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# RAPHIA

The Canadian Organization for Tropical Education  
and Rainforest Conservation (COTERC)  
Newsletter.

Volume 5, Number 1, Winter, 1996

*RAPHIA - An oil palm found in abundance at Cano Palma Biological Station, Costa Rica. Known locally as 'YUULLO.*

## EXECUTIVE DIRECTOR'S REPORT

by Marilyn Cole

Much has happened within the Organization during the past year, and I invite you all to come to hear our reports at the Annual General Meeting, to be held on Thursday, May 9th. Please check the insert for details. Although many of you live far away, we welcome those members who live near the Toronto area.

I have recently returned from a visit to our field station in Costa Rica - Cano Palma Biological Station - and can report that all is well. Thanks to the efforts of our former Station Manager Daryl Loth, we can boast a new kitchen/diningroom/library complex that is truly something to see. Imagine, if you will, transporting loads of wood, concrete and all other supplies to the station by boat from

many miles away, pouring the concrete without the aid of a mixer and laying a smooth, coloured floor inside a building that boasts screens all around, as well as electricity and plumbing. What a difference from the early days where we had to cook meals over a wood fire and read by kerosene lantern!

We also have our initial experimental butterfly garden up and running.

This is a small version of what will be built within the village of Tortuguero on land donated by the village council. More details later. Although no longer our employee, Daryl has offered to stay on to complete construction of the butterfly garden.

We welcome our new interim Station Manager. Francis Faigal has been an employee in the Graphics Department at the Metro Toronto Zoo for seven years prior to his taking on his new role. Born in the Phillipines, Francis stated that he felt as though he had come home upon his arrival at the station in November, 1995. I can attest to the fact that he is a fabulous cook, and is keeping the station looking shipshape. Welcome Francis!

On a dimmer note, our wooden dugout boat (the workhorse) has deteriorated to the point where the entire front end needs to be replaced. This is being done, but we are also on the lookout for a new fibreglass skiff to take its place, in order to be able to take sta-

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tion visitors as well as supplies back and forth. We are very fortunate to have been awarded a grant from the Columbus Zoo in Ohio to purchase the new skiff. Our deep appreciation is extended to the Columbus Zoo.

These are but a few of the items to report on my trip. A more detailed report will be given at the Annual General Meeting.

### **VOLUNTEERS HELP AT FUNDRAISING CAR WASH**

Thanks to all who came out to help. Elaine Christens, Tina Clare, Jack Wojcicki, Jane Van der Voort, Bill Derby, Jim Williams, Kevin & Dan



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Editor Marilyn Cole

#### **Contributors**

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Pat Opay

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Francis X. Faigal

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#### **ARTICLES WANTED**

WE INVITE YOU TO CONTRIBUTE TO THE RAPHIA NEWSLETTER. WE WELCOME ARTICLES, POEMS, CARTOONS, OR ANYTHING ELSE THAT YOU THINK IS APPROPRIATE.

PLEASE SEND YOUR CONTRIBUTIONS TO:  
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## COSTA RICA NOTEBOOK NUMBER ONE

by BILL DEREY

*Costa Rica is the second smallest republic in Central America. Only El Salvador is smaller. Its area is 19,575 square miles (50,700 square kilometres), roughly comparable to Vermont and New Hampshire combined, or two-thirds the size of Scotland. Costa Rica is 288 miles long at its greatest point and stretches from 75 miles to 170 miles from east to west. Its population is just over three million people.*

*Costa Rica is bordered by Nicaragua on the north, the Caribbean Sea on the east, Panama to the south and the Pacific Ocean on the west. The Caribbean coastline stretches some 212 kilometres; the Pacific coastline, with its peninsulas and bays, numbers 1,016 kilometres. A massive chain of volcanic mountains, a number of which are spectacularly and at times dangerously active, traverse the country from northwest to southeast, rising to over 12,000 feet.*

*San Jose, the capital, dominates the country. Its population numbers from 300,000 to over 1,000,000, depending upon what suburbs are included. The city was founded in 1737 and later replaced neighbouring Cartago as capital.*

*The sprawling city sits in a broad fertile bowl at an altitude of 1,150 metres, thus accounting for its lush green appearance and excellent climate. Unfortunately, it is a city jammed with vehicles without pollution control devices and is significantly and increasingly smog-ridden. San Jose regularly experiences earthquake tremors, some of significant magnitude. San Jose's slow growth was rapidly accelerated after World War Two as a result of booming banana and coffee exports.*

