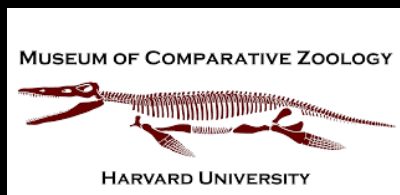


Enhancing Access to Taxonomic and Biogeographical Data to Stem the Tide of Extinction of the Highly Imperiled Pacific Island Land Snails

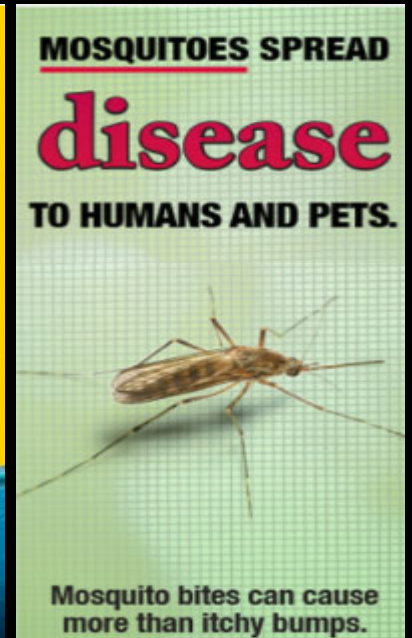
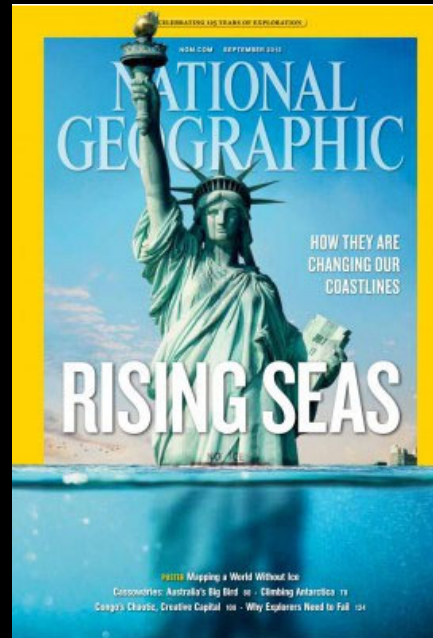
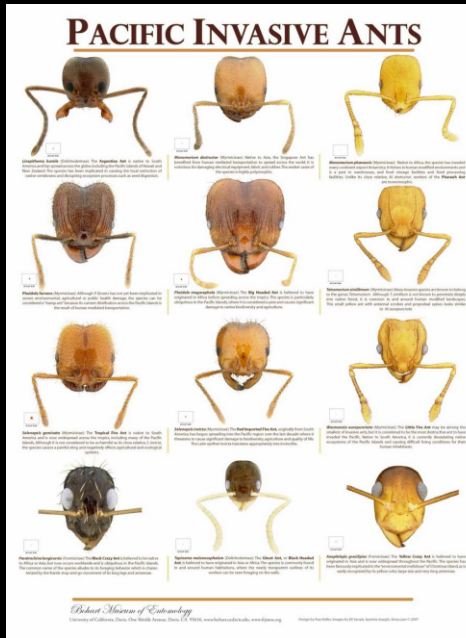
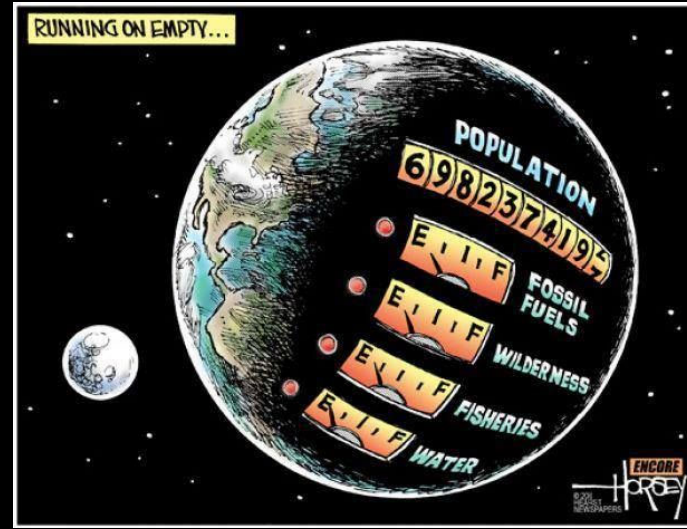


