

Raphia

The newsletter of the Canadian Organization for
Tropical Education and Rainforest Conservation



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NOTES FROM THE RAINFOREST

by Marilyn Cole

I visited Costa Rica and Caño Palma Biological Station between November 24 to December 3, 1997 and I would like to share some of my impressions and experiences.

FIRST IMPRESSIONS

The charter flights have begun to land in Liberia, in northwest Costa Rica before flying on to San Jose -- but all passengers must disembark while the plane is re-fuelled, sanitized and loaded with food for the flight back to Canada. This procedure takes up to one hour. We then re-boarded for the 25-minute flight to San Jose! This seemed rather silly. Why not do this on the return to Canada instead of wasting time for arriving passengers in Costa Rica?

WEDDING OF THE YEAR

One of our former station managers, Daryl Loth, married LuzDenia, a woman from the village of Tortuguero on November 26th, 1997. The ceremony took place in the tiny Catholic church in Tortuguero and, true to Tico customs started an hour late! LuzDenia looked beautiful in a long white gown while Daryl sported a tux -- can you imagine wearing this clothing in the tropics?

Several of Daryl's relatives had travelled from different parts of Canada to attend the ceremony. The entire village turned out for the event, wearing their very finest and of course not everyone could squeeze into the tiny church. There were spectators peering in through the windows and standing outside listening over the loudspeaker. It truly was a special occasion for everyone. Daryl has settled in Tortuguero as a tour guide and I am sure that all of you who have met him wish him and his new bride the very best of luck and happiness for the future.

I and some friends of LuzDenia flew in from San Jose to Tortuguero on the cramped plane. We each carried a layer of the wedding cake in our laps! We all had a big laugh over that.

RESCUE OF A BABY HOWLER MONKEY

During the evening of the wedding reception some staff members from a nearby lodge delivered a baby howler monkey, saying that it had been seen in a tree on its own for the past two nights. No one could say what had happened to its mother, and they were hoping we could care for it. Howler monkeys are leaf-eaters with a very specialized diet. Giving one of these delicate creatures even a small quantity of fruit can destroy the enzymes in their stomach needed to break down the hard fibre in leaves. So, it was with a great deal of relief that we found he accepted and ate leaves readily, even though he was only three months old.

We took him back to the station after the reception and gave him plenty of tender, loving care. At his age he would normally cling to his mother and never leave her side, so we took turns acting as surrogate mom. He soon learned to cling to his 'mom's' hair and be carried around on our shoulders as we went about our business. Ross Knopf, a volunteer from Calgary, Alberta proved to be particularly fond of the little guy during the three days that we kept him, so he soon became the official 'mom'. We all sympathized when the monkey joined in the vocalizations heard from the surrounding troops of howler monkeys. However, we could not simply release him -- most likely the troops would not have accepted him and he would not have survived on his own at his tender age. Consequently, we needed to find an official rehabilitation centre for him.

During that period of time, we had attempted to make arrangements to turn him over to the local authorities, but unfortunately the individual who was supposed to pick him up did not receive the message before his return to

central Costa Rica where their office is located. Rather than delay much longer, I contacted friends at a wildlife rescue centre in Alajuela known as ZooAve and made arrangements to fly the little monkey to them. What a sight and centre of conversation we were on the plane, as he sat on my shoulder during the half-hour flight! Suzanne Chacon of ZooAve, met us at the airfield and took us to the centre in her car. By now this monkey was a seasoned traveller and exhibited a lot of curiosity as we sped along the road towards Alajuela.

ZooAve is a private facility owned by a Canadian named Dennis Janik. Dennis used to hang around the Metro Toronto Zoo as a boy and grew up fascinated by exotic animals. After becoming a successful businessman, he set up his own private facility in Costa Rica where many animals have been successfully re-introduced to the wild after being confiscated from poachers and others. Many of Costa Rica's wildlife end up illegally being kept as pets, after being poached. The government officials confiscate those they know of and turn them over to wildlife rescue centres such as ZooAve. Currently Dennis and Suzanne are working on releasing a flock of scarlet macaws, some of whom were pets and some of whom were hatched at ZooAve, in a newly created national park in southwest Costa Rica. In the meantime, they have established social cages for the birds to get accustomed to each other and their environment. The monkeys too have large, naturalistic exhibits -- plenty of tropical trees to roam around in. Dennis and Suzanne also plan to release a troop of capuchin monkeys to an area of Costa Rica where none are currently found. Of course these projects are approved by the proper authorities.

