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Tropical
Education and Rainforest Conservation (COTERC).

OVERVIEW:

"Tropical rain forests provide the richest, most diverse habitats on earth. They harbour about 50 per cent of all living species, yet they occupy only about 4 per cent of the planet's surface. Man is destroying the rain forests at the rate of about 250,000 km² per year, but from that loss only timber, pulpwood and a very small proportion of agricultural land are gained. Virtually all other actual and potential products, together with the plant and animal species of the rain-forest, are being eliminated. There is little or no attempt to investigate rain-forest species, nor even to identify them, let alone utilize them. The greatest biological diversity is found in lowland forests, yet it is these same forest that are under the most active and imminent threat of extinction. Rain forests are nonrenewable resources: once they have been logged or cleared over a large area, they cannot regenerate. "

by D'Esterre Charles Darby, Ph.D.

printed in Micro Views, 1990, vol.1

CANO PALMA BIOLOGICAL STATION NEWS

During these past few months many tourists from the neighbouring Jungle Lodge and Ilan Ilan Lodge have enjoyed a visit to Cano Palma Biological Station, where they have been introduced to the tropical rainforest by Greg Mayne. He has done a marvellous job of informing these visitors (who come from all over the world) about the wonderful biodiversity of the region. A number of them have written to express their appreciation by joining COTERC, or by contributing to our Save an Acre Project. We would like to thank all of them for the support shown. We would particularly like to acknowledge Colleen Hanson of Stony Brook, New York who inspired her class at Clayton Huey Elementary School to raise funds through bake sales, etc. to purchase two acres. Colleen and her husband had visited Cano Palma Biological Station with a tour group, and after hearing Greg talk of our work, decided that she would like to get her young students involved. We are particularly gratified that children are learning of the need to protect the rainforest and are taking an active role to do so. It is through efforts such as Colleen Hanson's that there is hope for the future of our planet.

Lic. Daniel Hernandez, ornithologist at Museo Nacional de Costa Rica has continued his study of the migratory birds visiting the region surrounding Cano Palma Biological Station and has now completed an extensive list. If you would like to receive a copy, please contact the COTERC office, and we will be pleased to send it to you at cost for the price of photocopying. A partial list of migratory birds caught and subsequently released include Canada warbler, Alder flycatcher, Swainson's thrush, Eastern wood peewee, Tennessee warbler, Mourning warbler, Red eyed vireo, Northern waterthrush, yellow warbler, Indigo bunting. In the words of Greg Mayne, "this ongoing work is all part of efforts on the part of ornithologists to research the importance of maintaining tropical forests. The majority of our attractive, entertaining songbirds that we enjoy so greatly are in fact neotropical migrants, who depend on the tropics for their existence. Many songbirds, as well as shorebirds, birds of prey and even our beloved ruby throated hummingbird all live two-thirds of their lives in this ever-so important ecosystem. The north-south movement of bird species is relatively new in comparison to the history of the earth. With the gradual retreat of the glaciers, various species adapted themselves to this remarkable phenomenon we know as migration. Possibly it is a way of reducing competition between species by leaving their tropical habitats to breed and reproduce in the northern temperate zone. It's a fact that they benefit from the long, warm summer days to feed on the explosion of insect life and the many varieties of fruiting plants."

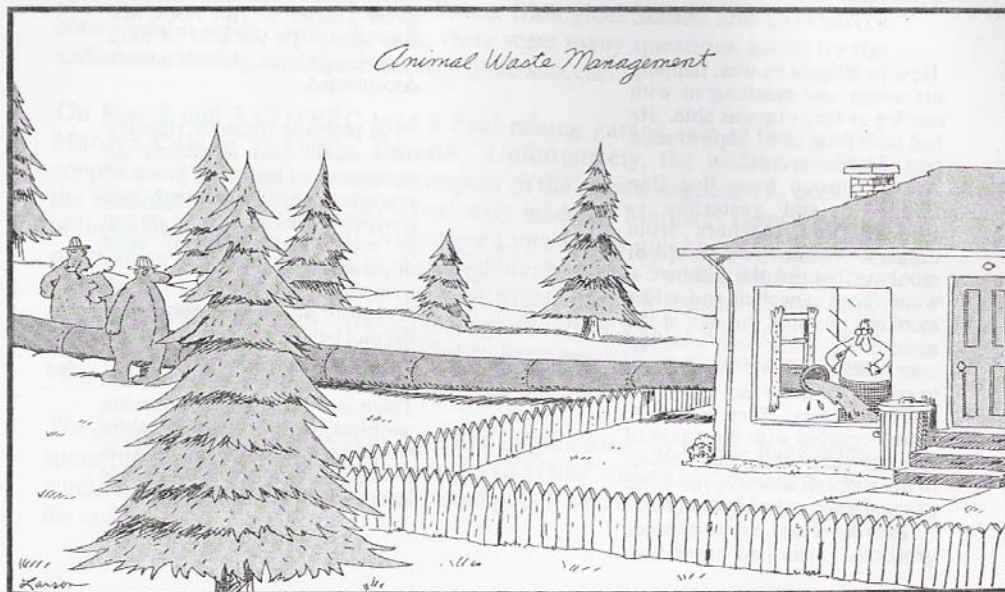
Lic. Benjamin Mora, one of our directors and who is also a professor at Instituto Tecnologico de Costa Rica, has brought some of his students to conduct their research at Cano Palma Biological Station. One of these students is conducting a phenocological study of the plants of the region in which he is investigating the various chemical properties of the plants which might possibly have some commercial use, for example as a base for perfume.

