

Acoustic environmental enrichment stimulates echolocation in bottlenose dolphins (*Tursiops truncatus*)



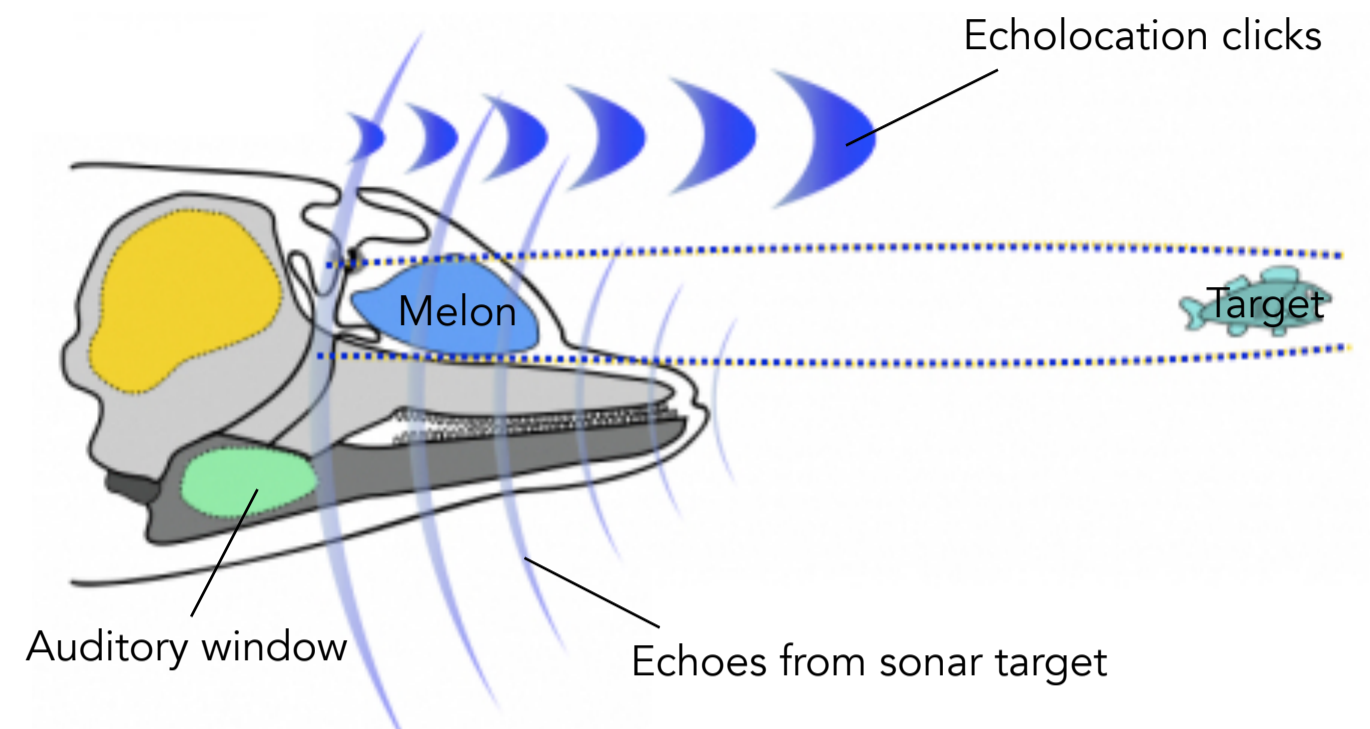
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Background

Echolocation is not well stimulated in bottlenose dolphins under human care due to **barren pool conditions** provided in zoos and aquaria

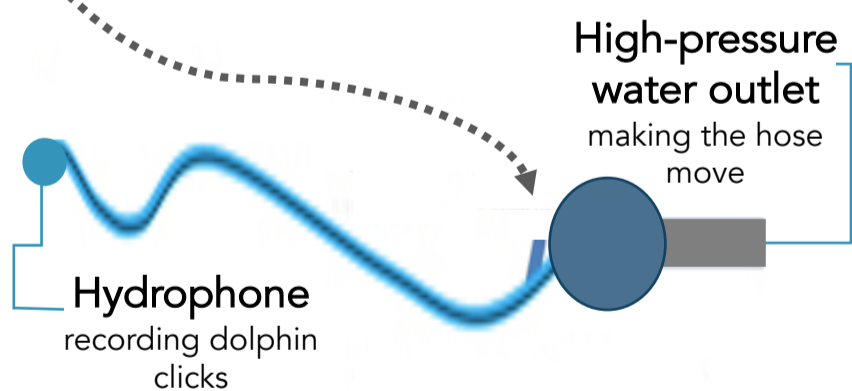
AIM: To investigate if the introduction of **1) a meandering hose** controlled by the dolphins' sonar and **2) a coral sand box** containing food items stimulate the dolphins to use their sonar



Materials and methods

Meandering hose setup

- 3 active hose states
 - Full effect
 - Full effect + fish
 - Full effect + gelatine
- The movement of the hose was activated by dolphin sonar clicks
- 1 non-active hose state
 - Null effect state



