

Aliens of Xamayca

a newsletter on non-indigenous species in Jamaica

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CACTOBLASTIS CACTORUM (CACTUS MOTH)

The Cactus Moth (*Cactoblastis cactorum*) is native to South American countries such as Argentina, Paraguay, Uruguay and southern parts of Brazil.

Adult moths have brownish-grey forewings with two wavy transverse stripes. The wings are whiter towards the margin and the hind wings are pale-grey with a dark line along the margin. They live for about 9 days and female moths are usually larger than the males.



Adult Moth
©Dale Habeck (*Invasive.org*)

Individual eggs are cylindrical and flattened varying in colour from cream to brown to black. The eggs are mainly laid on the succulent parts of host plants and are also stacked coin-like to form a chain or small stick. The egg stick can contain about 70-105 eggs.

The larvae of the Cactus Moth varies in colour from greenish-grey to rich salmon and orange to red with blackish spots that form transverse bands. The mature larvae spin a silky

white cocoon to pupate. This is done under debris, e.g. leaf litter, near or on the host plant and are covered with soil or plant matter making them undetectable.



Egg stick, larvae, cocoon and pupa of the Cactus Moth

©Susan Ellis (*Invasive.org*)

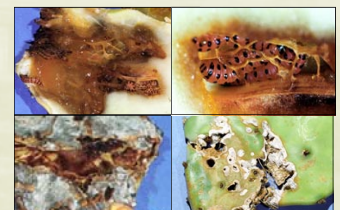
There are slightly more males than females in a population. This can be attributed to the amount or quality of available food present and its suitability.

The Cactus Moth feed mainly on species of the plant family Cactaceae, i.e. Cacti (pl.), Cactus (sing.)

The larvae is the primary feeding stage which eats as a colony and tunnels into the Cactus leaf pad devouring the interior. Once the contents of the leaf pad are eaten, the larvae either moves to an adjacent pad or as a colony, crawls over the plant surface to other pads on the Cactus.

The larvae impact the host plant by excavating and destroying the non-woody parts

of the plant. The resulting damage allows for secondary infections by microbial pathogens which can cause the death of the entire plant.



Larvae and associated damage to Cactus leaf pad

©Susan Ellis (*Invasive.org*)

The smaller Cacti in the Caribbean such as *Opuntia* spp. are highly vulnerable to attacks by the Cactus Moth. Its presence in Jamaica was confirmed in 2005, where it was found on the endemics, *O. tuna* and *O. jamaicensis* and on *O. dillenii* and may be the source of the decline of *Opuntia* spp. in the island. The pathway of introduction for the Cactus Moth into Jamaica is still unknown.

Extracted from "The Consequences of Introducing the Cactus Moth to the Caribbean and Beyond" by H. Zimmermann and M. Sandi Cuen and "The Status of the Cactus Moth in the Caribbean and the likelihood of its Spread to Mexico" by Helmut Zimmermann, Mayra Pérez Sandi y Cuen and Arturo Bello Rivera

THE RED-EARED SLIDER TURTLE (*TRACHEMYS SCRIPTA ELEGANS*)



Red-eared Slider Turtle

(Photo © www.turtlesite.info/pictures/Turtle,Red-eared_Slider.jpg)

The Red-eared Slider Turtle (*Trachemys scripta*) is the most common turtle in the pet trade and as such, can be found in various parts of the world. It is semi-aquatic and native to the southern United States of America (USA).

The Slider Turtle naturally resides in calm, fresh, warm water such as ponds, lakes, streams, marshes and creeks

and likes to bask in full sunlight on large flat rocks or logs.

Female turtles are generally larger than the males and leave the water to bask in the sun and lay eggs.

Reproduction occurs underwater during the months of May to July. A female may lay between 2 - 30 eggs with larger females having bigger clutches. The eggs hatch 60 - 90 days after being laid.

In the wild, the Slider Turtle hibernates during winter underwater but not while in captivity, as the water temperature can be kept high enough. Generally, they come out to eat after hibernation in early March to late April.

The Slider Turtle eats plant and animal material such as tadpoles, crickets, worms, fish, crayfish, snails and aquatic plants and insects.

Slider Turtle pets that survive 1 to 2 years in captivity can live for many years. One pet is known to have lived for 35 years!

It is **strongly** recommended that pet Slider Turtles are not released into the wild as they may transport diseases and organisms to the wild population.

In addition, there is a potential public health risk from turtle-related salmonellosis. Pet turtles may also have a limited immune system to survive being in the wild.

Slider Turtles are hardy and can compete with and replace native turtle species in the same habitat. Some states in the USA, e.g. Florida and Australia have banned the possession of and rearing of this species of turtle, due to its impact on native turtle populations.

Extracted from "Red-eared Slider Turtle" (http://en.wikipedia.org/wiki/Red-eared_Slider)



CASUARINA EQUISETIFOLIA (WILLOW)

Casuarina equisetifolia otherwise known as Willow, Whistling Pine or Australian Pine is native to Malaysia, Southern Asia and the Oceania (islands of the Pacific between Asia and the Americas including Australia).

