Université de Lorraine, Faculté des Sciences et Technologies, Vandoeuvre-lès-Nancy, 24 octobre 2025

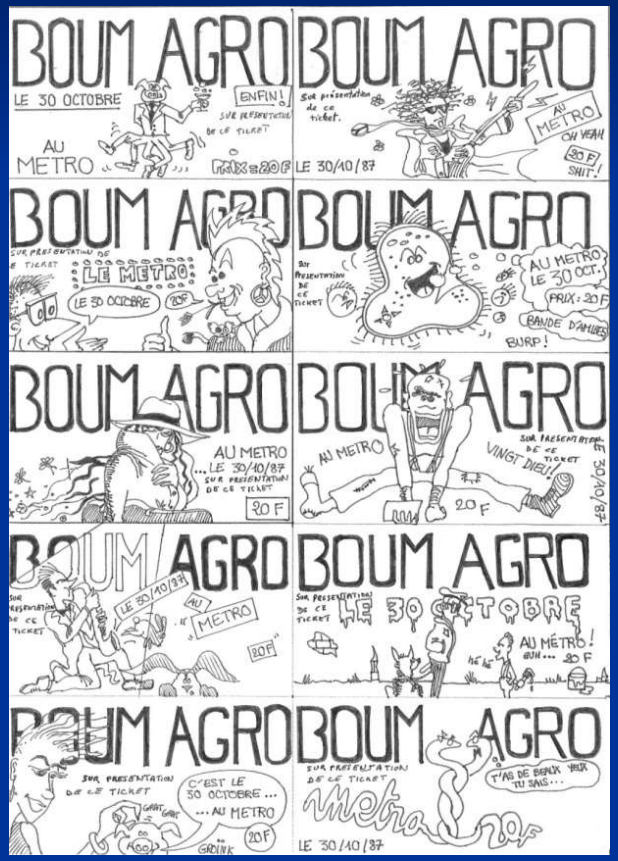
De Nancy à Tahiti : 35 ans d'études sur la flore, les invasions biologiques, la conservation de la biodiversité et la restauration écologique dans les îles du Pacifique



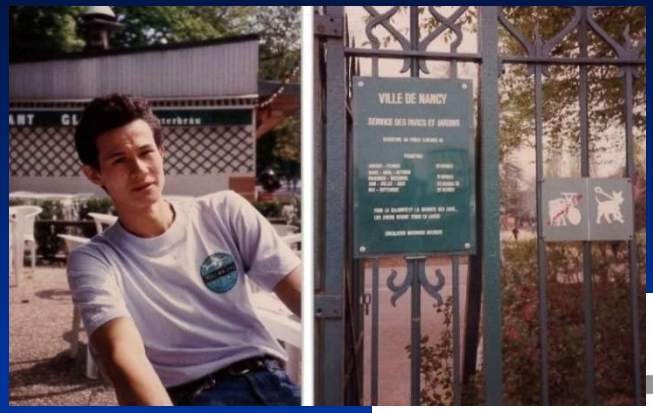
Jean-Yves Hiro MEYER (Dr.)
Délégation à la Recherche de la Polynésie française
Papeete, Tahiti & UMR 241 « Santé et Services des Ecosystèmes Polynésiens »

UMR 241 SECOPOL

Nancy (1986-1990)



« Prépa Agro » (1986-1987), Lycée Henri Poincaré, promotion 112

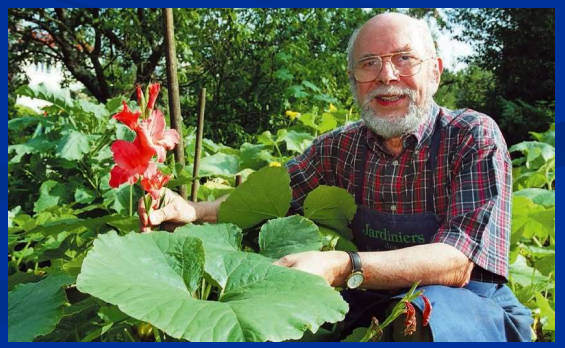




Jean-Claude RAMEAU (1943-2005†)



Jean DEXHEIMER (1938-2022†)



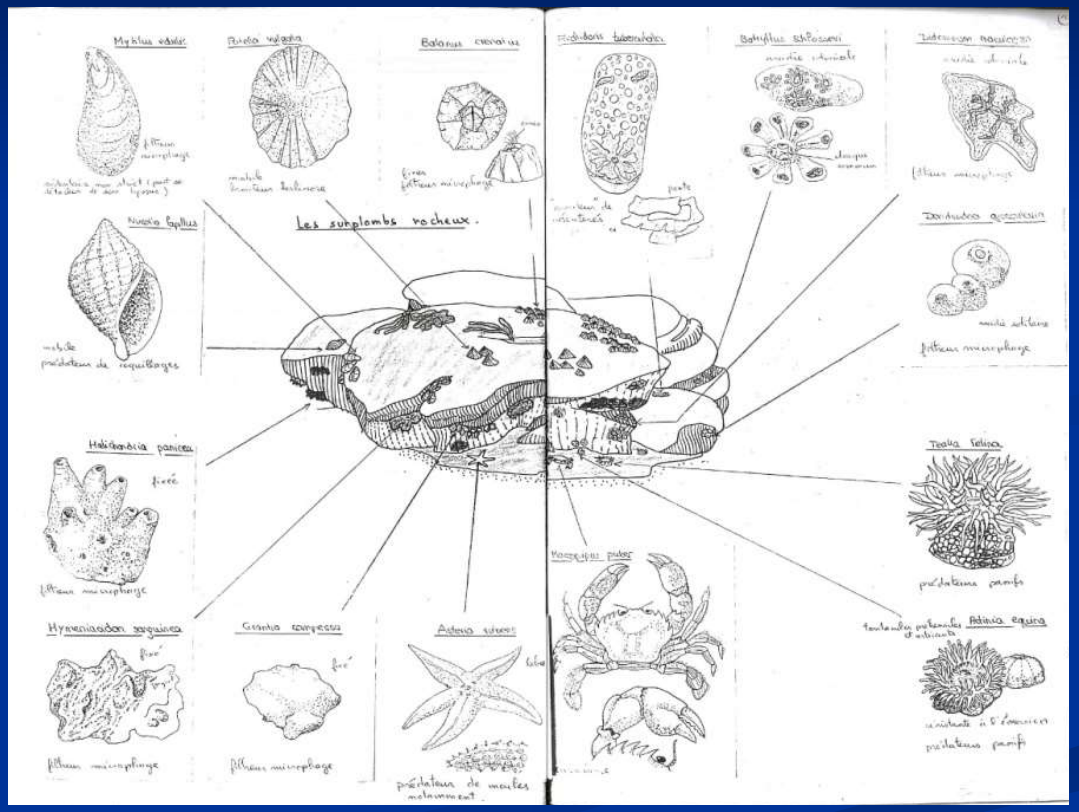
Pierre VALCK (1931-2025†)

Nancy (1989-1990)

Génicourt-sur-Meuse, Parc Naturel Régional de Lorraine



Forêt de Haye



MEYER, J.-Y. & SIMONIN, G. 1989. La zone intertidale ou *vivre et survivre entre terre et mer*. Rapport de stage de terrain, Licence BOP, Station de biologie marine de Wimereux.

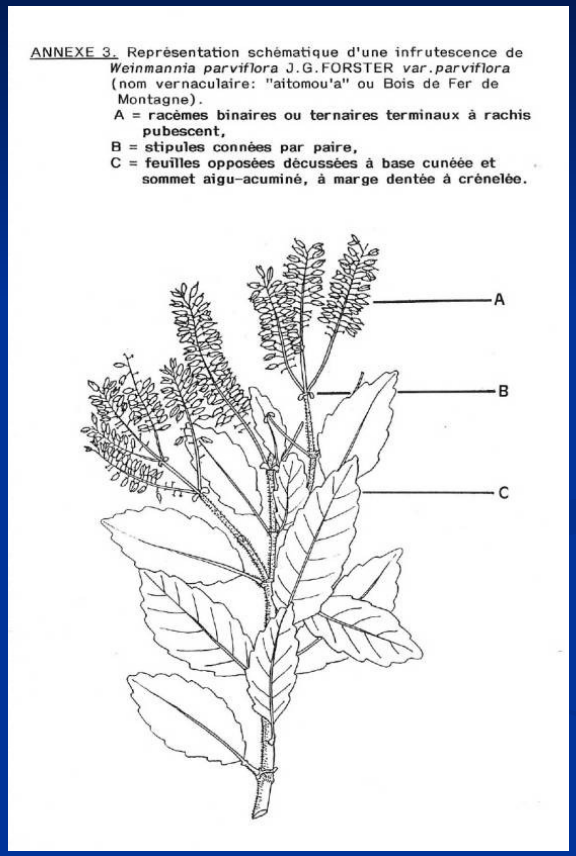
Nancy & Tahiti (1989-1990)



Dr. Jacques FLORENCE & Albert VARNEY



Tahiti, Mt Aora'i, 2060 m

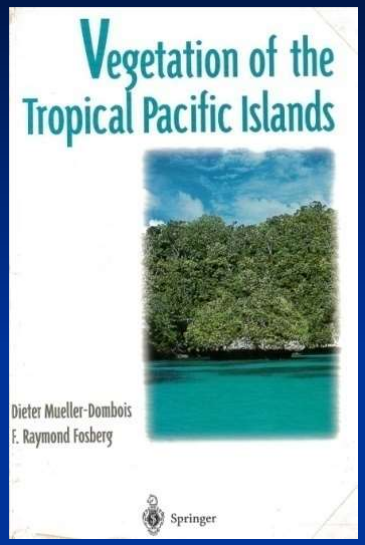




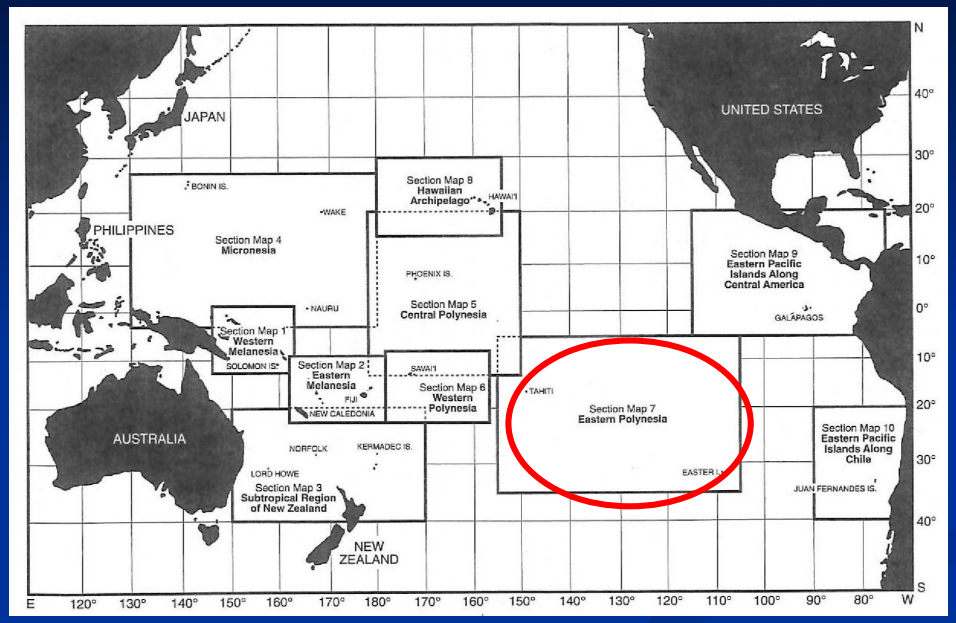


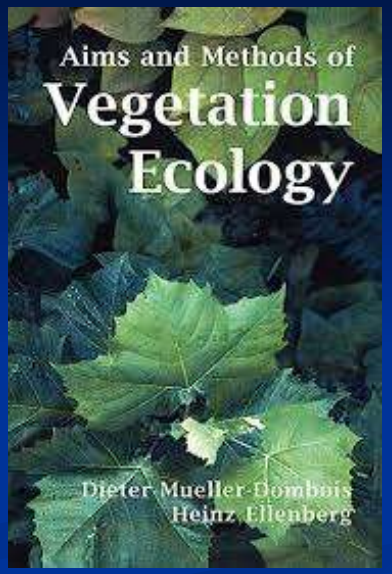
MEYER, J.-Y. 1990. Observations sur la dispersion spatiale de *Weinmannia parviflora* J.G. Forster var. *parviflora* sur l'île de Tahiti, Polynésie française. Rapport de stage de Maîtrise BOP, Centre ORSTOM de Tahiti.

Régions biogéographiques des îles du Pacifique

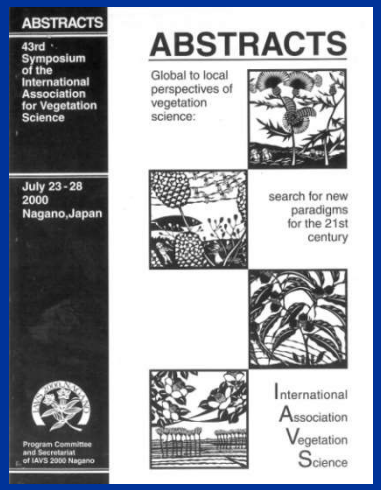


(1998)





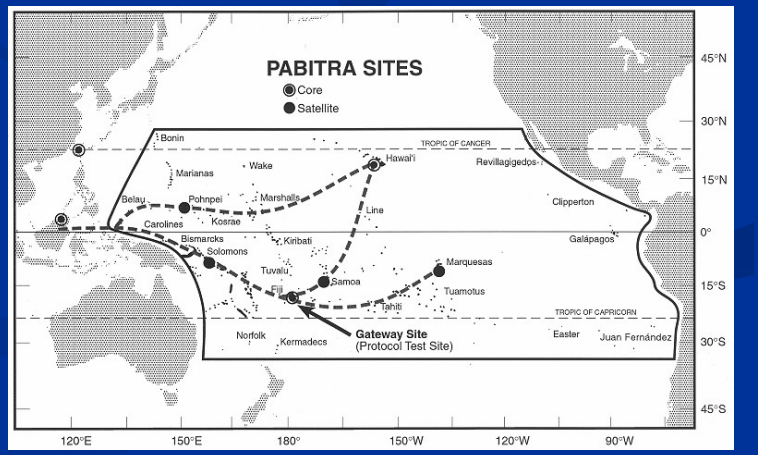
(1974)



(Nagano, 2000)



Dieter MUELLER-DOMBOIS (1925-2022†)



https://biodiversityoceania.com/pabitra/

« Le Triangle polynésien »



(Taiwan, 2016)



(Disney©, 2016)



(Aotearoa-New Zealand , 2012)

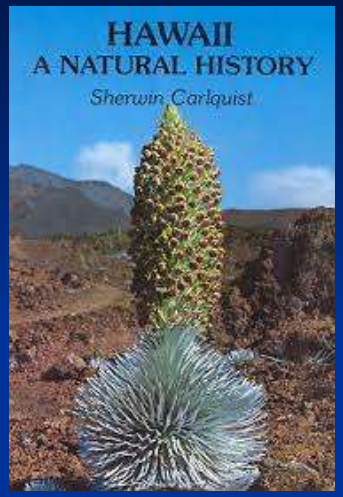


(Rapa Nui, 2012)

Hawai'i



Koke'e State Park & Na Pali, Kaua'i



(1992)



Kohala mountain, Hawai'i (Big Island)



Alakai swamp, Kaua'i



(APPLE TV©, 2025)



Pu'u Hulululu, Hawai'i (Big Island)

