The Effectiveness of Speckle Count to Determine Bottlenose Dolphins (Tusiops cf. aduncus) Age Range

Hall, Maya

Because of their wide range of behaviors and social structure, as well as ecological and economic influence, dolphins are highly important to oceanographers and therefore have been thoroughly studied by humans. Currently, if researchers need to determine the age of a dolphin, they must extract a tooth and examine the calcium layers, which is similar to aging a tree by its rings. This process is invasive and time consuming, and is dangerous for both researchers and dolphins. An alternative method is using speckle count to determine an age range. Speckles are marks on a dolphin's body and dorsal fin that appear darker than the rest of the skin. This experiment used statistical data from a sample of dolphin dorsal fin images to determine the correlation between increasing speckle number and increasing age. Using the Spearman Rank-Order Correlation Coefficient statistical test, speckle numbers and ages of female dolphins, male dolphins, and the combined genders were compared. The test found that the female correlation was significant, as was the combined genders, but the males lacked significance. Due to this, there is a possibility that an age range can be found from speckle count, but future work will expand and improve the accuracy of the results.

Awards Won: