European Journal of Biology and Medical Science Research
Vol.6, No.1, pp.24-30, March 2018
Published by European Centre for Research Training and Development UK (www.eajournals.org)

UNEXPRESSED EMOTIONS IN DOVE

M. Ashraful Kabir

Department of Biology, Saidpur Cantonment Public College, Nilphamari, Bangladesh

ABSTRACT: *Unexpressed emotions in dove showed its body expression 13 (81.25%) like incubating, tender, aggressive, feeding, regurgitational, flying, courtship, nesting, mating, post-mating, frightened, resting, helpless where facial expression were only 3 (18.75%) out of 16 behaviours. Age-related characteristics were incubating, aggressive, regurgitational, courtship, nesting, mating, post-mating and shame (50%). Except incubating, feeding, regurgitational, courtship, nesting, mating and post-mating other behaviours were responsible for the environmental factors (56.25%) and genetical characteristics were 43.75%. Facial expressions are not seen due to lack of facial muscles. Only aggressive and mating behaviour are prominent by observe some phenotypic changes.*

KEYWORDS:

INTRODUCTION

Scientifically there is no difference between a pigeon and a dove. The word pigeon comes from Latin word *pipio* which is cheeping and dove from Norse origin in 14th century as *dova or douve* which is diving. In Egypt and Iran there were pigeon towers. Before 3000 years ago racing pigeons were used in flying as competition. In 1860 pigeons acted to carry news from Brussels to Aachen. Charles Otis Whitman hybridized several species of pigeons and sought to confirm his 'orthogenesis' which is a form of internal force that modified species (Mangile). Experimentation with pigeons and doves in the field of social behaviour is complicated (Masure and Allee 1934; Bennett 1939). Moreover, ringneck doves are domesticated for 2000 to 3000 years. It has no natural fear on predators. This dove is originated from African and Asian species *Streptopelia roseogrisea* (Michael 1989). Domesticated variety is larger than wild variety (Derek 1967). This dove has no homing ability and restricted vision in bright light. Dr Wilmer J Miller who is a renowned dove expert of Iowa State mentioned that this domestic variety is kept for thousands of year. This is bred in cages from biblical times and genetic research started since 1800s. Now this variety has 40 colour combinations. 38 colour variations have published by Professor Bob Lockhart in 1999.

Like pigeons, doves are not domesticated randomly through selection except Barbary and Diamond dove. Due to close connection with human all pigeons are changed through its colour and structure. It has gained a lot of peculiar characteristics (eg- tumbling/rolling, tremule, muff, tallness, erect tail, cere etc) but not in dove. Pigeons spend a lot of time in cleaning, preening and grooming. Hand reared birds showed a great social attachment to human. Fighting behaviour which is a great fault comes in pigeons and doves at the age two or more months. Birds' are covered by feathers and has no facial muscle so it can't express emotions clearly. In pigeons and doves aggressiveness with puffy feathers is remarkable expression. Normally all behaviour is expression but all expression is not behaviour. Behaviour is a common phenomena but expression is special and finally ends through emotion. Expression of inner feelings in pigeons and doves includes zoopsychology. French physician Duchenne suggested that expression comes from neurological problems and muscular disorders. There are three categories of the emotions- fear, anger and aggressiveness. In cat and dog these expressions

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078

are prominent. Emotion for pain is remarkable in most non-human animals. Side effect of some drugs on animals causes palpitation, tremor and flushed feelings of the face.

MATERIALS AND METHODS

Fancy items: For this study birds were tumbler pigeons and Eurasian Collared Dove (*Streptopelia risoria*). Inexperienced and young pigeons and doves with adults showed equal expression. By the presence of predator birds like kite, falcon and accipiter doves were shown frightened or escaping expression with short and repeat voice. Predator birds more available from noon to afternoon and for these alarming birds like drongo, crow, bulbul and blue-rock pigeons were available around the research cage.

Feeding and Nest materials: For taming and controlling the pigeon feed were supplied during the research period. Less feeding, one-time feeding and group feeding were maintained for observing various expressions in dove and pigeons. Mud pot with its base, bamboo basket, newspaper for the nest material, plastic eggs were used for observing its breeding performance.

Semi-intensive system: Everyday two times released those birds for enjoying its flying. The experimental cages were in size 24 x 24 x 36 and 18 x 16 x 12 inches. During rearing for observing such behaviours needed to ensure the room temperature 95^0-97^0 fahrenheit for proper metabolism (Danny 1995). After the age 30 days of squab needed to separate from its parent for avoiding on its attack. 18 inches cube cages were maintained but 24 inches was the ideal for a single pair breeding. Circular cage is good for observing behaviour because here birds not get chance to take any corners (Castoro and Guhl 1958).

RESULTS

Feeding: In very hungry condition this situations can be identified. After serving food 5-10 minutes pigeons and dove not look any sides. In group feeding very hungry birds sometime try to take food first (Plate 1). Female pigeon fights with the competition for the last few grains (Castoro and Guhl 1958).

