

# APPLE SNAILS IN CAMBODIA

## Background

- Apple snails from South America, genus *Pomacea*, have been introduced deliberately to various south-east Asian countries, including the Philippines and Viet Nam, as well as to Papua New Guinea, Guam and Hawaii, over the last 15 years or so.
- These snails have become serious crop pests in regions where they have become established, especially in the Philippines and Viet Nam.

## Economics

- The main reason for the introduction of apple snails to south-east Asia is as a possible source of income from snail breeding for food. However, nowhere has this proven economically viable.
- The snails either escape or are deliberately released. In every country in which they have then become established they have become serious crop pests, especially in rice. Yields have fallen. In the Philippines these snails are now considered the number one rice pest.
- The loss in food production resulting from snail damage far exceeds the possible economic gain from selling snails, even if there were a viable market.

## Ecology

- Apple snails are amphibious. They require water to live in, but can survive for long periods of time out of water and can crawl about on dry land.
- The pest species of *Pomacea* in Asia crawl out of the water and lay their eggs up to 1 m above the water surface on vegetation, rocks, walls, etc. The egg clusters of these species are bright red or pink.
- If the water dries out, the snails can bury into the mud and become inactive. They can remain alive in this state perhaps for as long as 9 months. When the water returns the snails reappear.
- Population densities of pest species of *Pomacea* can be extremely high: up to 100 per sq. m.

## The Situation in Cambodia

- Apple snails (*Pomacea* spp.) have not yet been found in rice in Cambodia. As yet they have only been found being bred in small ponds and tanks, around Phnom Penh and in Prey Veng and Svay Rieng.
- There appear to be two species of apple snails in Cambodia. These are provisionally identified as *Pomacea insularum*, which is generally a golden colour and may reach extremely large size (up to 10 cm.), and *Pomacea*

*canaliculata*, which is usually dark brown (but can be greenish or even golden-yellow in colour) and smaller than *P. insularum*.

### **Pest Potential in Cambodia**

- Experience in other countries, especially the Philippines and Viet Nam, indicates that apple snails have the potential to seriously threaten food security in Cambodia.
- Damage experiments conducted by DOA/IRRI demonstrate the potential speed with which the snails can damage rice: in 4 days up to 40% of young rice tillers were lost, even though snail density was low.
- Without action to prevent the establishment of apple snails in Cambodia, it is estimated that apple snails will become pests within 2 years and will be of major pest status throughout rice-growing areas of Cambodia within 5 years.

### **Carriers of Disease**

- In addition to their pest potential, apple snails are potential hosts of the parasite *Angiostrongylus cantonensis*, the rat lungworm. If people eat poorly cooked snails, this parasite can cause the potentially deadly disease eosinophilic meningitis.

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