

Beak deformity in Rose-ringed Parakeet from Rajnandgaon, Chhattisgarh



Rose-ringed Parakeet with beak deformity.
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Beak deformities or elongation, are result of avian keratin disorder. These are physical abnormalities in the beaks of birds that may be congenital or acquired due to various factors. These deformities can refer as elongation of the mandibles, crossed beaks, abnormal curvature, brittleness, or irregular surface of the rhamphotheca (Craves 1994; Handel et al. 2010). The etiology of beak deformities remains

largely unclear, but is often associated with environmental contamination, gene mutation, deficiency of essential nutrition to the foetus, viral or bacterial contamination, traumatic injuries, or external teratogens that cause genetic mutations, nutritional deficiencies, infections, incubation issues, and insufficient wear of the rhamphotheca (Pomeroy 1962; Mulcahy et al. 2010). These malformations can

severely impact a bird's ability to feed, preen, and groom, often leading to malnutrition, poor feather maintenance, and increased vulnerability to parasites and predation (Olsen 2003; Gorosito et al. 2016). Detection of beak deformities are usually in a low proportion (<1%) of a given population of wild birds (Handel et al. 2010).

On 26 June 2023, during a visit near Musra Village in Rajnandgaon District, Chhattisgarh, (21.192° N, 80.872° E) an individual Rose-ringed Parakeet *Psittacula krameri* exhibiting a rare beak deformity was observed among a flock of five individuals. Upon closer inspection, we noted that the parakeet's upper mandible displayed an unusually elongated growth. The beak extended downwards to the extent that it nearly touched the bird's neck when it slightly bowed its head. The deformity was clearly visible and significantly different from the normal beak structure of the species. Beak deformities in Rose-ringed Parakeets have also been reported elsewhere, often associated with BFDV infection (Fogell et al. 2018).

Upon searching literatures from Chhattisgarh, we found two previous records of beak deformities in the Ashy-crowned Sparrow-Lark (Vishwakarma et al. 2022) and beak overgrowth in the Black-tailed Godwit (Bharos et al. 2025). Such rare deformities in wild birds are documented, making this a significant observation.

The affected parakeet was seen actively foraging and socializing, showing resilience despite its condition. However, we speculate

that the overgrown beak may cause problems during feeding and impact long-term survival. Systematic studies including lab analyses and long-term monitoring of affected birds are needed to understand the causes and impacts of beak deformities. Such efforts will also help identify potential threats to wild bird populations.

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