

The Status of the Lugger Falcon *Falco jugger* in Pakistan

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ABSTRACT

Lugger falcons *Falco jugger* are traditionally used as a decoy or *barak* to trap migratory Sakers *Falco cherrug* and Peregrines *Falco peregrinus*. Falcon trapping is an important source of income for people in the rural areas of Pakistan. However, trapping is seriously affecting Lugger populations, with an indicated 50% decrease over the last 10 years. An estimated 2,000 - 2,500 Luggers are trapped each season, with most of these birds dying after capture due to the poor conditions in which they are kept. Other factors affecting populations in Pakistan and northern India are reduced prey availability due to urbanisation and agricultural development including the use of pesticides.

In a joint conservation project the Falcon Foundation International (FFI) and the National Avian Research Centre (NARC), are tackling the factors threatening Luggers. A series of workshops to improve the care and management of captive falcons were organised for trappers in the rural areas of Punjab. Trappers were interviewed to reveal which are the most common health-related problems in trapped falcons. Field biologists are continuing to monitor and estimate the distribution and density of the Lugger population in Pakistan. Blood and feather samples are collected for pesticide, heavy metal analysis, and phylogenetic studies.

INTRODUCTION

The Lugger Falcon *Falco jugger* is distributed in Pakistan and east through India, Assam and Burma, and locally in southern Afghanistan and south-eastern Iran (Del Hoyo *et al*, 1994). It inhabits arid to semi-arid open country. In Pakistan, it is resident throughout the drier, less intensively cultivated tracts of the Indus plains, and is widely but thinly distributed in southern Baluchistan, Sindh, Punjab and the lower plains of the North West Frontier Province (Roberts, 1991). Its status in Pakistan is considered to be scarce (Roberts, 1991) with some reports indicating the Lugger population to have decreased by around 50% over the last 10 years (Fox *et al*, 1996). Surveys are currently being undertaken by the FFIP (Falcon Foundation International Pakistan) and NARC (National Avian Research Center) to determine the size of the population (Fox *et al*, 1996; Ahmed, 1996).

Population declines in Pakistan and northern India are thought to be due to a reduction in prey availability caused by urbanisation and agricultural development including the increased use of agricultural pesticides and widespread trapping (Del Hoyo *et al*, 1994; Fox *et al*, 1996; Ahmed, 1996). Falcon trapping and trading is a traditional and important source of income for people in the rural areas of Pakistan. Concern that mortality of trapped birds in captivity may contribute to the

decline of this species, has prompted FFIP and NARC to collect information on health of trapped birds and to initiate a series of workshops for trappers to improve the captive management of falcons. This paper describes the work carried out in 1997.

THE USE OF LUGGERS BY FALCON TRAPPERS IN PAKISTAN

In Pakistan, Lugger Falcons are trapped and are used as decoy birds to catch large falcons, such as Saker Falcons *Falco cherrug* and Peregrine Falcons *Falco peregrinus* which are sold to falconers in the Middle East. Fieldworkers from the FFIP estimate that between 2,000-2,500 Lugger Falcons are trapped in Pakistan each year (Fox *et al*, 1996; Ahmed, 1996). Most trapping takes place between June and August in the Fort Abbas and Bahawalpur districts of the Punjab, although some birds are trapped in Sindh.

After trapping, birds are maintained in captivity by local dealers for up to two months before being sold either to prominent falcon dealers in Karachi and Peshawar, or direct to the Saker trappers in other regions of Pakistan who use them until November when the trapping season is over.

A Lugger Falcon is prepared for its role as a decoy by having its eyelids “sealed” and attaching a small feather-noose bundle or “nigil” to its leg which acts as a prey item (Remple & Gross, 1993). When a large falcon is spotted, the “sealed” Lugger Falcon is thrown up into the air. Because it cannot see, it flies upwards in circles. To the larger falcon this presents an opportunity to rob the Lugger and, after it is ensnared, both birds will flutter to the ground. It is estimated that 90% of the Lugger Falcons die during the trapping season (Shahid Iqbal, *pers. comm.*). The remainder are either released or kept until the next season.

