

Aliens of Kamayca

a newsletter on non-indigenous species in Jamaica

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T H R E A T S F R O M I N T R O D U C E D P A R R O T S

Humans have a long history of keeping psittacines (macaws, parrots, parakeets, and their allies of the order Psittaciformes) as pets. Their bright, multi-coloured plumage, ability to mimic human speech, and their affinity to form life-long pair bonds are characteristics that have endeared them to human cultures for thousands of years.

This love of keeping psittacines as companions, however, is placing Jamaica's two endemic parrots, Black-billed (*Amazona agilis*) and Yellow-billed (*Amazona collaria*) and the native Olive-throated Parakeet (*Aratinga nana*) at grave risk.

A wide variety of psittacines have been imported legally and smuggled into Jamaica.

Many have escaped from their cages and survive in urban areas such as Kingston, and at least one has been documented in the first stages of becoming a *pervasive* and *insidious* invasive species: In December 2007, under the authority of the National Environment and Planning Agency (NEPA), Windsor

Research Centre supervised the elimination from the wild of a non-native Yellow-naped Amazon (*A. auropalliata*), which had formed a pair-bond with a Yellow-billed Parrot in northern Cockpit Country. As both species belong to the same genus, *Amazona*, there was a high probability for hybridisation, with a long-term consequence that the Yellow-billed Parrot's unique genetic make-up could be compromised.

Of more pressing, short-term concern is the introduction of disease-causing pathogens and parasites into wild populations.

The global movement of psittacines and other bird species in the pet trade has facilitated the spread of many diseases, as hosts with evolved immune systems shed viruses and bacteria that can be highly virulent for species which have never been exposed to these micro-organisms. Island species, particularly, are noted for their pathogen naiveté, as exemplified by the catastrophic declines of endemic Hawaiian birds from introduced avian malaria

(*Plasmodium* spp).

In psittacines, diseases of concern include:

- Psittacine Beak and Feather Disease, a circovirus that suppresses the immune system, can be carried asymptotically by non-indigenous species such as cockatiels, lovebirds, and budgerigars;
- Polyomavirus that is lethal to juvenile New World psittacine species and can be carried asymptotically by cockatiels and budgerigars;
- Pachecho's and Internal Papillomatous Disease (both caused by psittacid herpesvirus); and
- Proventricular Dilatation Disease (PDD), which is fatal and has a long occult incubation period.

PDD is a particularly devastating disease of the auto-immune system and is fatal once a bird begins showing characteristic signs of wasting

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and compromised central nervous system.

Despite more than three decades of research supported by hundreds of thousands of US dollars, the causative agent remains unconfirmed although new evidence points to avian borna-virus as one cause. However, reliable diagnostic tests to detect infected and infectious individuals are currently limited to histopathological evaluation of relevant tissue taken by biopsy (reportedly 50% accurate) or necropsy.

In order to protect Jamaica's native and endemic avifauna from being extirpated by disease, just as the indigenous Taino succumbed to the ravages of smallpox introduced by Europeans, the temporary ban on importing birds for the pet trade, implemented in 2006 over concerns for the introduction of highly-pathogenic strains of avian influenza, should be made permanent.

Owners of non-native psittacines should clip primary flight feathers following each annual moult

cycle to ensure that birds escaping from their cages (e.g., during tropical storms and hurricanes) do not fly away and establish themselves in the wild.

Contributor: Dr. Susan Koenig, Windsor Research Centre; information on psittacine diseases sourced from: Darrel K. Styles, DVM, PhD, Adjunct Professor Texas A&M University Schubot Exotic Bird Health Centre. The role of disease in avian ecology and conservation: Psittaciformes. Parrots International Symposium, May 31–June 1, 2008, Los Angeles, CA



**Yellow-napped Amazon
(*A. auropalliata*)**

Photo © Dr. Susan Koenig

A P I E C E F R O M T H E P A S T - T H E T O M A T O P I N W O R M

The Tomato Pinworm (*Keiferia lycopersicella*) is a small pest that causes problems for tomato growers. It was first documented in Jamaica in 1975. Within that year, the pest was found at four agricultural stations, Bodles, Lawrencefield, Caenwood and Orange River. The point of entry of this pest into the island is however unknown. The pest was also found in Florida, Haiti, Cuba and the Bahamas.

This pest was found to feed on members of the Solanaceae family. Significant outbreaks were recorded mainly on tomato, both in the field and seedbed but also on eggplant, potato, gouma and susumber.

The larvae of the Tomato Pinworm are small and feeds on the leaves, flowers and fruit of the tomato plant. They leave small spots along the side and spines that are best seen with a magnifying glass.

There are four stages of growth for the larvae, two leaf miners and two leaf tiers. The first signs of insect damage is the burrowing of newly hatched

caterpillars between the leaf surfaces. As the larvae grows, they spin silk that tie up the leaves and cause a large necrotic, blotchy area that totally destroys the leaf surfaces of the plant. In the latter stages of its growth, the larvae may burrow into the fruit, tunnelling to the core, leaving small necrotic pinholes where they enter.

