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RAPHIA

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A publication of the Canadian Organization for Tropical Education and Rainforest Conservation (COTERC).

BOOK REVIEW

NEOTROPICAL WILDLIFE USE AND CONSERVATION, edited by John G. Robinson and Kent H. Redford, University of Chicago Press, 1991

Raising iguanas for food in Costa Rica? Commercial hunting of capybaras in Venezuela? Raising tegu lizards for leather in Argentina? Some might say, where does it all end? These are but a few of the many topics regarding wildlife management that are covered in this interesting book. Many may be horrified to read of the various initiatives for utilizing wildlife in South and Central America, but the hard realistic facts put forth by the various authors are that, in order to save and protect many wildlife species it is better to manage them through legal culling, or else captive breeding programs.

In the case of the former, Francisco Dallmeier advocates the hunting of whistling ducks as a means of reducing the damage these birds do to rice crops while at the same time, providing an important source of protein to the rural indigenous people of Venezuela. His study set out to determine the impact of the ducks on the rice harvest, noting that rodents were also a major pest, as well as the impact of sport hunting on the duck population. He has gathered together some impressive statistics to support his contention that hunting is an important management tool to control the destruction caused by ducks on the local rice crops, but concludes that "A better control of bag limits, pesticide use and poaching is also necessary."

In another chapter, authors William L. Franklin and Michael A. Fritz baldly state that "We are now entering an era of wildlife conservation and management in Latin American countries that dictates a 'use it or lose it' philosophy." In other words, if an animal isn't useful to humans, then its fate is sealed. There is certainly a lot of truth to this statement, but I still personally hold out hope that we can admire wildlife for its own innate beauty and unique qualities, quite apart from what use we can make out of it. Nevertheless, it is hard to refute their rationale for scientifically managed harvest of the South American guanaco. The numbers are declining rapidly through indriscriminate hunting, particularly of newborns whose skin is considered to be quite valuable. The meat is sold for three times that of beef in Chile. Franklin and Fritz advocate a systematic culling program in which the surplus males are harvested, and insist that it is not too late to initiate such a program. Given the current situation in which all sexes and ages are indiscriminately hunted, their arguments for a sustainable harvest make a lot of sense.

Dagmar Werner, a German-born woman who lives in Costa Rica, has become quite famous , and is known locally as "the Iguana Lady". She initiated the captive breeding of these lizards, which were fast being annihilated by the locals through hunting and destruction of their habitat. Werner set out to explore the possibility of managing these lizards so that not only would there be a food supply available, but also live iguana to re-stock wild areas. She has managed to develop her enterprise into a paying concern, as well as promoting conservation with the local schoolchildren who assist her in releasing young iguanas into specified areas.

Another aspect that this book covers is the growing area of nature tourism as a means of sustainable development for Latin American countries. Some success stories are mentioned whereby natural areas were preserved, but still provided economic benefit for the residents through the means of attracting tourists to come to see the natural beauties, and to pay for the privilege. This is an area that will probably become more and more important in the future in terms of reasons for conserving wild areas, instead of exploiting them for the timber or wildlife found within.

All in all, this book offers some thought-provoking information. You may not necessarily agree with some of the projects suggested, but it will certainly provide room for discussion. This type of book is useful to put into perspective the problems that many developing nations encounter as they struggle with the need for economic growth balanced against the desire to preserve and protect their natural areas.

SIGHTINGS AT CANO PALMA

While we were travelling to the Station up the Tortuguero River from Limon, we saw four sloths, two of them in the same tree! Most of the students didn't realize just how unusual it was to see four in one journey and took it all in stride. Later on in the week, we saw a tamandua on a branch hanging over the Cano Palma river.

On August 16th we witnessed the spectacular sight of over 100 American swallow-tailed kites as they migrated south. On August 19th many different types of warblers started to arrive to spend the winter. We also saw a black hawk and two sun bitterns on that day. Of course, we also saw several different troops of howler monkeys, one group of capuchin monkeys and one group of spider monkeys on several different occasions. Marilyn managed to get some terrific videotape footage of the elusive spider monkeys as they moved about in the branches.

