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A Review on Breeding Biology of House Crow *Corvus splendens*

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Abstract

House crow *Corvus splendens* is a tree nester bird species. It belongs to the family Corvidae. They are resident bird species of India, Pakistan, Nepal and Bangladesh. They are also known as one of the synanthrope species as they live near human dwelling areas and benefits from their environments. House crows are invasive bird species to certain parts of the world. They are omnivorous and opportunistic feeder and feeds on anything that is edible. They are also known to clean the environment by scavenging on dead carcasses. They built their nest at the height of 4m onwards on trees. However, they were also found building their nest on artificial pylons and light-post during their breeding season. They usually built their nest in poor sanitation areas and near to the food source availability. The breeding period of House crows was different among different places. They are adaptable bird species and seen in agriculture lands, residential areas and urban areas. The clutch sizes of House crows are often found to be ranging from 2-6 eggs.

Keywords

Corvidae; Resident; Invasive; Carcasses; Breeding; Clutch

1. Introduction

House crow *Corvus splendens* is a monogamous (Archer 2001) and a scavenger bird species belonging to the family of Corvidae and is listed as Least Concern category in the IUCN Red List. They are widespread resident bird species with paler nape, neck and breast in appearance (Grimmett et al., 2016). Link (2005) considered Crows to be among the most adaptable, sociable and intelligent bird species. They are helpful in controlling pest, cleaning up carcass and garbage (Link 2005). House crows are active throughout the day and have an omnivorous nature. They forage on refuse of kitchen, grains, fruits (Khan et al., 2007) and also feed on rodents (Nyari et al., 2006). House crows mainly invade urban or semi urban areas, and benefits from improper human food (Brook et al., 2003) as they are attracted towards urban because of the presence of more amount of food sources (Shanbhag et al., 2012). They are among the most common bird species in the cities. Sen (2011) estimated the population of House crow in India to be 34 million. They are also regarded as invasive species and a carrier of pathogens (Lim and Sodhi 2009; Suliman et al., 2010; Al-Sallami 1991; Kurosawai et al., 2003). However, corvids were found to have no negative influence on either abundance or productivity of prey species to a major extent (Madden et al., 2015). Shanbhag et al., (2012) found interactions between Jungle crow *Corvus macrorhynchos* and House crow in the forest or grassland and recently urbanized town areas while finding food however Jungle crow was found to be more aggressive and competitive towards House crow during scarce of food. Besides, House crow being called as invasive and disease carrier, they are also regarded as ecologically important bird species all over the world for their various ecological roles. They are important scavengers, predators and environmental cleaners (Ramakrishna et al., 2014). The present review emphasizes on the detail of breeding biology of House crow across the globe.

2. Materials and methods

Literature survey

We reviewed all the relevant research papers that we came across on breeding biology of House crows. We tried to understand the variations in breeding period of House crow across different locations. The nesting sites, nest structure and materials, height of the nest, and number of clutch sizes were observed from different works done by the researchers.

3. Results

Nesting sites

Kaur et al., (2015) mentioned that House crows built their nest in the area where the foods are available with poor sanitation (Kaur and Khera 2020). Soh et al., (2002) found that House crows selected urbanised area for nesting near food centres. House crows were found preferring trees usually for nesting with large crowns (Allan and Davies 2005; Behrouzi-Rad 2010; Dutta and Raut 2015; Awais et al., 2015; Shimba and Jonah 2016; Anjum et al., 2021). However, they also built their nest on non-natural substratum by leaving their suitable nesting

sites. Ali et al., (2013) for the first time reported House crows nesting on pylons in India. Building nest on light post was also a recent phenomenon (Dutta and Raut 2013).

Nest structure

According to Behrouzi-Rad (2010) House crow's nest composed of wood, grass, roots, soft plant materials, wires, hairs and threads. The depth of nest-cup ranged from 6-17 to 8-12 cm and the weight of the nest ranged from 800-1,260 g to 920-2,340 g. Similar study was done by Awais et al., (2015) in Pakistan where they found compositions of House crow's nest containing twigs, metallic wires, plastic materials and plant contents. As per their research the depth of nest-cup was 7-9 cm and the weight of the nest ranged from 1.1-1.7 kg. Allan and Davies (2005) also found similar result of House crow's nest built from sticks, wires, rhizomes, roots and grasses with the mean 9 cm depth and 13.2 g of nest-cup and weight of the nest respectively.

Height of the nest

House crows built their nest at high altitudes at the maximum height of about 25-27 m and minimum of 7-9 m to avoid human disturbance and predators (Allan and Davies 2005; Chongomwa 2011; Awais et al., 2014; Shimba and Jonah 2016). The height of the nest from recent phenomenon where House crows nested on pylons was 15-49 m (Dutta and Raut 2013).

Breeding period

The breeding period of House crows varied within different locations. On Kharg Island breeding period started from late May to early September (Behrouzi-Rad 2010). Awais et al., (2015) found breeding period from June to September in Hazara University campus, Mansehra, Pakistan. In South Africa breeding period started from October to January (Allan and Davies 2005). Similar studies was conducted in Punjab in two different years by Kaur et al., (2015) and Kaur and Khera (2020) and found similar results of breeding period which started from April and lasted till August and September.

Clutch sizes

As per the studies on breeding biology of House crow till date, the clutch sizes ranged from 2-6 eggs of bluish-green with black spots (Awais et al., 2014; Shimba and Jonah 2016; Kaur and Khera 2020).

4. Conclusion

House crow is regarded as an ecologically important bird species. They are in need in the food chain. They must be conserved for the future ecological roles for the betterment of human lives. Like vultures, they perform the specific role of cleaning the environment. The over population of House crows can be maintained as they are also known for carrying diseases and spreading them. Suitable nesting sites must be managed for the House crows within their natural habitats.

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