

Placostylus elobatus, Flax Snail

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Mollusca	Gastropoda	Stylommatophora	Orthalicidae

Taxon Name: *Placostylus elobatus* (Gould, 1846)

Synonym(s):

- *Aspastus elobatus*
- *Bulimus colubrinus*
- *Bulimus elobatus*
- *Placostylus elobatus variety albino* Pilsbry, 1900
- *Placostylus elobatus variety colubrinus* (Pfeiffer, 1860)

Common Name(s):

- English: Flax Snail

Taxonomic Notes:

Fourteen species of *Placostylus* are recorded from the Fijian archipelago (Barker *et al.* 2005, Barker and Bouchet 2010).

Assessment Information

Red List Category & Criteria: Vulnerable B1ab(iii) [ver 3.1](#)

Year Published: 2012

Date Assessed: August 26, 2011

Justification:

This species is recorded from Vanua Levu (5,587 km²) with single records from each of Ovalau (~ 102 km²) and Viti Levu (10,531 km²). The last record of the species being sighted was in 1972. The number of locations is inferred to be five as a maximum - if the records from Ovalau and Viti Levu are not confirmed, the number of locations would be three. Considering the restricted number of locations (3-5) and the many potential threats affecting these islands of Fiji (invasive species, deforestation and unsustainable human land use), this species is listed as Vulnerable. Continued biosecurity vigilance is critical to prevent further invasive species' establishments in this species' habitat, and surveys to determine the current distribution and population size, as well as monitoring of habitat and populations, are also recommended.

Geographic Range

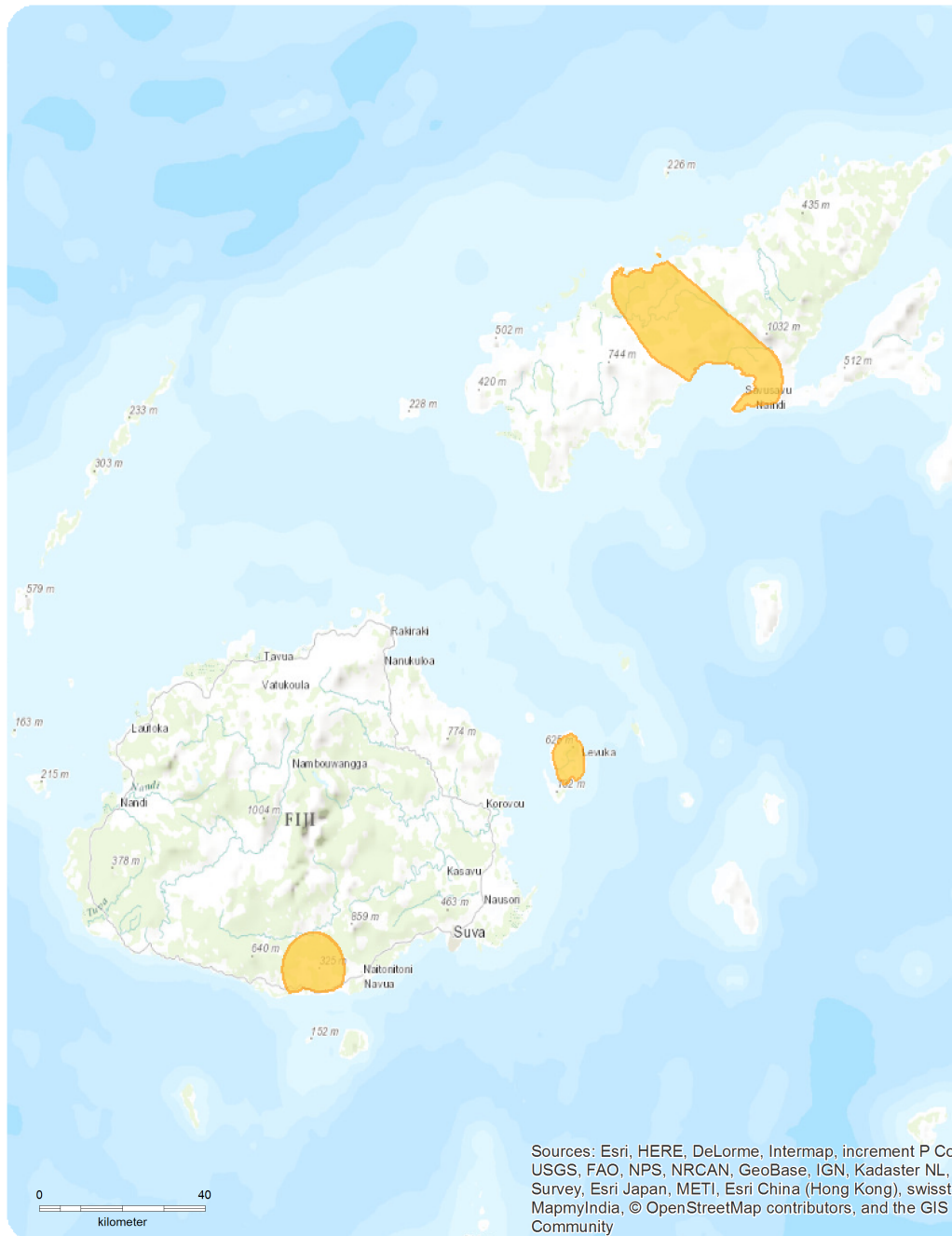
Range Description:

This species is recorded from Vanua Levu (5,587 km²) with single records from Ovalau (~ 102 km²) and Viti Levu (10,531 km²). The last record of the species being sighted was in 1972. The number of locations is inferred to be five as a maximum. If the records from Ovalau and Viti Levu are not confirmed, the number of locations would be three.

