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- Baeyens W, M Leermakers, T Papina, A Saprykin, N Brion, J Noyen, M De Gieter, M Elskens & L Goeyens. 2003.** Bioconcentration and biomagnification of mercury and methylmercury in North Sea and Scheldt Estuary fish. *Archives of Environmental Contamination and Toxicology* 45: 498-508.
- Baptista G, HA Kehrig, APM Di Benedetto, RA Hauser-Davis, MG Almeida, CE Rezende, S Siciliano, JF de Moura & I Moreira. 2016.** Mercury, selenium and stable isotopes in four small cetaceans from the Southeastern Brazilian coast: influence of feeding strategy. *Environmental Pollution* 218: 1298-1307.
- Barwick M & W Maher. 2003.** Biotransference and biomagnification of selenium, copper, cadmium, zinc, arsenic and lead in a temperate seagrass ecosystem from Lake Macquarie Estuary, NSW, Australia. *Marine Environmental Research* 56: 471-502.
- Bisi TL, G Lepoint, AF Azevedo, PR Dorneles, L Flach, K Das, O Malm & J Lailson-Brito. 2012.** Trophic relationships and mercury biomagnification in Brazilian tropical coastal food webs. *Ecological Indicators* 18: 291-302.
- Bisi TL, PR Dorneles, J Lailson-Brito, G Lepoint, AF Azevedo, L Flach, O Malm & K Das. 2013.** Trophic relationships and habitat preferences of delphinids from the southeastern Brazilian coast determined by carbon and nitrogen stable isotope composition. *PLoS ONE* 8(12): e82205. <<https://doi.org/10.1371/journal.pone.0082205>>
- Bittar VT & APM Di Benedetto. 2009.** Diet and potential overlap between *Trichiurus lepturus* (Osteichthyes: Perciformes) and *Pontoporia blainvillei* (Mammalia: Cetacea) in northern Rio de Janeiro, Brazil. *Zoologia* 26(2): 374-378.
- Borgå K, KA Kidd, DCG Muir, O Berglund, JM Conder, FAPC Gobas, J Kucklick, O Malm & DE Powell. 2011.** Trophic magnification factors: considerations of ecology, ecosystems, and study design. *Integrated Environmental Assessment and Management* 8(1): 64-84.
- Bowles KC, SC Apte, WA Maher, M Kawei & R Smith. 2001.** Bioaccumulation and biomagnification of mercury in Lake Murray, Papua New Guinea. *Canadian Journal of Fisheries and Aquatic Sciences* 58: 888-897.
- Broman D, C Naf, C Rolff, Y Zebuhr, B Fry & J Hobbie. 1992.** Using ratios of stable nitrogen isotopes to estimate bioaccumulation and flux of polychlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs) in two food-chains from the northern Baltic. *Environmental Toxicology and Chemistry* 11: 331-345.
- Cabana G & JB Rasmussen. 1994.** Modelling food chain structure and contaminant bioaccumulation using stable nitrogen isotopes. *Nature* 372: 255-373.
- Cáceres-Saez I, NA Dellabianca, RNP Goodall, HL Cappozzo & SR Guevara. 2013.** Mercury and selenium in subantarctic Commerson's Dolphins (*Cephalorhynchus c. commersonii*). *Biological Trace Element Research* 151(2): 195-208.
- Chen M, C Shih, C Chou & I Chou. 2002.** Mercury, organic-mercury and selenium in small cetaceans in Taiwanese waters. *Marine Pollution Bulletin* 89: 30-34.
- Coelho-Souza SA, MS López, JRD Guimarães, R Coutinho & RN Candella. 2012.** Biophysical interactions in the Cabo Frio upwelling system, Southeastern Brazil. *Brazilian Journal of Oceanography* 60(3): 353-365.
- Das K, L Holsbeck, J Browning, U Siebert, A Birkun Jr & JM Bouqueneau. 2004.** Trace metal and stable isotope measurements ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) in the harbor porpoise *Phocoena phocoena relicta* from the Black sea. *Environmental Pollution* 131: 197-204.
- De Niro MJ & S Epstein. 1981.** Influence of diet on the distribution of nitrogen isotopes in animals. *Geochimica et Cosmochimica Acta* 45: 341-351.
- Di Benedetto APM, RMA Ramos, S Siciliano, RA Santos, G Bastos & E Fagundes-Netto. 2001.** Stomach contents of dolphins from Rio de Janeiro, South-eastern Brazil. *Aquatic Mammals* 27(1): 24-28.
- Di Benedetto APM, CMM Souza, HA Kehrig & CE Rezende. 2011.** Use of multiple tools to assess the feeding preference of coastal dolphins. *Marine Biology* 158: 2209-2217.
- Di Benedetto APM, VT Bittar, PB Cardoso, CE Rezende & HA Kehrig. 2012.** Mercury and nitrogen isotope in a marine species from a tropical coastal food web. *Archives of Environmental Contamination Toxicology* 62: 264-271.
