



# THE FIELD NATURALIST

*BULLETIN OF THE TRINIDAD AND TOBAGO FIELD NATURALISTS' CLUB*

## FIRST QUARTER OF 1996

### CLUB EVENTS FOR THIS QUARTER

#### Proposed Field Trips

- |                              |  |
|------------------------------|--|
| <b>28 April 1996</b>         | Lagon Bouffe and Kapur Ridge, near Guyaguare                                       |
| <b>25 &amp; 26 May 1996</b>  | Joint Trinidad and Tobago trip. Gilpin trail in Northern Tobago. Trail Guide # 37b |
| <b>29 &amp; 30 June 1996</b> | Grande Riviere and Salybia Reef, Camp to observe nesting turtles                   |
| <b>28 July 1996</b>          | Brasso Seco to Paria   |

#### Tobago

Field trips will be determined at the quarterly meeting preceding the field trip.

#### Lectures For This Quarter

- |                      |   |
|----------------------|---|
| <b>14 April 1996</b> | Robin Cross (National Parks Section of the Forestry Division),<br>NATIONAL PARKS MANAGEMENT                   |
| <b>9 May 1996</b>    | Cliff Hamilton (Tourism and Industrial Development Company Trinidad<br>and Tobago Limited - TIDCO) ECOTOURISM |
| <b>13 June 1996</b>  | Peter Bacon (Zoology Department of the University of the West Indies)<br>COASTALECOSYSTEMS                    |

## From The Editor

As we begin another new year it would be remiss of me not to register appreciation of those club members who assisted with our projects, displays, etc., during the past year. Many members participated in field trips and more overnight camps (unscheduled) took place at the request of members themselves, this enthusiasm contributed greatly to the success of these outings. Our committee has come up with what we feel will be an interesting and exciting programme of activities and lectures for 1996 and we look forward to your continued enthusiasm.

We welcome Dr. Paul Comeau to the Management Committee for 1996 and thank Mr. Edmund Charles for his service during the past year. We are especially pleased to announce that we have at last obtained the service of an Assistant Secretary, Mrs. Ruth Bharath. Welcome aboard, Ruth, my gratitude to you for volunteering.

While personally mourning the loss of my mother, we regret the passing of Noel Vaucrosson, who was a club member of long standing. Noel will be greatly missed by all, may he rest in peace.

Finally, you are once again reminded that subscriptions became due on January 1st. Let's pay up and save Selwyn the trouble of sending out reminders.

Rosemary Hernandez

## LECTURES

14 September 1995

Christopher K Starr (University of The West Indies), VENOMOUS ANIMALS: INSECTS AND ARACHNIDS

Venom can serve two major functions in animals: Prey capture and the defense of self or offspring. It is often far from obvious whether it is mainly for one or the other purpose or both.

Venom and specialized devices for injecting it have evolved independently in several lineages of land arthropods. The proof for this lies in the great diversity of chemical compounds involved and the fact that different body parts have become specialized to deliver them. Three familiar groups are:

**Scorpions**, an order of arachnids with a very conservative body plan and habits. They have remained virtually unchanged for millions of years, and all known species are physically and ecologically similar. The stinger consists of the last segment of the abdomen and includes paired venom glands that emit through a single duct at the tip of a thorn-like projection. Venom varies greatly in its toxicity for humans, from fairly mild to potentially life-threatening. Of the eight known species in Trinidad and Tobago, one, *Tityus trinitatis*, can present a serious health hazard.



All scorpions are predators and their venom serves primarily in defence. Present evidence indicates that venom is used in prey capture almost exclusively in the early life stages. Adults and late juveniles depend on their powerful pincer-like chelae to secure and subdue prey.

**Spiders** are another order of arachnids. Unlike scorpions, they have undergone extensive radiation in their habits and physical makeup. The principal mouthparts, the chelicerae, in virtually all spiders are each associated with a venom gland that emits near the tip of its respective chelicera.

