Skin mark patterns of bottlenose dolphins (*Tursiops truncatus*) in the Ría de Arousa, Galicia (Spain)

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INTRODUCTION

Cetaceans frequently display skin marks that can be caused by diseases, parasites, and interactions among conspecifics and with human activities. In the present study, we used one year of photo-identification data for resident bottlenose dolphins. The aims of this study were to assess the types of skin marks present on resident bottlenose dolphins from Ría de Arousa (NW Spain) (Methion & Díaz López 2018) (Figure 1) and compare them between adult males and females.

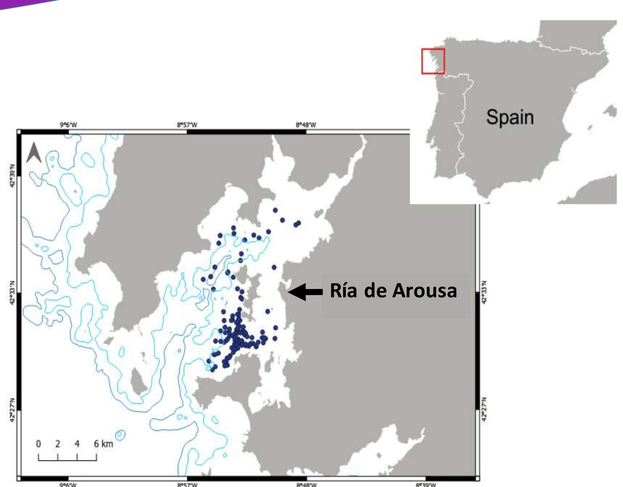

Figure 1: The Ría de Arousa (NW Spain). Circles represent sightings of bottlenose dolphins used for this study.

METHODS

Boat-based surveys were carried out between January and October 2017. Photographs from 21 adult sexed individuals (12 males and 9 females) were used to assess the prevalence of the different types of skin marks (skin disorders, social-induced marks, parasitic marks) present on the four body sections (Figure 2).

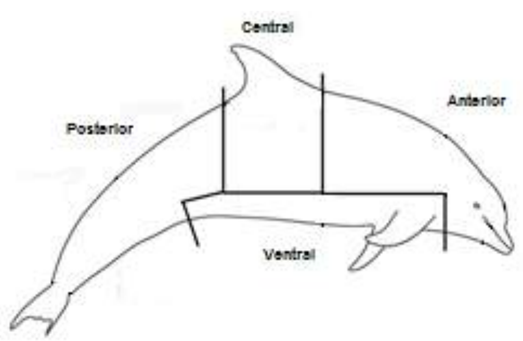

Figure 2: Design of the dolphin's body divided into four sections (modified from Marley et al., (2013)).