Biodiversity Crisis



Paper outlines era of 'biological annihilation'

Earth entering sixth mass-extinction event

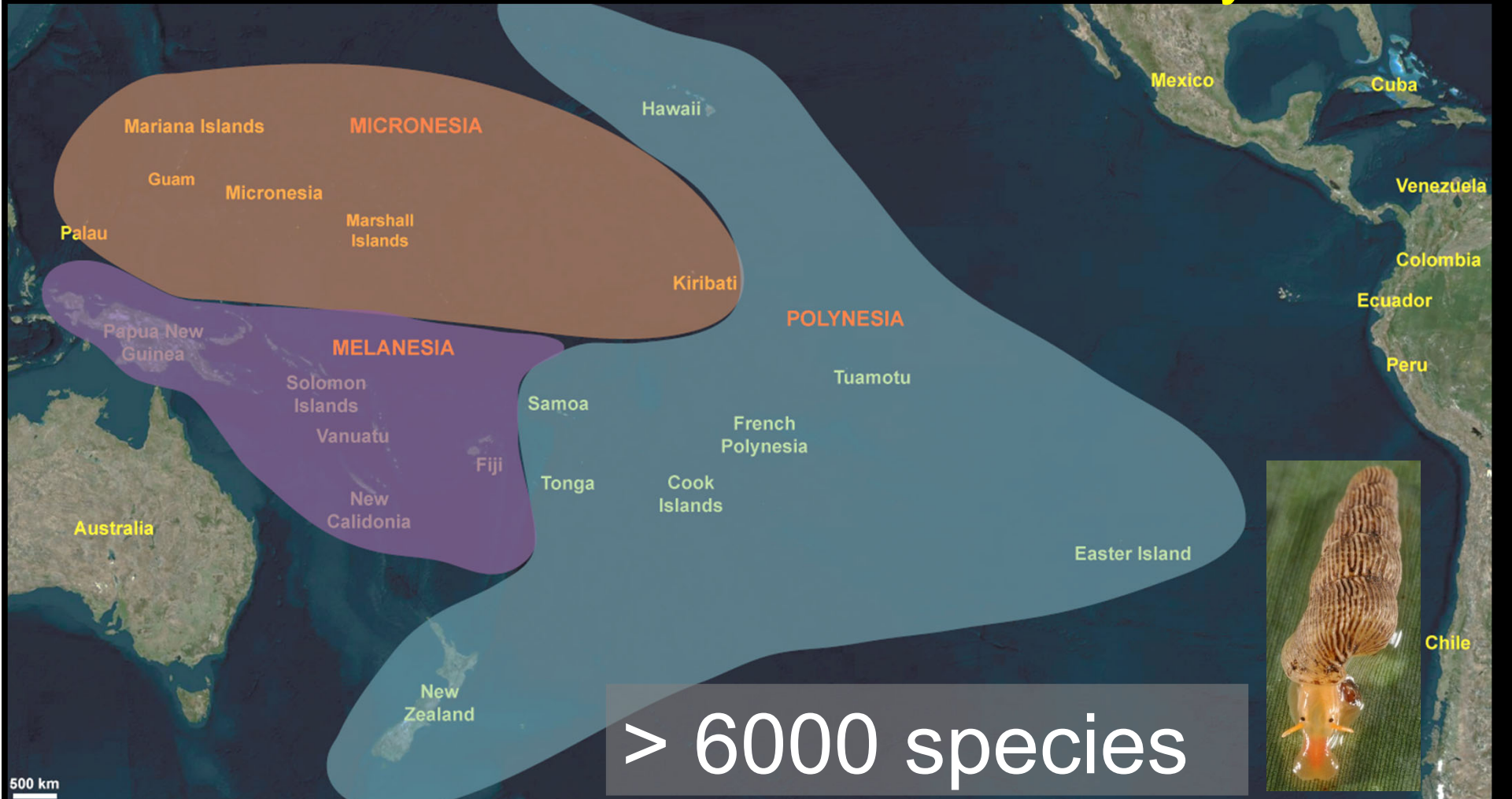


Biodiversity Hotspots (36)

