

FINAL REPORT

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City, Country: Caracas, Venezuela.

Amount Requested: 1,980 (USD).

Period: 2019-2020.

Title

Intra- and interspecific social structures, social networks and vocal repertoires between bottlenose dolphins and Atlantic spotted dolphins of the central coast of Venezuela, South Caribbean Sea.

Results of the project:

- 1) Ten sessions, of five field surveys each, were conducted from June 2019 to March 2020 (sessions from June to September were made by the support of PADIF). Therefore, 50 field surveys were conducted. The last two sessions have not been done yet due to the activation of the quarantine since March 2020, once it is suspended we will do the two remaining sessions to definitively end the sessions and the final calculations.
- 2) 47 cetacean sightings were recorded. Of these sightings, 38 belonged to the bottlenose dolphin species and 9 to the Atlantic spotted dolphin.
- 3) 5,804 photographs were taken. 4,824 photographs were taken of bottlenose dolphins and 980 of Atlantic spotted dolphins.
- 4) 98 individuals of bottlenose dolphin and 45 of Atlantic spotted dolphins were photo-identified.
- 5) 66 bioacoustic records were made. 60 of bottlenose dolphins and 6 of Atlantic spotted dolphins.

Additional results

- 1) In contrast to our past studies, we saw a reduced presence of Atlantic spotted dolphins which does not allow us to determine its social structures and social networks.
- 2) In spite of the few sightings of Atlantic spotted dolphins, none of these were next to bottlenose dolphins as we were formerly accustomed to witnessing. We argue that these spotted dolphins came from the ocean, they were not residents like the ones we used to sight in past studies. We confirmed an annual residence of several groups of spotted dolphins that shared with bottlenose dolphins (Cobarrubia-Russo et al., 2018; Cobarrubia-Russo et al., 2020). We suggest that these groups moved to another area, so the few sightings belonged to oceanic individuals that approach the coast.
- 3) In parallel, we saw an increase in the volume of sardine and herring fishing, which leads us to suggest that the significant reduction in the presence of Atlantic spotted dolphins.
- 4) The field surveys allowed us to collect information

Pending activities:

1. Finish the two missing field survey sessions, once the quarantine is over.
2. The definitive social structures by species will be determined.

3. The definitive social networks by species will be determined.
4. The definitive vocal repertoires will be determined by group and by species.
5. The results will be published in a workshop to the fishing communities in order to raise awareness about "the families". This workshop will be held with funding from IVIC, where the institution and PADIF will be recognized for having financed the field work.
6. Four scientific talks will be published in 3 national congresses, 1 international congress. In these events The Society for Marine Mammalogy (SMM) will be acknowledged.
7. Three manuscripts will be made for publication in indexed scientific journals. The SMM will be acknowledged in these manuscripts.

Extra activities: With the data collected:

1. A publication will be made on daily encounter ratios and residential patterns of bottlenose dolphins. Contrasting current results with 2010 results. With the due acknowledgement of the SMM.

A publication will be made on the report of individuals with deformities. With the due acknowledgement of the SMM.

A publication will be made on behavioral budgeting. With due acknowledgement from SMM.

Expense report

Because PADIF'S co-funding was received before that of the SMM, the field surveys were immediately initiated. Once the SMM funding arrived, that boat expense was reimbursed to PADIF's consignment so that finally SMM funds were fully used for boat expenses. From SMM's budget, 330 dollars remain for the last two field survey sessions.

Literature cited

Cobarrubia-Russo, S., Barreto, G., Molero-Lizarraga, A., Quintero-Tórres, E., y Wang, X. 2018. Occurrence, abundance, range, and residence patterns of *Tursiops truncatus* on the coast of Aragua, Venezuela. Mammal Research. <https://doi.org/10.1007/s13364-018-0401-1>.

Cobarrubia-Russo, S.E., Barreto-Esnal, G.R., Molero-Lizarraga, A.E., Mariani-Di Lena, M.A. 2020. Individual home ranges of *Tursiops truncatus* and their overlap with ranges of *Stenella frontalis* and fishermen in Aragua, Venezuela, South Caribbean. Journal of the Marine Biological Association of the United Kingdom 1–10. <https://doi.org/10.1017/S0025315420000557>