Dr. Jim Rising , of University of Toronto, was one of three professors who conducted a field course at the Station last February, and he has provided us with a list of birds either sited or caught in mist nets. They include:

brown pelican; magnificant frigatebird; turkey vulture; black vulture; common black-hawk; broad-winged hawk; laughing falcon; semipalmated plover; whimbrel; sanderling; royal tern; short-billed pigeon; blue ground-dove; ruddy quail-dove; olive-throatd parakeet; brown-hooded parrot; mealy parrot; gray-rumped swift; bronzy hermit; long-tailed hermit; little hermit; slaty-tailed trogon; violaceous trogon; American pygmy kingfisher; collared aracari; keel-billed toucan; chestnut-mandibled toucan; black-cheeked woodpecker; lineated woodpecker; plain-brown woodcreeper; wedge-billed woodcreeper; black-crowned tityra; purple-throated fruitcrow; red-capped manakin; white-collared manakin; tropical kingbird; bright-rumped attila; social flycatcher; great kiskadee; ochre-bellied flycatcher; bay wren; white-breasted wood-wren; prothonotary warbler; montezuma oropendola; palm tanager; scarlet-rumped tanager; variable seedeater; thick-billed seed-finch; black-striped sparrow.

Dr. Mark Engstrom , of University of Toronto and Royal Ontario Museum, was also teaching this field trip and concentrated on mammals. He and his students caught 14 species of bats in mist nets (which were later released after identification). They also found a small group of disk-winged bats (Thyroptera) roosting in a rolled-up Heliconia leaf. Dr. Engstrom writes "These tiny, insectivorous bats grip the inside of the shiny leaves using expanded, sucker-like disks near their thumbs and feet and are one of the few bats to roost "right-side" up. We also netted black Myotis in nets set one evening around the kitchen, where they are roosting in the ceiling. These are common insectivorous bats, which often roost in buildings. Most of them eat insects gleaned from vegetation or the ground (Micronycteris and Tonatia) and one is a blood feeder (Desmodus). We observed numerous bat tents

constructed by Artibeus watsoni in Asterogyne palm leaves. One afternoon, I had the students measure different aspects of several tents and look to see if any were occupied. We found different groups of bats in 2 of the 24 tents we examined, and followed one group of four individuals as they flew among seven different tents. This would be an excellent area to study the distribution and use of tents by this species of bats."

MEANWHILE, BACK IN CANADA.....

On October 1st and 2nd the Multi-Agency Group for Neotectonics in Eastern Canada (MAGNEC) held a conference at Scarborough College, University of Toronto to discuss current developments in the field. Dr. A. Mohajer, a COTERC member, presented a paper on "Seismic Monitoring east of Toronto" . He has discovered that there is a considerable amount of seismic activity (earthquakes) of a low level occurring in the region of Toronto. The delegates to this conference were taken to visit the Rouge River valley to see Quaternary faulting, as well as to the seismographic station located in Pickering at the COTERC office. Dr. Mohajer anticipates making an announcement to the media about the possible dangers to the region as a result of Increased levels of seismic activity and how it may affect the nuclear power plant located in Pickering.

Thanks to all who helped out at both barbecues held to raise funds for COTERC. In July we cooked hot dogs and hamburgers at the Loeb's supermarket, located in Ajax on a Friday afternoon, and received $190 as our share of the proceeds. Lynn James, Liane James, Uschi Rudolf , Bridget Rudolf , Margaret Fenwick, Rick Woolger, Ozzie Teichner and Marilyn Cole all shared chef's and clean-up duties.

On September 26 another group of stalwart souls cooked and sold three different kinds of hot dogs, plus hamburgers and pop outside the Super Centre located in Pickering from 10:00 a.m. to 5:00 p.m. Perhaps the wet and cool weather contributed to the appetites of shoppers; whatever the reason, we reaped $515.73 for our efforts. We all agreed that Saturdays are better for fundraising than Friday afternoons. Thanks go to Fran Mason, Tom Mason, Debbie Mason, Daniel Mason, Lynn James, Liane James, Suzanne MacDonald, John Turtle, Rebecca Ward, Ozzie Teichner and Marilyn Cole for volunteering their help.

