

FIELD STUDY

Feeding habits and behaviour of the Ruby-cheeked Sunbird *Chalcoparia singalensis* in Perak, Malaysia

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Introduction

Although many species of sunbird feed largely on nectar as their family name Nectariniidae suggests, many are also known to take insects and occasionally fruit, with proportions of these elements probably varying between species. Wells (2007) indicates that in peninsula Malaysia direct evidence of Ruby-cheeked Sunbird *Chalcoparia singalensis* feeding on nectar is lacking and suggests that they eat mainly arthropods and insects. My observations confirm this and include photographic evidence of feeding behaviour.

Observations in the field

My observations were made over a three-year period (March 2007–September 2009) in the Kledang-Sayong (KSFR) and Papan (PFR) Forest Reserves near Ipoh, Perak, Malaysia. I made 17 visits to KSFR and six to PFR in this period. Both reserves consist of primary forest with buffer zones of secondary forest, but there are trails that cut through both forest types. The Ruby-cheeked Sunbird is common, especially at KSFR, with many nests observed, usually in the primary forest. Frequent visits to KSFR offered many opportunities to watch the feeding behaviour of these birds, which are generally reasonably tolerant of humans and allow close approach.

Feeding behaviour of adults

In all my observations of feeding adults, independent of juveniles, the preferred food was insects, particularly spiders. Plate 1 shows a male with a spider in its beak, which it had acquired by persistent hunting in the foliage.

Plates 2 and 3 illustrate the technique used to hunt spiders. The male shown first identified a suitable leaf which might conceal a spider. He used his beak to pierce the leaf and then quickly enlarged the hole until he could reach and extract his prize. Both sexes spend much time carefully searching cobwebs and leaves for spiders. Plates 4 and 5 show a female carefully searching for spiders on bamboo—she spent a lot of time looking for and exploring webs.

In addition to spiders I have seen the species take ants, aphids, larvae and caterpillars. Plate 6

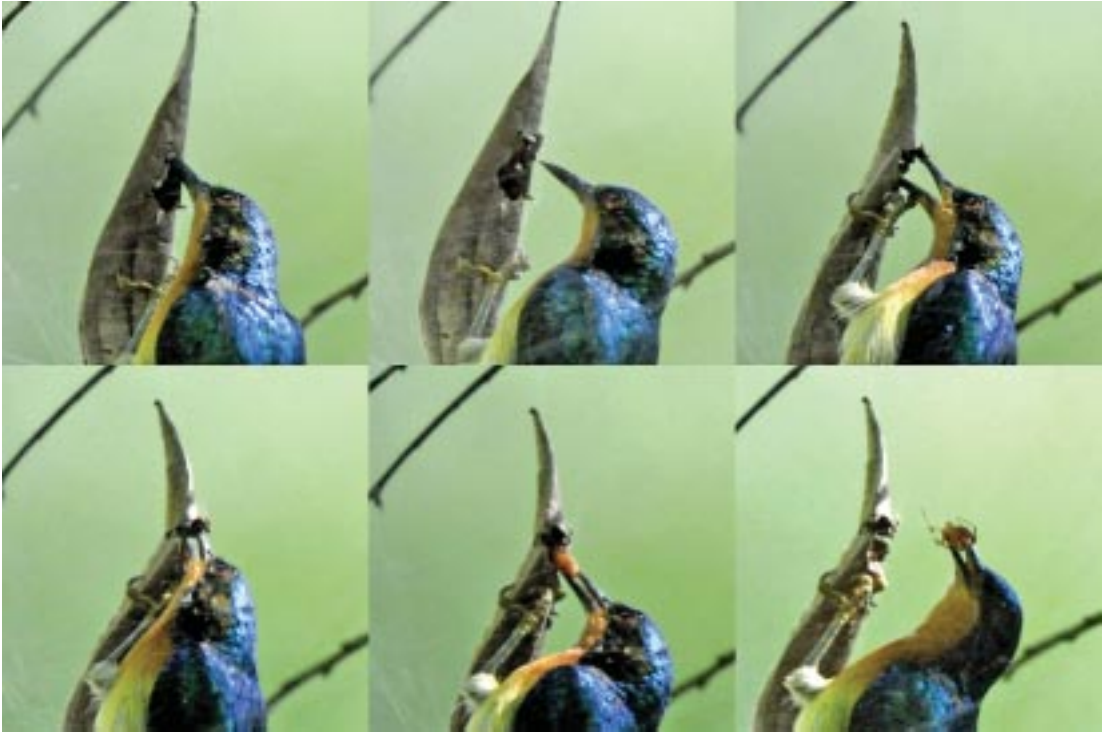
shows a female foraging on some aphids and ants, using her tongue to lick them off the branch, and Plate 7 shows a male who had a long struggle with a maggot-like grub. He used the branch as an anvil to kill it before eating it, followed by the obligatory beak wiping/cleaning in preparation for the next meal.

