

JOURNAL OF BIODIVERSITY AND CONSERVATION

Baya Weaver (*Ploceus philippinus*) bird and its associated flora, India

BL Manjula¹, Sugimani Marndi² and Sanjeet Kumar^{2*}

¹Department of Botany, Sri Jagadguru Renukacharya College of Science, Arts and Commerce,
Karnataka, India

²Ambika Prasad Research Foundation, Cuttack, Odisha, India

*Email-Id: sanjeet.biotech@gmail.com

ARTICLE INFO

Article History

Received: 5 August 2017

Received in revised form: 25 September 2017

Accepted: 26 September 2017

Keywords: Ecosystem, least concern, urbanization,
architectural bird, nesting trees

ABSTRACT

Ecosystems cannot thrive without birds, as they play a vital role in controlling pests, pollinating plants, dispersing seeds, etc. One of the birds with unique identification is Baya weaver. Baya weaver bird is one of the most architectural birds in our ecosystem. They are known for their excellent nest-weaving skills. It is one of the most common and familiar birds in India. But due to certain factors, this species is decreasing day by day. Some major threats are rapid urbanization, habitat clearance, cutting down nesting trees, collecting eggs, etc. Due to the above threats, they are now decreasing, but it is a least-concern category. Keeping this in view, an attempt has been made to list out the nesting trees and food plants of Baya weaver.

INTRODUCTION

Birds are one of the most important part of many ecosystems. They play a vital role in controlling pests, helping in pollination, and maintaining the homeostasis of an

ecosystem. Directly, they are important to humans as they serve as a food source and provide fertilizer in agricultural fields. Many birds have unique capabilities that are directly and indirectly helpful to

mankind. One of the most unique birds recognized for its architectural long hanging nest with bulbous chamber and narrow tubular entrance is the Baya weaver (*Ploceus philippinus*) (Figure 1). The name itself refers to the identification of this avifaunal species as a weaver bird. Breeding male *Ploceus philippinus* has a yellow crown, dark brown coverts and throat, an unstreaked yellow breast, and yellow mantle and scapulars. Males mainly build the nest to attract females. Female or non-breeding birds usually have unstreaked buff to pale yellowish underparts. Grasses and baya weavers are associated with each other. They depend on grass species to build their nest, which helps them breed. They also depend on grasses for their food. They are mostly found near water bodies. They build nests

on specific tree species, as it is mostly the thorny trees that protect them from other predators (Figure 2). They habitually nest in particular areas where human and predator interference is less common (Figure 3). Baya weaver is diminishing due to urbanization in their habitat area, cutting down their nesting trees, cutting down their food plants, clearance of grass species near water bodies, climate change, bird trafficking, and egg collection. Therefore, due to urbanization in many places, these baya weavers are diminishing, leading to the loss of another great creature or architecture in our ecosystem. Keeping this in mind, an attempt has been made to document the nesting plants, food plants, and materials needed to weave a nest in India.



Figure 1: Baya weaver making nest



Figure 2: Baya weaver nests on thorny trees



Figure 3: Nests of Baya weaver without any predator interference

METHODOLOGY

The survey was carried out in the year 2016 from 7 a.m. to 4 p.m. near water bodies. Through a tentative study, the list of nesting trees, food plants, and plants used for weaving the nest of Baya weaver was carried out. The plant species were identified by Dr. Sanjeet Kumar and the Flora of Odisha book.

RESULTS AND DISCUSSION

The results revealed that they use 12 nesting trees, 6 plant species for weaving nests, and 4 as food plants. The enumerated plants are listed in Table 1, Table 2, and Table 3. Most nesting trees are *Albizia lebbeck*, *Cocos nucifera*, *Strobilus asper*, and *Phoenix sylvestris*. As per the data collected, most of the tree species with thorns are the preferred nesting places of Baya weaver birds. The most common plants used for weaving nests are *Imperata cylindrica*, *Pennisetum pedicellatum*, *Saccharum spontaneum*, and *Phoenix sylvestris*. The food plants consumed by Baya weavers are

Dactyloctenium aegypticum, *Oryza sativa*, and *Triticum aestivum* (Plate 1; Plate 2). Many researchers have documented the Baya weaver and its associated flora. In 1974, Davis reported the nesting trees of the Baya weaver. In 2017, Ulman et al. reported about the habitat for conservation of Baya weaver. In 2008, Asokan et al. reported about the nest construction and microclimate of Baya weavers. In 2015, Kumar and Kumar reported about the nesting on bottlebrush trees. In 2009, Raju reported the nesting behaviour of the Baya weaver bird. Major threats Baya weavers face is the availability of nesting trees, plants required for weaving the nest, and food plants to survive. Especially in the breeding season, these aspects need to be there for their population. Unfortunately, Baya weavers are fewer in number due to urbanization, habitat clearance, grass species being destroyed as weeds, etc. Therefore, keeping this in mind, an attempt has been made to list out the flora species associated with Baya weaver.

