Sharing 3 brief “invasive” species on islands case studies

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Asian subterranean termite

- Cost of chemical use – huge long-term burden to communities & government
- Extracted chemicals from the plant *Abrus*
- Trialled a low-cost control – bait toxicant
- Lab based – BAF restrictions
- Now needs field trials … a new person needed ….. Community livelihoods long term

Partulid Tree Snails



- Famous Polynesian tree snails (Partulidae) - considered the land snail conservation: Flagship family
- “Once” /still? used by Polynesians in their ceremonial dress
- Captive breeding programs for French Polynesian species extinct in the wild now in overseas zoos
- Family well studied in regards to their tragic extinction history, speciation & biogeography

Island Archipelagos	Current Number of species IUCN Red List assessed in threat categories							Total no. species assessed
	Extinct	Extinct in the Wild	Critically Endangered	Endangered	Vulnerable	Least Concern	Data Deficient	
Samoa			2	3				5
French Pol	51	11	12	1	2		3	80
FSM			3					3
Guam & Northern Mariana Is.	1		4					
Palau			2	1				3
Admir. & Bismarck Is.							3	3
Solomon Islands						1*	2	3
Tonga								2
Vanuatu								2
W & F								1
TOTAL	52	11	27	6	2	1	8	107

50% of assessments extinct, 35% either extinct in the wild or critically endangered



Survey Rotuma

- No living specimens of *Partula leefi* were found, only a few dead shells
- Hundreds were recorded in a 1938 survey by Bishop Museum
- Suggests possible extinction
- Islets not surveyed



Shell of *Partula leefei*

Not reported by science as alive in over 70 years (since 1938)

Brodie, G., Barker, G.M., Stevens, F. & Fiu, M. (2014). Land snail fauna of Rotuma: Conservation and Biosecurity implications. *Pacific Conservation Biology,* 20(1): 94-107.

PNG Flatworm: *Platydemus manokwari*



Sugiura & Yamura (2009)

Biol. Invasions 11: 737-742

Well known invasive species (in GISD top 100)

100's were present – very well established

Voracious predator of snails - follows "snail trails" up trees!

This was first record of this species for Fiji

But now confirmed on Viti Levu …..

John Fasi - Little fire ants *Wasmania*



- *Ecological impact on forests*
- *Pests in subsistence gardens*
- *Crop productivity – economic cost*
- *Social fabric of the community – cost?*

Vinaka vaka levu