- High diversity - high extinction
- 6 hotspots in the Pacific Ocean
- Polynesia-Micronesia + East Melanesia Hotspots
 - 6,100 islands (14 countries)

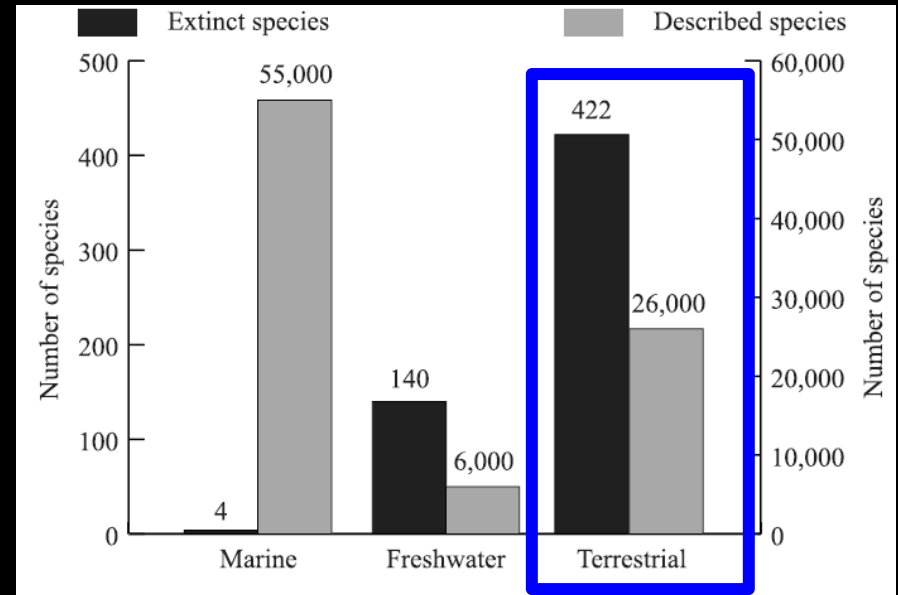


Pacific Island Land Snail Diversity

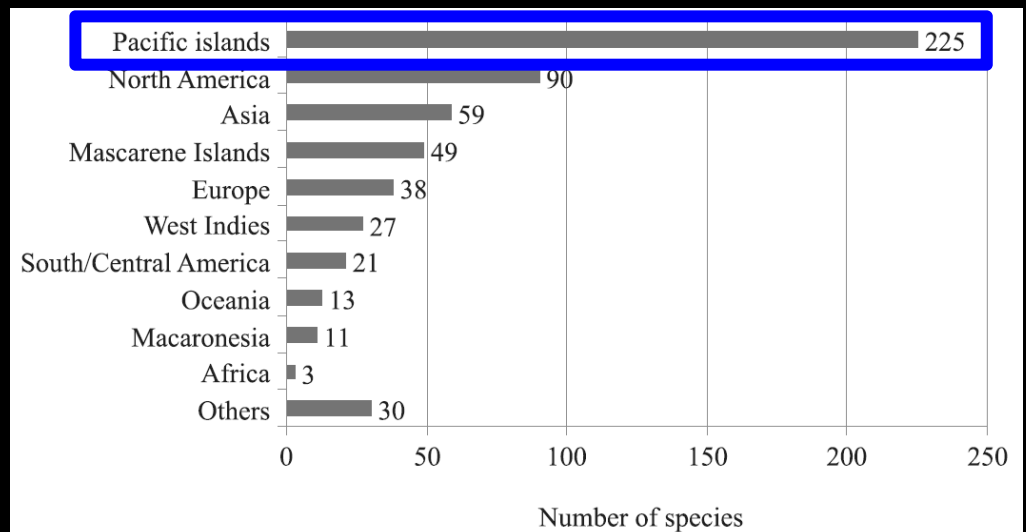


Not Knowing, Not Recording, Not Listing: Numerous Unnoticed Mollusk Extinctions

CLAIRE RÉGNIER,*‡ BENOÎT FONTAINE,† AND PHILIPPE BOUCHET*



- Highest number of documented extinctions of any major animal group since the 1500s
- 40% of all animal extinctions



Are snails important?

Bioindicators

Land snail diversity can reflect degrees of anthropogenic disturbance

Daniel D. Douglas ✉, David R. Brown, Neil Pederson

High diversity of snails = Healthy ecosystem

Litter decomposition

Influence of Terrestrial Molluscs on Litter Decomposition and Nutrient Release in a Hawaiian Rain Forest

Wallace M. Meyer III^{1,2,4,*}, Rebecca Ostertag³ and Robert H. Cowie¹

Issue

BIOTROPICA

Biotropica