*Costa Rica's internationally best known citizen in the modern era is undoubtedly Oscar Arias Sanchez, president of the country from 1986 to 1990. In the tumultuous civil war-ridden Central America of those years, President Arias' main goal was to work towards establishing regional peace. He refused to allow American-backed Nicaraguan "contras" to operate from Costa Rica, closing their bases in his country. He strongly enforced Costa Rica's neutrality in this and other matters. He initiated and pushed forward the Central American Peace Plan, which was signed to the five presidents of the Central American republics in Guatemala in 1987. For his efforts, President Arias was awarded the 1987 Nobel Peace Prize.*

### TORTUGUERO SCHOOL DESK PROJECT UPDATE

*COTERC and its research facility in Costa Rica, Cano Palma Biological Station, have been participating in local community projects with the village of Tortuguero. We firmly believe that, as guests of Costa Rica, we cannot simply remove ourselves from the problems encountered by the local villagers. As part of this ongoing commitment, COTERC had asked its members to contribute towards the cost of manufacturing new desks for schoolchildren of Tortuguero. It was estimated that each desk would cost \$20 to make. Up until now,*

*the students have had chairs to sit on, with a wobbly board attached to the front which acted as a writing table.*

*We are pleased to report that we were able to contribute \$354 towards the cost of the new desks. This equates to 18 desks. Daryl Loth, our former Station Manager, volunteered his expertise to assist some of the villagers in building the desks. Many thanks to all members who contributed, particularly Connie Sweet, E.W. Presant and Dr. Ruth Ann MacQueen.*

**NATIONAL AUDUBON SOCIETY CHRISTMAS BIRD COUNT  
AT THE ESTACION BIOLOGICA CANO PALMA**

*by Pat Opay, Scientific Officer*

*The day started early. The participants were ready as the sun started to rise. The temperature for the day ranged between 71 and 81 degrees F., the wind was calm, and the morning was cloudy with light rain. The afternoon cleared some (the rain stopped), but it remained partly cloudy. Eight observers in a maximum of four parties (one basic party) birded for various time periods on December 28, 1995. The birders ranged within part of the Tortuguero Conservation Area, including the station, the beach, part of Tortuguero National Park, the village of Tortuguero and the canals of the area.*

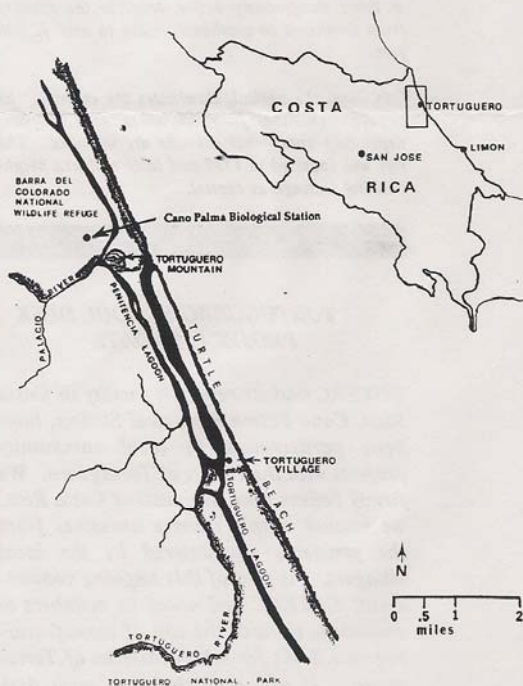
*This was the second year the station participated in the Count, and the combination of increased number of participants, better weather and more experienced birders helped the count to record 94 different species of birds and 648 individual birds. Some of the species recorded include the keel-billed toucan, anhinga, green ibis, black vulture, crane hawk, laughing falcon, northern jacana, sanderling, mealy parrot, gray rumped swift, rufous-tailed hummingbird, ringed kingfisher, collared aracari, lineated woodpecker, chestnut-sided warbler, blue-gray tanager, montezuma oropendola and a lucky recording of a scarlet macaw.*

*Participants this year included:  
Ghisselle Maria Alvarado Quesada  
Francis Faigal  
Luz Marina Gonzalez Zuniga  
Daryl Loth  
Cristie McCrory  
Patrick Opay*

*Johnny Powell  
Glendee Taylor Martinez.*

*This year a few people from Tortuguero participated, as well as the ornithologist (Ghisselle Maria Alvarado Quesada) from the National Museum in San Jose.*

*Perhaps we can entice you to join us for next year! If you're interested, please contact the Pickering office for more details.*



# COTERC

**ANNUAL GENERAL MEETING**

**THURSDAY, MAY 9, 1996**

**7:30 P.M.**

HOLY TRINITY ANGLICAN CHURCH  
91 KING'S CRES., AJAX, ONTARIO

**ALL ARE WELCOME!**

- \*\* ELECTION OF OFFICERS      \*\* ANNUAL REPORTS**
- \*\* VIDEO OF CANO PALMA BIOLOGICAL STATION**
- \*\* LIGHT REFRESHMENTS \*\***