We have probably exhausted our efforts at garage sales for awhile, but thanks to everyone who contributed items, or who helped out. Special thanks go to Lynn James and Suzanne MacDonald for their enthusiastic encouragement and to John Turtle for the manufacture of great sandwich-board type signs. After the second attempt at the garage sale proved to give us excellent weather and a good turnout, there were still many, many items left, so we continued to offer a garage sale on Saturdays as it was convenient over the summer. By fall the items still remaining and which were in good shape were contributed to the Goodwill.

Loeb Barbecue

John Turtle and Suzanne MacDonald
Super Centre Barbecue

CANO PALMA BIOLOGICAL STATION NEWS

On August 11th, 1992 Marilyn Cole accompanied Professor Frances Burton and eight students to the Station where they spent the next ten days seeking out the various troops of monkeys in and around the Station. The students soon grew to appreciate the difficulties inherent in studying forest monkeys. For most of them this was their first experience in the tropics although many of them had previously been to Hong Kong with Professor Burton to study ground-dwelling macaques. However, howlers, spiders and capuchins are a whole different ball-game! They don't sit on the ground in open areas; they don't ignore observers who are talking; and they don't stand still. After a few frustrating attempts, the students began to realize the value of silence and small groups of observers, as well as the benefits of observing from boats along the river. Ignoring rain and protected from mosquitoes by their Canadian-made bug shirts, they slogged through mud, tripping over undergrowth in their efforts to follow howler monkeys -- the species they found the most cooperative of the three found in the area. They were an incredibly enthusiastic group and persisted in getting up at dawn to try to catch the monkeys while they were still waking up and feeding. On one of their forays along the Raphia trail, they encountered the very ripe carcass of a spider monkey and, much to Juan's horror, insisted on bringing it back to camp for an autopsy. While the dissection took place on the new boat dock, two boatloads of tourists arrived from a nearby lodge to visit. After discovering why everyone was huddled around in a circle, they politely declined to come ashore!

Peter Silverman also accompanied the group and volunteered his expertise to wire the Station for electricity. He and student Steven Harrison did a super job in providing light switches and electrical outlets in every conceivable location, as well as a spotlight overlooking the dock (perfect for observing fishing bats as they swoop down) and re-wiring the solar pathway lights (the solar unfortunately was not working due to lack of sun in the rainy season). With funds provided by the Zoological Society of Metro Toronto we purchased a generator, and so the Station now boasts of having electricity! Many, many thanks to Peter and Steven for their endless hours of work.

We were also able to purchase a new 40 HP outboard motor as well as order the construction of an eight-passenger panga (flat-bottomed boat), again thanks to the generosity of the Zoological Society of Metro Toronto. These additions should make life a lot simpler for transporting passengers to and from the Station.

We now have a local tour company who will take care of transportation within Costa Rica. Ocean Tours will pick passengers up at the International airport, drive them to their hotel, arrange either plane or bus/boat transport to and from the Station, for a package price. They will also make hotel arrangements in San Jose, if you like. You can contact them directly by phone at (506) 53 9163. Their FAX number is (506) 34-9183. Ask for Marielos or Ileana. If you wish to write, their address is Ocean Tours, Box 1924 - 1002, San Jose, Costa Rica, Central America.

DO YOU KNOW THE SPANISH WORD FOR.....

FUNGUS?
FLOWER?
JAGUAR?
BEE?
BERRY?
RAINFOREST?
LIZARD?
WATER?

See the last page for the answers!

THE ROLE OF NEW WORLD PRIMATES IN SEED DISPERSAL

by Marilyn Cole

Seed dispersal is an important ecological phenomenon that has received much attention by scientists. It is the method of reproduction of particular trees whose fruit contains seed for regeneration. Dispersal is the means by which the seeds are distributed for this regeneration. Many are lost because the seeds fall too close to the parent tree, or else are destroyed by predators. Consequently, it is necessary for the tree to produce multiple seeds so that at least a few will survive.

