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ABSTRACT BOOK

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GEOMETRIC MORPHOMETRICS AS A COMPLEMENTARY METHOD IN THE STUDY OF CHONDRICHTHYES DENTAL MORPHOLOGIES

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Chondrichthyes are known to have a great diversity of dental morphologies, both in fossil and recent organisms, primarily due to their diet, sexual dimorphism, and ontogeny. Usually found isolated, the teeth of cartilaginous fishes are the basis for the separation and cataloguing process of chondrichthyan species. Throughout the development of palaeontological methods, the most commonly used in the classification of fossil teeth of these organisms is a qualitative one based on elaborate descriptions of the biological structures. Though they might change according to the researcher, these descriptions have allowed for a steady and coherent study of these beings.

With the introduction of new technologies and mathematical processes, this strictly qualitative method is beginning to change. Over the past 20 years, several studies have aimed to update and improve the descriptions by complementing them with the information obtained through geometric morphometrics, which analyses and compares the shape and size of fossils. This quantitative method, that relies on spatial coordinates known as landmarks and semilandmarks, has allowed researchers to add greater depth to their studies and support qualitative classifications with statistical data. The present work aims to further the advances in this particular subject, by updating the classification of fossil teeth from several collections, utilising both the qualitative and quantitative methods.