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**Evoked-potential study of hearing directivity and sound-receiving apertures in dolphins**

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Positions of sound-receiving apertures were searched-for in bottlenose dolphins using the ABR technique. The receiving-area position was computed basing on ABR delays at various sound-source positions. Two acoustic apertures were revealed in such a way: for frequencies of 32 kHz and higher, the receiving area was located near a proximal part of the lower jaw (the mandibular acoustic window); for lower frequencies, the receiving area was located near the tympanic bulla. In another experimental series, AEP thresholds to near-field stimuli were measured with transducer positioning next to various points of the dolphin's head. Again, at stimulus frequencies of 32 kHz and higher, the lowest threshold area was next to the mandibular acoustic window; at lower frequencies, the lowest threshold area was next to the bulla. The conclusion is that dolphins have at least two acoustic apertures differing in their frequency sensitivity. Directional sensitivity of these two apertures was investigated by measuring ABR thresholds at different frequencies and different sound source positions. At higher frequencies, the best-sensitivity direction estimated by ABR thresholds was near the head midline, at lower frequencies the best-sensitivity direction deviated laterally. These data were interpreted as indicating different axis directions of the two receiving apertures.