There are two basic mechanisms by which the seed is released. The first (called passive release) involves simply an instant of release at which time the parent 'lets go' of the seed in a completely impartial manner, and without causing any obstruction to the subsequent motion. Dynamic release is the second mechanism and involves the forced separation of seed from the parent, arising when the seed or fruit becomes too heavy to be supported. Very often heavy wind will cause this type of separation. (Burrows, 1986).

Scientists theorize that plants and animals have co-evolved to aid in seed dispersal. Henry Howe (1986) stated "Presentation, nutritional content, seediness, schedules of fruit production, toxins and taste may influence which animals visit a plant and what they do once they arrive. Homologies are of tremendous use in illustrating the variety of ways in which plants respond to selection for variety, but they are of no concern to a bird or monkey faced with the choice of equally obvious, accessible and nutritious red berries or red berry-like figs." Daniel Janzen, noted American biologist, suggests that large brown, green orange or yellow fruits, often protected by husks are favoured primate foods.

The role that monkeys play in seed dispersal has been documented by a number of scientists in the Neotropics as well as elsewhere. In Mexico, the howler monkeys are said to spend 80% of their time eating fruits, and drop viable seeds of many species within a highly variable foraging range. In Costa Rica studies indicated that spider monkeys spend 77.9% of their feeding time eating the fruit of 36 plant species, whereas howler monkeys spent 28.5% of their feeding time eating the fruit of 19 different species.(Chapman, 1987). Once ingested, the seeds take several to many hours to pass through the gut. Consequently, primates may seem to be effective dispersal agents, but often they spit out or knock down more fruits than they actually ingest. The capuchin monkey actually destroys the seeds of the Gustavia superba tree by picking it apart in its search for insects.

The whole concept of the efficiency of fruit removal is still very much a puzzle. Most questions concerning a plant's means of attracting dispersal agents have not yet been answered, nor indeed even properly addressed. Dr. Janzen states that this is a curious form of dependence on vertebrates. If these animals were all removed from a tropical forest, many tree species would remain and the forest as a whole would persist. However, there would very likely be an immediate and rapid change in the proportional species composition of the forest, in the demographic properties of each tree population and in the spatial relationship of the individuals of each species.

The role that Neotropical primates play in seed dispersal is still poorly known. Most studies done do not emphasize this asopect at all, or only in very vague terms. Few contain quantitative information of any sort. However, it is possible to make some general conclusions from the data presented.

We do know that the role that Neotropical primates play as seed dispersal agents varies from species to species. It would appear from the data presented that spider monkeys, howler monkeys, capuchin monkeys and squirrel monkeys are major participants, but sakis as well as capuchins are likely to be seed predators. Primates are said to be more effective seed dispersers than birds because "a sighting of a bird is usually a sighting of a single individual while a sighting of a monkey is a sighting of a troop" (Howe, 1980). Capuchins contribute to increased branching by regular pruning of certain trees.

One should not assume that the number of seeds consumed by a monkey equates to the number dispersed or germinated. Some seeds are not removed at all; others are destroyed in either the masticating or germinating process; others are dropped below the parent tree and have little or no chance of germination. Those carried internally by monkeys are deposited in

a very patchy seed shadow. Most studies address only the first stage of seed dispersal and do not examine the quality of the location where the seeds are deposited. Only those that are deposited in a site away from the parent tree, on proper soil have a chance of survival, and only if not predated before germination. The chances of a seed developing into full adulthood are very slim indeed.

Frugivores have to depend upon trees to bear fruits throughout their range and throughout the year. From the data presented, it seems that individual trees do not necessarily bear fruits yearly nor in the same abundance. It therefore would not be adaptive for a primate to evolve pairwise with one specific species of plant; rather, primates should remain a generalist capable of exploiting a limited resource, as well as other types of food such as buds, leaves and insects, although some species such as howlers have evolved a digestive tract to cope with processing a high percentage of fibrous material.