- Dietz R, CO Nielsen, MM Hansen & CT Hanse. 1990.** Organic mercury in Greenland birds and marine mammals. *Science of the Total Environment* 95: 41-51.
- FAO/SIDA. 1983.** Manual de métodos de investigación del medio ambiente acuático. Parte 9. Análisis de presencia de metales y organoclorados en los peces. *FAO Documento Técnico de Pesca* 212: 1-35.
- Fielding R & DW Evans. 2014.** Mercury in Caribbean dolphins (*Stenella longirostris* and *Stenella frontalis*) caught for human consumption off St. Vincent, West Indies. *Marine Pollution Bulletin* 89: 30-34.
- Gerpe MS, DH Rodríguez, VJ Moreno, RO Bastida & JAE de Moreno. 2002.** Accumulation of heavy metals in the franciscana (*Pontoporia blainvillei*) from Buenos Aires Province, Argentina. *The Latin American Journal of Aquatic Mammals* 1(1): 95-106.

- Ikemoto T, T Kunito, I Watanabe, G Yasunaga, N Baba, N Miyazaki, EA Petrov & S Tanabe. 2004.** Comparison of trace element accumulation in Baikal seals (*Pusa sibirica*), Caspian seals (*Pusa caspica*) and northern fur seals (*Callorhinus ursinus*). *Environmental Pollution* 127: 83-97.
- Ikemoto T, NPC Tu, N Okuda, A Iwata, K Omori, S Tanabe, BC Tuyen & I Takeuchi. 2008.** Biomagnification of trace elements in the aquatic food web in the Mekong delta, South Vietnam using stable carbon and nitrogen isotope analysis. *Archives of Environmental Contamination and Toxicology* 54: 504-515.
- Jæger I, H Hop & GW Gabrielsen. 2009.** Biomagnification of mercury in selected species from an Arctic marine food web in Svalbard. *Science of the Total Environment* 407: 4744-4751.
- Jardine TD, KA Kidd & AT Fisk. 2006.** Applications, considerations, and sources of uncertainty when using stable isotope analysis in ecotoxicology. *Environmental Science and Technology* 40(24): 7501-7511.
- Kehrig HA, TG Seixas, EA Palermo, AP Baêta, CW Castelo-Branco, O Malm & I Moreira. 2009a.** The relationships between mercury and selenium in plankton and fish from a tropical food web. *Environmental Science Pollution Research* 16: 10-24.
- Kehrig HA, KWG Fernandes, O Malm, TG Seixas, APM Di Benedetto & CM Souza. 2009b.** Transferência trófica de mercúrio e selênio na costa norte do Rio de Janeiro. *Química Nova* 32: 1822-1828.
- Kehrig HA, TG Seixas, O Malm, APM Di Benedetto & CE Rezende. 2013.** Mercury and selenium biomagnification in a Brazilian coastal food web using nitrogen stable isotope analysis: a case study in an area under the influence of the Paraíba do Sul River plume. *Marine Pollution Bulletin* 75: 283-290.
- Kehrig HA, RA Hauser-Davis, TG Seixas, AB Pinheiro & APM Di Benedetto. 2016.** Mercury species, selenium, metallothioneins and glutathione in two dolphins from the southeastern Brazilian coast: mercury detoxification and physiological differences in diving capacity. *Environmental Pollution* 213: 785-792.
- Kidd K, HA Bootsma, RH Heslein, WL Lockhart & RE Hecky. 2003.** Mercury concentrations in food web of Lake Malawi, East Africa. *Journal of Great Lakes Research* 29: 258-266.
- Kunito T, S Nakamura, T Ikemoto, Y Anan, R Kubota, S Tanabe, FCW Rosas, G Fillmann & JW Readman. 2004.** Concentration and subcellular distribution of trace elements in liver of small cetaceans incidentally caught along the Brazilian coast. *Marine Pollution Bulletin* 49: 574-587.
- Lavoie RA, CE Hebert, J-F Rail, BM Braune, E Yumvihoze, LG Hill & DRS Lean. 2010.** Trophic structure and mercury distribution in a Gulf of St. Lawrence (Canada) food web using stable isotope analysis. *Science of the Total Environment* 408: 5529-5539.
- Lavoie RA, TD Jardine, MM Chumchal, KA Kidd & LM Campbell. 2013.** Biomagnification of mercury in aquatic food webs: a worldwide meta-analysis. *Environmental Science & Technology* 47: 13385-13394.
- Lemos LS, JF de Moura, RA Hauser-Davis, RC Campos & S Siciliano. 2013.** Small cetaceans found stranded or accidentally captured in southeastern Brazil: Bioindicators of essential and non-essential trace elements in the environment. *Ecotoxicology and Environmental Safety* 97: 166-175.
- Lopes XM, MCO Santos, E Silva, M Bassoi & RA Santos. 2012.** Feeding habits of the Atlantic Spotted Dolphin, *Stenella frontalis*, in southeastern Brazil. *Brazilian Journal of Oceanography* 60(2): 189-198.
