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Roosts and Roosting Habits of Rose-ringed Parakeet (*Psittacula Krameri*) in Central Punjab (Pakistan)

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Abstract
A study on roosts and roosting habits of Rose-ringed Parakeet (*Pasittacula krameri*) was carried out in different roosting sites of Central Punjab. Roosts, located close to the croplands and orchard farms, evinced different movement patterns of parakeets throughout the day. Parakeets spent nights in their roosts, where they gathered in large numbers at dusk and vacated them at dawn.

Keywords: Parakeet, Roosting, behaviour, Punjab

Introduction
The Rose-ringed Parakeet (*Psittacula krameri*) is a serious pest of both agricultural and horticultural practices in central punjab (Pakistan). It inflicts heavy losses to guava, dates, mangoes, citrus, grapes, pomegranates and mulberry, besides, food and oil-seed crops (Karim, 1987; Shafi *et al.*, 1986 and Ramzan and Toor, 1972). "Grow more tree" campaign in Pakistan, aimed at compensating for the dearth of trees, besides, improving the carbon dioxide sink base in the country would, therefore, favour the parakeet increasing the dimensions of its roosting and nesting niches (Beg, 1996). Parakeets frequently use the temporary diurnal roosts during the coarse of foraging and feeding (Dvir, 1985). They spend nights in communal roosts where they gather at dusk. Parakeets begin to arrive at their roosting sites an hour before the sunset in varying number of parties emitting loud call notes and leave their roosts at sunrise in search of food by again producing blaring calls. Parakeets use the groves of tall trees as roosts for their nocturnal rest. Roosts, therefore, seem to be the main area(s) of activities of parakeets. At hardly any instant parakeets depart from their roosts completely (Sarwar *et al.*, 1989). Present studies on behavioural patterns of parakeet were aimed at knowing characteristics of the roosting sites and their different behavioural displays within the roosts to formulate a strategy for inhibiting their population in cultivations.

Materials and Methods
Roosts and roosting habits of Rose-ringed Parakeet (*Psittacula krameri*) were studied for about one year (May, 1996 to April, 1997) in the canal side plantations and orchard farmlands of Central Punjab. Roosts were ascertained in relation to species of trees, as assessed by their circumference "DBH" (diameter at breast height) and height in all roosting or perching sites. Different movement patterns of Rose-ringed Parakeet, such as flying from tree to tree, sitting on the branches, females guarding their cavities (nest-sites), males bringing food items, tucked within their bills for the young parakeets, at the "brooding stage" (young depend on parents to feed them), emittance of loud call notes at the approach of any danger (appearance of a raptor bird, kite or a vulture), foraging (flight for locating the food) and courtship were noted down. Availability of cavities per tree and distance of food source for every roost was also determined. During the field visits to the canal side plantations, about one hour was spent at a specific roost to record these observations. A method of direct counting and the field binoculars (7x50mm) was employed for a clear view. A record was maintained for the number of cavities, their average per tree, mean standard error, mean standard deviation, and the height of trees, their mean standard errors, and mean standard deviation was recorded.

Results and Discussion
This study was carried out in canal side cultivations of Central Punjab from May, 1996 through April, 1997. During this study, several trees were observed with a varying number of cavities, as explained in Table 1.

As the Table 1 describes, maximum number of trees examined (395) in this study were those of *Dalbergia sisso* (shisham), followed by (205) of *Accacia arabica* (babul), and similarly other tree species. Maximum number of cavities observed were (666) in the Salmalia malabarica (simbel), followed by (204) in *Arjuna terminalia* (arjan). Rwse-ringed Parakeet is a cavity nesting bird and its cavities range in size from 8 to 10 cms. Function of these cavities is to assist in breeding. Breeding season of this parrot extends from February to May (Whistler, 1986). Function of cavities, serving as nests, is to assist in breeding of the parakeet. Most of the parakeets use the tree hollows as the nest-sites but in a few cases holes found in old-buildings also are used as cavities (Roberts, 1991).

The parakeet is a serious pest of oil-seed crops, besides, the orchard fruits as it destroys them in large roportions (Ali and Ripley, 1969; Ali *et al.*, 1981, Karim, 1987; Ramzan and

Table 1: Distribution of nest cavities in trees observed in canal-side plantations

Tree spp.	No. of trees	No. of cavities	Cavities per tree	Circumf. (dbh, cm)	SE	SD	Height trees (m)	SE	SD
Dalb. sisso	395	55	0.13	12	0.06	1.17	60	0.08	1.57
Arjuna terminal	27	204	7.55	12	0.13	0.67	80	0.21	1.09
Morus alba	37	4	0.01	5	0.20	1.22	30	0.22	1.38
Salmal.malabr.	74	666	9.00	17	0.17	1.53	100	0.18	1.59
Ficus bengal.	8	8	1.00	20	0.18	0.53	35	0.20	0.53
Accacia arabica	205	7	0.03	5	0.14	2.01	75	0.13	1.14
Ficus religosa	23	24	1.04	14	0.35	1.17	20	0.00	0.00
Eucalyptus spp.	40	44	1.10	16	0.16	1.02	75	0.33	2.12
Magnifera indica	32	14	0.43	8	0.16	0.93	45	0.22	1.25
Psidium guajava	40	0	0.00	5	0.20	1.27	20	0.30	1.95
Eugenea jambolina	30	25	0.83	9	0.16	1.29	60	0.17	1.35

Toor, 1972; Shafi *et al.*, 1995 and Shakoor, 1997). Roosts, therefore, occupy a key position n the life of the bird, as all its activities generate from the presence of roosting sites. Parakeets frequently use large roosts located near the croplands and orchard farmlands so that they spend a lesser time in for aging and to economize their energy-budget (Dvir, 1985). Parakeets frequently use the groves of tall trees such as the simbel (*Samalia malabarica*) as their preferred roosts, Which also seemed to be main center of activities of the bird and hardly at any instance, vacated their roosts completely (Sarwar *et al.*, 1989).

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