The little monkey, named Ross (after our volunteer) weighed 160 grams when he arrived. One month later his weight was up to 1000 grams. Currently, he is gradually being introduced to other howler monkeys at Zoo Ave, and perhaps one day he too can go back to the wild. It was very gratifying to be part of this little monkey's rescue.

THANKSGIVING DINNER

On November 27th we celebrated American Thanksgiving in great style. Ross Knopf, the volunteer mentioned previously, is a fabulous cook and prepared fried chicken, mashed potatoes, gravy, squash and yams, with rice

pudding for dessert. Candles on the table with our best cutlery (!!) set us all in the right mood for this festive occasion.

After dinner Steve Vee (volunteer from Rockford, Illinois), Kare Holmberg (from Gravenhurst, Ontario) and I found an eyelash viper in the vegetation behind the showers, and in the very next tree there was a long, skinny tree snake that we couldn't identify. Over by the bathroom we found a smoky jungle frog.

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CROCODILES INVADE TORTUGUERO!

For the first time (at least that I am aware of) crocodiles are being sighted in the region of Tortugero. I saw one that has made its home at the foot of the cerro, just to the south of the entrance to Cano Palma. That's just a little too close for comfort, and I guess I won't be swimming off the dock anymore! Actually, an Israeli tourist was killed and eaten last summer by a croc near the village of Parismina, about an hour south of Tortugero, so it is no laughing matter.

A RESEARCH STUDY AT CAÑO PALMA BIOLOGICAL STATION

by Bruce Duthie
Pitt Meadows, British Columbia, Canada

continued from the previous edition of Raphia

Now let us turn our attention to another interesting situation occurring within the diversity of rain forest noises -- an interaction between the cicadas and *D. pumilio*. This may sound bizarre at first, but hopefully my attempt to explain this relationship will show you there is nothing bizarre about it at all.

For those of you who do not know what cicadas are, they are insects of the *Family Cicadidae* and are widely known for their overwhelming ability to produce extremely loud sounds. How does this relate to *D. pumilio*? The earlier part of this article discusses how *D. pumilio* communicate vocally between each other to relay their messages. In paragraph five I mentioned that, in order for messages to be understood and responded to, they must be heard. The relationship with the cicadas has to do with the frogs' ability to hear each other.

The overwhelming sound produced by the cicadas cause far too much air turbulence for the chanting little frogs. There simply is no air space left for the *D. pumilio* to send any messages to each other - not to mention any messages of frustration directed to the top of the canopy where the obnoxious cicadas enjoy their short time in daylight (Cicadas can spend as much as seventeen years of their life cycle underground).

It appears the cicada calls are scattered throughout the day without any obvious pattern. However, this was not the focus of my study, so I apologize to anyone who knows more about Cicada biology. During the day while the cicadas were calling, it was found that the number of frog-frog interactions was minimized, especially if the cicadas were near the frogs being observed. Instead of fighting for air space with the far louder cries of the cicadas, the frogs were found to increase their foraging

activity. Increasing foraging activity while communication pathways were unavailable seems to be a logical adaptation. To add more strength to this relationship, it was also found that when the cicada activity decreased, then ultimately halted; frog calls began to substantially increase in numbers.

By the time I recognized this relationship and gathered as many samples as possible to reinforce my hypothesis, it was time to put the project on hold. The opportunity to study an exotic animal, or for that matter, any animal in its natural environment really helps a young person interested in science, to see a completely different side to "the big picture". Even though I encountered setbacks in my study and became frustrated with the hours I would spend in the forest producing pages of chaotic field notes, I began to realize this is really how it should feel. It is not an easy lifestyle, and certainly not as convenient as life back in North America. However, one will never find *D. pumilio*, three-toed sloths, great green macaws, the fer de lance snake and a myriad of other exotic life forms naturally surviving in North America.

