ACUSQUAT II:" ACOUSTIC MONITORING OF ANGELSHARK (Squatina squatina) BEHAVIOUR IN CRITICAL CONSERVATION AREAS".

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Abstract: The Angelshark, *Squatina squatina*, is a benthic shark that can be found throughout the coastal zone of the Canary Islands. The species is classified by the IUCN Red List as critically endangered, mainly due to overfishing. Increasing the existing knowledge about its habits and distribution will help to ensure the correct management and conservation of the species. It is due to this lack of information on the species that the Acusquat-II project has been carried out. This main objective of the project is to study the circadian rhythms of this species during the breeding season and the seasonal movements of this shark within the areas they use for breeding and mating, many of them of high touristic interest and which could endanger the survival of this species. The study also provide information on the sharks' movements to deeper waters after reproduce, thus increasing our knowledge of their movements to deeper waters thanks to acoustic tags, a fixed acoustic received net, and an autonomous surface vehicle integrating a mobile receiver onboard, which will allow us to learn more about their ecology and behaviour.

Key words: Elasmobranch, shark, distribution, management, critically endangered

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References:

Bass, N. C., Day, J., Guttridge, T. L., Mourier, J., Knott, N. A., Vila Pouca, C., & Brown, C. (2021). Residency and movement patterns of adult Port Jackson sharks (Heterodontus portusjacksoni) at a breeding aggregation site. *Journal of Fish Biology*, 99(4), 1455-1466.

Hammerschlag, N., Fallows, C., Meÿer, M., Seakamela, S. M., Orndorff, S., Kirkman, S., Kotze, D., & Creel, S. (2022). Loss of an apex predator in the wild induces physiological and behavioural changes in prey. *Biology Letters*, *18*(1), 20210476.

Pacoureau, N., Rigby, C. L., Kyne, P. M., Sherley, R. B., Winker, H., Carlson, J. K., Fordham, S.V., Barreto, R, Fernando, D., Francis, M.P., Jabado, R.W., Herman, K.B., Liu, K.M., Marshall, A.D., Pollom, R.A., Romanov, E.V., Simpfendorfer, C.A., Yin, J.S., Kindsvater, H.K. & Dulvy, N. K. (2021). Half a century of global decline in oceanic sharks and rays. Nature, 589(7843), 567-571.