

COMPARISON OF THE EFFECTIVENESS OF DIFFERENT TAGS IN THE SEA URCHIN *PARACENTROTUS LIVIDUS* (LAMARCK, 1816)

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Abstract

The marking of sea urchins was implemented with the main objective of being able to individually identify the urchins in the natural environment once released; In addition, it's very useful to monitoring individuals in studies of growth, movements, development, population dynamics, etc., that develop in the natural environment.

Numerous different marking methodologies have been tested for sea urchins, either by physical marking (external and internal labels) or by using chemical marking methods consisting of the use of fluorochromes, which adhere to the calcified structures of the urchin. Staining with these substances is performed using mainly two methodologies: immersion (fluorochrome baths) or fluorochrome injection (tetracycline, calcein). Recently, polyfluorochromes (combinations of different fluorochromes) are also being used in order to achieve more visible marks. In this work, 5 different physical marks were used to mark 400 urchins of the *Paracentrotus lividus* species, which were kept for a month at the ECIMAT facilities in Toralla island. The efficacy of the methods used in each case was analysed, comparing the survival rate and the tag retention rate of the tagged urchins obtained with each tagging methodology.

Key words: Sea urchin, marking, tag, retention rate, survival.

1. Introduction

The impoverishment of the health of coastal ecosystems in general increases due to overfishing, which has generated a rapid decrease in resources with repercussions on the economic sustainability of the global fishing sector, also leading to a decrease in biodiversity and a reduction in the food security [17].