

Biodiversity Knowledge & Collections in French Polynesia

Plant survey on Mt Orohena (Tahiti) at 2,241 m



(2002-)

Dr. Jean-Yves Hiro MEYER
Délégation à la Recherche de la Polynésie française
& UMR SECOPOL

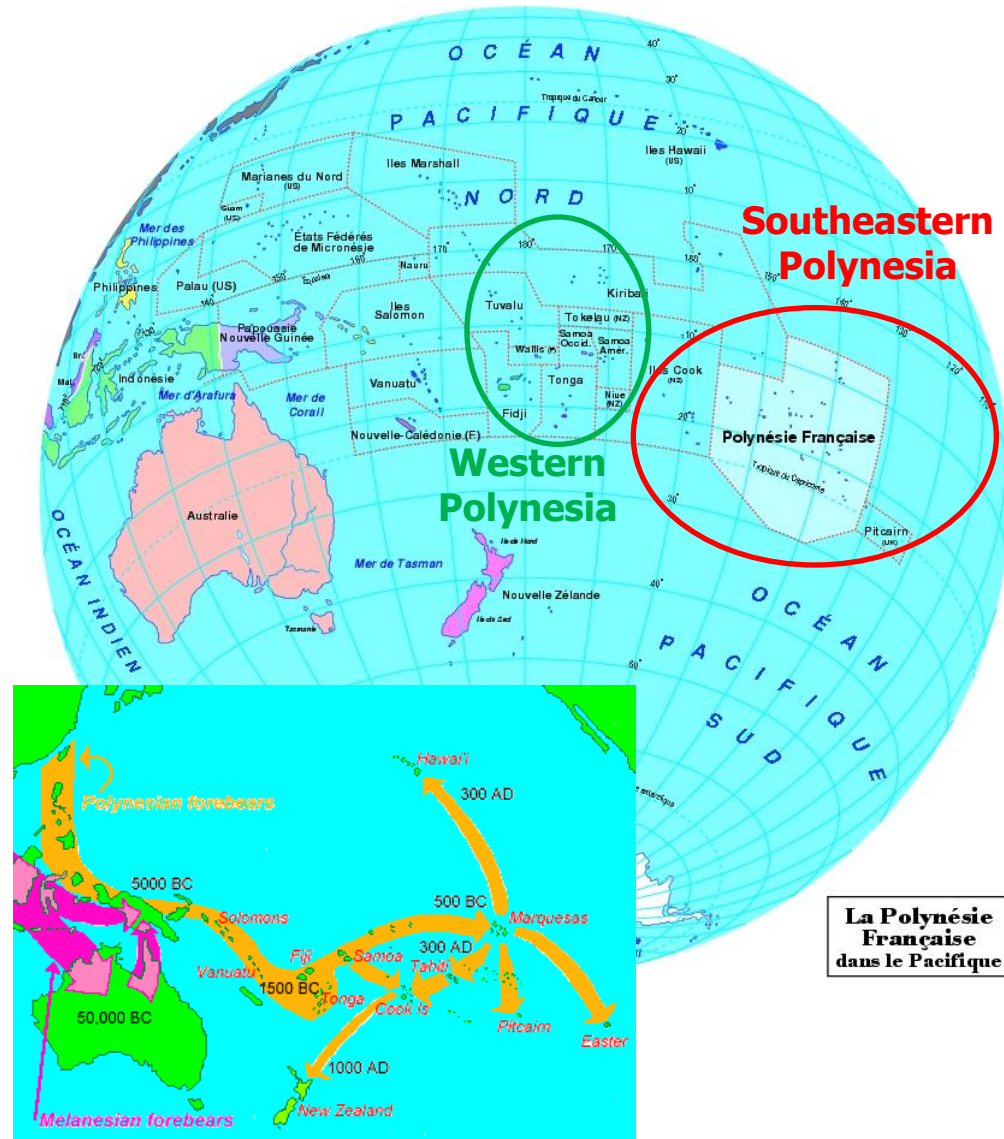
Email : jean-yves.meyer@administration.gov.pf



(2024-)

French Polynesia

- Among the most isolated islands (5,000-6,000 km from the nearest continents)
- EEZ = 4.5 million sq.km
- 124 islands divided in 5 archipelagoes (Society, Marquesas, Tuamotu, Austral, Gambier)
- Land area = 3,470 sq.km
- First Polynesian occupation ca. 1,000 years ago
- European colonization since the 18th century
- 280,000 inhabitants (in 2020)
- A French Overseas Territory with political autonomy



Biodiversity research

2024

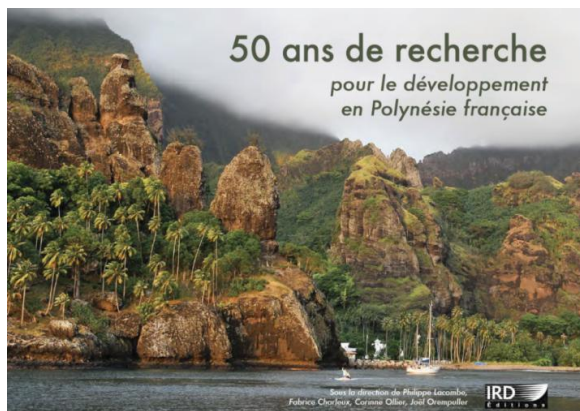
Malardé célèbre son 75e anniversaire



(1949-)



