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Assessment of negative senescence as reproductive strategy in populations of Pacific geoduck clam *Panopea globosa* (Dall, 1898)

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Mexico has two geoduck clam species, *Panopea generosa* on western coast of Baja California Peninsula, and *Panopea globosa*, in which distribution goes from upper Gulf of California to Magdalena bay in the Pacific. *P. globosa* is a dioic organism without sexual dimorphism. Reproductive season of *P. globosa* is different according to its distribution. In the upper Gulf of California begins in December and ends in March, while in central Gulf occurs from January to February, and in Magdalena bay is from March to April. The clams live buried in the sand from juvenile stage, although after sexual maturity is when geoduck live buried deeper to protect themselves from predators. For this reason, long-lived adults mostly compose the populations. Recently, a negative senescence process was reported for these species. This process is characterized by a decline in the mortality rate, a fertility increment and metabolic functionality with the increasing age. Knowledge of the relationship between those processes, as well as the physiological and transcriptomic analysis of the mechanisms that regulate the negative senescence of this species could allow better strategies for its fishery management. Therefore, the objective of the present study was to evaluate the negative senescence as a reproductive strategy of *P. globosa* by morphometrical, histological–histochemical, biochemical and transcriptomic approaches.

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