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Fidelity Analysis among Mates of Different Breeds of *Columba livia*, District Kohat, KPK, Pakistan

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Abstract

C. livia (rock pigeons) are monogamous; they do not breed other than their partner. If they are isolated from their partner for long time or one of the partner died then they make a new pair. A total of 32 breeding pairs (64 Pigeons) were reared in an aviary situated at KDA, District Kohat. About 4 breeds of *C. livia* were included in this study. Behaviour of all birds was recorded to analyze to faithfulness for their mates in a pair. About 8/10(80.00%) Indian Fantails, 3/5(60.00%) English Pouters, 1/7(14.20%) Strasser pigeons and 10/10(100.00%) Racing Homers displayed courtship behavior, 1/10(10.00%) Male Racing homer and 1/10(10.00%). Male Indian Fantail mate with the foreigner female pigeon, showing the unfaithfulness for their partners. Not all the Female pigeon showed a higher rate of fidelity for their opposite partner. Male pigeons are more opportunistic to mate with another female.

Keywords: Fidelity, Breeds, *Columba livia*

Introduction

Columba livia belongs to family Columbidae and is also called rock pigeon or Rock dove [1]. Fain tails, Pouters and other Fancy pigeons are included in this family. There is a variety of breeds of fancy pigeons [2]. Literature advocates that a pair of *C. livia* has a life time relationship. Both are responsible for feeding and taking care of their squabs [3]. *C. livia* are monogamous, they do not breed other than their partner. If they are isolated from their partner for long time or one of the partners died then they make a new pair [4]. This behaviour is important to persist the care for their squabs [5]. Courtship display of male *Columba livia* consists of singing, dancing and trying to grab the female [6, 7].

Materials and Methods

A total of 32 breeding pairs (64 Pigeons) were reared in an aviary situated at KDA, District Kohat. About 4 breeds of *C. livia* were included in this study i.e. Indian Fantails (20 pairs), English Pouters (10 pairs), Strasser pigeons (14 pairs) and Racing Homers (20 pairs). Behaviour of all birds was recorded to analyze to faithfulness for their mates in a pair. Both of the genders from all breeds were tested by isolating from their partners and their exposure to a new young pigeon.

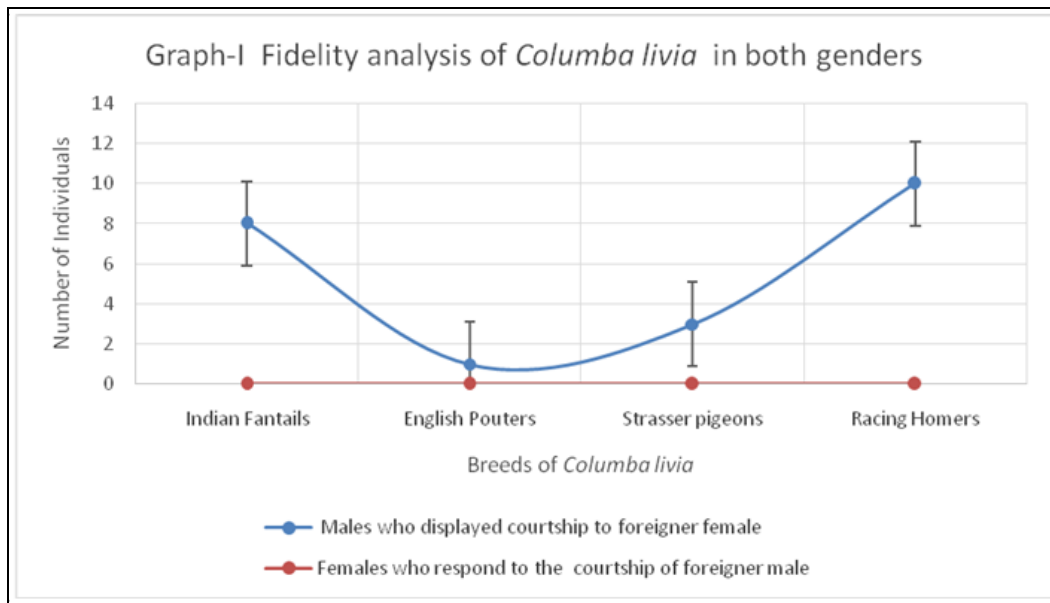
Results

Analysis of Monogamy: In current study an experiment was conducted to observe the Fidelity of male pigeons for their partners. New young females of all 4 breeds were introduced into a group. About 8/10(80.00%) Indian Fantails, 3/5(60.00%) English Pouters, 1/7(14.20%) Strasser pigeons and 10/10(100.00%) Racing Homers displayed courtship behavior for their partner. While in the same experiment when new young males of all 4 breeds were introduced into the group, they displayed courtship to all the females of the group but no female of any of the breed was observed to respond to the new male (Graph-I)