*COME AND SEE WHAT YOUR  
ORGANIZATION HAS BEEN DOING!*

FOR DIRECTIONS TO THE CHURCH  
PLEASE SEE MAP ON REVERSE

## SPECIES OF THE MONTH - THE MARGAY



Reprinted by permission of International Society for Endangered Cats

The Margay is one of the most beautiful and mysterious of the spotted cats. Their soft, plush coat is brownish-yellow through tan, with black spots, stripes and blotches arranged in longitudinal rows, and is longer than that of other spotted cats. Their tail, as in many tree-dwelling mammals, is very long, as much as 70% of the body length, and marked with broad rings and a black tip.

The Margay is restricted to forest habitat (humid tropical evergreen and montane) from Mexico, ranging down through Central and South America to Argentina. A field study carried out in Belize found resting areas were in trees 7-10 meters above the ground, and home ranges were about 10 sq.km. Much of their range is shared with the Ocelot, who take larger and more ground-dwelling prey species.

The Margay is one of the wizards of the tree-tops, and is beautifully adapted to its arboreal habitat. One unique characteristic allows them to move and hunt more effectively in the trees. Their broad, soft feet and mobile toes allow them to hang from tree limbs by one hind foot, and flexible ankles can rotate the foot 180 degrees outward. Their exceptionally long, heavy tail aids in balancing while moving from tree to tree. In some areas, margays hunt, sleep and even have their young in trees. When they do descend, they walk slowly head first down the trunk, unlike most cats who rush down or descend hind feet first.

They are primarily nocturnal, as indicated by their huge eyes, and their prey items consist of small tree-dwelling rodents, opossums, sloths, monkeys, porcupines, birds, insects and

occasionally fruit. Very little is known of their social system in the wild. After a gestation period of approximately 85 days, a single kitten (rarely two) is born once a year. Birth weight is about 84 grams, and their eyes open at about two weeks of age. The young are darker than the adults, and have uniformly dark spots and dark grey paws. Weaning takes place at around two months, and sexual maturity is reached at about 3 years. They have been known to live to 13 years of age in captivity.

These shy, secretive cats do not breed well in zoos, and there is almost a 50% infant mortality rate. Until trade restrictions in the late 1980's, the Margay was one of the four most heavily exploited cats for the fur trade. The illegal pet trade was also a factor in their decline, as in past years they were a popular exotic pet.

Another reason for the low numbers of this species is their specialist nature. Their density is greatest in the moist tropical forest, and as these forests are destroyed, Margays are unable in most areas to adjust to the new disturbed habitat. They are also unwilling to cross cleared areas, thus restricting them to small patches of forest, where inbreeding is likely.

The combination of over-hunting for fur, capture for the pet trade and massive deforestation has virtually decimated wild populations of this beautiful little cat. CITES has placed them on Appendix 1 - the most endangered of their ratings.

## TORONTO SCHOOLCHILDREN HELP TORTUGUERO STUDENTS

When COTERC director and educator Jo McQuarrie learned that the students in the small primary school in Tortuguero had to make do with wobbly desks, she decided to see in what other ways we might assist.

She arranged to take photographs of her P-5 class at John Wanless Public School in northern Toronto, to introduce her students, and on Marilyn Cole's recent visit to Costa Rica she in turn videotaped some of the schoolchildren of Tortuguero, as well as the school itself, to demonstrate the barrenness. There are no globes, no colourful posters, very few books and the rooms are extremely hot to work in.

When the students of P-5 saw the videotape, they sprang into action. they decided to hold a bake sale to raise money to purchase school supplies for their Costa Rican colleagues. Under the guidance of Jo McQuarrie, the students enlisted the aid of parents and others to bake large quantities of goodies and also contribute articles for a raffle. Each of the classes at John Wanless Public School arrived at their assigned time to purchase cookies, brownies, Rice Krispies squares and Jello jigglers, as well as to buy tickets for the raffle and guess the number of jellybeans in the jars.

The P-5 class and COTERC volunteers Margaret Fen-

wick, Jim Williams and Marilyn Cole worked diligently throughout the day to ensure that everything ran smoothly. The day's profit totalled \$478.86!! An excellent result. Many, many thanks to Jo McQuarrie for her work in making this a successful venture.

The teacher and students in Tortuguero have listed the items they most need: Coloured and regular pencils; Notebooks; Pens; Scissors; Glue; Bond Paper; Overhead projector; Slide projector; Electric fans (for ventilation). With the proceeds from the Bake Sale, we will be able to buy many of these much-needed supplies.