A new boathouse and lock-up is being constructed, making it possible to protect our boats from the ravages of the tropical sun. There were difficulties encountered in driving the pilings into the riverbed and more wood was required than what was originally thought. However, construction has now almost been completed.

In August, 1992 our Director of Environment and Conservation, Marilyn Cole will be accompanying a group of students from University of Toronto led by well-known primatologist Dr. Frances Burton. They will be applying their theoretical knowledge of primate behaviour to the field situation so that they can gain an appreciation of the difficulties involved in studying wild monkeys. If all goes as planned, they will be keeping notes on the region's three species of primates, the black mantled howler monkey, the white-faced capuchin and the Geoffrey's spider monkey.

Recently several experts representing the Costa Rican government, the International Union for the Conservation of Nature and the Caribbean Conservation Corporation visited the board of directors of the nearby village of Tortuguero to review plans for developing the community, taking into consideration modern ecological factors. Our Station Manager, Greg Mayne, was invited to attend the meetings, and he reports the following: There will be no more development or extending of hotels on the ocean side, and no more double-floor houses allowed to be built. There are plans to control erosion and garbage as well. The proposed road to Tortuguero was discussed and all representatives were opposed to such a project. The Costa Rican government will provide five million colones to the village for a water treatment facility, playground and a small park -- all of which will improve the quality of life of the villagers.

In view of the expanding responsibilities that Greg Mayne has been undertaking on behalf of COTERC, and in recognition of his work, he has been given the title of Director of Field Operations. Congratulations Greg!



Station Manager's News...

Greg Mayne has reported the following :

March: There are a pair of red-lored parrots nesting in a cedro macho (*Caropa guienensis*) behind the station. Each morning we see them. Yesterday I could hear this strange high-pitched, continuous siren-like call. Juan said the female makes this sound when the male arrives to the nest. So, I said let's go and find the tree. The siren-like sound continued, so it was relatively easy to locate the tree. The female was emitting this call not because her companion was at the nest. There, at the cavity entrance was a common black hawk. He was reaching in with his talons to try and snatch the lora. He was as upset as the female lora and very frustrated, wishing he had a leg a meter long.

How intelligent he was, flapping his wings and reaching in with one leg as far as he was able. He had little luck, and I hope to see a nest of babies in April.

April: Another group from Ilan Ilan Lodge arrived yesterday -- students and teachers from Calgary. We saw two groups of monkeys behind the kitchen -- white-faced capuchins and spider monkeys crossing through at the same time. They were scattered over a large area so it was difficult to count. Possibly six capuchins and ten spiders. They both were more occupied with the group of tourists than with each other. Many toucans, aracarís, red-lored parrots, trogon, amongst others.

Yesterday I saw a rose-breasted grosbeak. Juan had never seen

one before. Also a summer tanager in molt. It was a mottled red/olive colour. Various nests of the tinamou have been spotted by the students, varying from 2-4 eggs at the base of cedro macho trees between the buttresses.

We just spotted a sloth sleeping on our trail by the canal. Also a great currawong was spotted this morning on the Raphia trail.

May: I saw hundreds of nighthawks migrating yesterday. How is it that I could see a nocturnal bird migrating during the day, you ask??? Well, this is how they migrate. Eating to supply themselves with fuel for the trip and migrating at the same time. It was great! But wait, this isn't the half of it. Daniel brought an ornithologist whose specialty is peregrines. We observed 61 peregrines in migration -- twos, threes, singles. Frequently you could see huge flocks of swifts and swallows migrating, then following you would spot the peregrines. This was the most either Daniel or Jim Zook had ever seen. To the best of their knowledge, it hasn't been documented.

