



Parakeet diversity in the Shekhawati region of Rajasthan

Sunita Singh¹, Digvijay Singh Shekhawat² and Prakash Chandra Acharya³

¹Department of Zoology, S. K. Govt. College, Sikar (Rajasthan)

^{2,3} Department of Zoology, Dungar Govt. College, Bikaner (Rajasthan)

Abstract

*Parakeets are colourful, small to medium sized parrot with long tapered tail feathers rather than having the stockier bodies and more square-shaped tails found on larger parrots. There are many different types of parakeet species found in each region of the world. The study was carried out from the month of July 2012 to June 2014 in a semi-arid zone, which is located at the north eastern part of Rajasthan state, commonly called as the Shekhawati region. Different types of parakeets were observed by applying direct counting method using the aid of a binocular and video camera. This region is rich in parakeet population and three kinds of parakeet species namely Rose-ringed parakeet (*Psittacula krameri*), Alexandrine parakeet (*Psittacula eupatria*) and Plum-headed parakeet (*Psittacula cyanocephala*) are prevalent here. It was observed that out of total counted parakeets, 94.99% were the rose-ringed parakeets and 04.28% were Alexandrine parakeets and only 00.71% were Plum-headed parakeets. So, it was concluded that the rose-ringed parakeet is the most common and dominant avian species in both rural and urban habitat. The least visible parakeet species is Alexandrine parakeet, which inhabits only in agricultural or rural areas. Plum-headed parakeet was seen only in urban areas in very few numbers. This paper will increase the knowledge about lesser known diversity of these colourful birds in the Shekhawati region of Rajasthan.*

Keywords- Parrot, Diversity, Shekhawati region, Rose-ringed parakeet, Alexandrine parakeet and Plum-headed parakeet.

I. Introduction

Parakeets belong to the parrot family Psittacidae and order Psittaciformes (hook-billed birds). Parakeet is a term that refers to a small to medium sized parrot. They range in size from the smaller ones being only about 7" (18cm), while the largest reach upto 18" (45cm) in length. One of the distinguishing characteristics of this group of parrots is the tail. They have long, tapered tail feathers which are about half of their body length. Parakeets are primary consumers and feed on nutritious parts of the plants as fruits, flowers and seeds (Khan and Hussain, 1990). The most of the fruit /buds eaten by parakeets are highly seasonal (Fratelli, F., 2014). They are the wasteful feeders as they frequently drop or discard the partially consumed food items (Ali et al, 1982).

Parakeets in the wild live in many diverse habitats. There are hundreds of different types of parakeets found in a wide variety of sizes and colours. Rose-ringed parakeets' occurrence is strictly connected with human density (Hugo and Van Rensburg, 2009) and with urban parks (Strubbe and Matthysen, 2009 b). Parakeets are found all around the world. There are many different types of parakeet species found in each region, though the largest diversity is found in Australia and in the New World of Central and South America. Australia has over 30 species of some of the most remarkable coloured parakeets. There are over 27 species found in the Americas, with numerous subspecies as well.

Exotic parakeets are found throughout Australia, Asia, tropical and subtropic regions of Africa, Central and South America (Forshaw, 2010). In Italy a parakeet species is widespread all over (Brichetti and Fracasso, 2006, Mori et al. 2013). The various parakeet types are American parakeet, Australasian parakeet, Asian parakeet and African parakeet. This paper will provide the

information on the diversity of parakeets and will also increase knowledge of lesser known colourful parakeet species in this region.

II. Materials And Methods

Shekhawati region is a large area in north-eastern part of Rajasthan state situated entirely within the triangle formed by Delhi-Bikaner-Jaipur (figure-1). From the administrative and geographical point of view Shekhawati is limited to Jhunjhunu and Sikar districts only. Its area is 13,784 km². The climate of the area is mainly semi-arid.

The study was conducted over a period of 24 months ranging from July 2012 to June 2014. The first phase of study was conducted from July 2012 to June 2013 in an agricultural habitat of parakeets situated at Jhunjhunu district. The duration of second phase of the study was from July 2013 to June 2014 and this study was done in urban area of Sikar district. A total of five observation sites were identified therein (figure-2). The Jhunjhunu district included three observation sites, (i) Jakharon ki dhani (a rural sub area) (ii) Jakharon ki dhani (a cropland field) (iii) Islampur (an orchard of *Ber* fruit), whereas the Sikar district included two observation sites (iv) Maru Park (a garden/park and its adjoining area) and (v) Road side Plantation area. The Shekhawati region was visited personally and the different types of parakeets were visually observed by applying direct counting method with the help of a binocular (Nicon, 10x50) and DSLR camera (Canon, Power Shot SX40HS). A record was maintained for the number of parakeets from each observation sites.

