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# ACTIVITIES OF THE A. P. LEVENTIS, THE WEST AFRICAN FOREMOST ORNITHOLOGICAL RESEARCH CENTER.

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## INTRODUCTION

The tropical region of the world is known to harbour a high percentage of the world's biodiversity. For instance, Africa alone holds about 20% of the world's bird species total (Brooks & Thompson, 2001) of which 90% are African endemics (Dowsett & Forbe-Watson, 1993). Areas with the highest percentage of the world's biodiversity have been proven to harbour a high density of humans (Balmford *et al*., 2001; Brooks *et al*., 2002), most of which tend to be ignorant of the conservation and sustainable use of these natural resources. As a result, there is a high rate of deforestation in the tropics, so that a large percentage of the worlds threatened species are found in the tropics, including 93% of 902 threatened forest birds (Birdlife International, 2000).

Loss of biodiversity can be attributed to natural disasters or human activities. Of these, human activities have the most impact. The human activities that have brought about the loss of biodiversity, especially through habitat destruction are farming, fuel-wood collection, building of infrastructures, pollution, and logging. Other activities include direct exploitation including hunting for food, trapping for caged bird trade, egg-collection, and cultural use (Newton, 1998), and introduction of exotic species which come in to compete with the natives, or in the case of predators, wipe out some species. In the temperate region, awareness have been created to an extent that a large percentage of the human population are aware of the dangers of habitat loss. This emphasizes the need for awareness among the people that are in this biodiversity rich areas. Since man is the major problem, man can also be the solution.

Birds are useful indicators of global biodiversity partly because they have dispersed into, and diversified in, almost all terrestrial regions, altitudes and habitats (BirdLife International, 2000). They are also useful indicators of the state of the environment and are also key species for education and public awareness (Bibby *et al*., 2000). This may be because of their high mobility, which make it easy for them to move from an unsuitable environment to a more suitable one. Birds serving as indicators if protected can lead to the protection of other biodiversity. The conservation of bird species therefore will lead to the conservation of other biodiversity (including mammals, reptiles and invertebrates), because conserving bird species involves conserving their habitat and other organisms that are associated with that habitat.

The need for the conservation of biodiversity has become a global concern, hence the need to contribute our own quota. This is what brought about the establishment of the A.P. Leventis Ornithological Research Institute, aimed at training young people in ecology and conservation related issues, and to create awareness among members of the community.

**Establishment of the institute:** Over 300 species of bird have been recorded in the Amurum Forest Reserve, located 15 km north-east Jos (Plateau), Nigeria (Fig 1). Among the birds in this reserve are 2 of Nigeria`s endemic bird species, the Rock Firefinch, *Lagonosticta sanguinidorsalis* (Fig.2) and its brood parasite the Jos Plateau Indigobird, *Vidua maryae* (Fig. 3); (Payne, 1998, Ezealor 2002). This attracted attention to this Forest Reserve, and in June 2001, the A.P. Leventis Ornithological Research Institute (APLORI) was established. The Institute is dedicated to the study and conservation of birds, but other forms of research, such as research on insects and on plant-animal interactions are also being carried out. Presently, APLORI is the only specialist ornithological institute in West Africa (Vickery & Jones, 2002).

The Amurum Forest Reserve lies at latitude 09°53'N, longitude 08°59'E and about 1,280m above sea level with approximate area of 100 hectares. It is characterized by sparsely vegetated inselbergs (isolated granitic hills of rounded bare rock rising abruptly from the surroundings) and rocky outcrops in dry scrub-savanna, interspersed with small patches of gallery forest.

