

External injuries patterns in Eastern Caribbean cetaceans: differential species-specific exposure to human threats

Patrones de lesiones externas en cetáceos del Caribe Oriental: exposición diferencial específica por especie a las amenazas humanas

Types de blessures externes chez les cétacés des Caraïbes orientales : exposition différentielle des espèces aux menaces humaines

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Of the 93 known species of cetaceans, one-third are found in the Caribbean. Yet little is known about the exposure of cetaceans to human pressures in the region, especially with 70% of the local population directly dependent on the sea (fishing, tourism) and numerous shipping lanes. Thanks to two years of sea expeditions and a substantial sampling effort in the Lesser Antilles, over 5,200 cetacean photographs have been collected and analyzed. The creation of a key for determining the anthropogenic or natural origin of the cetaceans' injuries has enabled a preliminary estimate of the quantification and location of anthropogenic pressures linked to maritime traffic and fishing activities in the Lesser Antilles. We show that cetacean species present distinct injury profiles, with some being more marked than others by anthropogenic injuries. Some species could represent a major concern, with 30% to 54% of the population showing anthropogenic injuries: the dwarf and pygmy sperm whales (*Kogia sp.*) and the pygmy killer whale (*Feresa attenuata*). Unfortunately, these species are cryptic and would require more observations. More robust evidence exists for the melon-headed whale (*Peponocephala electra*), of which 27% display such injuries, with an average of 0.5 per individual. In contrast, the most frequently observed species, the pantropical spotted dolphin (*Stenella attenuata*), is very little marked (9% and an average of 0.122 ± 0.438 anthropogenic injury per individual). Then, we show that some species seem to be especially exposed to specific human activities, such as fishing (deep narrow linear scars from fishing gear) or navigation (engine wheel scars). These findings could serve as a first assessment to be built upon in future studies, especially for seemingly vulnerable species in need of finer and more practical conservation plans.

KEYWORDS: External injuries patterns, Eastern Caribbean, cetaceans, human threats

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