Jo's class will be continuing a penpal relationship with the Tortuguero children, with Scientific Officer Pat Opay acting as interpreter (Spanish/English). Thanks Jo!

Also, the National Museum personnel in San Jose have agreed to visit Tortuguero on May 21st, to present their school program. The children in remote Tortuguero would probably otherwise not have an opportunity to see this excellent program. COTERC is pleased to have initiated this visit, as well as to host more visits to the Station by the students.



P-5 class at John Wanless Public School & educator Jo McQuarrie

## TRANSITIONS

by Francis X. Faigal

I came to Cano Palma Biological Station following a path of transition. After working as a photographer/graphic designer at the Metro Toronto Zoo for 7 1/2 years, I find myself managing this biological station. I never imagined that I would be doing this, but I am very happy with my new role.

There are a number of reasons why I am here. I am here because this job will give me the opportunity to embrace a project that I believe in. In the process, I also hope to rekindle my creativity. Perhaps even offer some solutions to this ailing world that we live in. I have always believed that conservation should be in harmony with the people.

Only in the harmony of the social and cultural aspects of a community can there be a true and lasting solution to the environmental issues that we face.

When I arrived here in Nov. 1995, I had a strong feeling of coming home. It was relatively easy to adapt to this new home of mine. It is easy to follow the cycle of the day. The Howler monkeys usually wake me up at around 5:30 a.m., with their loud vocalizations. This is followed by the birds that greet daybreak. Mid-day is usually still. Then the late afternoon brings the numerous birds which feed on the various plants and trees on the station grounds. When evening falls, which is usually 5:30- 6:00 p.m., the frogs and various other nocturnal animals fill the night

air with their various calls (sounds which I am still deciphering). Sometimes I will sit by the dock and watch the Caiman in the water. When I go to sleep, I do so hearing the lullaby of the surf from the Caribbean Sea which is not too far from the station -- separated only by the canal and a strip of land approximately 200 metres. Some nights it feels even closer, as I am able to hear it from my cabin in the woods. Yes, it rains a lot. This brings back pleasant childhood memories. Sometimes it can rain for days and just when I have forgotten what the sun looks like, it appears. All the laundry (which has to be done by hand) is brought out to greet the sun. This kind of life has a very calming effect on my spirits. I still have a lot to learn of the natural history of Costa Rica. What I do know now is enough to help me appreciate what my senses feel. Toronto is so far away right now. I look at the water levels of the canals and rivers, instead of the snow on the city streets. The water levels can rise and drop dramatically. I do not worry about getting to work on time, since I work at home here.

Lately we hear the sound of chain saws. Cano Palma is under increasing siege from squatters. They come here to this refuge and claim land which they feel is their national right. It is hard to argue this point as a foreigner representing the concerns of the international community. There is not much that we can do at the moment. We inform the park officers of this problem, but they are limited in their staff and resources. All we can do is get the word out,

and hope that someone in authority might do something about it. As a photo-journalist, I have thought of getting this story out to the international publications, but I have to consider our position and the negative consequences that this might bring to the station. We shall find a way!

Tortuguero is the closest village to Cano Palma (20 minutes by boat). The village has a rich history -- a beautiful mix of Afro-caribbean, Nicaraguan (including the indigenous people), Tico (from the rest of Costa Rica), amongst others. All of this is mixed in with European and American influences. I have had the privilege of meeting two of the descendants of Walton Martinez, who settled here from San Andres Island in the 1930's. He is said to be the founder of modern-day Tortuguero.

When I first walked the footpaths of Tortuguero, I was struck by the uncomplicated life here. There are no roads because this village is still only accessible by boat or plane. This has led to the isolation of the village and consequently of its relatively undisturbed nature. This village that has been isolated and marginalized all these years is now seeking to be linked with the rest of the country. The Municipal government has cleared a two kilometre section of Tortuguero National Park rainforest to build a road.

Pat and I have walked this clearing in the national park with the CCC (Caribbean Conservation Corporation) personnel. It was a devastating sight! I do not know how they did this, without anyone knowing. It felt like



coming home and finding your treasures stripped from the walls.

This issue was discussed at a village meeting, which Pat, Daryl and I attended. It was a very heated meeting. It seems the village is divided with this issue.

There are very good reasons for better accessibility. A road is only one option. One has to wonder about the real motivation of a new resident and a politician working together towards an expensive road, rallying the people with the benefits of the road but not revealing the negative consequences. The statement that sticks in my mind is "San Jose has all the conveniences and we want it as well... We want things such as McDonalds". This was from the self-appointed president of the Pro Road Association. How does one reply to someone who wants to put a drive-through in the middle of paradise? Perhaps I am just a foreigner who has left fast food restaurants behind and guilty of romanticising this simpler way of life. It has been suggested that as foreigners we have no input into this issue, but the same could be said of the newcomers who have now made Tortuguero their home. How far do we go back? Perhaps we should ask Miss Junie (Grand-daughter of Walton Martinez). She certainly does not want the road. How do we get the point across that, like the plants and animals of the world, we are all dependent on each other? We have yet to realize a global community.

