

'Fineness' Ratio in Cetaceans

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Abstract

One of the more usual parameters for characterising the hydrodynamical ability of the streamline bodies is the 'fineness ratio', that is the ratio of the total length of the body to the maximum diameter. The optimum value should be 4.5, if we consider a situ-

ation of maximum volume with minimum surface area.

Measurements from 84 specimens of 27 different species of Mysticeti and Odontoceti were used in this study. The range of values was between 4 (*Kogia breviceps*) and 7.2 (*Balaenoptera physalus*). The exponent of the allometric equation calculated with these data was 1.02, not significantly different from 1. That seems to mean that the not very stringent gravitational conditions of the way of life of Cetaceans permit a scaling according to the predictions of the geometric similarity.