Coral sand box setup

Herrings, capelins and/or gelatine cubes buried in coral sand in the box

OR

Only coral sand in the box

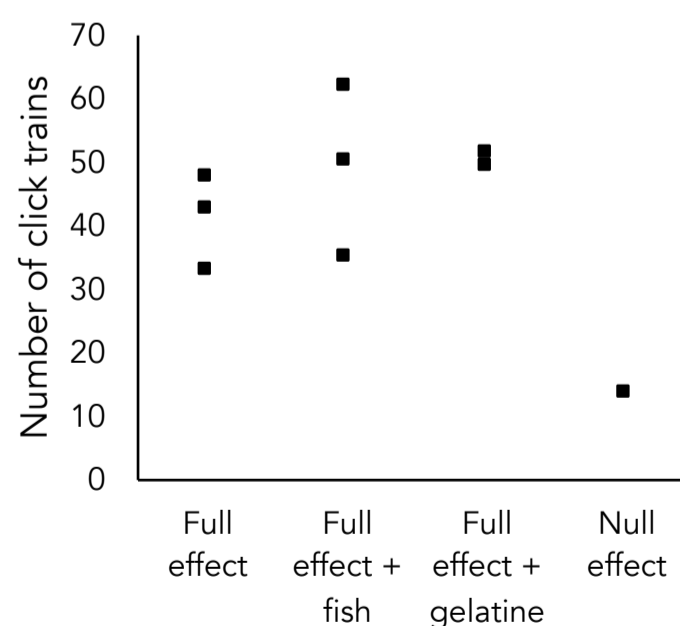


Results

Meandering hose setup

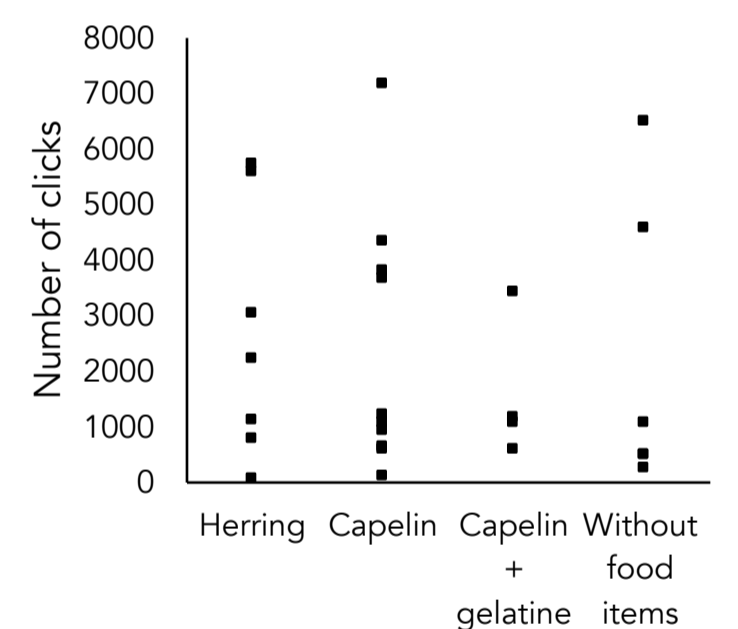


Number of click trains per dolphin aimed at the hose

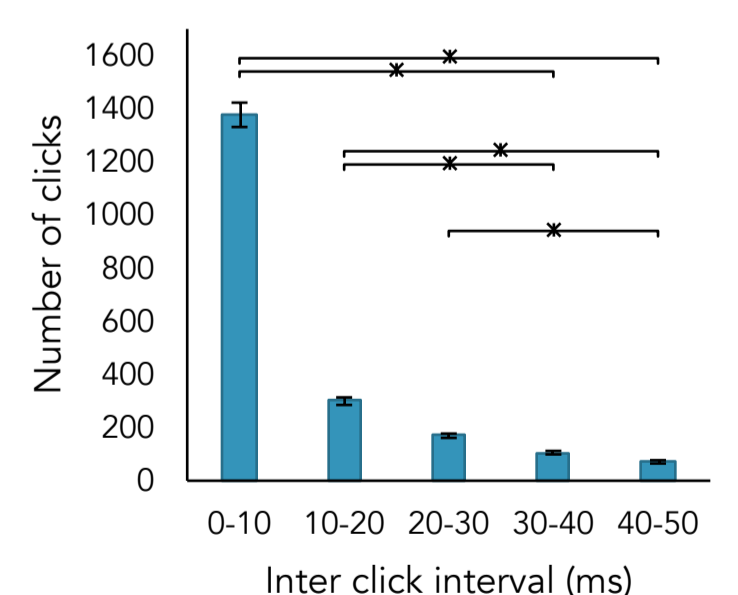


Coral sand box setup

Number of clicks per dolphin aimed at each food item type



Average number of clicks per dolphin per ICI interval



Conclusions

- The meandering fashion of the hose stimulated the dolphins to use their sonar
- The dolphins used their sonar when they investigated the coral sand in the box
- The meandering hose and the coral sand box had good enrichment value
- The enrichment items stimulated the dolphins to perform natural behaviours



Contact

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