NATURE IN SINGAPORE **18**: e2025075
Date of Publication: 31 July 2025
DOI: 10.26107/NIS-2025-0075
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Biodiversity Record: Dwarf giant African snails, *Lissachatina fulica*

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Recommended citation. Lau WL (2025) Biodiversity Record: Dwarf giant African snails, *Lissachatina fulica*. Nature in Singapore, 18: e2025075. DOI: 10.26107/NIS-2025-0075

Subjects: Giant African snail, *Lissachatina fulica* (Mollusca: Gastropoda: Achatinidae).

Subjects identified by: Lau Wing Lup.

Location, dates and times: Singapore Island, Aljunied Crescent; 29 March 2025 at around 1600 hrs.

Habitat: Urban. Residential estate with concrete high-rise buildings and plots of cultivated vegetation.

Observer: Lau Wing Lup

Observations: A live dwarf snail with shell height of about 5 cm was seen grazing on a banana plant stem next to a comb of unripe bananas at about 1.5 m above ground after rain (Fig. 1). Another live miniature specimen of about 4 cm shell height was seen on grass patch below banana plants nearby (Fig. 2). Nine dead adult shells (Figs. 3–6) exhibiting dwarfism were found among shells of typical form.

Fig. 1. Lateral (a), dorsal (b) and aperture (c) views of a live dwarf African giant snail grazing on banana stem beside a comb of unripe bananas after rain. Space between black bars = 1 mm (Photographs by: Lau Wing Lup).

Live dwarf snails have the same brownish-grey body as the typical form. The shells resemble juveniles but are considered dwarves because of their thickened appearance. Notable morphological features include flared outer lip, sinuous outer lip profile (Fig. 2c), thick outer lip, thick reddish aperture (Fig. 5), multiple growth lines on the edge of the last whorl (Fig. 6), calloused parietal wall, thickened columellar, and heavier appearance when compared to typical shells of the similar size. The smallest adult dwarf snail is 27 mm in shell height (Fig.4). Two highly eroded whitish specimens (Fig. 3) have thick double lips.

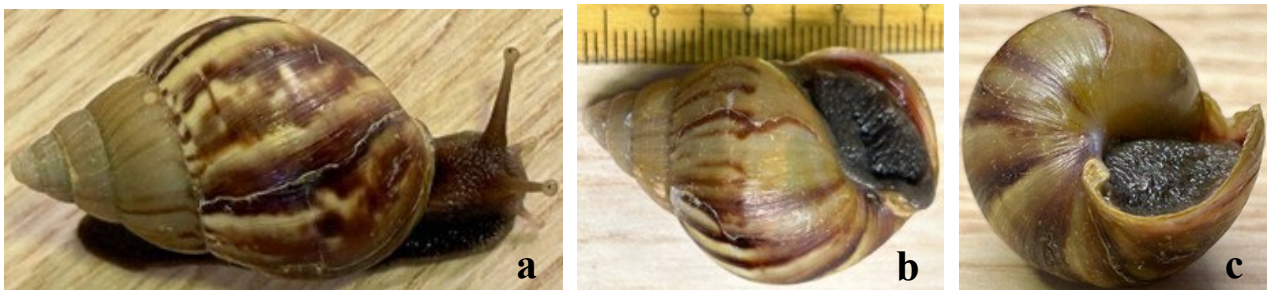

Fig. 2. Dorsal view of a dwarf snail (a). Aperture view of the same snail (space between black bars = 1 mm (b). Umbilical view of the same snail showing thickened columella and flared mid-section of the peristome (c) (Photographs by: Lau Wing Lup).

Remarks: This seems to be the first record of live dwarf *Lissachatina fulica* snails, in Singapore (see Chan & Lau, 2025), and apparently the first time that multiple dwarf examples are found within a small area, of about 50 square metres. It is not known if the formation of thick shells could be attributed to the presence of calcium intentionally placed on soil in the form of fertilizers. Dickens et al (2018) found that the decrease in shell height and snail mass of *Lissachatina fulica* can be attributed to the effects of the snail's high population density within the habitat. Mangal et al (2010) and Garr et al (2011) found that effects related to high-density are most probably due to the release of chemicals that inhibit growth in freshwater snails, but studies are not available for land snails. It appears that this miniaturisation of *Lissachatina fulica* is a natural phenomenon.


Fig. 3. Aperture views of two highly eroded dwarf shells with double lips (first two from left) and four other freshly dead dwarf shells from Aljunied Crescent. Space between black bars = 1 mm (Photographs by: Lau Wing Lup).

Fig 4. Aperture view of the smallest dwarf shell, about 27 mm in height. Fig. 5. Aperture view of a dwarf shell with thick reddish aperture (space between black bars = 1 mm). Fig. 6. Lateral views of dwarf shells with multiple growth lines on the last whorl, and some with flared mid-section at the peristome (Photographs by: Lau Wing Lup).

Literature cited:

Chan S-Y & Lau WL (2025) Biodiversity Record: Dwarfism in the giant African snail, *Lissachatina fulica*. Nature in Singapore, 18: e2025030. DOI: 10.26107/NIS-2025-0030

Dickens KL, Capinera JL & Smith TR (2018) Effects of density and food deprivation on growth, reproduction, and survival of *Lissachatina fulica*. American Malacological Bulletin, 36(1): 57–61. DOI: 10.4003/006.036.0115

Garr AL, Lopez H, Pierce R & Davis M (2011) The effect of stocking density and diet on the growth and survival of cultured Florida apple snails, *Pomacea paludosa*. Aquaculture, 311: 139–145.

Mangal TD, Paterson S & Fenton A (2010) Effects of snail density on growth, reproduction and survival of *Biomphalaria alexandrina* exposed to *Schistosoma mansoni*. Journal of Parasitology Research, 2010: 1–6.