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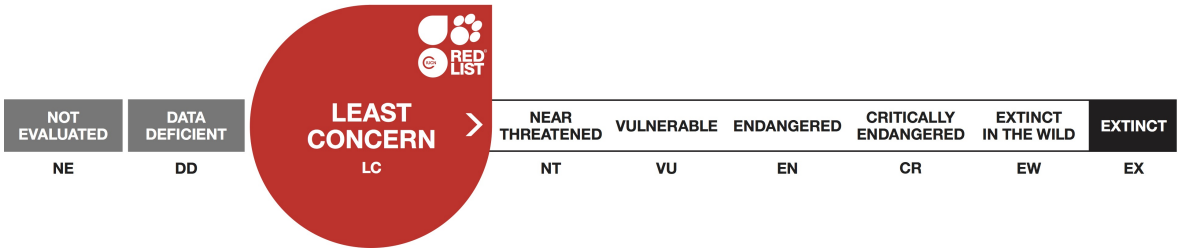
Placostylus fulguratus, Flax Shell

Assessment by: Brodie, G.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Mollusca	Gastropoda	Stylommatophora	Orthalicidae

Taxon Name: *Placostylus fulguratus* (Jay, 1842)

Synonym(s):

- *Aspastus gracilis subspecies verrieri* (Cooke, 1942)
- *Bulimus fulguratus*
- *Bulimus crassilabrum*
- *Bulimus rugatus*
- *Placostylus gracilis*
- *Placostylus crassilabrum*
- *Placostylus gracilis subspecies verrieri* Cooke, 1942
- *Placostylus gracilis subspecies vitiensis* (Garrett, 1887)
- *Placostylus gracilis variety crassilabrum* (Garrett, 1872)
- *Placostylus gracilis variety rugatus* (Garrett, 1872)
- *Placostylus rugatus variety minor* Kobelt, 1891
- *Placostylus rugatus*
- *Placostylus vitiensis*
- *Plekocheilus gracilis*

Common Name(s):

- English: Flax Shell

Taxonomic Notes:

Assessment Information

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2012

Date Assessed: September 2, 2011

Justification:

This species is assessed as Least Concern. It is relatively common and found relatively easily at several different and widespread locations on Viti Levu, within its known geographical range. More research is needed to determine its current occurrence on Vanua Levu, Ovalau and Beqa. The population of this species should be monitored for any potential future impacts of invasive species or collection.

Geographic Range

Range Description:

This species is endemic to four islands of the Fiji archipelago - Viti Levu, Vanua Levu, Ovalau and Beqa -

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where it has been recorded at approximately 100 sites (G. Barker pers. comm. 2011). It is a relatively small species of *Placostylus* (~ 45 mm in adult shell height). In freshly dead or living specimens there is a very distinct pink colour to the three terminal whorls of the shell apex.

Country Occurrence:

Native: Fiji

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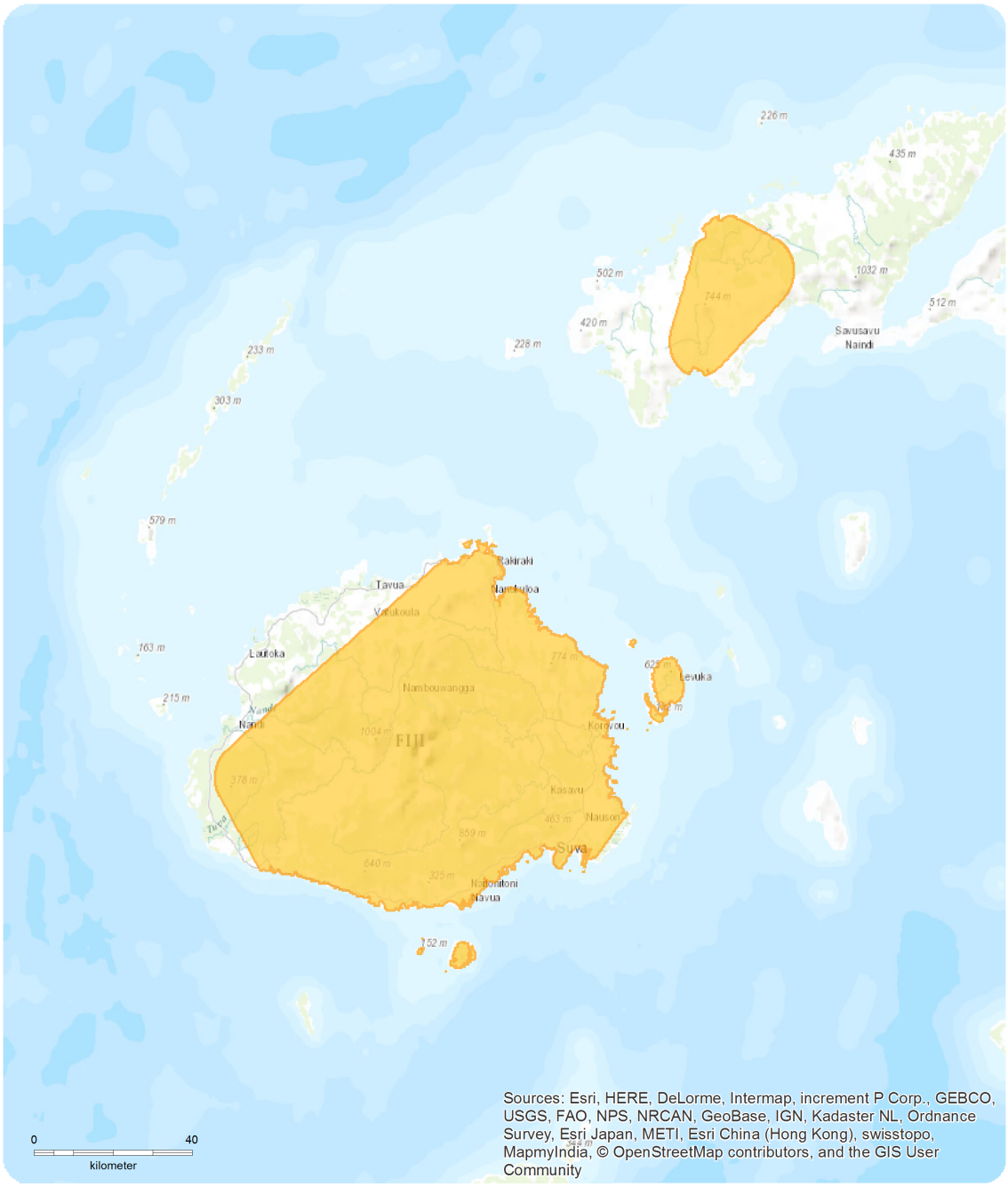
Distribution Map



