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RAPHIA

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RAPHIA IS THE QUARTERLY NEWSLETTER FOR THE
CANADIAN ORGANIZATION FOR TROPICAL EDUCATION
AND RAINFOREST CONSERVATION



CANADIAN ORGANIZATION FOR TROPICAL
EDUCATION AND RAINFOREST CONSERVATION

Caño Palma Biological Station
Barra Colorado Wildlife Refuge
Tortuguero, Costa Rica

WHAT IS COTERC?

The Canadian Organization for Tropical Education and Rainforest Conservation (COTERC) is a registered Canadian non-profit charitable organization (#890096183 RR0001) based in Pickering, Ontario, Canada. Founded in 1991, COTERC operates in both Canada and Costa Rica. In Canada, our Board of Directors are biologists, accountants, educators, environmentalists, zoo professionals, media professionals -- all committed and working actively to protect tropical rainforests. In Costa Rica, we are based at the Caño Palma Biological Station, which is situated approximately 8 kilometres (5 miles) north of the village of Tortuguero on Costa Rica's north-eastern coast. The Tortuguero area is an ancient flood plain covered by lowland Atlantic tropical wet forest and is biologically the richest ecosystem in Costa Rica. Average daily temperature is about 26 degrees Celsius and rainfall may exceed 6,000 mm per annum.



CANADIAN ORGANIZATION FOR TROPICAL
EDUCATION AND RAINFOREST CONSERVATION

CAÑO PALMA BIOLOGICAL STATION

The Biological Station is located within the Barra Colorado Wildlife Refuge adjacent to Caño Palma, a narrow, palm-filled canal that separates the Biological Station from the Caribbean Sea by a mere 200-300 metres. The globally endangered green, leatherback, hawksbill and loggerhead sea turtles come ashore to nest on beaches accessible from the station. There are no roads in the area, and visitors to Caño Palma arrive by boat

via a network of rivers and canals. The station has a large covered boat dock with a lookout designed for viewing wildlife. The compound consists of a lush lawn and gardens with many varieties of tropical plants and shrubs. There is a small pond near the dock, which is used by the local wildlife. The station is surrounded by secondary forest in transition, with primary forest just behind.

Much of the surrounding area is protected under Costa Rica's parks and reserves system, with Tortuguero National Park (18,900 square hectares) and the Barra Colorado Refuge (92,000 square hectares), forming a vast corridor, which connects with conserved forest in Nicaragua to the north. Our goal is to extend our efforts in neo-tropical conservation to extend beyond the station's 40 square hectares.

FROM A JUNGLE AT RISK, TO A JUNGLE SANCTUARY

The project began in 1990 when Marilyn Cole and Ozzy Teichner purchased a parcel of land situated in the rainforest of northeastern Costa Rica. She came upon the property while volunteering with a marine sea turtle research and monitoring program, which was situated out of a village called Tortuguero (Turtle Bog, or place of the turtle). The property was purchased from a Nicaraguan campesino named Marcos, who gained land title after having farmed a portion of the land for a number of years.

The Canadian Organization for Tropical Education and Rainforest Conservation (COTERC) was founded shortly afterwards in 1991, a registered non-profit organization to support and administer the operations of Caño Palma Biological Station (Estación Biológica Caño Palma) that was established on the property.

NOTES FROM THE CHAIR

Tom Mason

I've just returned from Caño Palma and, as always, it was a great trip. It seems that I am not the leader anymore and the place takes over once the guests arrive! This year the group was more diverse than ever. It included three repeat visitors, a couple reptile enthusiasts, some energetic birders, one of our current directors, Dr. Bill Rapley, a former director and his family and as Fran puts it, several eco-tourists that wanted to do something a little different. And different they got. I believe that they saw natural wonders that will affect them for the rest of their lives—this is the magic of Caño Palma.

The trip always starts the same way. We meet very early at the airport, cram into a little airline seat, and fly to San Jose. We are picked up and driven to a quaint hotel, "The Cacts". The Machu Picchu, my favourite restaurant in the world, is around the corner. After a great meal, a few pisco sours, and picking up groceries, we are ready go.

Very early the next morning we all jump into a minibus and head to the station. The five to seven hour trip takes us over the mountains, through Braulio Carrillo and the eastern lowlands full of cattle farms and banana plantations, to Caño Blanco where a boat takes us through Tortuguero Park and onwards to Caño Palma and the station.

