

Vacation in Lisbon?

Occurrence and habitat use of *Delphinus delphis* in the Tagus Estuary, Portugal.



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INTRODUCTION

Estuarine environments are the primary source of productivity in the marine environment¹. Common dolphins are usually not associated with estuaries but other species use estuaries as a feeding areas².

In Tagus estuary, Portugal, dolphin sightings are anecdotally reported since XIX century³; however, so far, no systematic analyses of dolphins' occurrences and habitat use were made.

MAIN GOAL

Understand the occurrence of the common dolphin in the study area.

RESULTS

In 47%, of the 57 observation days, common dolphins were sighted in the estuary (31 of 441 hrs), usually with juveniles or calves ($\approx 50\%$ of the sightings).

The time spent in the study did not differ significantly between Spring and Summer ($t(16.24) = 0.278, p > 0.05$) (Fig. 2).

Although the dolphins were sighted more often in sectors 2 and 3, differences were not significant (Spring: $H(6) = 10.847, p > 0.05$; Summer: $H(6) = 2.033, p > 0.05$).

The time spent in each activity pattern varied significantly in both seasons (Spring: $H(3) = 2.378, p < 0.05$; Summer: $H(2) = 8.317, p < 0.05$) (Fig. 3), with foraging and travelling as the most common activity patterns in this area.



Want to see common dolphins in the Tagus estuary?



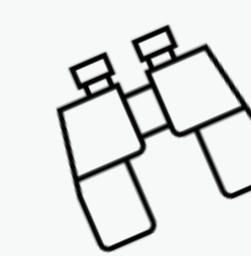
METHODS



Fig.1 - Tagus estuary, Portugal, with the division used in the study.

Data was collected during spring and summer of 2022.

A standardized visual-scan protocol was followed, using binoculars and telescope, from 8h to 16h, every other day.



DOLPHINS AT SIGHT!

Data collection: Location (sector); azimuth; group size; dominant activity, additional comments (e.g.. calves, formation type).

DISCUSSION

Common dolphins' regular presence in Tagus estuary indicate that this area has biological and environmental conditions to support cetacean communities.

The presence of calves and juveniles suggest that this estuary may function as a nursery area for coastal populations.

Traveling and foraging activities here observed hint a possible feeding hotspot, as dolphins movements are usually controlled by the availability and distribution of prey^{3,4}.

First insight into the habitat use of common dolphins in estuarine environments.

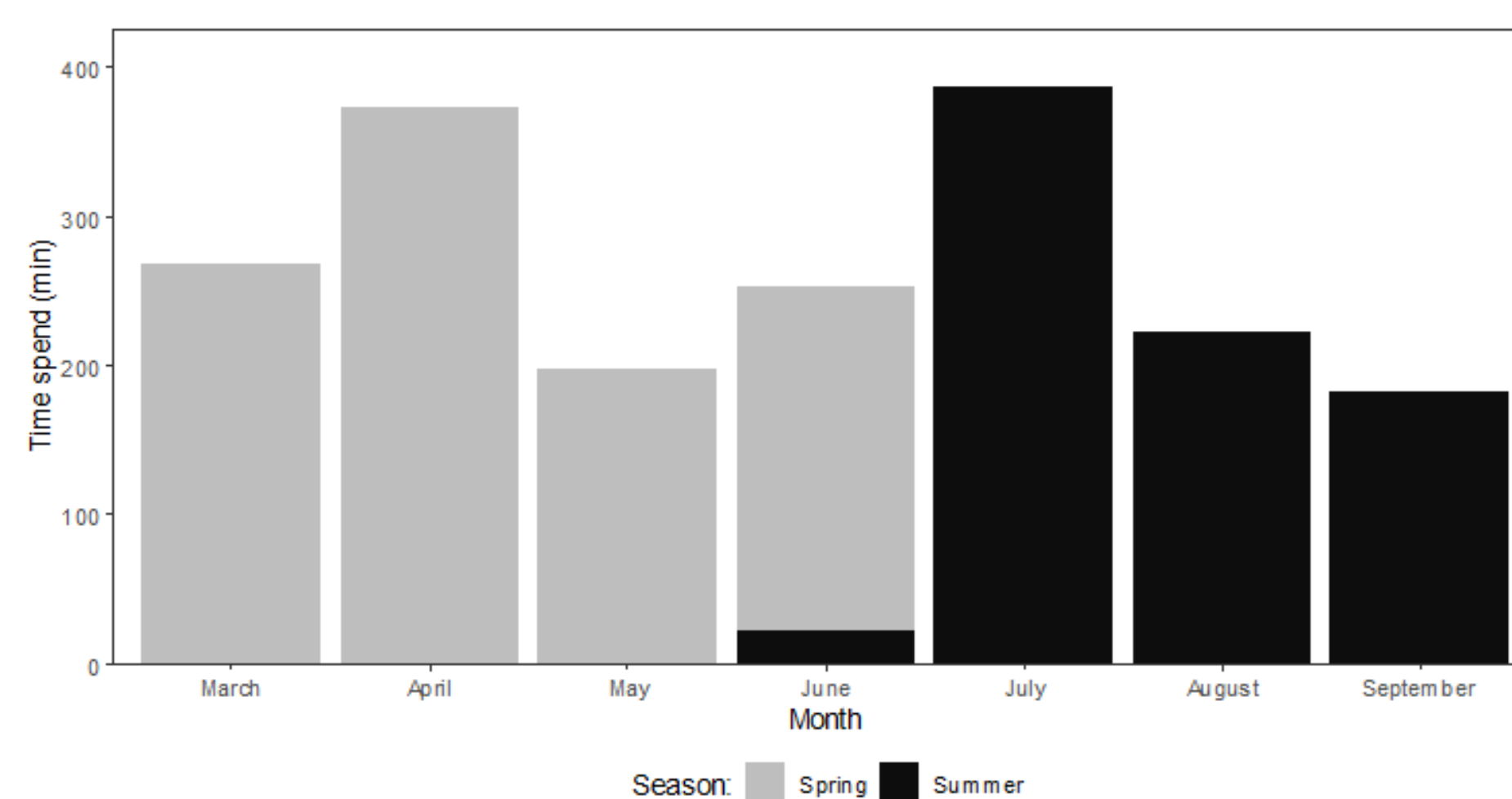
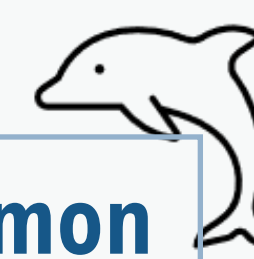


