

NOTEBOOK

The Blue-eared Barbet *Megalaima australis* and its gular sac

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The courtship behaviour of barbets has been reasonably well documented. Once paired, the bond between the birds remains strong. The pair sings incessantly and simultaneously, head bobbing and tail moving side to side in display (Short & Horne 2001, 2002). Courtship feeding goes on for days, with the male feeding the female repeatedly before, during and/or after copulation. What has not been widely reported is the presence of a prominent gular or vocal sac in the male barbet that helps amplify or reverberate their calls. The two most recent barbet monographs (Short & Horne 2001, 2002) do not record the presence of these sacs.

We report here gular sac inflation during courtship singing in the Blue-eared Barbet *Megalaima australis duvaucelii*, a common resident of the Malaysian rainforest. The smallest of the all-green-bodied barbets, this species is

differentiated from others by the colour combinations of the head. The subspecies *duvaucelii* has black ear-coverts with larger red patches above and below, a red cheek-patch and a broad black band on the upper breast (Robson 2005).

In May 2008, the courtship of a pair of Blue-eared Barbets was observed by ATHL from the balcony of his house, about 2 km away from Zoo Negara in the Selangor state of Peninsular Malaysia. Every morning at about 07h15, continuously for a period of two weeks or more, a male barbet would fly to a large, mature tree and start to call. This call was much gentler and softer than the usual territorial call, like the sound of a football referee's whistle, one note at a time, at about 1–2 s intervals, lasting for minutes at a time.

With each note the male puffed hard, deflating his breast and simultaneously inflating the area

Plate 1. A male Blue-eared Barbet *Megalaima australis*, with food in its bill and gular sac inflated, as he calls loudly, May 2008.



Plate 2. The same male barbet with inflated gular sac but without food in its bill, May 2008.





Plate 3. Front view of the male barbet showing the prominent inflated black gular sac, May 2008.



Plate 4. The male barbet with gular sac deflating, May 2008.

around the neck, pushing aside the black feathers that made up the upper breast-band and exposing the smooth black skin of the prominent gular sac. He usually had food in his bill but this did not prevent him from puffing and blowing to expand his sac.

A female always perched in a nearby tree. She appeared attracted to the male's display but waited for him to come close with his courtship offering of food. Only then was there copulation. Each act of copulation was preceded by an offer and actual transference of a succulent fig to the female, although occasionally the male fed his mate a number of times before copulating.

Although it is possible that the pouch can store fruits, it would appear from the way the bird behaved that it was used more for vocalisation. In the courtship feeding that ATHL witnessed fruits were always delivered directly from his bill, never regurgitated.

There were times when the male made both territorial and courtship calls, the latter to recall the female after she flew off for some reason. The territorial call is a series of *chiok-chiok-chiok* that can last a very long time. In such a situation, the bird would very often perch on a high branch. When giving either call his gular sac inflated.

Plate 5. Female Blue-eared Barbet *Megalaima australis* perching nearby with bill agape, May 2008.





Plate 6. The female barbet perching nearby, May 2008.

However, this was not the case with aggressive vocalisations that included fast chatters, squawks, honks, rattles and gratings, usually repeated in short to long phrases and often compounded, as in a squeaky grating or squeaky chatter. The more hooping, popping or hooting songs seem ventriloquial, and may vary in volume simply as a result of the barbet turning its head as it sings.

Kelham (1881) observed a male Blue-eared Barbet “where it sat perfectly still, with head raised, neck stretched out to its full extent and throat distended, apparently quite absorbed in its vocal performance”. A female was nearby. This is probably the first report of the species’s courtship behaviour and its use of the distended throat (presumably the gular sac) to make a vocalisation.

We believe that all Malaysian male barbets, except the Brown *Calorhamphus fuliginosus*, make use of their gular sac in their calls. Smythies (1968) reported a Mountain Barbet *M. monticola* which opens its bill only to hiccup, otherwise the bill remains closed, the throat bulging out with each note.

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Plate 7 (top left). Male Blue-eared Barbet *Megalaima australis* feeding female, May 2008.



Plate 8 (centre left). Male Blue-eared Barbet *Megalaima australis* feeding fruits to female, May 2008.

Plate 9 (centre right). Male about to mount female, May 2008.

Plate 10 (bottom left). Male mounting female, May 2008.

Plate 11 (bottom right). Male and female copulating, May 2008.