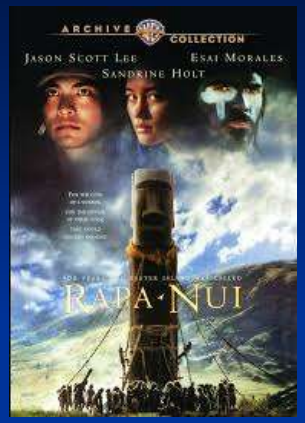
Rapa Nui



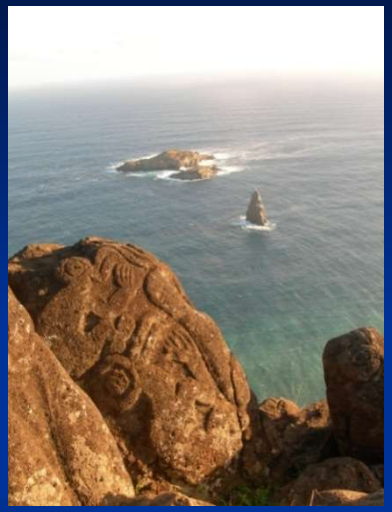
(2008)



(2013)



(Kevin REYNOLDS©, 1994)





Lac Rano Kau





Sophora toromiro (Fabaceae)



Motu Kao & Motu Iti

Aotearoa



Waitakere



(2011)



Lewis Pass, Central South Island





(Lee TAMAHORI©, 1994)



(Air New Zealand©)



Rangitoto island

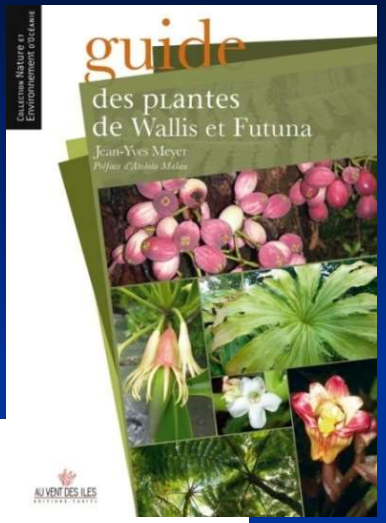
Wallis et Futuna

Lac Lalolalo, ʻUvea (Wallis)



Mt Kolofau, Alofi





(2017)



Vue du Mt Puke, Futuna



Vue sur Alofi

La Polynésie française : une galaxie d'îles

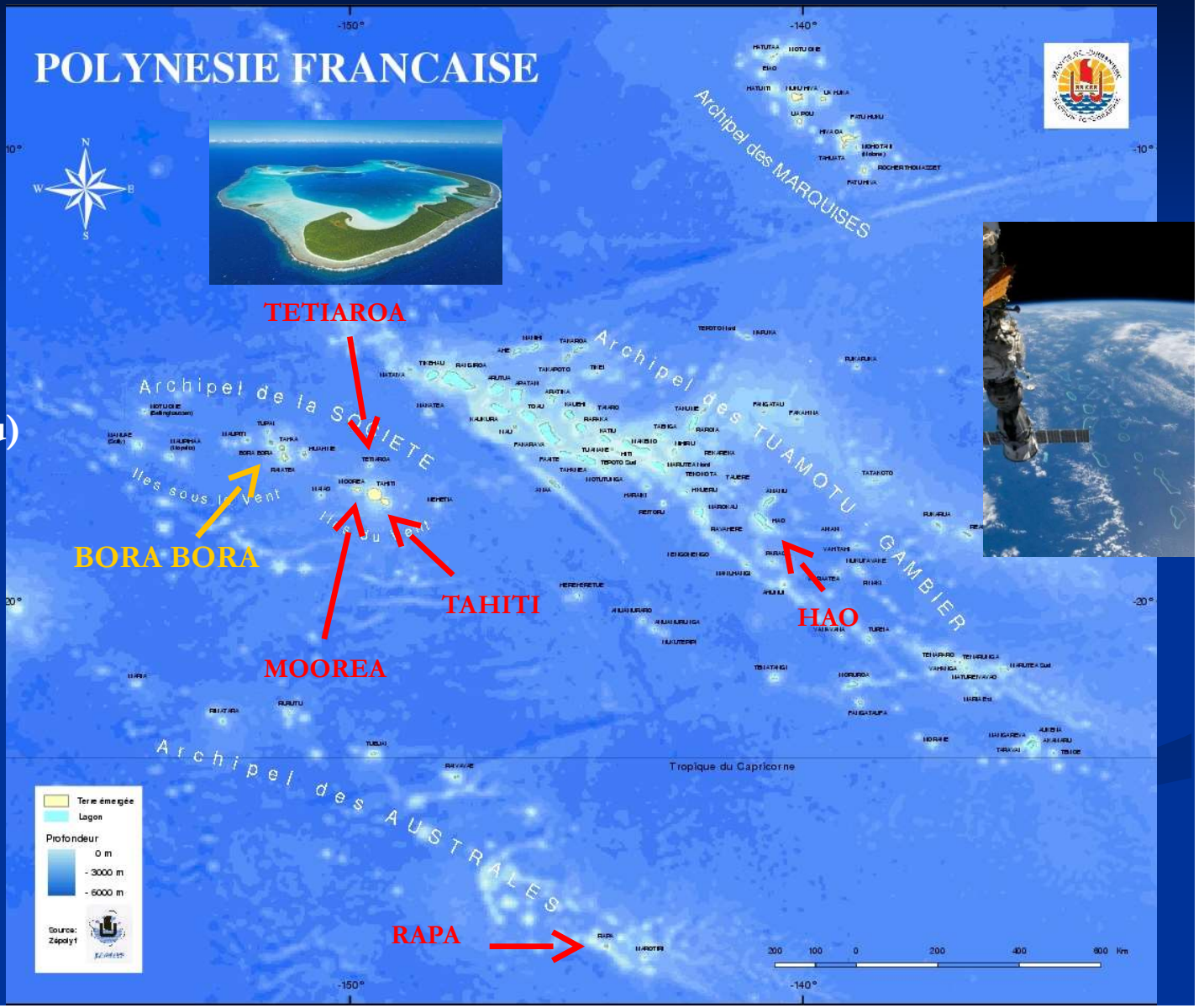
- 124 îles océaniques
- 3471 km²
- 30 000 ans à 60 MA
- climat tropical et subtropical
- 41 îles hautes, presqu'atolls, îles « composites »
- 83 atolls (76 Tuamotu) dont 6 soulevés



Mehetia



Makatea



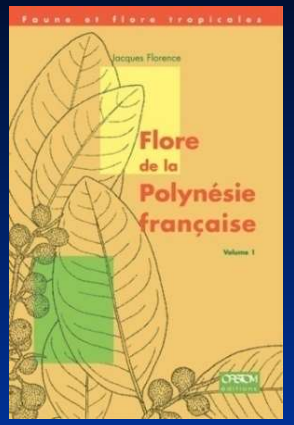
Société



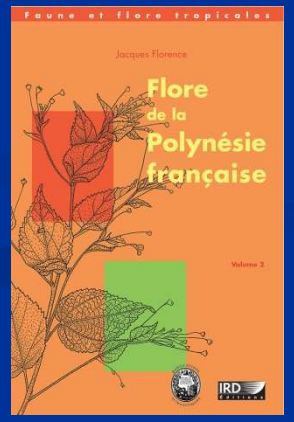
Plateau Temehani Ute Ute, Ra'iatea, 1995



Mt Mauru, Tahiti, 1999



(1997)



(2004)



Mt Orohena, Tahiti



Mt Mou'aputa, Mo'orea



Plateau Te Tamanu, Tahiti

Australes



Tubuai (Tupuai)



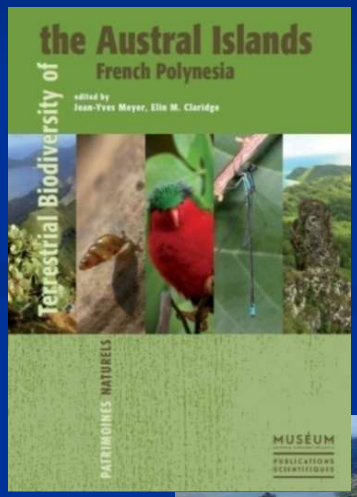
(Mt Taitaa, 1999)



Raivavae



(Mutiny of the Bounty©, 1962)



(2014)



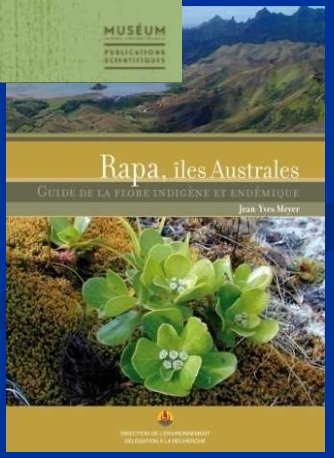
Rurutu



Rapa

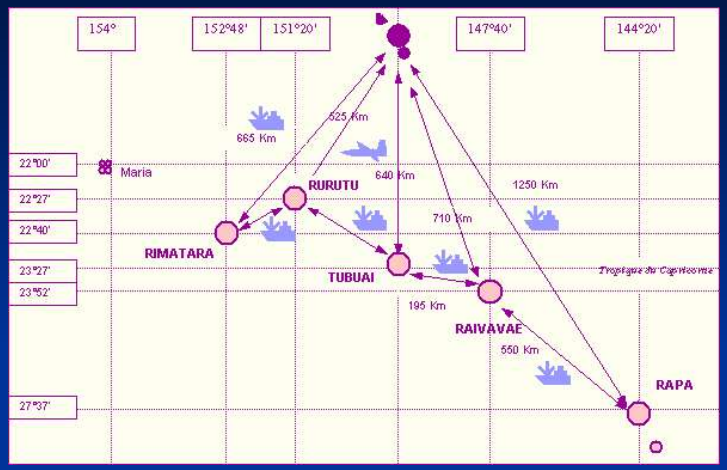


(Mt Perau, Rapa,2002)



(2011)

Rapa Iti as a « biodiversity hot-spot »



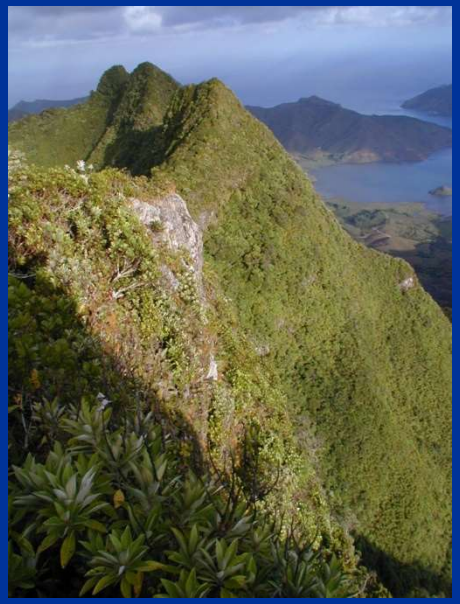




Bidens meyeri



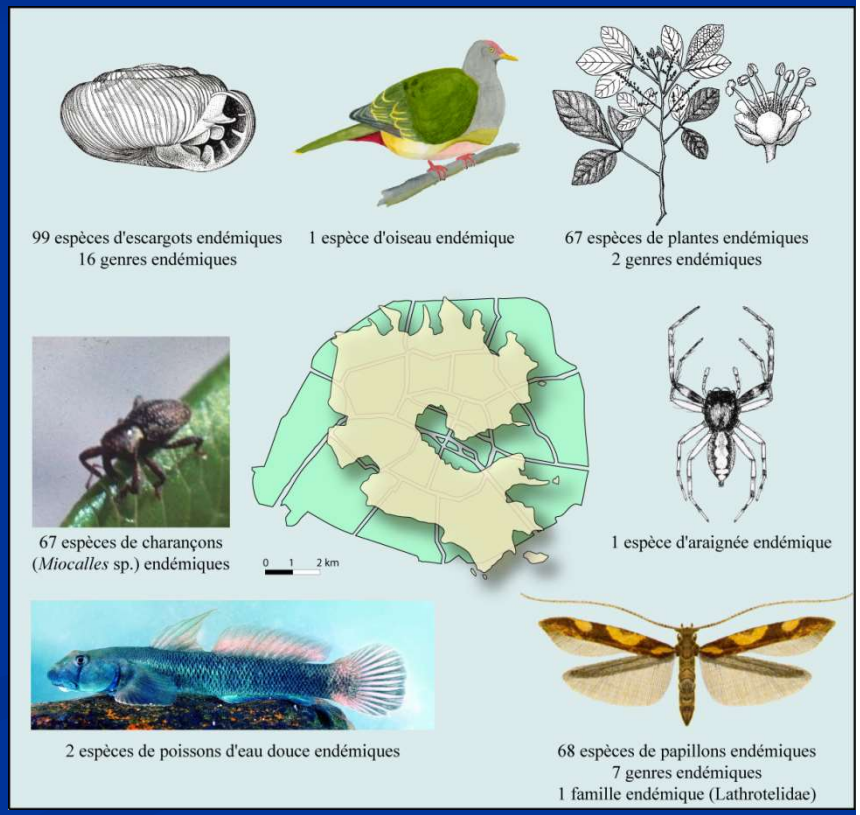
Plantago rupicola



Mt Perau (650 m)



Pacifigeron rapensis

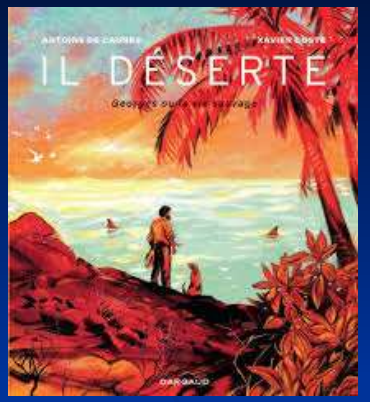


(*in* GARGOMINY, coord., 2001)

Marquises



Eiao



(DE CAUNES & COSTE©, 2025)



(Mt Ootua,
Hiva Oa, 1995)



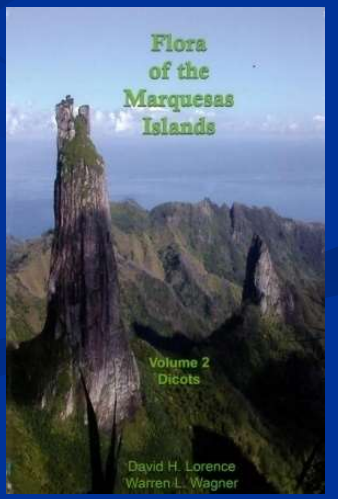
Tahuata



Ua Pou, 2003



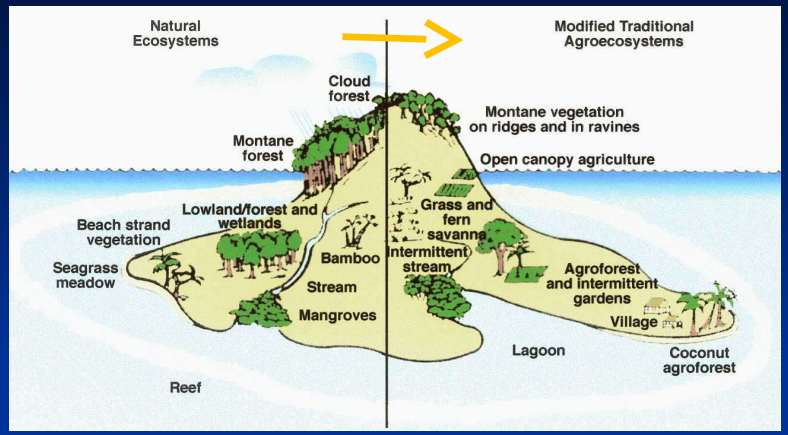
(2016)



(2020)

Habitat diversity

- Coastal/Beach vegetation
- Littoral forests
- Lowland dry- and semi-dry forests (rainfall <1 500 mm/yr)
- Mid-elevation mesic forests (1500-3000 mm/yr)
- Lowland and valley rainforests (>3000 mm/an)
- Montane cloud forests (>3 000 mm/yr and elevation >500-800 m)
- Sub-alpine vegetation (> m)
- Wetlands





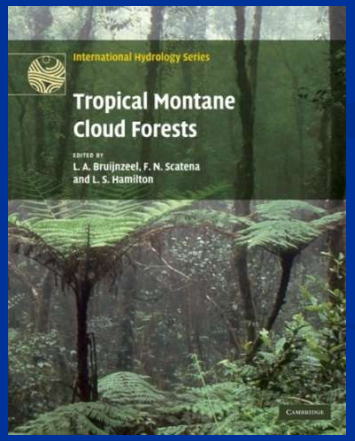
Niau (Tuamotu)



Dry-mesic forest (Rapa, Austral Is.)