After a short orientation to find your room and learn the station rules from Jonathan, our Manager, we have lunch. "Gallo pinto" (rice and beans) is expected and is usually present for every meal for the next week. Then exploring begins. On this trip there were many new things to see. The original dorm known as the "honeymoon suite" is gone, having served its purpose for the first 15 years. Pieces taken from the building have been recycled to build garbage recycling bins for most materials. All

organics are now put into a composting bin to make good rich soil for the gardens. The two thrones, the composting toilets, are finally running at full efficiency and they are also cranking out nice rich soil for the gardens. The small bodega has doubled in size and been made into two rooms for CO-TERC staff and visitors, and one room for storage and the residence of a couple common big-eared bats. At the back of the compound Jonathan and Mario, the staff, have built a smokers' lounge that will become an important viewing and meeting area for the next few days. The station overall is looking great, and this has all been done in the last year, which is very impressive. Later I find that Mario, his brother Carlos, and Jonathan are busy building an elevated walkway around the entire length of the Colibri Trail. The posts are all in and they are now searching for the 4X4's to run the entire length. What an improvement this will be!

Soon people are walking trails and planning night hikes to hopefully glimpse a leatherback. The evening comes along and 5 species of snakes are found around the compound, one of which is the first I've ever seen after 16 years, an annulated boa. Over the next few days we add over 100 species of birds, monkeys, sloths, lizards and that prehistoric wonder of the ocean, the leatherback sea turtle. Susan, Charlotte and Steve know the birds and help everyone with their identification. And Bill has definitely come at the right time—Charlotte is following over 90 active nests!

Along with Jonathan, Mario, and Carlos, we are helped by a great group of volunteers. They lead the turtle walks, do the mammal monitoring, find hidden bird nests and happily show everyone what they are doing. Their enthusiasm is contagious. It soon appears I am out of a job as people are heading off to participate in various things. Many are content to just spend

time around the compound and see everything that stirs. Hummingbirds, toucans and manikins are constantly visiting the flowering/fruited trees, and monkeys stop to stare at the earth bound primates below them. There is always something to marvel at and people happily discuss what they've seen. Randi has found her Strawberry frogs, both Debbie and Barry are moved by the night on the beach with the leatherback, and Heather wants Barry's howler photos as a screen saver. It seems that Shirley is holding court at the smokers' lounge. The lounge is visited by the Grey-necked Wood Rail on a couple occasions. I'm amazed at how well everyone is fitting in and how they are enjoying themselves.

One more surprise awaits for us on Heather's final morning before she has to return to work. Wayne has found a gigantic spider on the trail. He hurries to the smokers' lounge and eleven people rush out to the forest. There it is, an amazing "*Sericopelma lasham*". Few, if any, have seen this monster in the forests of Costa Rica before. It's the best catch that Dave's ever had. Eleven at once, that will be a hard one to beat. Humour Lasham style, a toy spider hidden to be found by just the right person. What a way to remember your first visit to the lowland flooded rainforest! Over the next forty-eight hours we all return to San Jose and home to Toronto.

Overall, it was a great trip. Thanks to all fifteen of you that joined me and special thanks to Jonathan, Mario, Carlos, Darren, Kym, Chloe, Charlotte, Debbie, Julia, Ryan and Steve for helping me make this such a memorable trip for everyone. I hoped they all enjoyed it as much as I did.

Tom

Donations of items needed for Fiesta Verde!

On October 25th, 2008, we will be holding our fall fundraiser, COTERC Fiesta Verde: Project Frog. This event will bring together 120-150 of COTERC's valued members, family, friends and members of the community who share in our concerns and goals. There will be a silent and live auction, dinner, and educational presentations.

We would like to offer you the opportunity to donate items for the silent and live auction. These auction items are a large contributor to the success at this event. Likewise, any monetary donations that would aid in the funding of the evening's events would also be greatly appreciated. With your support, COTERC will be able to continue providing leadership in education, research and conservation and the educated use of natural resources in the tropics.



By donating auction or monetary items, you would help to save the world's rainforests and benefit from:*

- Your name appearing in *Raphia*
- Your name listed among contributors on our official website
- Exposure to all those who attend the event, which strengthens your reputation among key players in the environmental community
- A charitable tax donation receipt

For those who would like to become a sponsor with a monetary donation of \$1,000 or more, we would also place your logo/name on the event's publicity materials and program, mention your organization as a sponsoring partner in all communications, and provide two tickets to the event.*

Contributions can be forwarded to our head office. Alternatively, you can call us directly to arrange pick-up.