Article
Oecologia
September 1970, Volume 5, Issue 3, pp 215-239

First online:

Snail populations, beech litter production, and the role of snails in litter decomposition

C. F. Mason



Food source



Are snails important?

Cultural needs



Conservation

1) Accurate and current knowledge of:

- Systematics
- Species distributions
- Ecological needs

2) Protect both the species and the habitats

Critical to developing such knowledge are
natural history collections



10518
(ex 103715)
Ach. bulimoides
kai papuensis
Holotype
4.11, 5.4.15 1958
Area 28, loc 544-5
Kaipapua

Box: 5919

Ureliia cochlea
Kalihikahi, Kauai



Natural History Collections

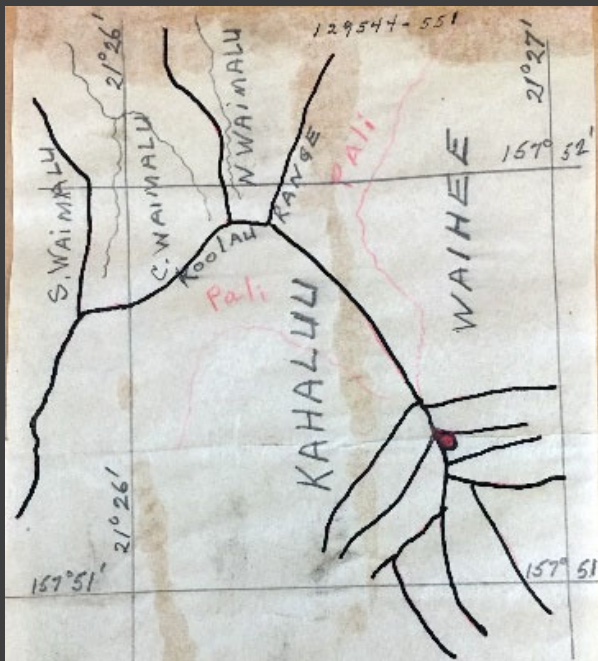
- Reference material
- Timeline of distributional records
- Habitat description and life history stages



Goulding

Box: 5918

Ureliia dolei isenbergi
Kaunakakai, Kauai



Section of OAHU,
showing
locality of shells collected
July 28, 1934
W. W. C. C. C.
collector
7/30/34

