

UPCOMING HOLIDAY

In celebration of Independence Day - U.S., STRI offices will be closed on Monday, July 4th.

SEMINAR NEWS

Tuesday, July 5th, the Ancon luncheon seminar will be given by EGBERT LEIGH, STRI, on:

What the paleontologist can tell the population geneticist

Tuesday, July 12, the luncheon seminar at Ancon will be given by DONALD WINDSOR, STRI, who will speak on:

Are wasps limiting fruit production in figs?

ARRIVALS

July 5th - Arriving, JAMES FULLARD, University of Toronto, to study the auditory characteristics of Panamanian tympanate moths. Dr. Fullard will be on BCI until September 1st.

July 8th - Arriving, JUDY GRADWOHL and RUSSELL GREENBERG, National Zoological Park, to continue studies on the population biology of forest understory insectivorous birds. They will be on BCI until September 8th.

AVOID SURPRISE EXPIRATION OF DOCUMENTS

We would like to remind you to check periodically the expiration dates on your official documents, i.e., passport, special residency permit, paz y salvo, driver's license, etc. Visitors should begin making arrangements for a new special residency permit at least one month before the current permit expires.

VEHICLES NEEDED FOR FIELD TRIP

On Sunday, August 7th, the IX International Congress of Arachnology will be making an all day field trip to the Parque Nacional Soberania (Pipeline Road area). The delegates will be driven to Gamboa by bus, but will subsequently be taken to various sites by jeep. We would like to use as many 4-wheel drive vehicles as possible. If you are willing to volunteer a vehicle for one day, we can provide the driver if necessary. Please contact NINOCHTKA FRANCO SMITH or BARBARA ROBINSON.

MOVED

NICHOLAS SMYTHE has moved his office to the Ancon Building. The Tivoli office vacated by Dr. Smythe will be used as a laboratory by Dr. M. Robinson.

TO OCCUPANTS OF THE TIVOLI BUILDING

When leaving the building after office hours, please make sure the entrance doors are properly closed. Your cooperation will be greatly appreciated.

IN THE NEWS

"Los Pelicanos de Taboga" by JORGE VENTOCILLA and ALVARO GONZALEZ, was featured in the cover of ISTMO, the Sunday Supplement of LA ESTRELLA DE PANAMA, June 26, 1983. An interesting article relating the natural history of pelicans, and the importance of their breeding grounds in Taboga and Urabá Islands, Bay of Panama, and the need to preserve these areas.

Local newspapers have also recently published articles on the coral bleaching in the Gulf of Chiriqui, based on a preliminary report to the Minister of Health by STRI's PETER GLYNN. One of the articles mistakenly made the connection between the oil pipeline activities and the coral mortality in the Gulf of Chiriqui, drawing conclusions that had not made in Dr. Glynn's report. As stated in the STRI Newsletter discussing this situation, the causes of the coral bleaching are probably very complex and still to be determined.

LIBRARY NEWS

The battle against the humidity and fungus continues.

New books received:

- The Biology and Management of Lobsters, Vol. I and II.
- Biosystematics of Social Insects.
- Methods and Principles of Mycorrhizal Research.
- The Behavior and Ecology of Wolves.
- Biochemical Aspects of Evolutionary Biology.
- Biological Monitoring of Marine Pollutants.
- Catalogus Lichenum Universalis, 10 volumes.
- IUCN Directory of Neotropical Protected Areas.
- Patterns of Evolution.
- Biology of Reptiles.

WANTING TO SHARE APARTMENT

Panamanian student affiliated to STRI would like to share apartment with English-speaking student during months of July and August to practice English. For further information, please contact G. de Alba at Ancon.

ERRATA

The house past Vera Cruz advertised last week was not a mobile home. Sorry.

AVIAN ALIENS IN THE BAY OF PANAMA

Things have been happening in the waters of Panama. Most of us are now aware of the mortality that is occurring among the corals from Peter Glynn's studies and the population crashes on a wide variety of marine organisms from octopi to the sea urchin Diadema. But a major invasion of Panama Bay has taken place and hardly anyone knows about it. The invaders are refugees from a major climatic happening, termed euphemistically the "1982-1983 Equatorial Pacific Warm Water Event". But it is perhaps better known as THE "El Niño" of the last decades.