In the primitive condition, in the spiders popularly known as "tarantulas" the chelicerae operate in parallel fashion, each striking forward or downward. As a result, the chelicerae require the force of the whole body behind them in order to inject venom, and it is difficult to penetrate a light-weight animal. In most spiders the chelicerae strike inward toward each other, a more efficient arrangement that allows the spider to inject into even a narrow insect leg without using body force.

In contrast to scorpions, the chelicerae in either type of spider are not designed for defensive delivery so that venom serves almost exclusively in prey capture. Most spider venoms are relatively innocuous to humans, with some exceptions such as those of the black widows (*Latrodectus* spp.). However, even black widows are not adept in defensive biting. In this respect they are rather analogous to coral snakes (*Micrurus* spp.).

The **Hymenoptera** are a large order of insects comprising wasps, ants, bees and their close relatives. In the huge group of parasitic wasps, the female has a long, narrow ovipositor with which she deposits eggs on or in the host organism. In the aculeate, or stinging, hymenoptera the ovipositor has evolved into a venom-injection apparatus, or stinger. The stinging hymenoptera comprise those groups within the order that are most familiar to us, including all ants and bees.

Primitively, the stinger serves to paralyze prey for the feeding of larvae, and this remains its principal function in solitary wasps. However, wasps and their relatives are also well equipped to swiftly and accurately deliver into much larger animals. In social wasps, all bees and probably most ants, venom is rarely used in prey capture. Instead it serves in active defence of self and offspring against enemies. These insects tend to be pugnacious near their nests and their stings are painful. Our most painfully stinging species is the jep tatoo, *Synoecca surinama*.

In a manner analogous to that of scorpions, social wasps almost always withhold the use of venom and instead dominate the prey physically. In both groups, the presumed reason for this is the venom's great defensive value and the considerable physiological expense of producing it.

In contrast to scorpions and spiders male hymenoptera lack a venom apparatus. However, if a male wasp or bee is grasped in the fingers, he will usually twist his abdomen and make realistic bluff stinging motions, an outstanding example of **automimicry**.





8 February 1996

Joseph Mader (Environmental Management Services Limited), ECONOMIC OPPORTUNITY AND THE ENVIRONMENT: A CASE STUDY OF A MUNICIPAL WASTE COLLECTION SYSTEM

'What is garbage?' and 'where is garbage in time and more specifically, in our political space?'

I set the stage by way of a couple of rhetorical questions: Do the objectives (strategic or otherwise) of the environmental movement? (...of The Trinidad and Tobago Field Naturalists' Club, for example) include the achievement of an identifiable?/ documented?/ standard applicable to "quality-of-life" indicators? and Are these standards flexible enough to accommodate change compatible with societal trends/movements?

If the answers are positive, we need to translate such standards into processes whereby the standards could be met.

#### THE PROCESSES DEFINED

Drawing on some of the results of a field survey and investigation in which I became involved in 1994/5, I shall attempt to portray briefly some ideas on desirable processes which should result in **CONSPICUOUSLY CLEAN** communities resulting from effective - cost-effective - street sanitation activity. I may lapse into another term: ENVIRONMENTAL AESTHETICS by which I refer to the visual harmony and continuity characteristic of well-built and well-maintained community facilities. I may use the term STREET SANITATION AND STREET AESTHETICS INTERCHANGEABLY in order to locate the BUSINESS POLICY approach which I intend to take.

For fiscal 1994, STREET SANITATION SERVICES for Port Of Spain City Council (POSCC) was allocated some \$24 Million, for Personnel and Goods and Services only. Overheads, taken as a proportion of General Administration accounted for a further \$7.0 M. These allocations, I am informed, were overspent before the end of that year. I am further informed that the Ministry of Local Government, reacting to public dissatisfaction with the quality of STREET SANITATION SERVICES has, in 1995, contracted SOLID WASTE MANAGEMENT COMPANY LIMITED (SWMCOL) to be project managers on a waste collection improvement project for downtown Port of Spain; SWMCOL, the Project Managers, has in turn awarded itself 70% of that contract and sub-contracted two other contractors to "SCAVENGE" the remaining 30%. In other words, the cost is very likely escalating with each knee-jerk reaction of the Ministry. I am also informed that cost escalations in the waste collection industry is hitting the Ministry where it hurts most, that it is close to \$70 M annually at the present time for the whole country.