We thank you in advance for your participation and support!

**Any items received on or after October 11 may not be recognized in printed materials but will be acknowledged in *Raphia*. We reserve the right to save items for the next year's auction depending upon the breadth and variety of items received. For sponsorships, please inquire as to publication dates to ensure inclusion in marketing materials.*

THANK YOU!

We would like to thank the below for their generous help!

Adrian Koziskie – In addition to his successful 6th birthday party, the remaining \$75 has been donated to purchase one full acre. Thanks again Adrian!!!

Barry Veshhas – built a collapsible, portable rake for the sea turtle program

Toronto Zoo – generously covered the cost for the sea turtle conservation brochures to be sent to Cano Palma

Deirdre Jafferally – carried the rake and brochures to Costa Rica for us

We wouldn't be able to do any of this without you!

"Destroying rainforest for economic gain is like burning a Renaissance painting to cook a meal."

—Edward O. Wilson

UPDATE FROM CAÑO PALMA

Jonathan Willans, Manager, Caño Palma Biological Station

Well, it has been a very busy few months here at Caño Palma, and time seems to be passing very quickly. It seems like it was only a few weeks ago that last year's turtle season ended and now this year's is in full swing. It started here for us on February 22nd when the nest of a critically endangered Leatherback turtle (*Dermochelys coriacea*) was found on the beach by the morning census team. This marked the official start to night patrols and the long nights that come with them. So far the season is proving to be a good one. We have recorded 45 Leatherback nests from the end of February to the end of April. This is a great sign considering that there were only 60 or so nests reported last year. The season still has about three months to go and we are hoping that this trend continues. More good news is that there has also been one Hawksbill (*Eretmochelys imbricata*) and three Green (*Chelonia mydas*) nests recorded on our beach as well. Besides turtles coming onto our beach, we have also seen hatchlings heading off to sea. We have had two Leatherback nests hatch in the last week and are expecting more next week. It is an amazing sight, seeing these miniature Leatherbacks heading to the sea under moonlight. It makes all the long hours patrolling the beach worthwhile.

As well as marine turtle monitoring, March also brought a freshwater turtle study to Caño Palma when Ryan Bolton from the University of Guelph came to the station to observe the state of the area's other turtles. A short three week study was undertaken in

order to determine a population estimate for Caño Palma's freshwater turtle species. There were over 20 different individual Black River Turtles (*Rhinoclemmys funerea*) alone caught and marked from just off the boat dock. Thanks to Ryan for all the enjoyment of watching him jump fully clothed into the canal after a turtle. You entertained us all!

March brought many COTERC volunteers to the station. COTERC chair Tom Mason came to the station with a large group of volunteers and they joined others that had found out about the station on their own. Many of the volunteers were lucky enough to see a turtle on the beach when a Leatherback nested in front of Don Edgar's. Others got to see one while they were helping with the night patrols. Thanks again to everyone for all your help with the monitoring efforts and for supporting the station.

Besides the turtle monitoring program, we have had other studies going on at the station. The resident bird nest monitoring program has been underway since January and has had a great deal of success so far. The goal of the project is to gain information on the nesting habits of the resident species in the area. There are many species in the area, such as the Green Ibis (*Mesembrinibis cayennensis*) and the Semiplumbeous Hawk (*Leucopternis semiplumbeus*), that have little or no nesting information known about them. There have been over 100 nesting records made, including two nests of the understudied Rufescent Tiger-Heron (*Tigrisoma lineatum*), and the number

of nests grows daily. This data is being collected for Dr. Steve Furino from the University of Waterloo in order to provide information so that the gaps in the scientific record can be filled.

The station's large mammal monitoring program has been underway since July 07. This study is being done by Dr. Kymberley Snarr from the University of Toronto and takes place on a 3 km transect located approximately 1 km north of the station. The trail runs from Caño Penetencia to Caño Palma. The goal of this project is to try to determine the species that are using the southern tip of the Barra de Colorado Wildlife Refuge (where the station is located) and their densities. So far, many species have been found to use this area including such endangered species as Baird's Tapir (*Tapirus bairdii*), Central American Spider Monkey (*Ateles geoffroyi*) and Jaguar (*Panthera onca*).

