In version 1.3 of the OCDM, a new sub-ontology, the Craniofacial Zebrafish Ontology (CZO) was created and added to the OCDM. Its ontological framework is based on the CHO and CMO and was populated with the same high-level classes as in the CHO and CMO to build its class hierarchy. In this work we focused on the taxonomic and spatio-structural representation of the canonical musculoskeletal system of the adult head (muscles, bones, cartilages, skeletal ligaments and joints). The work entailed the creation of 624 classes, using specific zebrafish terms from the Zebrafish Anatomy Ontology (ZFIN) where applicable, and the instantiation of about 2900 relationships between the classes using 26 spatio-structural properties (object properties), such as parthood (regional partonomy, constitutional partonomy and membership), connectivity (articulation, attachment, continuity (qualitative coordinate relationships such as anterior to, posterior to, superior to, inferior to, medial to, lateral to, etc., and containment), as well data-type properties, such as dimension, mass and species.