

# Color Mutations in Rose-Ringed Parakeets, *Psittacula krameri* (Scopoli, 1769) (Aves: Psittaciformes)

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## ABSTRACT

Everybody likes colorful birds. In this sense, colorful parakeets are a major group of birds in Bangladesh. A pet shop and an aviary of Saidpur Upazila of Bangladesh played a significant role to complete this paper. The owner of that shop was very cordial to deliver information on this issue. Green rose-ringed parakeet (*Psittacula krameri*) is the wild bird of Bangladesh, and for wildlife law, this is not permitted to capture or cage them, so people are now conscious enough about this wild bird. Due to availability of other color mutants of rose-ringed parakeets (blue, purple, lutino, white) people collect these. Since their market price is bit higher but if breeders could produce quality bird, they can enhance the cage-bird breeding sector.

**Keywords:** Rose-Ringed Parakeet, Mutation, Pigments, Color, Pet Shop, Bangladesh.

## INTRODUCTION

Environmental genetics is fully responsible to make different colors of animals. In this case, various types of parrots and parakeets can be a reliable and noteworthy example. Color is nothing but the presence of pigments in different amounts [1]. Due to camouflage or for mating display color play a vital role in their community. In nature, edible natural fruits are responsible to create many colors, and from yellow to red is more significant color [2]. The presence of psittacofulvin makes red, yellow, and green patches of parrots [3]. The order Psittaciformes is more diverse to show their significant colors and in this case only the activity of pheomelanin is found in 26 species of parrots and parakeets. Blue plumage of parrots and parakeets is very common in rose-ringed parakeets which is responsible for the granule of melanin pigment. Lutino or yellow is happened due to the presence of psittacofulvin that is a recessive trait in rose-ringed parakeets and focused as a minor factor [4]. The objective of this short review is to understand the distribution of various pigments in rose-ringed parakeets.

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## MATERIALS AND METHODS

For this study, a significant pet shop of Saidpur Upazila (Tahmid Pakhi Ghor) of Bangladesh was the place where four common mutants of rose-ringed parakeets were available. Additionally, they have an aviary in their living place near the pet shop. Through a discussion with the owner (Ariful Islam) of this shop, this write-up got a complete information especially colorful rose-ringed parakeets with their acceptance and market value.

## RESULTS AND DISCUSSION

Color of plumage depends on the genetics and environment. This color is significant for displaying and protection of animals as well as birds. Most birds get carotenoid pigments

through their diet for yellow to red coloration [2]. The presence of eumelanin in black, gray, and brown patches, and psittacofulvin in red, yellow, and green plumage patches were detected [3]. Pheomelanin (dull-red, yellow, grayish-brown, greenish-brown) is found in 26 species of Psittaciformes order. Blue plumage of parrots and parakeets is the result of the granule of melanin pigment. Psittacofulvin is noted as a yellow pigment and loss of melanosome granule in the spongy layer of barb of feathers [2]. Lutino (yellow) is a recessive trait and observed as minor [4]. The formation of these altered colors is believed to be influenced by a contribution of pigments [1]. Out of 20 species of parrots and parakeets in Bangladesh, there were 4 parrots (short-tailed) and 16 parakeets (long-tailed) species [5].

**Table 1.** Plumage color of parakeets and their causes

Colors	Causes
Green	Mixing blue light with underlying yellow carotenoids
Purple	Ketolate carotenoid
Blue	Granule of melanin
Yellow	Flavanon/Carotene/Psittacofulvin
White	Loss of pigments



**Plate 1.** Five common color mutants in rose-ringed parakeets [6].

## CONCLUSIONS

Everybody likes colorful birds after the aquarium fishes in the country. In Bangladesh, we have lots of pet shops where colorful parakeets are available. Moreover, our animal markets having many pet animals with birds. Our youngsters are now engaged with cage or aviary birds. Macaws, lovebirds, cockatiels, budgerigars as well as parrots

and parakeets are showing with great numbers all over the country. This is a good business sector in the country [7, 8]. Green rose-ringed are not allowed to captivity, so exotic colorful parakeets in the country are fulfilling our hobby instead of local birds. People are now more conscious about the wildlife act. Due to availability of other color mutants of rose-ringed parakeet (blue, purple, lutino, white) they

need not to keep our local wild parakeets. If we make good production of these parakeets with quality colors, we could get more benefit from it.

#### ACKNOWLEDGEMENT

None.

#### CONFLICTS OF INTEREST

None declared.

#### REFERENCES

1. Parker AR. (2002). Fluorescence of yellow budgerigars. *Science*. 296(5568):655.
2. Prum RO, Torres R, Kovach C, Williamson S, Goodman SM. (1999). Coherent light scattering by nanostructured collagen arrays in the caruncles of the malagasy asities (Eurylaimidae: aves). *J Exp Biol*. 202(Pt 24):3507-3522.
3. de Oliveira Neves AC, Galván I, Van den Abeele D. (2020). Impairment of mixed melanin-based pigmentation in parrots. *J Exp Biol*. 223(Pt 12):jeb225912.
4. Martin T. (2002). A Guide to Colour Mutations & Genetics in Parrots. *AFA Watchbird*. 29(4):11.
5. Kabir MA. (2019). Inbreeding fact of exotic wild psittacids in Bangladesh. *J Ethol & Animal Sci*. 2(2):1-5.
6. Mutated rose-ringed parakeets. Available at: [https://www.researchgate.net/figure/Figure-Mutations-of-coat-colour-in-pet-Rose-ringed-Parakeets-Psittacula-krameri\\_fig7\\_310605106](https://www.researchgate.net/figure/Figure-Mutations-of-coat-colour-in-pet-Rose-ringed-Parakeets-Psittacula-krameri_fig7_310605106)
7. Kabir MA. (2014). Available exotic cage birds in Bangladesh. *Global journal of multidisciplinary and applied sciences*. 2(1):1-4.
8. Kabir A. (2021). Business of exotic cage birds in Bangladesh. *EC Veterinary Science*. 6(10):50-52.