(1971-)

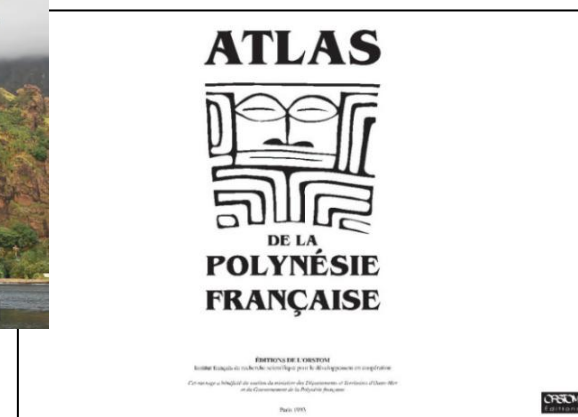


(1963-)

2013



1993



(1985-)



(1972-)

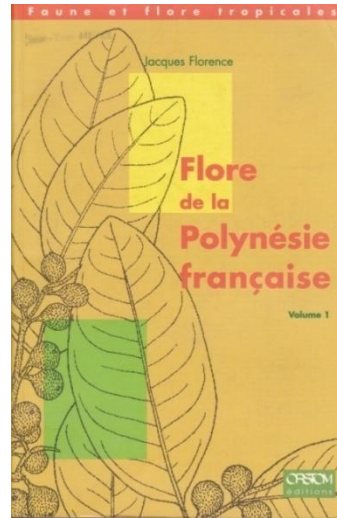


(1987-)

Biodiversity inventories



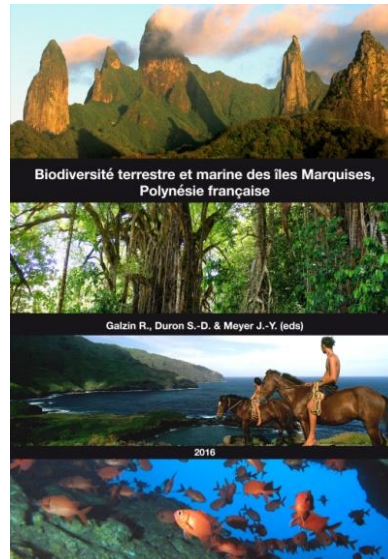
Tahiti (Society) 1999



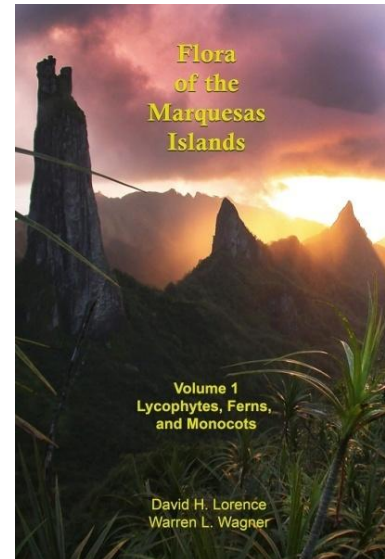
Rapa (Austral) 2002



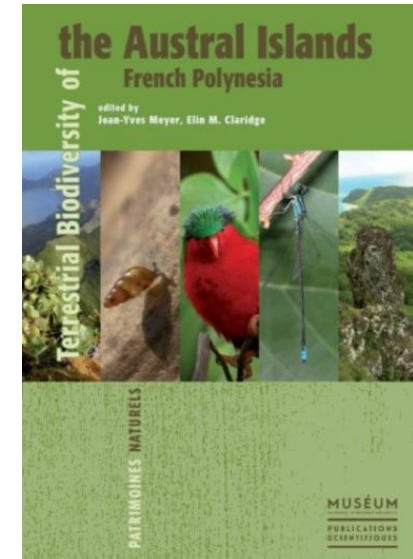
Hiva Oa (Marquesas) 1995



2016



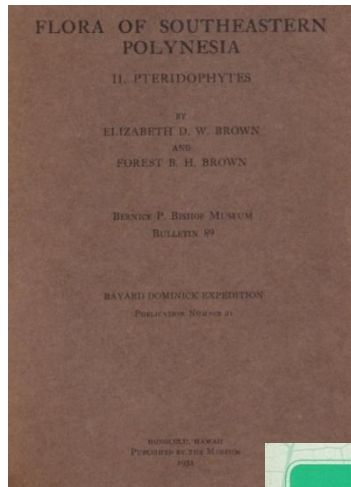
2019



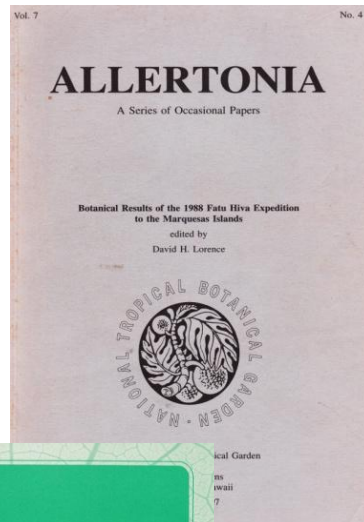
2014

Vascular flora

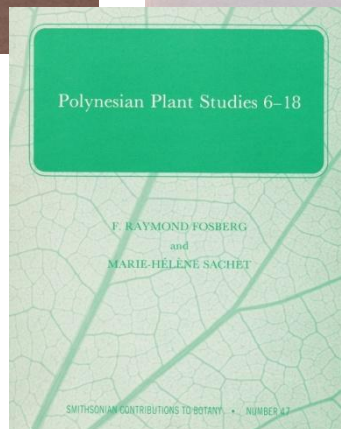
- Flore de la Polynésie française (1981-...)
- Vascular Flora of the Marquesas (1988-...)