III. Results and Discussion

All collected data about population of parakeets are summarised in table:1 and are also shown in figures:3 & 4 too. On analysing the table and figures, the first thing was found that three types of parakeet species are prevalent in this region. The three species are namely rose-ringed parakeet (*Psittacula krameri*), Alexandrine parakeet (*Psittacula eupatria*) and Plum-headed parakeet (*Psittacula cyanocephala*). Detailed results about these species are as follows:

Rose-ringed Parakeet (*Psittacula krameri*):- It is a widespread resident in India. Identification features from Alexandrine parakeet by smaller size, lack of maroon shoulder patch and smaller bill, dark blue green dorsal aspect of tail is a further feature. Male has black chin stripe joining pink hind collar, females lack chin stripe and collar and are all green (plates:1, 2 & 3). They give a shrill, loud and variable kee-ah, higher pitched and less guttural than Alexandrine's. It has enormous communal roosts in trees and habitats of it are deciduous forest, wooded and cultivation area (Grimmett et al. 2013).

On analysing the table:1 and figure:3&4, it was revealed that this species inhabits abundantly throughout this region. It was also found that 94.99% of total recorded parakeet population is rose-ringed parakeets. They were recorded from all observation sites of the study. It is a non migratory bird and often closely associated with human habitats and cultivation areas. These parakeets are found in large numbers in human habitat than non human habitat. Brooks et al. (1988) described as they are extraordinarily plentiful around larger cities such as Kanpur and New Delhi. Newson et al. (2011) also found no negative interactions of rose-ringed parakeet with native species in England.

Alexandrine Parakeet (*Psittacula eupatria*):- This was named after Alexander, the Great. The differing features from rose-ringed parakeet are combination of larger size, maroon shoulder patch and massive bill (plates: 4, 5 & 6). Deeper and more raucous call, slower and more laboured flight are additional pointers. Male has black chin stripe, joining pink and turquoise hind collar, both of which are lacking on female and immature. Immature bird has less distinct maroon shoulder patch and shorter tail. Give a loud guttural 'kee-ak' or 'kee-ah', deeper and more raucous call than that of rose-ringed. Flocks in large numbers, Flies with deliberate wing beats accompanied by a harsh loud scream and live in deciduous forest and well wooded area (R. Grimmett, C Inskipp and T. Inskipp, 2013). Local names of this species in the Shekhawati region are 'Hiraman tota' and 'Hariyal tota'. Hiranman tota has also long entered in the folk tales of Rajasthani social culture.

During the study, it was examined that this species of parakeet shared or commonly inhabited with the rose-ringed parakeet's habitat like orchards and cultivation area. On analysing the table:1 and figure:3&4, it is revealed that *Psittacula eupatria* is distributed in a very smaller population (about 04.28% of total recorded population) than *Psittacula krameri* (94.99%) in the Shekhawati region. It was also observed that in urban areas, these parakeets were not visible. Salim Ali (2002) reported that breeding season of it is chiefly December to April which is shortly before comparatively rose-ringed parakeets.

Plum-headed parakeet (*Psittacula cyanocephala*):- The local name of it is 'Tuiya tota' in the study area. It is distinguished from rose-ringed parakeet by smaller size, bluish red head and maroon shoulder patches. In female, head greyer with a bright yellow collar around neck and no shoulder patches (plates:7, 8 & 9). It prefers better wooded habitat than rose-ringed parakeets. Flight swift and call as 'tooi-tooi'. Breeding season is chiefly between January to May according to Salim Ali (2002). Grimmett et al (2013) described that It is widespread resident, unrecorded in North West and part of North East subcontinent. During the study, it was rarely visible only in a specific time period of the year (January to mid May) and lesser known for common people. For it, only 00.71% of the total parakeet population was recorded. On analysing the table: 1 and figure:3 & 4, it was found that this species inhabits only in urban well wooded areas.

Maha Singh (2013) has mentioned that *Psittacula cyanocephala* is a winter migrant bird. Plum headed parakeet feed in pairs or in small flocks. They feed on grains, fruits and fleshy petals of flowers. It makes local movements, driven mainly by the availability of the fruit and blossoms, making up its diet. The species is quite a resident however may moves locally according to the availability of food. So it was revealed that it is a locally winter migratory parakeet, seen only in the winter season and it inhabits only in forest and well wooded areas (non human habitat).

IV. Conclusion

There are only three variety of parakeets found in the Shekhawati region of Rajasthan. Rose-ringed parakeets are very common, dominant and most diverse covering the complete study area throughout the year. Alexandrine parakeets are localized in agricultural lands, visible annually but are few in numbers. The least seen and lesser known species was plum-headed parakeet inhabiting a particular season in urban areas.