This experiment shows a few examples of behavioural patterns of one organism in an extremely complex and diverse ecosystem. The abundance of activity within tropical rain forests never seems to decrease, unless disturbance from external sources plagues the richness. The disturbance I am referring to is rain forest destruction caused by human involvement. What is interesting to point out is humans are animals too. By realizing this, one may ask then what is essential for animals to survive? The obvious answer to this question is clean air, clean soil, clean water, biodiversity and energy. To elaborate on this thought, it appears overwhelmingly apparent not to disturb the air, soil, water and species richness and diversity. However, there now becomes a trade-off. Do we as humans deny ourselves our curiosity of life by remaining isolated from studying complex ecosystems such as tropical rain forests? Or do we invade these territories and try to extract as much information as possible to contribute to more reasons why we need to conserve. The latter seems to be the most logical path to follow. I will conclude this paper in the words of the

Senegalese conservationist Baba Dioum: "In the end, we conserve only what we love, we will love only what we understand, and we will understand only what we are taught".

Acknowledgements:

Mr. & Mrs. Reginald Cowderoy at Poly-Con Industries Ltd.

The staff at Caño Palma Biological Station

Special thanks to my parents for their overwhelming support and understanding in my quest to study abroad.

RECENT ANIMAL OBSERVATIONS

Spider Hunting Wasp (*Auplopus esmerelda*), making nests in the bathroom. Bats recently collected at Cano Palma and vicinity

Cormura brevirostris
Cyttarops alecto
Micronycteris nicefori
Carollia castanea
Carollia brevicauda
Carollia perspicillata
Hylonycteris underwoodi
Glossophaga soricina
Glossophaga commissarisi
Uroderma bilobatum
Platyrrhinus helleri
Vampyressa nymphaea
Ectophylla alba
Artibeus watsoni
Artibeus phaeotis
Artibeus jamaicensis
Artibeus lituratus
Desmodus rotundus
Myotis riparius
Thyroptera tricolor

Two river otters (possibly with kits)
 Butterfly *Pierella helvetia*
 Great Green Macaw (3)
 Geoffrey's Spider Monkeys (several)
 Chestnut mandibilled toucans
 Black Howler monkeys
 Sloth (species unknown)
 Laughing falcon
 Mealy Parrot
 Bat falcon
 Green ibis
 Northern jacana

Frigate bird
 Black river turtle
 Poison dart frogs
 White-faced capuchin monkeys
 Squirrel cuckoo
 Purple throated fruit crow

Visiting bird banders Bud and Margaret Widdowson netted 24 birds on two visits (Dec. 8 and Dec. 29, 1997). Some of these included Red-capped manakins, White-collared manakin, Ovenbird, Little hermit, Crowned woodnymph, Rufous tailed hummingbird and Wood thrush.

TORTUGUERO SCHOOL KIDS VISIT CAÑO PALMA

by

Kare Holmberg, Volunteer from Gravenhurst, Ontario

In Canada school children have recently been on vacation for the Christmas holidays, while the school children in Costa Rica have just finished their school year. We were honoured when the Grade Five class of the town of Tortuguero decided to come to Caño Palma Biological Station for their class outing. One rainy Friday morning six Grade Fives, two Grade Twos and their teacher with her two young children arrived just as the rain was letting up.

We divided the kids into two groups and rotated them through two activities, a frog walk and bird banding. The frog walk showed the kids the common Poison Dart frogs of the area and we explained their life history. The children were excellent at finding the tiny red frogs jumping along the trail. One child even found a pair of copulating mud turtles. The second group found a snake slithering through the underbrush. Both groups found over twenty frogs.

It is currently bird banding season for migratory birds in Tortuguero, and the station is one of five mist netting sites. There are eleven nets at the station, and the bird banders agreed to come out to work and show the students what they are doing. So, while one group was out finding frogs, the other spent time learning about bird research. The students learned why the researchers are catching and banding birds, and observed the researchers in action. One of the most important messages children need to learn is that the migratory birds know no

boundaries, and that actions in land management in both North America and Latin America affect these migratory creatures.

These kinds of activities are good for the kids as well as the station. Your donations and support of the station make this kind of work possible.

Thanks!

NEW 'MUST HAVE' BOOK AVAILABLE!