Bear in mind that the cash method of accounting is widely applied by the municipalities and government departments; the accrual method on the other hand seeks to measure all resources consumed by the enterprise, whether paid for in cash or not.

Those resources could include the fiscal regime and whether VAT, land rent, depreciation, deferred compensation and similar costs are taken into account in determining the REAL OPERATING COSTS (ROC) of the service. To illustrate the disparity resulting from a comparison of the two methods, I have developed a simulation of the ROC at a level of 10 Alternative Factor Sections, based of certain assumptions, for the "STREET SANITATION SERVICES" provided by the POSCC



The situation can be controlled, and we can take a step towards understanding some of the mechanisms available for control and monitoring.

Realistically speaking, there is no standard of performance or service delivery within the Ministry of Local Government for the municipal Waste Collection Service. The contract document until recently spoke only of trucks to be provided on certain collection days.

I would like to sketch out some expanded perspectives for the provision of municipal "STREET SANITATION SERVICES".

The suggestion was made earlier that a reduction to a turnkey cost of .50 cents/ capita serviced/ day may be feasible; and I now define for you the suite of services calculated for that unit cost.

If the powers that be determine that our citizens are worth or deserving of this range of services, it may result in OPERATIONAL GOALS being adopted.

The conditions under which such an expanded or enlightened business approach to environmental or municipal waste management or street sanitation systems could be facilitated must include a number of factors.

Consider the notion that personnel employed by the selected contractor should be trained.

Consider the possibilities, the ripple effect if you will, of such a vision being shared with a youth training programme - perhaps YTEPP or some other similar NGO program - of a new cadre of well-treated and well-trained personnel put into the job market; consider for a moment whether it would have a more salutary and productive effect than the structure now in place.

Of course, such a vision would require commitment to common ideas about the quality of life in our communities, as well as an injection of capital to re-tool the street sanitation services of this nation, and would yield significant savings to the Exchequer; it would not be unreasonable to expect an increment of goodwill from our citizens to the administration which demonstrates such vision.

The creation of economic opportunity and activity in the field of the environment would attract people to share our common objectives, and to further those objectives. I am personally delighted and filled with renewed hope that three Ministers have accepted your invitation to hear this scheme, which I have put before you. We have already witnessed the enthusiasm of the Minister of Works in making things happen, not merely at Waller Field, and it augers well for the environment and the objectives of your Club that you have attracted their interest. It remains to be seen not whether, but when this initiative of yours would bear fruit.

With relevance to our human settlements, my own wish is that citizens would receive a higher quality of structured service and enjoy conspicuously clean surroundings, in our residential as well as our urban communities.



## FIELD TRIP REPORT

### BIRD OF PARADISE ISLAND (LITTLE TOBAGO)

By: Dan L Jaggernaut

23-24 June 1995 (Wildlife Sanctuary)



Photo by Dan J

Bird of Paradise Island, Little Tobago

The long-awaited trip to Little Tobago began by boarding the M.F. Panorama. Two members did not arrive, giving Treasurer Selwyn Gomes extra work to negotiate sale of their tickets. Some members questioned the efficiency of the boat after recently experiencing extensive mechanical problems. However, we set off promptly at 14:00 hours.

On our way close to Teteron Bay we saw evidence of bush fires which occurred a few months ago. It is sad to know that these took place so close to persons who are well trained to protect. Passing two sailboats off Monos island we then rode on calm waters, arriving at Scarborough at 17:50 hours.

Collecting our seven cutlasses from the security, we awaited Desmond, our maxi-taxi driver. Our President, Ewoud Heesterman, drove off with his left-hand drive strong mobile, heading for Manta Lodge. After some searching, Desmond was found and we drove down to a Chinese restaurant, then all the way to Manta Lodge, Speyside, arriving at 20:25. Our President had already arrived and we received a very warm welcome from the proprietor.