Normally the western coast of South America from Ecuador to Chile is under the influence of a cold water mass which is very rich in life. Perhaps you recall from your high school geography book the pictures of guano mining on the desert-like bird islands of Peru. The producers of the guano are the millions of cormorants, boobies, pelicans and other birds which exploit, along with Peruvian fishermen, the incredible abundance of anchovetas (13-14 million metric tons taken by man in 1969-70). And all this from a strip of sea 1280 x 40 km in area. The birds, sea lions, squid and other fishes are thought to eat perhaps 20 million metric tons a year.

But every so often (some detect a 7 year cycle) warm water comes in from the west and north. Yes, you guessed it, usually around Christmas (hence "El Niño") and the anchovy population crashes. Hard times come then for birds and fishermen alike. The effect is not confined to just coastal South America. Disaster strikes right along the equator among those animal and plant populations which depend in some way on the usual cold current which moves westerly across the Pacific.

On September 20, 1982, NOAA (National Oceanographic and Atmospheric Administration) issued a special climate diagnostics (SIC) bulletin, which was rich in literary beauty. "Anomalous global scale fluctuations begun in June-August intensified in October...", extremely large low level westerly wind anomalies continued over the western equatorial Pacific... The Southern Oscillation Index or the Tahiti-minus-Darwin sea level atmospheric pressure---that is the long term mean monthly values removed and normalized by the appropriate calendar month standard deviation was abnormally low (attention ESP). What? (Translation) Energy had built up over the western Pacific approximately 6 degrees on both sides of the equator. The normal southeast trade winds failed, and all of that energy, much of it in the form of warm water and high water levels (yes) flowed (it had to) eastward passing familiar islands such as Tarawa, Jarvis,

Fanning and Christmas through the Galapagos where it began to rain, and then right into South and Central America.

Ralph Schreiber of the Los Angeles Museum made the pages of Science with his descriptions of the mass failure to reproduce among the birds on Christmas Island during November. This is the largest coral atoll in the world with enormous numbers of seabirds e.g. 14×10^6 Sooty Terns. Since then he has observed over an extensive area of the mid-Pacific and documented similar failures over huge areas. Bird populations in Hawaii and in Baja California are apparently not affected.

What happened when this warm bath hit South America? Remember that in Panama we are at 8 55'. "Papichon", the captain of the Taboguilla anchoveta boat "Yolanda", told me that in late February he began to note long lines of strange white and black "piqueros" (boobies) and a "gaviota" (gull) that he had never seen before. They followed the hoards of other birds in on the shallow anchoveta grounds east of Panama City. We now know that these are the Peruvian Booby (Sula variegata) and the Inca Tern (Larosterna inca), a particularly snazzy dark grey bird with a long white "moustache".

From March onwards, Doug Mock, Charles Aid, Gene Montgomery, Sandra Charity, Claudette Mo, Beatriz do Valle, Jonathan Reed, the Panama Audubon Society and the crew of STRI's newest research vessel "Yolanda", the dashing anchoveta catcher, from Taboguilla have made collections and observations which are giving us a veiled glimpse of the complex picture. Col. Paul Sharf of the American Embassy in Lima provided information from Guanoland. After I described the situation here, he remarked: "I wondered where they all went. Peruvian Boobies are dying on the Peruvian beaches and you can pick up Inca Terns everywhere because they are so thin and weak". Here in Panama they are fat and to see them stacked up on the ledges of Pachequilla or even on Roca San Jose at the end of the Amador complex, one wonders if they will stay.

The Peruvian Booby and the Inca Tern are not the only avian aliens in the Bay of Panama. Some of the species suggest a Galapagos origin and others such as Fairy Terns could be from lord knows where. Schreiber tells me that there are indications that the winds are turning in the central Pacific and Sharf says that the water temperature is beginning to fall in Peru. If our avian visitors came to Panama following a gradient in anchoveta numbers, will there be a similar clue to lead them back out?

NEAL SMITH