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Feeding habits of franciscanas, *Pontoporia blainvillei*, based on stable carbon and nitrogen isotopes in tooth dentin

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Franciscanas (*Pontoporia blainvillei*) are small dolphins endemic to shallow coastal waters in the southwestern Atlantic Ocean. The species is especially vulnerable to anthropogenic activities, mainly impacted by by-catches in gillnet fisheries. Understanding their feeding habits helps implement conservation measures, aiding the designation of protected areas and the quantification of interactions with fisheries. We characterized sex- and age-related foraging in franciscanas by-caught in southern Brazil. Carbon and nitrogen stable isotope ratios, expressed as $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$, were measured in the tooth dentin of calves, juveniles and adult dolphins. $\delta^{15}\text{N}$ was negatively correlated with Body Length (BL) and age, which was attributed to decreasing influence of the suckling period. Correlations of $\delta^{13}\text{C}$ with BL and age show slight enrichment in ^{13}C in adults. No significant differences in isotope signatures between genders indicate that both sexes forage upon the same resources. Stable isotopes were measured in prey species selected based on previous studies on analysis of stomach contents (SCA). Isotope mixing models were applied to estimate the fractional contribution of prey items to franciscanas' diet. Although some differences in the relative contribution of the main preys were found when comparing both methods, results from mixing models agree with those of SCA. Isotope analysis identifies a resident fish species as highly important to the diet of adult dolphins. Nevertheless, isotope values in younger individuals may be biased by the high relative contribution of the dentin deposited during nursing in this species and caution is necessary when interpreting these results. The present study is the first to characterize the ontogenetic dietary shifts in franciscanas by analyzing their isotopic signatures. For more reliable dietary information, we recommend that both methods (SCA and stable isotopes) be applied when studying the foraging behavior of marine mammals.