

## Morphological Comparison of the Total Skeletal of (Common Bottlenose Dolphin) *Tursiops truncatus* and (Harbour Porpoise) *Phocoena phocoena*

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**Abstract :** The aim of this study is to investigate and compare the locomotion structures, especially the bone structures, of two different dolphin species, the Common bottlenose dolphin *Tursiops truncatus* and the Harbor porpoise *Phocoena phocoena*, and to provide a more detailed and descriptive comparison. To compare the structures of bones of two study species; first, the Spinous Process (SP), Inferior Articular Process (IAP), Laminae Vertebrae (LA), Foramen Vertebrae (FV), Corpus Vertebrae (CV), Transverse Process (TP) were determined and then the length of the Spinous Process (LSP), length of the Foramen Vertebrae (LFV), area of the Corpus Vertebrae (ACV), and length of the Transverse Process (LTP) were measured from the caudal view. The spine consists of a total of 61 vertebrae (7 cervical, 13 thoracic, 14 lumbar, and 27 caudal vertebrae) in the Common bottlenose dolphin, while the Harbor Porpoise has 63 vertebrae (7 cervical, 12 thoracic, 14 lumbar, 30 caudal). In the Common bottlenose dolphin, epiphyseal ossification was between the 21st caudal vertebra and the 27th caudal vertebra, while in the Harbor porpoise, it was observed in all vertebrae. Ankylosing spondylitis was observed in the C1 and C2 vertebrae in the Common bottlenose dolphin and in all cervical vertebrae between C1 and C6 in the Harbor porpoise. We argue that this difference in fused cervical vertebrae between the two species may be due to the fact that the neck movements of the Harbor porpoise in the vertical and horizontal axes are more limited than those of the Common bottlenose dolphin. We also think that as the number of fused cervical vertebrae increases, underwater maneuvers are performed at a wider angle, but to test this idea, we think that different species of dolphins should be compared and the different age groups should be investigated.

**Keywords :** anatomy, morphometry, vertebrae, common bottlenose dolphin, *Tursiops truncatus*, harbour porpoise, *Phocoena phocoena*

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