Subalpine vegetation (Tahiti)



2010



Roto Rahi & Roto Iti lakes, Maiao (Society)

Prioritizing conservation of tropical dry forests in the Pacific

THOMAS W. GILLESPIE, KRISTIN O'NEILL, GUNNAR KEPPEL, STEPHANIE PAU JEAN-YVES MEYER, JONATHAN P. PRICE and TANGUY JAFFRÉ

(2014)



Cloud forest (Fatu Iva, Marquesas)

Specific forest types

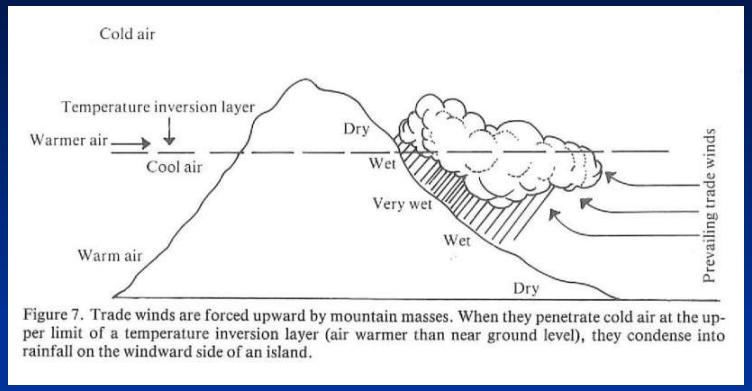


Figure 7. Trade winds are forced upward by mountain masses. When they penetrate cold air at the upper limit of a temperature inversion layer (air warmer than near ground level), they condense into rainfall on the windward side of an island.

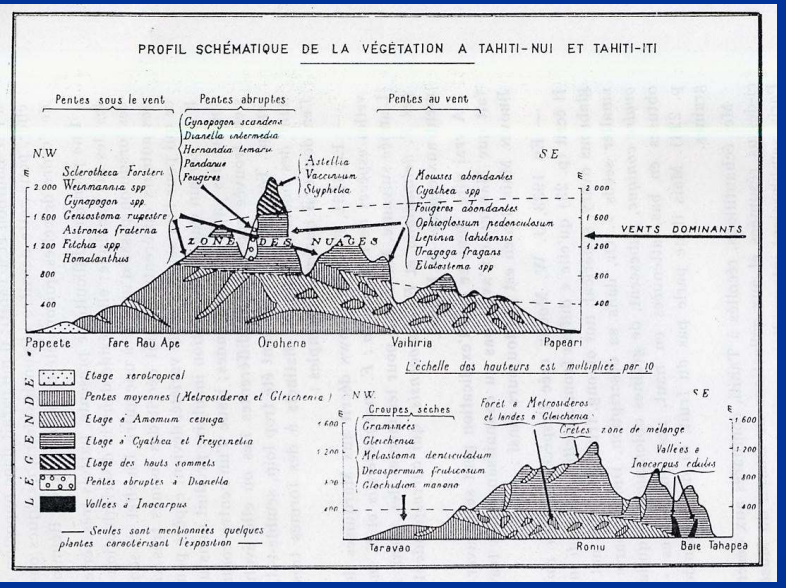
Leeward dry *vs.* Windward wet side
(*in* WAGNER *et al.* 1990)



High elevation swamp forest (Tahiti Nui)



Supra-/Para-littoral forest on sea-cliffs (Te Pari, Tahiti Iti)



(PAPY, 1951-1954)



High elevation plateau scrub forest
(Temehani, Ra'iatea)



Atoll/Motu forest (Teti'aroa)

Endémisme

- **> 3000 arthropodes** (dont 1570 endémiques)
- **> 900 plantes vasculaires** (570 endémiques)
- **> 525 mollusques** (95% endemisme)
- **37 poissons d'eau douce** (15 endémiques)
- **36 oiseaux terrestres** (27 endémiques)
- **9 reptiles** (geckos & scinques)



Rhyncogonus planatus (Ua Huka)



Nacaduba tahitiensis (Tahiti)



Lentipes rubrofasciatus (Marquises) Photo : P. Keith



Microcystis sp. (Australes) Photo : O. Gargominy



Sclerotheca (Apetahia) raiateensis (Raiatea)



Ducula galeata (Nuku Hiva)



Vini kuhlii (Rimatara)

Pacific Islands endemic flora

Island groups	Area (km²)	Flowering plants	Endemic (%)	Density of endemics
Hawai'i	16,880	966	859 (89%)	0.051
New Caledonia	19,060	3,063	2,448 (80%)	0.128
Fiji	18,270	1,302	799 (61%)	0.050
Galápagos	7,900	434	139 (32%)	0.017
Samoa*	3,100	543	177 (33%)	0.057
French Polynesia	3,520	659	478 (72%)	0.136

(after MEYER, 2004. *Pacific Science* 58)



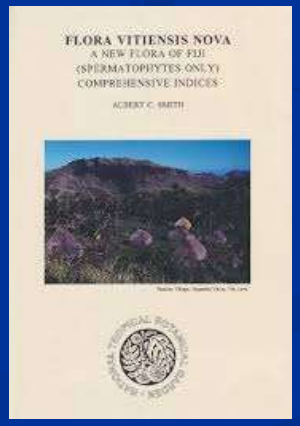
Xanthostemon aurantiacus
(New Caledonia)



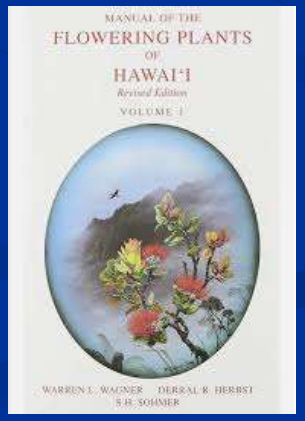
Medinilla waterhousei
(Taveuni, Fiji)



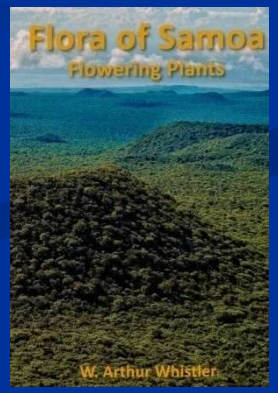
Clermontia hawaiiensis
(Hawai'i)



(1979-1996)



(1990)



(2022)

Species radiation

Island groups	*Cyrtandra* (Gesneriaceae)	*Psychotria* (Rubiaceae)
Hawai'i	60	11
Samoa*	21	12
Fiji	37	76
French Polynesia	28	27+

(MEYER, 2004; *WHISTLER, 2022)



(Fiji)



(Society)



(Futuna)



(Marquesas)



(Society)





(Marquesas)

(Tuamotu)



(Austral)

2017

Reassessment of the *Psychotria speciosa* G. Forst. (Rubiaceae) complex in Tahiti, Society Islands, with a new combination and description of new species, *Psychotria paulae* J.-Y. Meyer, Lorence & J. Florence, sp. nov.



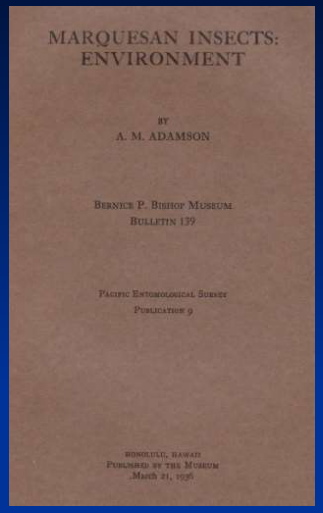
David H. LORENCE
National Tropical Botanical Garden,
3530 Papalina Road, Kalaheo, Hawaii 96741 (United States)
lorence@ntbg.org

Jacques FLORENCE
Herbier national, Muséum national d'Histoire naturelle,
case postale 39, 57 rue Cuvier, F-75231 Paris cedex 05 (France)
jflo@mnhn.fr

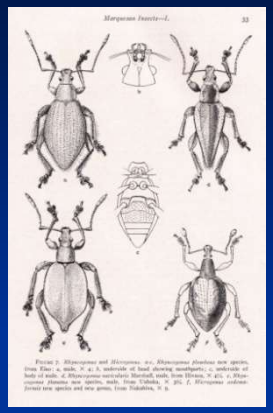
Jean-Yves MEYER
la Recherche, boîte postale 20981, Papeete, Tahiti (French Polynesia)
jean-yves.meyer@recherche.gov.pf

Published on 30 June 2017

Evolutive radiation



1936

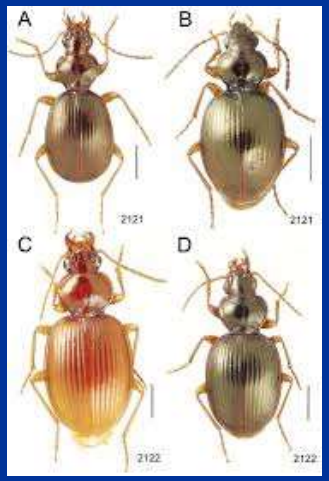




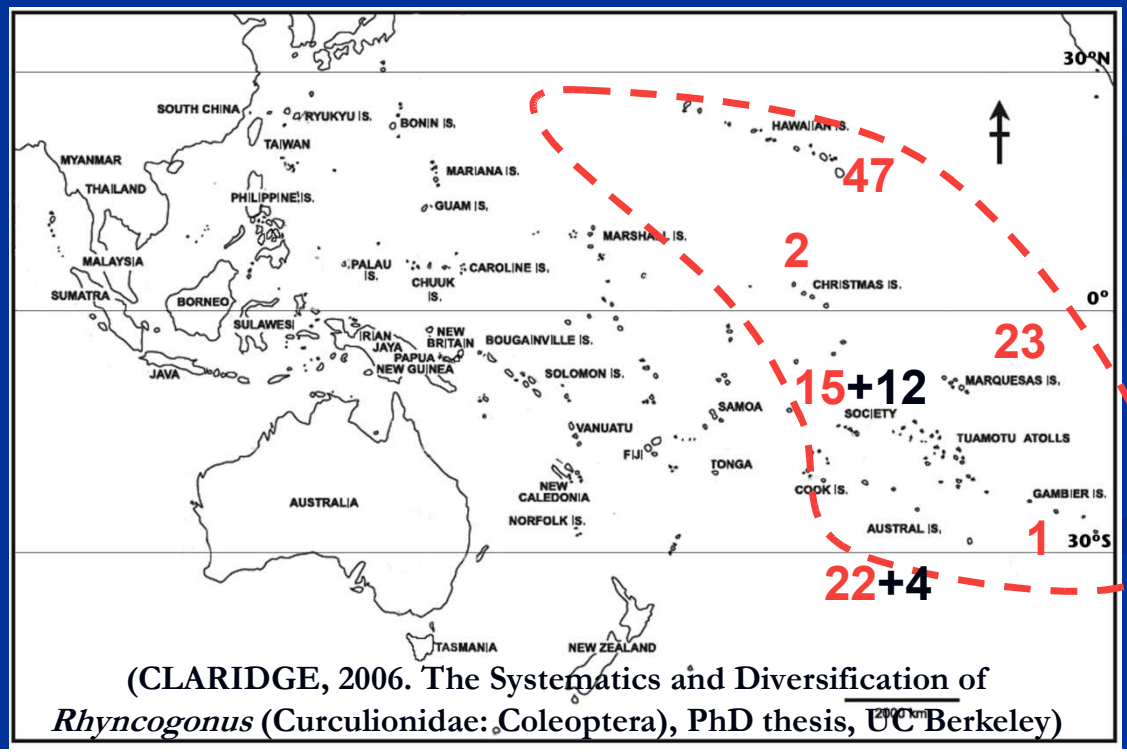
Rhyncogonus adamsonii (Hiva Oa)



Rhyncogonus sp. nov. (Raivavae)



101 species of *Mecyclothorax* in Tahiti ! (LIEBHERR, 2013)

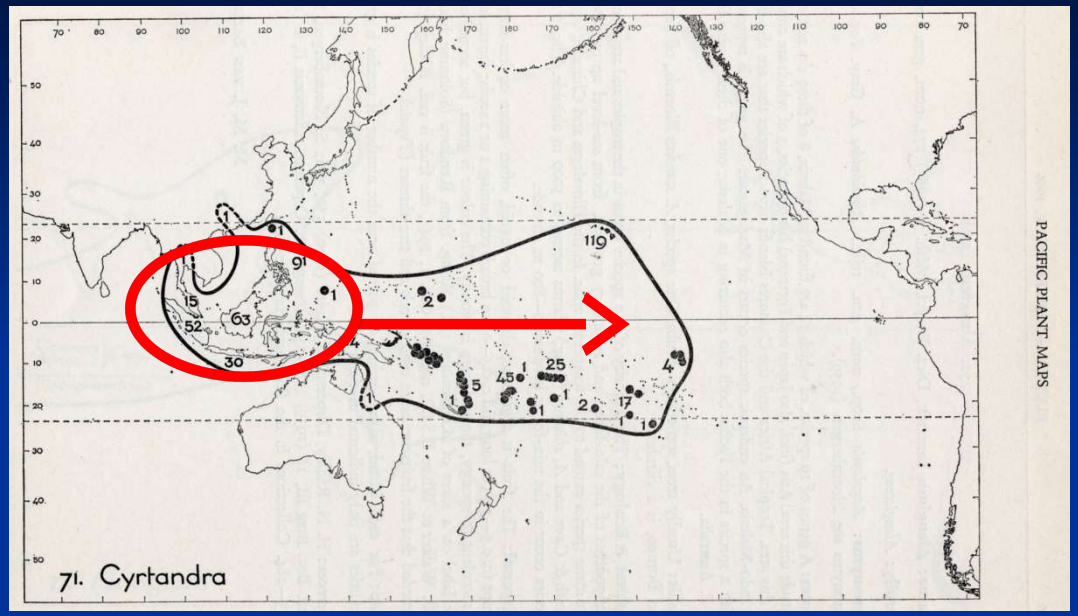


(CLARIDGE, 2006. The Systematics and Diversification of *Rhyncogonus* (Curculionidae: Coleoptera), PhD thesis, UC Berkeley)



(Elin CLARIDGE, Raiatea, 2006)

Gradient of plant diversity



(Van STEENIS & Van BALGOOY, 1966. *Pacific Plant Areas*)



Cyrtandra futunae
(Futuna)



Cyrtandra elizabethae (Raivavae, Austral Is.)



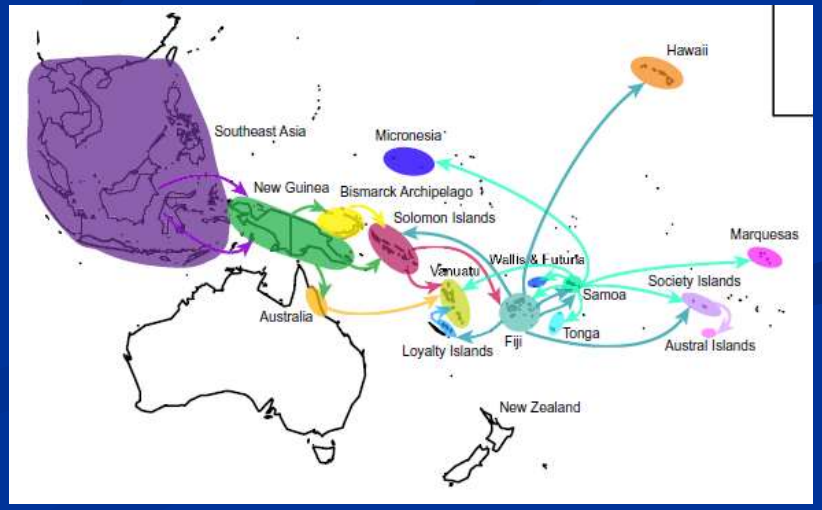
Cyrtandra induta (Tahiti, Society Is.)