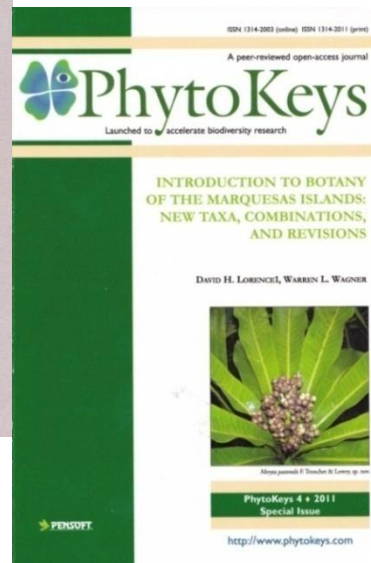
**3 volumes
1931-1935**



1997



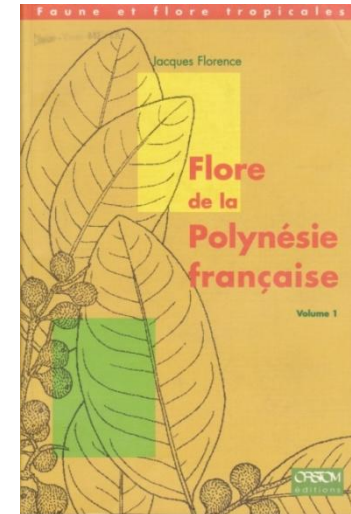
1981



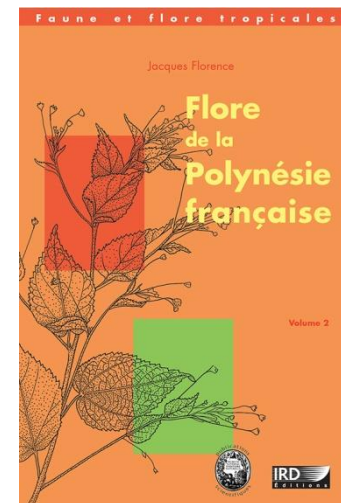
2011



2 volumes 2019 & 2020



1997



2004

+ Ferns 202?

➤ Base de données botaniques Nadeaud de l'Herbier de la Polynésie française (2019) : <https://nadeaud.ilm.pf/>



Dr. Jacques FLORENCE
(Moorea, 2006)



Hervé CHEVILLOTTE
(Tahiti, 2019)



Base de données Nadeaud de l'Herbier de la Polynésie française



Accueil

La base de données Nadeaud rassemble les spécimens botaniques collectés en Polynésie française, et déposés principalement dans l'Herbier de la Polynésie française (PAP) du Musée de Tahiti et des Îles et dans certains grands herbiers mondiaux (Muséum national d'Histoire naturelle de Paris, Bishop Museum de Honolulu, Smithsonian Institution de Washington, Royal Botanic Gardens de Kew).

Elle a pour but de contribuer à la gestion de l'Herbier de la Polynésie française, de fournir des informations sur la taxonomie des plantes vasculaires, de produire des listes de plantes sur des critères de distribution ou de conservation associées (espèces légalement protégées, plantes envahissantes menaçant la biodiversité) à des photographies, des informations sur les usages et les noms vernaculaires et d'aider la prise de décision, principalement en matière de conservation.

Vous pouvez vous adresser à la directrice ou la conservatrice des collections au Musée pour obtenir des informations plus complète sur l'Herbier de la Polynésie française (voir Contacts).

L'utilisation de la base de données botaniques Nadeaud est libre et gratuite. La base de données Nadeaud est actuellement hébergée et maintenue par l'Institut Louis Malarde (ILM) en collaboration avec la Délégation à la Recherche de la Polynésie française (voir Contacts). Elle est le résultat de plus de 30 années de travail et toujours actualisée. Elle doit être obligatoirement citée pour toute utilisation, même partielle, notamment lorsqu'elle est utilisée pour des travaux de recherches, expertises, études d'impact et tout autre publication scientifique, technique ou de vulgarisation.

La citation proposée est la suivante :

"Chevillotte H., Ollier C. & Meyer J.-Y. 2019. Base de données botaniques Nadeaud de l'Herbier de la Polynésie française (PAP). Institut Louis Malarde, Délégation à la Recherche, Papeete, Tahiti. <http://nadeaud.ilm.pf>"

Taxonomic and Geographic Distributions of Native Angiosperms in the Islands of French Polynesia (South Pacific): An Analysis Based on the Nadeaud Botanical Database¹

Léa Gros,² Jean-Yves Meyer,^{3,4} Robin Pouteau,^{5,6} and Philippe Marmey^{2,7}

Abstract: Herbarium databases can play a crucial role in the study of botany, ecology, and biogeography. With 22,717 specimens, the Nadeaud botanical database of the herbarium of French Polynesia represents a significant resource for the study and preservation of the unique and diverse flora of French Polynesia. This study aims to describe the taxonomic and geographic distributions as well as the ecology of native and endemic vascular plants included in the database. We focused our analysis on native angiosperms representing more than 14,000 specimens, 416 endemic taxa, and 190 non-endemic native taxa. First, the distribution

Actualités !



