

Recovery of breeding Mallards *Anas platyrhynchos* in Kashmir, India

Fayaz Ahmad Ahanger*, G. Mustafa Shah & Ulfat Jan

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Fayaz Ahmad Ahanger, G. Mustafa Shah & Ulfat Jan: P. G. Department of Zoology, University of Kashmir, Srinagar 190006, Jammu & Kashmir, India.

Email: fayaz_sultan@yahoo.co.in*

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Abstract

Breeding Mallards *Anas platyrhynchos* are recovering in Kashmir. During the present study an attempt was made to locate mallard nests in five wetlands of Kashmir; the duck was found breeding in all these wetlands, nesting in tall and dense macrophyte vegetation, willow bushes, and hollows of old willows. The revival of mallards' breeding here could be attributed to some improvements in the condition of the wetlands over the last few years.

Introduction

Almost a century ago, Mallards *Anas platyrhynchos* bred in large numbers in Kashmir. Maj. Cock is quoted in Hume (1890),

'This species "breeds in large numbers on the Anchar[,] Dall and other lakes in Cashmere during the months of May and June; boat-loads of their eggs are brought to the Sirinugger bazaars for sale, together with the eggs of the Coot and White-eyed Duck."'

Referring to the above quote, Bates & Lowther (1952) concluded that, 'these depredations must have had disastrous repercussions, for only six years later Unwin (1895) writes in Sir Walter Lawrence's *Valley of Kashmir*: "... arrives in late October and leaves in March." ' Unwin found no evidence of the bird breeding extensively in Kashmir.

Destruction of wetland habitat in general, and at mallard nesting sites in particular, combined with illegal egg collection, and indiscriminate poaching, caused mallards to discontinue breeding in Kashmir, although they do overwinter here in huge numbers. Bates & Lowther (1952), in their attempt to record breeding of Mallard in Kashmir in 1920's could find only a few nests in all of Kashmir Valley. They also did not support Hume's view about the bird breeding extensively in Kashmir. Subsequent workers on waterfowl (Pandit & Fotedar 1982; Shah 1984; Shah & Qadri 1988; Qadri 1989; Jamwal 1991; Pandit 1991; Zargar & Naqash 1993; and Bacha 1996) could not find any trace of Mallard breeding here and the bird seemed to have abandoned Kashmir as a breeding ground.

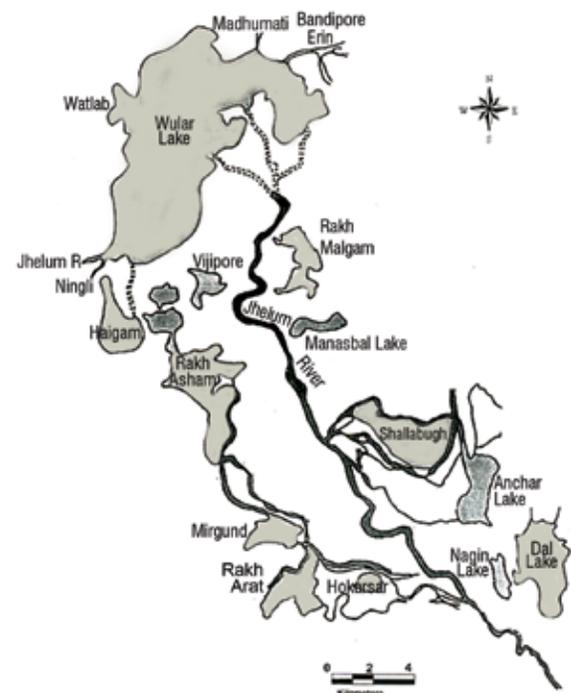
However, recently, breeding pairs have been observed again, albeit in small numbers. It is a good sign, but there is a need for research on various breeding parameters in order to facilitate an increase in the breeding population.

In the present study an attempt has been made to search for Mallard nests across five wetlands of Kashmir to assess its breeding status.