The new built lodge had not yet opened to the public but due to good public relations by Selwyn Gomes, the facilities were made available to The Trinidad and Tobago Field Naturalists' Club members.

Later that night we were entertained by Papa Waxing and K. Ranking. The proprietor offered us complimentary drinks after which we walked upstairs to the newly painted rooms.

Arising early, a little way from Manta Lodge, we saw a massive iron wheel and concrete remains of an old sugar mill. On the seashore Leonard Chan Chow saw the head of a moray eel with some blue flies on it. By 7:30 the boatman Anthony arrived, requesting us to go across a little earlier than 9:00, we began packing our bags onto a pick-up truck and drove down to the boat. Off loading our luggage onto the boat, Anthony said he had to make two trips across. On our way we passed Goat Island a beautiful house on an elevated area owned by a wealthy Trinidadian who is also a member of Parliament. After 20 minutes ride we arrived at Paradisiac, Little Tobago.

A sign proclaimed: No Hunting, No Bush Fires, No Bathing In The Nude, etc. Walking up the trail, we reminded the boatman to collect us the next day at 17:00 hours. Soon we were greeted by the blue-crowned mot-mot, *Momotus momota*. One member referred to it as the "King of the Woods." The well constructed concrete steps showed signs of good workmanship in the past. On both sides of the trail were numerous Anthurium sp. on the ground. Upon reaching the Forestry house a sign read: "Wildlife Sanctuary." The hut was in good condition and with a little clean-up we were all prepared for the night. A blue-grey tanager, *Thraupis episcopus*, was drinking water from bamboo water troughs under the shady tree. With commanding views of Speyside and the blue waters around us we knew the island was a naturalist's paradise.

Taking a trail on the side of the hut, we began walking and reached an observation shed, which gave good views of St. Giles Island. Returning to the main trail we saw a snake about one metre long, greenish and brown, gliding in the bushes. Also the frequent appearance of lizards moving through the dry leaves. Arriving at another observation post at 14:49 we were amazed at the beautiful sight of the Red-billed Tropicbird, *Phaeton aethereus* with its white coloured wings with some blackish stripes and bright coloured red on its bill. With bright sunshine and cool breeze, field naturalists were very appreciative of visiting this island and some sat and gave praise to the "Lord and Master" for allowing us to enjoy this paradise while still living in this ephemeral world. Then came the magnificent frigate bird, *Fregata magnificens* or "Man-o-War" bird. Its colour was black with some white under the chest.



Magnificent Frigatebird.



Walking back to the hut, we began to cook our foodstuff. All members helped in preparation and in 1 hour and 15 minutes food was cooked and ready for everyone. Some field naturalists decided to eat first and then go in the sea, others preferred to eat afterwards. The sea water was quite warm. Edmund Charles, James, Sheldon Edwards, Chan Chow and Selwyn Gomes went in the deep areas for observation. After an hour they swam back to shore with details of Sea fan coral and Brain coral, Spiny lobster *Panulinus argus*, Queen Angel fish *Holacanthus ciliaris*, French Angel fish *Pomacanthus paru*, Foureye Butterfly fish *Chaetodon capistratus*, Blue Tang *Acanthurus coeruleus*, Parrot fish *Scarus* spp, Puffer *Canthigaster* Spp., Sergeant Major *Abudefduf saxatilis* and Redlip Blenny *Ophioblennius atlanticus*.

Walking back to the hut, it was a suitable time for food, and those who ate before had a double meal. Most field naturalists ate their food in a calabash. At 15:45 our President Ewoud Heesterman left the hut for research at an observation shed. One teacher who did not want to miss the trip, took across the students' assignments and corrected papers there. Another student on the trip studied for her exams during the night.