Notre collègue et ami Wayne Arthur Whistler, botaniste...

obligatoirement inclure un lien à

2025

Pacific Science (2025), vol. 79, no. 2:267–283
doi:10.2984/79.2.3
ISSN: 0030-8870; E-ISSN: 1534-6188
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➤ Flora of the Marquesas Islands (2002-):

<https://naturalhistory2.si.edu/botany/marquesasflora/>



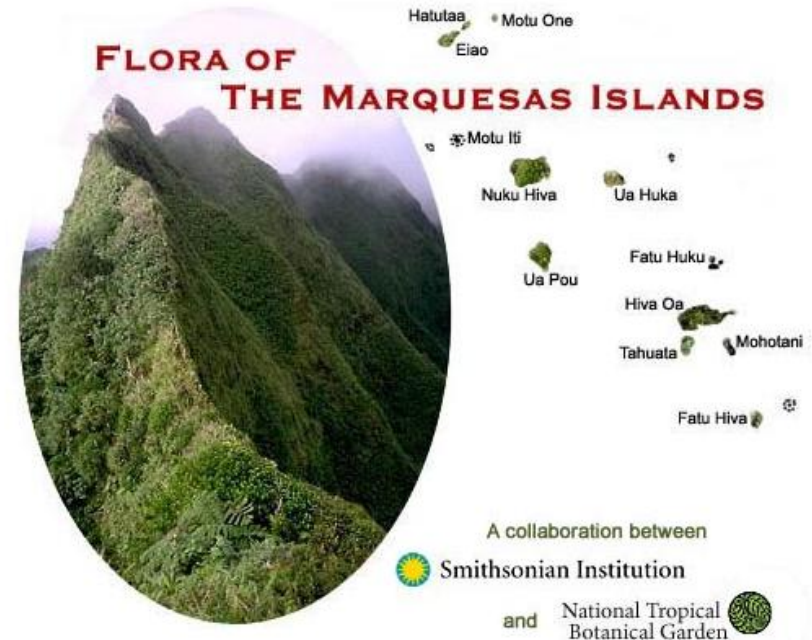
Warren WAGNER, Steve PERLMAN & Jacques FLORENCE (1988)



Jean-Yves MEYER, Dave LORENCE & Ken WOOD, with the mayor of Ua Pou (2003)



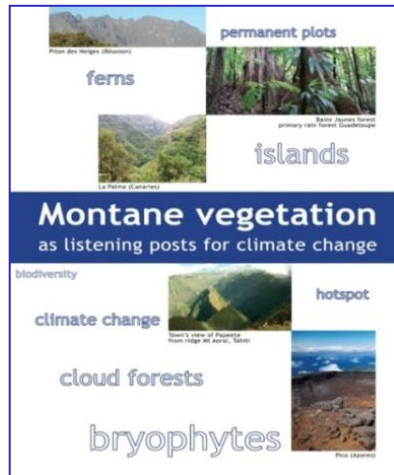
NMNH Home > Research & Collections > Botany >



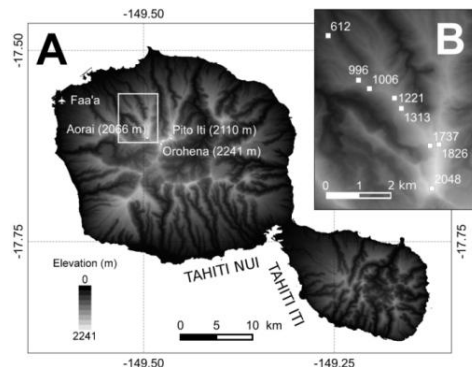
With the mayor of Ua Pou (July, 2026)

Bryophytes

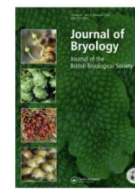
- MOVECLIM project (« Montane Vegetation as Listening Posts for Climate Change » (2012-2015): <https://moveclim.blogspot.com/>
- https://collections-umr-pvbmt.cirad.fr/page/Herbier_Reunion



Saioa RICOU-DRENEUC, PhD student
(Mt Aorai, Tahiti, 2025)



Dr. Claudine AH-PENG
(Tahiti, 2013)



Journal of Bryology

ISSN: 0373-6687 (Print) 1743-2820 (Online) Journal homepage: www.tandfonline.com/journals/yjbr20

Atractylolcarpus meyeri Hedd., Ah-Peng & N.Wilding, a new moss species from Tahiti

Terry A. Hedderson, Claudine Ah-Peng & Nicholas Wilding

Macro-algae

➤ Herbarium at the Université de la Polynésie française: > 6,000 specimens of ca. 530 species