Different plant species have adapted an enormous variety of strategies to attract the right frugivores, ranging from colour to taste to size to nutritional requirements. More factors that need to be determined include fruit accessibility both from the point of view of placement on a given plant to distribution of the plant within a forest.

On the other hand, plants have developed defenses such as toxins, cuticular wax and high fibre concentration to repel predators. Nevertheless, the majority of seeds never reach maturity. Sakis exploit immature fruit to avoid toxins. Primates such as spider monkeys seem immune to the toxins. Other seeds that pass through the gut of a primate are predated or dispersed in the dung by secondary agents. To achieve a greater understanding regarding the positive as well as negative roles of secondary agents, much more research needs to be carried out.

Therefore, the success of seed dispersal is precarious at best, and the evolutionary influences at work which make plants so dependent on dispersal agents such as Neotropical primates are a curious adaptation. As Howe (1982) states, "Suffice it to say that the integration of frugivory with plant demography has only begun for relatively well studied birds and bats and their food plants. For equally important monkeys....the record is almost blank".

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Forest violence

COTERC SUMMER RAFFLE

CONGRATULATIONS TO THE WINNERS OF THE COTERC SUMMER RAFFLE:

First Prize - One Week at Cano Palma Biological Station, donated by COTERC

GRANT ANKENMAN, PICKERING

Second Prize - Signed & Numbered Print by Paul Harpley, donated by Paul Harpley

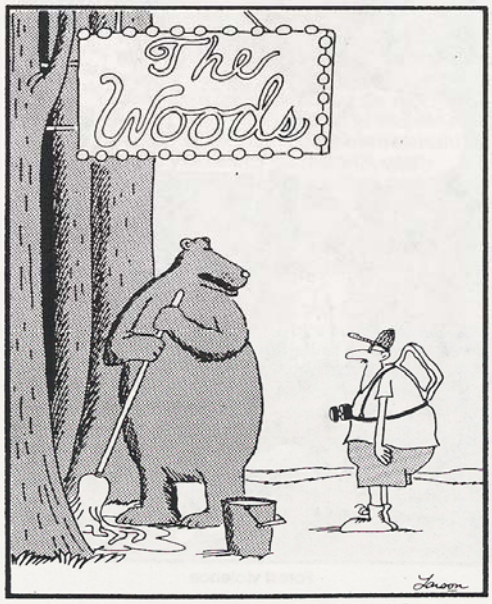
MARGARET FENWICK, SCARBOROUGH

Third Prize - Hand-made afghan, donated by Margaret Fenwick

JOHN TURTLE, THORNHILL

Fourth Prize - Sunday Brunch at the Holiday Inn, donated by Holiday Inn

LYNN JAMES, AJAX



"Hey, look. No. 1, we're closed, No. 2, I only work here, and No. 3, we don't like your kind in here anyway."

THANK YOU!

MANY, MANY THANKS TO THE FOLLOWING:

CHARLES DANIELS, DANCO SIGNS, PICKERING, ONTARIO FOR DONATION OF SIGN MATERIAL.

LOEB, WESTNEY ROAD, AJAX, ONTARIO FOR PROVIDING THE FACILITIES FOR THE FUNDRAISING BARBECUE IN JUNE.

SUPER CENTRE, PICKERING FOR PROVIDING THE FACILITIES FOR THE FUNDRAISING BARBECUE HELD IN AUGUST.

PAUL HARPLEY, FOR THE DONATION OF A SIGNED PRINT FOR THE RAFFLE.

MARGARET FENWICK, FOR THE DONATION OF A HAND-MADE AFGHAN FOR THE RAFFLE, AS WELL AS FOR HER VOLUNTEER WORK FOR COTERC.

HOLIDAY INN, SCARBOROUGH FOR THE DONATION OF A SUNDAY BRUNCH FOR THE RAFFLE.

AND ALSO

A SPECIAL THANK YOU TO ASSOCIATION QUEBECOIS GARDIENS D'ANIMAUX DE ZOO FOR THEIR GENEROUS DONATION.