The pejivalle fruits are ripening once again and attracting an assortment of birds. A group of aracarís stopped for lunch and dropped a present directly on top of me. This type of seed dispersal I can do without!

A pair of grison were spotted on the trail behind the dormitory this morning. I saw my first Dichcisle and also the yellow-billed cuckoo. There is a mountain of mourning warblers, yellow warblers, alder flycatchers and peewees flocking to migrate. The air is full of bird song and it's wonderful music!

COTERC NEWS

We would like to introduce our members to the latest addition to the Board of Directors of COTERC. Julia Murphy recently received her Masters degree in Environmental Studies from York University and is an expert in Mayan agriculture. Having spent some time in Central America, she is fluent in Spanish and is knowledgeable about their culture. Julia will definitely prove to be an asset to the organization, and has taken on the task of establishing our educational programs for schools and groups. She gave her first talk on rainforest preservation to the combined grade four classes of St. Angela's Catholic School in Rexdale, Ontario in May, as part of their intensive study of the tropical ecosystems.

Julia is replacing Dr. Walter Glooschenko, who has recently moved to Atlanta, Georgia, after electing to take early retirement. Walter has initiated his own environmental consulting firm, and we wish Walter great success in his new endeavours. He promises to keep in touch and hopes to bring students to Cano Palma Biological Station in the future.

On April 26 the Royal Botanical Gardens in Hamilton, Ontario sponsored its annual Naturefest, and COTERC had a booth at which brochures and other information were provided to the visiting public. In addition, Marilyn Cole gave a slide presentation on Cano Palma Biological Station and COTERC's conservation work. After the talk, there were many questions asked by the audience attending, and the event was quite successful.

On May 2 and 3 COTERC held a fund-raising garage sale at the farm of Marilyn Cole in Pickering, Ontario. Unfortunately, the weather did not cooperate. The worst torrential downpour of the season happened to occur on the Saturday, and all the signs laboriously made by Margaret Fenwick were obliterated during the night!. Volunteer Lynn James quickly drew up some more signs and posted them in the neighbourhood on Sunday morning, but despite her efforts, attendance was not great, partly because of the poor weather (windy and cold). We did manage to collect \$560-- but we still have a ton of stuff left, so we have decided to have another go on Saturday, June 6th.

We do need more volunteers to help out on this date, so if you have some spare time, please get in touch with the COTERC office at 683-2116. We would also appreciate donations of baked goods which can be sold along with the coffee.

On Thursday, June 4th Marilyn Cole will be giving a slide presentation on Cano Palma Biological Station to the Pickering Naturalists at their regular monthly meeting.

Loeb, located on Westney Road north of Kingston Road, in Ajax, Ontario, will be sponsoring a barbecue in their parking lot on Friday evening, June 26th from 3:00 p.m until closing. All proceeds will be donated to COTERC, so plan to attend.

We are very pleased to announce that our membership secretary, Monica Wrobel, has been chosen as Canada's New Noah for 1992. Funded by the Wildlife Preservation Trust Canada, Monica will be spending sixteen weeks of lectures and practical work at the International Training Centre of the Jersey Zoo, and then will travel to the island of Mauritius to assist in programs involving the Mauritius pink pigeon, the Mauritius kestrel and other extremely endangered species. As if this weren't enough, after spending six months in Mauritius, Monica will then travel to Alberta to spend another four months working on a recovery program for peregrine falcons. Monica is taking a leave of absence from her job at the Metro Toronto Zoo, where she was caring for the zoo's collection of gorillas prior to her departure on May 18. We are very proud that she was chosen to be the New Noah from more than sixty candidates across Canada, and we wish her the very best on this great adventure. We would also like to thank Monica for her many hours of volunteer work in the COTERC office.

Margaret Fenwick, of Scarborough, Ontario will be taking over the task of membership secretary, and we want to thank her for her assistance. Margaret has been a volunteer guide at the Metro Toronto Zoo for many years, and is extremely knowledgeable about the zoo's collection of animals. She has been documenting the behaviour of cheetahs and gorillas in the past few months, and she will definitely prove to be an asset to COTERC. Welcome, Margaret!

We are also very pleased to announce that Sir Charles and Lady MacKerras of London, England have agreed to become honorary patrons of COTERC. Sir Charles Mackerras is a world-reknowned conductor and is sought after as a guest conductor by all the great orchestras of the world. Lady Judy MacKerras is greatly interested in environmental issues, and we welcome her input.