Ducula galeata
(Nuku Hiva, Marquesas Is.)



Pilinopus purpuratus
(Society Is.)



(JOHNSON *et al.* 2017. Molecular Phylogenetics & Evolution)

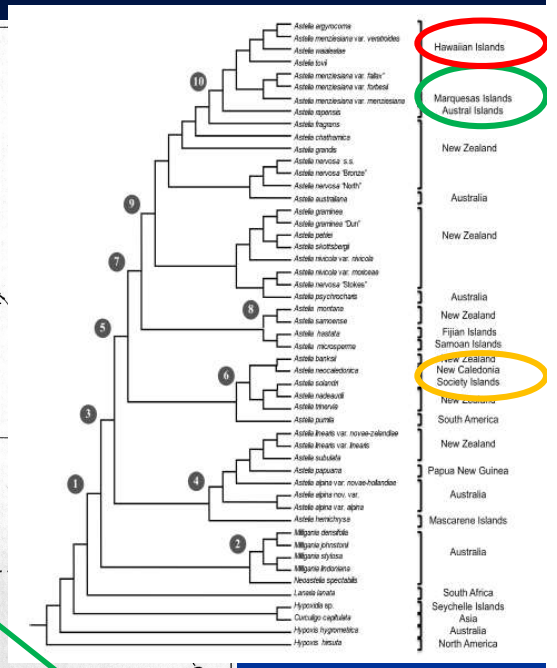
Taxa with disjunct areas



Numenius tahitiensis



Pluvialis fulva



(BIRCH & KEELEY, 2013. *J. Biogeography*)



Astelia hemichrysa (Mascarene Is.)



Astelia sp. (New Zealand)



Astelia rapensis (Rapa, Austral Is.)



Astelia nadeaudii (Society Is.)



Astelia tovii (Marquesas)

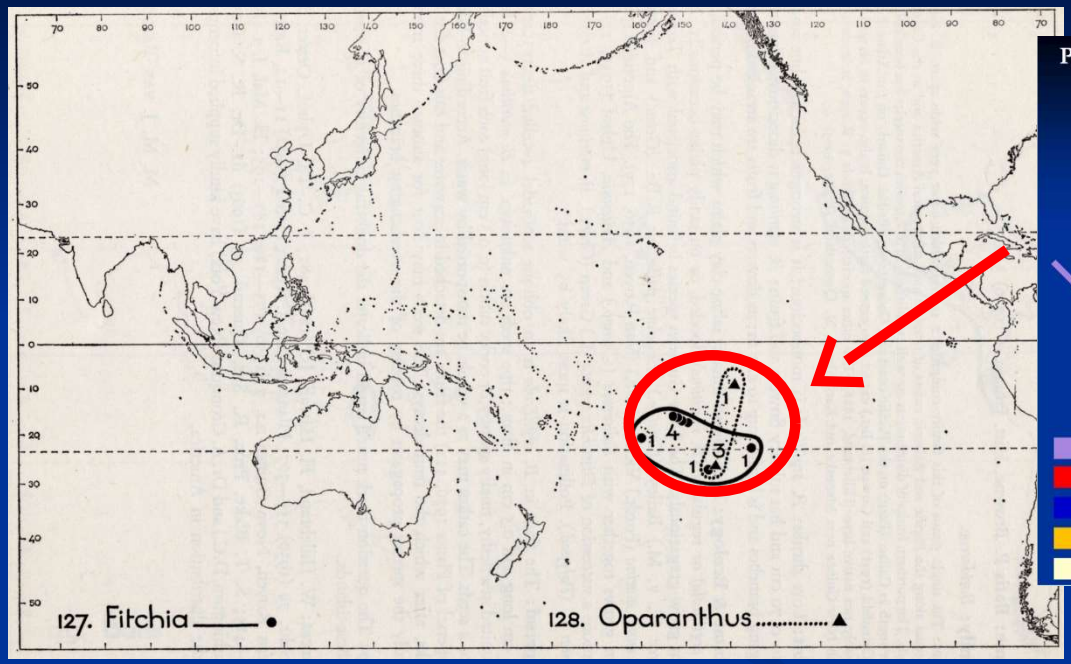
Taxa with a Neotropical origin

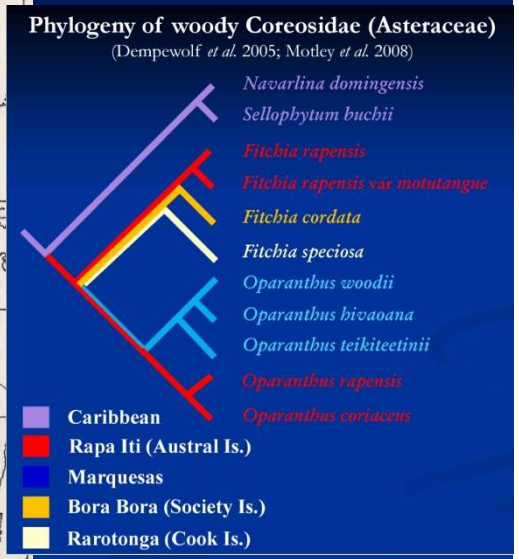


Oparanthus teikiteetinii (Nuku Hiva, Marquesas)



Oparanthus coriaceus (Rapa, Austral Is.)







Fitchia cordata (Bora Bora, Society)



Fitchia rapense (Rapa, Austral Is.)

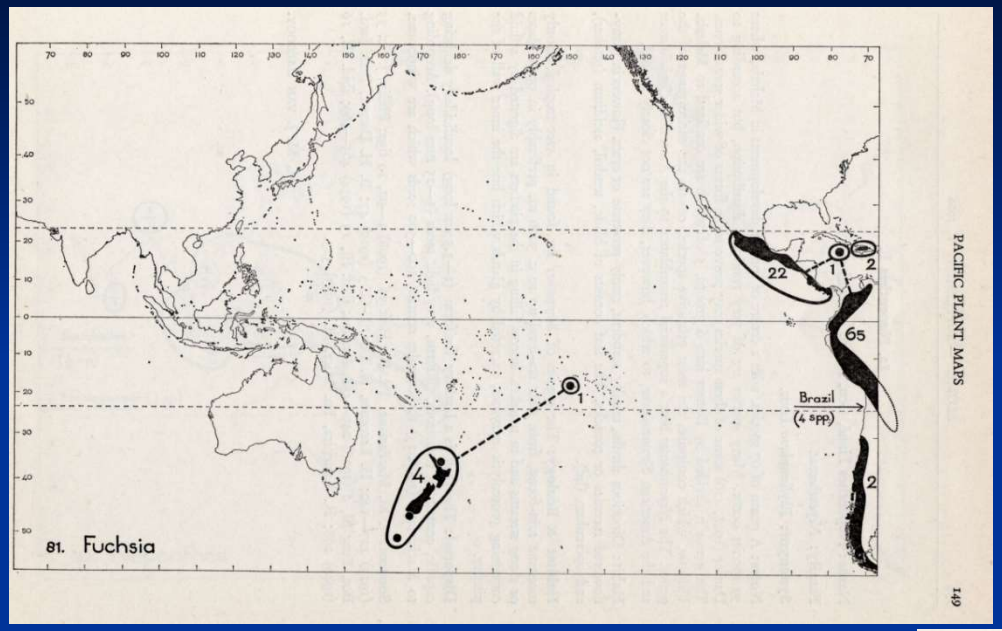


Fitchia speciosa (Rarotonga, Cook Is.)



Fitchia nutans (Tahiti, Society Is.)

Taxa with peculiar distributions





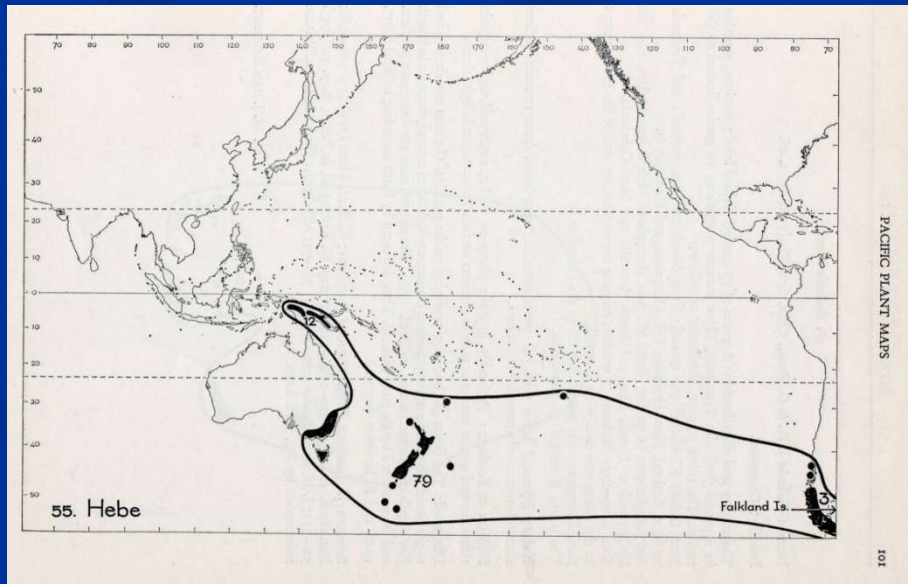
Fuchsia cyrtandroides (Tahiti)



Hebe rapensis (Rapa)



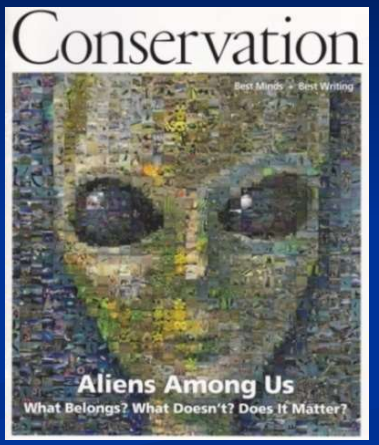
Hebe stricta (New Zealand)

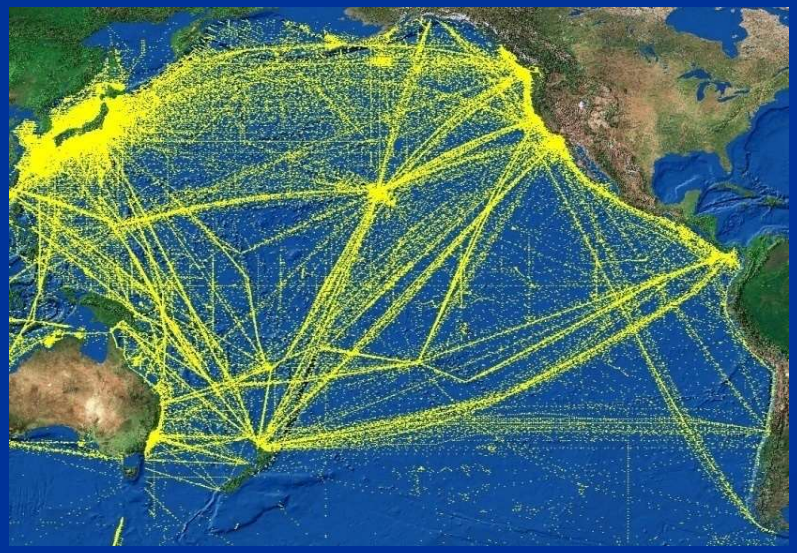


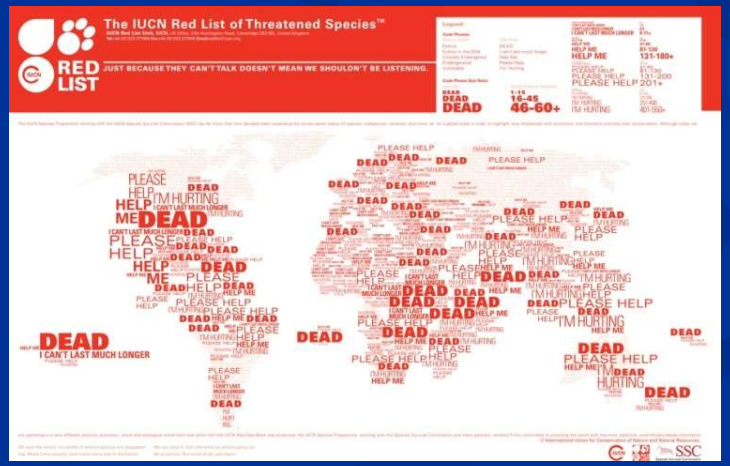
Major environmental challenges

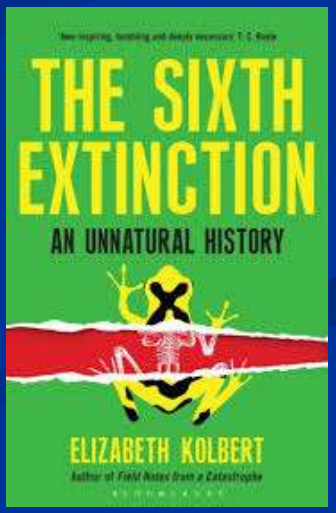
- **Globalization & Homogeinization** (“Biotic Mixing”)
- **Global changes** (incl. climate change, pollutions, land uses, invasive alien species)
- **Extinction crisis**





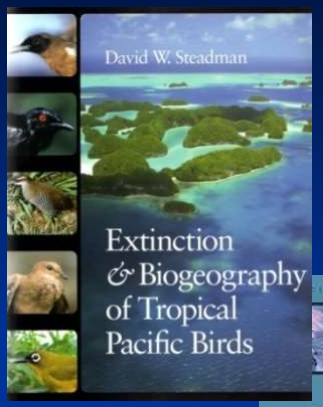




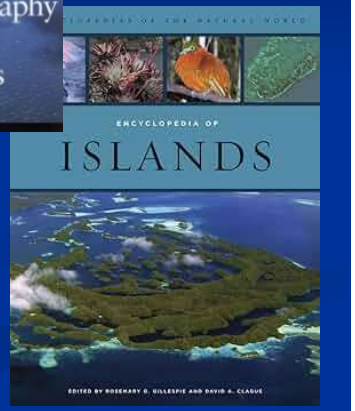


Island biodiversity at risk

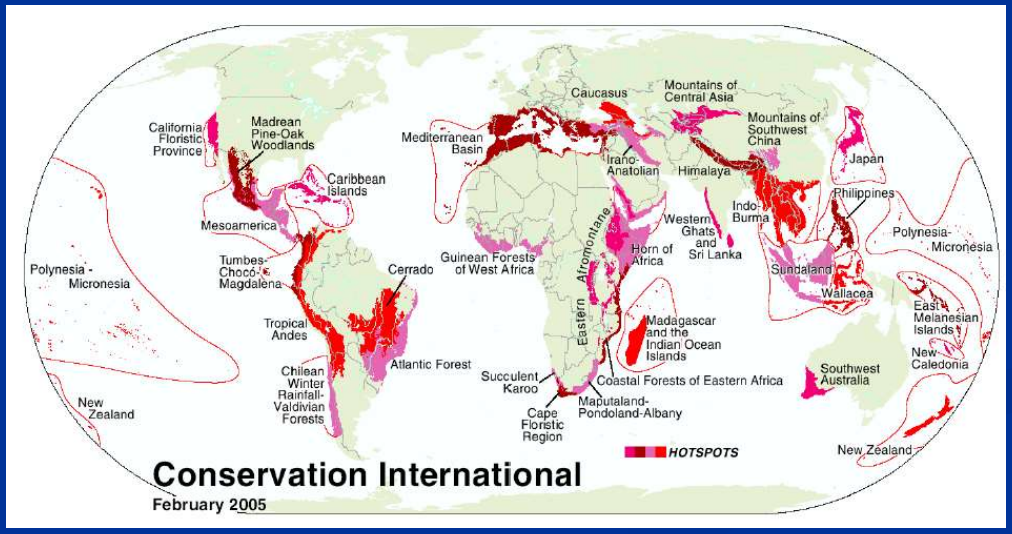
- **Massive extinction events** (75% of all extinct species, 90% of all extinct birds and reptiles)
- **Endangered biota** (90% of all the threatened birds, 2.5 x more threatened plants on islands)
- **10 of the 36 "Biodiversity Hotspots"** (areas with high endemism and high level of threat)



