



Sympatric Association in Species and Breeds of Pigeons

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Abstract

For understanding the ancestral behavior of pigeons and doves, this composition has an impact. Rock-pigeons with other pigeons are commonly observed in any railway station and ruined building. Due to genetic relations, wild rock-pigeon mix with local or indigenous pigeon, feral pigeon, and tumbler pigeon. They make pairs and produce viable offspring. Pigeon keepers of Bangladesh make pairs between local/rock-pigeon and fancy pigeons and get good fosters always.

Keywords: Pigeon; Species; Breed; Sympatry; Allopatry; Hybridization; Panmixis

Introduction

Rock-pigeons are cosmopolitan birds and mix with other pigeons like feral, domestic, and tumbler pigeons. Many domestic pigeons, highflyer pigeons, and tumblers go outside and associate with field or rock pigeons. Many tumbler pigeons are available in open areas of cities like railway stations, buildings, tree-holes, etc. Sometimes, the squab of rock-pigeon exhibits tumbler-type eye color, grouse-legged, and crest also. Feral pigeons are composed of a bewildering array of crossbreeds of domesticated strains. Wild rock, untrained, and domestic pigeons are all the same species and will readily interbred birds (<https://www.britannica.com/animal/feral-pigeon>) [1]. Feral pigeons (*Columba livia*) are the most successful avian colonies of the cities and are focused on the wide variation in plumage [2]. Feral pigeons are derived from domesticated dove-cote pigeons, lost homing and fancy styles [3]. Variations in plumage polymorphism in untrained variations have come from their domestic ancestry [2,4]. There are 60 hereditary factors found in feral pigeons. In this group, huge melanic plumages are available in a large town, and fewer blue-bars are in a small place [4]. Extreme urbanization of the northeastern megacity is likely facilitating gene flow in the feral pigeon

[5]. Feral pigeons are a common human commensal found in most cities [5]. Behavior, physical barriers, and landscape resistance to movement can also create genetic differences among groups of urban animals that range from weak [6-11] to strong [12-14]. Occasionally, rock-pigeons may come to any loft, and after making pair with other pigeons, produce viable offspring. It has panmictic behavior (random mating), so it possesses multivariate genes within its cells.

The golden fruit dove, whistling fruit dove, and orange fruit dove are allopatric, they do not share the same habitat in any location (Wikipedia-golden fruit dove). The ring-necked dove is distinguished from its locally sympatric sister species [15]. The red-moustached fruit dove (*Ptilinopus mercierii*) and white-capped fruit dove (*Ptilinopus dupetithouarsii*) both are sympatric doves that live within the same island, though red-moustached dove has been extinct recently [16]. The occurrence of sympatric speciation is a much-debated subject in evolutionary biology [17]. Evidence supporting this is scarce [18], and in many cases, an allopatric phase of differentiation, occurring at a very small scale (micro-allopatry), cannot be cured out. Most examples of putative sympatric speciation are from islands, where the isolation of populations can be easily

evaluated. For birds, the few possible cases are reviewed in Coyne and Price [19] and Grant and Grant [20]. Birds are usually considered highly mobile, and this could explain the rarity of sympatric speciation. The orange fruit dove group (*Chrysoena* spp.) is composed of species endemic to islands separated by sea distances (less than 100 km) [21]. Among insular birds, the fruit doves (*Ptilinopus* spp. and their close allies *Drepanoptila*, *Alectroenas*, and *Chrysoena*; Columbidae) represent one of the groups having species that occur sympatrically on the same island. With more than 50 species, fruit doves are distributed on both sides of the Wallace Line [21]. All fruit doves are arboreal and frugivorous, play an important role in seed dispersal of insular ecosystems [22-25]. The sympatric species have colonized the island independently and at different times [26]. Several expeditions observed the two species foraging in the same tree, suggesting they occupied the same habitats [27]. Then the two fruit dove populations became isolated, separated by more than 100 km: during that time of isolation their genomes accumulated mutations by drift and local adaptation and subsequently formed two distinct taxa [16]. The objective of this study is to observe the association of rock-pigeons and other pigeons on the street for understanding the gene flow in their young on plumage colors.