AND ANOTHER SPECIAL THANK YOU TO THE ZOOLOGICAL SOCIETY OF METROPOLITAN TORONTO FOR THEIR GENEROUS FUNDING FOR INSTALLATION OF ELECTRICITY, AND THE PURCHASE OF A GENERATOR, OUTBOARD MOTOR AND BOAT FOR CANO PALMA BIOLOGICAL STATION.

AND ANOTHER SPECIAL THANK-YOU TO PETER SILVERMAN AND STEVEN HARRISON WHO VOLUNTEERED THEIR EXPERTISE TO WIRE CANO PALMA BIOLOGICAL STATION.

IN MEMORIAM

When Ozzie Teichner and I first visited Tortuguero, Costa Rica, in 1990, we met a special person named Bill Conover, Senior Reptile Keeper at John Ball Zoo in Grand Rapids, Michigan. Bill shared our enthusiasm for the wonders of this paradise, as we worked together on a leatherback turtle research project. He was with us on that memorable day that we first visited the property which would eventually become known as Cano Palma Biological Station.

Bill always intended to return to Tortuguero, and spoke of it often back home. Unfortunately, fate stepped in, and it was not to be. Bill died of cancer in the spring of 1992. His friends, family and co-workers have joined together to purchase 7 3/4 acres on his behalf in our Save An Acre Project, a very fitting memorial. If it is possible for Bill to know of this gesture, I am sure that he would be very pleased to be an active participant in preserving the rainforest of Tortuguero.

Marilyn Cole

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"The deer, the horse, the great eagle, these are our brothers....the earth is our mother....all things are connected like the blood which unites one family..."

Chief Seattle, 1854
(letter to U.S. President
Franklin Pierce)

We would like to thank the following people who have recently made a significant contribution towards the Save An Acre Project:

Friends, Relatives & Co-workers of Bill Conover, Dorr, Michigan

Students of Professor Frank Glew, Waterloo, Ontario

Martin Phillips, Birmingham, England

Joan Watson

Health Watch...Travelling to the Tropics

by Dr. Michael J. James, M.B., M.Sc., F.L.S.

We have all heard the stories--the nightmare vacation in the tropics! A few simple precautions and a little knowledge can turn the nightmare into a wonderful experience, the vacation of a lifetime.

Think ahead:

Vaccinations

There are no compulsory vaccinations required for entry to Costa Rica. But it is wise to have shots against the following four diseases because shots are fairly easy, safe and effective while the diseases can be serious.

POLIO: an unpleasant paralytic disease. Protection is routinely provided at school by three shots or doses of oral vaccine given at intervals. A single booster should be given before departure and lasts five to ten years.

TETANUS (lockjaw): Also given at school routinely. A single booster injection should be given before departure and lasts ten years.

TYPHOID: A gastrointestinal disease. Protection is given by two shots with a two to four week gap between them, and lasts one to three years.

INFECTIOUS HEPATITIS (Hepatitis A): A virus causing jaundice. A single shot of gamma globulin given just before departure provides passive immunity for about three or four months.

Under some circumstances, shots against this next group of infections may be appropriate.

HEPATITIS B (Serum hepatitis): Another virus causing jaundice. Transmission is through very close personal contact or infected blood. Three shots given over six months provide protection. Health care workers are at greatest risk.

CHOLERA: The shot gives poor protection for about six months. Boiling drinking water gives the best protection during epidemics. A single shot, or better, two, with an interval of two weeks, is sometimes recommended to prevent this diarrhoeal disease.

YELLOW FEVER: May be required for travellers to or from parts of South America, from Panama to 15 degrees south of the equator, excluding the eastern part of Brazil. One shot gives ten years protection. A small document called an International Certificate of Vaccination is provided with the shot. Keep it safe.

RABIES: Probably more prevalent in Canada than in Costa Rica. Persons handling wild mammals should receive three vaccinations spaced over six months. Protection lasts for about three years.