SOCIO-ECONOMIC IMPORTANCE OF FALCON TRAPPING TO RURAL COMMUNITIES

Trapping of falcons is an important source of income for rural communities in Pakistan. Data on the species, numbers and economic values of trapped falcons were obtained following interviews with trappers in the Yazman Mandi district of Punjab and are presented in Table 1. In 1996-97 season this trade was worth approximately 3.3 million rupees and with an estimated 350 people involved, this works out at Rs. 10,000 (\$250 US) per person. This trade is secretive, so it is difficult to obtain accurate data and Rashid (1997) considered that trappers may earn three times this amount (\$750 US). To put these figures into context, the Gross National Product per capita in Pakistan is estimated to be around \$420 US per year (Nevo, 1995) and therefore either estimate represents a significant source of income for both trappers and the local economy.

Table 1. Species and numbers of falcons trapped in the Yazman Mandi district of Punjab in 1996/97 and revenue earned by the sale of these birds.

Species	Numbers	Total cost (Pakistan Rupees)
Saker Falcon <i>Falco cherrug</i>	3 females, 4 males	2,200,000
Lugger Falcon <i>Falco jugger</i>	500-600	1,000,000
Peregrine Falcon <i>Falco peregrinus</i>	1 female, 3 males	40,000
White-eyed Buzzard <i>Butastur teesa</i>	50-300	30,000
Red-headed Merlin <i>Falco chiquera</i>	100	10,000
Kestrel <i>Falco tinnunculus</i>	100	10,000
Hobby <i>Falco subbuteo</i>	50	5,000
Total revenue		32,95,000

MORTALITY OF TRAPPED LUGGER FALCONS

Trappers and dealers in Multan, Peshawar, Fort Abbas and Yazman Mandi were interviewed to determine the common health problems in captured Lugger Falcons. Some trapping facilities were visited to observe the management of the birds and to examine falcons.

In general, birds were kept on unsuitable perching material, ranging from bricks to perches covered in cloth material, often heavily contaminated with faeces and food remains. It is not surprising that bumblefoot is frequently seen in birds kept for periods longer than a month. Birds were fitted with poor quality jesses, often string, which cause abrasive injuries. Luggers were often housed in large groups in brick outhouses and consequently traumatic injuries were a common problem. The presence of domestic poultry and pigeons exposes falcons to common avian viruses including pox and Newcastle disease. Although no serological surveys have yet been carried out to determine the exposure to viral diseases in Luggers in Pakistan, pathological and serological investigations have been undertaken in trapped Houbara Bustards *Chlamydotis undulata* maintained under similar captive conditions in Pakistan (Bailey *et al*, 1996; Bailey *et al*, 1997).

Trappers were unwilling to elaborate on the numbers of Luggers dying after trapping, and although most said only one or two died, one admitted to losing 150 of a group of 200 birds in 1996.

Concern for the health and welfare of trapped Lugger Falcons prompted FFIP to organise a series of workshops in February and December 1997, in the Yazman Mandi and Fort Abbas districts of Punjab, which were attended by approximately 200 trappers.

DISCUSSION

Neither NARC nor FFIP condone the trapping of wild falcons. But it is likely that in Pakistan this trade will continue for as long as there is a demand for wild-caught Saker and Peregrine Falcons for the Middle East market. The primary objective of these workshops was to promote better care and management of trapped Luggers by targeting the people directly involved in the trade and making them aware of the negative effect they may be having on the wild population. These workshops also represented an opportunity to gather information from the trappers and to promote a conservation message through literature, posters and videos. Improvements in the health and welfare of trapped birds may reduce some of the excessive mortality associated with this trade. This presents a step forward in bringing together conservationists and trappers to find solutions to this complex problem. Population surveys must continue in order to estimate distribution, density and productivity.

ACKNOWLEDGEMENTS

We thank Brigadier Humayun Malik, Lt Col Syed Mushtaq Hussain, Mr Shahid Iqbal, Dr Tom Bailey, the FFIP team and Mr Mohamed Al Bowardi from NARC for his continued interest and support in this work.

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