

Moulting Facts of Tumbler Pigeons

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Breeding season of pigeons are February, March, April, and May. After hatching, the squab (28) days then juvenile (attract to mate) stage at the 38 days old, first primary feather is shown moulting. After moulting the ornamental and bright feathers of the male pigeon are helped for their pairing. When pigeons are in two months aged it changes its body feather which takes maximum ten days. The time of 2.5 months head feathers are fallen and it continues upto ten days. Out of 11 primaries starts fall from 38 to 137 days and completed by 5 months, 12 rectrices falls within 7 months and finally 12 secondaries falls by 9 months.

The moulting of birds depends on environmental parameters. Several works on moulting in birds were found by Humphrey and Parkes [1,2]. This phenomenon occurs in premature, adult, breeding, and non-breeding stage. The change of the feather once in a year is called basic plumage which found in Northern Fulmar, Red-tailed Hawk, Pigeon, Woodpecker, and Starling. Moulting is basically three types - facultative prealternate moult when changed feather is looked like the previous feather. Obligate prealternate moult that differ the colour of the second feather and thirdly ornamental moult shows the different structure of the feathers. Tail feathers are typically moulted centrifugally from the innermost to outermost pair [3]. Moulting is one kind of disease because this time birds get suffer a lot. If any bird does not show moulting, it loses their flight due to damage of the barb of the feathers. At the time of moulting, mixed feed in pigeons are good for this recovery. Primaries and secondaries are totally 22 (11+11) but this is not common. Most of the cases primaries are 10 and secondaries are 12. First moulting is very important for pairing which initiates breeding then due to continuous incubation the feathers of female pigeons are destroyed and if moulting is delayed it loses flying capability and infected by insects which is harmful for its life. Normally wing and tail feathers are changed with pair. Pigeon moulting is occurred once a year. When primaries starts fall and within this secondaries, rectrices and finally body feathers are changed gradually. Due to environmental and genetical causes this moulting happens.

Tumbler (flying and ground) pigeons: Observed Tumbler Pigeons when they were squab (28 days), juvenile (attract to mate), adult stage (breeding), and post-breeding stage upto 4 - 5 years of age. After that pigeons were not viable for proper breeding. Within this time, their offspring were set (new breeding pair) for observing this moulting. Very careful observation from squab to adult then upto 4 - 5 years, all records regarding moulting in various parts of the body were observed. In addition, the colour and structure of the feathers were under study.

Wing feathers: Primaries (11) and secondaries (12) feathers are called wing feather. Firstly, primaries are fallen gradually and then when 6th or 7th feather falls then starts secondaries. In both wing, pair-wise feathers are fallen. During the time of rearing when tray were cleaned those feathers were easily counted (Table 1 and 2).

Tail feathers: Rectrices (12 feathers) are started to fall during seven months. For the 12 feathers, from both sides pair-wise feather falls were observed. The equal size barb of the single shaft is the criterion of tail feather (Table 1 and 2). If we hold a pigeon in front of the head, we will count 12 feathers from left to right gradually. This is arranged in two groups. First 6 (1-6) then second 6 (7-12). The moulting aries,

Primaries (no.)	Days (avg)	Secondaries (no.)	Days (avg)	Rectrices (no.)	Days (avg)
1	38	1	145	1	100
2	43	2	150	2	102
3	48	3	155	3	104
4	51	4	158	4	113
5	59	5	166	5	116
6	67	6	174	6	148
7	72	7	179	7	150
8	78	8	181	8	159
9	100	9	203	9	162
10	122	10	225	10	194
11	137	11	240	11	196
-	-	12	255	12	205
	4 months, 5 days		8 months, 5 days		6 months, 8 days

Table 1: Wing and Tail feathers' moulting records in Tumbler Pigeons

Five portions were observed for the complete moulting (body, head, primaries, secondaries, and rectrices) in Tumbler Pigeon (Tumbler and Lotan). Result showed that body (neck, breast, abdomen, wing coverts) feathers were changed by new feathers within 2 months and secondaries took 9 months.

Month	Moulting area	Days
2	Body	53 - 63
2.5	Head	71 - 81
5	Primaries	38 - 137
7	Rectrices	100 - 205
9	Secondaries	145 - 255

Table 2: Showing the complete moulting in pigeons.

record of this rectrices were observed first 1, 12 number feathers, then 5 and 8 number, then 6 and 7, then 3 and 10, then 4 and 9, and finally 2 and 11 respectively.

Other feathers: Body feathers were changed within 53 days and continued 10 days whereas the head feathers started at their 71 days and completed by 10 days (Table 2 and Figure 1).

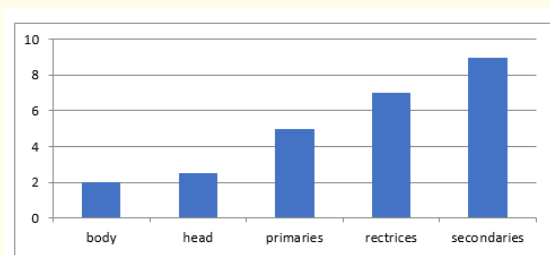


Figure 1: Month-wise moulting record.

Moulting records

Pigeons' primaries, secondaries, and rectrices are basically long feather. Within 4 - 8 months wing (primaries, secondaries) and tail feathers are replaced by new one. Though after changing of primaries, pigeon gets maturity and lays eggs. Pigeon rearers can identify mature pigeon by observing the new feathers of the wings primaries.

In nature, moulting is very common in most of the animals. In wild animals, it is not easily observed but in domestic animals mainly in chicken, duck, pigeon, dog, cat, cow, goat, sheep, and buffalo. Moulting in pigeon starts in May or June and continues till July or so. Month of September is the peak time of this moulting in pigeons. Normally, moulting occurs in wing first then tail and lastly body. September and October is the time of primaries moulting, October and November for body and December and January for the tail feathers. Humphrey and Parkes (1959, 1963) completed some observations on birds moulting in various angles.

Summary

In the time of moulting pigeons get hurt and they become sick. So this time, it is needed to provide extra protein by their diet. This time female pigeon needs special care. Due to long time care of its young, feathers of the female becomes more disarrange or damage than male. After moulting pigeons get their maturity, flying capability, and get the power for preventing insect-borne diseases.

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