This community of Tortuguero has endured many hard-

ships in the past. The social and cultural elements are changing of course. Will Tortuguero follow the right path? Will the new residents of Tortuguero learn from the wisdom of the old settlers? What is the right or natural path? These are some of the questions that face us. Who decides? Is it the people of Tortuguero, Costa Rica, or is this a question for our global community? Growth is building on our old strengths as we embrace the future. Transitions are inevitable, and as natural as the rain that falls here. It is that line then that we must seek. The balance and grace of change that has occurred here since the sea turtles first started coming here -- long before the first settlers. We can grow as a global community and draw on our collective knowledge and experience. At the very least we must find our role and fulfil it.

I do not know what will become of Tortuguero. For now, I will continue to learn and understand the stories from the past as told by Miss Junie and Tio Leo (Uncle Leo). I will seek out the perspective of the new residents. There is a common chord there somewhere that will touch all of us.

For now, I will continue to record the life in Tortuguero and Cano Palma, so that I might share these images with our global community. If we understand, then I am optimistic that we can help.

I leave you with one of the first colloquial phrases which I learned here. One hears it often, and I think it says it all: "PURA VIDA!" (Pure Life).

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## COTERC GOES TO A SHOW

We recently had a display booth at the International Home and Garden Show in Toronto, Ontario from March 14-17, 1996. Our booth was located beside a mock rainforest complete with real plants, a waterfall, fake animals (a huge boa, tapir and leopard) and appropriate sounds, all of which made a very attractive exhibit. Many people dropped by our booth to ask questions and pick up brochures. Thanks to volunteers Jim Williams, Elaine Christens and Tom Mason for helping to man the booth.

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## COTERC APPEARS IN PRINT

Look for the Volume 5, Number 3 edition of "Global Biodiversity", the magazine published by the Canadian Museum of Nature, Box 3443, Station D, Ottawa, Ontario K1P 6P4. There is an article describing the organization and Cano Palma Biological Station, the field station we administer in Costa Rica.

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*"We have to act together if we are to solve the great problems of the world. For the world environment is a unit. The atmosphere and oceans belong to no single nation and affect the lives of all. Pollution knows no national boundaries. Species migrations do not respect frontiers." - IUCN - The World Conservation Union.*

# Furor over Road Link to Tortuguero

By BRIAN HARRIS  
Tico Times Staff

THE TICO TIMES  
JANUARY 26, 1996

**TORTUGUERO**—The unauthorized clearing of a 30-meter-wide swath of rainforest, including some national park land, for construction of a road to connect this isolated Caribbean town to the rest of the world fanned heated controversy and anger this week.

Last Friday, a team from the Ministry of the Environment's Tortuguero Conservation Area discovered that a tractor, apparently hired by the Municipality of Pococi, had cleared the way for a road passing through as much as three kilometers of land under Tortuguero National Park's jurisdiction. After a second inspection Tuesday, the conservation area announced it will present a criminal complaint by today.

"They don't have any permits to enter the park to build the road," an angered conservation area director Luis Rojas said. "We have not allowed anyone to build the road."

THE clearing, done adjacent to power lines that run from the hamlet of Palacios to Tortuguero, a tiny town of 400 people, took place at the beginning of the month, weeks after Rojas says he told Pococi municipal executive Eduardo Arce the road could not enter the park.

Arce could not be reached for comment, but Municipality vice president Johnny Vargas said, "We are using

## Threats to Forest, Turtles, Tourism Feared

(From Page 1)

the pathway that all Costa Ricans have the right to use. We can argue this in front of any court." He said the road's construction had the support of the majority in the area.

On Thursday, park officials reportedly seized the keys of the tractor from the driver. "We openly condemn this, both morally and legally," Minister of the Environment Rene Castro said, promising "strong punishment" for those responsible. "The municipality made a mistake, and it will have to fully assume its responsibility."

The road passes through land recently acquired by the park as part of the "biological corridor" between the park and Barra del Colorado Wildlife Reserve. The land was obtained by Fundación Neotropicalia with money donated by the Danish Nephentes Foundation, on the condition it be included in the park for conservation.

THE municipality has permission and a budget to build the road as far as the park entrance, about four kilometers from town. Road proponents say it will allow greater access to the town, which can be reached only by plane or an 85-kilometer boat ride from Limón.

