

{rokbox title=|Ejemplar de langosta roja (*Palinurus elephas*) :: Foto: David Díaz (COB-IEO)|
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Salud Deudero, Ariadna Tor, David Díaz, Sandra Mallol, and Raquel Goñi, (2012). Isotopic fractionation in wild and captive european spiny lobsters (*Palinurus elephas*

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Abstract: Differences in tissue specific fractionation have important practical implications for ecological studies. We have examined isotopic fractionation $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ among four different tissues in the spiny lobster *Palinurus elephas* (Fabricius, 1787). Two sets of individuals differing on diet-quality (captive animals with monospecific diet and wild lobsters) were studied to determine the best tissue to be used as a proxy of feeding ecology: muscles of the pleon, muscles of the legs, telson, and hemolymph. We observed significant differences in isotopic fractionation $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ among the analyzed tissues. In both captive and wild specimens leg muscle was the most $\delta^{15}\text{N}$ enriched tissue, followed by pleonal muscle, hemolymph, and telson. For $\delta^{13}\text{C}$ the sequence in isotopic discrimination was pleonal muscle > leg muscle > hemolymph $\square$ telson. Lower intra-individual variability was observed in captives compared to wild individuals, as expected from a constant diet. Finally, we conclude that leg muscle is the best tissue for studying

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trophism since it presents the lowest variability at isotopic level for N. The sampling of leg muscle, a regenerating tissue, is therefore suitable as a non lethal technique for trophic assessment at lobsters.

Keywords: hemolymph, lobsters, muscle, stable isotope fractionation, telson