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KEYSTONE TREES IN UPPER GANGA RAMSAR SITE SUSTAINING ROSE-RINGED PARAKEETS (*PSITTACULA KRAMERI*)

The rose-ringed parakeet (*Psittacula krameri*), also known as ring-necked parakeet (Fig. 1), distributed in tropical Africa and Asia, is adapted to living in different habitats enjoying 'least concern' status of the IUCN (Bird Life International, 2012). However, due to it's popularity as pet and unpopularity as crop foragers, it's population is becoming stumpy in some parts of the native range. During survey of the plant resources of Upper Ganga Ramsar Site, we observed prevalence of a large population of these parakeets in the fringe zone of this riverine ramsar site of India, along *c.* 22 Kms stretch of the National Highway NH24, connecting Brij Ghat (district Ghaziabad) to Siyana (district Bulandshahr) at 28° 43.6' 38.7'' N and 78° 13.7' 47.9'' E. This region is surrounded by a mix of mature floodplains and agricultural lands and the parakeet nests were localized in cavities of very old, lofty and gnarled, *Syzygium cumuni* L. (Jamun; Myrtaceae) trees (Fig. 2) occurring in single rows on both edges of the road (Fig. 3). Each tree possessed 15-20 or even more nest-cavities and visual cues indicated that each cavity was occupied by parakeets, as they actively moved in and out of the nests (Fig. 1 and 4). Nestlings and young parrots were also found peeping out of some of these cavities (Fig.5), implying successful breeding and reproduction.

The nest-cavity trees of *Syzygium cumuni*, existed in isolation from surrounding vegetation, were devoid of epiphytes and climbers, occurred distant from adjacent trees and were high above the ground, substantiating that instincts of parakeets for protection against non-volant predators influences their nest-site selection (Masello and Quillfeldt, 2002; Brightsmith, 2004a; Brightsmith, 2005). A firm correlation between these and the rose-ringed parakeets was observed here as the homogenous, vast stretch of trees occurred only along this highway and was coupled with subsistence of the only population of these parakeets in the ramsar site. The trees played vital role in terms of parakeet habitat and food providers for their population sustenance and hence served as keystone plant resources (Payton *et al*., 2002) of this avian population, while all other regions mostly beset with open grasslands, agricultural fields and open scrub-forest covers were devoid of nest-cavity trees.

The *Syzygium cumuni* trees have a long life span of more than 100 years having medicinal values. Its wood is water resistant and widely used as railway sleepers, in installing motors in wells as well as in making cheap furniture and village dwellings, as fuel and fibre and the fruits are edible. Further, the gnarled adult trees take


Fig. 1


Fig. 2


Fig. 3


Fig. 4


Fig. 5

hundreds of years to mature and develop cavities which become indispensable natural nest-sites of parakeets and hundreds of parrot chicks are reared on a single tree in its lifetime (Brightsmith, 2004b). Loss of even a single tree therefore results in precipitous cut off and decline of their numbers, detrimental to population sustenance. Attention therefore, is drawn towards existence of these pure patches of trees along the roadsides, and their role as keystone trees in sustaining the only population of rose-ringed parakeets in the upper Ganga ramsar site in Uttar Pradesh, the wetland of international importance, as the parrots' population exclusively subsists here. It is therefore essential to protect the key stone trees and hence the parrot population, from unforeseen anthropogenic pressures, as there are only single row of the trees narrowly edging the road (Fig. 2). Even slightest expansion of the highway cannot be made without removing them, which would mean an irreplaceable loss of active parrot nests, with eggs and chicks, causing their population decline, shift in habitat and eventual biodiversity loss of the ramsar site. Any developmental activity, therefore, must essentially prioritize conservation of these major structural elements in the community and home and resource providers to parakeets that have already reached roadsides in dearth of forested habitats. In this situation, construction of parallel road is the only means of future highway expansion. But as long as the trees stand unscathed, this national highway continues to be a haven for rose-ringed parakeets and also a traveller's paradise, as the flash of beauty displayed by hundreds of green birds through their continuous, inadvertent behavioural activities, becomes a joy forever. The findings also unravels the pristine wild gene pool of *Syzygium cumuni* for future breeding and genetic engineering programmes and opens vistas for research aimed at identifying other cavity-nesting key plant resources for parakeets (and other species) so that these important habitat features can be conserved in tropical landscapes.

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