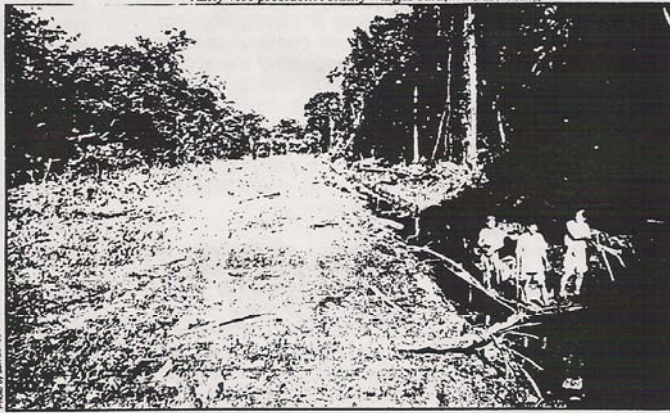
Some area residents argued the area being cleared has always been a road.

"For the past 20 years, this has been a road, but it has only been a park for two years, and you cannot deny people a road," Rafael Mora, a resident who lives beside the new road, defiantly said, looking at the work done thus far.

Although he admitted no cars have ever driven what until now has been a footpath, he bluntly stated, "A road is a road."

In response, Rojas said, "... it is a service path that has never been a road."

"AS long as there is not safe transporta-



**SURVEYING** the damage: conservationists from Caño Palma Biological Station and Caribbean Conservation Corp. view roadway.

tion in the zone, you cannot deny the town transportation via road," said Limón-based National Agrarian Party Deputy Victor Hugo Núñez, who has earmarked a €10 million appropriation for the project. "People are exaggerating when they say the road goes against the area's ecology."

However, road opponents say it will eliminate the charm of the area that draws tens of thousands of tourists annually, providing almost all of the area's income.

Conservationists fear it will also allow for greater destruction, both in the threatened Caribbean lowland rainforest and on the beach, the most important nesting place

for the endangered green sea turtle.

"What is not being discussed is what else roads bring, besides education and health care," noted Jan Schipper of the Caribbean Conservation Corporation, a turtle protection and research group that has been in the area for over 20 years.

"FIRST and foremost is that a road opens up the region to logging, monoculture plantation, agriculture and hunting.

With access roads, any and all available private or disputed property will be harvested on the fringes of the protected areas, leav-

ing in their wake two separate forests where there once existed one.

"(This will bring) crime, drugs, destruction of the forest, interruption of the range of animals, overpopulation, and the biggest negative impact is it is a violation of the integrity of the park system," said outspoken tourism operator Michael Kaye, whose company runs a lodge in the area.

"My feeling is that if it keeps up the way its going on a long-term basis, this might do in tourism in Tortuguero as we know it. It would convert Tortuguero into another Caribbean mass tourism destination, except

# Uproar



Top: Times/Play Arguedas

you cannot swim, because of the sharks (in the ocean)."

Enrique Obando, president of the Tortuguero Community Development Association (the closest thing to a local government) who helped discover the road's construction, said he would like to keep it from being built. But at a community meeting yesterday, he said the association would join with hotel owners in opposing the road only if the tourism industry agrees to help resolve the town's transportation problems by providing a boat and motor for public transport, as well as working with the community to resolve health care, refuse disposal and educational problems.

"THE association is not going to put up any opposition to the road unless the tourism industry gives something to the town," he stated.

The tractor has cleared seven kilometers of trees and is in the process of dredging a drainage canal on the side of the road. As of press time, about two kilometers had been finished. The dirt is being placed on top of the cleared land, creating an elevated roadway that will still need to be covered with rocks before it is passable for cars. Work was halted Monday when the tractor broke down, but a mechanic repaired it Wednesday, and work was expected to resume before the end of the week.

The mechanic, Giovanni Cerdas, said he could not identify the tractor's owner by anything other than the nickname "Cholo," and the tractor's operator, who did not identify himself, left the area when informed he was speaking to a reporter. He did admit he was not carrying a forestry permit to cut trees, as required by law.

As of late Wednesday, Rojas had not determined who owned the tractor, but said he planned to press charges against him.

THE road will never arrive in the town proper, which is on a jetty surrounded by the wide Tortuguero River and the ocean. Currently, it ends at the Chiquero River, a 15-minute boat ride from town, although plans call for it to reach the riverbanks across from town.



## CANADIAN ORGANIZATION FOR TROPICAL EDUCATION AND RAINFOREST CONSERVATION

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February 1, 1996

Letters to the Editor  
The Tico Times  
Fax 233-6378

Dear sirs:

We are a Canadian non-profit organization which administers the Caño Palma Biological Station near the village of Tortuguero. Our mission is to promote conservation through education and research. We are presently negotiating a project with a national institution, Costa Rican private industry and the Tortuguero Community Development Association to develop a sustainable development project that will provide educational and economic benefit to the community.

