of what we could call the Bolca biota. For this reason they are the main subject of this guide and will be treated in several chapters. Nevertheless, there are some other historical fossil sites in the surroundings of the Bolca village, such as the Purga di Bolca, with freshwater and brackish sediments around a volcanic neck; Vegroni, which returned mainly palm trees; and Spilecco, maybe the oldest witness of Paleogene shallow carbonate development in the Veneto area. A brief exposition about these localities will be given as the concluding chapters.

This special volume, as testified by the high number of authors, is the result of a collective effort, a fruitful collaboration among researchers of universities, museums and research institutions. We hope it will be a useful guide for the participants to the international meetings, as well as a compendium for anybody interested to the Bolca fossils.

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