

# Aliens of Kamayca

a newsletter on non-indigenous species in Jamaica

## ALIEN AMONGST US

### *Hedychium coronarium*



Source: [http://commons.wikimedia.org/wiki/File:Starr\\_030729-0106\\_Hedychium\\_coronarium.jpg](http://commons.wikimedia.org/wiki/File:Starr_030729-0106_Hedychium_coronarium.jpg)

because of the clusters of white flowers, shaped similarly to butterflies. White Ginger Lily can be found flowering between the months of June and December.

The plant is a native of the South Asian Regions such as the Himalayas. Today it can now be found in many countries around the World, with Cuba in particular where it is the National Flower. The specific date of introduction to Jamaica is unknown; however after being cultivated here, it quickly made Jamaica a home in regions such as Hardwar Gap (St. Andrew), Whyda near Canewood and Green Hill (Portland).

The habitat of this gregariously growing plant can be found mostly along streams, ditches and also areas of high elevation with great moisture. The hardiness of this plant is often displayed by its ability to withstand tremendous diversity in climatic conditions.

*Hedychium coronarium* lily is an invasive plant, in addition to other species from the same genus such as *Hedychium gardneranum* and *Hedychium coccineum*. The invasiveness of this plant impacts negatively on the environment as it has the potential to grow over low-growing plants that are present.

Notwithstanding its invasive qualities, White Ginger Lily also has some usefulness. The sweet smelling flower has aesthetic value as it is often used as adornment by Brazilian women and it makes a great ornamental plant. However, unlike its cousin *Zinger officiale*, it does not have edible properties.

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**References:**  
Adams C. D. *Flowering Plants of Jamaica*. Glasgow: The University Press, 1972  
[http://commons.wikimedia.org/wiki/File:Starr\\_030729-0106\\_Hedychium\\_coronarium.jpg](http://commons.wikimedia.org/wiki/File:Starr_030729-0106_Hedychium_coronarium.jpg)

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This tropical herbaceous plant referred to as the White Ginger Lily or the Butterfly Lily is a member of the family Zingiberaceae. Physically, this plant is easily identifiable by its herbaceous shoots that get up to 1.2 – 2.5 m when in flower. The distinct leaves can be characterized by a crimson spot found on the top of the sheath. The shapes of the leaves are long (50 cm.) and broad (10 cm). The flowers are found on a corolla tube and have a pleasant fragrance. The plant is also called the butterfly orchid

## *Pomacea diffusa* (Blume 1957), a new addition to the freshwater malacofauna of Jamaica



***Pomacea diffusa* (Adult Snail)**

Source: [http://2.bp.blogspot.com/\\_tV1f\\_mYuDk/S-2\\_bK5CKyI/AAAAAAAAAJs/yzwa8HMNKTk/s1600/Pomacea\\_bridgesii\(effusa\)\\_Dsc\\_0185.jpg](http://2.bp.blogspot.com/_tV1f_mYuDk/S-2_bK5CKyI/AAAAAAAAAJs/yzwa8HMNKTk/s1600/Pomacea_bridgesii(effusa)_Dsc_0185.jpg)

Jamaica's freshwater systems support a number of introduced snail species: *Planorbella duryii*, *Thiara granifera* and *Melanoides tuberculata* (Hyslop 2003). Here I report on a freshwater invasive snail recently recorded in the country, *Pomacea diffusa*.

*P. diffusa* belongs to the family Ampullariidae. Members of this family are known as apple snails because of their relatively large size and rounded appearance. They are cosmopolitan in occurrence, but the native range of *Pomacea* is Caribbean countries, Central and South America and southern USA. *Pomacea* are prosobranchs and possess an operculum which is used to close the shell aperture. They have two long head tentacles and a very elongate siphon allowing them to use atmospheric oxygen. Having both gills and a "lung" means that *Pomacea* species are highly amphibious.

The taxonomy of the genus is not clear cut and some authors recognize over 100 species. The probable number is much lower with perhaps 6 major spe-

cies. *P. diffusa*, the spike-topped Apple snail is native to South American countries, has a shell width of 40 to 50 mm, and is usually greenish in colour with alternating dark and light bands. *Pomacea* characteristically deposit their eggs out of the water on stones or vegetation. In this species the egg mass is pink coloured.