As foreigners and guests in the country, we have maintained a politically neutral position and do not want to interfere with the Costa Rican political or legal process. However, we can no longer stand by without commenting on the recent developments regarding the illegal construction of a road through the Tortuguero National Park. This issue goes beyond the question of legalities. The concerns of the people of Tortuguero which include transportation, health care, education, etc. should be addressed.

Tortuguero is an area rich in biodiversity. It is unique because it contains one of the most endangered ecosystems in the world. The village and national park get their name from the green sea turtle (*Chelonia mydas*). Tortuguero beach is the largest nesting area in the Caribbean. It is not only the nesting turtles that make Tortuguero unique. The surrounding rainforest with its maze of canals and lagoons provides an ideal habitat for the thousands of species of plants and animals that make it attractive to both tourists and scientists.

With an extremely high percentage of local residents working in tourism-related businesses, the people depend on the biologically rich environment to provide them with a living. However, a road is a shortsighted option because along with the short term benefits it might bring, it raises concerns that over the long term there will be increased stress on the ecosystem through deforestation, pollution (the area already has a serious waste disposal problem), poaching and squatting, to name a few.

How then does a community provide itself with the basics it needs without destroying the very environment on which it survives? The Tortuguero National Park is just that: a national park. Not just for the people of Tortuguero, but for all Costa Ricans for generations to come. In addition, all Costa Ricans,

in principle, benefit from the tourist dollars that pour into the park system and trickle down to other sectors through related industry.

We believe an answer lies with the Costa Rica government and the international community. The local lodge owners have been approached for solutions and have already initiated the first of several measures to address the concerns of the community. This is a commendable action on their part; however, the responsibility is not entirely theirs. If the powers that be determine that the survival of one of the most important ecosystems in Costa Rica is worth saving, something must be done soon. Government assistance in addressing the concerns of transportation, local health care, education, etc. are worth investigating. The people of Tortuguero have something to be proud of and have shown this pride by resisting a road for so many years. The pressures of the outside world have finally found their way into the "turtle bogues". Progress is inevitable but should be well guided. Tortuguero has the opportunity to avoid the old development schemes which have proven damaging to natural areas. It has a chance to work for alternatives which respect the uniqueness of an area like Tortuguero.

Yours truly,

*Marilyn Cole*

Marilyn Cole  
Executive Director

## HERPTOFAUNA SITED AT CANO PALMA BIOLOGICAL STATION NOVEMBER, 1995

by Tom Mason, Mike Burger, Mark LaShane

### Frogs and Toads

Bufo marinus  
Bufo coniferus  
Bufo valliceps  
Eleutherodactylus bransfordi  
Eleutherodactylus diastema  
Eleutherodactylus sp.1  
Eleutherodactylus sp.2 (striped)  
Leptodactylus pentadactylus  
Leptodactylus melanonotus? (striped)  
Agalychnis callidryas  
Hylid sp. 2 (small at station)  
Hylid sp. 2 (newly metamorphosed at  
gravel pit)  
Smilisca baudinii  
Dendrobates pumilio  
\*\*Minimum of 4 species of tadpoles not  
identified

### Turtles

Chelydra serpentina  
Kinosternon leucostomum  
Chelonia mydas (dead on beach)  
Trachemys ornata  
Rhinoclemmys funerea

### Lizards

Gonatodes albogularis (Tortuguero)  
Sphaerodactylus homolepis (top of  
Cerro)  
Thecodactylus rapicaudus  
Hemidactylus sp. (Tortuguero)  
Basiliscus plumifrons  
Basiliscus vittatus (by beach)  
Iguana iguana  
Norops humilis

Norops lemurinus  
Norops oxylophus  
Norops limifrons  
Norops fungosus? (path to Cerro)  
Polychrus gutturosus  
Ameiva festiva (path to Cerro)  
Ameiva quadrilineata  
Gymnophthalmus speciosus  
Microteid sp.  
Mabuya unimarginata  
Sphenomorphus cherriei

### Snakes

Boa constrictor (canal at path to ocean)  
Corallus annulatus (preserved, taken  
locally)  
Clelia clelia  
Drymobius margaritiferus  
Imantodes cenchoa  
Imantodes inornatus  
Leptodeira septentrionalis  
Mastigodryas melanolomus (path near  
Cerro)  
Oxybelus aeneus (lodge near airfield)  
Sibon annulata  
Micrurus alleni  
Bothrops asper