A FIELD GUIDE TO THE MAMMALS OF CENTRAL AMERICA

by Fiona Reid

Oxford University Press, New York & Oxford, 1997

This is a wonderful guide book complete with beautiful illustrations (done by the author) -- the first of its kind to be dedicated to Central American mammals. It is full of good information and should be read by anyone who is planning a trip, or who is simply interested in the fauna of Central America. It has just recently been released and should be available soon in specialty book stores, or by special order. As a note of interest, Dr. Reid is a member of the Board of Directors of COTERC, and has just recently completed a field trip to Caño Palma Biological Station to collect bats, in conjunction with Burton Lim, from the Royal Ontario Museum, Toronto.

PARTNERS IN PRESERVATION PROJECT

LOOKING FOR A UNIQUE GIFT IDEA? HOW ABOUT A DONATION TO OUR PARTNERS IN PRESERVATION PROJECT?

We invite you to help protect the rain forest and the incredible range of species within it. Many people believe that preservation of species is a fad and that it has passed. Yet many of the Earth's species and ecosystems are still threatened. They need your protection to ensure the future of our planet, for the education and enjoyment of generations to come.

The Partners in Preservation program is YOUR opportunity to protect a spectrum of rain forest species and the habitat in which they live. By sponsoring a species, your donation makes you a partner in the preservation of a threatened world.

The region around Caño Palma Biological Station is threatened by habitat destruction and poaching. Without adequate protection, we may lose this integral part of our planet.

COTERC is committed to protecting and preserving this ecosystem, and we invite you to share in this commitment by becoming a **Partner in Preservation**. From the list on Page 7, select an animal or plant species that you wish to protect. Simply fill out the application form and mail it, along with your cheque.

MANY THANKS TO THE FOLLOWING INDIVIDUALS WHO HAVE DONATED MONEY OR GOODS TO COTERC:

CONNIE SWEET, Santa Ana, California who donated the gorgeous book 'Jewels of the Rainforest - Poison Frogs of the Family Dendrobatidae'. This will make an excellent addition to our library at Caño Palma Biological Station.

DORIS BREED, Hacienda Heights, California

CANADIAN TIRE CORPORATION, who donated an industrial-sized chainsaw, to help us clear the station's trails of deadfalls.

PAT JOHNS, Anaheim, California who donated money to purchase a large washing machine for use at Caño Palma Biological Station. When the large student groups are there, this washing machine will be invaluable in keeping sheets and other laundry clean and ready for the next group.

And to those of you who have donated to the **Partners in Preservation** program. We are attaching information about this project, and hope that you will join us.

KIDS SAY THE DARNEDEST THINGS. PART 3

- ◆ Most books say the sun is a star, but it still knows how to change back into the sun in the daytime.
- ◆ Cadavers are dead bodies that have donated themselves to science. This procedure is called gross anatomy.
- ◆ Parallel lines never meet unless you bend one or both of them.
- ◆ A circle is a figure with 0 corners and only one side.
- ◆ A supersaturated solution is one that holds more than it can hold.
- ◆ An example of animal breeding is the farmer who mated a bull that gave a great deal of milk with a bull with good meat.
- ◆ The hydra gets its food by descending upon its prey and pushing it into its mouth with its testicles.

CAÑO PALMA WISH LIST

Katadyne Water Filtration System
Small Chest Freezer
Small Oven

Additional Dormitory for Larger School Groups

RATES OF RAINFOREST LOSS

RAINFORESTS COVER LESS THAN TWO PERCENT OF THE EARTH'S SURFACE. YET THEY ARE HOME TO SOME 50 TO 70 PERCENT OF ALL LIFE FORMS ON OUR PLANET. THE RAINFORESTS ARE QUITE SIMPLY, THE RICHEST, OLDEST, MOST PRODUCTIVE AND MOST COMPLEX ECOSYSTEMS ON EARTH. AS BIOLOGIST NORMAN MYERS NOTES, "RAIN FORESTS ARE THE FINEST CELEBRATION OF NATURE EVER KNOWN ON THE PLANET". AND NEVER BEFORE HAS NATURE'S GREATEST ORCHESTRATION BEEN SO THREATENED.

