

Using BRUV to assess the elasmobranch community off Pernambuco, Brazil

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Introduction

In the 90's, Recife became well known by the high incidence of shark attacks, which were concentrated along a 20-km stretch of beaches, mainly Piedade and Boa Viagem. Aiming at mitigating that problem, the government of Pernambuco invested in a monitoring program that was, however, discontinued in 2014, due to budgetary issues. For this reason, in this project, the use of Baited Remote Underwater Video Stations (BRUVS) were tested for the first time off Recife, Brazil. We focus our study on the rays and sharks, to assess the diversity, relative abundance, sexual proportion and spatial distribution of elasmobranchs in this area, in collaboration with Global Fin Print Project.

Materials and Methods

Data were assessed using Baited Remote Underwater Video Stations (BRUVS) from 15 to 27 of November 2017 at Recife Metropolitan Region (RMR), onboard of the R/V Sinuelo. A total of 90 sites (Figure 1) were conducted, comprising eleven field trips. Each site comprehended 90 minutes of video, totalising 8100 minutes. Brazilian sardine (around 1 kg) was used as bait. The sites were randomly distributed along the coast of Pernambuco, covering an area of approximately 30 km, including south of Olinda (Milagres beach), Recife (Pina and Boa Viagem beaches) and Jaboatão dos Guararapes (Piedade and Candeias beaches). Depths ranged from 8.0 to 28.6 m and distances from shore ranging from 1.3 to 5.7 nautical miles.

Preliminary Results

Videos showed the presence of stingrays in 18 sites (Figure 2A), with no clear pattern of distribution along the coast. Only one shark, a nurse shark (Figure 2B), was seen in one of the sites. In addition, 7 specimens of stingray were sexed, 5 females and 2 males. The sex of the nurse shark could not be identified.

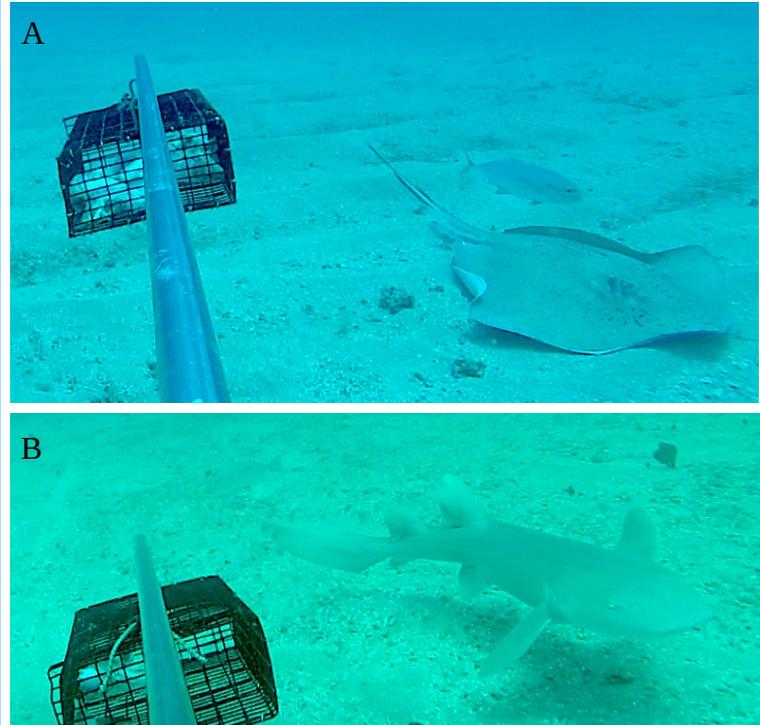


Figure 2: A screen shot of the video from BRUVS deployments. A) Ray; B) Nurse shark.

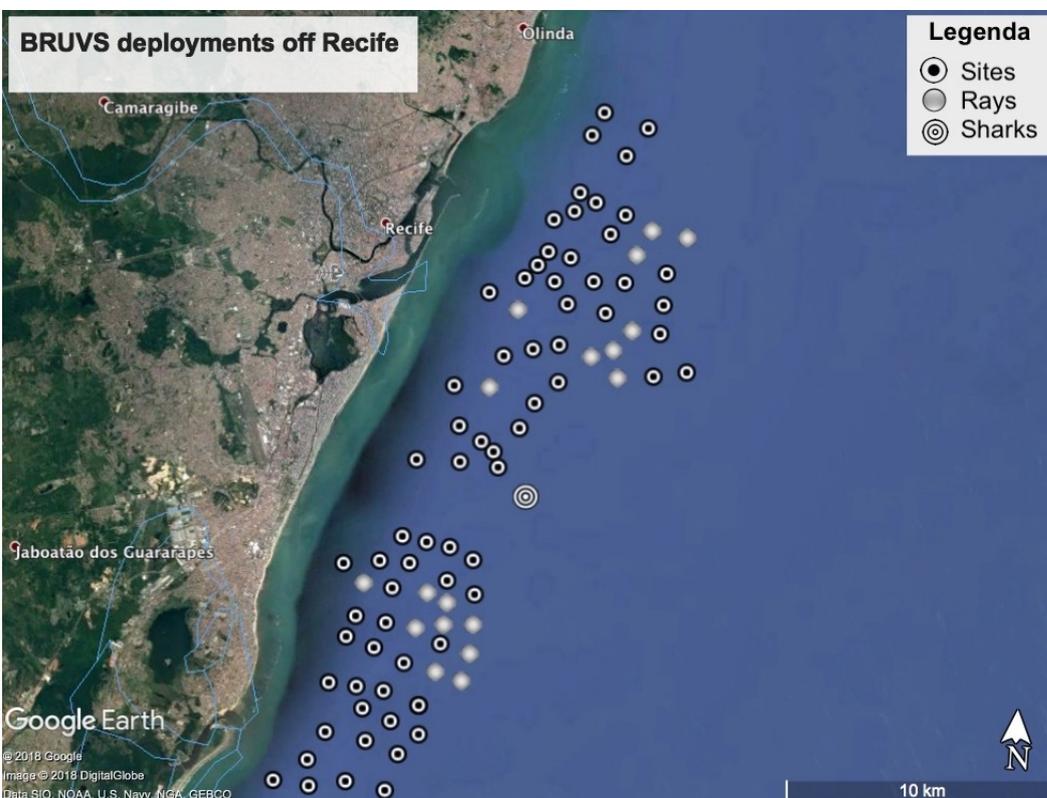


Figure 1: Map of Recife Metropolitan Region including BRUVS deployments (pin points) in 2017. Grey points shows rays and circles shows sharks.

Preliminary Conclusions

These results, although preliminary, do confirm the low abundance of sharks in the proximity of the beaches where most of the attacks have been recorded, previously found by the State-run monitoring program. They also shows that BRUVS can be a useful alternative for monitoring the elasmobranch community off Pernambuco.

Acknowledgements: Global FinPrint Project, University Federal of Pernambuco, Cnpq-Brazil, University Federal Rural of Pernambuco.