CANO PALMA WISH LIST

Cano Palma Biological Station is in need of many items -- some which may seem to be easy enough to obtain. However, the Station is located in a remote area near Tortuguero village, which boasts two grocery stores, two cafes and one restaurant (and, just recently a hardware store and souvenir shop). Very basic items are difficult, if not impossible to obtain. Greg Mayne has provided us with a list of items needed at the Station. If you feel you can help us out, please contact the COTERC office at (416) 683-2116.

- Rolls of flagging tape
- Rubber boots
- 35 mm camera
- Blankets
- Spices (pepper, oregano, chile, cinnamon and others)
- Tupperware
- Small nylon hammock for bush research
- Batteries (AA, C, D, 6 volt)
- Aspirin, eye & Ear drops
- Ziplock bags
- Dry boxes, silica gel
- Peanut butter, maple syrup
- Light shorts and shirts
- Binoculars 10 x 40; 10 x 50; 9 x 40
- Pens, pencils, paper, envelopes
- Photo album for the Station
- Canadian flag
- Fishing gear
- Calamine lotion
- Socks

We are also appealing to members who are camera enthusiasts to assist Julia Murphy in her project of providing a slide presentation on rainforest conservation, for use in schools as well as other organizations. If you think that you can assist in this regard, please contact Julia at (416) 683-2116.

Avis aux voyageurs!

Chantal Daoust, animalier
Biôdome-Zoo de Montréal

Un "trip" hors des sentiers battus: la Station de biologie de CANO PALMA à Tortuguero au Costa Rica

Aucune route. L'unique moyen de s'y rendre est par bateau. Ce n'est pas une île mais une région sillonnée de rivières, de canaux, de lagunes que l'on visite en "lancha" (embarcation à fond plat), en "bote" ou en "cayuka" (bateau ou canot fait à partir d'un tronc d'arbre). Tout comme l'Amazonie, le niveau des cours d'eau peut varier considérablement et en très peu de temps. J'ai vécu une dénivellation de 5 mètres en 1 semaine. On naviguait à travers les feuilles à la cime des arbres. Les sceptiques seront confondus! Cela fait partie du quotidien, il fait chaud et nul besoin de vous préciser que c'est humide. J'y ai vécu de la mi-septembre à la fin novembre. Le premier mois fut "pura sol", "pura verano", "pura vida" et le deuxième mois "lluvia", "agua". Maintenant je sais ce que signifie "pluie tropicale".

La mer des Caraïbes se trouve à 200 mètres de la station. La plage est vierge et à perte de vue. Les tortues vertes (*Chelonia mydas*) viennent y pondre de juillet à septembre. Deux mois plus tard, on peut voir les jeunes quitter les nids. De mars à mai, ce sont les immenses tortues Luth (*Dermodochelys coriacea*), de plus de deux mètres, qui viennent s'y reproduire.

Quotidiennement à la station et tout spécialement au levée du jour, on entend les "Monos congo" (singes hurleurs). On y observe aussi les "Caras blanca" (capucins à face blanche) et les "Monos colorado" (singes araignées). J'ai eu la chance de rencontrer: un "perezoso" (paresseux à trois doigts, *Bradypus tridactylus*), un "oso mielero" (*Tamandua mexicana*), un "tolomuco" (*Eira barbara*) qui est un mustélide

tout noir plus gros qu'un chat et qui venait manger les bananes mûres de la station. J'ai aussi vu une loutre de rivière appelée "Perro de agua" et accrochée aux "jambas" (contreforts) d'un arbre immense, une petite colonie de "murcielagos" (chauves-souris, *Saccopteryx sp*) caractérisées par deux bandes blanches en zig-zag sur le dos. Occasionnellement le soir ou durant la nuit, on entendait rugir un jaguar. Il fréquentait les sentiers de la station à la recherche de "Chanchos de Monte" (pécari à lèvres blanche). Les pécari aiment bien les fruits du "pegibaye" (*Bactris gasipaes*). Les "ticos" (costariquiens) aussi. Ces derniers le mangent cuit et pelé surtout au déjeuner avec du "queso crema" (fromage à la crème) ou de la mayonnaise. Ces fruits attirent aussi plusieurs oiseaux, tout spécialement les "oropendolas" (*Psarocolios montezona*).

Plus de 400 espèces d'oiseaux ont été recensées dans la région. Toucans, perroquets, échassiers, martins pêcheurs, oropendolas, colibris et une variété considérable de passereaux sont omniprésents. Le "Lapa Verde" (*Ara ambigu*) y vient à différentes périodes de l'année manger les noix de "l'almendro" (*Dipteryx panamensis*), une petite amande tendre dans une coque très rigide. Cet arbre au bois très dur donne beaucoup de fil à retordre aux bûcherons et c'est pourquoi il est souvent épargné lors des coupes. J'ai pu observer faucon pèlerin, "Guaco" (*Herpetotheres cachinuans*), un oiseau de proie masqué qui chasse les reptiles et qu'on reconnaît facilement à son cri "Aves de sol" (Sunbittern, *Eurypyga helias*) qui vit à quelques 500 mètres de la station et plusieurs de nos oiseaux d'ici qui étaient là sous les tropiques tel le grand héron, la sarcelle,

le moqueur chat, le martinet ramoneur, la petite buse et diverses parulines.