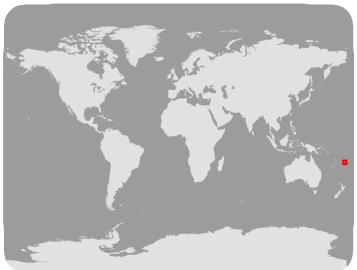
Placostylus fulguratus

NE | DD | LC LEAST CONCERN | NT | VU | EN | CR | EW | EX

Range

Extant (resident)

Compiled by:
International Union for Conservation of Nature (IUCN)



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

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Population

This species has been collected on numerous occasions since its description by Jay (1842). An early description by Broderip (1841) was made based on a single specimen delivered to him by a visiting boat captain. However, Garrett (1872) who undertook an extensive two year "conchological exploration" of the Fiji islands considered this species to be abundant but confined to Ovalau and eastern Viti Levu. In 1924, over 300 specimens were collected in the forest area behind Levuka on Ovalau and in 1979 58 specimens were recorded from several "sampling locations" on Viti Levu (Barker unpublished data). The species is currently widespread and appears relatively common on Viti Levu where one or two specimens per sampling site have been recorded by University of the South Pacific surveys since 2008 in various lowland to high-elevation forested locations i.e., Nakauvadra, Nakorotubu, Naitasiri, Nabukavesi and the Garrick Reserve (Brodie 2009, Brodie in press, Brodie unpublished data). The species was last recorded on Ovalau in 1980 and Vanua Levu in 2006 (Barker unpublished data). It is currently the most commonly seen of Fiji's fourteen endemic *Placostylus* species.

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

This species is found in forest habitats: e.g. Barker *et al*. (2005) [as *P. gracilis*] reported the species to be arboreal and found in lowland to high-elevation forest. Egg laying is likely to occur on the ground in nearby habitats such as plant-associated leaf litter (G. Barker pers. comm.). It appears to have a high mortality rate and slow growth as many more dead shells than living specimens have been found, and both living specimens and dead shells found are predominantly juvenile (Brodie unpublished data). Little else is known about its ecology, however based on studies 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. *Placostylus* species 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 with relatively smooth trunks. The latter is particularly important for arboreal species such as this. Based on inference from other members of the genus in the region (Parrish *et al*. 1995, Stringer *et al*. 2004, Brescia *et al*. 2008) individual life span is likely to be between 3-20 years.

Systems: Terrestrial

Use and Trade (see Appendix for additional information)

This species' shell is often sought after by collectors.

Threats

Lowland forests throughout this species' range are subject to ongoing loss, disturbance and degradation from agricultural and human settlements, logging, shifting subsistence agriculture, harvesting of wood, and invasive, domesticated and feral species. As such, the species might be considered subject to ongoing pressures. Nonetheless, the species is evidently moderately tolerant of habitat disturbance and the impacts of invasive species, and will probably persist provided forest cover is maintained. Monitoring of populations and of shells in trade is highly recommended in order to prevent any potential threats from collection.

