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Habitat Mapping and Participative Research for Conservation of globally Threatened Blue Swallow in the unprotected Busia Grasslands IBA, Kenya

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WORKING FOR BIRDS IN AFRICA



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Introduction

Blue Swallow *Hirundo atrocaerulea* is an intra-African migrant with its range spanning ten African countries in both its breeding and non-breeding seasons. The species is classified as Vulnerable and is listed in Appendix I and II on the Convention of the Conservation of Migratory Species of Wild Animals. In East Africa the Blue Swallow is classified as Endangered by the East African regional Red Data List (Bennun and Njoroge 1996), where it winters in moist grassland habitats of western Kenya at Ruma National Park (NP) and Busia Grasslands Important Bird Areas (IBA) (Bennun and Njoroge 1999). The species faces several threats in Africa, some of which International Blue Swallow Action Plan (Evans *et al.* 2002) enumerates as habitat degradation and conversion, local hunting and specialized habitat requirements.

Conservation profile of the Blue Swallow in terms of and its habitats protection in Kenya is low due among others lack of baseline information on current habitat status and distribution, while local conservation action for the species is poor. This is despite the threats it faces due to its occurrence in and outside protected area network in Kenya. In Busia Grasslands IBA the moist grassland habitats for the species are found in privately owned land where the species faces more severe threats. These include habitat conversion to sugarcane plantations, subsistence agriculture and settlement in addition to hunting of the species for food (Ndang'ang'a 2005). These habitats have lost over 60% of their grassland cover since the mid-1990s and are immediately threatened by fragmentation, agriculture, overgrazing and rapidly increasing human population (Ndang'ang'a 2007; Evans *et al.* 2002). IUCN (2012) proposes the need to identify and conserve key wintering sites of the species; determine characteristics of drainage lines used for foraging; and promote public participation to raise awareness on the plight of the species and importance of its habitats among other conservation actions. Considering the increasing human population in Busia County, the unprotected IBA and its dependent threatened bird species, including the Blue Swallow, could be affected negatively by fast diminishing habitats and a host of other anthropogenic threats.

Project Goal and Objectives

The project involved local people in mapping local habitat areas for the species and consultative field data capture in the unprotected Busia Grasslands IBA.

The specific objectives of the project included to;

1. Conduct habitat mapping and determine their current extent
2. Determine the characteristics of drainage lines used by Blue Swallow for foraging
3. Create local awareness on Blue Swallow and its locally threatened habitats
4. Propose a locally acceptable and sustainable monitoring programme for the sites

Methodology

This project was conducted in Busia Grasslands IBA (00°25'N, 34°15'E) (**Fig. 1**) in western Kenya situated at an altitude of 1,200–1,220 m. It is a chain of seasonally flooded grassland patches each covering varied moist grassland areas with a total of approximately 250ha. These patches are surrounded by intensive agriculture, mainly maize and sugarcane, and are grazed by livestock. The grasslands are mainly fringed by riverine forest and scrub. Busia District has a high human population density that is increasing very fast hence there is great pressure on land. The areas surveyed included the following: Matayos at the Sio River Bridge; Sikoma at Nasira River and Sio River; Nambale at Nambale River Bridge and Sio River (Manyore area); Malanga/Nambale at Rerekwe River; Kisoko at Sio River and Mungatsi at Walatsi River.

A reconnaissance study lasting two weeks was conducted between in the study area to establish sample units. Habitat and bird observations were also conducted during this initial survey. Landsat Satellite imagery will be acquired and analyzed to identify suitable and potential moist grassland habitats in Busia. These habitat locations were ground-truthed and additional sample units established.

Opportunistic observations were made by two observers (Maurice Ogoma and Martin Odino) and two field assistants from a local community based organization (CBO) called Nature Busia (Douglas Nungo and Edwin Agola) both on motorcycle and on foot surveys. The observations were conducted for between 2-3 hours per site between 08/07/2013 and 13/07/2013. This was followed by a quick whole area surveys on 24/07/2013 and 29/07/2013. Since no Blue Swallows were counted during these intensive surveys, we conducted another survey (between 26/08/2013 and 10/09/2013) covering the above sites to confirm if any individuals of the species could be counted. We also observed habitat vegetation and described its extensiveness in relation to streams and rivers they bordered.