The larvae pupate into the soil around the plant and the adult moth that emerges is grey or tan in colour. The adult then lays its eggs on the upper and lower surfaces of the plant where they hatch into the larvae and the cycle continues.

Proposed methods of control were sprays, chemicals and proper sanitation methods. At the time of the article, adequate control methods were being researched in Jamaica.

Extracted from 'The Tomato Pinworm' by Carol Henry & Brian Rudert, Jamaica Journal volume 9, No. 2 & 3, 1975

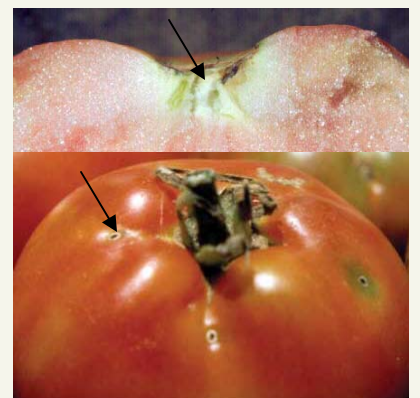
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Adult and larvae of Tomato Pinworm



Leaf mining damage caused by Tomato Pinworm



Fruit damage caused by Tomato Pinworm

COLA ACUMINATA (BISSY)

Cola acuminata (Bissy or Cola Nut) is native to West Africa and is reported to have arrived in Jamaica on a slave ship from Guyana by a man named Mr. Goffe.

Bissy is widely regarded in Jamaica and West Africa for its medicinal value and is used as a home remedy for several ailments and illnesses. The seed of the plant can be grated and brewed to make a drink. This is especially popular in the rural parishes of Jamaica. Bissy was also used as one of the ingredients in “cola” bottled drinks.

Extracted from “A Fi Wi Heritage – Find it, Read it, Learn it” (JIS publication)

Photos @ www.botanic-art.com;
www.britannica.com



Bissy or Cola nuts



Flowers of *Cola acuminata*



**A FAMILIAR ALIEN
AVOCADO PEAR**

Persea americana, otherwise known as Avocado Pear or Pear, is a native of Mexico and is now widespread in cultivation in the subtropics and tropics.

There are several varieties of Avocado grown in Jamaica. The fruit, which is most often eaten as a vegetable, with or without salt, is peeled lengthwise and served with any meal e.g. “bulla and pear”; “bread and pear”; “ackee and saltfish with breadfruit and pear”; “Sunday dinner and pear”.

The Pear tree flowers mostly from January to April and “pear season” runs from August to December. The Pear is reaped in every combination of size and shape, round or oval with a slender neck.

The skins of the ripe pears are either green or deep purple to black and may be smooth and shiny or rough and bumpy. The general appearance of the skin is not always a good indicator of the texture and quality of the pear.

The Pear is also captured in Jamaican folk customs and superstitions, namely: “You are not to plant night jasmine near your house or it will draw

the strength from its occupants as will a paw-paw tree. Good trees to plant include mango, avocado pear, ackee, breadfruit, naseberry, sweet sop, sour sop, coffee, banana, coconut, orange, grapefruit and lime.

Extracted from “A Fi Wi Heritage – Find it, Read it, Learn it” (JIS publication), *Flowering Plants of Jamaica* (C.D. Adams) and the *Jamaica Gleaner* (August 6, 2007)

Photos @ www.chem.uwimona.edu.jm;
www.trinigourmet.com; www.jamaica-gleaner.com/gleaner/20060907/cook; www.eatjamaica.com



CHILDRENS' CORNER

Snakes and Ladders

100 Finish	99 Protection of wetlands - go forward 1 pace	98	97	96 Harvest wood for charcoal burning - go back 10 paces	95	94	93	92 Wetland lost for building hotel - go back 11 paces	91
81	82 Resource provider	83	84	86 Invasive alien species present - go back 5 paces	87	88	89	90 Convention on Wetlands of International Importance	
80	79	78 Nursery and spawning area	77	76	75	74 Dyke construction - go back 3 paces	73	71	
61	62	63	64	65	66 Sediments on seagrass beds - go back 13 paces	67	69	70	
60 Portland Bight Wetland & Cays Ramsar Site	59	58	57	56 Anchor resting on coral reef - go back 6 paces	55	53	52	51 Water purifier	
41	42	43 Red mangroves	44	45	46	47 Dynamiting - go back 5 paces	48	50	
40	39	38	37 Palisades-Port Royal Ramsar Site	35	34	33 Untreated sewage flows into wetland - go back 5 paces	32	31	
21	22	23 Shoreline protection	24	25	26	27	28	29	30 Overfishing - go back 5 paces
20 Sea turtle caught in fish net - go back 6 paces	19	18	17	15 Habitat of plants & animals	14	13	12	11	
1 Start	2	3	4 Black River Lower Morass Ramsar Site	6	7	8 Illegal dumping in wetlands - go back 5 paces	9	10	

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The Aliens of Xamayca is a quarterly newsletter 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.