So as you can see, there has been and continues to be many projects going on at the station. It is vital to the longevity of these projects that we continue to get volunteers to help in our efforts. We are lucky that we keep getting people from Canada and the rest of the world that volunteer their time down here at the station, and I thank everyone who has been to visit Caño Palma and enabled these important studies to continue.

Muchas gracias and all the best,

Jonathan

I CAN SAVE THE RAINFOREST BY...

Using less paper

Use recycled 100% post-consumer waste (PCW) paper whenever possible. Better yet, use tree-free paper. Tree-free paper uses no trees—it is made from plants like kenaf, or from farmers' leftovers like corn stalks and wheat straw. If paper is 100% PCW or tree-free, it will say so on the package. If it doesn't say "recycled" or "tree-free" that means it most likely isn't. Remember to save paper by writing on both sides of the sheet and by using half-sheets and scratch paper. And remember to always recycle. Another way to use less paper is to use a lunch pail or canvas sack for your school lunches, and take a canvas bag to the grocery store instead of using a paper or plastic bag. Use cloth napkins at home and at school instead of paper napkins, and use cloth towels to dry your hands or wipe up spills instead of paper towels. If you must use paper napkins or towels, use only one at a time instead of grabbing a handful.

FUN IN THE DARK—Earth Hour & Euchre March 29, 2008

Congratulations are in order for those who attended our Euchre Tournament held during Earth Hour on March 29, 2008. Mary Taylor had the highest score female, while Don Stead moved in to hold the highest score male. Hilary Lee and Keith Woods won the awards for most honest female and male. Not only did these enthusiastic folks help to raise \$438.53 to help COTERC work towards its goals and projects, they had a lot of fun playing cards by candlelight in support of Earth Hour. The Toronto Zoo once again provided the Atrium, and the homemade desserts were supplied by Joanna Romani and June Enright. Barry and Colette McKee also provided desserts along with game registration and door prizes throughout the evening. Thanks to Gary Miakami for tending the bar, as well as his wife Fran Miakami for helping with our setup.

Special thanks to the Bulk Store in Pickering for providing a discount on the snacks enjoyed by the players throughout the evening.



WILSON ENVIRONMENTALISTS

Abigail Ramdawar & Hargeet Sandhu

Benjamin Franklin once said that "When the well's dry, then we will know the worth of water." People in today's society need to come to the realization that the precious planet that we live on will not last forever.

At the Wilson Environmental Club, we are dedicated to doing everything in our power to preserve our planet. We sell pizzas at lunch, bring special speakers in, host buy-outs and volunteer to do some garden work. Our goal is to educate the Wilson population about the planet they live in and

how they are affecting it. In 2006, we saw the need to reduce Wilson's recycling, so we volunteered at lunch and raised money to buy red bins, which are currently in every classroom. We also won Silver in the Eco-School campaign for meeting strategic criteria for reducing the amount of energy and waste our school generates. We had the privilege of having this award presented to us by the mayor of Whitby, Pat Perkins.

In early 2007, Wilson hosted 'Wildlife' for the second time. This incredible group of people not only brought many interesting animals, but also educated students about these animals, their habitat, and what is happening to the earth. At the winter semi-formal in December, a couple of students volunteered to sell pizzas, pop and chips in order to raise money for "COTERC's Save an Acre" program. The "Save an Acre" campaign is a very unique program. Schools can raise money to buy an acre of the rainforest, where all the animals and their habitats will be preserved. In order to meet our goal of a thousand dollars, the students involved in the Wilson Environmental Club came together and made green ribbons to raise awareness about the Save an Acre program. These ribbons were sold at the parent's information night and during lunch throughout earth week, hopefully allowing Donald A. Wilson Secondary School to become the proud sponsors of an acre of rainforest.



SAVE AN ACRE

Support a unique strategy to establish a wildlife reserve. You can Save an Acre by buying an acre. Habitat destruction is the greatest threat to wildlife today.

We are a registered Canadian non-profit charitable organization (#890096183 RR0001) which is establishing a wildlife reserve in the Atlantic Lowland Tropical Rainforest of Costa Rica. We currently own 100 acres on which the Cano Palma Biological Station is located. The properties nearby are being bought up for use as lodges and farms; trees are being cut down to clear the way to build cabins and other buildings, thus destroying the habitat of many species of animals.

