

Single Parent *Nectarinia jugularis*

Induk Jantan Mandiri *Nectarinia jugularis*

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Abstrak

Kedua induk burung madu sriganti *Nectarinia jugularis* biasanya merawat anak bersama-sama. Mereka menyuapi anak, membuang *faecal sac* serta menjaga keamanan anak dari berbagai gangguan seperti predator. Pada salah satu sarang yang diamati secara kontinu, induk betina tidak pulang ke sarang tanpa diketahui penyebabnya. Sejak saat itu induk jantan merawat anak sendiri yaitu menyuapi dan membuang *faecal sac* dan menjaga anak sepanjang hari, meskipun induk jantan tidak tidur di dalam sarang pada malam hari. Hasil pengamatan memperlihatkan terjadi peningkatan frekwensi menyuapi anak serta membuang *faecal sac* oleh induk jantan saat induk betina tidak ada. Kegiatan perawatan anak oleh induk jantan terus berlanjut hingga anak lepas sarang.

Kata kunci : burung madu sriganti ; induk jantan mandiri; *Nectarinia jugularis*

Abstract

Both of *Nectarinia jugularis* parents, male and female, usually raise their offsprings together. They feed the chicks, carry away faecal sac and keep their offspring safe from any threats such as predators. On one day the female did not appear, it was not clear why she did not come back home. Since then, the male took care of the chicks by feeding them, disposing the faecal sac and keep the chicks save all day, even though he had never slept in the nest at night as the female did. The male tried to increase the feeding rate and faecal sac removal to compensate the absence of the female. Parental care by single parent male continued until they leave the nest. The male still fed the chicks after they flew off from the nest.

Key words : olive-backed sunbird; single parent male; *Nectarinia jugularis*

Introduction

Biparental care was adopted by many bird species. Both male and female take care of offsprings by feeding, removing faecal sac and nest guarding. (Grieco, 2002; Markman *et al.*, 2002; Rauter *et al.* 2000). Eventhough both parents were needed to raise the offsprings, sometimes one of the parents could not continue to care due to many reasons. During research time in 2015, single parent male that had two

offsprings keep raising nestlings until they fledged by providing food and disposing faecal sac and keeping the nestlings save from predators. This paper will explain the parental behavior of single parent male, before and after female disappeared.

Materials and Methods

This research was conducted in Kota Banda Aceh, Aceh province, Indonesia during April-May

2015. Focal animal sampling (Altmann, 1974) was used to gain the data from both parent male and female of *Nectarinia jugularis*. A binocular was used to observe the activity of parents during provisioning food for offsprings and removing faecal sac. Feeding rate and faecal sac disposal rate were calculated to determine the ability of parents to take care of the nestlings. Clutch size, length of incubation time, nestlings ages before fly off from the nest were also

determined by checking the nest daily.

Result and Discussion

Female initiated to use abandoned nest and began to repair in April 11th, 2015. After that, female laid two eggs (Figure 1). Eggs were incubated by female for 14 days. Sometimes the female leaved the nest during searching for food. After hatching, nestlings were taken care of by both parents male and female for eight days.

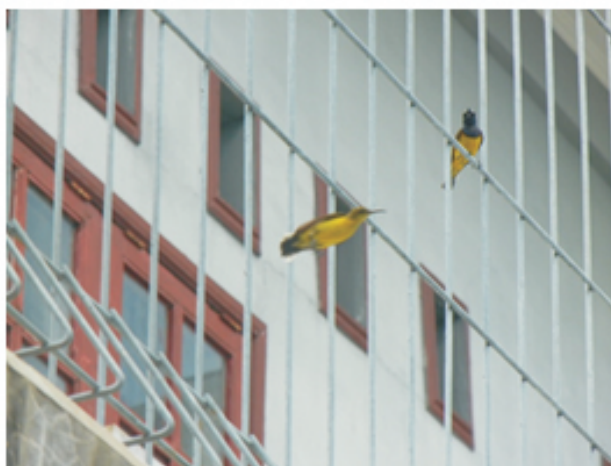


Figure 1. *Nectarinia jugularis* eggs inside the nest (left), one offspring perched on the tree branch after flew off from the nest (top), single parent male and another offspring perched on the fence (bottom).