Sitting on the porch and looking at the shimmering lights of the tiny village of Speyside, we hoped that this part of the world will never become polluted. One person feared that uncontrolled tourism development could have a negative impact on the environment. Sipping hot coffee, field naturalists began giving historical details of the island, saying it was once a cotton producer. The cotton produced on Little Tobago yielded more than other parts of Tobago. As the English market became flooded with cotton from other countries, it was difficult to compete and the cotton industry deteriorated and soon disappeared. Sugarcane was also planted on the island but due to transportation and other problems it was soon abandoned. In 1898, Sir William Ingram purchased the island for 225 pounds sterling. He was a great bird lover and sent Mr. Frost to Aru Island, New Guinea, to purchase 24 pairs of birds, "*Paradisia apoda* " (Birds of Paradise). Returning with the birds, they were set free in Little Tobago and lived peacefully with other species on the island. The Government of Trinidad and Tobago took over the island in 1928, designating it a wildlife sanctuary. Since then, some measures should have been taken to have forestry personnel on a 24-hour surveillance. Throughout our stay we did not see a single Forestry official.

By 23:30 our President returned from the observation post and I took over for the night. During my research I recorded 97 hermit crabs. The shed was close to a cliff and all safety measures were applied. Actually, I slept with a safety belt and a rope attached to the shed, because any roll-off could have resulted in serious injury.

At 5:00 there was the chirping of hundreds of birds. Field naturalists arrived at 06:45 and the resplendent views of splashing water on the rocks and the sounds and sights of

early morning birds created awe and wonder. Some members questioned whether Heaven was "a place beyond," "a blissful state of the mind," or "Little Tobago."

Walking down the rocky pathway, a beautiful cactus was in sight, known as Tobago Turk's Cap, *Melocactus broadwayi*. It was seen five metres from the water, growing in the crevices of the rocks with bright coloured pink/purple flowers. Leonard Chan Chow sat close to the cactus in the posture of a Shaolin priest doing his meditation. He said the beauty of the cactus transmitted positive celestial vibrations which created peace and serenity within himself. We recorded 4 Tobago Turk's Caps with pink/purple flowers and 11 small ones without flowers.

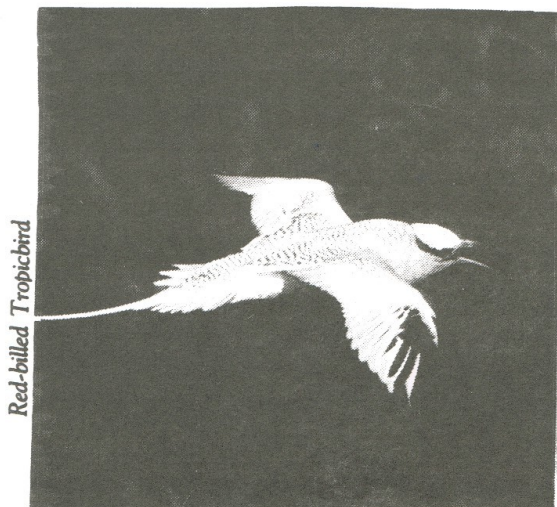


Upon our return to the hut we walked down to the beach and took our final bath of the trip. We did not stay very long as the boatman was coming at 17:00 and we wanted to pack our bags, etc. Tidying up the hut we decided to take our garbage with us on the boat. Anthony was punctual and we left Little Tobago taking only pictures and leaving only footprints on the island.

Returning to Speyside the maxi-taxi arrived late as it had experienced mechanical problems. Arriving at Scarborough we boarded the older boat, the M.V. Tobago and arrived at the Cruise Ship Complex, Port of Spain, at 05:00.