The Save an Acre Project is very special, dedicated to promoting conservation through the acquisition, protection and sustainable use of threatened habitat.

One hundred percent of your contribution goes directly to the land trust to buy land for the wildlife reserve. The money is held in trust until we reach our goal of \$450,000 to purchase land presently available



Help us to save this precious piece of our planet!
Each acre costs \$450.
You will receive an Acreage Certificate acknowledging your participation in the land trust

YES, I want to Save an Acre by contributing towards the cost of _____ acre(s) at \$450, for a total of \$_____ OR 1/2 acre at \$225_____ OR 1/4 acre at \$120_____ Other amount \$_____

Name _____

Street Address _____

City _____ Province/State _____

Postal Code _____ Phone _____

Email (optional) _____

Tax receipts are available on request. Please mail to COTERC office Box 335, Pickering, Ontario L1V 2R6, Canada info@cotercc.org www.cotercc.org

VISIT TO CAÑO PALMA

Ryan M. Bolton, M.Sc., Conservation Biologist
Department of Integrative Biology
University of Guelph

There I was, speeding down one of the many canals that comprise the primary mode of travel throughout the Tortuguero region. This was a moment that I had envisioned so many times during the months prior to my departure—I was on my way to the Caño Palma Biological Station. High in the trees that line the waterway, Spider Monkeys were adeptly displaying their acrobatic prowess while launching themselves far through the air, moving from tree to tree. Closer to the water's edge, Aningas were drying their feathers in preparation for their next foray into the water in search of food. Turtles and Spectacled Caimans were out basking in the warm sun. This truly was everything I had hoped for, and I had only been in the country a few hours.

As a freshwater turtle biologist in southern Ontario, I aspired to volunteer my expertise in a tropical environment. An acquaintance suggested I contact COTERC. I made plans to assist with the ongoing marine turtle monitoring program, initiate a freshwater turtle monitoring program, and conduct a herpetofaunal survey during the 30-day period that I would be at the station.

I have spent many years in isolated areas during field research for my own graduate studies, so I was fully prepared for roughing it in the extreme. However, I was absolutely amazed when I arrived at the station. For being in such a remote location, the station is more than equipped to support and accommodate any type of research endeavour. From the excellent reference library to the incredibly friendly and helpful station manager, Jonathan, this is certainly an ideal place to work and/or visit.

Since I am primarily interested in reptiles and amphibians, I spent little time actively searching for much of the other fauna in the immediate vicinity of the station. However, the diversity and species richness is so astounding that one cannot help but be presented with everything the area has to offer. All one has to do is look up to the forest canopy to see a White-faced Capuchin or Howler Monkey. All one has to do is follow the captivating sounds of the forest in order to see a Keel-billed Toucan, Montezuma Oropendola, or Slaty-tailed Trogon. But again, my focus was elsewhere...

In the period that I was at the station, I was able to observe over 50 species of reptile and amphibian. On only my second day at the station, while photographing a beautiful Scarlet-webbed Treefrog, I noticed a young Eyelash Viper placidly perched on a small tree. A perfect beginning to what promised to be an exceptionally rewarding experience. In the days to follow, I was able to see many more snakes, including the excitingly exquisite Fer-de-Lance—an animal whose beauty is overshadowed only by its notoriety. Lizards were plentiful, and it was always incredibly humbling to spend the mornings on the boat dock almost within arm's reach of basking Green Basilisks and Iguanas. I spent all of my evenings in search of some of the more charming denizens of the forest, the frogs. As with everything else, the frogs were abundant and I was elated to be able to see the poster child of Costa Rica—the appropriately named Red-eyed Treefrog. In addition, I observed two frog species (*Scinax boulengeri* and *Smilisca puma*) that have never before been seen near the station (see picture on front page of *Raphia*)! This just shows how incredibly rich the area is!

(Continued on page 9)



Join
COTERC
on
June
7 & 8,
2008

All day workshops, organic cooking demonstrations, kids activities, live music, healthy living, home energy solutions, sustainable living inside and out... the list of exciting events goes on and on!