Results and Discussion

No Blue Swallows were encountered at all surveyed sites throughout our surveys. This is despite conducting our studies during the presumed Blue Swallow wintering period of between April and September according to Bennun and Njoroge (1999). But Ndang'ang'a (2007) recorded a total of 21 Blue Swallows in Busia grasslands IBA within this period between 27th August and 5th September 2003 at some of the sites we surveyed in this study. We suggest that the absence of Blue Swallows during our surveys could be as a result of the increased anthropogenic activities on the habitats of the Blue Swallow. This is evident as a result of increasing agricultural activities especially from sugarcane farming that has led to conversion of formerly extensive moist grassland areas into sugarcane plantations.

We observed many insignificant patches of terrestrial grasslands with the sites heavily encroached on by especially sugar-cane and maize farming. Where patches of terrestrial grasslands were significantly observed, these were overgrazed and currently not submerged which would be ideal for the Blue Swallows. However, Sikoma at Sio River survey site had extensive moist/flood-prone terrestrial grassland running along the marshy stream. The other sites majorly lacked terrestrial grassland vegetation on riparian zones of the rivers and were otherwise observed to be constituted of wetland vegetation especially common reed and

papyrus vegetation with bushes extending along the lengths of the water-bodies ranging up to only 15 meters into the riparian zone where they were most extensive.

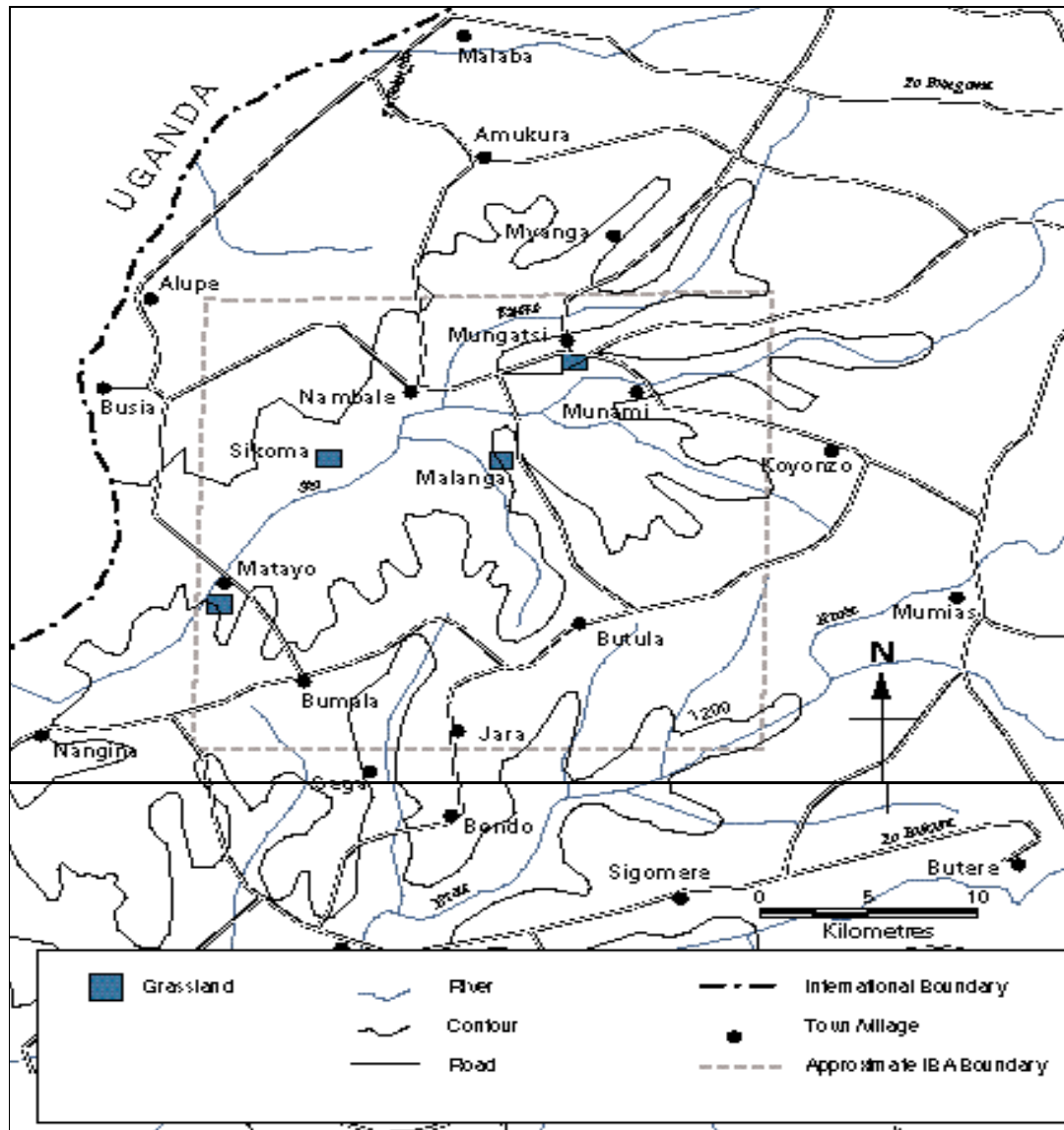


Fig. 1: Map of Busia Grasslands IBA, western Kenya. Source: Bennun and Njoroge (1999)



Fig. 2: Sio River at Sikoma, extensive riparian grassland in the study area.