(2006)



(2009)




Contents lists available at ScienceDirect
Global Ecology and Conservation
journal homepage: www.elsevier.com/locate/gecco
ELSEVIER

Scientists' warning – The outstanding biodiversity of islands is in peril

José María Fernández-Palacios[a,1], Holger Kreft[b,1], Severin D.H. Irl[c,*,1], Sietze Norder[d,1], Claudine Ah-Peng[e,1], Paulo A.V. Borges[f,1], Kevin C. Burns[g,1], Lea de Nascimento[a,1], Jean-Yves Meyer[h,1], Elba Montes[i,1], Donald R. Drake[j,1]

(2021)

Pressions/Menaces

- Population (x 2 en 30 ans)
- Urbanisation
- Déforestation et indendies
- Pollutions
- Sur-exploitation





Bora Bora (Société)







Nuku Hiva (Marquises)



Rimatara (Australes)



Tubuai (Australes)

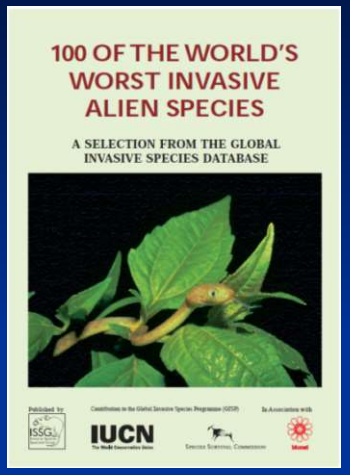


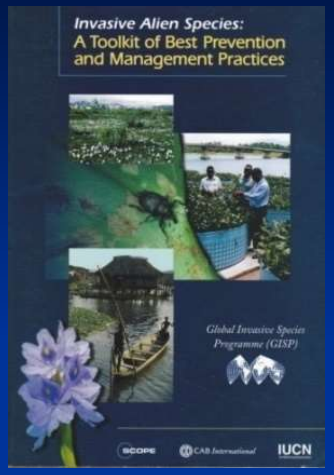
Tahiti (Société)



Makatea (Tuamotu)

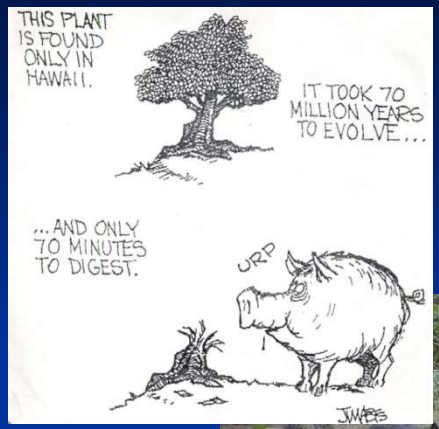
Invasive Alien Species (IAS) : animals





(2000)

ISSG Invasive Species Specialist Group



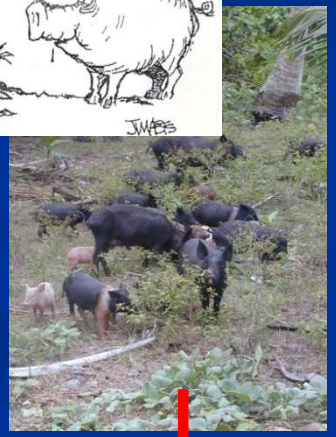














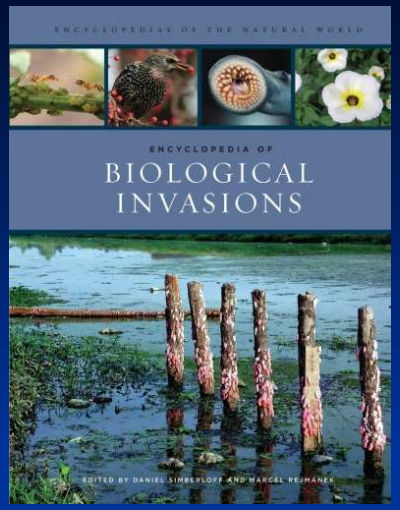
Biol Invasions (2009) 11:1569–1585
DOI 10.1007/s10530-008-9407-y

(2009)

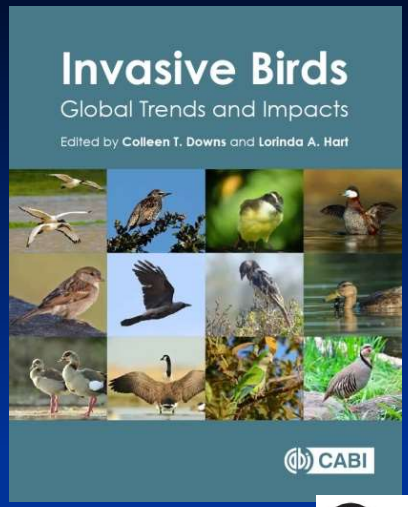
INVASIVE RODENTS ON ISLANDS

The impacts of rats on the endangered native flora of French Polynesia (Pacific Islands): drivers of plant extinction or *coup de grâce* species?

Jean-Yves Meyer · Jean-François Butaud

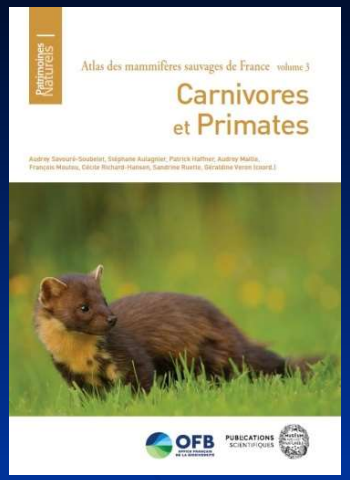


(2011)

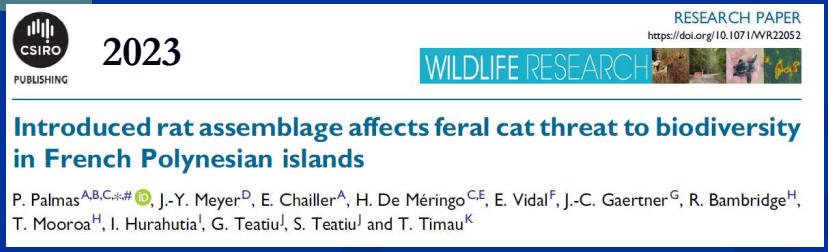


(2020)





(2023)







(Photo : Hervé JOURDAN©)





(Photo : P.auline PALMAS©)

- **13 of the 36 most invasive aquatic and land plants found in French Polynesia !**

The impacts of the carnivorous snail *Euglandina rosea*



Lissachatina fulica
1967



Euglandina rosea
1975



- **Extinction of 56 of the 61 endemic *Partula* species in the Society Islands !**



Microcystis saintjohni (Tubuai)



Partula otaheitana (Tahiti)

Partula taeniata (Moorea)



Samoana ganymedes (Tahuata)

Oryx Vol **33** No 3 July 1999

Extant populations of endemic partulids on Tahiti, French Polynesia

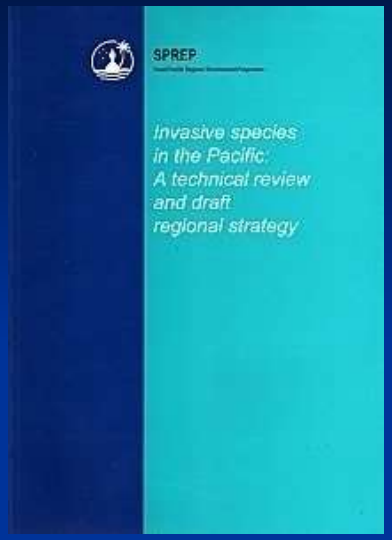
Trevor Coote, Eric Loeve, Jean-Yves Meyer and Dave Clarke

(1999)

IAS : plants



(2008)



(2000)















Critical issues and new challenges for research and management of invasive plants in the Pacific Islands

JEAN-YVES MEYER[1]

Table 1. Comparison between native and alien flora (flowering plants and ferns) in selected Pacific tropical islands (by size of terrestrial area) and number of naturalized and invasive alien plants (including dominant or major IAP).

Island or island group	Area (km²)	Native flora (number of indigenous species)	Alien flora (number of introduced species)	Naturalized alien plant species	Invasive alien plant species	Dominant IAP
New Caledonia	19 060	3 261[a]	2 008[b]	597[b]	97[c]	67[b]
Fiji	18 270	1 622[d]	977[d]	461[d]	107[e]	30[f]
Hawai'i	16 880	1 138[g]	8 134[h]	1 104[i]	469[j]	86[j]
Galápagos	7 900	550[k]	870[l]	229[l]	109[l]	22[l]
French Polynesia	3 519	885[m]	> 1 700[n]	593[n]	-	57[n]
Cook Is.	238	296[o]	997[o]	333[o]	76[p]	12[q]
Rapa Nui (Easter Island)	166	48[r]	370[s]	180[s]	-	36[s]
Wallis et Futuna	142	351[t]	338[u]	151[u]	-	18[u]

[a]Jaffré *et al.* 2004, [b]Meyer *et al.* 2010, [c]Hequet *et al.* 2009, [d]Brownlie 1977 and Smith 1996, [e]GISD, [f]Meyer 2000, [g]Wagner *et al.* 1999, [h]Staples and Herbst 2005, [i]Staples and Cowie 2001, [j]Smith 1985, [k]Mauchamp 1997, Trueman *et al.* 2010, [l]Florence *et al.* 2007, [m]Fourdrigniez and Meyer 2008, [n]McCormack 2007, [o]Space and Flynn 2002, [p]Meyer 2004, [q]Dubois *et al.* 2013, [r]Meyer 2008, [s]Morat *et al.*, [t]Meyer *et al.* 2010

[1]Délégation à la Recherche, Government of French Polynesia, B.P. 20981 Papeete, Tahiti. jean-yves.meyer@recherche.gov.pf

PACIFIC CONSERVATION BIOLOGY Vol. 20(2): 146–164. Surrey Beatty & Sons, Sydney. 2014.

(2014)

Miconia calvescens (Melastomataceae), the « purple plague »

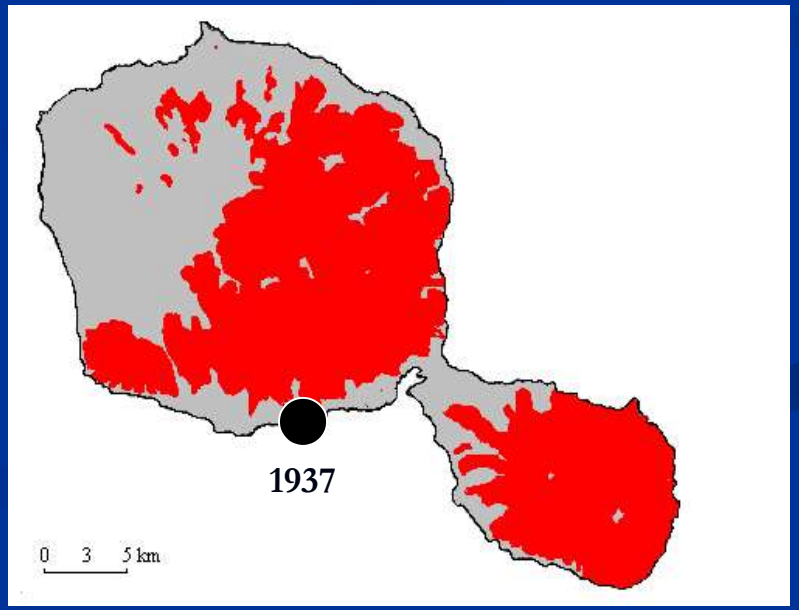
- Introduit à Tahiti comme plante ornementale dans un jardin botanique privé en 1937
- Naturalisé dans les années 1970
- > 80 000 ha envahis à Tahiti
- > 5 000 ha envahis à Mo'orea + Ra'iatea (Société)
- + Nuku Hiva, Fatu Iva (Marquises)



Jardin Botanique de Papeari, 1963

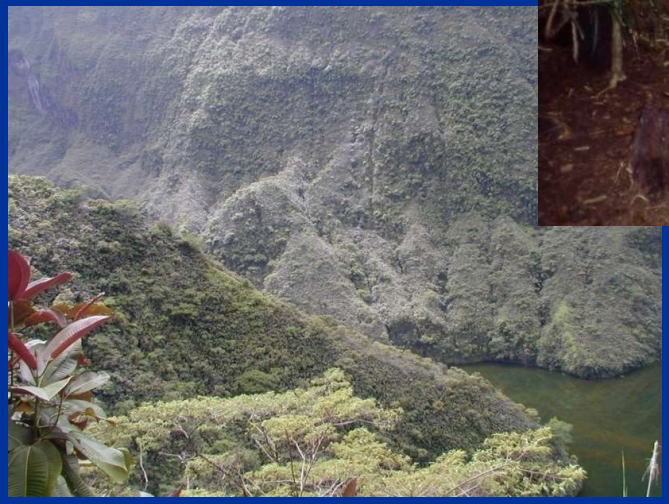


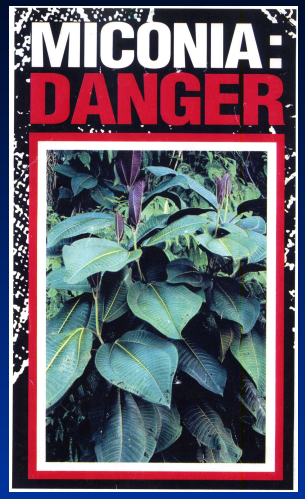
(E. KLLGORE©, 1996)























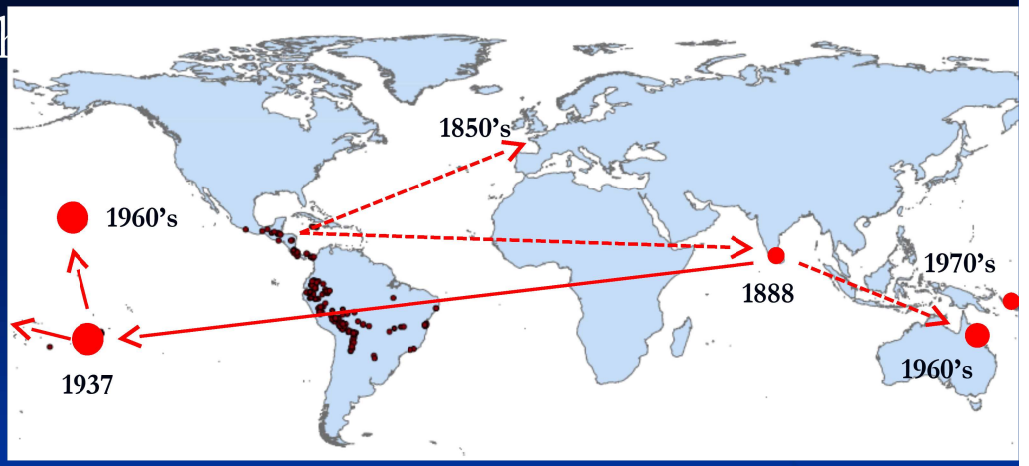
Journal of Biogeography (1996) **23**, 775–781

(1996)

Tahiti's native flora endangered by the invasion of *Miconia calvescens* DC. (Melastomataceae)

JEAN-YVES MEYER*† and JACQUES FLORENCE*‡ *Laboratoire de Botanique, Centre ORSTOM de Tahiti, B.P. 529, Papeete, Tahiti, French Polynesia.