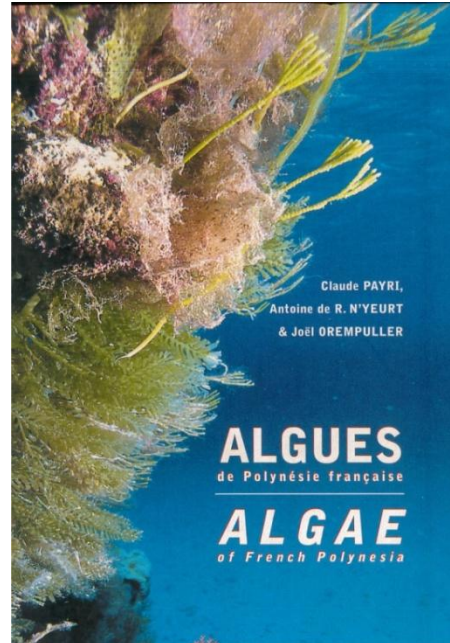
PORTRAIT CULTURE SOCIÉTÉ CARRIÈRE ÉVASION MAISON & FAMILLE MC
MAYALEN ZUBIA, PRÉSERVER LA DIVERSITÉ À TRAVERS LES ALGUES TROPICALES

Publié le 4 novembre 2024

Femmes de Polynésie vous invite à nouveau à l'université pour découvrir les laboratoires de recherche et l'étude des algues avec Mayalen Zubia. Enseignante-chercheuse, cette scientifique s'intéresse à la diversité des algues tropicales en Polynésie et s'engage activement pour leur préservation.



Dr. Mayalen ZUBIA (Tahiti, 2024)



2000



Article

Marine Flora of French Polynesia: An Updated List Using DNA Barcoding and Traditional Approaches

Christophe Vieira ^{1,2,*} , Myung Sook Kim ¹ , Antoine De Ramon N'Yeurt ³ , Claude Payri ⁴ , Sofie D'Hondt ² , Olivier De Clerck ²  and Mayalen Zubia ^{5,*} 

2006

Cryptogamie, Algol., 2006, 27 (2): 111-152
© 2006 Adac. Tous droits réservés

Marine Algal Flora of French Polynesia I. Phaeophyceae (Ochrophyta, brown algae)

Antoine D. R. N'YEURT^{a,*} & Claude E. PAYRI^{a, b}

^a Université de la Polynésie française, B.P. 6570 Faa'a 98702,
Tahiti, French Polynesia.

^b UMR 7138, Systématique, Adaptation, Evolution,
IRD-Nouméa – BPA5, 98848 Nouméa cedex, New Caledonia

2024

Received: 24 July 2023 | Accepted: 15 November 2023
DOI: 10.1111/jpy.13432

RESEARCH ARTICLE



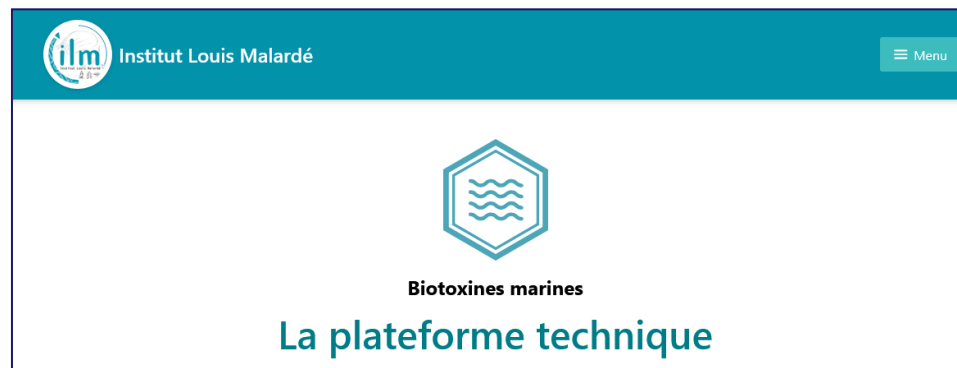
French Polynesian Scytosiphonaceae (Ectocarpales, Phaeophyceae): A combined molecular and morphological approach to their diversity and systematics

