



Where sharks met humans: The Mediterranean Sea, history and myth of an ancient interaction between two dominant predators

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HIGHLIGHTS

- Historical relationships humans/chondrichthyans in the Mediterranean Sea is studied.
- Cultural evolution influenced human attitude toward chondrichthyans during history.
- Role of historical ecology as additional tool for marine conservation is emphasized.

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ABSTRACT

From a historical point of view, the Mediterranean Sea represents one of the areas in which the most ancient evidences of interaction between humans and sharks are available for a long period of time. The first evidence can be, in fact, identified in the early Bronze age with the development of fishing communities in the eastern Mediterranean, whose fishing techniques may have allowed the capture of elasmobranchs, similarly to others geographical sectors (like East and South East Asia, Oceania, and others). Later, interactions between humans and sharks become more evident, as demonstrated by the “Crater” of the sinking, a painted vase of the VIII century BC coming from the necropolis of Pithecusa, on the island of Ischia. In the Roman age, sharks entered in many artistic representations of fishing, as in the two ancient mosaics in Pompei, where catsharks (*Scyliorhinus* spp.) are depicted among the coastal marine fauna. After the end of the Roman Empire naturalistic observations were replaced by renewed mysticism and superstition. During the Renaissance, a more scholarly observation of nature began anew, including the study of sharks and their relatives, mainly thanks to the contribution of important natural philosophers, like Guillaume Rondelet. From this period of renewed scientific interest, it is worth noting the presence of a sawfish rostrum, *Pristis* sp., in the Basilica del Carmine Maggiore, in Naples. Overall, this paper shows how interactions between humans and elasmobranchs has been a constant feature for human coastal communities, although changing over time as a consequence of human cultural evolution. Furthermore, the importance of historical ecology as a tool to better protect and manage the actual living resources is here emphasized, mostly for those groups that are at a high risk of extinction, such as chondrichthyans.

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1. Introduction

Historical ecology developed as organized research in the middle of the twentieth century (Szabó, 2015). It interacts strongly with environmental history, ecological anthropology, historical geography, and paleoecology, with researchers from all disciplines contributing to the understanding of putative pristine environments and the anthropogenic changes they undergo (Balée, 2006;

Szabó, 2015; McClenachan et al., 2015). Before the XXI century, historical ecology was commonly focused on terrestrial environments and contributed to the understanding that some human-induced changes occurred in the distant past (Rick et al., 2008). In this context, Van der Kaars et al. (2017) recently hinted at humans, instead of climate, as the primary cause of Pleistocene megafaunal extinction in Australia. Despite the richness of historical information and research on terrestrial environment, analogous data for oceans and seas are rarer as only recent studies focused on marine environments from this perspective (Thurstan et al., 2015). The long history of human influence on the marine

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