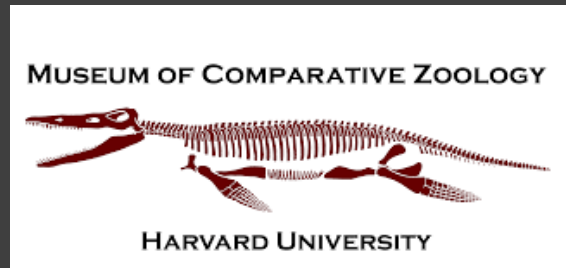
7006

bergi



17893

190762



Six Malacology Collections

Most comprehensive Pacific Island land snail collection

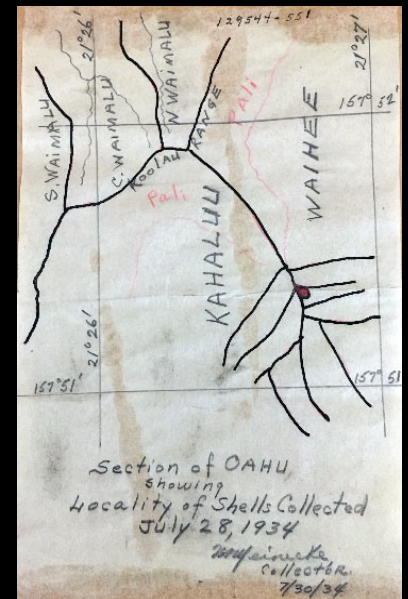
- 3.6 million specimens
- Representatives of extinct, endangered, threatened and invasive species

Objectives

- Taxonomic authority file
- Primary types
- Enhance biological information
- PILSBRy
 - Pacific Island Land Snail Biodiversity Repository (y'all)
- Alleviate taxonomic impediment
 - Citizen scientists, students

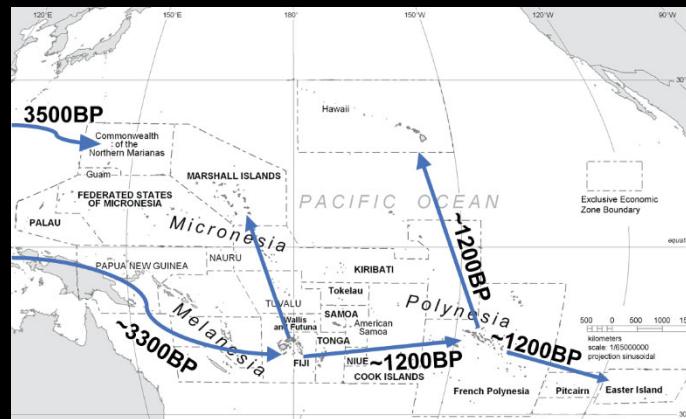


10518
(ex 103715)
Ach. bulimoides
Kaipapauensis
Holotype
H. 11, 8'4. 1958
Area 28, loc 544-5
Kaipapau

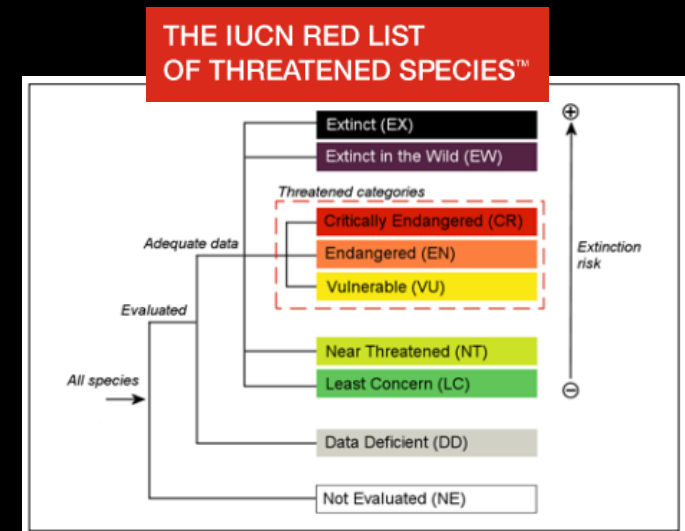


Research topics

- Increase taxonomic understanding to assess biodiversity
- Assess diversity gradients and biogeographical patterns
- Develop extinction models and probabilities
- Understand death assemblages
- Update conservation status



Human colonization routes and dates
(Reproduced from Matisoo-Smith 2015)





Mahalo!!

