## Box 18

## 70 years of georeferenced marine biodiversity data

Sylvie Fiat and Claude E. Payri

The 1970s saw the start of hyperbaric diving at the ORSTOM research center in Nouméa (now IRD). The biologist divers of ORSTOM were about to introduce scientists to the astonishing marine biodiversity of the reefs and lagoons of New Caledonia. This journey truly started with the pharmaco-chemical program "SNOM" (Natural Substances of Marine Origin) in 1977 followed by "SMIB" (Natural Substances of Biological Interest) in 1982, and the growing oceanographic vessel fleet: Le Vauban and La Santa Maria in 1976 and Le Dawa in 1977.

With the arrival of the research vessel Alis in 1987, surveys intensified and provided many specimens which then became reference collections. These collections are still studied today by an international network of taxonomists and are partly housed at the Muséum National d'Histoire Naturelle (MNHN) in Paris and at the IRD research center in Nouméa. From the beginning, the very passionate and involved divers recorded all their observations in logbooks and created an extremely rich bank of images, first on films and later digital. Very early on, they also created a database called "LAGPLON".

60 years later, knowledge has evolved and accumulated. Most species have been identified by taxonomists and published in various volumes of the Fauna and Flora collection of the IRD (formerly ORSTOM) and numerous scientific journals. After the remarkable work of updating all the data, including the digitization of thousands of photographs and the development of a website, the 20,000 specimens in the collection and the 25,000 georeferenced underwater observations are now accessible in a few clicks through interactive maps and modern search engines.







The first biological surveys using scuba began aboard La Santa Maria, commissioned in 1975. They continued with Le Vauban (A), a 24.5 m long trawler equipped for fisheries and hydrology programs, which arrived in Nouméa in 1976. The new vessel Dawa (B), an 11 m long trawler acquired in 1977, marked a particular turning point for diving exploration in the lagoon and reef environments of Grande Terre. Alis (C), a 28.40 m long vessel, took over in 1987 and still navigates beyond the New Caledonian EEZ. A: © B. Delacroix/IRD; B: © M. Monzier/IRD; C: © S. Andréfouët/IRD



The data compiled in LAGPLON provide information on species and their distribution. Here, an example of a hard coral species. © LAGPLON

## New Caledonia World of corals

Scientific direction: Claude E. Payri

Translation: Lydiane Mattio

Editorial coordination: Claude E. Payri

Page and cover layout: Pierre-Alain Pantz - Editions Solaris

Printing: Winson Press, Singapour

## Cover illustrations

Cover page 1 (from top to bottom): Bay of Upi, Isle of Pines. © P.-A. Pantz Coral biodiversity of Larégnère reef. © IRD/S. Andréfouët

Cover page 4 (from left to right): Loading of a mikwaa net on a decked pirogue at Pwadèwia, St. Joseph Bay, Isle of Pines, 2017. © M. Juncker Clown fish eggs. © G. Boussarie Incubation of coral colonies in benthic chambers. © CNRS/E. Amice Flying Red-footed booby (*Sula sula*). © M. Juncker

The law of 1st July 1992 (intellectual property code, first part), under paragraphs 2 and 3 of article L122-5, only authorizes, on the one hand, "copies and reproductions strictly reserved for the private use of the copyist and not destined for collective use," and, on the other hand, analyses and short quotations for the purpose of example and illustration, therefore "any representation or complete or partial reproduction, made without the approval of the author or the entitled parties or the legal claimant, is prohibited (paragraph 1 of article L. 122-4). Such representation or reproduction, by any means whatsoever, would therefore constitute an infringement punishable by the penalties provided for in Title III of the aforementioned law.

© IRD/SOLARIS 2018 ISBN: 978-2-7099-2677-5

Recommended citation:

Payri, C.E. (dir.), 2018 – New Caledonia: world of corals. IRD Editions/Solaris, Marseilles/Nouméa, 288 pp.