*Fairy Lake Park, Newmarket
10:00am – 5:00pm*

www.windfallfestival.ca

Mantled Howlers – The Large Mammals of Caño Palma

Dr. Kimberley A Snarr, University of Toronto, Centre for Environment
Director of Conservation and Research, COTERC

In the fall of 2007, a large mammal monitoring program was established at the research station. It is critical to understand which large mammals live in and around the station as they are important components in all forest ecosystems, playing vital roles in seed dispersion and seed predation. The mantled howler (*Alouatta palliata*) is the most commonly found monkey in the region and is one of the four New World Monkeys which range in Costa Rica. Howlers have the largest body size of all the New World monkeys. The large and stocky adult mantled howlers weigh in at approximately 5-7 kg with the males being much larger than the females. These large monkeys are found to have considerable variation in their coat colour, which is described as blackish and brownish with elongated yellowish hairs along the flank. Their group sizes are quite variable and are known to range from groups of 5-28 with single individuals found living solitary during periods of immigration. Both males and females disperse from their natal groups and join new groups.

Previous research on the howlers at Caño Palma was conducted by Dr. Tracey Farmer whose work looked at the group numbers and sizes. The Large Mammal Monitoring Project has found clear evidence of the continued presence of the mantled howler, detected through visualizations and their spectacular vocalizations. Tracks are not likely to be found as this species of monkey is arboreal, meaning they live in the trees and rarely come down to the ground. They drink from

small catchments of water in tree holes, and feed on leaves and fruit. Their long call is considered to be the loudest animal call in the world with the sound being produced from resonations within their enlarged hyoid bone.

The presence of the howlers indicates that their ecosystem role is not compromised. Thus, the howlers continue to feed on leaves, young shoots, and fruits – acting as both browse thinners and seed vectors to increase the health of the forest. With the placement of Caño Palma at the lower end of Barro Colorado Wildlife Refuge (BCWR), it acts as an exchange area for wildlife, providing safe habitat and the intimate connections needed for gene flow and mobility between the two large reservoirs of BCWR and the southern Tortuguero National Park.



Image description: Adult male mantled howler (*Alouatta palliata*) showing the dark stocky body and long fringe hairs of the lighter coloured mantle with the long prehensile tail which acts as a 5th limb.

References:

Crockett C.M. and J.F. Eisenberg 1987. Howlers: Variation in group size and demography. In: Primate Societies, BB Smuts, D.L. Cheney, R.M Seyfarth, R.W. Wrangham, and T.T. Struhsaker (eds), University of Chicago Press, Chicago, pg 56-68

Reid F.A. 1997. A field guide for the Mammals of Central America and southeast Mexico. Oxford University Press, New York

Snarr K.A. 2006 Life in a lowland wet forest fragment on the north coast of Honduras: the mantled howler (*Alouatta palliata*) of Cuero y Salado Wildlife Refuge. University of Toronto, PhD, supervisor: Dr. F Burton

VISIT TO CAÑO PALMA continued

(Continued from page 8)

Naturally, much of my time was spent with the turtles. I focused on the Black River Turtle for my population monitoring project, as this appears to be the most common species near the station. I was able to capture, mark, and record data for 23 individual turtles. Of course, the highlight of my visit was observing the nesting Leatherbacks. Seeing a 500 kg turtle laboriously emerge from the sea to lay her eggs is one of life's few true perfect moments, an experience so personal that it becomes virtually indescribable. I feel it would be a great injustice to attempt to accurately put the experience into words. Nothing I can write will match the detail and emotion of those memories. All I can say is that it was the most I have ever felt connected with all living things, with the past and the present and all of the uncertainty of the future. For those moments, it was as if time stood still...

I know that I will return one day. There is so much more I need to see and experience. I hope that some of the readers will become inspired and visit the station, too. It is truly a wonderful experience and one that I will never forget!

Flora and Fauna

An Art Show and Sale

When: Saturday June 14, 2008 from 7:30 pm to 10 pm
 Where: Reptilia Zoo (Rutherford Rd. and Jane St.)
 Why: To support the conservation, education and research work of COTERC in Costa Rica



Lori Dunn

Featured Artists

Ken Ardill
 Jim des Rivieres
 Nubar Dakessian
 Lori Dunn
 Paul Harpley
 Debra Lynn Ireland
 Valerie Kent
 Barry Kent MacKay
 Bob Murphy
 Fiona Reid
 Sharon E. Steinhaus
 Jim Taylor

Join us for the evening and view stunning art created by artists who appreciate the beauty of nature, visit the intriguing animals that make Reptilia home, take in one or two animal shows, enjoy wine and cheese and mingle with friends. You will be supporting the valuable conservation work that takes place at Caño Palma Research Station in Costa Rica. www.coterc.org
 Tickets are \$45 per person.
 To order tickets contact info@coterc.org or call 905-831-8809



Did Your Shopping List Kill a Songbird?

