

Sexual dimorphism in pelvic rudiment of bottlenose dolphin (*Tursiops truncatus*)

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In the bottlenose dolphin pelvic rudiment is all that remains of the hind limb skeleton. It is positioned dorsal to the anus and serves as attachment point for muscles acting on the genitalia and the abdominal body wall. The aim of our study was to determine morphological and morphometrical characteristics of pelvic rudiments and correlate them to the sex of an individual. Pelvic rudiments of 132 bottlenose dolphins were studied. They originated from the collection of the Faculty of Veterinary Medicine University of Zagreb, Croatia which hosts skeletons of whales found dead from 1990 to 2011 in the Croatian part of the Adriatic Sea. Ten measurements were used in the morphometrical analysis (vestigial hip bone length, length from cranial tip to highest point, length from cranial tip to middle of the crest, crest width, crest height, height at the cranial 1/8 of the length, width at the cranial 1/8 of the length, height at the caudal 1/8 of the length, width at the caudal 1/8 of the length, length from highest point to caudal tip). There were taken from each pelvic rudiment with 0.01 cm precision using a caliper. Sex dependent shape of the pelvic rudiment is observed in animals older than 12 years and with a body length > 266 cm. Female pelvic rudiment of adult bottlenose dolphins is significantly shorter and gentler in shape. The most accentuated morphological difference lies in the central part of the pelvic rudiment. Here, in adult males a lateral, prominent crest is arising from the dorsal, convex edge. This crest is significantly wider and higher in males than in females. Our study shows that pelvic rudiment of adult bottlenose dolphins is sexual dimorphic and its use in sex assignment is reliable.



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