Feeding behaviour of juveniles and adults with juveniles

Whenever I observed adults and juveniles foraging together, I noted younger juveniles chasing their parents for food, as well as older juveniles feeding independently as part of a foraging party. Family parties are often two adults with two or three juveniles. Plate 8 shows a juvenile that was part of a typical family of two adults and three juveniles foraging together. The juveniles were at different stages of development. One had ‘metallic’ colours on the tail, indicating it was male, and another orange on the breast but no metallic coloration, indicating a female. The third shown in Plate 8 was still quite immature, sex unknown. It was exploring leaves for spiders on its own, just like an adult.

Plate 1. Male Ruby-cheeked Sunbird *Chalcoparia singalensis* feeding on a spider, KSFR, Perak, Malaysia, 20 January 2009.





Plates 2 & 3. These illustrate the technique used by a male bird to catch a spider, KSFR, Perak, Malaysia, 20 January 2009.



Plates 4 & 5. Female searching for spiders on bamboo, KSFR, Perak, Malaysia, 7 July 2009.





Plate 6. Female feeding on ants and aphids, PFR, Perak, Malaysia, 16 September 2008.

Plate 7. Male feeding on a maggot-like grub, PFR, Perak, Malaysia, 16 September 2008.





Plate 8. Juvenile looking for spiders, KSFR, Perak, Malaysia, 24 May 2009.

Plate 9. Juvenile male feeding on fruit, KSFR, Perak, Malaysia, 13 June 2009.



Plate 10. The same juvenile male in flight with a caterpillar, KSFR, Perak, Malaysia, 13 June 2009.

Plate 11. Adult male accompanied by juvenile exploring for ripe figs, KSFR, Perak, Malaysia, 7 July 2009.





Plate 12. The same adult male feeding juvenile with ripe fig, KSFR, Perak, Malaysia, 7 July 2009.

Plate 13. Adult female feeding chicks in nest with larvae, KSFR, Perak, Malaysia, 25 March 2009.



Plate 14. Adult male collecting prey for young in nest, KSFR, Perak, Malaysia, 9 August 2009.



Plates 9 and 10 document a juvenile male feeding independently on fruit and the same bird in flight carrying a caterpillar.

Another observation of a family of two adults and three juveniles showed the adult male feeding a juvenile with fruit. The male spent a lot of time looking for suitable ripe fruit. However the juvenile got a bit impatient and tried to peck the fruits (Plate 11). After a long inspection the male gave up on this unripe bunch and found riper fruit on another branch. He pierced one fruit repeatedly with his beak and progressively enlarged the hole.

He then collected the soft contents to feed the young (Plate 12).

Food brought to nestlings

I was able to observe four nests and confirmed that juveniles in the nest are generally fed with larvae and small insects (spiders?). Plate 13 shows an adult female bringing larvae to two chicks in a nest. Both parents were taking turns to feed the chicks every 1–3 minutes. One observation of a late nest in August found an adult male collecting prey (small larvae or caterpillars) to feed the young in the nest (Plate 14).

Discussion

Most Malaysian field guides (Madoc 1947, Glenister 1951) discuss the feeding of sunbirds collectively and describe them as primarily taking nectar from flowers, but also taking some small insects such as spiders. Older guides (Robinson & Chasen 1939) describe the Ruby-cheeked Sunbird as 'feeding on small insects'. More recent literature (Noske 1995, Wells 2007) note that the species feeds primarily on arthropods/insects with lack of evidence of nectar feeding in peninsula Malaysia. However, Cheke & Mann (2001, 2008) indicate that *Casuarina* sp. are known food plants of the species and that it also probes flowers for nectar.

In my observation over the past three years I have yet to observe a Ruby-cheeked Sunbird feeding on nectar, even though many flowering plants were present in some of the locations observed. Arthropods, insects, caterpillars and larvae form the major part of the species's diet. The birds are especially fond of spiders and will go to great lengths to find them. Not many guides mention them taking fruits, but I have observed that fruits do play an important part of their diet particularly when feeding young.

Evidently it is of interest to confirm the feeding behaviour of Ruby-cheeked Sunbird in peninsula Malaysia and readers are encouraged to share their personal observations.

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