**Spatial variations in concentrations of mercury and persistent organic pollutants in coastal bottlenose dolphins, *Tursiops truncatus,* from the Lower Florida Keys and the coastal Everglades (South Florida)**

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The bottlenose dolphin (*Tursiops truncatus*) is a major apex predator and the most common cetacean species found in nearshore waters of South Florida, including the Lower Florida Keys (LFK) and the Everglades National Park (ENP). The objective of this study was 1) to assess contamination levels of total mercury (T-Hg) in skin and persistent organic pollutants (PCBs, PBDEs, DDT, HCH, HCB, DLCs and PCDD/Fs) in blubber samples of bottlenose dolphins from the LFK (T-Hg : nmales = 10; POPs : nmales = 16, nfemales = 8) and the ENP (T-Hg : nmales = 13, nfemales = 9; POPs : nmales = 11, nfemales = 8). T-Hg and POPs were analysed by the mean of Direct Mercury analyser (for T-Hg), GC-ECD (POPs) and GC-MS (DLCs and PCDD/Fs). The PCBs were the main compounds found in bottlenose dolphins from the LFK and ENP. The most present congeners where the CB no. 28, 52, 101, 138, 153 and 180 (Σ 6 PCBs LFK males: 13420.5 ng.g-1 lipids, Σ 6 PCBs LFK females: 9683.4 ng.g-1 lipids, Σ 6 PCBs ENP males: 5637.9 ng.g-1 lipids, Σ 6 PCBs ENP females: 1426.9 ng.g-1 lipids), while the concentrations of DL PCBs remained low for both locations (LFK: 739 ng.g-1 lipids, ENP: 183 ng.g-1 lipids). PCBs concentrations were significantly higher in individuals from the LFK than those from the ENP. PCBs concentrations in LFK and ENP dolphins were significantly lower than those from other locations in the south-eastern US. Unlike organic pollutants, T-Hg concentrations were significantly higher in ENP male dolphins (LFK: 2936.0 ng.g-1 dw, ENP: 10048.3 ng.g-1 dw). These high concentrations were the highest recorded in the south-eastern US and are most likely due to the presence of mangrove ecosystems. This study highlights the complexity of contaminant dynamics (inorganic vs. organic), even at small spatial scales.