- **Hawai'i (Big island)** > 60 000 h
- **Maui** >12 000 ha
- **North Queensland** > 300 ha
- **New Caledonia** > 140 ha



Sixteenth Australian Weeds Conference

Is eradication of the invasive tree miconia feasible? Lessons from 15 years of active management in French Polynesia (Pacific Islands)

Jean-Yves Meyer
Délégation à la Recherche, Government of French Polynesia, B.P. 20981 Papeete, Tahiti
Email: jean-yves.meyer@recherche.gov.pf

(2008)



(P. LEARY©)



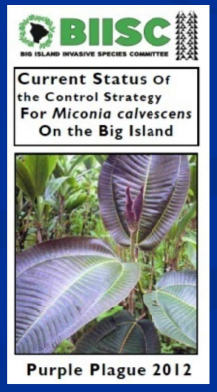




(Biosecurity Queensland©)



(Lloyd LOOPE, Maui, 1991)





(Province Sud, New Caledonia)

Vulnérabilité

- **Oiseaux :** 11 CR, 17 EN, 13 VU
- **Plantes :** 118 CR, 134 EN, 50 VU



(2017)

Partula meyeri (CR)



Number 740 November 2007

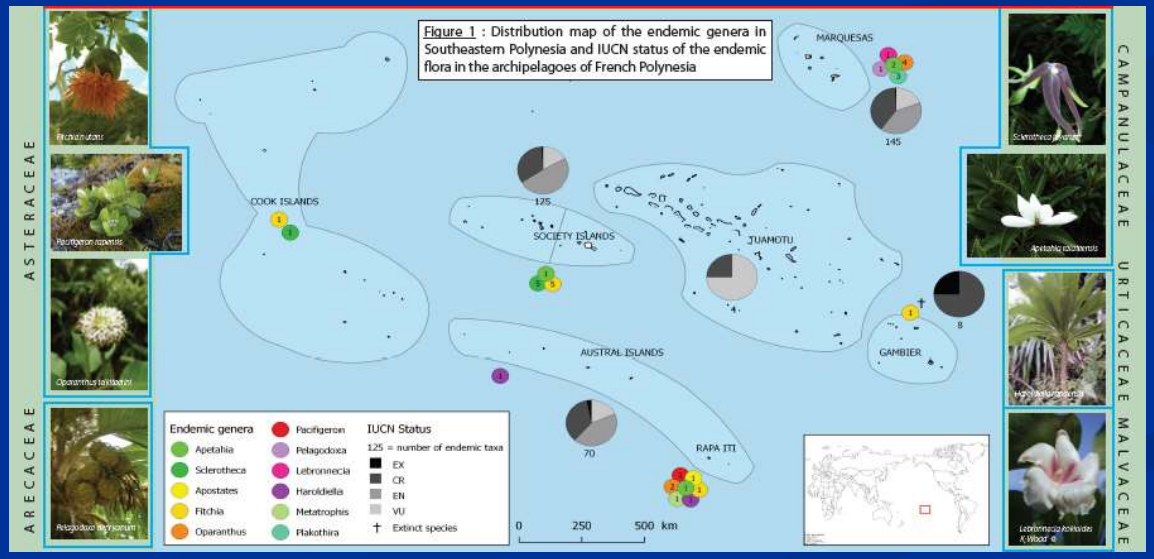
OCCASIONAL PAPERS OF THE MUSEUM OF ZOOLOGY UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN

A NEW SPECIES OF LAND SNAIL (STYLOMMATOPHORA: PARTULIDAE) FROM RAIATEA, FRENCH POLYNESIA, OCEANIA[1]

John B. Burch[2]

ABSTRACT – A newly discovered land snail species, *Partula meyeri* n. sp., of the highly threatened South Pacific pulmonate gastropod family Partulidae, is described for Raiatea, one of the Society Islands, French Polynesia. This

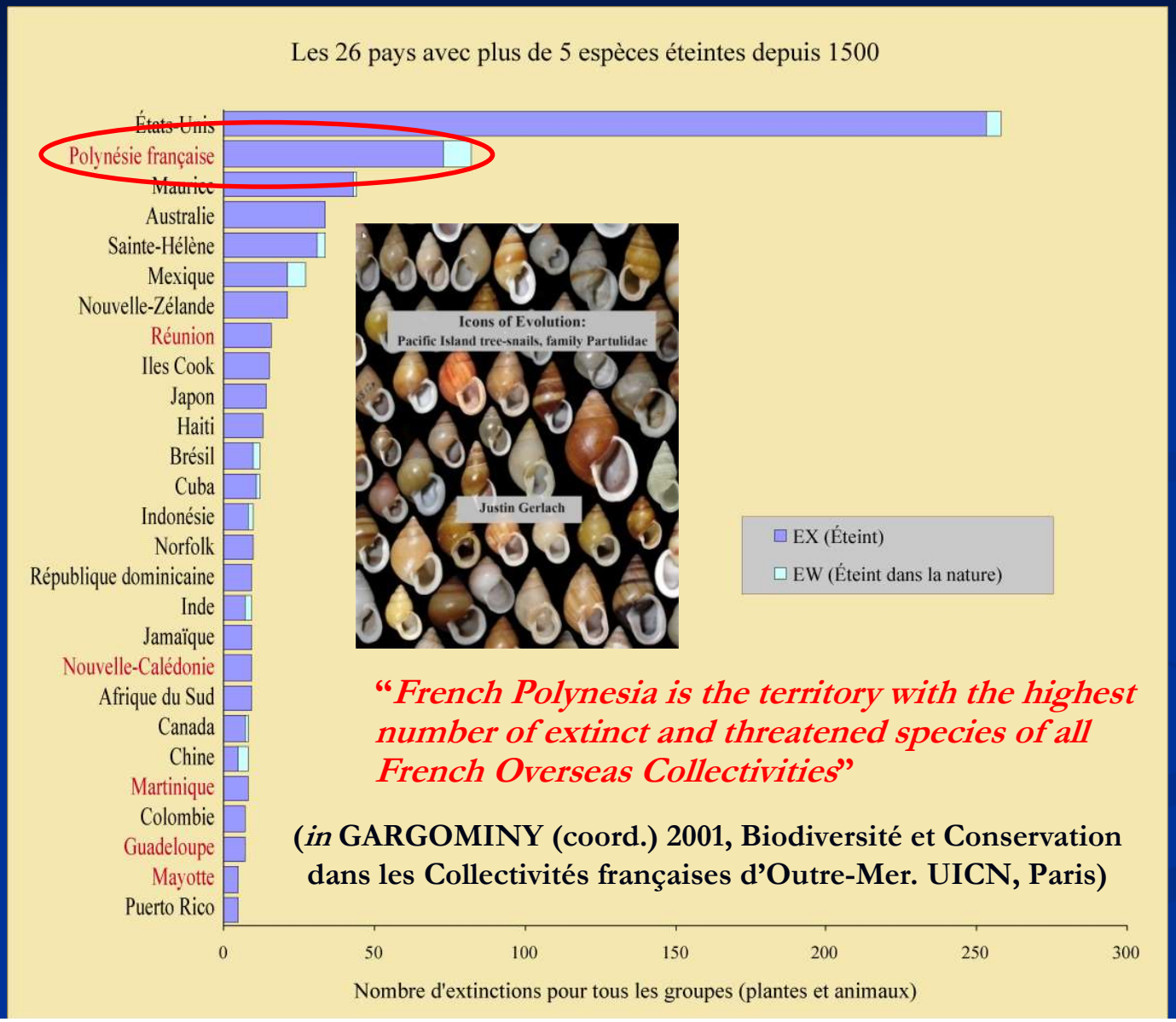


(MEYER, 2016. Island Biology Conference, Azores)



(Mt To'omaru, Ra'iatea, 2007)

Extinctions

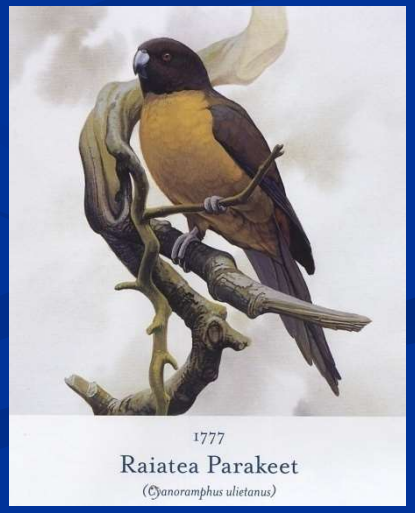


"French Polynesia is the territory with the highest number of extinct and threatened species of all French Overseas Collectivities"

(*in* GARGOMINY (coord.) 2001, Biodiversité et Conservation dans les Collectivités françaises d'Outre-Mer. UICN, Paris)

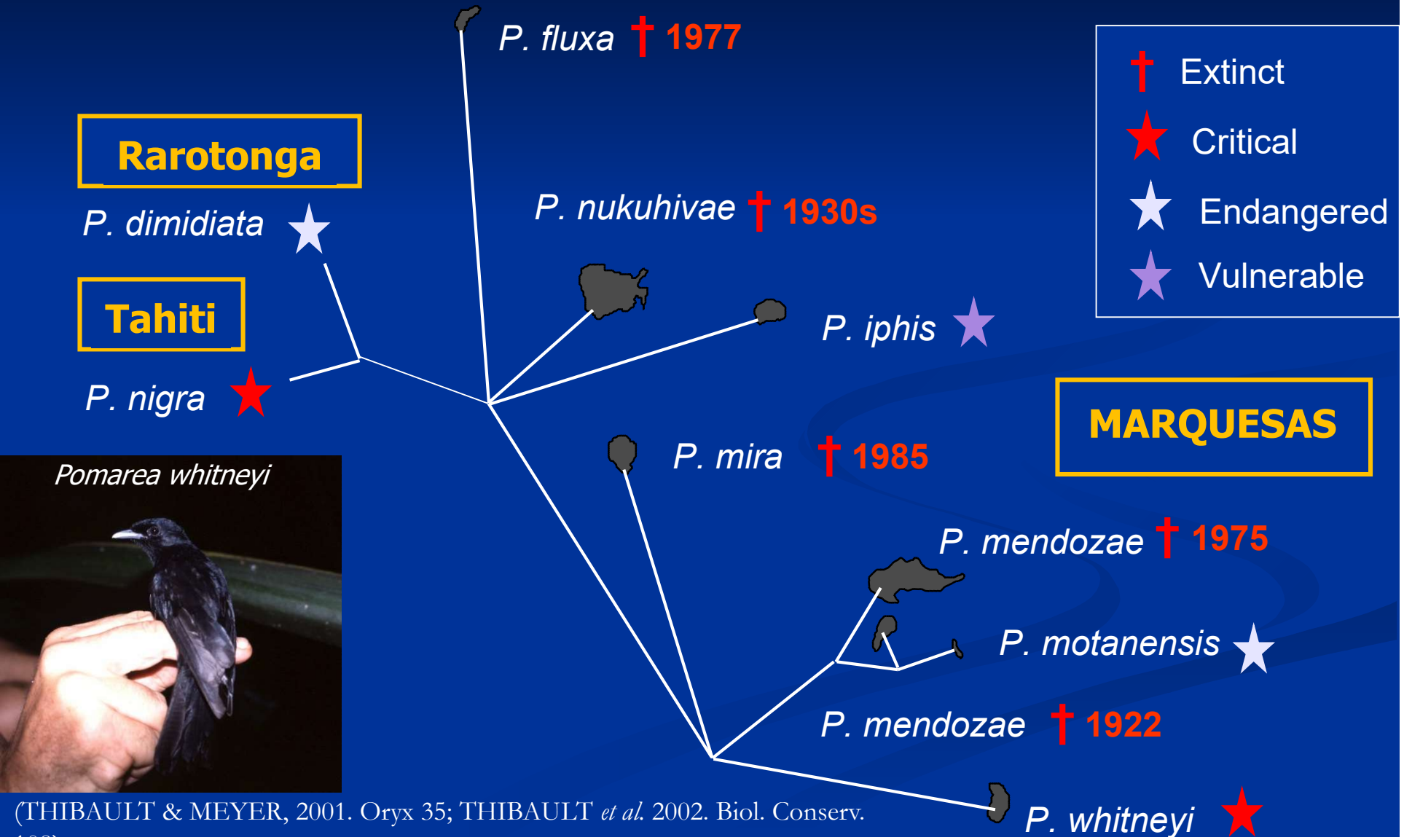


Sesbania coccinea subsp. atollensis var. parkinsonii (Sydney PARKINSON©, 1773)



Cyanoramphus ulietanus

Contemporary extinction or decline of monarchs (flycatchers) *Pomarea* spp. in Eastern Polynesia



Pomarea whitneyi

(THIBAULT & MEYER, 2001. Oryx 35; THIBAULT *et al.* 2002. Biol. Conserv.

Novel ecosytems and new biotic interactions

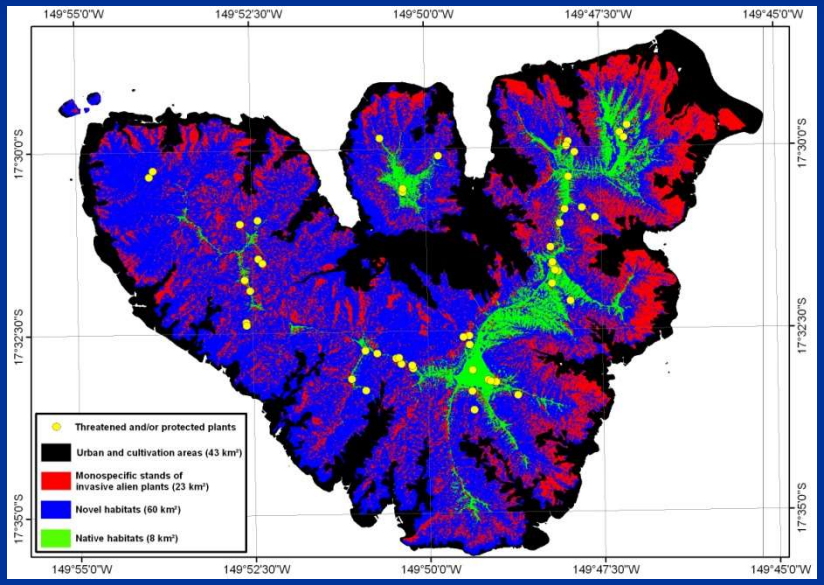
Biodivers Conserv (2015) 24:83–101
DOI 10.1007/s10531-014-0791-6

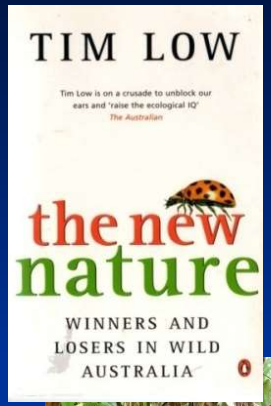
(2015)

ORIGINAL PAPER

The importance of novel and hybrid habitats for plant conservation on islands: a case study from Moorea (South Pacific)

Jean-Yves Meyer · Robin Pouteau · Erica Spotswood · Ravahere Taputuarai · Marie Fourdrigniez





Biol Invasions
https://doi.org/10.1007/s10530-021-02520-9

(2021)

ORIGINAL PAPER

Introduced mangroves in the Society Islands, French Polynesia (South Pacific): invasive species or novel ecosystem?

Jean-Yves Meyer · Florent Taureau · Laetitia Bisarah · Rakamaly Madi Moussa · Elena Gorchakova · Anne Caillaud



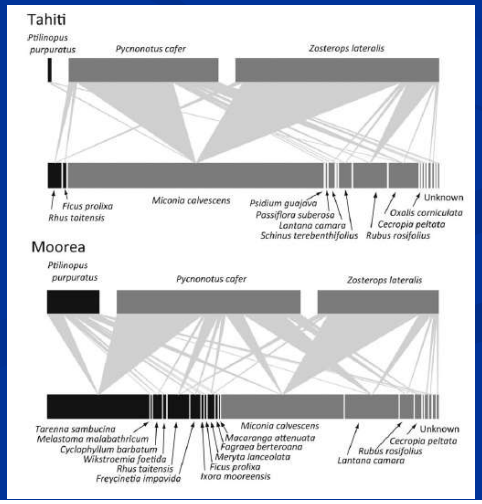
Journal of Biogeography (J. Biogeogr.) (2012)

(2012)

SPECIAL ISSUE

An invasive tree alters the structure of seed dispersal networks between birds and plants in French Polynesia

Erica N. Spotswood[1*], Jean-Yves Meyer[2] and James W. Bartolome[1]







Understanding the past…

Journal of Biogeography (J. Biogeogr.) (2016)

ORIGINAL ARTICLE

2016

Abrupt late Pleistocene ecological and climate change on Tahiti (French Polynesia)

Matthew Prebble[1]*, Rose Whitau[1], Jean-Yves Meyer[2], Llewellyn Sibley-Punnett[1], Stewart Fallon[3] and Nick Porch[4]



Tubuai, 2010





Vaifānaura'amo'orā, plateau Te Tamanu, Tahiti, 2009



Fitchia sp. pollen grain (M. PREBBLE©)

?