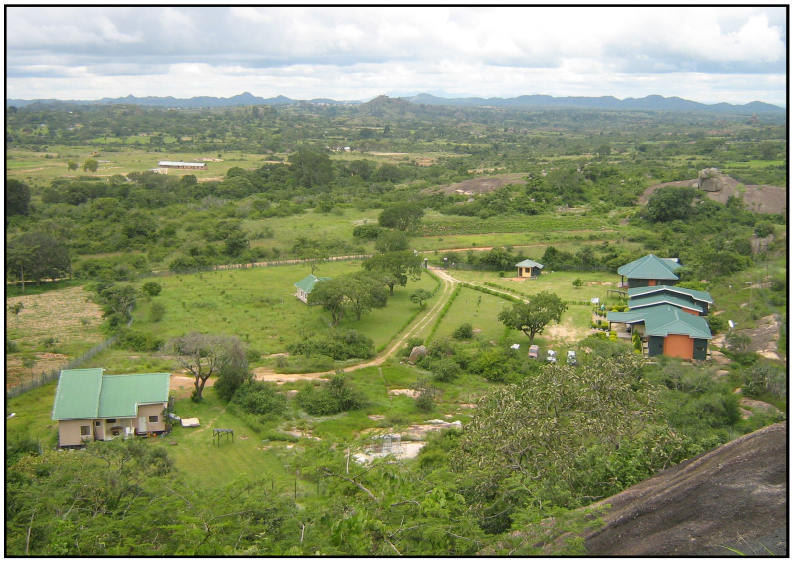

**FIG. 1. A VIEW OF THE INSTITUTE AND PART OF THE FOREST RESERVE.**

**FIG. 2 ROCK FIREFINCH, *Lagonosticta sanguinodorsalis***

**FIG. 3 JOS PLATEAU INDOGOBIRD, *Vidua marya***

**Academic activities:** The institute offers a Masters Degree programme in Conservation Biology, which is aimed at training young conservationist in West Africa. The programme runs for 12 months with input from European institutions. A total of 22 postgraduate students at Masters level have so far graduated, and are now involved in various forms of research or conservation activities.

One important aspect of conservation is the need to understand the ecology of the species that will be conserved. Each of these students was given the opportunity to carry out a project which will enhance the ecological knowledge of species.

Some of the results of these studies have already been published in peer reviewed journals (Table 1), while others have been presented both at local and international conferences as a way of sharing our finding so that they could be applied both in Nigeria and other parts of the world.

**Community development projects:** As human activities have been shown to be the biggest cause of the loss of biodiversity, it is important to involve people in all attempts to conserve nature.

The Laminga community, who own the forest to a large extent depended on it as a source of income. For instance, part of the reserve was being used by some of the villagers as farms. Therefore, when the forest was to be conserved, there was a need to create an alternative source of income. First, people were employed from among the community to work in the institute. Secondly, they were taught to make use of the forest resources sustainably by harvesting the resources that will not be of negative impact, thus the introduction of the Bee-Keepers Association.

To a large extent, the community was discouraged from collecting fuel wood from the forest. But knowing that this cannot be completely stopped unless an alternative is made available, a project was introduced which will minimize the amount of wood that has to be collected for used as fuel wood. This is the Fuel-efficient stove project. The project involved the women from the Laminga and neighbouring communities trained to make fuel efficient stoves out of clay, collected from the village.

In 2000, a nursery which nurtured native seedlings was established in the village. The aim of this nursery is to supply the

**TABLE 1. LIST OF PUBLICATIONS FROM RESEARCH CONDUCTED AT APLORI.**

Vickery, J. & Jones, P. J. 2002. A new ornithological institute in Nigeria. *Bull. African Bird Club* 9(1): 61–62.

Wilson, J. M. & McGregor, R. 2002. House Sparrow *Passer domesticus* in Nigeria. *Malimbus* 24(1): 41–42.

Wilson, J. M. 2002. First breeding record of Little Grey Woodpecker *Dendropicos elachus* in Nigeria. *Malimbus* 24(1): 42–43.

Ottosson, U. & Waldenström, J. 2002. A Yellow-throated Leaflove (*Chlorochicla flavicollis*) with extra wing feathers among the primaries. *AFRING News* 31(1&2): 24–25.

Wilson, J. M. & Sallinen, P. 2003. First records of Didric Cuckoo *Chrysococcyx caprius* parasitizing Cricket Warbler *Spiloptila clamans*. *Malimbus* 25: 95–96.

McGregor, R & Wilson, J. M. 2003. A major range extension of Locust Finch *Ortygospize locustella* in West Africa. *Malimbus* 25: 99–101.

McGregor, R. 2004. Ortolan Buntings rediscovered in Nigeria after a 38 year absence. *Bull. African Bird Club* 11(1): 30-31.

Manu, S., Peach, W. & Cresswell, W. 2005. Notes on the natural history of the Ibadan Malimbe *Malimbus ibadanensis*, a threatened Nigerian endemic. *Malimbus* 27: 33-39.

Manu, S., Peach, W., Bowden, C. & Cresswell, W. 2005. The effects of forest fragmentation on the population density and distribution of the globally endangered Ibadan Malimbe *Malimbus ibadanensis*. *Bird Conservation International*. 15: 275-285.

Stervander, M., Ottosson, U., Hulme, M. & Molokwu, M. N. 2005. Little Rush Warbler *Bradypterus baboecala* new to Plateau State, Nigeria. *Malimbus* 27:46-47.

Ottosson, U. Waldenström, J. Hjort, C. & McGregor, R. 2005. Garden Warbler *Sylvia borin* migration in sub-Saharan West Africa: Phenology and body mass changes. *Ibis* 147: 750-757.

Wright, D. & Jones, P. 2005. Population densities and habitat associations of the range-restricted Rock Firefinch Lagonosticta sanguinodorsalis on the Jos Plateau, Nigeria. *Bird Conservation International* 15(3): 287 - 295.