Its leaves are reduced to tiny scales which surround small branches and resemble pine-needles. The branches are grayish-green, jointed, thin, minutely ridged and hairy in furrows. The flowers are small and brown while the fruit, a samara (wind and water dispersed), is formed in woody cone-like clusters.

The tree grows up to 30m or more in height and can be found on sandy and shell

beaches, rocky coasts and sand dunes. It is known to frequently colonize disturbed areas such as vacant lots, wetlands and cleared lands.

The Willow is fast growing and produces dense shade as well as a blanket of leaves and fruits beneath it that can prevent other plants from growing. In addition, it displaces and out-competes native dune and beach vegetation that can lead to the destruction of habitats for insects and other wildlife.

The tree is prone to topple over during high wind events due to its thick and shallow root system. This results in beach and dune erosions as well as hindering sea turtle

nesting activities.

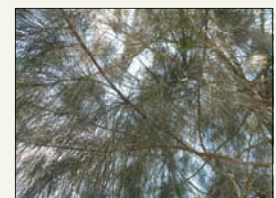
Documented uses of the Willow tree include dyes; remedy for diarrhea, dysentery and a gargle for sore throat; beams, boat building, electric poles, fences, oars, furniture, landscaping, gates, timber, erosion control, fuel, coastal reclamation and windbreaks to name a few.

Extracted from Florida Department of Environmental Protection 'Weed Alert - Australian Pine' Fact Sheet and The Global Invasive Species Database (www.issg.org)



Willow Tree

(©Ainsley Henry, EMB, NEPA)



**Close-up of the leaves
(left and above)**

(©Ainsley Henry, EMB, NEPA)

MARINE ALIENS AMONG US



Fungia scutaria with an anthocaulus observed in Discovery Bay, Jamaica
Photo © Bush et al., 2004

Jamaica is now home to several non-native species of flora and fauna. These organisms have made their way to our shores by accidental and deliberate importation and introduction.

Records indicate that in 1966, Thomas F. Goreau introduced the coral species *Fungia scutaria* from Eilat, Israel to the fore-reef of Discovery Bay, St. Ann (Bush et al; 2004).

This species is naturally distributed across the western Indo-Pacific and grows as a single large polyp with a discoid skeleton that is adapted for stability and is resistant to abrasion in turbulent water (Jokiel and Cowdin, 1976). It is solitary and generally free-living with a central mouth (Veron, 2000).

For corals of the genus *Fungia*, reproduction can be sexual but is

often encountered in the form of asexually produced daughter colonies, called anthocauli. These grow and eventually detach from the parent to begin growing separately. *F. scutaria* is a tropical species which occurs naturally between 36°N - 31°S and 32°E - 108°W and in depths of 0 - 40m.

Between 1970 and 1980, several attempts were made to eradicate the species and 25 individuals were destroyed. In February 2003, two colonies were detected on the fore-reef of Discovery Bay at approximately 15m depth.

Communication with staff of the Discovery Bay Marine Laboratory revealed that as recent as April 2009, a colony was spotted at a dive site called Mooring 1. Additional assessments are required to determine the current status of this species in Discovery Bay.

The species is very hardy as it has survived 4 major hurricanes, several bleaching events, the *Diadema* die-off and the phase shift from a coral dominated reef system to an algal dominated system.

F. scutaria is listed under Appendix II of the Convention on International Trade in Endangered Species of Wild

Fauna and Flora (CITES) and Schedule II of the Endangered Species (Protection, Conservation and Regulation of Trade) Act. Currently it is not threatened with extinction but that may become so unless trade is closely controlled.

International trade in specimens of Appendix II species may be authorized by the granting of an export permit or re-export certificate. Permits are only granted if it has been deemed that trade will not be detrimental to the survival of the species in the wild. The species is locally abundant in the Hawaiian chain because of its ability to produce dozens of continually budding daughter colonies right from the parent skeleton.

Contributor: Loureene Jones-Smith, EMB, NEPA

References

Bush, S.L, W.F. Precht, J.D. Woodley, J.F. Bruno (2004) Indo-Pacific mushroom corals found on Jamaican reefs. *Coral Reefs* 23:234

Jokiel, P.L. and H.P. Cowdin (1976) Hydromechanical adaptation in the solitary free-living coral *Fungia scutaria*. *Nature* 262: 212-213

LaJeunesse, T.C., S. Lee, S. Bush, J.F. Bruno (2005) Persistence of non-Caribbean algal symbionts in Indo-Pacific mushroom corals released to Jamaica 35 years ago. *Coral Reefs* 24: 157-159

Vernon, J.E.N. (2000) *Corals of the World*. Australian Institute of Marine Science, Townsville, Australia.



Fungia scutaria feeding in 50ft of water, Discovery Bay, Jamaica
Photo © Omar Spence

CHILDRENS' CORNER

Hey Kids!

Did you know that the introduction of alien coastal plants may reduce the suitability of a beach for sea turtle nesting?