Table 1: Common nesting trees of Baya weaver

Nesting trees	Common name	Sources
<i>Acacia nilotica</i>	Thorn mimosa	Davis (1974)
<i>Albizia lebbeck</i>	Siris tree	Survey work
<i>Albizia procera</i>	White siris	Davis (1974)
<i>Anogeissus latifolia</i>	Axlewood	Davis (1974)

<i>Azadirachta indica</i>	Neem	Survey work
<i>Bombax ceiba</i>	Cotton tree	Survey work
<i>Carissa spinarum</i>	Bush plum	Borges (2002)
<i>Caryota urens</i>	Palm	Borges (2002)
<i>Cocos nucifera</i>	Nariyal	Survey work
<i>Phoenix sylvestris</i>	Khajur	Survey work
<i>Phyllanthus emblica</i>	Amla	Survey work
<i>Strebulus asper</i>	Sahada	Survey work

Table 2: Plants used for weaving nest

Grass species	Common name	Sources
<i>Chrysopogon zizanioides</i>	Vetiver	Survey work
<i>Imperata cylindrica</i>	Cogon grass	Survey work
<i>Pennisetum pedicellatum</i>	Deenanath grass	Survey work
<i>Phoenix sylvestris</i>	Silver date palm	Survey work
<i>Phragmites karka</i>	Tall reed	Asokan (2008)
<i>Saccharum spontaneum</i>	Kans grass	Survey work

Table 3: Baya weaver food plants

Botanical name	Common name	Sources
<i>Dactyloctenium aegypticum</i>	Egyptian crowfoot grass	Survey work
<i>Echinochloa colona</i>	Wild rice	Survey work
<i>Oryza sativa</i>	Rice	Raju (2009)
<i>Triticum aestivum</i>	Common wheat	Raju (2009)



Plate 1: Nesting trees of Baya weaver a) *Borassus flabellifer*, b) *Albizia lebeck*, c) *Azadirachta indica*, d) *Streblus asper*



Plate 2: Food plants of Baya weaver a) *Dactyloctenium aegypticum*, b) *Echinochloa colona*

CONCLUSION

In this era, rapid urbanization is a major concern with the increase in human population. Some birds seem to be facing population decline due to the growing human population and development. One of the common species across India, the

Baya weaver, is now dwindling in numbers with increasing threats. Therefore, the major concern is to protect this species from disappearing soon. The most common steps to be taken are planting the preferred food plants and nesting plants so that the population of this species can regain its numbers (Figure 4).

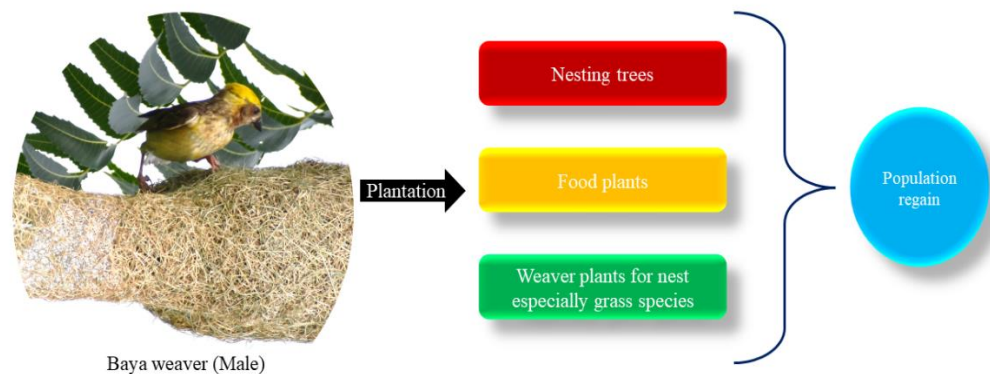


Figure 4: Future aspects for conservation of Baya weaver and regain population

REFERENCES

- Asokan S, Ali AMS, Nagaranjan R (2008). Studies on nest construction and nest microclimate of the baya weaver, *Ploceus philippinus* Linn. Journal of Environmental Biology. 29(3): 393-396.
- Borges SD, Desai M & Shanbhag AB (2002). Selection of nest platforms and the differential use of nest building fibres by the Baya weaver, *Ploceus philippinus* Linnaeus 1766, Tropical Zoology, 15:1, 17-25
- Davis TA (1974). Selection of nesting trees and the frequency of nest visit by baya weaver bird. Journal of the Bombay Natural History Society. 71: 356-366.
- Kumar S. & Kumar SC (2015). Baya Weaver *Ploceus philippinus* (Linnaeus, 1766) nesting on Bottlebrush trees *Callistemon* in Jodhpur, Rajasthan, India. Journal of the Bombay Natural History Society 112(1): 35.
- Raju AJS. (2009). Nesting behavior of the Baya Weaver bird, *Ploceus philippinus* (Ploceidae) and the life-cycle of the Plains Cupid butterfly, *Chilades pandava*

(Lycaenidae) with the red-listed
Cycas sphaerica and C. beddomei
(Cycadaceae). Journal of
Threatened Taxa 1(8):429-433.

Ulman Y, Kumar A, Sharma M (2017).
Traditional home garden

Agroforestry systems: Habitat for
conservation of Baya weaver
Ploceus philippinus
(Passeriformes: Ploceidae) in
Assam, India. Journal of threatened
taxa. 9(4): 10076- 10083.