On May 8th 2015, female did not appear, and by then male alone took care of both nestlings by feeding and disposing their fecal sac until they fledged. Even

though taking care the nestlings all day, male had never slept inside the nest at night as usually did by the female.

Table 1. Incubation time, nestling ages, feeding rate and faecal sac removal rate

Incubation time, nestling ages, feeding rate and faecal sac removal rate		
1	incubation duration	14 days
2	nestling age when fly off from nest	14 and 15 days
3	feeding rate by female	4.39 times per hour
4	feeding rate by male:	
	a. Female present	2.16 times per hour
	b. Female absent	6.10 times per hour
5	faecal sac removal by female	0.85 times per hour
6	faecal sac removal by male:	
	a. Female present	0.56 times per hour
	b. Female absent	1.30 times per hour

Nestlings flew away from the nest when nestlings age were 14 dan 15 days (Table 1). They did not use nest any longer after they left the nest. The male still took care for the chicks after they left the nest (Figure 1).

Incubation period within 14 days and nestling period within 14 and 15 days, was almost the same as olive-backed sunbird that bred in Queensland Australia (Maher, 1992). Actually Offspring can fly at

age 13 days (Maher, 1991).

When both parent male and female (biparental) took care the nestlings, female feeding rate and faecal sac removal were higher than male (Table 1). Female gave extra energy in parental care by feeding and faecal sac removal, and male gave extra energy in territorial defense (Maher, 1996; Markman et.al., 1996; Rauter et. al., 2000; Fithri and Susiriana (2015).