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Conservation Actions (see Appendix for additional information)

Photographs of this species have recently been included in general biodiversity conservation awareness products produced by the Fiji Department of Environment (under the wrong scientific name) and the species has been highlighted on the website and public display banners of the locally active conservation organization NatureFiji/MareqetiViti. There may be opportunities for piggybacking on several existing conservation efforts in Viti Levu and in the future on conservation initiatives and biodiversity surveys planned for Vanua Levu in particular. Future conservation opportunities may also exist on Ovalau via the Fiji National Trust. Further research and monitoring of population size and trends is recommended.

Credits

Assessor(s): Brodie, G.

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

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Bibliography

Barker, G. Price, R. Briggs, C. 2005. Priorities for additions to the Fijian protected natural areas network: an assessment based on complementarity in land snail assemblages.Report prepared for Wildlife Conservation Society, Suva. Landcare Research, Hamilton.

Brescia, F. 2001. Conservation de l'escargot de l'Ile des Pins. Institut Agronomique néo-Calédonien.

Brescia, F., Pöllabauer, C., Potter, M. & Robertson, A. 2008. A review of the ecology and conservation of Placostylus (Mollusca: Gastropoda: Bulimulidae) in New Caledonia. *Molluscan Research* 28(2): 111-122.

Brodie, G. 2009. Preliminary observations of terrestrial gastropods of the Nakauvadra Range, Ra Province, Fiji. In: Morrison, C. & Nawadra, S. (ed.), *A rapid biodiversity assessment of Nakavadra Range, Ra Province, Fiji.*, pp. 70-75. Conservation International, Arlington, VA, USA., Suva.

Brodie, G. in press. Terrestrial land snails & slugs of Nakorotubu & Wailotua, Fiji. A rapid biodiversity assessment of Nakorotubu district, Ra Province, Fiji. RAP Bulletin of Biological Assessment.. Conservation International, Arlington, USA. (in press).

Classen, D. 1991. Deforestation in Fiji. Government of Fiji.

Clunie, F. 1986. Travels in the interior of Viti Levu by Eduard Graeffe. (translated). *Fiji Museum Domodomo* 4(3).

Fasi, J. 2009a. Invasive ants in the Solomon Islands: a threat to biodiversity. In: Jenkins, A. P., Prasad, S.R., Bacchiochi, J., Skelton, P. & Yakub, N. (ed.), Proceedings of the Inaugural Fiji Islands Conservation Science Forum. Suva, Fiji.

Fasi, J. 2009. Quantifying the dominance of little fire ant (Wasmannia auropunctata) and its effect on crop in the Solomon Islands. Biology, University of the South Pacific.

Garrett, A. 1872. List of species of Bulimus inhabiting the Viti Islands, with notes on their geographical range, and descriptions of new species. *American Journal of Conchology, new ser.* 7(4): 231- 236, pl. 18.

IUCN. 2012. IUCN Red List of Threatened Species (ver. 2012.2). Available at: http://www.iucnredlist.org. (Accessed: 17 October 2012).

Jay, D.C. 1842. Bulimus malleatus et Bulimus fulguratus. *Revue et Magasin de Zoologie, Paris* 5: 80, pls 61,62.

Masibalavu, V. T. & Dutson, G. 2006. *Important Bird Areas in Fiji: Conserving Fiji's Natural Heritage.* Birdlife International Pacific Partnership Secretariat., Suva, Fiji.

Parrish, G.R.; Sherley, G.H.; Aviss, M. 1995. Giant landsnail recovery plan Placostylus spp., Paryphanta spp. New Zealand Department of Conservation, Wellington.

Ponder W.F., Colgan, D.J., Gleeson, D.M. & Sherley, G. 2003. Relationships of Placostylus from Lord Howe Island: an investigation using he mitochondrial cytochrome c oxidase 1 gene. *Molluscan Research* 23: 159–178.

Sherley, G.H., Stringer, I.A. N., Parrish, G.R. & Flux, I. 1998. Demography of two landsnail populations (Placostylus ambagiosus, Pulmonata: Bulimulidae) in relation to predator control in the far north of New Zealand. *Biological Conservation* 84(1): 83-88.

Stringer, I.A.N.; Parrish, G.R.; Sherley, G.H. 2004. Population structure, growth and longevity of Placostylus hongii (Pulmonata: Bulimulidae) on Tawhiti Rahi Island, Poor Knights Islands, New Zealand.

Pacific Conservation Biology 9: 241–247.

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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

Conservation Actions Needed
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
1. Land/water protection -> 1.2. Resource & habitat protection
4. Education & awareness -> 4.3. Awareness & communications

Research Needed
(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 8200
Estimated extent of occurrence (EOO) (km²): 36200
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 3-20

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