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Osinubi, T. & Agboola, B. 2006, Sighting of the Rufous Scrub Robin *Cercotrichas galatotes* at foot of Fusa Hills, Jos, Plateau State, Nigeria. *Malimbus* 28:46-47.

Wilson, J. & Cresswell, W. 2006. How robust are Palearctic migrants to habitat Loss and degradation in the Sahel? *Ibis* 148: 789-800.

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**Table 1 cont.**

Mwansat, G. S.; Chaskda, A. A.; Longtong, G. T. 2006. A preliminary survey of the aquatic insects of Amurum Forest Reserve. *Scientia Africana* 5:35 – 37.

Manu, S., Peach, W. & Cresswell, W. 2007. The effects of edge, fragment size and degree of isolation on avian species richness in highly fragmented forest in West Africa. *Ibis* 149: 287-297.

McGregor, R., Whittingham, M. J. & Cresswell, W. 2007. Survival rates of tropical birds in Nigeria, West Africa. *Ibis* 149: 615-618.

Hellgren, O., Waldenström, J., Peréz-Tris, J., Szöll_si, E., Hasselquist, D., Krizanauskiene, A., Ottosson, U. & Bensch, S. 2007. Detecting shifts of transmission areas in avian blood parasites - a phylogenetic approach. *Molecular Ecology* 16: 1281-1290.

McGregor, R. Ottosson, U. & Cresswell, W. 2007. Moult of guinea savannah passerines in West Africa. *Ostrich* 78: 287-290.

Molokwu, M.N., Ottosson, U. & Olsson, O. 2007. Feeding Behaviour Of Birds Foraging On Predictable Resources In Habitats Of Different Quality. *Ostrich* 78: 295-298.

Abalaka,J. I. and Manu, S. 2007. Factors affecting bird species diversity in the degrading Kagoro forest, Kaduna, Nigeria. *Ostrich* 78: 233-238.

Manu, S. & Cresswell, W. 2007. Addressing sampling bias when counting forest birds in forest fragments by line transects: a West Africa case study. *Ostrich* 78: 281-286.

Wilson, J. M. and Cresswell, W. 2007. Identification of potentially competing Afrotropical and Palearctic bird species in the Sahel. *Ostrich* 78: 363-368.

Cresswell, W., Wilson, J.M., Vickery1, J., Jones, P. & Holt, S. 2007. Changes in densities of Sahelian bird species in response to recent habitat degradation. *Ostrich* 78: 247-253.

Strandberg, R., Ottosson, U., Waldenström, J. & Hellgren, O. 2007. European Griffon Vulture *Gyps fulvus* observed at Yankari National Park in Nigeria. *Malimbus* 29: 122-123.

Tobler, M. & Naurin, S. 2008. On the occurrence of the Alpine Swift *Apus melba* in Nigeria. Malimbus *in press*.

Brandt, M. S. & Cresswell, W. 2008. Breeding Behaviour, home range and habitat selection in Rock Firefinches *Lagonosticta sanguinodorsalis*, between the wet and the dry season in central Nigeria. Ibis *in press.*

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Molokwu, M. Olson, O. Nilsson, J-Å. & Ottosson, U. 2008. Seasonal variation in patch use in a tropical African environment. Oikos 117: 892-898.

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Wilson, J. M and Cresswell, W. Northern Wheatear *Oenanthe oenanthe* in the Sahel of West Africa: distribution, seasonal variation in abundance and habitat associations. *Ms in prep.*.

villagers with free seedlings, which they can plant in their surroundings. The institute also carries out tree planting exercises, to cover up the bare areas in the Reserve. The seedlings for this exercise are also supplied by the nursery.

With the increase in the need for awareness, one of the strategies put in place by the institute, is organising nature programmes for children between the ages of 4 and 12 years. The programme is named “Children for Nature” aimed at enlightening children on the need to be aware of the natural environment and what role nature plays in their lives.

The women of the community were solely dependent on fuel wood collection as their source of income until it came under the management of the institute. For this reason, it was important to create alternative sources of income for them. There were therefore grouped according to their areas of interest (which include, poultry farming, adult education, petty trading, and dry season farming), and the institute is helping them to realise their goals in these various areas of interest.

The community development programmes have been able to create awareness to the members of the community. In 2010, for instance, with the cooperation of the community, over 400 trees have been planted both in the village and in the Reserve.

On the 15th of August 2008, the second Memorandum of understanding was successfully signed between the Institute, University of Jos, Nigerian Conservation Foundation (NCF) and the Laminga community, an indication that the conservation efforts of the Institute made a positive impact in the lives of the members of the community.

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