### Crocodilians

Caiman crocodilus

### DID YOU KNOW?

*Rainforests cover only 7% of earth's land surface, yet  
they support 50%-70% of all life on Earth?*

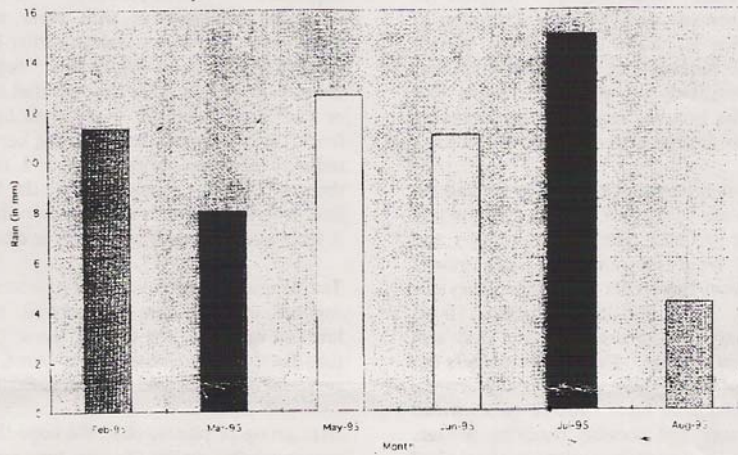
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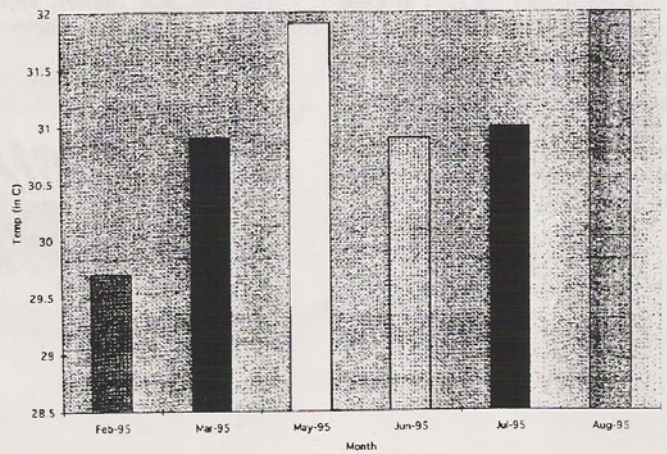
## THE WEATHER AT CANO PALMA BIOLOGICAL STATION

For some time now, the staff at Cano Palma Biological Station have been monitoring climatological conditions. We thought we would share the information with the members. Many thanks to Dr. Suzanne MacDonald for creating the graphs.

Average monthly rainfall



Average monthly maximum temps



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## THE BROMELIADS

by Pat O'pay, Scientific Officer

Have you ever eaten a pineapple? If so, you already know something about the family Bromeliaceae. This family is tropical or warm temperate and, with the exception of one species is native to the New World. While the pineapple is a terrestrial species, many bromeliads are epiphytes (plants that live off the ground, supported by wrapping themselves around a tree branch or trunk).

But how does an epiphyte-style bromeliad get what it needs to survive clinging to some tree or similar surface? They get their water and nutrients from the air, rain and runoff coming from the plants upon which they are growing. It is possible that debris from animal activity in or near the plant may also be of value to them. Certain bromeliads use scales on their leaves as an absorbing system. Some bromeliads form cups or tanks which collect water and possibly decaying matter. These species absorb the water mainly via leaf hairs (trichomes) (Heywood, 1985).

One example of an epiphytic bromeliad is growing on a stump near the dock at Cano Palma Biological Station. It anchors itself on a flattened portion of the stump. Its leaves are green, several times longer than they are wide, relatively durable and have little pointy "spines" or "teeth" on their margins. The leaves overlap, and this particular species is one of those which collects water in the cup formed by the leaves.

While it is fun just talking about the plants themselves, it is important to note that the bromeliad can also be part of some interesting ecological relationships with other species. Some of you may remember an earlier *Raphia* newsletter about the poison dart frog (*Dendrobates pumilio*). It is thought that the cup or tank style bromeliads are used by these frogs. It is believed that this frog carries its tadpoles to these bromeliads and deposits them in the little "pond" within the bromeliad, where the tadpole develops into the frog! A little world exists within these bromeliads.

The bromeliads and the other creatures they support exist in the endangered tropical lowland wet forest, the type of forest found in the Tortuguero Conservation Area which surrounds Cano Palma Biological Station.

Neat group of plants, eh? We hope that you remember this article the next time you eat a pineapple!

### Sources:

Heywood, V.H. (editor). *Flowering Plants of the World*. Oxford University Press, New York. 1993.



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