

## Illegal trade in shark fins evaluated by forensic genetics

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In recent decades the capture and trade of elasmobranchs has become popular, mainly driven by global trade in shark fins for consumption in Asia. While shark meat has an average price of \$ 10.00 per kilogram in the international market, a kilogram of fins can reach \$ 500.00. With these attractive values, these animals were fishing in worldwide, causing significant population declines for several species. In Brazil, the fin trade is regulated, however the industrial fleet must obey strict protocols for landing, which required the recording of species caught. Furthermore, the fins should be linked with the correspondent body-carcass, as finning (the fins of sharks are removed and the rest of the animal is thrown overboard) is prohibited in Brazilian waters. In Brazil, the arrests of fins have been made constantly by IBAMA. In 2010, a lot of arrested shark fins registered as belonging only to the coastal species that would be sold in China were confiscated in the Pará State. In order to assess the accuracy of the records contained in board logbooks, 181 tissue samples were submitted for molecular identification. We identify the samples blasting the sequences of mitochondrial cytochrome oxidase I (COI) gene in BOLD (Barcode of Life Database - <http://www.boldsystems.org/>) and Genbank (<http://blast.ncbi.nlm.nih.gov/>), which only those having the similarity greater than 98% were used. We also identified samples through the PCR-Multiplex using the characteristic of COI gene using specific primer of *Prionace glauca*. 75 (41.4%) were identified as *P. glauca*, 27 (14.9%) were *Carcharhinus falciformis*, 17 (9.4%) were *C. porosus*, 39 (21.5%) were *C. acronotus*, 15 (8.3%) *C. perezii*, 2 (1.1%) were *Alopias vulpinus* and 1 (0.6%) of each sample was the following species: *Isurus oxyrinchus*, *Rhizoprionodon porosus*, *Sphyrna tiburo* *C. obscurus*, *C. signatus* and *C. longimanus*. 53 samples of *P. glauca* previously identified by PCR-Multiplex were sequenced and verified a reliability of 100% of the primer. This study corroborate the absence of the effective monitoring on fishing and exportation of shark fins, once the record of the species has not been achieved, five species (*Prionace glauca*, *Alopias vulpinus*, *Isurus oxyrinchus*, *Carcharhinus longimanus* and *C. falciformis*) composing 59% of the total random sampling were pelagic species rather than coastal species as reported by the company. This leads an important question over the methods used in the inspections, as legally protected species which may be included in fisheries and increasing the risk of extinction. Financial Support: FAPESP; CNPq e CAPES.