Bridget Stutchbury

Though a consumer may not be able to tell the difference, a striking red and blue Thomas the Tank Engine made in Wisconsin is not the same as one manufactured in China — the paint on the Chinese twin may contain dangerous levels of lead. In the same way, a plump red tomato from Florida is often not the same as one grown in Mexico. The imported fruits and vegetables found in our shopping carts in winter and early spring are grown with types and amounts of pesticides that would often be illegal in the United States.

In this case, the victims are North American songbirds. Bobolinks, called skunk blackbirds in some places, were once a common sight in the Eastern United States. In mating season, the male in his handsome tuxedo-like suit sings deliriously as he whirrs madly over the hayfields. Bobolink numbers have plummeted almost 50 percent in the last four decades, according to the North American Breeding Bird Survey.

The birds are being poisoned on their wintering grounds by highly toxic pesticides. Rosalind Renfrew, a biologist at the Vermont Center for Ecostudies, captured bobolinks feeding in rice fields in Bolivia and took samples of their blood to test for pesticide exposure. She found that about half of the birds had drastically reduced levels of cholinesterase, an enzyme that affects brain and nerve cells — a sign of exposure to toxic chemicals.

Since the 1980s, pesticide use has increased fivefold in Latin America as countries have expanded their production of nontraditional crops to fuel the demand for fresh produce during winter in North America and Europe. Rice farmers in the region use monocrotophos, methamidophos and carbofuran, all agricultural chemicals that are rated Class I toxins by the World Health Organization, are highly toxic to birds, and are either restricted or banned in the United States. In countries like Guatemala, Honduras and Ecuador, researchers have found that farmers spray their crops heavily and repeatedly with a chemical cocktail of dangerous pesticides.

In the mid-1990s, American biologists used satellite tracking to follow Swainson's hawks to their wintering grounds in Argentina, where thousands of them were found dead from monocrotophos poisoning. Migratory songbirds like bobolinks, barn swallows and Eastern kingbirds are suffering mysterious population declines, and pesticides may well be to blame. A single application of a highly toxic pesticide to a field can kill seven to 25 songbirds per acre. About half the birds that researchers capture after such spraying are

found to suffer from severely depressed neurological function.

Migratory birds, modern-day canaries in the coal mine, reveal an environmental problem hidden to consumers. Testing by the United States Food and Drug Administration shows that fruits and vegetables imported from Latin America are three times as likely to violate Environmental Protection Agency standards for pesticide residues as the same foods grown in the United States. Some but not all pesticide residues can be removed by washing or peeling produce, but tests by the Centers for Disease Control show that most Americans carry traces of pesticides in their

blood. American consumers can discourage this poisoning by avoiding foods that are bad for the environment, bad for farmers in Latin America and, in the worst cases, bad for their own families.

What should you put on your bird-friendly grocery list? Organic coffee, for one thing. Most mass-produced coffee is grown in open fields heavily treated with fertilizers, herbicides, fungicides and insecticides. In contrast, traditional small coffee farmers grow their beans under a canopy of tropical trees, which provide shade and essential nitrogen, and fertilize their soil naturally with leaf litter. Their organic, fair-trade coffee is now available in many coffee shops and supermarkets, and it is recommended by the Audubon Society, the American Bird Conservancy and the Smith-



sonian Migratory Bird Center.

Organic bananas should also be on your list. Bananas are typically grown with one of the highest pesticide loads of any tropical crop. Although bananas present little risk of pesticide ingestion to the consumer, the environment where they are grown is heavily contaminated.

When it comes to nontraditional Latin American crops like melons, green beans, tomatoes, bell peppers and strawberries, it can be difficult to find any that are organically grown. We should buy these foods only if they are not imported from Latin America.

Now that spring is here, we take it for granted that the birds' cheerful songs will fill the air when our apple trees blossom. But each year, as we continue to demand out-of-season fruits and vegetables, we ensure that fewer and fewer songbirds will return.

Bridget Stutchbury, a professor of biology at York University in Toronto, is the author of "Silence of the Songbirds."

Board of Directors and Committee Members

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