

Extension Fact Sheet 50: Giant African Snail



Common name: Giant African snail

Scientific name: *Lissachatina fulica*, previously known as *Achatina fulica*

Hosts: Usually, the snail eats rotten vegetation and animal wastes; however, a wide range of vegetables, ornamentals and tree crops are also eaten.

Damage

The snail attacks more than 500 types of plants, but it prefers breadfruit, cassava, cocoa, papaya, peanut, rubber and most species of legumes and cucurbits. Cuttings and seedlings are especially vulnerable. Damage is greatest when outbreaks first occur in a new area. Population explosions result in hundreds of snails per square metre.

The rat lungworm parasitises the snail, and if the snails are not cooked thoroughly before being eaten by human beings, the lungworm can cause meningitis.

The economic impact of the snail is unclear. When first introduced, populations soar, but population explosions are often followed by population crashes. It then becomes a minor pest of agriculture and human health. But it does have an impact on the environment: a) dead snails are places where flies breed; and b) it causes loss of biodiversity: native plants are eaten, and it competes with local snail.

Biology and Life Cycle

The snails vary considerably in size and colour. Some grow to 15 cm in length and 5-8 cm wide, whereas others only grow to 6.5 cm in length. Commonly, the shells are light brown with darker brown and cream bands.

The snail feeds at night or when the weather is overcast and rainy during the day; it avoids the sun by sheltering under stones, logs or in crevices. If dry weather lasts, the snail seals the opening of the shell awaiting a return to favourable conditions.

Each snail has male and female sex organs (hermaphrodite), but reproduction requires cross-fertilization. Eggs are first laid when females are about 6 months' old. The eggs are cream, about 5 mm diameter, laid below the soil surface or the sides of logs, in batches of 200 to 300. The eggs hatch within 1 to 2 weeks. Up to a 1000 eggs are laid each year and snails live for up to 5 years.

The snails can travel up to 50 m in a night, moving on the slime made by the soft part known as the 'foot'. Long distance travel is by human beings: the eggs and young snails may be in soil of pot plants or sawdust; the adult snails may be taken and raised for food, kept as pets, or they are transported as hitchhikers on boats or land vehicles.

Detection and Inspection

Conduct surveys at night looking for rasping and defoliation of plants, ribbon-like excreta and slime trails. Look for snails much larger than any indigenous ones of Solomon Islands; look for the typical colour banding on the shell.

Management

Natural enemies:

Predatory snails, such as *Euglandina rosea* and *Gonaxis quadrilateralis*, and flatworms, e.g., *Platydemus manokwari*, have been introduced to control the snail, but the effects have been a disaster for local snail populations. Environmental impact studies are essential because of the non-specific nature of these predators.

Ducks will attack the snail; they are the only type of livestock that will do so. Although population explosions can be immensely destructive immediately after spread to a new area, invariably snail population will decline. The problem is how to deal with the snail until that happens, which may be months or years.

Cultural control:

Cultural control is important. The following should be done:

- Make a strip of bare earth about 1.5 m wide around cultivated areas. Bands of sand are also effective
- Collect the snail regularly, preferably by mobilising the community – schools in particular. Bury the snails or feed them to pigs after boiling for an hour
- Conduct awareness campaigns: a) snails should not be kept as pets; b) they are a threat to human health; and c) community action is needed to control them.

Chemical control:

The usefulness of metaldehyde or methiocarb (pellets containing 1.5-1.8 % of poison) over large areas is not encouraged, although they are probably effective in small-scale cultivation. Take care to prevent livestock, pets and children from eating them: put the pellets in tins or bamboos in the evening and collect them in the morning. Chemical control needs to be combined with cultural methods to be effective. Poisoned snails should never be fed to pigs or other livestock.