

DIGITAL MUSEUM OF AQUATIC ORGANISMS OF ECUADOR

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ABSTRACT: The main objective is to preserve and disseminate, for present and future generations the rich aquatic bio-diversity of the Ecuadorian Sea, using image and information storage technology. The methodology consists in the identification, classification and labeling of biological organisms of the Ecuadorian coast and Galapagos Islands, in addition to ecological information. Organisms preserved at INOCAR and/or contributions from other research centers and independent contributors will be used. These labeled images will be stored in a database whose structure will be developed based on the biological classification of the organisms; the database will be continuously updated according to new contributions to the museum. The images bank will be published in a web page, where the user may consult the database in function of different criteria. As result, the digital museum will provide a reference guide to the scientific community and other specialists, as well as contributing to preserving a rich aquatic heritage.

KEYWORDS: Digital Museum, Organisms, Species, Bio-diversity, Database, Web Site, Ecological Information.

INTRODUCTION

Contribution of biological and ecological knowledge is important to preserve what we have. The aquatic biological diversity of the Ecuadorian coast and specially in the Galapagos Islands, has caused some institutions to carry out research to discover, identify and analyze the organisms that inhabit these areas. As results, INOCAR and other institutions have a large list of identified and preserved aquatic species. This project intends to create a digital museum using all this information to create a media where researchers will find information about the Ecuadorian marine bio-diversity.

The final objective is to publish on a web site information on species, including: scientific name, description of the species and its environment, pictures, videos (if available), contributor, collected date, and location.

METHODOLOGY

Methodology is focused on two aspects:

1. Identification, classification and digitalization of species.
2. A brief description of the ecological environment of the species.

Institutions involved will be contacted to participate as contributors to the species digital collection. As reference, on the web page the institution or person that contributed to the species will be mentioned.

Collection of species and ecological information

In this stage, two steps will be taken:

1. To make an inventory of preserved species available at Ecuadorian institutions.
2. To research ecological information related to environment of species.

Classification

Once the collection of species have been identified, they will be assigned to the corresponding biological classification to label them using fields such as: location, collected date, collector's name, identifier's name, scientific name, contributor (name or institution).

Digitization

The objectives of this stage are:

- To create a bank of digital pictures of microscopic and macroscopic organisms, in necessary cases, a digital camera coupled with microscopes will be used.
- To take pictures in different angles for each species to show important details.
- To film videos about natural life of species as possible.

Creation of database

All collected information, including pictures and sounds, will be organized in a database, which will be accessed through the web page, using criteria such as families, location, institution, collected dates.

Publication

A structured web site will be designed to show organized biological information and let users:

- Select information by different criteria from the biological database.
- Listen to a brief description of a selected species.
- Read description of a selected species.
- View the species in different angles.
- Download images, text and sounds.

CONCLUSIONS

A web-based digital biological museum with characteristics mentioned above, will contribute to the present and future knowledge of past and present marine life.

Ecological information will help to understand what people should do to care environment to preserve the species.