REPRODUCTIVE CYCLE CHARACTERIZATION OF *Arbacia lixula, Paracentrotus lividus,* AND *Sphaerechinus granularis* IN GRAN CANARY ISLAND, SPAIN.

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Abstract: Sea urchins are key species in marine ecosystems because play controlling algae covering rocky shores. In addition, for some populations around the world, their gonads have a great value to the gastronomy industry, which plays a great fishery pressure at coastal ecosystems, which in some cases are not regulated. The aim of this research was to describe the reproductive cycle of the most important sea urchins in rocky shore ecosystems on Gran Canaria Island, Spain. This research was made between June 2020 to May 2021, in 5 locations around Gran Canary Island: Bañaderos (North), San Cristóbal (East), Arguineguin (South), and Tasartico and La Aldea (West). In each area sea urchins were collected (*Paracentrotus lividus* N=359, *Arbacia lixula* N=252, and *Sphaerechinus granularis* N=66). The gonadosomatic index reveals that reproduction varies between localities, seasons, and species. *P. lividus* show two reproductive seasons (summer and winter), while *A. lixula* and *S. granularis* just show one reproductive season by the year (in summer). Histological analysis corresponds with the quantitative analysis. We conclude that, even when all the species cohabitate in all the localities, environmental variables affect in different ways the reproductive cycles of each species.

Keywords: rocky shores, sea urchins, Canary Islands, Macaronesia