



Gulella bicolor
(Hutton, 1834)

FAMILY STREPTAXIDAE

Current Risk Status in Fiji:
Medium - High

Body Type:
Snail with elongate pupiform shell

Size:
Shell < 8 mm high and 2 mm wide

Description & Distribution

Description

A living *Gulella bicolor* has two pairs of tentacles on the head. The upper pair of tentacles, and a line leading from it along the back, are vermilion (red) in colour giving the front of the animal a very distinctive Y-shaped pattern. The lower tentacles are minute and hard to see. The shell is cylindrical with seven or eight whorls and a blunt apex. The shell is thin and takes on the body's vermilion colour. When empty the shell is transparent and colourless (Hutton 1834). Four prominent teeth, just inside the shell aperture, are easy to see in empty shells (Auffenberg & Stange 1986). The anterior and posterior portions of the body are orange-red and yellow respectively, hence the common name "two-toned" and the specific name "bicolor".

Distribution

A circum-tropical species, native to India and south-east Asia (Neck 1976). Reported to be widely distributed in the Fiji archipelago in lowland forests and modified ar-



Source & location of all photographs:
Bill Frank (Florida, USA)

eas but most prevalent in Viti Levu, Ovalau and Vanua Balavu (Barker *et al.* 2005). Reported also as introduced to American Samoa, the Federated States of Micronesia, Guam and the Northern Mariana Islands (Cowie 2001).

Habitat & Behaviour

Habitat

Gulella bicolor is found in leaf litter and soil and is associated with decaying wood, limestone rocks, caves, stone walls, gravestones, river edges and wharves (Dundee & Baerwald 1984). It is generally found in disturbed areas.

Behaviour

Gulella bicolor is a carnivorous predatory snail that feeds on other snails (e.g. subulinids & pupillids) as well as on earthworms. Commonly found in shaded areas, they are active only when the humidity is high (Dundee & Baerwald 1984).



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Manaaki Whenua Landcare Research



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Special points of interest:

- Despite its small size *Gulella bicolor* is a carnivorous predator capable of threatening populations of small native snails and other invertebrates.
- *Gulella bicolor* feeds in a similar way to the famous high risk carnivorous snail *Euglandina rosea*.
- *G. bicolor* are gregarious (social) and can be found in colonies

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Biology

Gulella bicolor is hermaphroditic (functions as both a male and female) and lays eggs that are comparatively large and few in number. The eggs are capable of with-standing desiccation

for periods of up to nine months. Reproduction is frequent (every other month in warm weather) and they are known to form colonies (Dundee & Baerwald 1984).

Threats & Similar Species

Threats

Being carnivorous and with a high reproduction rate, *Gulella bicolor* poses a potential threat to native Fijian species. Impact may be considerable if invasion into native forest occurs.

Similar Species

The shell of *Gulella bicolor* is similar to other

small elongate snails such as the pupillids (Family Pupillidae) which include the introduced *Gastrocopta* snails and endemic members of the *Nesopupa*. They are also similar to subulinid snails and other members of the Family Streptaxidae. *G. bicolor* is often assigned to the genus *Huttonella*.

Further Reading

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