Christophe Vieira ¹ , Myung Sook Kim ¹ , Mayalen Zubia ² 

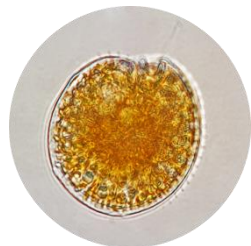


2023

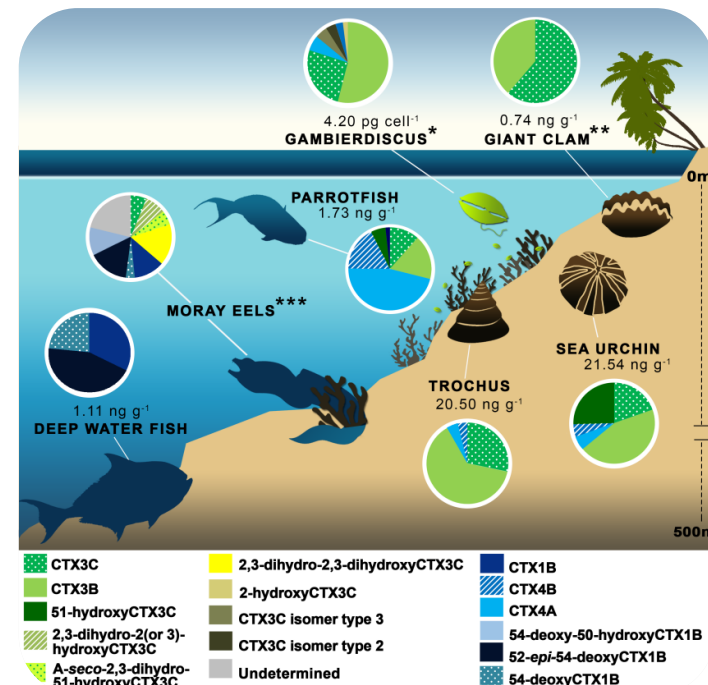
Micro-algae



Micro-algae & Cyanobacteria Collection



Bank of > 3,000 biological material



Large-scale production of ciguatera toxins using *in vitro* culture of *Gambierdiscus*

➤ <https://phyconesia.ilm.pf>



The PHYCONESIA website (since 2023)



PHYCONESIA
Pacific Natural Active Compounds

Home

Toxins & Biological reference materials

Contact

Services

About us

Customer area



WELCOME TO PHYCONESIA

The first website selling ciguatoxins of natural origin

The Laboratory of Marine Biotoxins of the Louis Malaré Institute based in French Polynesia has developed a unique algal collection and bank of ciguatoxin standards of natural origine worldwide

[Browse Catalog](#)

Ciguatoxins

Gambierdiscus polynesiensis
crude extracts

Fish and marine invertebrates
tissues samples (flesh or liver)



TOXINESIA
Pacific Natural Active Compounds

| Ciguatoxins



Marine sponges

➤ Sponges of Polynesia : <https://sponges-tahiti.ird.fr>



Alis, 2013

Levispongia meyeri sp. nov.
(Figures 2-4)

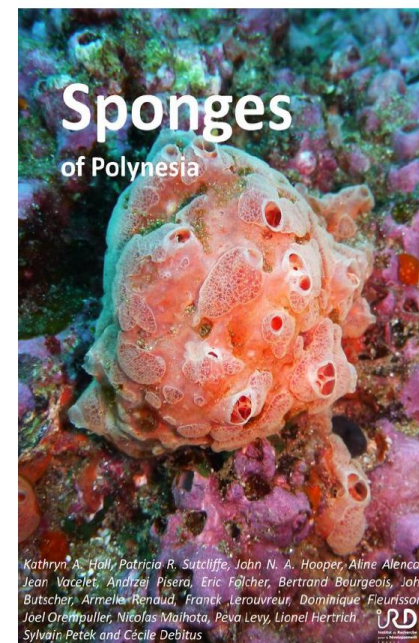


The European Zoological Journal, 2021, 749–770
Vol. 88, No. 1, <https://doi.org/10.1080/24750263.2021.1939450>

New genus and species of lithistid demosponges from submarine caves in Nuku Hiva (Marquesas Islands) and Tahiti Iti (Society Islands), French Polynesia

A. SCHUSTER ¹✉, A. PISERA ², M. EKINS ^{3,4,5}, & C. DEBITUS ^{6,7}

¹Department of Biology, NordCEE, Southern University of Denmark, Odense M, Denmark, ²Institute of Paleobiology, Polish Academy of Sciences, Warszawa, Poland, ³Biodiversity and Geosciences, Queensland Museum, South Brisbane, Australia, ⁴Griffith Institute for Drug Discovery, Griffith University, Brisbane, Australia, ⁵School of Biological Sciences, University of Queensland, St Lucia, Australia, ⁶IRD, EIO, Université de la Polynésie française, Faaa, and ⁷IRD, CNRS, Ifremer, LEMAR, Université de Bretagne Occidentale, Plouzané, France