Country Occurrence:

Native: Fiji

Distribution Map

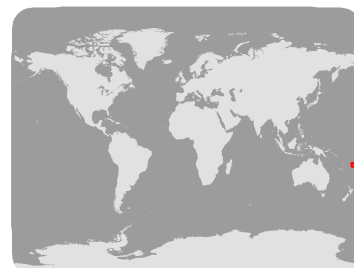


Placostylus elobatus

Range
■ Extant (resident)

Compiled by:
 International Union for
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NE DD LC NT < VU > EN CR EW EX
VULNERABLE



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.



Population

This species was reported as “not previously uncommon” by Barker *et al.* (2005). No mention of abundance was made by Gould (1846) when it was first described. Garrett (1872) considered it abundant throughout Vanua Levu.

Over 130 specimens, including the material of Gould, have been collected since 1870, with 50 specimens collected in 1941 near Savusavu on Vanua Levu (Barker, unpublished data). The current population size is unknown. The last record of the species was in 1972.

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

This species is reported by Barker *et al.* (2005) to be ground dwelling in moist lowland and montane forest. Little else about its ecology is known directly, however based on the study of *Placostylus* species in other Oceania countries (Brescia *et al.* 2008, Parish *et al.* 1995) members of the genus have very limited dispersal ability (Ponder *et al.* 2003) and are most likely to be closely linked to forest areas. They also have relatively specific microhabitat requirements such as calcium rich soils (Brescia 2001) and well-shaded moist, leaf litter and broad-leaf forest plant species. Based on inference from other members of the genus in the region (Parrish *et al.* 1995, Stringer *et al.* 2004, Brescia 2008) individual life span is likely to be between 3-20 years.

Systems: Terrestrial

Use and Trade (see Appendix for additional information)

This shell is known to be a collectors' item.

Threats (see Appendix for additional information)

Approximately half of Fiji's original forests have been lost through clearance for agriculture and via repeated fires, and large areas of remaining forest have been heavily degraded (Masibalavu and Dutson 2006). The 1990-93 national forestry inventory estimated the total land area under forest cover (including mahogany and pine plantations), on Vanua Levu to be 5,535 km² with dense and medium dense natural forest cover comprising 48% (2,653 km²). An updated forest inventory is expected soon based on 2007 data. Vanua Levu and Ovalau both have introduced rats and introduced predatory mongoose. The yellow crazy ant is also present on Vanua Levu but reported to be more prevalent in lowland and/or disturbed areas (Sarnat and Economo in revision). Rats and pigs are a known threat to *Placostylus* species in other Oceania countries (Sherley *et al.* 1998, Parrish *et al.* 1995). Introduced birds are also known to prey on placostylids in New Zealand (Parrish *et al.* 1995) although this is not as well documented. Domestic or feral grazers are also likely to cause considerable habitat modification. The presence of this species is not obviously recognized or acknowledged by the local indigenous community. Land snails are currently viewed by almost all Fijian communities as either valueless or crop pests.

Conservation Actions (see Appendix for additional information)

BirdLife International has designated two priority bird conservation areas (IBAs) on Vanua Levu: the Wailevu/Dreketi Highlands (720 km²) and the Natewa/Tunuloa Peninsula (180 km²). No land-based

conservation related programmes are currently known on Ovalau. Surveys to assess population size and distribution are needed, and local expertise should be developed to assist with such surveys. Determining the extent of invasive species threats is critical. Establishing any linkages between these snails and community land owners is also needed. Furthermore, assessing the genetic relatedness to other endemic *Placostylus* species in Fiji and the wider western Pacific region is recommended. There may be opportunities for surveys and awareness piggybacking on future conservation projects planned for Vanua Levu by BirdLife International and the local Fijian NGO NatureFiji via any new projects and via the Fiji government's National Biodiversity Strategy Action Plan (NBSAP) process.

Credits

Assessor(s): Brodie, G. & Barker, G.

Reviewer(s): Cowie, R., Triantis, K., García, N. & Pippard, H.

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External Resources

For [Images and External Links to Additional Information](#), please see the Red List website.

Appendix

Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	-	Suitable	Yes
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	-	Suitable	Yes

Use and Trade

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

End Use	Local	National	International
Sport hunting/specimen collecting	No	No	No

Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion		
1. Residential & commercial development -> 1.3. Tourism & recreation areas	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion		
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.3. Unintentional effects: (subsistence/small scale)	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion		
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.2. Named species	Ongoing	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		

8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.2. Named species	Unknown	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality	2. Species Stresses -> 2.2. Species disturbance	
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.2. Named species (Sus scrofa)	Unknown	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality	2. Species Stresses -> 2.2. Species disturbance	
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.2. Named species (Anoplolepis gracilipes)	Ongoing	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality	2. Species Stresses -> 2.2. Species disturbance	
8. Invasive & other problematic species & genes -> 8.1. Invasive non-native/alien species -> 8.1.2. Named species	Ongoing	Unknown	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality	2. Species Stresses -> 2.2. Species disturbance	

Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Actions Needed
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control

Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated extent of occurrence (EOO) (km ²): 16220

Distribution
Number of Locations: 5
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 3-20

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