*Melocactus broadwayi* (Tobago Turk's Cap), Little Tobago Photo by Dan J



Red-billed Tropicbird





## IN MEMORIAM

**Noel Vaucrosson      1932-1996**

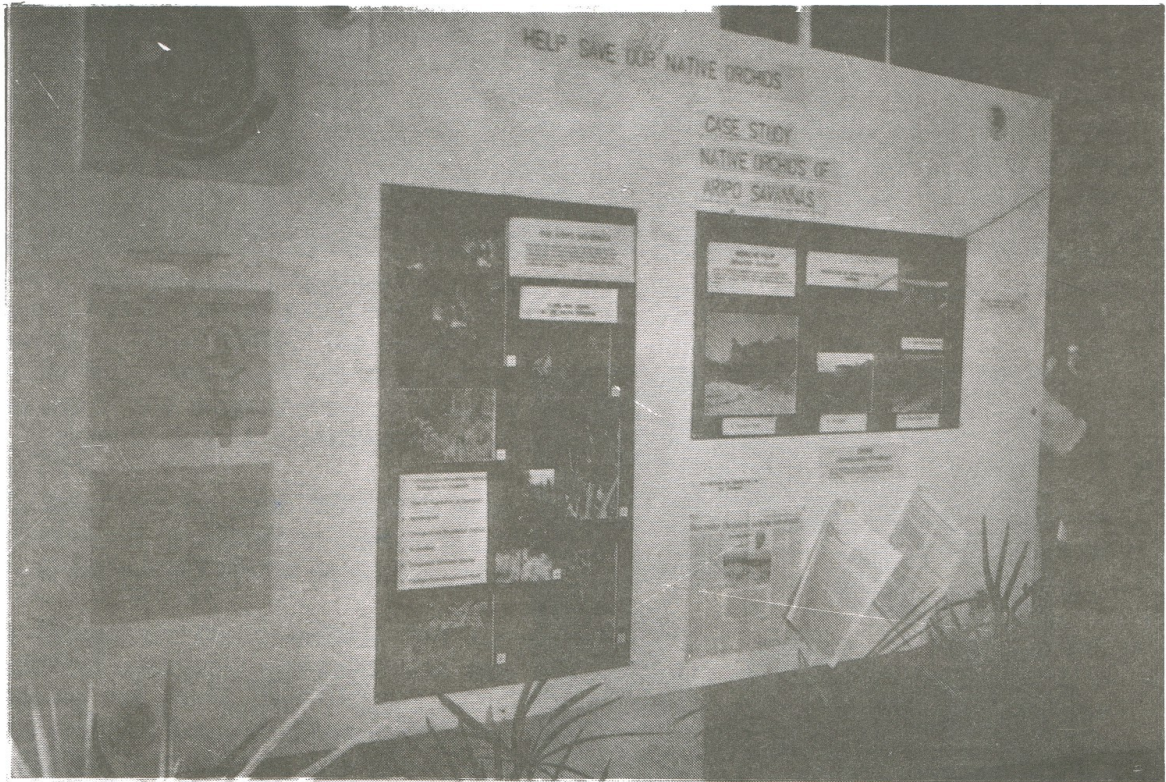
To Noel Vaucrosson, architect, artist and Hummingbird Gold Medalist, who died on 25 March 1996 after a valiant struggle with cancer, the Field Naturalists' Club was not only a means of sharing his views on the environment, joining in hiking expeditions, and learning new information about natural history. It also provided opportunities for visiting wild places where he would set up an open air studio with his brushes and painting pad and watercolours, and begin producing a work of art, an example of which graces the cover of the Club's Trail Guide. Because of his involvement with horticulture, he was also able to give many of us valuable information about plant life, and had considerable knowledge of local birds. In short he was a practicing naturalist.

The loss of Noel, who leaves three children, Vanessa, Jean-Paul and Arlene, will be felt in the Trinidad and Tobago Art Society, the Trinidad Horticultural Society and the Garden Club, in all of which he had held office. He will be missed by the students and friends and acquaintances of all walks of life.

When we, his fellow Naturalists look, for instance, at the wild bromeliads and orchids he loved, or walk those last few steps to Rio Seco or Bush Bush or Little Tobago, I hope we shall remember a man who enjoyed the Club's activities to a high degree, who contributed to our enjoyment and understanding of them, and who treasured and recorded the natural and urban beauties of Trinidad and Tobago.

Rest in peace, Noel.

*(By Sylvia Kacal, Member, The Trinidad and Tobago Field Naturalists' Club)*



The Trinidad and Tobago Field Naturalists' Club's display at the Trinidad and Tobago Orchid Society's Annual Show which took place at Stollmeyer's Castle on October 8 and 9, 1995. Photographs through the kind courtesy of Ms. Muriel Pierre. The display was entitled "Save Our Native Orchids" and featured photographs of the Aripo Savanna by club members and information on the subject extracted from various articles which appeared in Living World Journals of The Trinidad and Tobago Field Naturalists' Club.