Fig. 2 - Time spent in the study area during spring and summer.

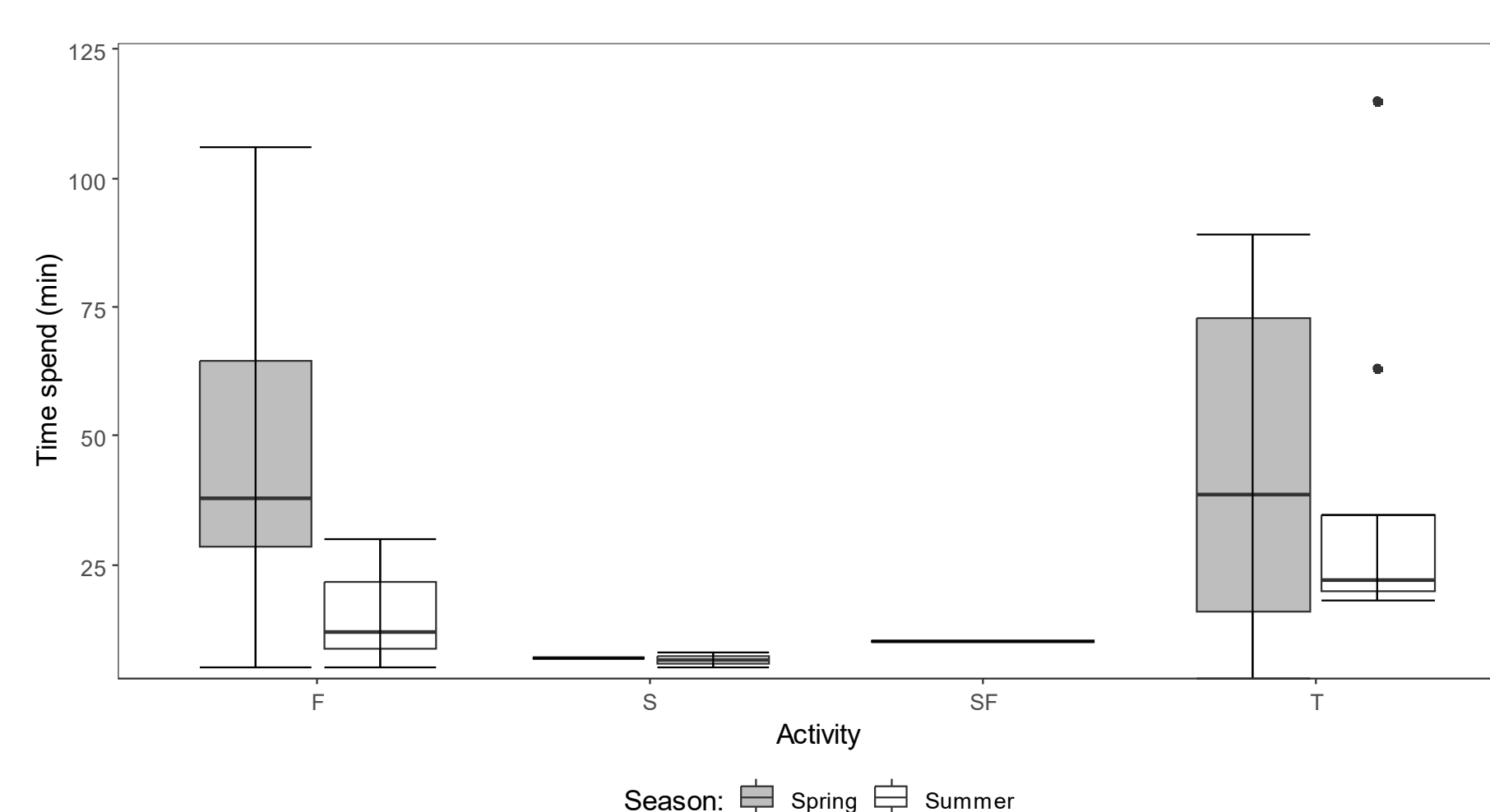


Fig. 3- Boxplot of time spent in spring (grey) and summer (black) on the different activities (surface feeding (SF), foraging (F), socializing (S) and travelling (T)).

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