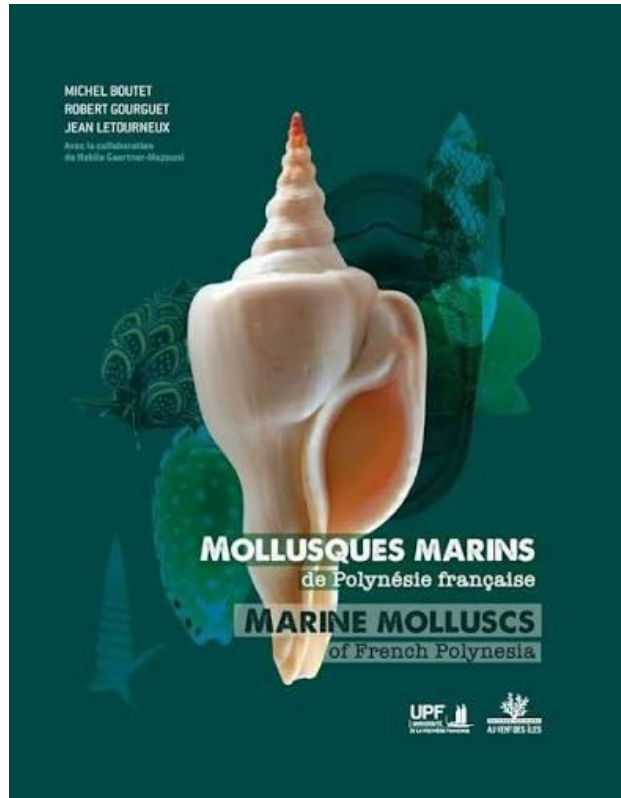


2024

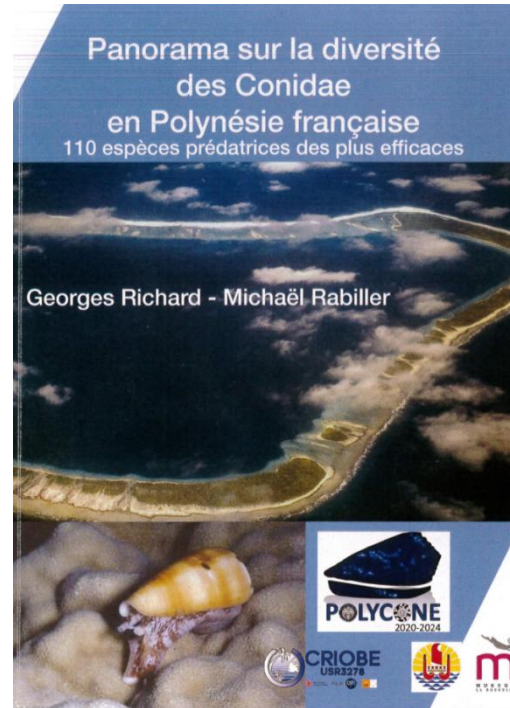


2021

Marine molluscs



2020

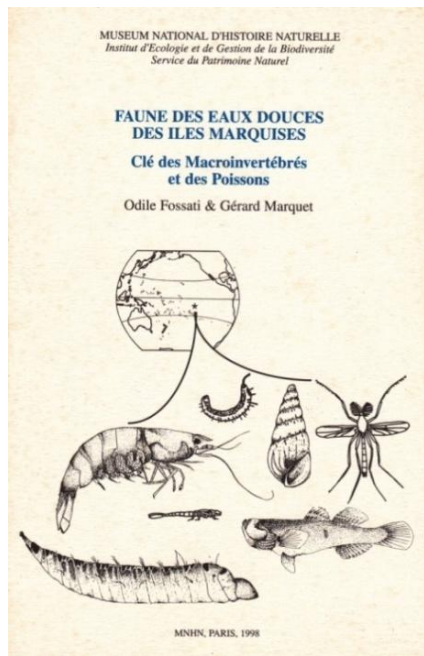


2021

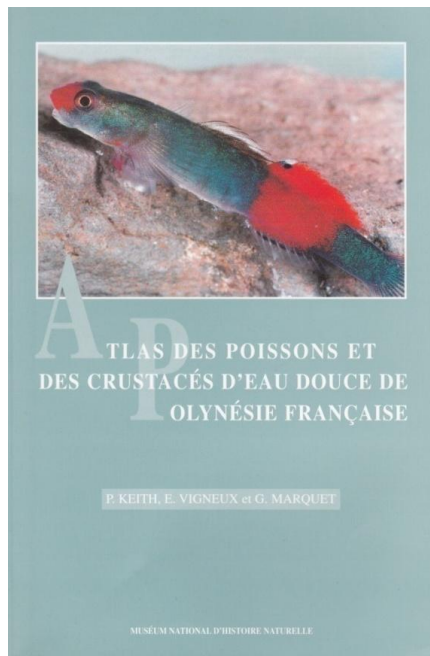
➤ « Polycone » project (2020-2014):
<https://https://www.criobe.pf/polycone/>



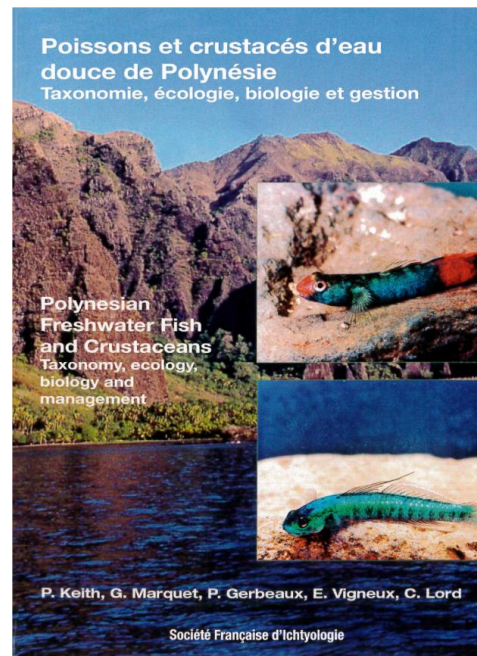
Freshwater fishes & crustaceans



1998



2002



2013

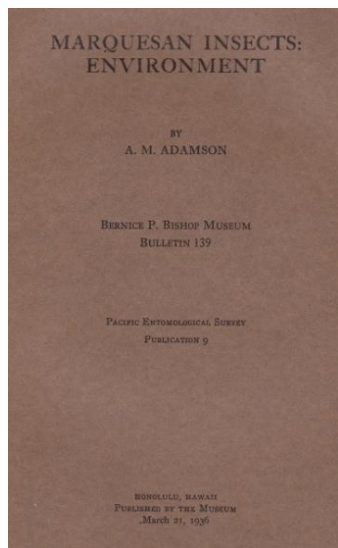


Dr. Philippe KEITH (MNHN, Paris) 2010

Philippe with Prof. Eric FEUNTEUN
& Dr. Gérard MARQUET (Papenoo
river, Tahiti, 2017)



