Volume 3, Issue 1 December 2009

Aliens of Xamayca

a newsletter on non-indigenous species in Jamaica

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THE INVASIVE ALIEN SPECIES REGIONAL PROJECT

Biological diversity faces many threats throughout the world. One major threat has been acknowledged by scientists and governments to be biological invasions caused by invasive alien species (IAS). According to the International Union for Conservation of Nature (IUCN), IAS is the second most significant threat to biodiversity, after habitat loss.

In their new ecosystems, IAS become predators, parasites, hybridizers, competitors and vectors of diseases of native and domesticated plants and animals. The impacts of IAS are immense, dangerous, and to date, usually irreversible.

The presence of natural barriers such as oceans, mountains, rivers and deserts provided the isolation essential for unique species and ecosystems to evolve. As a consequence, islands and other isolated areas (e.g. mountains and lakes) usually have a high proportion of endemic species and are recognized centres of significant biological diversity.

The Caribbean is one such recognised "hotspot". The significance of its biodiversity, along with the fact that the region has inadequate resources to combat the impacts of IAS, has resulted in CABI embarking on a capacity building project to equip the region. CABI is a not-for-profit science based development and information organization which provides scientific expertise and information on agriculture and the environment.

The Global Environment Facility (GEF) was approached to fund this project, entitled "*Mitigating the Threats of Invasive Alien Species in the Insular Caribbean*". The project aims to conserve globally important ecosystems and the species and genetic diversity within the insular Caribbean.

The main objective of the project is to mitigate the threats to local biodiversity and the economy by IAS in the insular Caribbean and incorporating strategies to protect terrestrial, marine and freshwater ecosystems. The project was conceptualised in 2003 and has under gone major changes to become a four year project proposal which was submitted to GEF in 2009.

The project proposes to build capacity in 5 countries (Dominican Republic, Jamaica, St. Lucia, The Bahamas and Trinidad and Tobago) and will try to strengthen physical and human capacity as well as legislative and border control capacities.

The Insular Caribbean
Photo © www.biodiversityhotspots.org/xp/Hotspots/caribbean/

Each country was given the task of outlining pilot projects which would meet their needs. Information on the best practices from these pilots would then be disseminated to other countries in the region, and globally, to guide future actions.

In total, the final proposal consisted of 12 pilots aiming to prevent and detect new invasions, strengthen communication and the dissemination of information, control and eradicate current invasions and create or strengthen legislation. This four year project is budgeted at about US$6M (cash and in-kind).

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The invasive alien species regional project cont'd

In addition to strengthening capacities in each country, a regional strategy to combat the effects of IAS is to be developed.

One of the three pilot projects proposed by Jamaica will influence this activity. This pilot will aim to control the marine invasive *Pterois volitans* (Red Lionfish) a native of the Indo-Pacific that is spreading across the region.

Red Lionfish
Photo © www.noaanews.noaa.gov

This invasive species was given priority because of the potentially devastating impact it can have on the marine ecosystem and more importantly, on Jamaica's already vulnerable fisheries industry.

The pilot has also been endorsed by the other participating countries as this IAS is a potential threat to all countries in the Caribbean region because of the lack of geographical barriers.

The Red Lionfish is already a problem in The Bahamas, Turks and Caicos Islands and Dominican Republic and a potential threat to St. Lucia and Trinidad and Tobago; as such, any outcome of the pilot will be beneficial to all countries in the region.

The second pilot project is aimed at the monitoring and selective eradication of vertebrate predators in the Portland Bight Protected Area, the last remaining habitat of *Cyclura collei* (Jamaican Iguana).

The Jamaican Iguana
Photo © Byron Wilson

This once thought to be extinct reptile is currently threatened by predators such as *Canis familiaris* (dogs), *Capra hircus* (goats), *Felis catus* (cats), *Sus scrofa* (feral pigs) and *Herpestes javanicus* (the Small Indian Mongoose).

The project also aims to protect the habitats of nesting sea birds and sea turtles which utilise the adjacent cays via the eradication of cats and dogs.

The third pilot, the rehabilitation of the Black River Lower Morass, which is a designated Ramsar Site, aims to control four IAS found in the area.

The target species are *Alpinia allughas (*Ginger), *Melaleuca quinquenervia* (Paper Bark Tree/Melaleuca), *Pterygoplichthys paradalis* (Suckermouth Catfish) and *Cherax quadricarinatus* (Australian Red-claw Cray-fish).

The presence of these species has a negative impact on the native species found in the area as well as altering the hydrology and structure of this important wetland.

Black River Lower Morass
Photo © Kurt McLaren

The project aims to also strengthen the existing legislative regime pertaining to IAS in Jamaica as well as the regulation of pathways of introduction of species for the pet trade.

The project, if funded, will be administered regionally by CABI and nationally, by the National Environment and Planning Agency (NEPA). It is scheduled to commence mid 2009 and end 2012.

Contributor: Sean Townsend

Land snails in Jamaica

The term 'snail' is used to describe members of the class Gastropoda that have coiled shells in their adult stage. Generally, the term applies to freshwater, marine and terrestrial snails.

Jamaica is reported to be home to approximately 500 species of land snails, which occur in large numbers. They are uncommon or rare, beautifully sculptured and brightly coloured.

The largest land snail, *Megalobulimus oblongus*, is native to South America and was first reported in Jamaica in 1786 with a second confirmation in 1928.

Dorsal view of
Megalobulimus oblongus
©Gary Rosenberg, 2005 (www.discoverlife.org)

Its shell is about 0.09m (3.5 inches) in length, off-white to grey in colour, sometimes with a pinkish shade but the inside is a shiny pale pink. It appears to be confined to the Kingston suburbs as far as Constant Spring and Red Hills Road, St. Andrew.