GLOBAL RATES OF DESTRUCTION

2.47 ACRES (1 HECTARE) PER SECOND

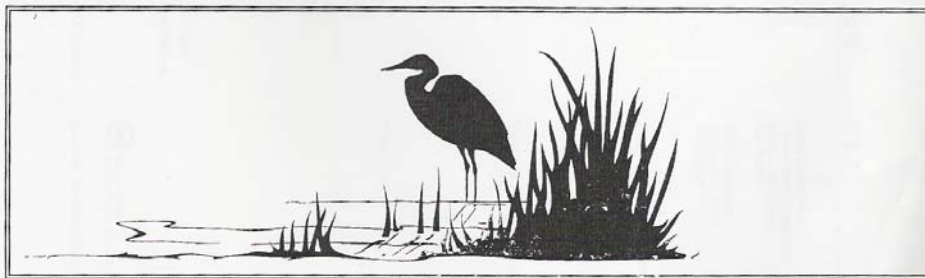
150 ACRES (60 HECTARES) PER MINUTE

214,000 ACRES (86,000 HECTARES) PER DAY: AN AREA LARGER THAN NEW YORK

78 MILLION ACRES (31 MILLION HECTARES) PER YEAR: AN AREA LARGER THAN POLAND

OUR APOLOGIES

When thanking the individuals who assisted with the success of our fundraiser "Tropical Treat", we overlooked three important volunteers. Our sincere apologies to Dale Leadbeater, Karen Henshaw and Brian Henshaw, who all helped to put up the decorations for the event.



Please send this as a gift to:

Name _____ Name _____
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species selected _____
 Amount: \$15.00 \$30.00 \$50.00 \$75.00 \$100.00 other _____

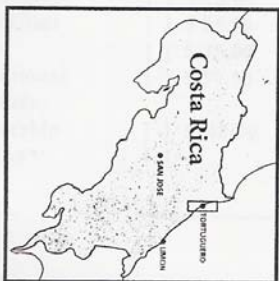
Cheque enclosed, payable to COTERC. Mail to: COTERC, Box 335, Pickering, ON, L1V 2R6, Canada
 All contributions tax deductible (charity # 0908061-21).

How to Join!

From the adjacent list, select an animal or plant species that you wish to protect. Fill out the attached application form and mail it, along with your cheque to:
 COTERC
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You will receive a certificate declaring your commitment as a Partner in Preservation. And, depending on the level of your donation, you will receive a gift and information on your selected species.

By the way, Partners in Preservation program makes a great gift!



The Partners In Preservation species list

Species	Donation	Gift
Jaguar	\$100	Gano Palma T-shirt Jaguar family figurines Species fact sheet Certificate
West Indian Manatee		
Great Green Macaw		
Hornman's Three-toed Sloth		
Ocellot (cat)	\$75	Toucan figurine Species fact sheet Certificate
Keel-billed Toucan		
Southern River Otter		
Black-Winged Howler Monkey		
Heliconia (flower)		
Mourning Butterfly	\$50	Poison Arrow Frog figurine Species fact sheet Certificate
Managay (cat)		
Poison Arrow Frog		
Eyeslash Viper		
White-Throated Capuchin Monkey		
Annulated Boa Constrictor		
Honduran White Bat		
Slaty-tailed Trogon (bird)		
Jaguarundi (cat)	\$30	Packet of Rainforest seeds Certificate
Spider Monkey		
White-Lipped Tropicbird (bird)		
Montezuma Oropendola (bird)		
Raphia Palm		
Coral Snake		
Smoxy Jungle Frog		
Androsel Bird-eating Tamarula		
Tink Frog	\$15	Certificate
Cecropia Tree		
White-collared Manakin (bird)		
Emerald Basilisk Lizard		
Heliconius Butterfly		
Leaf-Cutter Ants		
Kidney-rooted Bat		
Pizote (cactus-like)		
Long Nostril Gar (fish)		

For more information on becoming a member of COTERC and on our conservation, research and educational initiatives, please feel free to contact us directly:
 Tel: 905-683-2116
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 Or visit us at our Web site: <http://home.interhop.net/~coterc>



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RAINFOREST CONSERVATION**

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*tax deductible

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