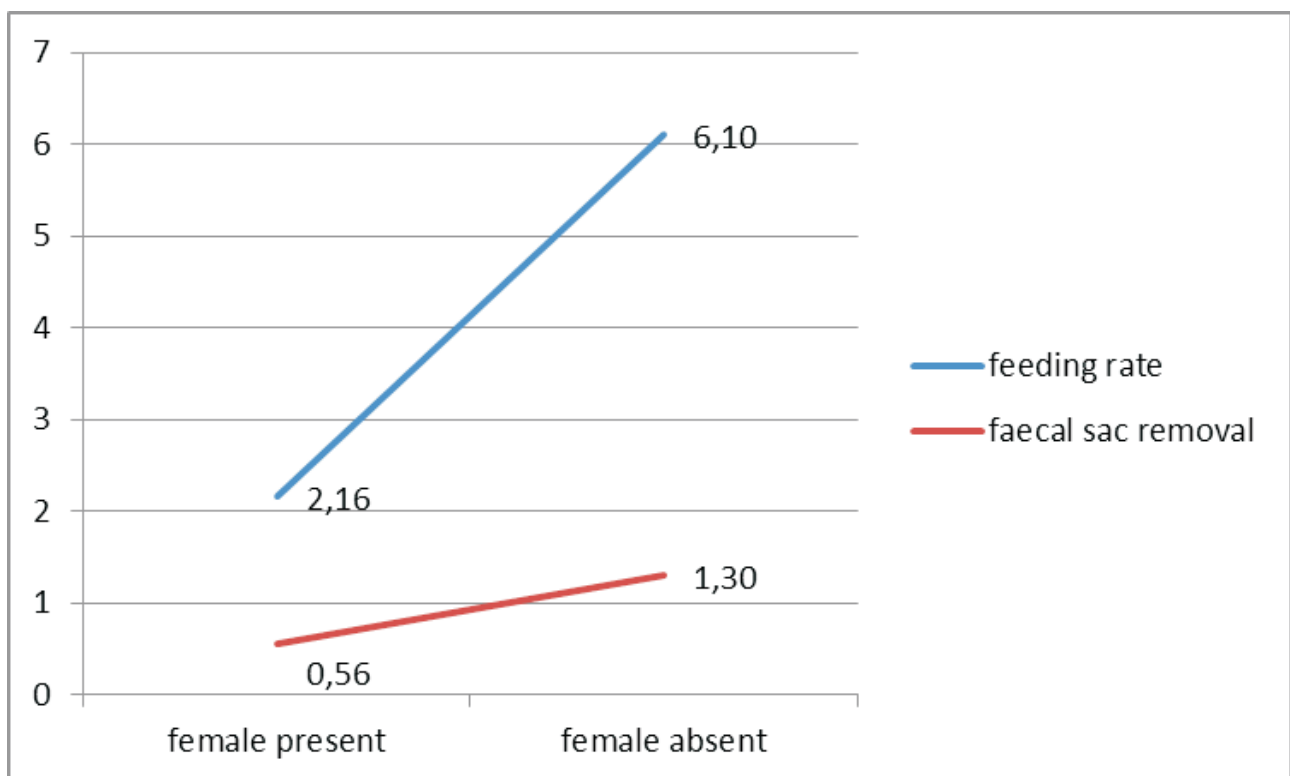


Figure 2. Average feeding rate and faecal sac removal (times per hour) by male when female present and absent.

When female disappeared, male tried to perform food provision for nestlings to have a normal growth. The male tried to increase the feeding rate from 2.16 to 6.10 times per hour, almost three times than usual if the female was present. The removal of faecal sac for nest sanitation also increase from 0.56 to 1.30 times per hour (Figure 2). The ability to increase the feeding rate and faecal sac removal showed that male alone can raise the offspring.

Conclusion

Male still take care of nestlings during the female absence. Male increased the feeding rate and faecal sac removal when female was absent.

References

- Altmann, J. 1974. Observational Study of Behavior: Sampling Methods. *Behaviour*, Vol. 49:227-267.
- Fithri, A. 2012a. Bird Species of hutan kota BNI Banda Aceh. Proceeding of Annual International Conference. Syiah Kuala University.
- Fithri, A, 2012b. Bird Inventory in Syiah kuala University. Proceeding of Annual International Conference. Syiah Kuala University
- Fithri, A. dan Susiriana. 2015. Perilaku perawatan anak burung madu sriganti *Nectarinia jugularis* yang berbiak di kampus Universitas Syiah Kuala. Prosiding Konferensi Nasional Peneliti dan Pemerhati Burung , IPB Bogor, 13-14 Pebruari 2015.
- Fithri, A. 2017. Perilaku Berbiak burung madu sriganti *Nectarinia jugularis*. Seminar Biotik UIN 3 Mei 2017. Proceeding. Banda Aceh
- Grieco, F. 2002. How different provisioning strategies result in equal rates of food delivery: an experimental study of blue tits *Parus caeruleus*. *J. Avian Biol.* 33: 331-341
- Maher, W.J. 1991. Growth and Development of the Yellow-bellied Sunbird *Nectarinia jugularis* in North Queensland. *Emu* 91:58-61.
- Maher, W.J. 1992. Breeding Biology of the yellow-bellied sunbird *Nectarinia jugularis* in Northern Queensland. *Emu* 92:57-60
- Maher, W.J. 1996. Nestling food and feeding frequencies of the brown-backed honeyeater *Ramsayornis modestus* and the yellow-bellied sunbird *Nectarinia jugularis* in Northern Queensland. *Emu* 96 : 17-22.
- Markman, S, Y. Yom-Tov, and J. Wright. 1996. The effect of male removal on female parental care in the orange-tufted sunbird. *Anim. Behav.* 52:437-444
- Markman, S. B. Pinshow and J. Wright. 2002. The manipulation of food resources reveals sex specific trade offs between parental self feeding and offspring care. *Proc. R. Soc.Lond* 269:1931-1938
- Rauter C.M., P.A. Brodmann & H.-U. Reyer 2000. Provisioning behaviour in relation to food availability and nestling food demand in the Water Pipit *Anthus spinoletta*. *Ardea* 88(1): 81-90.