Près du "muelle" (quai) deux crocodiles ont élu domicile, un de près d'un mètre et l'autre bébé naissant. Comme dans les films, vous voyagez dans un tronc d'arbre sculpté et vous pouvez voir les crocodiles de plus de deux mètres sortir du boisé, glisser sur les mini-plages pour s'enfoncer sous l'eau, et ce n'est pas arrangé avec le gars des vues! Avis aux pêcheurs, dans ces cours d'eau il y a de quoi raconter des histoires que personne ne croira. Quelle déception de ne pas avoir eu avec moi un livre d'identification des lézards. J'y ai vu un spécimen de *Basiliscus plumifrons* à faire pâlir un punk. Les grenouilles sont comme celles sur les cartes postales, multicolores. Les papillons, à couper le souffle. Oui, on peut y admirer le morpho, un gros papillon bleu métallique qui semble sortir d'un conte de fée.

Attention aux scorpions, leur piqûre est douloureuse... mais c'est tout. Les moustiques, contrairement à ce que l'on pourrait croire sont beaucoup moins agressifs que nos mouches noires. Le problème, c'est qu'on ne sait jamais quelles maladies les accompagnent. Les serpents, il y en a qui sont inoffensifs, d'autres à éviter tels le "coral" (*Micrurus nigrocinctus*), le "Eyelash viper" (*Bothrops schlegeli*) mais surtout le fer de lance (*Bothrops atrox*). C'est ce que la forêt cache de plus dangereux mais ils sont discrets.

La station offre un confort rustique qui rend le voyage encore plus exotique. Le vrai "trip" dans la jungle, sans téléphone, sans radio, sans journal, sans électricité, sans frigo. La cuisine en plein-air faite de bambou et d'un "techo" (toit) en feuilles de palmier. Le feu de bois pour la cuisson et la pompe pour l'eau potable, la douche et le lavage à la main des vêtements. Un rythme de vie très différent de ce que l'on connaît ici. Le dortoir est un joli chalet de bois surmonté d'un toit de tôle, très romantique la nuit lorsque la pluie tombe. Le chalet est divisé en quatre "cuartos" (chambres) comprenant chacune 2 à 4 "camas" (lits). Comme petite

douceur, vous pouvez faire la sieste dans l'un des hamacs doubles sous un toit de feuilles de palmier. Plusieurs arbres fruitiers et plusieurs fleurs ornent les lieux. La station peut accueillir une douzaine de personnes: vous êtes assuré d'un service personnalisé. Greg, un canadien anglais (qui désire apprendre le français) et Juan un "tico" (c'est là que votre espagnol va être utile) vivent en permanence à la station et sont vos guides.

Vous avez l'eau à la bouche? Prenez vos bottes d'eau, votre imperméable, des vêtements légers, votre répulsif, votre crème à bronzer et votre brosse à dent et partez à l'aventure. Je vous suggère de profiter de la saison sèche soit de la mi-janvier au début avril ainsi que de la mi-septembre à la fin octobre. Les propriétaires sont un couple de canadiens, Marilyn et Osie. Marilyn travaille au Metro Toronto Zoo, section gorille. On peut les rejoindre au 416-683-2116 et par fax au 416-427-1828. L'adresse postale est: P.O. Box 335, Pickering, Ontario, Canada, L1V 2R6.

L'AQGAZ a voté à son assemblée du 10 décembre 1991, que la moitié des recettes de l'activité de bowling du 7 mars prochain soit versée à COTERC (Canadian Organization For Tropical Education and Rainforest Conservation) pour l'achat de terrain pour la protection de la forêt tropicale à la réserve YOLILLO où est située la Station de biologie de CANO PALMA. La région est une passe migratoire importante. Le but de la réserve est de créer un corridor biologique entre le parc de Tortuguero et le parc de Barra del Colorado.

Les beautés du Costa Rica ne se limitent pas à ce petit paradis. J'ai vécu cinq mois et demi dans ce pays, si vous voulez en savoir davantage, communiquez avec moi!

Tél. au travail:	514-872-4689 (Montréal)
Fax:	514-872-8148
Tél. à ma résidence:	514-247-3763 (Hemmingford)

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