Alien species can also:

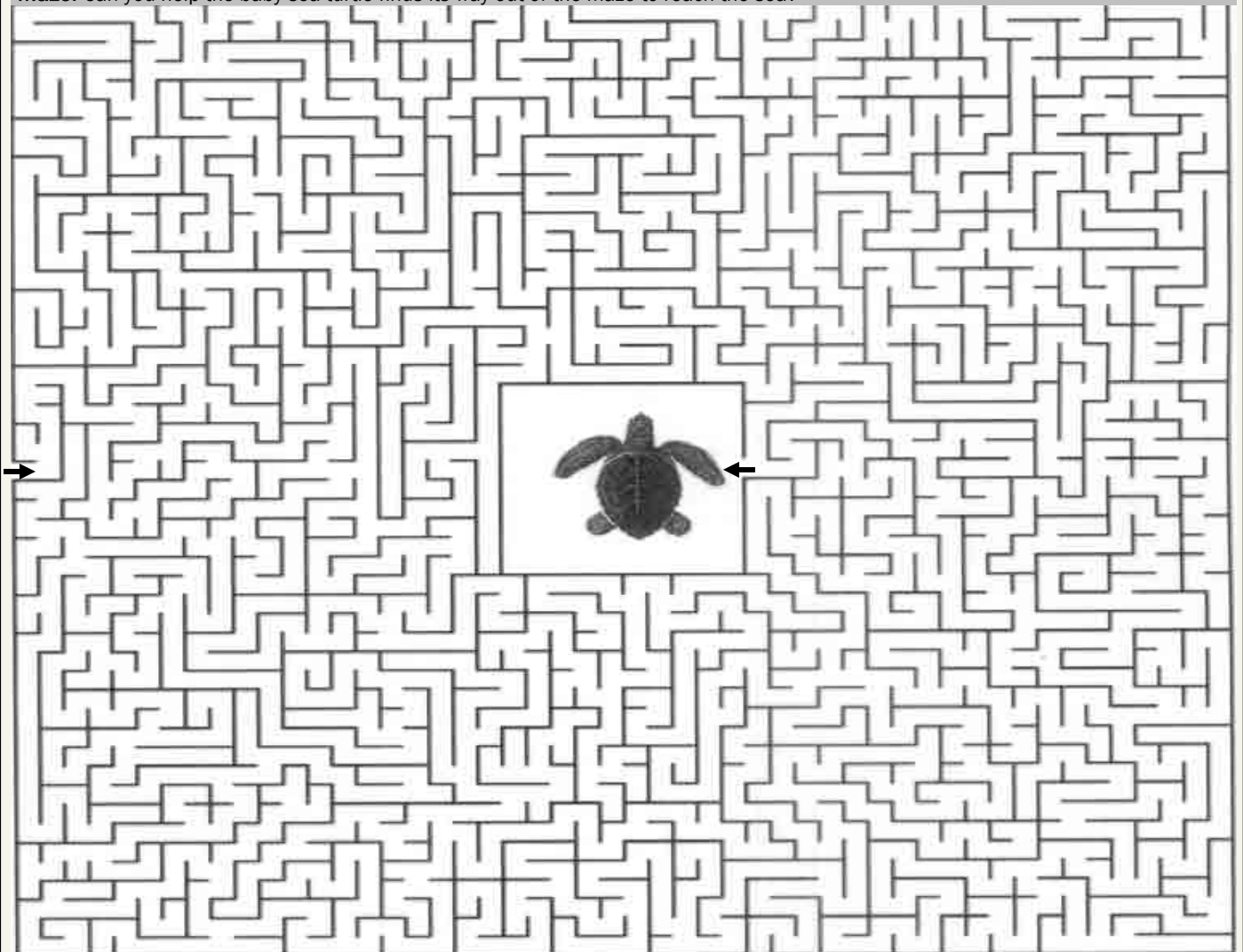
- remove native beach vegetation
- over-grow sandy areas
- contribute to egg mortality through root invasion in the nests
- create vegetation barriers to the females to lay their eggs
- over-grow native algae, seagrasses and coral reefs resulting in habitat and food loss that support sea turtles and/or their prey population
- introduce diseases and parasites that can spread in the environment and impact sea turtles and their prey

What can you do?

There are four (4) turtles that visit Jamaica's shores and are protected under the Wild Life Protection Act (1945). They are the Hawksbill Turtle, Green Turtle, Leatherback Turtle and the Loggerhead Turtle. The Atlantic Kemp's Ridley is also protected under the Act. You can assist in the protection of these species and their young by:

- learning about alien plants and animals and what they can do and sea turtles. Share the information with family and friends.
- participate in beach clean-up activities to help the mother sea turtles find a clear path to lay her eggs and the young to reach the sea.
- participate in sea turtle monitoring exercises on known sea turtle nesting beaches.

Maze: Can you help the baby sea turtle find its way out of the maze to reach the sea?



Adapted from 'Sea Turtles- An Ecological Guide' by David Gulko and Karen Eckert and 'Endangered Caribbean Sea Turtles: An Educator's Handbook' by Sera Harold and Karen Eckert



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.