4 000 ans de climat dans le sol de Nuku Hiva



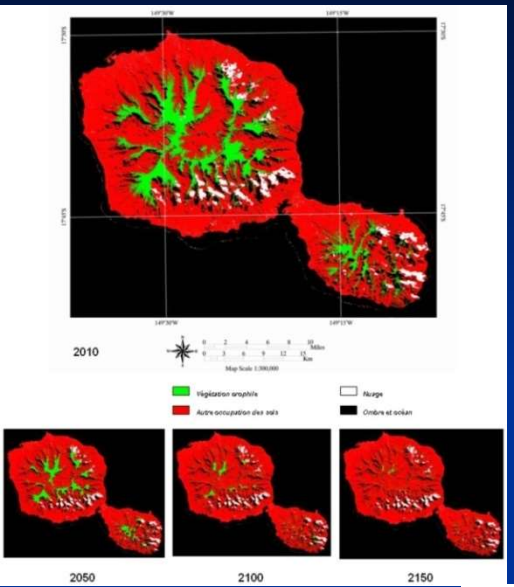
Tahiti, le 13 septembre 2022 - Quatre chercheurs, trois Britanniques et un Français, sont actuellement à Nuku Hiva. Ils travaillent sur l'étude du climat à travers les siècles et son impact sur l'environnement et l'activité humaine du Pacifique. Pour comprendre le passé et anticiper l'avenir, ils effectuent des carottages qui seront analysés ultérieurement en laboratoire. Après les Marquises, cette mission scientifique conduira les chercheurs aux Australes puis à Tahiti.

plateau To'ovii, Nuku Hiva, 2022





…and predict the future



(POUTEAU *et al.*, 2010)



Climatic Change (2016) 138:143–156
DOI 10.1007/s10584-016-1734-x

Fern species richness and abundance are indicators of climate change on high-elevation islands: evidence from an elevational gradient on Tahiti (French Polynesia)

Robin Pouteau[1] · Jean-Yves Meyer[2] · Pauline Blanchard[2,3] · Joel H. Nitta[4] · Maruiti Terorotua[2] · Ravahere Taputuarai[5]

(2016)

DOI: 10.1111/jbi.13228
RESEARCH PAPER
WILEY Journal of Biogeography

Will climate change shift the lower ecotone of tropical montane cloud forests upwards on islands?

Robin Pouteau[1] | Thomas W. Giambelluca[2] | Claudine Ah-Peng[3] | Jean-Yves Meyer[4]

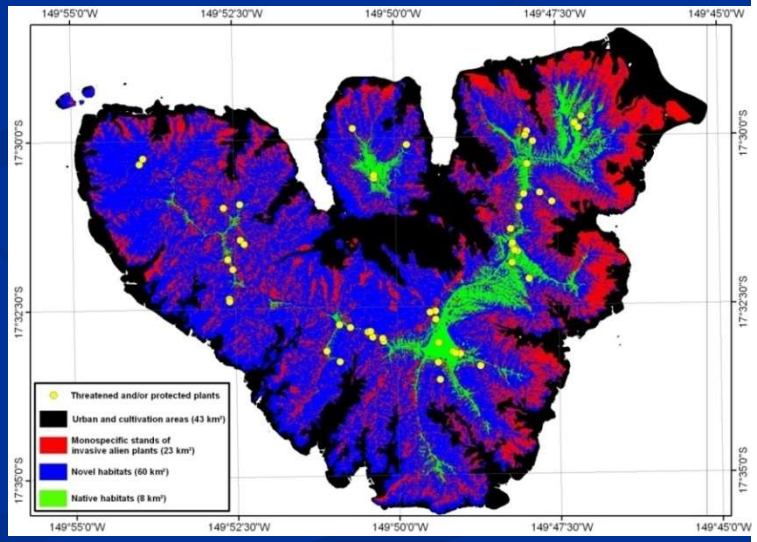
(2017)

Biodivers Conserv (2015) 24:83–101
DOI 10.1007/s10531-014-0791-6
ORIGINAL PAPER

The importance of novel and hybrid habitats for plant conservation on islands: a case study from Moorea (South Pacific)

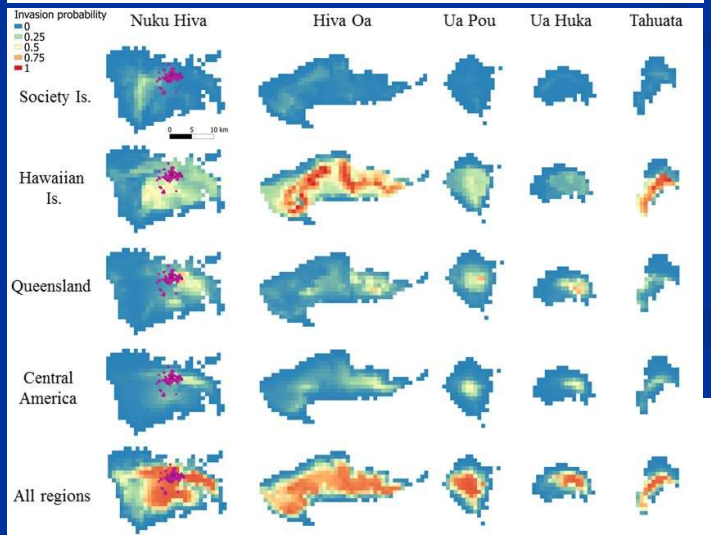
Jean-Yves Meyer · Robin Pouteau · Erica Spotswood · Ravahere Taputuarai · Marie Fourdrigniez

(2015)



Predicting the Invasion Risk of *Miconia calvescens* in the Marquesas Islands (South Pacific): A Modeling Approach[1]

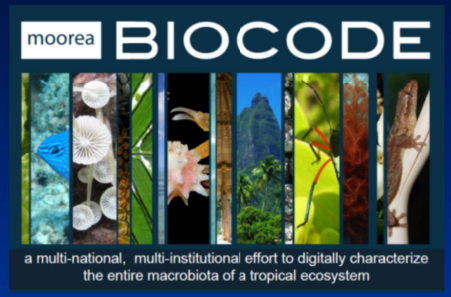
Mélanie Libeau,[2,3] Jean-Yves Meyer,[2] Ravahere Taputuarai,[4] and Robin Pouteau[5,6,7]



Pacific Science (2019), vol. 73, no. 1:17–34
doi:10.2984/73.1.2
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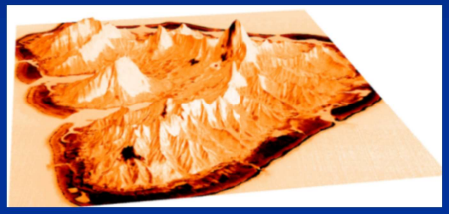
Understanding ecosystem dynamics & processes

- « MOOREA BIOCODE » (2007-2011)
- « Montane Vegetation as Listening Posts for Climate Change (MOVECLIM) » (2012-2015)

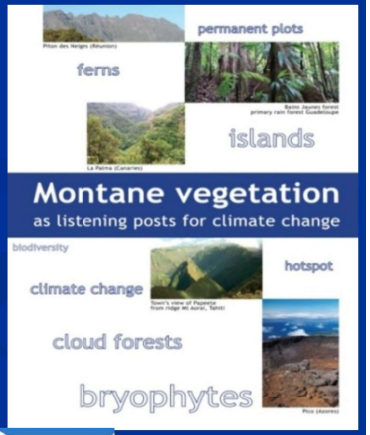


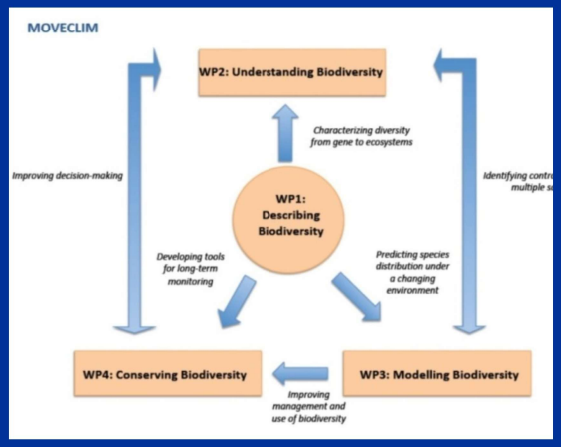


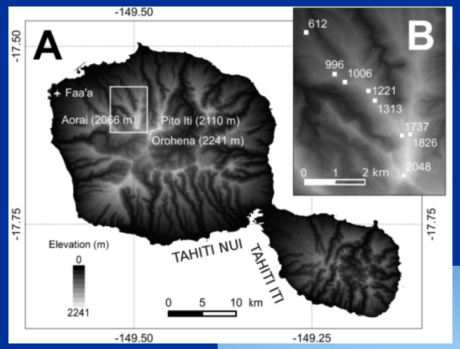














Summit of Mt Orohena, Tahiti



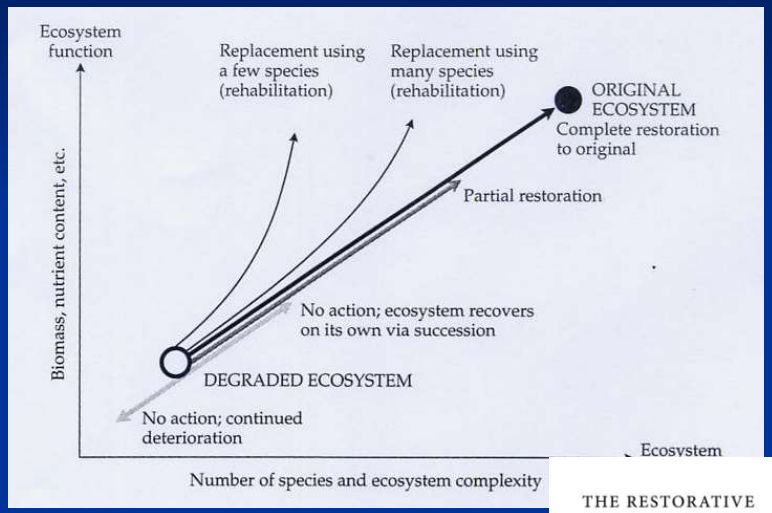






Ecological restoration

➢ "*Process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed*" (www.ser.org)



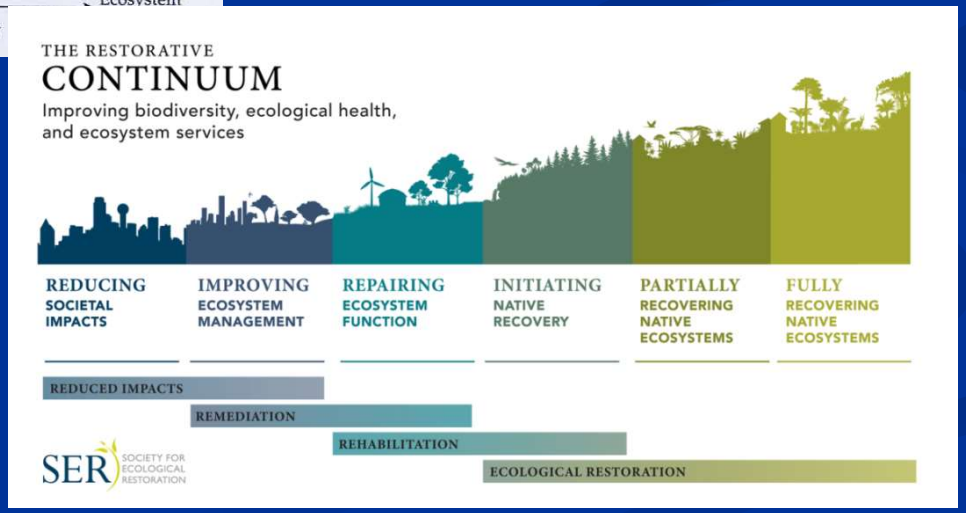


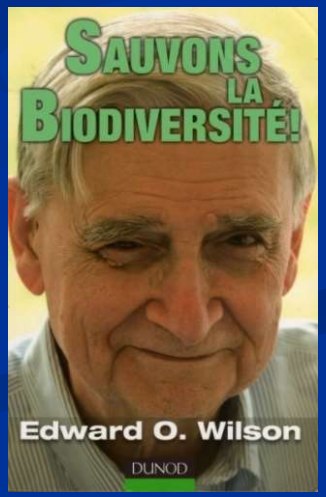
New Caledonia, 2011



Rapa Nui, 2012



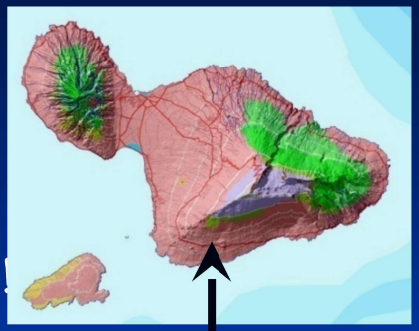




"The next century will, I believe, be the era of restoration in ecology" (E.O. WILSON, 1992)

Dry forest restoration in Auwahi, Maui (Hawai'i)

- 5% of the original dry forest left !
- Fencing (cattle, feral pigs) 4 ha in 1997 → 94 ha in 2008…
- Weeding & chemical control (invasive "kikuyu" grass)
- Replanting 36 native and endemic tree species





(1997)









(2014)



Restauration de forêts en Polynésie française

De Auwahi (Maui) à Maraeti'a (Tahiti)
L'alliance entre les scientifiques
et les communautés locales
pour la restauration
de forêts naturelles menacées

(MEDEIROS *et al.*, 2018. *Bull. Soc. Et. Océan.* 346)

PLANT ECOLOGY & DIVERSITY
https://doi.org/10.1080/17550874.2019.1584651

2019

Taylor & Francis
Taylor & Francis Group

ARTICLE

Check for updates

Short-term recovery of native vegetation and threatened species after restoration of a remnant forest in a small oceanic island of the South Pacific

Jean-Yves Meyer[a], Tiffany Laitame[b] and Jean-Claude Gaertner[c]

[a]Délégation à la Recherche, Gouvernement de la Polynésie française, Tahiti, French Polynesia; [b]UMR-241 EIO, Université de la Polynésie française, Tahiti, French Polynesia; [c]UMR-241 EIO, Institut de Recherche pour le Développement, Tahiti, French Polynesia









Rapa (T. LAITAME©)







TE RAU ATI ATI A
TAU A HITI NOA TU

Raumatariki

Restauration écologique via la lutte biologique





Contents lists available at ScienceDirect
Biological Conservation
2011
journal homepage: www.elsevier.com/locate/biocon

Conservation benefits of biological control: The recovery of a threatened plant subsequent to the introduction of a pathogen to contain an invasive tree species

Jean-Yves Meyer *, Marie Fourdrigniez
Délégation à la Recherche, Government of French Polynesia, Papeete, Tahiti, French Polynesia

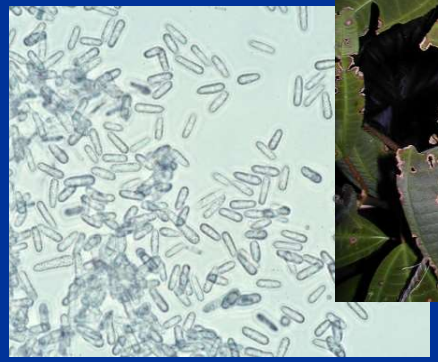


BioControl (2012) 57:191–198
DOI 10.1007/s10526-011-9402-6
2012

Restoring habitat for native and endemic plants through the introduction of a fungal pathogen to control the alien invasive tree *Miconia calvescens* in the island of Tahiti

Jean-Yves Meyer · Marie Fourdrigniez · Ravahere Taputuarai





Colletotrichum gloeosporioides forma specialis miconiae



2000



2008



Myrsine longifolia



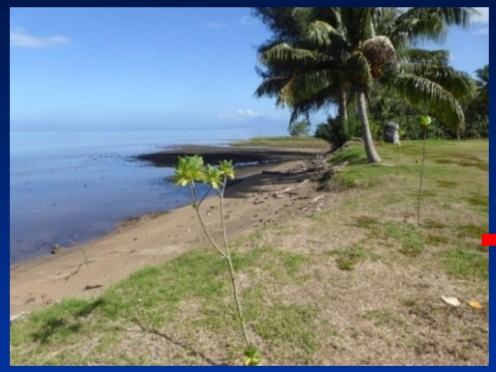
Liparis clypeolum



Psychotria speciosa

Restoration using nature-based solutions





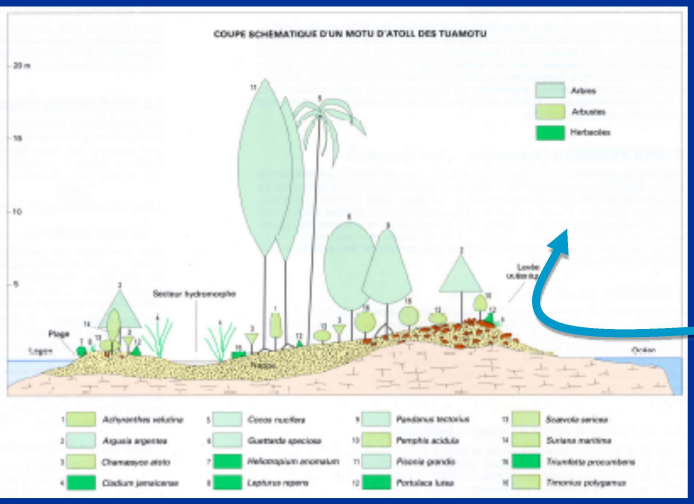
?







