



Tumbling Behaviour of Pigeons

By Dr. M. Ashraful Kabir

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Abstract - Neck muscles of the rolling pigeons are excited through shaking or auto or continuous excitation. Though the tumbling is backward; the neck muscle is a great factor for this. Flying tumbler pigeon rolls during flying; here flying velocity and height is a factor but parlor tumbler when fly its neck muscles not excited. Lateral shaking is responsible for tumbling not shakes of dorso-ventrally. Normally tumblers are two types that are tumbler and roller. Then tumbler divides house or parlor tumbler and flying tumbler. On the other hand roller or parlor rollers are two types which are autoroller and shaking/non shaking roller. In the tumbler pigeon family there are a lot of flying tumblers (fly at night, great height), tippler (fly 22 hours, first in UK in 1971) by the cross between tumbler and Cumulet (fly 10 hours) from France (sustained flight, rapid tumble, short flying tumbling, auto tumbler), highflier (fly 15 hours, elongated body) but only dasti (common) tumbles till tired, kalami (strike on the beak), havai (short tumble then fly), auto parlor tumblers (like epilepsy disease) excited any internal and external factors which induces chemical reaction for tumbling. Anticonvulsant drugs are effective on pigeons tumbling.

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I. INTRODUCTION

Roller and tumbler pigeons are basically two types. One is flying and other non flying which is roller. Again flying is classified into tumbler and rolling tumbler and then tumbler are three types, Tippler, highflier and house or parlor tumbler. Rollers can be flying and non flying. In case of flying roller there is Birmingham, Oriental and Galati and on the other hand non flying are two types parlor/house/auto and other shaking including dasti, kalami and havai roller pigeon (in India this is called ground tumbler of India) (Levi, 1965). Before 1590 to 1600 AD the spectacular somersault of pigeons first observed by Darwin and finally Levi described it within his books. From the references of David Gibbs there are 316 species of pigeons and doves in the world. From the Mesopotamia (500 BC) the pigeons' history has started and lastly Levi has improved to write. Both parlor and flying tumbler (couple tumble) pigeons' rolling (many flips at one time) behaviour comes from hundreds of thousands or ever millions and uncountable evolution of selective breeding (Darwin, 1897). Wild type which is dominant on non tumbling variety that's why when it crossed with tumbler pigeon the offspring are non tumbler. Under domestication from the wild rock to create varieties by Darwin in his writing 'Origin of Species'. The genetic

behavior of pigeons was mentioned by Gilbert 1947. Abnormal phenomena of neurone and cerebellum of the brain control its movement and balance during rolling. There were some differences between peripheral neurone and skeletal myoblast of this type of pigeon than others (Lange, 1952).

II. MATERIALS AND METHODS

Pigeon hole : Two types of experimental cage, one was 25x20x18 (Plate 1) and another 22x18x16 inches (Plate 2). Total numbers of lab pigeons were 9 pairs.

Number of pigeons and types : Moos-sulli (flying tumbler) (Plate 4) 3 pairs from Khulna, Lowtan (ground tumbler) (Plate 3) 3 pairs from Bogra and Crossed Indigenous (Plate 5) 3 pairs from Jessore, Bangladesh.

Feeding : The standard mixed feed corn-6 kgs, wheat-4 kgs, mustard-0.5 kg, black pea-2.5 kgs, broiler feed-1 kg, Japanese millet-0.5 kg and chick pea-0.5 kg for 15 kgs of food (Plate 6) were provided daily 2 times, morning 8:00 a.m. and evening 5:30 p.m.

Breeding program : All pigeons were in good heated for breeding. For inbreeding depression and sib mating the squab's size is decreasing day by day. The original parent carries heterozygous roller gene +/- and more or less pure line because only in one squab the tails of the tip were black. Rolling practice was started at the age of 30 days of squab. Blindfolding and any barrier are not the reason for non tumbling. The study period was from April 2008 to April 2012.