Materials and Methods

There are many rock pigeons in Sylhet Shahjalal Majar of Bangladesh, but they are put together with other tumblers and domestic breeds. As the railway stations of Bangladesh are protected, the numbers of rock pigeons were remarkable. In this regard, rail station of Poradah and Ishwardi, and Kushtia town were the target place for observing the rock-pigeons and other pigeons. Number of pigeons were remarkable and their plumage colors were varied in these places at the time of survey.

Results and Discussion

At the time of the amusements of pigeon flying, many times, pigeons escape from the loft, so feral, domestic, and tumbler pigeons go outside and mix with rock-pigeons but this is rare of coming rock-pigeons in the loft. Avian examples of 'hub-species' are found in common pheasant (*Phasianus colchicus*), mallard (*Anas platyrhynchos*), and European herring gull (*Larus argentatus*) [28]. Sometimes nest of the common myna (*Acridotherus tristis*) and house swift (*Apus affinis*) were found with the rock- pigeons, but no conflicts between them were observed [29]. Sometimes, these two birds live together with sparrows and sturnids [30]. Pigeons have a longer-range dispersal potential compared to other urban birds (eg. house sparrows) and commensals (eg. rats, bed bugs); (Table 1) however limited research has been conducted on population genetics in urban pigeons and on gene flow across continuous urban habitat for any species [11,31]. Examination of the crop contents of 32 feral rock doves and 48 rock-pigeons revealed that that 24(88%) of the feral rock doves fed on processed cereals, whereas all 48(100%) of the rock pigeons ate whole wheat [30]. Wood pigeons and racing homer pigeons could interbreed though they are one species and another breed (<https://www.youtube.com/watch?v=uBPYt8iCqNY>) [32]. Rock-pigeon, feral pigeon, and homer pigeon live together anywhere (https://www.youtube.com/watch?v=wwO_PqCwZSk) [33]. Sometimes, in forest adjacent loft, there are possibilities to come wood pigeon (<https://www.youtube.com/watch?v=yW0gaHGcdSg>) [34]. Forcibly, it is possible to give pair of a dove with a pigeon (<https://www.youtube.com/watch?v=7nky8-6kFjk>) [35]. Rock-pigeon and wood pigeon lives in the forest, they can make a pair (<https://www.youtube.com/watch?v=tjssXm6HH3k>) [36].

Birds	Status	Uniqueness
Wild rock-pigeon	Species	Very clever; Long beak; Beak and claw are black; Orange eyes with black pupil; Bald-headed; Clean-legged; Small sized; Blue-barred
Feral pigeon	Crossbreed	Somewhat rock-pigeons only differs with some white feathers
Domestic pigeon	Crossbreed	Variable colors; Sometimes crested and grouse-legged; Large than the rock-pigeon
Tumbler pigeon	Breed	Pearl eyed; Small sized; Short beak; Tumble; Small-headed and normally plain; Multiple colors; Mostly clean-legged

Table 1: Very common incidents with the rock-pigeons.

Conclusions

Rock-pigeons or other pigeons are social bird. Fancy pigeons are a fusion of rock-pigeons, feral, domestic, and tumbler pigeons. Since, rock-pigeons were the leading of all modern fancy pigeon breeds, so blue feather with black

bar, pearl eyes, short beak, multicolored plumages, the wild tendency (live on the top of the loft or on the trees), crest, muff, and learning behavior are available in all fancy pigeons of the world. For the panmictic behavior of rock-pigeons they easily mix with any domestic breeds and produce viable and different colored offspring that could be a research material

on plumage color genetics.

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35. Enjoying the sunny day (<https://www.youtube.com/watch?v=7nky8-6kFJk>)
36. Wood pigeon vs racing pigeon (<https://www.youtube.com/watch?v=tjssXm6HH3k>)

