Discovery, Vol. 53, No. 255, March 1, 2017 ANALYSIS

ISSN 2278–5469 EISSN 2278–5450

Discovery

Genetic analysis on tail feathers in Indian fantail pigeon

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Publication History
Received: 8 January 2017
Accepted: 7 February 2017
Published: 1 March 2017

Citation
Ashraful Kabir M. Genetic analysis on tail feathers in Indian fantail pigeon. *Discovery*, 2017, 53(255), 205-209

General Note
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ABSTRACT

Out of 50 squabs with 20 parents of White Indian Fantail fancy pigeons the tail feathers were counted the lowest 23 and highest 34 and this phenomenon is controlled by multiple allele. Within 50 squabs 10 individuals carried 32 tail feathers (20%) and the lowest 23, 24, 27, 33 and 35 (2%). Within the 10 experimental pairs of fantails only two cases 26x32 and 34x36 were different but others were the same tail feathers of male and female are 36, 32, 31, 34 and 26. Out of 10 pairs result suggests the equal and below tail feather than parents individuals were 3 (30%) (34x36, 31x31, 34x34), equal and above parents 1 (10%) (26x26), below male and

above female 3 (30%) (32x32, 32x32, 31x31), below parents 8 (80%) (36x36, 32x32, 32x32, 34x36, 31x31, 31x31, 34x34, 26x26) and equal and above female only 1 (10%) (26x26). Concluding remark need to point out more research on DNA analyses of 32x32 and 26x26 tail feathers of parents why the feathers are drastically decreased within the squabs.

Key words: Fantail pigeon; Fancy pigeon; Tail feathers; Rectrices.

1. INTRODUCTION

Fantail pigeon are of three types- Indian, English and American. Within these in Bangladesh Indian variety is common. Its tail feather or rectrices ranges from 22 to 36. Not only the number of feathers but well spreading is a good point on its demand. Aldrovandas first mentioned this pigeon and Willughby described its pros and cons for rearing. Previously it was called broad-tailed shaker and now sometimes peacock or turkey pigeon. Normally its tail feathers are not less than 28 at all. This erected tail is looks like fowl and neck is as swan. If this fantail pigeon carries long neck the tremulous and touch the head to its tail is remarkable. Sometimes its shorter neck not touching head to tail and tail feathers are arranged in double rows. Crosses between fantail and almond tumbler then produced coloured fantail. Caudal and neck muscle of this pigeon shows contraction and expansion so that tremule of the neck and up-down of tail happened. Besides, such type of tremules is found in Runt pigeon. Location of the cere in this pigeon is found at the base of beak. History said that at first this pigeon was available in India and after this in UK they produced English fantail, which is small in size, no crest and leg-feather and no tremules. It is showed always touch its head with tail. Finally in USA they produced American fantail. Same as UK breed and only differs it peak crest and large sized tail. All Indian fantails are normally white, large size, peak crest and grouse feathered legs. Smooth or wild type head and free of leg feather is rare in this Indian breed. Saddle, splashed and any coloured which sometimes called dundee fantail were common in India by crossing with various indigenous coloured pigeons. Depending on the number of tail feather, tail feather arrangements, body size and muffs are measuring points of nice fantail pigeon to the fancier (Lyell, 1981). From the renowned book 'Animals and plants under domestication' in 1868 by Darwin that in the genus *Columba* the tail feathers are 12 in number. At Calcutta Mr. Blyth counted 34 and in Madras by Sir W. Elliot 32. The body size of the colour varieties are higher than white one. Mr. Swinhoe counted 18-24 tail feathers in his time. In India this fantails were before 1600 and that time this was less improved variety. Willughby counted 28 tail feathers in 1677, Moore 36 in 1735 and MM, Boitard and Corbie 42 in 1824.

