A revision of *Stenopterygius* (Ichthyosauria: Thunnosauria) in Italian museum collections

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Natural history museum collections are invaluable resources for scientific research, providing material for many fields, and notably for palaeontology. Over the last two centuries, many relevant vertebrate fossils have been discovered, gathered, and traded all over Europe, sometimes without being subsequently published or described. This is also the case for ichthyosaur fossils of the genus *Stenopterygius*, a high number of which were found in near Holzmaden (SW Germany), in lower Toarcian rocks of the Posidonia Shale Formation. From the mid-19th century onwards, these fossils made their way into palaeontological collections all over the world, including Italian museums. *Stenopterygius* is one of the most studied ichthyosaur taxa in literature. Research on *Stenopterygius* ranges from its trophic niche to ontogenesis, biological responses to environmental stress and soft tissue histology (from cells structures to skin pigmentation). Even though the role of *Stenopterygius* as a model organism for marine vertebrate palaeontology is well established, difficulties nonetheless exist regarding the taxonomy and systematics of this genus, with four valid species being currently differentiated using a linear morphometric approach. Here, we provide new data on 19 *Stenopterygius* specimens from five Italian museum collections: Pisa, Milano, Napoli, Padova and Bologna. Out of these specimens, four belong to *S. triscissus* (a relatively rare species), and ten are juveniles (an underrepresented ontogenetic group). Additionally, CT scans were performed on two historical *Stenopterygius* specimens stored at the Museo di Storia Naturale dell'Università di Pisa, providing images of skeletal parts that are still embedded in rock, which may prove crucial for the species-level identification, as well as for detecting the presence of associated macrofauna.