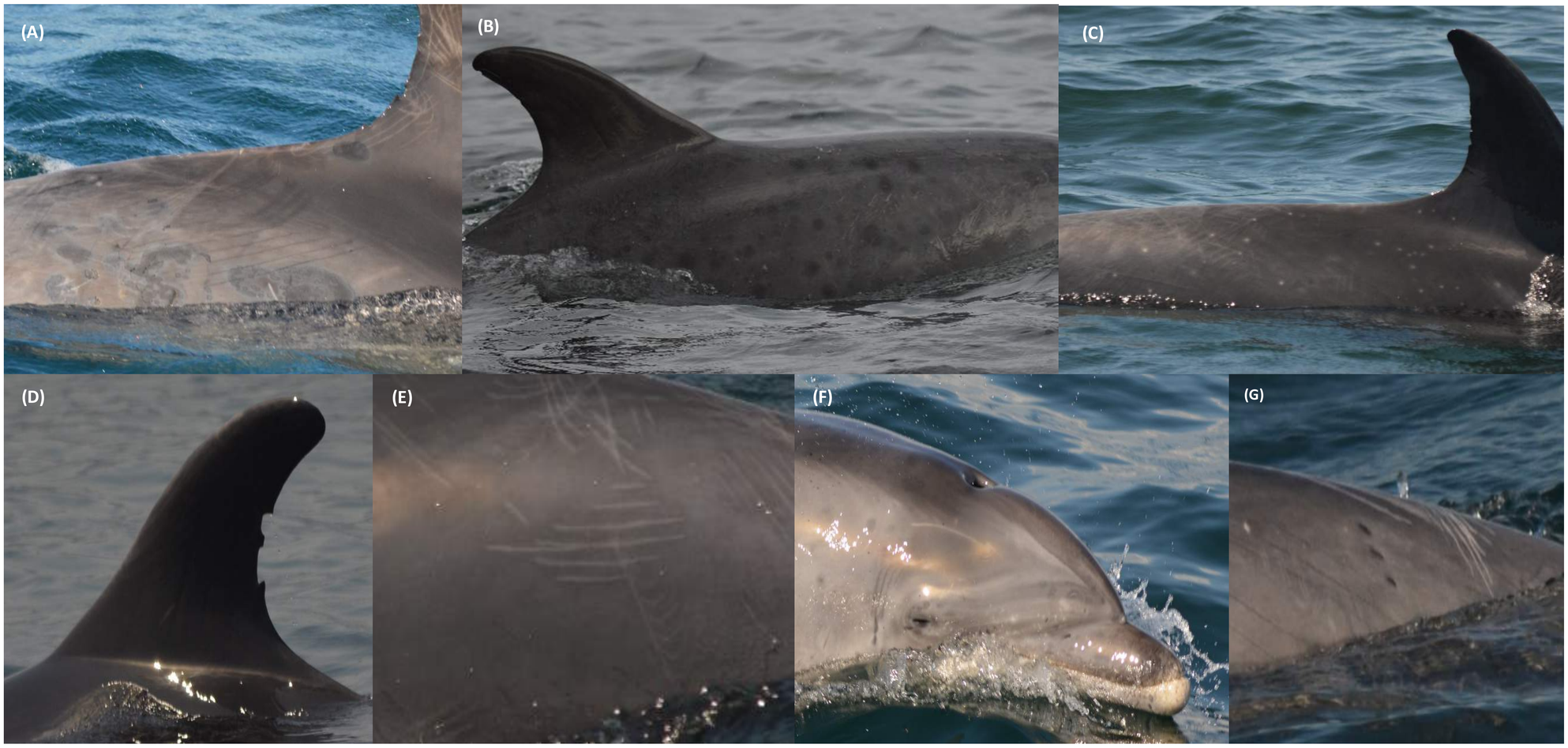

Figure 3: The different types of skin marks observed:

- Skin disorders: (A) tattoo skin disease (TSD); (B) dark focal skin disease; (C) light focal skin disease;
- Social-induced marks: (D) nicks; (E) tooth rakes; (F) linear marks;
- Parasitic marks: (G) lamprey bites.

RESULTS

We monitored 218 groups of bottlenose dolphins during 98 hours among 65 daily boat-based surveys. A total of 178 bottlenose dolphins were identified through photo-identification, and 21 adult individuals were sexed (12 males and 9 females). Skin disorders and social induced marks had a prevalence of 100%, and the parasitic marks had a prevalence of 62% (Figure 3). There were no differences on the prevalence of each type of skin mark between sexes, considering the full body side ($X^2 = 0.09$, df = 4, $p > 0.05$) and each body section (anterior: $X^2 = 1.89$, df = 3, $p > 0.05$; ventral: $X^2 = 1.99$, df = 4, $p > 0.05$; central: $X^2 = 0.58$, df = 4, $p > 0.05$; posterior: $X^2 = 0.83$, df = 4, $p > 0.05$) (Figure 3).

CONCLUSIONS

The individual bottlenose dolphins studied in the Ría de Arousa showed a very **high prevalence** of all the skin mark types observed. **Environmental and anthropogenic stressors** can be affecting the occurrence of skin disorders.

ACKNOWLEGMENTS

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Marley S. A., Cheney B., Thompson P. M. (2013) Using Tooth Rakes to Monitor Population and Sex Differences in Aggressive Behaviour in Bottlenose Dolphins (*Tursiops truncatus*). *Aquatic Mammals*, 39(2), 107-115. DOI:10.1578/AM.39.2.2013.107

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