

DNA barcoding of larvae of commercially important fish species in the Galapagos Islands

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The lack of available information on fish species surrounding the Galapagos Islands poses a problem in assessing their status and the resilience of their populations. For some of the main targeted species by the artisanal fishery, there is little more knowledge than a description of adult individuals. Data about the larval stages of fish provide efficient means of understanding their distribution, growth and early life history. The aim of this study is to identify fish species through the establishment of a link between larval morphotypes and their corresponding cytochrome oxidase I sequences by DNA barcoding. Subsequent to this, the occurrence, abundance and temporal distribution of the determined species throughout the sampling stations will be investigated. To our knowledge, this will be the first study to date identifying fish larvae in the Galapagos Islands through DNA barcoding. Therefore, the results will provide the groundwork for the design of an identification guide of the documented larvae, an important tool for further scientific research. Concurrently, the results of the occurrence, abundance and temporal distribution of fish larvae will be relevant information for sustainable management of the artisanal fisheries and the coastal waters of the Galapagos Islands.

Keywords: Sustainable management; Artisanal fishery; Mitochondrial DNA; DNA barcoding; COI; Galapagos Island