



Quantula striata
(Grey, 1834)

FAMILY ARIOPHANTIDAE

Current Risk Status in Fiji:

Low

Body Type:

Snail with well developed shell

Size:

**Shell height ~ 15-20 mm,
shell diameter ~ 26 mm**



**USP Introduced Land
Snails of the Fiji
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Manaaki Whenua
Landcare Research



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Description & Distribution

Description

Living *Quantula striata* (Gray, 1834) are variable in body colour but generally reddish brown, pale grey or cream. The relatively thick, well-developed shell reportedly grows to 50 mm in diameter in some countries but this has not been observed in Fiji. The shell is dextral (right handed coiling) with a broadly rounded apex (= helioid). The shell is relatively large, round and wide with six whorls. In colour the shell is generally deep reddish brown with a creamy white underside. A clear but narrow umbilicus (central opening) can be seen on the ventral surface. Dead shells are usually bleached to pale brown or a dirty white.

Distribution

Native to the southern Malay Peninsula. Established in Fiji prior to



P. Ryan

Source and location of photographs:

P. Ryan, V. Chandra & G. Brodie (Fiji)

1913 (Barker *et al.* 2005) and now widely distributed in Fiji. Found in lowland to mid-elevation forests and gardens. Also introduced in Singapore, Malaysia, Cambodia, the Philippines and some islands in the Rhio Archipelago. *Quantula striata* is sometimes given the common name "Bioluminescent Snail".

Special points of interest:

- *Quantula striata* is reportedly the only land snail in the world capable of true bioluminescence.
- *Quantula striata* is considered a comparatively low risk introduced land snail species in Fiji because it has not been observed as a crop pest or a disease vector and is generally found only in disturbed areas.
- *Quantula striata* is common on USP's Laucala campus and in the Sigatoka Sand Dunes Park. It is generally only active at night or during cool wet weather.

Habitat & Behaviour

Habitat

Quantula striata is generally found on the ground but can also climb on low vegetation. Found predominantly in human-disturbed areas such as disturbed forests, gardens, waste ground, lawns, rubbish dumps, under concrete and in open shrubland. It is generally found all year around, but is especially abundant during the wet seasons (Isobe *et al.* 1991).

Behaviour

Quantula striata prefers cool damp areas with shady vegetation. It is gregarious in nature and can therefore often be found together with other individuals, particularly when inactive during the hotter and drier times of the day. *Quantula striata* is an omnivore (feeds on both plants and animals) however it appears to prefer decaying flesh. More research is needed to confirm this.

FIJI LAND SNAILS



V. Chandra



P. Ryan

Biology

Quantula striata is regarded as the only land gastropod in the world capable of true bioluminescence (Councilman & Ong 1988). There is a special organ inside the head which creates flashes of yellow-green light (Copeland *et al.* 1987) although the bioluminescence is reportedly found only in eggs and juveniles

(Isobe *et al.* 1991). The biological function of the bioluminescence in *Q. striata* has not been well established. To the best of our knowledge this phenomena has not been recorded in Fiji. *Quantula striata* reportedly reaches reproductive maturity at about 16mm in shell diameter (Councilman *et al.* 1988).

Threats & Similar Species

Threats

Quantula striata evidently poses no immediate threat but it is a relatively large snail that can occur in high numbers, so it is likely to compete with native species at the very least. More research is needed.

Similar Species

Bradybaena similaris (Rang, 1831) has a very

similar shell shape but is smaller and generally paler in shell colour when the animal is alive. The comparative adult shell size of *B. similaris* is shell diameter ~14mm, shell height ~11mm. The umbilicus of *Q. striata* (seen as a small hole centrally in the shell's ventral surface) is also narrower than in *B. similaris*. *Q. striata* is often assigned to the genus *Dyakia*.

Further Reading

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