

## Giant African Snail

*Achatina fulica* (Bowdich),

Gastropoda: Achatinidae

### INTRODUCTION

The Giant African Snail (*Achatina fulica*) is a polyphagous plant pest that has been growing quickly since leaving its native region in East Africa. The pest was introduced to other areas as a commercial food source and a novelty pet. *A. fulica* has been classified as one of the world's top 100 invasive alien species by The World Conservation Union. *A. fulica* is a threat to the sustainability of crop systems and native ecosystems, negatively affecting fauna and vector of human diseases.

Within the Achatinidae, four species are classified as giant African snails: *Achatina achatina*, *A. fulica*, *Archachatina marginata*, and *Limicolaria aurora*.

### DESCRIPTION

The adults are on average 5-10 cm, but can be bigger than 20 cm in shell length, 7-20 cm in height and on average weigh 32 grams. The Giant African Snail (GAS) has a narrow, conical shell which is twice as long as it is wide (Fig. 1). As an adult the shell normally contains 7 to 9 whorls and is generally reddish-brown with light yellowish markings (Fig. 2). However, colouration varies with environmental conditions and diet. Each snail contains both female and male reproductive organs. After a single mating session, each snail can produce a batch of 100 to 400 eggs. *A. fulica* produces large eggs that are 4.5 to 5.5 mm in diameter (Fig. 3) and only hatch at temperatures above 15 degrees Celsius.

### BIOLOGY

The snails prefer areas rich in calcium and flourish in areas with limestone, marl and places with concrete and cement. They are active between 9-32 degrees Celsius, however, can survive lower and higher temperatures by burrowing in the soil. GAS are generally nocturnal forest dwellers and prefer concealed habitats. However, individuals may colonize due to



Figure 1: Adult GAS feeding



Figure 2: Adult GAS showing features of shell

**Pictures by**  
Kishma Primus-Osmond Plant Protection, Antigua  
and Barbuda

### BIOLOGY cont'd

overcrowding (Fig. 4) and can adapt to disturbed habitats. GAS can live up to 10 years in the wild.

Adults can lay up to 1200 eggs per year after only one mating season. Snails begin laying eggs at six months of age and fecundity lasts approximately 400 days. Eggs hatch from 5 to 21 days depending on the temperature. Snails mature at around 5 to 15 months, depending on the temperature.

### DAMAGE

**Competition:** Large populations can reduce native plants and outcompete native snails.

**Agricultural:** Loss of crop yield caused by herbivory, and additional costs related with management of the pest. This is predominantly because the snails aggregate and hence can cause severe damage to infested plants. The calcium carbonate in their shells neutralizes acid soils and affect the plants grown in that area. GAS is also known to spread spores of *Phytophthora palmivora* (black pod disease of cacao) in its feces among other *Phytophthora* sp. that affects taro, auergine and tangerine. GAS has a large host range, feeding on over 500 plants, however, major crops affected by GAS are: banana, beans, Brassicas, coffee, groundnut, papaya and peas.

**Human direct impacts:** GAS has been seen as nuisance when they aggregate in built-up areas, crawling on walls and across roads. GAS can also spread the nematode, *Metastrongylus* which causes parasitic bronchitis.

### ENTRY PATHWAYS

At any stage of its development, it can easily become attached to machinery and transport vehicles, allowing it to travel over long distances. Giant African Snail travel long distances affixed to ships and cargo.

### REGULATORY STATUS

GAS is a quarantine pest. Within the Caribbean Region, it has been reported in Antigua and Barbuda.



Figure 3: GAS eggs.



Figure 4: Cluster of adults Giant African Snails in A. a tree and B. yam tuber.

### REFERENCE(S)

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