Terrestrial and freshwater Insects



1936



Dr. Ron ENGLUND (Mt Hiro, Raivavae, 2002)

Prof. George RODERICK (Mt Mouaputa, Moorea, 2021)



Dr. Elin CLARIDGE (Mt Pito Hiti, Tahiti, 2006)



Berkeley
UNIVERSITY OF CALIFORNIA



Essig Museum of Entomology
University of California, Berkeley

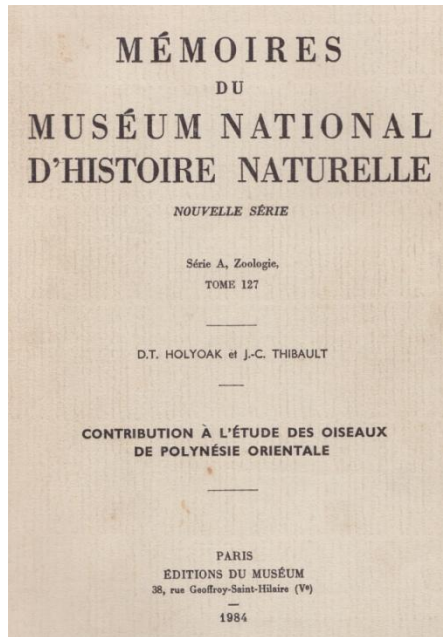


BISHOP MUSEUM

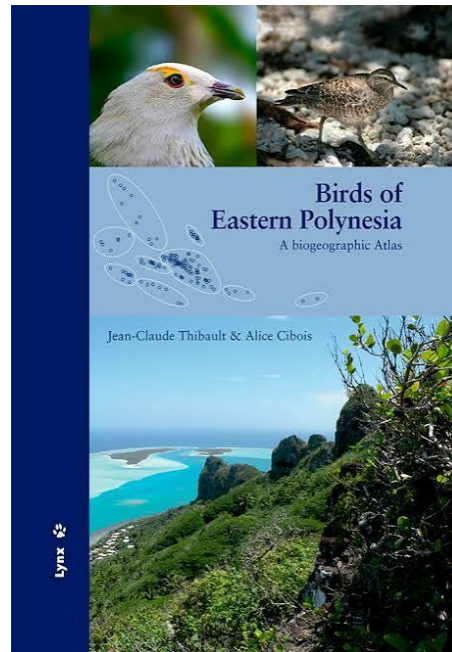


Dr. Peter OBOYSKI (Mt Orohena, Tahiti ,2015)

Birds



1984



2017



Dr. Jean-Claude THIBAUT (MNHN, Paris) & Alice CIBOIS (Muséum d'Histoire naturelle de Genève) in Eiao, Marquesas (2010)

(Orofero valley, Tahiti, 1998)

➤ « Moorea Biocode Project » (2007-2011):

<https://www.moorea.berkeley.edu/programs/research/moorea-biocode>

➤ « Moorea Biocode Database » > 5,000 identified species and > 30,000 specimens: <https://geome-db.org/workbench/project-overview?projectId=75>



**With botanist Ravahere
TAPUTUARAI in
Moorea, 2008**



- View Projects
- View Teams
- Generate Template
- Validate Data
- Plate Viewer
- Team Overview
- Project Overview



DOCUMENTATION QUERY WORKBENCH

Moorea Biocode Overview

The Moorea Biocode project has the ambitious goal of DNA barcoding an entire ecosystem: the island of Moorea, located in French Polynesia. This ecosystem has over 5,000 identified species and the project itself has collected and sequenced over 30,000 specimens. As part of the collecting effort in the Moorea Biocode project, we have developed informatics tools to track data from the collecting event, specimen identification, photograph, laboratory, and ultimately to host institution and sequence repositories.

Project owner	Chris Meyer [meyer]
Shareable URLs	Project URL: https://n2t.net/ark:/21547/R275 Template Generator Direct Link: https://geome-db.org/workbench/template?projectId=75 Team Direct Link: https://geome-db.org/workbench/team-overview?projectId=75
Visibility	This is a public project
Contact	Christopher Meyer, Smithsonian National Museum of Natural History meyer@si.edu
Publication DOI	https://doi.org/10.48321/D1F88S
Permit GUID	https://doi.org/10.5281/zenodo.7150710
Local Contexts Page	https://localcontextshub.org/projects/71b32571-0176-4627-8e01-4d78818432a7

Conclusions

- Huge biodiversity knowledge!
- Numerous biodiversity collections and databases...
- ...hosted in numerous institutions: CRIOBE, MNHN, CNRS, ILM, UPF, UC Berkeley, Bishop Museum, Musée de Tahiti et des Îles...
- No Natural History Museum in French Polynesia!
- Some local collections are poorly managed (e.g. lack of long-term human resources, funding support, facilities)...