Courtship: This time male is continuing excited to the female. If female is in heat it shows its acceptance to the male. Hormonal reaction and action plays a major functional role at this stage. Completely healthy pigeons show perfect courtship behaviour. In some breeds especially tumblers spend more time to the female during this expression than others. Huge fighting phenomena are found in lotan or kokah breeds at this stage (Plate 2). Male is always stimulated female (Lehrman 1964). The courtship and other behaviour patterns is pigeons have been discussed in the classic work of Whitman (1919), Craig (1918) and Gifford (1941).

Nesting: After maturation of male and female they try to collect sticks or straws for making nest (Plate 3).

Mating: After billing (oral sex) it ends by cloacal kiss when male take place on the female. This is very short time expression (Plate 4). If wildtype and white coloured collared dove are in pair it produced rosy and pied rosy offspring (Kabir 2014).

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078

Post-mating: This is really a real expression of the pigeons and dove. After mating short flying or cooing in both male and female and display wing spreading or puffy feathers are mentionable. This inner feeling is more enjoyable in both pre-adult and adult birds (Plate 5).

Incubating: This is one kind of peaceful stage of the pigeons. Mind satisfactory expression is found at this stage in both male and female. Adult or very experienced or successful parents are easily attached with this behaviour (Plate 6). Oestrogen hormone effects on most birds to make them incubate. The male testosterone hormone had no effect on this incubation behaviour (Lehrman 1964).

Tender: When male or female on the squab this expression observed. When squabs are medium in size its parents passed time by standing (Plate 7).

Shame: Unpaired/Newly paired heated female sometimes show this phenomenon. Slight cooing and very tame expression is found (Plate 8).

Regurgitational: After hatching this exciting expression was found. Till the self-feeding of the squab this expression is common in both parents. In suckling stage sometimes parents especially female not takes any food. If female laid eggs early with squab that time male is totally responsible till self-feeding of the squab. At the end of this behaviour for egg laying its mother shows aggressive behaviour to its own squabs (Plate 9). Prolactin is more effective on regurgitation (Lehrman 1964).

Flying: If we try to hold pigeons this expression is found. Landing after flying its breathing is high so that painful expression was found. This expression is very clear in tumblers and homer pigeons (Plate 10).

Frightened: This escaping or frightened expression shows by the presence of predator animals or introducing new birds in the loft. Other birds like chicken are same at this behaviour. The raptors voice is a good example for this. Mostly the young are shown this behaviour. Wild-rock pigeons or less tamed pigeons show this. Sometimes some diseases like twisted neck looks like this behaviour when you catch it (Plate 11).

Aggressive: This is mainly bodily expression of the pigeons during hold it or for protecting squab or eggs. The feathers of the birds and face erected at this behaviour. Very sharp beak of pigeons is serious in some cases to the farmer. Heat producing feed are sometimes cause for this matter. After egg laying, incubating and hatching both male and female shows this aggressive behaviour (Plate 12). Bennett (1940) and Diebschlag (1941) suggested that territoriality plays an important role in the establishment of a dominance order.

Observing: When any newcomers come to the cage or any flying birds it look like observing expression. This time birds slight bend its head. This observing face sometimes seems just thinking. During feeding and seeing other flying birds this expression happens. Very static or fixed eyes are shown very brilliant at this case (Plate 13). According to Carpenter (1933) pigeons will forget their mates after about 24 days.

Helpless: Very helpless body expression is found if we hold a pigeon. Healthy or powerful pigeons try to escape from our hand and if not identify properly with patience. Feather growing squabs are also very helpless (Plate 14).

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078

Illness: At this expression pigeons looks like just an ill person. Silent sitting and semi or close eyed resting is found. Any long and short experienced bird rearer can observe it. At the time of egg laying this expression is common (Plate 15).

Resting: After feeding or when female on egg or squab another individual show this expression. Sometimes the pigeons rest on its wing or lateral sitting it looks rest. In some cases pigeon stand only one leg at this stage. When one is in rest another use its beak to itching neck, head or around the eye to its partner. This is very sensational and lovely expression (Plate 16).

DISCUSSION

In ancient Greece there are a lot of theories on this expression and emotions of man and animals. The mammals hypothalamus of the brain controls such emotions. If there lesions in temporal region of the brain the animals show the tame and friendly behaviour and if losses then aggressiveness come. Feeding and fighting behaviour comes from these which are useful for its self-protection and self preservation. The brain, spinal cord, sense organs, muscle and glands are accessories for such kinds of behaviour and expression of the animals (Levinthal 2003). The brain of pigeons maintains central nervous system and spinal cord composed of huge neurons and the activity of synapse is mind activity. Moreover, when soul interacts with mind it expresses emotion (Jalal 2009). The olfactory lobe of forebrain of pigeons maintains very poor smell mechanism and the hindbrain connects with spinal cord which controls the muscular power of pigeons. This muscle is useful for long time flying behaviour of tumbler/highflyer pigeons. The cerebral hemisphere of the brain controls pigeon instinct behaviour, intelligence and emotions. Whereas the diencephalon which is a small rounded portion behind the cerebral hemisphere maintains cold, heat and pain of the pigeons (Kotpal 2000). The voices of pigeons come from different environmental and social sources (Craig 1908). Professor Whitman collected a lot of splendid pigeons from the different corners of the world. Repetition of the same vocal or non-vocal voices of the pigeons called sing and different output is call. Sometimes non-mating experienced female lay eggs without nest (Craig 1913). Report said that always male pigeons initiate to female for helping egg laying or incubate by its continuous voice and patience (Levi 1992). Limited space, lack of flight and social contact causes severe physical complexicity in birds (Mehen et al 2004). In captivity the process homeostasis may be lost and abnormal behaviour begins and it leads to abnormal physiology in birds (Echols 2010).

