



# JOURNAL OF BIODIVERSITY AND CONSERVATION

LETTER TO THE EDITOR

## Food habit of Oriental White Eye *Zosterops palpebrosus* (Temminck, 1824) at urban areas of Imphal, Manipur

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### ARTICLE INFO

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#### Article History

Received: 20 March 2018

Received in revised form: 22 May 2018

Accepted: 26 May 2018

*Keywords:* Urban biodiversity, conservation, avifauna

During the survey of DBT (Department of Biotechnology) sponsored project- "Orchid Bioresources of the North East India-Conservation, database development and information networking" (Grant No.: 102/I.F.D./SAN/4311-4316; Serial No.: 435-443-Reg. /Grant). A few of a flock of about 15 Oriental White Eye (OWE)s *Zosterops palpebrosus* were sighted (N 24° 48' 33.2", E 93° 55' 56.5", 761 m; GARMIN-VISTA HCx) dt. 28 October 2017 in the morning about at 7: 15 AM near an urbanized and world famous IMA Keithel (Market) on the tree of *Spondias pinnata* (Family: Anacardiaceae; **Figure 1**). OWE is 7-10 cm long with yellowish olive upper parts, yellow throat and vent, belly is whitish grey and white eye ring (Grimmett et al. 2011). After observation of about 1 hr (7: 15 AM

to 8: 15 AM) during collection of *Vanda coerulea* (Blue orchid of Manipur), it was confirmed that birds were consuming the tender leaves and fruits of *S. pinnata* by observing the littered eaten fruits on ground below the tree. *S. pinnata* (L.f.) Kurz is a native edible fruiting tree species of India. It is categorized as wild edible plants having economic values and preferred tree species for the plantation in urban areas. It is thoroughly planted with African Tulip Tree (*Spathodea campanulata*) in the Imphal city. *S. pinnata* is native to Philippines and Indo-China and is distributed up to 1200 m and widely cultivated and naturalized in Bhutan, China, Nepal, Myanmar and India. It comes under deciduous vegetation and about 12-20 m tall having white glabrous flowers. Fruits are drupe, elliptic-ovoid and olive green colour turned orange when

ripen (Ghate et al. 2014). On 29 October 2017, in the same place, it was observed that, OWE also consuming the fruits of *Ziziphus mauritiana* Lam. (Figure 2) and foraging on flower of Bottle grass (*Callistemon lanceolatus* Sm. Sweet.; Figure 3). *Z. mauritiana* is the indigenous fruits of Manipur having sound economic and nutritional values. It is a medium sized tree belongs to family Rhamnaceae (Rathore, 2009). Bottle grass is a ornamental plants belonging to family Myrtaceae and mainly it is planted in garden and on road side (Chauhan et al. 2017). OWE was using the flowers of Bottle grass as nectar. The present observation is a new addition to the list of birds reported to have fruits and tender leaves of *S. pinnata* as their diet - Tent making bat *Artibeus watsoni* (Mitchell & Daly, 2015), Common Fruit Bat *Artibeus jamaicensis* (Handley et al. 1991), Fruit bat *Pteropus giganteus* (Fleming, 1987), fruits of *Ziziphus* spp.- Orange breasted green pigeons *Treron bicinctus* (David et al. 2015), and flowers of *Callistemon* spp. - Lorikeet *Trichoglossus moluccanus* (Ford et al. 1979). It was also observed that OWE also perches on *Lantana camara*. It is reported that OWE used to consume *Scurrula* species (Devkota & Kunwar, 2006), *Trema orientalis* (Kamruzzaman & Asmat, 2008). As OWE is a non-exclusive foragers and highly selective foragers (Sundar & Chandra, 2002; Kamruzzaman & Asmat, 2008), it is necessary to document the food plants for its diet for the conservation of this bird species. The present observation recommends the need for plantation of *S. pinnata*, *Ziziphus* Sp. & Bottle grass, and other such plant species in urban and semi-urban areas of its distributional regions for the conservation of this avian species.

#### ACKNOWLEDGEMENTS

The study was supported by Department of Biotechnology, Government of India under the

project “Orchid Bioresources of the North –East India- Conservation, database development and information networking” (Grant No.: 102/I.F.D./SAN/4311-4316; Serial No.: 435-443-Reg./Grant) and Authors are thankful to the Director, Institute of Bioresources and Sustainable Development, Manipur.

#### REFERENCES

- Chauhan S, Chauhan SVS and Galetto L. (2017). Floral and pollination biology, breeding system and nectar traits of *Callistemon citrinus* (Myrtaceae) cultivated in India. *South African Journal of Botany*. 111:319-325.
- David JP, Manakadani R and Ganesh T. (2015). Frugivory and seed dispersal by birds and mammals in the coastal tropical dry evergreen forests of southern India: A review. *Tropical Ecology*. 56(1): 41-55.
- Devkota MP and Kunwar RM. (2006). Pollination and dispersal of three *Scurrula* species (Loranthaceae) in Godwari area of Kathmandu valley, Nepal. *Indian Journal of Botanical Research*.2(2):115-128.
- Flemmin TH. (1987). Fruit bats: prime movers of tropical seeds. *Bats*.5(3): 3-5.
- Ford HA, Patoni DC and Forde N. (1979). Birds as pollinators of Australian plants. *New Zealand Journal of Botany*. 17:509-519.
- Ghate NB, Hazra B, Sarkar and Mandal N. (2014). In vitro anticancer activity of *Spondias pinnata* bark on human lung and breast carcinoma. *Cytotechnology*. 66(2):209-218.
- Grimmett R, Inskipp C and Inskipp T. (2011). *Birds of the Indian Subcontinent*. 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.
- Handley CO, Wilson DE and Gardner AL. (1991). Demography and natural history of the

common fruit bat *Artibeus jamaicensis* on Barro Colorado Island. Smithsonian Institution Press, Washington 1-173. DOI: 10.5479/si.00810282.511.

Kamruzzaman M and Asmat GSM. (2008). Seasonal variations of fruit preference among frugivorous birds in Chittagong, Bangladesh. Bangladesh Journal of Zoology. 36(2):187-206.

Mitchell JD and Daly DC. (2015). A revision of *Spondias* L. (Anacardiaceae) in the Neotropics. PhytoKeys. (55):1-92.

Rathore M. (2009). Nutrient content of important fruit trees from arid zone of Rajasthan. Journal of Horticulture and Forestry.1(7):103-108.

Sundar KSG and Chandra J. (2002). Foliage-dewbathing in oriental white-eye *Zosterops palpebrosus*, family Zosteropidae. Journal of Bombay Natural History Society. 99(2):318-319.



**Figure 1:** Foraging on the tree of *S. pinnata*



**Figure 2:** Foraging on the tree of *Z. mauritiana*



**Figure 3:** Foraging on the tree *C. lanceolatus*