(2021-2023)









Restauration de la végétation littorale dans les îles de la Société (Tahiti, Mo'orea, Teti'aroa)



(2024-2026)



Onetahi, atoll de Teti'aroa







Honuea, atoll de Teti'aroa

Tetiaroa atoll restoration program (2018-on going)

"*It is my hope that the island will serve as an ecological model…*" (Marlon BRANDO)







Anoplolepis gracilipes





Anous solidus



Aedes polynesiensis



Rattus exulans



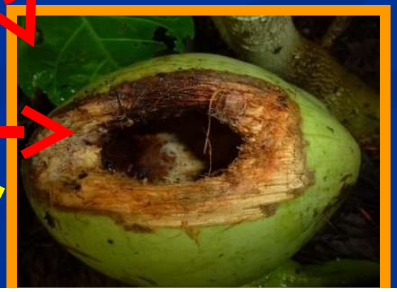
Pisonia grandis



Pandanus tectorius



Birgus latro

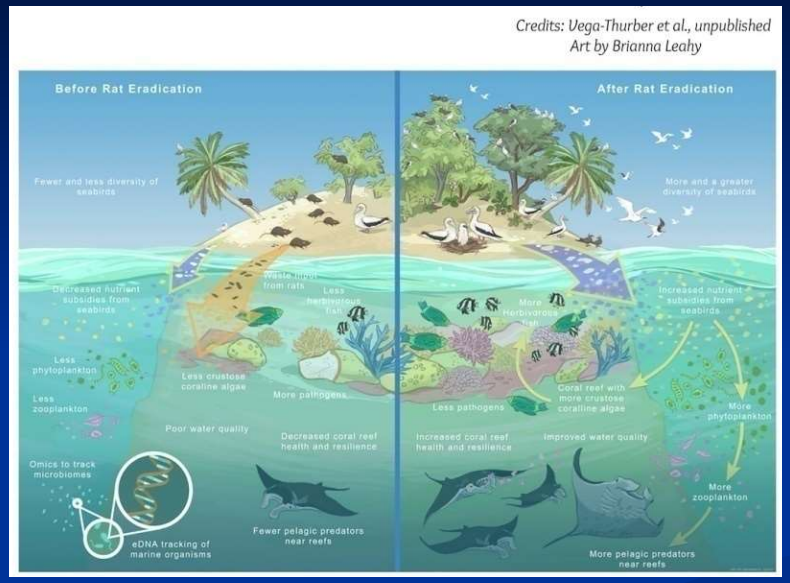


Cocos nucifera

TETIAROA society
• SUSTAINABILITY IN ACTION •

Dynamique de la végétation après dératisation







Pisonia grandis dense forest







Rat-free motu in Tetiaroa

A. Samaniego, R. Griffiths, M. Gronwald, F. Murphy, M. Le Rohellec, S. Oppel, J-Y. Meyer & J. C. Russell / Conservation Evidence (2020) **17**, 12-14 **(2019)**

A successful Pacific rat *Rattus exulans* eradication on tropical Reiono Island (Tetiaroa Atoll, French Polynesia) despite low baiting rates

Araceli Samaniego[1*], Richard Griffiths[2], Markus Gronwald[1], Frank Murphy[3], Moana Le Rohellec[3], Steffen Oppel[4], Jean-Yves Meyer[5] & James C. Russell[1]

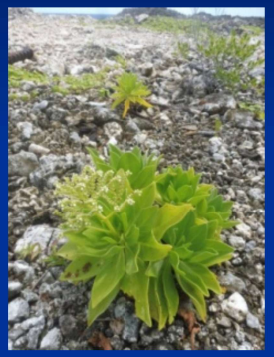


Pandanus tectorius dense forest in rat-free unihnabited atoll of Morane (Tuamotu)

Bio/Phyto/Rhizo-remédiation

= dépollution des sols, des eaux et de l'air en utilisant des organismes vivants : plantes et/ou microorganismes

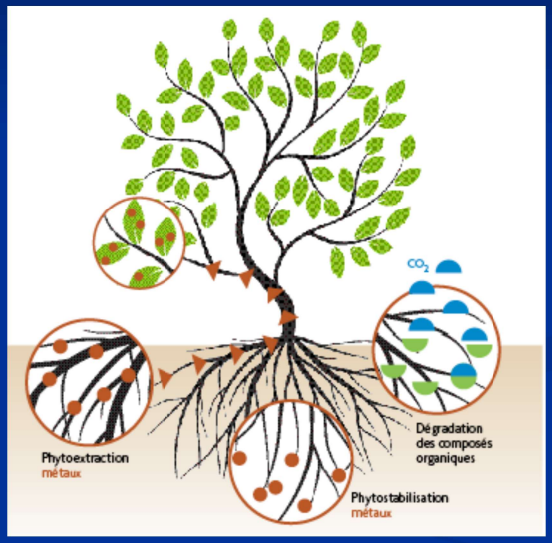








atoll de Hao (Tuamotu), février 2025



Rhizodégradation (PCB)

Microorganismes rhizosphériques ou endophytes capables de dégrader les contaminants organiques

Phytoextraction (Zn-Cd-Ni)

Microorganismes capables de solubiliser les métaux

Phytostabilisation (Pb)

Microorganismes qui piègent les métaux

cnrs

LIEC LABORATOIRE INTERDISCIPLINAIRE DES ENVIRONNEMENTS CONTINENTAUX

UNIVERSITÉ DE LORRAINE

Conclusions



(Le Canard Enchaîné, 2017)



(Plant Talk)

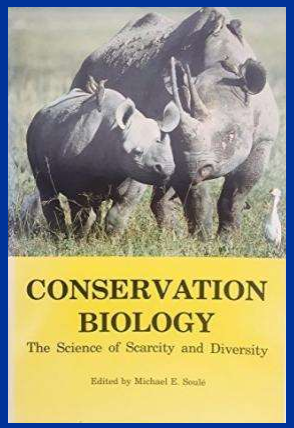
2007

BOIS ET FORÊTS DES TROPIQUES, 2007, N° 291 (1) 25
ÉCOTOURISME ET AIRES PROTÉGÉES
POLYNÉSIE FRANÇAISE

Conservation des forêts naturelles et gestion des aires protégées en Polynésie française

Jean-Yves MEYER

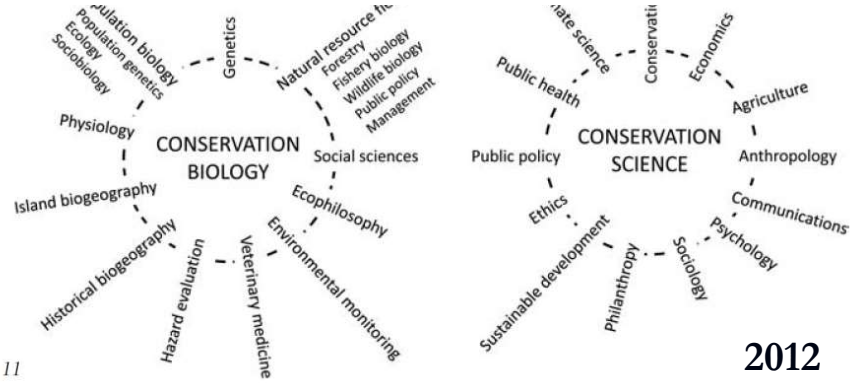
Délégation à la recherche (Gouvernement de Polynésie française)
BP 20981, Papeete, Tahiti
Polynésie française



1986

What Is Conservation Science?

PETER KAREIVA AND MICHELLE MARVIER



2012

BioScience • *November 2012 / Vol. 62 No. 11*

Conservation et gestion des milieux naturels terrestres aux îles Marquises : enjeux, contraintes et opportunités

Jean-Yves Meyer[1]



2016

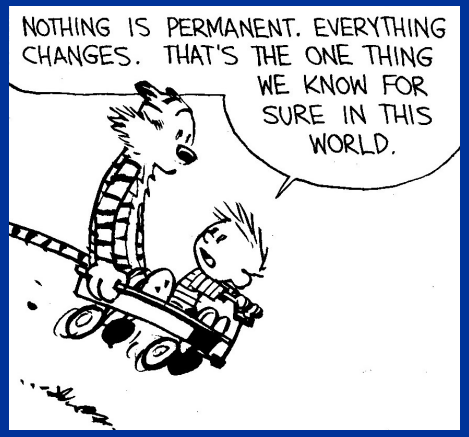
Défis futurs

➢ Vers de nouvelles stratégies et modes de conservation dans des écosystèmes « nouveaux » ou « hybrides » … et un contexte de changements locaux et globaux rapides !

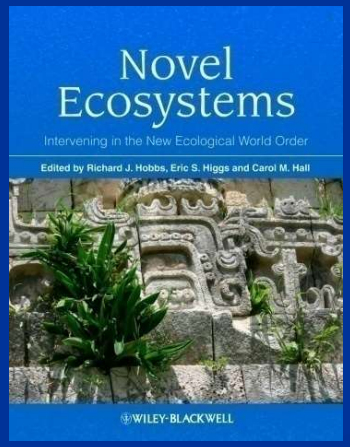
PACIFIC CONSERVATION BIOLOGY Vol. 20(2): 136–145. Surrey Beatty & Sons, Sydney. 2014.

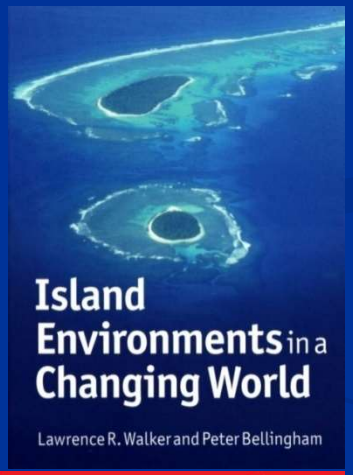
Isolated and vulnerable: the history and future of Pacific Island terrestrial biodiversity

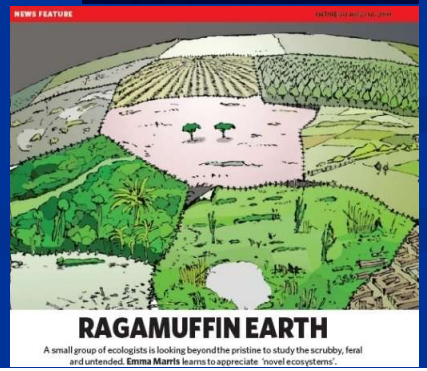
GUNNAR KEPPEL[1], CLARE MORRISON[2], JEAN-YVES MEYER[3] and HANS JUERGEN BOEHMER[4]



Calvin & Hobbes (WATTERSON©)







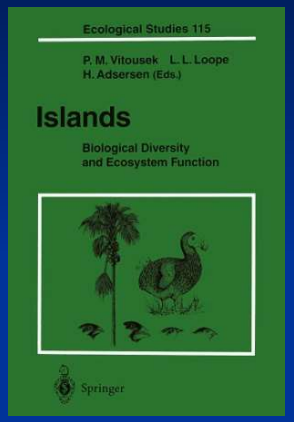


2018

Merci beaucoup/Maurruuru roa !

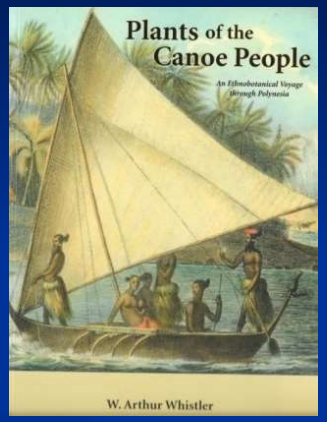
…en hommage à mes mentors « académiques »





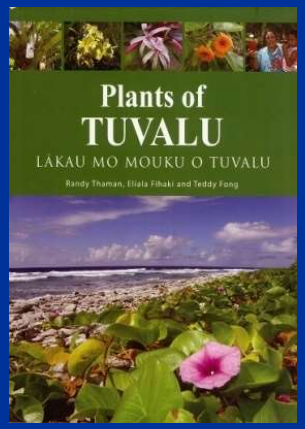
Dr. Lloyd L. LOOPE, USGS, Haleakala National Park, Maui (1943-2017†) & Betsy H. GAGNE, Hawaii DLNR (1947-2020†)





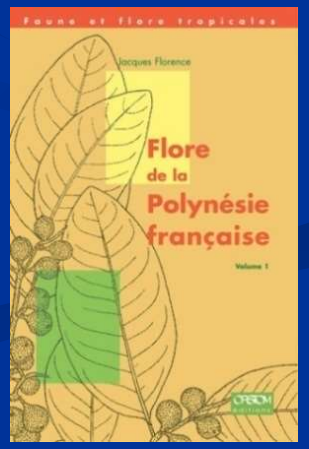
Dr. W. Arthur WHISTLER, University of Hawaii at Manoa, Honolulu (1944-2020†)





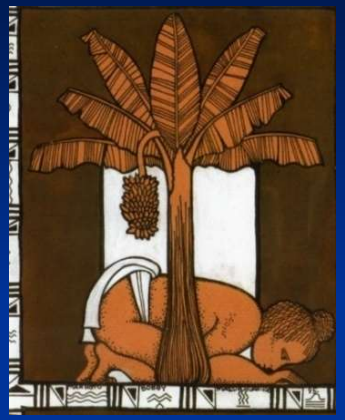
Prof. Randy THAMAN, University of the South Pacific, Suva, Fiji (1943-)





Dr. Jacques FLORENCE, IRD, MNHN, Paris (1951-)

The importance of culture in Oceania



(B. HOLCOMB©)

- « Traditional Ecological Knowledge » (TEK) & Bio-cultural values

- « Ethnobiodiversity » : ***The knowledge, uses, beliefs, resource-use systems and conservation practices, taxonomies and language that island societies have have for their ecosystems, species, and genetic diversity*** » **(Randy THAMAN, 2008)**



(Alofi, 2008)



(Hiva Oa, Marquesas, 2012)



(Futuna, 2008)



