

FIELD STUDY

Meat-eating chats: more observations on Blue Whistling Thrushes *Myophonus caeruleus* in Peninsular Malaysia

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Introduction

BirdingASIA has recently published two articles about whistling thrushes *Myophonus* spp. in Peninsular Malaysia (Teo & Wee 2009, Bakewell *et al.* 2010a), and these birds have also been the subject of a field report to the Malaysian Nature Society (Bakewell *et al.* 2010b). Some of the data in those articles concerned a small group of Blue Whistling Thrushes *Myophonus caeruleus dichrorhynchus* living in close contact with people in and around an open-ended cavern that houses a popular religious site, Kek Look Tong Buddhist temple (Plate 1), in tower-karst limestone hills near Ipoh city, Perak state, Peninsular Malaysia (4.57°N 100.13°E). I have observed the birds at this site on and off since 2004, and had two pairs under regular observation while they bred there from late August to mid-October 2010 and again in February

and March 2011, and summarise below their rather surprising diet and foraging habits.

The varied diet of dependent young

Despite relatively low light levels at nest-sites inside the cave, these comparatively fearless birds afforded many opportunities for viewing the items they brought in to feed their nestlings and fledglings (Plate 2). Food items were identified as deliveries brought to the nests and from remains found below nests or extracted from pellets regurgitated by nestlings (Plate 3), and shed much new light on the species's diet compared with the existing literature, certainly for South-East Asia. Pellets regurgitated by adult birds were also collected (Plates 4, 5 & 6). In the Thai-Malay peninsula where races *crassirostris* and *dichrorhynchus* are found, Robinson (1928) and Wells (2007) listed only large

Plate 1. Cave housing the Kek Look Tong Buddhist temple near Ipoh city, Perak state, Peninsular Malaysia. All the plates were taken around this site.





Plate 2. Adult Blue Whistling Thrush *Myophonus caeruleus dichrorhynchus* bringing a dead Garden Fence Lizard *Calotes versicolor* to its nest at Kek Look Tong, 20 September 2010.



Plate 3. Contents of a pellet regurgitated by Blue Whistling Thrush chick at Kek Look Tong, 18 September 2010.



Plates 4 & 5. Contents of pellets regurgitated by adult Blue Whistling Thrushes, at Kek Look Tong, 1 October 2010.

gastropod snails, de-shelled by swiping on an ‘anvil’ rock (Plate 7), and this echoes statements from Burma (Hume & Davison 1878, Smythies 1953), although Smythies added ‘water beetles’. The inventory of the diet of the Himalayan race *temminckii* provided by Ali & Ripley (1998) is altogether broader: ‘mainly earthworms, snails (as in South-East Asia, de-shelled by swiping on rocks), crabs, larvae and aquatic insects, but will also take hatchling birds and almost any other small creature...’. To the global range list, Clement & Hathway (2001) and Collar (2005) added slugs, grasshoppers, ants and other hymenopterans, land beetles (especially cockchafers) and frogs.

The range of items brought in to feed young at Kek Look Tong cave is at least as broad as any of the above. Snails of all sizes were confirmed as common (large gastropods were de-shelled by swiping on a rock routinely used by the most regularly watched pair of breeders), but the picture is not one of a ‘snail-only’ diet. Other invertebrates identified were: earthworms (regular, especially when nestlings were small); centipedes (common); termites (regular for recent hatchlings); cockroaches (common); grasshoppers and crickets, including large cave grillids (common); moths (common for recent hatchlings—see also image in Teo & Wee [2009] of a hawkmoth being brought



Plate 6. Pellet containing predominantly vegetable matter—red skin of MacArthur Palm *Ptychosperma macarthurii* berries—regurgitated by adult Blue Whistling Thrush at Kek Look Tong, 1 October 2010.



Plate 7. Shells of snails removed by Blue Whistling Thrushes on their 'anvil' rock at Kek Look Tong, 8 October 2010.

to larger Cameron Highlands nestlings); caterpillars (common); ants, bees and wasps (regular for small nestlings); spiders (common). In addition, vertebrates: fish (confirmed on three occasions—Bakewell *et al.* [2010b] thought they might have been carrion); frogs and lizards (common); birds (regular). No captures of mammals were confirmed during the main 2010–11 observation period, although one unsuccessful pursuit of a small rat was witnessed, and workers at the temple reported at least one instance of an adult Blue Whistling Thrush carrying a rat. These birds also raided the temple kitchen for scraps of raw butcher's meat.

Predation and handling of reptiles and amphibians

The capture of frogs by a bird of this size (typical weight 220 to 260 g [Bakewell *et al.* 2010b]) that often forages along streams should be no surprise. Indeed, Clement & Hathway (2001) list frogs for seven of the 10 species of the genus, and also for almost half of the species of a second genus of large chats—*Monticola* (rock thrushes). In most cases, prey was broken up, usually by repeated swiping on the preferred rock, and the nestlings were offered individual pieces. Occasionally a nestling was passed a whole or large part of a frog and if this was rejected by being thrown out of the nest it was retrieved by the parent and swiped again. Greenback Frog *Hylarana erythraea* and Common Sunda Toad *Duttaphrynus melanostictus* were confirmed as diet items using photographs (see also Bakewell *et al.* 2010b).