Bibliography

- [1] Ali M. H., Rao B. H. L., Rao M. A. and Ali P. S.. 1982. Bird damage to maize. J. Bomb. Nat. Hist. Soc., 79: 201-204.
- [2] Ali, S. 2002. The book of Indian birds. Bomb. Nat. Hist. Soc., Oxford uni. Press, Revised by J.C.Daniel 13th edi.:164-165.
- [3] Bricchetti P. & Fracasso G., 2006. Ornitologia Italiana. Vol.3- Stercorariidae-Caprimulgidae. Identificazione, distribuzione, consistenze e movimenti degli uccelli italiani. A. Perdisa Ed., Bologna.
- [4] Brooks, J. E., Hussain, I. and Ahmad, E., 1988. A partial research bibliography of the Rose-ringed parakeet (*Psittacula krameri*) Technical report No. 15: 1-16.
- [5] Forshaw J. M., 2010. Parrots of the World. Princeton University Press, Princeton.
- [6] Fraticelli F., 2014. The Rose-ringed parakeet (*Psittacula krameri*) in a urban park: Demographic trend, inter-specific relationships and feeding preferences (Rome, Central Italy). Avocetta 38: 23-28(2014).
- [7] Grimmett, R., Inskipp C. and Inskipp, T., 2013. Birds of the Indian Subcontinent, Oxford University Press, 2nd edi.: 200-202.
- [8] Hugo, S. & Van Rensburg B. J., 2009. Alien and native birds in South Africa: patterns, processes and conservation. Biol. Invasions 11: 2291-2302.
- [9] Khan, A. A. & Hussain, I., 1990. Parakeet damage to standing crop in Pakistan Sarhad J. Agri., 6(2): 185-191.
- [10] Mori E., Di Febbraro M., Foresta M., Melis P., Romanazzi E., Notari A, & Boggiano F., 2013. Assessment of the current distribution of free-living parrots and parakeets (Aves:Psittaciformes) in Italy: a synthesis of published data and new records. Ital. J. Zool. 80: 158-167.
- [11] Newson S. E., Johnston A., Parrott D. & Leech, D. I., 2011. Evaluating the population-level impact of an invasive species, Ring-necked parakeet (*Psittacula krameri*), on native avifauna. Ibis 153: 509-516.
- [12] Singh, M., 2013. Avian diversity and its socio-ecological aspects in & around Sikar (Rajasthan). A Ph.D. Thesis, M. G. S. University, Bikaner (Rajasthan). Pp-51.

- [13] Strubbe, D. & Matthysen, E., 2009b. Predicting the potential distribution of invasive Ring-necked parakeet (*Psittacula krameri*) in northern Belgium using an ecological niche modelling approach. *Biol.Invasions* 11: 497-513.

Table :- 1 Depicting results about parakeet population of the study area

Observation Sites	Number of Parakeets		
	Rose-Ringed Parakeet	Alaxendrine Parakeet	Plum-Headed Parakeet
(i)Jakharon ki dhani (a rural sub area)	1250	112	Nil
(ii)Jakharon ki dhani (a cropland field)	562	16	Nil
(iii)Islampur (an orchard of <i>Ber</i> fruit)	778	52	Nil
(iv)Maru Park (a garden/park and its adjoining area)	1156	Nil	23
(v)Road side Plantation area	241	Nil	07
Total	3987	180	30



Figure 1: Location map of the Study area (Shekhawati region)

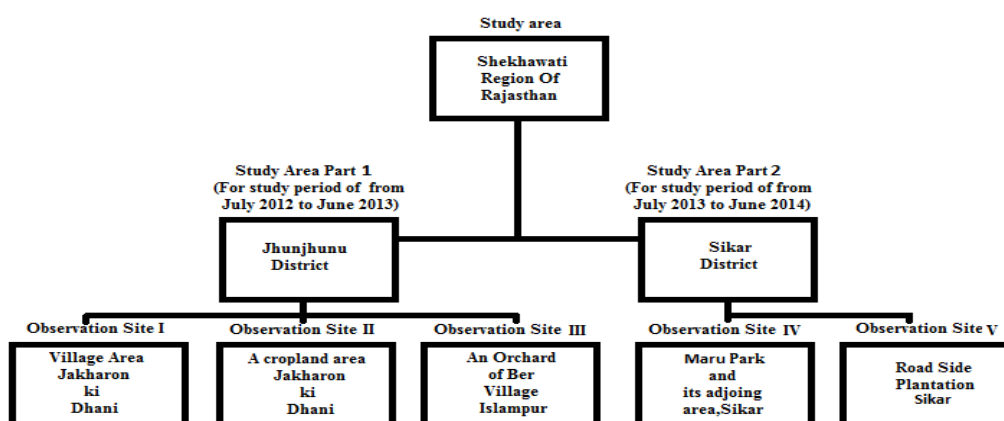


Figure 2: Classification of the Study area in observation sites.

