

Biomonitoring of N-alkanes in the Eggs of Four Tern Species Residue in Banifaror Island, Persian Gulf

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Abstract

The present study was aimed to determine the origin and concentration compounds in eggs of four sea-bird species residue in Banifaror Island. Sampling the studied species hatch was carried out in July 2012. After analyzing, the concentrations of these ingredients, including extraction, column chromatography and gas chromatography-spectroscopic two mass were determined. The origin of the n-alkane compounds were determine using diagnostic ratios. Total obtained concentrations in the sampled eggs of Tern, White cheeked tern, Bridled tern, Greated crested tern and Lesser created tern were in range of 42.93-67.28, 24.48-95.64, 25.92-39.95 and 39.49-71.86 ($\mu\text{g}\cdot\text{mg}^{-1}$ lipid), respectively. The concentrations of these compounds in the eggs of White cheeked and Lesser created tern were more than Greated crested and Bridled tern. Origin of the compounds was recognized as petrogenic sources. The most important involving reasons are the contaminants of oil refineries, founded in closed to Banifaror Island, presence of oil pollutants caused by oil spills in the Persian Gulf, shipping, discharge of ballast water from ships to this area. As a conclusion, the eggs of four sea-bird species can be used as biomonitoring agent for n-alkanes in the studied area.

Keywords: *Oil pollution, N- Alkanes, Diagnostic ratios, Gas Chromatograghy, Terns, Banifaror Island, Persian Gulf.*
