

# BIRD RINGING PROGRAMME IN BAHRAIN 2005-2010

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*Editors Note: This is an abridged version of a very detailed article.*

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## Introduction

Individually marking birds is a scientific technique used throughout Europe and North America since the earliest years of the last century. Today, we now have hundreds of ringing schemes covering all the continents. The data gathered are still providing valuable information on movements, longevity, mortality and morphology of countless numbers of bird species globally.

Ringing activity in the GCC has been sporadic. While a number of projects have been initiated within the region, there has been a lack of consistency of effort. Ringing schemes have been registered in Iraq, Iran, Saudi Arabia, United Arab Emirates and Bahrain in the past (EURING 2010). However, with the exception of the Kingdom of Saudi Arabia, all schemes are now non operational. While many of the recoveries of ringed birds have been recorded in the Atlas of Breeding Birds of Arabia (ABBA) (Jennings, 2010), most of the original data is either held personally by the ringers or has been lost.

In 2004, the author, who is a trained ringer and trainer, under the British Trust for Ornithology (BTO) joint British and Irish ringing scheme, undertook to develop and operate a ringing programme in the Kingdom of Bahrain. The permission to use BTO rings was obtained in 2005 and the programme has been implemented without respite to date (2010). This paper outlines the aims and objectives, results and future direction of this ringing effort.

## Study area

The Kingdom of Bahrain is in the south western section of the Arabian Gulf between Qatar and Saudi Arabia, in a shallow section known as the Gulf of Salwa, Figure 1.

The northern section of the main island is richly supplied with sweet water from natural wells, treated sewage and desalination plants. Palm groves are common and locally produced fruit and vegetables are grown primarily in the north and west of this area. While there are some communal areas associated with the villages, most of the land is in private ownership and inaccessible to the author for ringing purposes. Consistent access to suitable ringing sites has been problematical.

## Materials and Methods

All ringing activity was conducted under the auspices of the Bahrain Natural History Society, a non-Governmental Society. The rings used in the project are issued through the British Trust for Ornithology Ringing Scheme, to whom all data is returned for storage and archiving.

Birds are caught using mist nets and traps. Two shelf and four shelf nets ranging in size from 6 meters to 18 meters are erected depending on terrain and habitat. Tape lures are used on occasion to support catching effort particularly of hirundines in autumn and pipits in winter. Tern pulli are ringed while still flightless.



Figure 1. Map of the Arabian Gulf countries.

## Results

Ringing commenced in Bahrain in October 2005. A total of 7000 birds were ringed between 2005 and July 2010. (Please see the online version of this article for further details regarding the total number of rings used, number of each species ringed)

## Discussion

Ring recovery data from the project are very limited to date. Only two rings from 7,000 rings fitted have been recovered. This is a 0.0003% recovery rate for the project as a whole or 0.001% for Lesser-crested terns and 0.003% for Bridled terns respectively. Recovery rates from similar sized terns in Europe are in the range 0.8 – 2.9% (Coiffait et al 2009), while species such as blackcaps *Sylvia atricapilla* and whitethroats *S. communis* have a recovery rate of about 1 bird per thousand ringed (Robinson et al 2009). If one excludes the terns ringed in Bahrain then the ringing of over 7,000 birds of 125 species has resulted in no recoveries to date.

Based on these facts it would seem that the results gathered from recovery data are a poor return for effort. However, two aspects of the project are contributing significantly to our understanding and knowledge of the avifauna in the Middle East region; 1) retrap data (catching a bird more than once), which gives specific information on site fidelity, duration of stay and migration strategies, and; 2) unique morphological and moult data on the birds once in the hand. This is particularly relevant in the case of the grey hypocolius which is an elusive and little known species outside the Middle East, Table 1.

Age and Sex	Number of birds
Juvenile Female	14
Adult female	22
Juvenile Male	10
Adult Male	18
Retrapped birds	4
<b>Total Caught</b>	<b>68</b>

Table 1: The number of age and sex of the Grey Hypocolius ringed in Bahrain 2007 - 2010

The increase in the annual total of birds ringed is primarily due to the training of a local ringer over this period, which has enabled additional independent ringing activity to take place. With one local ringer now fully qualified, this training is seen as an important development of the ringing project which will ensure the continuation of the project in the future.

The disparate nature of avian ringing studies in the Gulf region and the lack of centralization of these data have resulted in much knowledge being lost. The publication of the Arabian Breeding Bird Atlas (ABBA) in 2010 (Jennings 2010), has captured some of the findings from these studies, however, a more centralized approach to the collation, collection and storage of ringing data in the gulf region is needed. The establishment of a single, centralized ringing scheme would be a major step forward for ornithological research in the region into the future.