Study area

The present study was carried out across five important wetlands of Kashmir namely, Hokersar, Haigam, Shallabugh, Wular Lake,

and Anchar Lake. All these habitats support a rich biodiversity, and provide important habitats for migratory waterbirds within the Central Asian Flyway (Wetlands International 2007). Wular, and Hokersar, have already been declared Ramsar sites, owing to their biodiversity value. More recently, Wular, Hokersar, Haigam, and Shallabugh have been included in the network of Important Bird Areas (Islam & Rahmani 2004). Anchar Lake, though neither a Ramsar site nor an IBA, is, nevertheless, an extremely important bird habitat as several species of waterbirds breed in the lake in summer, besides forming a staging point for many avian winter visitors.



A map of wetland habitats of Kashmir valley

Methods

We searched these wetlands for Mallard nests in the breeding seasons of 2004 and 2005, to record the number of nests in each of these wetlands. In Anchar Lake, we searched for two more breeding seasons (2006 and 2007). Mallard nests were detected by flushing ducks by gently disturbing the patches of tall and dense macrophytic vegetation, and willow bushes (*Salix* spp.) (Klett *et al.* 1988). Hollows of old willows were also searched thoroughly to detect nests (Gec 1970). A nest was defined as any depression in which the bird laid one or more eggs (Miller & Johnson 1978).

Results & discussion

The number of nests found across these five wetlands of Kashmir, over the period of two/four years, is shown in Table. 1. Mallards were found to nest in three types of habitats, namely, tall and dense macrophytic vegetation, willow bushes, and hollows of old willows. No nest was recorded from Shallabugh in 2005. This is because of the collapse of a bund in July 2004 that resulted in the drainage of all the water from this wetland, consequently drying it completely. These dry conditions prevailed for almost 18 months i.e., until November 2005, when water supply to the wetland was restored. During this period, wetland birds were altogether absent from the wetland, while water dependent birds occurred in considerably reduced numbers. Consequently Mallards did not breed there during 2005.

Table 1 clearly shows that the numbers of breeding Mallards are increasing in the wetlands of Kashmir, with nests being recorded from all the study sites, unlike a decade ago, when none bred here.

Several possible reasons could be cited for this revival. There have been several improvements in the condition of wetlands over the past several years. Hokersar, Haigam, and Shallabugh wetlands are protected and managed by the Department of Wildlife Protection, J&K Government. Poaching in these reserves has been almost entirely eliminated. Anthropogenic interference in these reserves has been restricted, as people are not allowed to enter the wetlands without proper permission. Because of the restricted harvesting of macro-vegetation, patches of tall and dense macro-vegetation have become available to Mallards for nesting. Duebbert (1969), and Miller (1971) have also observed that for successful nesting waterfowl need a thick cover of vegetation. Besides, dense willow growth on the periphery of both, Haigam, and Shallabugh wetlands also offers nesting

sites to Mallard. Gec (1970) also reported Mallard nests in willows in large numbers. At Anchar Lake, large patches of tall and dense macro-vegetation are now present, where Mallards breed. In Wular Lake, waterbird poaching and other forms of anthropogenic interference (macrophyte harvesting, extraction of *Trapa natans*, fishing) are severe. Nevertheless, owing to its large area, the lake contains patches of macro-vegetation, and dense willow plantations at several sites, ideal for Mallards' nesting.

It is a good sign that the major wetlands of the Kashmir Valley have supported a small breeding population of Mallard in the last several years, although this is still only a fraction of the large wintering population.

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Table 1. Mallard nests recorded across five wetland habitats of Kashmir

Nesting site	Year	No. of nests found				
		Anchar*	Hokersar	Haigam	Wular	Shallabugh
Tall and dense macrophyte vegetation	2004	17	17	10	2	8
	2005	23	19	6	2	0
	2006	27	-	-	-	-
	2007	28	-	-	-	-
Willow bushes	2004	2	2	8	6	7
	2005	2	2	8	9	0
	2006	1	-	-	-	-
	2007	2	-	-	-	-
Hollows of old willows	2004	0	0	2	1	1
	2005	2	1	3	2	0
	2006	0	-	-	-	-
	2007	0	-	-	-	-
Total		104	41	37	22	16

* In the breeding season of 2006 and 2007 nest searching was done only in Anchar Lake.