No shots are available against the next two conditions:

TRAVELLERS DIARRHOEA: Different locations are characterized by different varieties of bacteria, normally not pathogenic, and naturally present in food and water. Living in one area, one becomes accustomed to the local strains. One to four days after moving to a new area with strange foods and bacteria, some people are afflicted by a short period of diarrhoea. Medication like immodium (loperamide) pills or peptobismol, both available from pharmacies without prescription, can be used for relief.

MALARIA: This mosquito-borne disease is occasionally encountered in low-lying marshy areas in Costa Rica. Protection is provided by antimalarial pills prescribed by a physician. For best effect, treatment should be started two weeks before exposure and continued four weeks after leaving the malarious zone.

Review each traveller's medical requirements. Any medication needed on an ongoing daily or regular basis should be carried along in sufficient amounts to last the trip. These medications may not be available locally. It is always a good idea when travelling to carry a note from a physician documenting the need for the medication to prevent problems with customs officials. Take out adequate insurance against medical emergencies.

Make up your own first aid kit to bring along: Band Aids, bandages and adhesive tape. Sanitary napkins make excellent field dressings; soap and drinking water are adequate for wound cleaning purposes. Include an antibacterial and/or antiseptic cream.

CUTS AND SCRAPES: In the tropics, cuts, blisters and scrapes are easily infected. Clean thoroughly with soap and water. Apply antibacterial cream and keep as dry as possible.

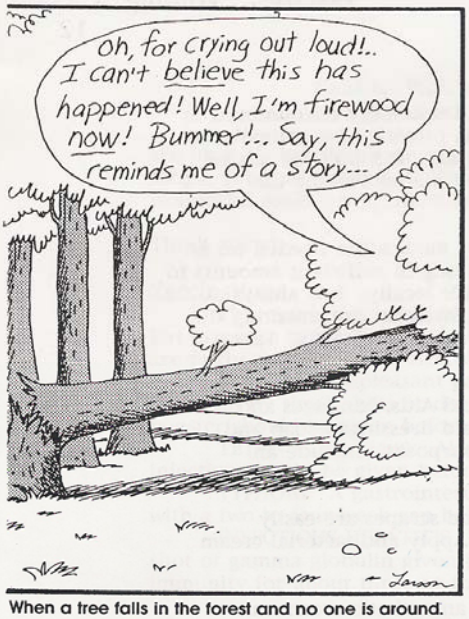
INSECT BITES AND STINGS: Antihistamine or local anaesthetic cream can relieve the itch. Antihistamine pills may also help. Scratch and you risk infection.

CHIGGERS: Bites from the larvae of trombiculid mites can cause multiple itchy spots, particularly on parts of the body where clothing fits tightly, like the legs and waist. The best protection is clothing tucked tightly in at the waist and boots, sprinkled with powdered sulpur, insect repellent, or even methy salicylate. The mites wait on vegetation and drop off on passers by.

SUNBURN: The tropical sun, particularly on the beach, can cause sunburn surprisingly quickly. Use sunblock or cover up. Wear a hat. When sunburn occurs, stay in the shade and drink plenty of fluids. If there is fever and vomiting (heat stroke), drink small amounts of fluid frequently and cool off with tepid sponging. If sever symptoms continue, seek medical aid.

SKIN FUNGUS: In the wet, warm environment of the tropics, overgrowth of skin fungi causing infections in the feet, groins, and even armpits, can occur. Effective antifungal creams and powders can be bought from pharmacists, and the family physician can prescribe even more efficacious fungicideslike nizoral (keetaconazole).

Stay tuned for part 2 in the next Raphia newsletter!



When a tree falls in the forest and no one is around.

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THANK YOU FOR YOUR SUPPORT!

This month we are introducing a new category of membership, called School Class. This entitles an entire class of students, rather than individuals to become a member of COTERC. One copy of the newsletter and other information will be sent to the teacher of the class.

SPANISH QUIZ

FUNGUS - EL HONGO
FLOWER - LA FLOR
JAGUAR - EL TIGRE
BEE - LA ABEJA
BERRY - LA BAYA
RAINFOREST - EL BOSQUE HUMEDO
LIZARD - EL LAGARTO
WATER - EL AGUA