- Magalhães MC, V Costa, GM Menezes, MR Pinho, RS Santos & LR Monteiro. 2007.** Intra- and inter-specific variability in total and methylmercury bioaccumulation by eight marine fish species from the Azores. *Marine Pollution Bulletin* 54: 1654-1662.
- Martins AS, M Haimovici & R Palacios. 2005.** Diet and feeding of the cutlassfish *Trichiurus lepturus* in the Subtropical Convergence Ecosystem of southern Brazil. *Journal of the Marine Biological Association of the United Kingdom* 85: 1223-1229.
- Melo CLC, RA Santos, M Bassoi, AC Araujo, J Lailson-Brito, PR Dorneles & AF Azevedo. 2010.** Feeding habits of dolphins (Mammalia: Cetacea) from Rio de Janeiro State, Brazil. *Journal of the Marine Biological Association of the United Kingdom* 90(8): 1509-1515.
- Monteiro SS, J Torres, M Ferreira, A Marçalo, L Nicolau, JV Vingada & C Eira. 2016.** Ecological variables influencing trace element concentrations in bottlenose dolphins (*Tursiops truncatus*, Montagu 1821) stranded in continental Portugal. *Science of the Total Environment* 544: 837-844.
- Mullin KD & GL Fulling. 1998.** Abundance of cetaceans in the southern U.S. North Atlantic Ocean during summer. *Fishery Bulletin* 101: 603-613.
- Neathery MW & WL Miller. 1975.** Metabolism and toxicity of cadmium, mercury, and lead in animals: a review. *Journal of Dairy Science* 58(12): 1767-1781.
- Noël M, S Jeffries, DM Lambourn, K Telmer, R Macdonald & PS Ross. 2016.** Mercury accumulation in Harbour seals from the Northeastern Pacific Ocean: the role of transplacental transfer, lactation, age and location. *Archives of Environmental Contamination and Toxicology* 70: 56-66.
- O'Shea TJ. 1999.** Environmental contaminants and marine mammals. In: Reynolds JE III & SA Rommel (eds). *Biology of marine mammals*, pp. 485-563. Amiksonian Institution Press, Washington.
- Panebianco MV, MF Negri, SE Botté, JE Marcovecchio & HL Cappozzo. 2011.** Metales pesados en el riñón del delfín franciscana, *Pontoporia blainvillei* (Cetacea: Pontoporiidae) y su relación con parámetros biológicos. *Latin American Journal of Aquatic Research* 39(3): 526-533.

- Peterson BJ & B Fry. 1987.** Stable isotopes in ecosystem studies. *Annual Review of Ecology, Evolution, and Systematics* 18: 293-320.
- Seixas TG, HA Kehrig, G Fillmann, APM Di Benedetto, CMM Souza, ER Secchi, I Moreira & O Malm. 2007.** Ecological and biological determinants of trace elements accumulation in liver and kidney of *Pontoporia blainvillei*. *Science of the Total Environment* 385: 208-220.
- Seixas TG, HA Kehrig, APM Di Benedetto, CMM Souza, O Malm & I Moreira. 2009.** Trace elements in different species of cetacean from Rio de Janeiro coast. *Journal of the Brazilian Chemical Society* 20: 243-251.
- Seixas TG, I Moreira, S Siciliano, O Malm & HA Kehrig. 2014.** Differences in methylmercury and inorganic mercury biomagnification in a tropical marine food web. *Bulletin of Environmental Contamination and Toxicology* 92(3): 274-278.
- Senn DB, EJ Chesney, JD Blum, MS Bank, A Maage & JP Shine. 2010.** Stable isotope (N, C, Hg) study of methylmercury sources and trophic transfer in the Northern Gulf of Mexico. *Environmental Science and Technology* 44: 1630-1637.
- Siciliano S, RM Ramos, APM Di Benedetto, MCO Santos, AB Fragoso, J Lailson-Brito Jr, AF Azevedo, AFC Vicente, E Zampiroli, FS Alvarenga, L Barbosa & NR Lima. 2007.** Age and growth of some delphinids in South-eastern Brazil. *Journal of the Marine Biological Association of the United Kingdom* 87: 293-303.
- UNEP. 2013.** Minamata convention on mercury. Textos y Anexos. Interim Secretariat of the Minamata Convention on Mercury, United Nations Environment Programme, Geneva. <[http://www.mercuryconvention.org/Portals/11/documents/Booklets/Minamata\\_Conventionon\\_Mercury\\_booklet\\_Spanish.pdf](http://www.mercuryconvention.org/Portals/11/documents/Booklets/Minamata_Conventionon_Mercury_booklet_Spanish.pdf)>
- Vander Zanden MJ, G Cabana & JB Rasmussen. 1997.** Comparing the trophic position of littoral fish estimated using stable nitrogen isotopes ( $\delta^{15}\text{N}$ ) and dietary data. *Canadian Journal of Fishery and Aquatic Sciences* 54(5): 1142-1158.

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