# BIRDLOG

Version: PC.1996

Release date: 1 January 1996

BIRDLOG is a bird-record management system for personal computers. It comprises a suite of programs running in DOS under Microsoft QBasic and is designed for easy adaptation to other operating systems and environments. Full source code is supplied.

Birdlog encourages the routine gathering, and sharing, of data on all species of birds, common and rare. It is free to users and may be freely copied and distributed.

There are too many features to list here, but they include:

- runs on any IBM-PC compatible or emulation supporting the QBasic interpreter
- records may be compiled on *any* sort of computer, including palmtops
- capacity limited only by disk space: c. 100,000 records per Mb
- understands provisional and repeat records
- easy generation of yearlists, lifelists, journal files
- makes systematic reports, ready formatted for sending to regional

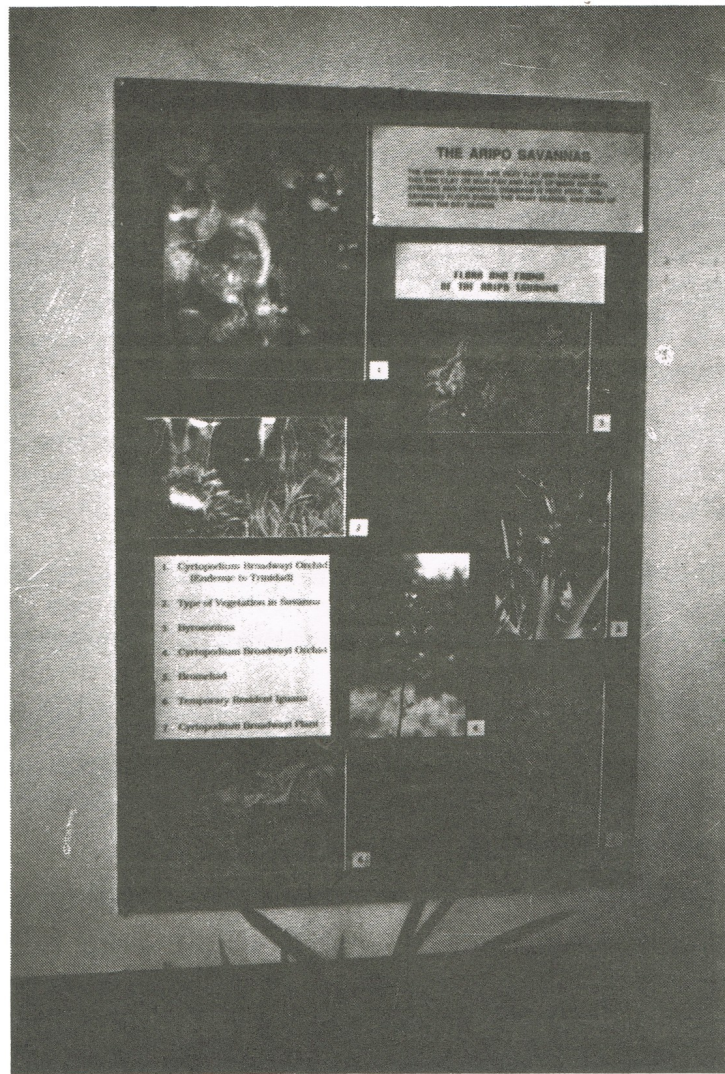
Birdlog may be fully customized and is suitable for ringing stations, observatories and reserves as well as for individual bird-watchers. It allows sophisticated extraction and analysis of data, and will save each year many hours of tedious and error-prone clerical work.

Birdlog is being continuously enlarged and improved and will be upgraded each year on 1 January. Users' suggestions and contributions are most welcome.

*For your full working copy, please write to:*

J. R. Barnes  
The Holt  
Newton Valence  
near Alton  
Hampshire  
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*In EC, enclose £3.50 (sterling) or equivalent to cover copying and postage;  
£4.50 elsewhere. Please make cheques, etc., payable to "J. R. Barnes".*



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