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Land snails in Jamaica cont'd

Lateral view of
Megalobulimus oblongus
©Gary Rosenberg, 2005 (www.discoverlife.org)

M. oblungus can be found in shady places below leaves or other vegetable debris and at times buries itself in loose soil.

It forages at nights and eats vegetable matter and is said to be a scavenger. A documented use of this species and others of the family is that of food.

Orthalicus undatus, another introduced large snail, lives in trees and shrubs and crawls up the walls of buildings. It can remain there for several weeks to months.

Dorsal view of ***Orthalicus undatus***
©Gary Rosenberg, 2005 (www.discoverlife.com)

The liquid it secretes hardens thus sealing the opening of the shell thereby reducing dehydration of the animal inside.

The adults are marked with a pale zig-zag pattern of grey, white and reddish-brown. The pattern is more pronounced in the young with darker brown markings.

O. undatus specimens range in length up to approximately 0.08m (3 inches) and can be found extensively in the island's lowlands.

Lateral view of
Orthalicus undatus
©Gary Rosenberg, 2005
(www.discoverlife.org)

Extracted from "Land Snails"
by T. H. Farr
Jamaica Journal, Volume 22,
Number 4; pages 60-63

Hydrilla

Hydrilla verticillata was first described from India in 1781 as *Serricula verticillata*. It is a freshwater aquatic plant with slender, elongate, much-branched stems bearing numerous small leaves in whorls of 3 - 9.

It can be distinguished from the very similar *Egeria densa* of South America by its smaller size (leaves averaging 1.5cm long vs. 2 - 3cm) and from both *Egeria* and the North American, *Elodea canadensis* by the toothed leaf margins and especially by teeth on the leaf mid-veins beneath. *Egeria* has been introduced in Jamaica but *Elodea* doubtfully so.

The most detailed, complete description and discussion of *Hydrilla* seen by the present writer is presented in the Flora of Ceylon (Vol. 9, pp. 101-102) by D. Philcox in 1995.

Philcox states that *Hydrilla*, a monotypic genus, occurs in "Southern and eastern Europe, through India and Thailand to China and Japan; West, Central and East Africa, Madagascar and the Mascarenes, through Malaysia and the Malay islands to Australia and New Zealand".

However, he failed to note that this plant has become naturalized in several Western Hemisphere localities, including Florida and several other southern states of the USA, Panama, Aruba and Jamaica.

The Jamaican record was published in 1982 and several localities were cited for the island. One of these was the Rio Cobre, south of Central Village, St. Catherine, where the entire river was choked by the rampant proliferation of *Hydrilla*.

The species was probably introduced to Jamaica for use in aquaria (like *Elodea* and *Egeria*) as it is an excellent producer of oxygen.

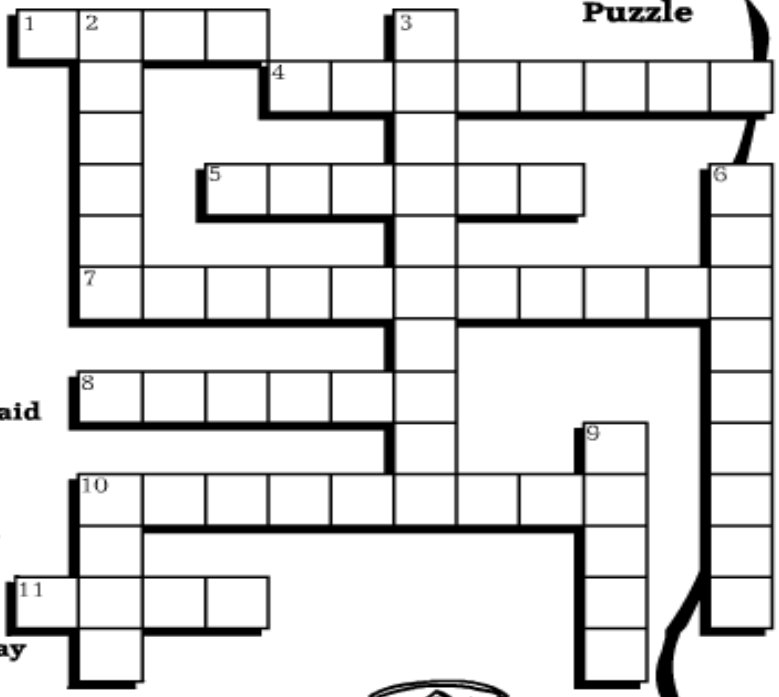
Unfortunately, when it escapes into natural habitats, it becomes a fast-growing, aggressive weed.

Contributor: Dr. George Proctor, UWI

Hydrilla verticillata
(©Ricardo Miller, NEPA)

Fairy Tale

Crossword Puzzle



Across

1. The ____ Prince.
4. The _____ and the Pea.
5. The Goose Who Laid the _____ Eggs
7. The _____ Man (cookie)
8. _____ and Gretel.
10. The Elves and the _____.
11. Creatures led away by the Pied Piper of Hamelin.

Down

2. Little Red _____ Hood.
3. The girl who lost her glass slipper.
6. Cinderella's Fairy.
9. What was baked by the Little Red Hen?
10. The Ugly Ducking was really a ____ .

ANSWERS

Across
1. Frog
4. Princess
5. Golden
7. Gingerbread
8. Hansel
10. Shoemaker
11. Rats

Down
2. Riding
3. Cinderella
6. Godmother
9. Bread
10. Swan

The Aliens of Xamayca is a quarterly newsletter of the Ecosystems Management Branch of NEPA that features non-native species in Jamaica.
Persons interested in writing articles for the newsletter may submit them to the editor at sazan@nepa.gov.jm.