2. MATERIALS AND METHODS

In Indian fantail most of the tail feather or rectrices are thirty plus. Muffed are medium in length but crosses variety showed higher. Large size male and female normally produced male squab. Though maximum Indian fantails are white but black, tigered, spotted and tip of the tail black with white bodied are common in most fanciers. Occasionally it appears small in size and wild type head. In most breeds the tail feathers are overlapping and not well arranged. In Bangladesh the production of fantail is good. Rearers are provided more vitamins for its proper breeding. Diseases were few in this breed. Occasionally poxes were common but not fatal for proper caring. Expanded and huge tail feathers are caused for unsuccessful mating. Need to cut 3-4 tail feathers from both sides is a good method for breeding pair. If male is large and tail feathers are not well arranged mating is okay and eggs are being fertilized. Large size cages and daily two times wing flapping outside the cage is showed good breeding performance. This breed not shows parental fighting on eggs or squabs. Experimental all fantail pairs were vigorous during the research period. Tail feathers of the fantails squab were counted at the age of 31 days. That time all feathers were distinct for counting. Though after moulting, some extra feathers' were grown. That's why the average number of tail feathers was remarkable (Plate 1 2 and 3). Normally this research was only on the number of tail feathers of parents corresponding with its squab feather. Counted tail feathers were plotted in graphs for clear observation (Figure 1-10). For the average number of tail feathers, standard deviation and graphs were completed by the use of excel programme.



3. RESULTS AND DISCUSSION

Observing the number of the tail feathers of Indian fantails squab firstly collected information from different pigeon rearer. Due to proper observation maintained a sequence of the tail feathers either it is increasing or decreasing and this data were plotted in graphs for observing the real phenomena (Table 1 and 2) (Figure1). Out of 50 squabs the average highest number of tail feather was 34 and lowest 24 and total 13 different number of tail feather were found (Table 2). It is easily concluded that the inheritance of the number of tail feathers depend on multiple allele.

Table 1

Tail feathers of squab according to its parents

Pair no.	Male	Female	Squab1	Squab2	Squab3	Squab4	Squab5	Mean±SD
1	26	32	30	30	31	32	32	30.43±1.99
2	36	36	33	34	34	34	34	34.43±1.05
3	32	32	28	30	31	32	36	31.57±2.26
4	32	32	26	28	32	32	36	31.14±3.00
5	34	36	32	32	32	34	36	33.71±1.67
6	31	31	30	31	31	31	35	31.43±1.50
7	31	31	30	30	31	31	31	30.71±0.45
8	34	34	32	34	34	34	34	33.71±0.70
9	26	26	26	27	28	31	32	28±2.33
10	26	26	22	22	22	23	24	23.57±1.68

Table 2

Showing the different tail feathers with percentage

Rectrices	Total squab (50)	Squab rectrices (%)
22	3	6
23	1	2
24	1	2
26	2	4
27	1	2
28	3	6

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30	6	12
31	9	18
32	10	20
33	1	2
34	9	18
35	1	2
36	3	6