Bakewell *et al.* (2010b) found gecko parts among food remains gathered below active nests, but all the captured lizards I was able to identify as they



Plate 8. Blue Whistling Thrush chick with lizard's tail hanging out of its bill at Kek Look Tong, 22 September 2010.

were brought into Kek Look Tong cave were medium-sized agamids, diurnal animals and hence perhaps more easily caught than mainly nocturnal geckos. Elsewhere, others (Spittle 1952, Wells 2007) have reported house geckos being killed, dismembered and eaten by Oriental Magpie Robin *Copsychus saularis*, another Malaysian chat. On several occasions nestlings were seen to be given these relatively large items whole and they took up to 20 minutes to swallow them, with the tail often left dangling out of the mouth (Plate 8). During these sessions a parent usually stayed nearby, and sometimes intervened by prodding the chick to make it shake and apparently help the food down. On

one occasion, a parent actually pulled a part-swallowed, over-large lizard out of the chick's bill (this also happened with an over-size de-shelled snail), and nestlings themselves occasionally regurgitated a part-swallowed lizard. These rejected items were usually tossed out of the nest onto the cave floor below, from where a parent bird nearly always retrieved them and took them away for further swiping before offering them again. Garden Fence Lizard *Calotes versicolor* and flying lizards *Draco* spp. were confirmed as diet items using photographs.

Skeletal parts of frogs and lizards were regular in nestlings' oral pellets collected from the cave floor below the nests, and still-articulated, picked-over limb bones were sometimes discarded separately. Together, these remains were frequent enough to confirm that amphibians and reptiles formed a significant part of the diet of young Blue Whistling Thrushes at Kek Look Tong. Although not recorded at this site, small snakes are also known to be brought to *dicrorhynchus* nestlings; one, apparently offered whole at a Cameron Highlands nest, was identified as a Mountain Reed Snake *Macrocalamus lateralis* (Teo & Wee 2009).

Bird hunting

References in the literature to the taking of bird prey (Ali & Ripley 1998, Collar 2005) are thought to relate back to a field observation by Way (1945) of a Blue Whistling Thrush of race *temminckii* at Naini Tal, central Himalayan foothills, India, holding an apparent fledgling *Saxicola* chat that it had captured on the ground and then killed by swiping it on a boulder. Blue Whistling Thrushes at Kek Look Tong routinely caught, killed, dismembered and fed birds to their young (Plate 9). Confirmed among the prey

species were Common Tailorbird *Orthotomus sutorius*, Blue Rock Thrush *Monticola solitarius*, Eurasian Tree Sparrow *Passer montanus*, Java Sparrow *Lonchura oryzivora* (from a small feral colony nesting in nearby rock fissures), Rock Pigeon *Columba livia* and, least expected, House Swift *Apus nipalensis*. Most records were of apparent fledglings: a just-fledged Java Sparrow was snatched from the ground at the cave entrance, but a Rock Pigeon squab just sprouting feathers was grabbed direct from a cave nest in a purposeful flying raid. Both of these captures were carried back to the pair's regular anvil rock and killed by persistent sideways swiping while being held in the unusually strongly hooked bill of *dicrorhynchus*—in some birds the bill-nail is actually recurved. The two House Swift hunts recorded during the 2010–11 observation period (and three others in previous years), on the other hand, were for free-flying apparent adults. These birds were literally hunted down and taken in flight as they circled near their own nests high in the cave entrance. Chases lasted for up to 45 minutes, conducted by a lone hunter or by a pair that appeared to be acting cooperatively. In late July 2011, after the main observation period, I also witnessed a pursuit of flying bats in the cave interior by three thrushes of unknown relationship but apparently acting together. A bat was captured on the wing after a chase of about 20 minutes.

Food caching

Before being offered to nestlings all captures, including the swifts, were dismembered by sideways swiping on an anvil rock or by shaking while being stood on. Other behaviour involving birds and other large food items included prey-

Plate 9. Adult Blue Whistling Thrush in process of dismembering small passerine at Kek Look Tong, 15 July 2008.



Plate 10. Dead House Swift *Apus nipalensis* cached by Blue Whistling Thrush at Kek Look Tong, 25 May 2008.



guarding and prey-caching. In one instance, a House Swift carcass passed whole to a fledgling was dropped onto open ground outside the cave entrance, where it soon attracted the attention of two foraging Jungle Mynas *Acridotheres fuscus*. These the returning parent promptly chased off, retrieving and then hiding the swift. Hiding surplus food, especially whole or large parts of vertebrates (more so than of snails or other invertebrates), was seen often and involved the second typical predator behaviour—not previously recorded in chats—caching at one particular spot. The most frequently watched whistling thrush pair routinely hid their surplus bird and other vertebrate prey, both whole and after being dismembered, out of sight in a particular small cavity between the cave wall and their anvil rock (Plate 10). Body parts were later taken to nestlings from this secluded larder store.

Discussion

Some birds take a remarkably greater range of animal food than popularly supposed, one example being Red-bearded Bee-eaters *Nyctornis amictus* (Foley & Yong 2011), and Blue Whistling Thrushes are demonstrably omnivores. Adults take some fruit—at Kek Look Tong especially the berries of the MacArthur Palm *Ptychosperma macarthurii* (Plate 6)—but the notion that they are otherwise just mollusc specialists is far from true. Among Malaysian passerines, some corvids and orioles are known to take nestling birds, but these large chats are thorough-going predators, as Ali & Ripley remarked, apparently taking just about any small animal they are able to catch. Apart from shrikes, I know of no other passerine in the Malaysian avifauna that actually chases and captures other full-grown birds (and bats) in flight, or that caches surplus food. That their regular prey should include such aerial specialists as *Apus* swifts is extraordinary.

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