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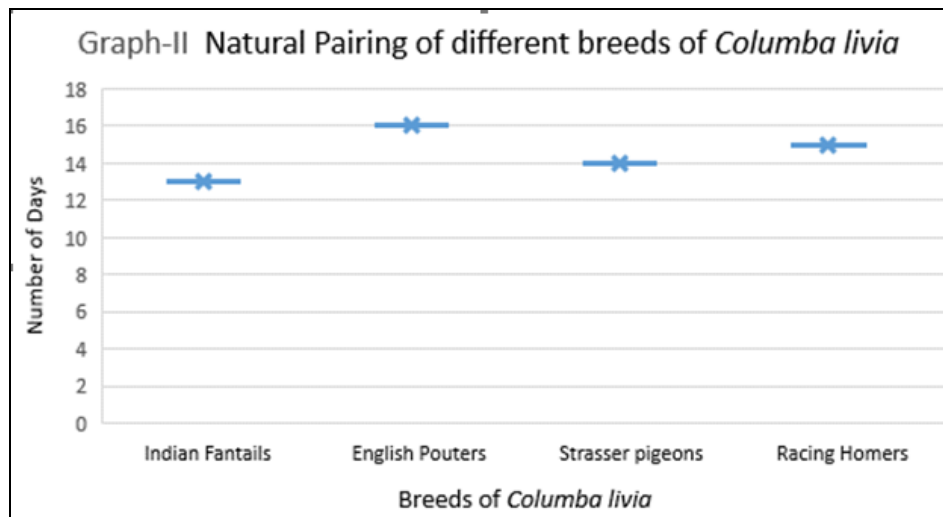
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In another experiment new young females of all 4 breeds were introduced in the group, it was observed that 1/10(10.00%) Male Racing homer and 1/10(10.00%) Male Indian Fantail showed courtship behaviour. Females responded to them within 14 days and both of the males started mating with the females of their respective breed. Male Indian Fantails again came back to its own partner and didn't mate with the new female again. While male Racing Homer didn't show any fidelity for his partner and was involved with both of the females (its own partner and the new one) for few days. When

both of its females laid eggs, the male Racing Homer left his first partner and started incubating eggs with the new young female. Eggs of her first partner were not hatched due to improper incubation by female alone.

Natural Pairing: A number of experiments were conducted to check the pair making of pigeons. It was observed that if a female is isolated from its pair, it takes 2-3 weeks to make a new pair with a novel male. While if a male is isolated from its partner, within a single day he is ready to mate with a new female (Graph-II)



Artificial Pairing: In another experiment, female pigeons were isolated from their partner and were enclosed with a new male within a wooden box. They fought for 3 days (with intervals), injured each other. This fight was finished during 4th day afterwards their pair was formed. On 5th day they behaved like a couple. English Pouters was found to be more bonded with their partner. As in an experiment one male English Pouters was isolated from its female partner and was enclosed with another female pouter. Both fought and injured one another, after 4th day when they were released they didn't behave like a couple as soon as the first female partner of English Pouters was placed in his nest, he again started making pair with her leaving the new female. It took 8 days to

isolate and make a new pair of English Pouters (Graph-III)

Pairing with other breeds: In an experiment 10 male Indian Fantails were enclosed with female Indian Fantails in pairs for 3 days, all of them (100%) made their pairs. 5 male Indian Fantail were enclosed with female English Pouter and no pairing (0.00%) occurred in this case. 2/7 (28.5%) male Indian Fantails made pair with Strasser pigeon. 10/10(100%) Indian Fantail made pairs with female Racing Homers. 5/5(100%) Male English Pouter made pairs within the members of same breeds. No English Pouter made pairs with Strasser pigeons. 1/10(10%) English Pouter paired with Racing Homer. 7/7(100%) Strasser pigeons made pairs within the members of

same breed. 5/7(71.4%) Strasser pigeon paired with Racing Homer while 10/10(100%) racing homers got paired with same breed (Table-I)

Table 1: Pairing of *C. livia* among different breeds

No.	Enclosure of breeds		Pairs made n (%)
	Male	Female	
1	Indian Fantail	Indian Fantail	10/10(100.00)
2	Indian Fantail	English Pouter	0/5(0.00)
3	Indian Fantail	Strasser pigeon	2/7(28.50)
4	Indian Fantail	Racing Homer	10/10(100.00)
5	English Pouter	English Pouter	5/5(100.00)
6	English Pouter	Strasser pigeon	0/7(0.00)
7	English Pouter	Racing Homer	1/10(10.00)
8	Strasser pigeon	Strasser pigeon	7/7(100.00)
9	Strasser pigeon	Racing Homer	5/7(71.4)
10	Racing Homer	Racing Homer	10/10(100)

Discussion

In the current study monogamy was observed within the few members of different breeds of *C. livia* as stated by Marchesan, 2002. This study reveals that despite of monogamous behaviour few pairs are not as much bonded as prerequisite in monogamy, so the relationship is weaker and soon it is wrecked. Worn-out monogamy is an unseen phenomenon in which one of the partners in a pair is not faithful to other. This study is somewhat parallel to Angelika,^[8] who suggested that pairs can be separated.

Conclusion

Not all the Female pigeon showed a higher rate of fidelity for their opposite partner. Male pigeons are more opportunistic to mate with another female. It takes about 4-8 days for different breeds to make a new pair artificially while 2-3 weeks for making a pair naturally. It was revealed that pigeons prefer to make pairs within the members of same breeds as different breeds are supposed to be evolutionary distant from each other. A low percentage of mating with other breeds was recorded in this study.

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