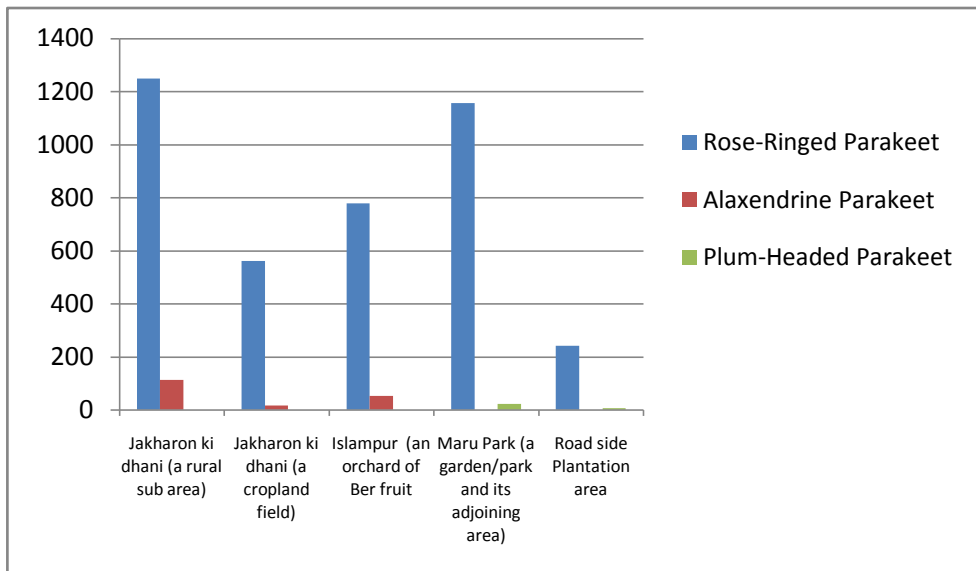


Figure 3 :-Bar diagram of recorded parakeet population

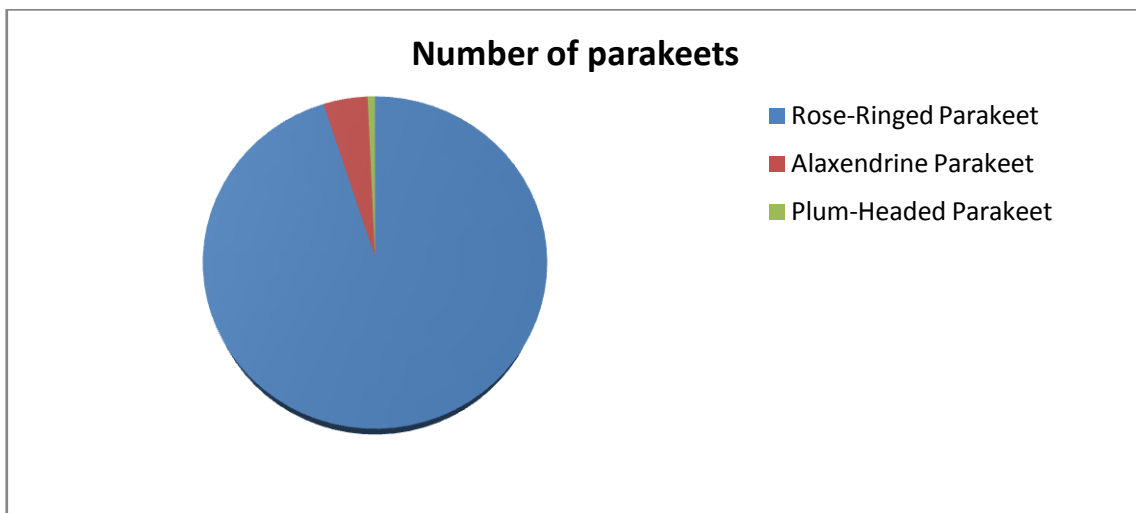


Figure 4 :- A total of recorded parakeet population in the study area



Plate 1,2 and 3 : Male and Female Rose-ringed parakeets



Plates 4,5&6: Male and Female of Alexandrine parakeets



Platets 7, 8 & 9: Male and Female of Plum-headed Parakeets