III. RESULTS

Normally there were not significant differences between shaking tumbler and auto or flying tumbler on its size and weight (Table 1). Tumbling and rolling depends on natural and artificial stimulus. Classification of roll types were huge, great height, slight, single, double and roll down for flying tumbler and for Lowtan huge and primarily one-two-three. Causes of rolling depend on genetics, muscular and stimulants. Peculiarities of this rolling of Lowtan pigeons were sometimes disagree to mate with male or fight to each other. Neck muscles are excited through shaking or auto or continuous excitation of the neck muscles. Flying tumbler pigeon rolls during flying; here initiation of flying is a factor but in shaking tumbler when fly its neck muscles not excited. Lateral shaking is responsible for tumbling not shakes of dorso-ventrally. The tumbling

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behaviour depends on maturity of the gene by continuous practice of the squab and within 35-40 days it shows better performance. Though this inherited characteristic but trial and error is must for better performance. During shaking (stimulus) of shaking tumbler, first they harden their neck to back position. An interesting characteristic is that for flying tumbler their eyes are open so that there is no collision in the sky but shaking tumbler their eyes are close so it can get any injury. For human recreation the pigeons are easily collected by rearer and selective breeding are developing day by day which exhibits a lot of genetic variations. By the thought of Lamarck the uses of the organs like neck muscles and tumbling it has gained dominancy for either homozygous (+/+) or herorogyzous (+/-) condition. Parlor and flying tumbler pigeons were from the same family because some flying tumbler tumbles at a very short height or on the hand. The tumbling behaviour depends on maturity of the gene (shows squab) which was on Z chromosome of the male and female and female birds only carry single Z. During tumbling wing and wing muscle is a great factor but not the feet. Same neck muscles of parlor and flying tumbler pigeons some are excited during fly (natural) and some are shaking/not shaking (artificial) or vice versa that is when you raise fly (artificial) and for irregular walking or accident on ground (natural) the tumble will come. Lowtans has less navigation power and it flies horizontally while flying tumbler has the highest navigation power and flies vertically (Wallraff, 2004).

IV. DISCUSSION

Anticonvulsant drugs are effective to stop of pigeons tumbling (Mowrer, 1940). The mode of rolling behavior of pigeons is similar to that of ataxia (Riddle, 1943). Inheritance of this ability was recorded by Darwin 1897. The physiological mechanism of rolling is unknown for its rapid somersaults which cause blur vision Mowrer, 1940. Pigeon fanciers and researchers alike use of somersault per time and duration of the rolls Entrikin and Erway, 1972. By the thought of Lamarck the uses of the organs like neck muscles and tumbling it has gained dominancy for either homozygous (+/+) or herorogyzous (+/-) condition. Tumbler pigeons' muscles are not myotonic and tumbling is unconditioned conditional reflex (Entrikin and Erway, 1972). Measurement of tail, wing, tarsus and beak is not comparable with the wild rock, tumbler and roller pigeon (Ali, 1981). So, it is clearly proved that this rolling or tumbling behaviour is genetical but for this practice is must.

V. CONCLUSION

The characteristics of pigeons' rolling or tumbling behavior are genetical which comes through

millions of thousands selective breeding. First observation of the human and then selective breeding shows this interesting ability. Variation of the rolling or tumbling is drastically happens within it and it is absolutely correct that this phenomena comes from artificial breeding through domestication. Sometimes this pigeon produces non tumbling variety which proves its non tumbling blue wild rock ancestor. The variation of the genes of the non tumbling and tumbling variety need to study to produce more peculiar species and to observe the genetic variation under some circumstances, and where and how this characteristic came which may attract to human and its stability though this is a morbid curiosity of the pigeons.

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Table 1 : Breeding performance of roller and tumbler pigeons

Mating type	No. of pairs	No. of squab	Male: Female	% of Performance	Performers type
Lowtan x Lowtan	3	48	44 : 4	95.83%	Primary rolls 1-3 After maturity rolls huge
Flying Tumbler x Flying Tumbler	3	48	29 : 19	93.75%	4 are excellent performer
Crossed Indigenous x Crossed Indigenous	3	48	24 : 24	0%	Sometimes side rolling



Plate 1



Plate 2



Plate 3



Plate 4



Plate 5



Plate 6