***Pomacea diffusa* Egg Mass**

Source: [http://upload.wikimedia.org/wikipedia/commons/c/7/Pomacea\\_diffusa\\_eggs.jpg](http://upload.wikimedia.org/wikipedia/commons/c/7/Pomacea_diffusa_eggs.jpg)

Abundant populations of this snail have recently been detected in the lower Rio Cobre, St. Catherine. The likely mode of introduction to Jamaica is through specimens imported for the aquarium trade. *P. diffusa* has been reported as invasive in Hawaii, south-east Asia and Florida, USA. Interestingly, early studies (Pilsbury 1927, Andrews 1933) describe a Jamaican species of Ampullariidae, *Ampullaris fasciata*. This is now considered to be a synonym for *P. canaliculata* which has a different shell appearance from *P. diffusa*

*Pomacea* species are consumers of macrophytes and have been responsible for economic losses to agricultural crops such as rice and taro (cocoyam). *Pomacea* may change the ecological



***Ampullaria fasciata***

Source: R. H. Cowie, from [www.padil.gov.au](http://www.padil.gov.au)

balance in wetland areas through macrophyte consumption resulting in a phytoplankton dominated system (Carlsson *et al.* 2004). *P. canaliculi* has been shown to act as an intermediate host for the rat lungworm *Angiostomum gyloidius cantonensis* which causes eosinophilic meningitis in humans. *Pomacea* species have been used in biological control of planorbid snail hosts of the disease schistosomiasis.

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### References:

Andrews, E.A. (1933) Eggs of *Ampullaria* in Jamaica. *The Nautilus* 46, 93-97

Carlsson, N. O. L., C. Bronmark & L. A. Hansson. (2004). Invading herbivory: The golden apple snail alters ecosystem functioning in Asian wetlands. *Ecology*, 85(6):1575-1580.

Hyslop, E. J. (2003) Additions to the freshwater malacofauna of Jamaica. *Revista Biologica Tropical* 51, (1) 262-263

Pilsbury, H.A (1927) Revision of the Ampullariidae of Jamaica and Cuba Proceedings of the Academy of Natural Sciences of Philadelphia 89, 247-253

## The Convention on Biological Diversity and Invasive Species



**Jamaican delegation (Dr. Elaine Fisher and Mr. Jerome Smith) at the meeting of contracting parties 10 in Nagoya, Japan**

Invasive alien species (IAS) are species whose introduction and/or spread outside their natural distribution trends, past or present, threaten biological diversity. Invasive species are considered to be a main threat to biodiversity loss across the globe and costs attributed to invasive species are estimated at hundreds of billions of dollars annually.

The Convention on Biological Diversity (CBD) has long recognised the influence of invasive species on biodiversity. Article 8(h) of the CBD states “Each contracting Party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”. The Conference of the Parties (COP) to the CBD acknowledged the urgent need to address the threat of invasive species at its fourth meeting (decision IV/1) in 1998 and has highlighted Invasive Alien Species as one of its “Cross-Cutting Issues” that has been addressed to

varying degrees under the thematic work programmes of the Convention.

Over the last decade, significant strides have been made with IAS as it is afforded importance at every COP. Decisions of **COP 6 in 2002** included the adoption of “Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species” which include, but are not limited to the precautionary and ecosystems approaches, research and monitoring, education and public awareness, as well as mitigation of impacts, containment and control (decision VI/23). Parties to the Convention are expected to adopt and use the guiding principles in their country programmes on IAS.

**COP 7 (2004)**, recognized gaps in the international regulatory frameworks at both the global, regional and national levels as it relates to the transboundary movement of plant species that are inva-

sive, but do not qualify as plant pests under the regulations of international agreements as they are intentionally brought into the countries (this is prevalent in the agricultural sector where plants are brought in as food crops).

The IAS decisions of **COP 8 (2006)** identified measures which Parties, other governments, relevant organizations and the Executive Secretary could take in addressing identified pathways for invasive alien species while, **COP 9 (2008)** focused on an in-depth review of the Convention’s work on IAS.

The recently concluded **COP 10 in Nagoya, Japan** addressed many issues on IAS across the different thematic areas. Decision X/38 however dealt exclusively with IAS and encouraged parties to note the information compiled to date for addressing IAS introduced as pets, aquarium and terrarium species, as live bait and live food. There was also the establishment of a technical group to assist in the development of international standards to avoid the spread of invasive alien species and a move to improve the capacity of Party members to address them.

The CBD helps to promote the issue of IAS through its links

with many databases, promoting access to over 240 IAS-related databases through the Global Invasive Species Information Network website. An alternative resource also offered through the CBD is the online databases section of the GISP website. Other initiatives that promote information sharing on IAS through CBD include:

- NISbase
- Aquatic Invasive Alien Species Web portal for ASEAN countries
- Asia-Pacific Forest Invasive Species Network (APFISN)
- BioNET’s regional networks
- CIESM Atlas of Exotic Species in the Mediterranean
- Delivering Alien Invasive Inventories for Europe (DAISIE)
- Forest Invasive Species Network for Africa – FISNA

It should be noted that Jamaica signed the CBD in June 1992 and became a Party in January 1995. As a Party to the Convention, we are guided by the principles developed as we work to implement our programme on IAS.

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# WORD SEARCH

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