

A new diminutive fossil ziphiid from the deep-sea floor off northern Chile and some remarks on the body size evolution and palaeobiogeography of the beaked whales

Giovanni Bianucci, Walter Sielfeld, Nicole A. Olguin, and Guillermo Guzmán

Acta Palaeontologica Polonica 68 (3), 2023: 477-491 doi:10.4202/app.01076.2023

The evolutionary history of the beaked whales (Ziphiidae), odontocetes nowadays adapted to deep diving, is well known thanks to a significant fossil record mainly from the deep ocean floors. A partial cranium of a ziphiid recovered from Plio-Pleistocene deep sea deposits (about 1000 m) off the port of Pisagua, northern Chile, during fishing activity is here described and referred to the new species *Ihlengesi changoensis*. *Ihlengesi changoensis* differs from the type species *Ihlengesi saldanhae*, from the sea floor off South Africa, by having a more elongated premaxillary sac fossa and consequently a more anteriorly located premaxillary foramen; dorsal margin of each premaxillary crest sloping markedly ventrolaterally and generating an acute dorsal profile of the vertex in anterior view; less anterolateral extension of the right nasal forming part of the premaxillary crest; lateral margins of the nasals not anteriorly diverging but weakly convex; nasofrontal suture anteriorly pointed. The phylogeny supports a sister-taxon relationship between *I. changoensis* and *I. saldanhae*, both members of the crown ziphiids Hyperoodontinae. *Ihlengesi changoensis* shares with *I. saldanhae* and other fossil ziphiids a small body size (estimated length 3.5 m) supporting the hypothesis that in the past small beaked whales (