

STOCK DELINEATION OF DOLPHINFISH (*Coryphaena hippurus*) BASED ON CHEMICAL ANALYSIS OF OTOLITHS

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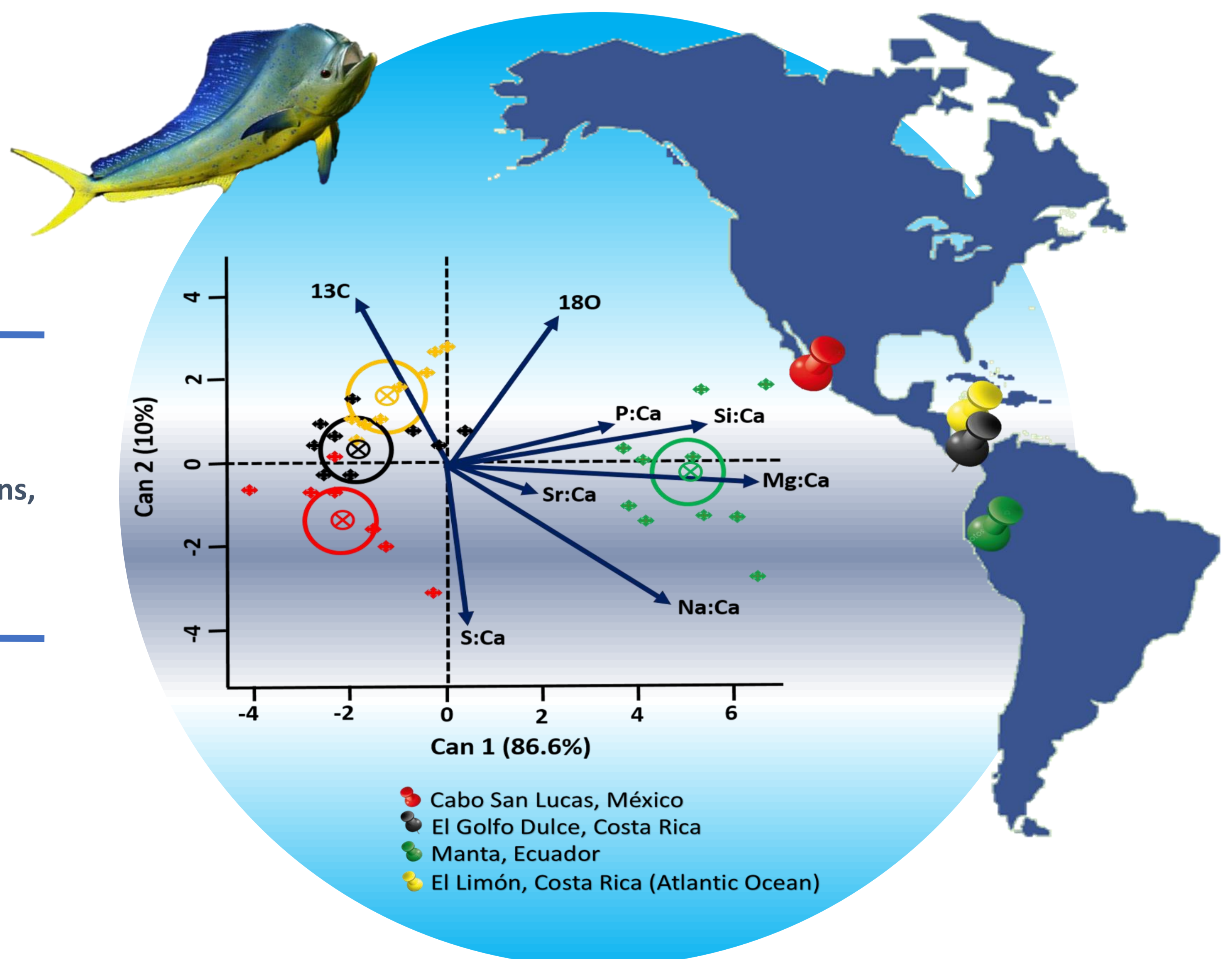
INTRODUCTION

The epipelagic dolphinfish (*Coryphaena hippurus*) species is distributed throughout tropical and subtropical waters of the Atlantic, Pacific and Indian Oceans between 41 ° N to 35 ° S, yet limited by the isotherm at 20°C. Globally, this resource is exploited by commercial and sport fisheries. In the Eastern Pacific region, dolphinfish is a target species of artisanal fisheries from Chile to northwest Mexico. Thus, stock identification is vital for fisheries management practices. Identifying the chemical composition of fish otoliths serves as a tool to recognize differences in stock characteristics.

OBJECTIVE

Given that this species is considered in high market demand, stock management is complicated by limited information concerning stock identification, population abundance and the degree to which the stocks mix regionally. The aim of this work was to identify stocks of dolphinfish based on the chemical composition from the sagitta otolith core using samples collected from three regions in the Eastern Pacific and one from the Atlantic Ocean.

RESULTS.
Discriminant analysis comparing 4 sampling regions, based on chemical composition and stable isotopes.



METHODOLOGY

Chemical analysis was carried out using the techniques of X-ray Photoelectron Spectroscopy (XPS) and Stable Isotope Mass Spectrometry. The elements Ca, Mg, Sr, P, S, Na and Si were quantified, as well as the isotopes of ^{13}C and ^{18}O .

CONCLUSION

Results suggest there is variability in the chemical composition associated with the geographic location of the dolphinfish landings. This may be attributed to stock identification within the Eastern Pacific Ocean.