Other Hirundines observed included the Lesser Striped Swallow, the Wire-tailed Swallow and Angola Swallow. This observation was different from what we observed during the Ruma National Park surveys that were conducted the previous year and where the Blue Swallows were observed alongside the following species: Blue Swallow were Barn Swallow (*Hirundo rustica*), Angola Swallow (*Hirundo angolensis*), Mosque Swallow (*Cecropis senegalensis*), Rufous-chested Swallow (*Cecropis semirufa*) Little Swift (*Apus affinis*), Nyanza Swift (*Apus niansae*) and Madagascar Bee-eaters (*Merops superciliosus*).



Fig. 3: Walatsi River is to the far right just after the 2 poles in the right mid-ground of the image; the riparian zone extending on much of the foreground of the image is overgrazed with a few scattered bushes. This is bordered with sugar-cane farm encroachment to the left and which extends further out into the horizon. This is the scenario for most sites.

Some of the key challenges facing the conservation including that of Blue Swallows in Busia Grasslands IBA include: very little involvement of local community in conservation; land ownership since the grassland patches are found on people's private lands; poor park accessibility due to poor access road network; and lack of local community sensitization on matters related to conservation.

Community participation and awareness campaigns

We conducted two community awareness activities at Busia Grasslands IBA. Through a collaborative approach we partnered with Ecofinder Kenya for an awareness campaign on the plight of the Blue Swallow in Busia. Outdoor theatre performance was conducted at Nambale market in Busia where messages on the need for conservation of Blue Swallow habitats were conveyed to the local communities (**Fig. 4**). During this exercise, we realized that puppetry and drama are a perfect method for mobilizing local communities for public forum discussions. This

day-long activity on 27/07/2013, a market day at Nambale market reached out to approximately 1000 individuals.



Fig. 4: Community mobilization during Blue Swallow awareness campaigns at Nambale in Busia. A member of Ecofinder Kenya (Mike Owiti, in puppet) performing puppetry activity during a community outreach exercise at Nambale market. We partnered with Ecofinder Kenya who is involved in conservation activities through drama and theatre to mobilize local people for a one day Blue Swallow species and grasslands habitat conservation awareness campaign at Nambale market.

We also reached out to the local community through Nature Busia (through their chairman, Mr. Douglas Nungo) who facilitated a community meeting that we organized into a focus group discussion to help understand the genesis of the rapid loss of grassland habitats in Busia (**Fig. 5**). Community members who participated in the exercise included mainly local land owners in Busia. What came out clearly from this discussion with the local community is the need to provide local sustainable livelihoods for the local people as a compensation for conservation of

local grasslands. This is true because the local people see the grasslands (that they legally own) as their only natural resource that they depend on entirely for support of their livelihoods.



Fig. 5: A section of members of local Busia community and land owners who participated in Blue Swallow awareness campaigns and focus group discussions. They included Maurice Ogoma (project co-ordinator, standing far right with cardboard), Wendo Ngaira (Ecofinder Kenya, standing far left back row) and Douglas Nungo (Nature Busia, standing no. seven from right).

Conclusion and Recommendation

The level of anthropogenic encroachment on the habitats of Blue Swallow is very high in Busia for much of the surveyed range. This may be the reason for the absence of the swallows during this time of the year when they have earlier been observed at the sites. Surveys at these sites and others should be planned to cover the entire migration period to establish the sites that may still be used by the Blue Swallows so that conservation actions can be undertaken to conserve the otherwise almost totally disappeared ideal habitat. Season-long monitoring should be conducted in Busia Grasslands IBA during the migration seasons for a couple of years to be able to effectively monitor the trends of the species. These include conducting counts for

the species, evaluation of their distributional patterns and assessment of possible intrinsic threats to the species at site. There is need to strengthen the capacity of already existing conservation related groups in Busia including Nature Busia to undertake and implement local conservation action.

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