CONCLUSION

In case of feathered animals and lack of facial muscle mainly birds' expressions are more complicated to explain. During facial expression and foldness of the skin is important in mammals. Birds show only bodily expression in those cases. Puffing feather and enlargements of the pupils are common phenomena during expression. In birds expression is prominent in its aggressive, enjoy and breeding behaviour. Emotion in birds not well developed. Unlike mammals, birds' lack of facial muscle so it cannot show frown and smile like human. That's why observing body language of birds is very important. In human they show complete expression, in apes' partial expression and in other cases considers it just a bundle of behaviour.

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078

REFERENCES

Bennett MA. 1939. The social hierarchy in ring doves. Ecology 20: 337-357 pp.

Bennett MA. 1940. The social hierarchy in ring doves. II. The effect of treatment with testosterone propionate. Ecology 21: 148-165 pp.

Bob L. 1999. Ringneck dove colors. Second edition (Available through the American Dove Association). 22 pp.

Carpenter CR. 1933. Psychological studies of social behavior in Aves. Jour. Comp. Psychol., 16: 25-97 pp.

Castoro PL and Guhl AM. 1958. Pairing behavior of pigeons related to aggressiveness and territory. Dept. of Zoology, Kansas State College 70(1): 57-69.

Craig W. 1908. The voices of pigeons regarded as a means of social control. Am. Jour. Social., Vol. XIV 86-100 pp.

Craig W. 1913. The stimulation and inhibition of ovulation in birds. Journ. Anim. Behavior 3:215-221.

Craig W. 1918. Appetites and aversions as constituents of instincts. Biol. Bull., 34: 91-107 pp.

Danny B. 1995. Barbary dove *Streptopelia risoria*, A guide to pigeons, doves and quail: their management, care and breeding. South Tweeds Heads, Australia: Australian Bird Keeper. 122-125 pp.

Derek G. 1967. African collared dove (*Streptopelia roseogrisea*) pigeons and doves of the world. London: Trustee of the British Museum (Natural History), 131-132 pp.

Diebschlag E. 1941. Psychologische Beobachtungen iiber die Rangordnung bei der Haustaube. Zeitschr. j. Tierpsychol., 4: 173-187 pp.

Echols MS. Captive bird welfare and enrichment (part 1-4). AAVAC/UEPV Annual Conference Hobart. 2010., 129-200.

Gifford EW. 1941. Taxonomy and habits of pigeons. Auk 58: 239-245 pp.

Jalal SMA. 2009. Mystery of biological memory. Munni Prakashani, Dhaka, Bangladesh.

Kabir MA. 2014. Breeding biology of domesticated Eurasian Collared Dove (Columbidae) *Streptopelia decaocto* Frivaldszky 1838 in Saidpur, Bangladesh. Intl. J. of Environment 3(2): 49-55 pp.

Kotpal RL. 2000. Modern textbook of zoology vertebrates. Rastogi Publications, Meerut, India.

Lehrman DS. 1964. The reproductive behavior of ring doves. W. H. Freeman and Company, California.

Levi WM. 1992. The Pigeon. Levi Publishing Co., Inc., Sumter, S C.

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078

Levinthal CF. 2003. Introduction to physiological psychology. Prentice, Hall of India Private Limited, New Delhi- 110001.

Mangile R. Pigeons (http://mail.sumnercomm.net/~rmangile/pigeons/index.html

Masure RH. and Allee WC. 1934. The social order in flocks of the common chicken and pigeon. Auk 51: 306-327 pp.

Mehen CL et al. 2004. Environmental enrichment and development of cage stereotypy in Orange-winged Amazon parrots (*Amazona amazonica*). Developmental Psychology 44:209-218.

Michael WG. 1989. Ringneck dove, doves. Neptune City NJ: T. F. H. Publications. Inc., 76-80 pp.

Whitman CO. 1919. The behavior of pigeons. Post-humous works, ed. by HA Carr. Carnegie Inst. Wash., Publ. no. 257, 3: 1-161.

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078

APPENDIX

Plate 1. Feeding

Plate 2. Courtship

Plate 3. Nesting

Plate 4. Mating

Plate 5. Post-mating

Plate 6. Incubating

Plate 7. Tender

Plate 8. Shame

Plate 9. Regurgitational

Plate 10. Flying

Plate 11. Frightened

Plate 12. Aggressive

Plate 13. Observing

Plate 14. Helpless

Plate 15. Illness

Plate 16. Resting

Print ISSN: ISSN 2053-406X, Online ISSN: ISSN 2053-4078