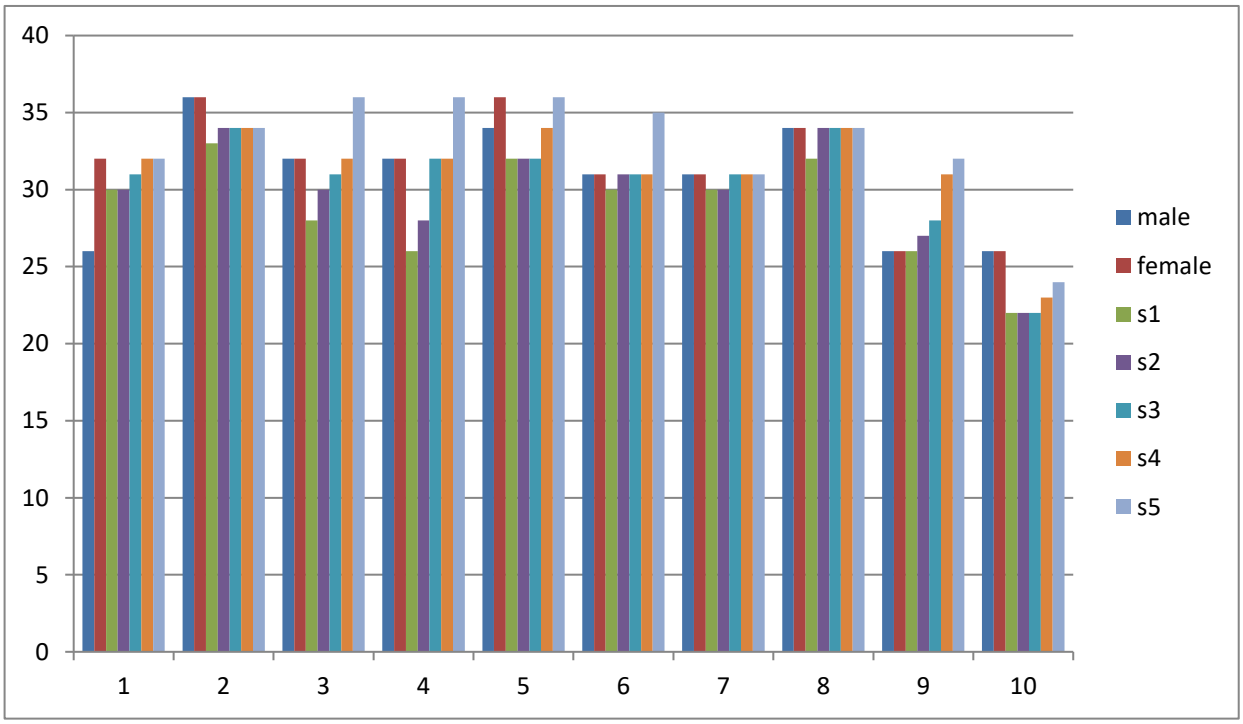

Figure 1
Ten pair of parents with its five squab

When white male crosses with black barb then produced white offspring and if black male with white female produced black squab. Here male color is dominant either this is white or black (Tegetmeier, 1868). In Scotland fantails show less tail feathers and in UK also produced huge tail feathered fantail pigeon. In Java they are trying to recognize a different Java fantail (McNeille, 1993). Silky fantails are common which from the mutation of the feather genes. The feathers in this breed not carry hooks so it can't fly. In Syria there Syrian fantail also found which is narrower tail feather and no crest and leg feather (Levi, 1981). In Thailand there Thai fantails available that are stout bodied and broad tailed. Feather number is not a factor; its shape and size, spreading, regularity of distribution is counted for good bird. Backcrosses increase tail feathers and important to explain how tail feathers are increased. In white colour of Fantail pigeon the tail feathers are higher than the colour breeds. Need to see the pedigree of all pigeons otherwise it may carry less number of tail feather genes (Morgan 1918). Out of 10 pairs result suggests that most of the tail feathers are below (80%) than parents.

3. DISCUSSION & CONCLUSION

In Bangladesh the demand of fantail pigeon is unbelievable and the climate is suitable for its breeding. Using medicine and special care were remarkable on it. If its rectrices are less in number and not well expanded its breeding is normal. Parental bondage and care of squab is fine than other fancy birds. Observation suggests that people like fantail for its expanded tail but it is true that feather number is not important. Huge feather in tail not arranged well and looks bad. Its nice self colour especially white, large size, tremules of neck, peak crest, muffed, arched neck, black eye and long body all are available common characteristics which found in Bangladesh in Indian fantail. For huge profit as commercial view and hobby and ornamental pigeon this reed is really different. All the time this is a running breed to the rearer. Either high or low price this is of course a good stock. Two major points were found in most farms that not more space for its breeding and lack of short flying/exercise. They rear it totally in intensive system. Huge medicines are helpful for its maximum chicks but for the pressure on its reproductive system simultaneously its next stability will be barren. Over production decreases its viability in future for preserving all good characteristics especially the tail feathers and arrangements. Need to rear in isolated way from the other breeds and should follow extra care on it. Fancy pigeon guide book and need to share the different ideas and experiences with other rearers about this breed.

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