Probable Himalayan/Oriental Cuckoo *Cuculus saturatus/optatus* near Mahuva, with notes on identification of hepatic morph cuckoos in Gujarat

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Batuk Bhil

Probable Himalayan/Oriental Cuckoo - Note rufous head with barring and beak with yellow lower mandible and black tip. The underparts are white with broad and prominent barring, including on vent and undertail coverts. Mahuva, Gujarat.

On 13 October 2019, Vivek Upadhyay and Kandarp Andhariya had visited Mahuva, Bhavnagar District, for photographing the India Blue Robin (*Luscinia brunnea*) and Blue-capped Rock Thrush (*Monticola cinclorhynchus*) which were seen in the area. While birding there, we came across a cuckoo (*Cuculus* sp.), perched on a neem tree, which looked different. It seemed to be of hepatic morph, with rufous on head and mantle. It was smaller in size than a Common Cuckoo (*Cuculus canorus*). The first author took many photographs, from different angles, showing all the features and observed it well till the evening at this place. There were two individuals but we could get photos of only one bird; both bird seemed to be of hepatic morph. This bird was seen by the first author again on 15 October 2019 in the evening at the same place and 18 October 2019 early in the morning.

It was initially identified it as a Lesser Cuckoo (*Cuculus poliocephalus*). However, being unfamiliar with cuckoos in general, the images were shared with senior bird watchers here. It was later identified as a possible Himalayan/Oriental Cuckoo (*Cuculus saturatus/optatus*). This could be the first record of the Himalayan/Oriental Cuckoo for Gujarat as it is not mentioned in the Gujarat checklist (Ganpule 2016, 2017). However, the criteria for identification of hepatic juveniles of Common Cuckoo, Lesser Cuckoo and Himalayan / Oriental Cuckoo (*Cuculus optatus*) are still not well established and the details are given in the identification note. Till the identification in this group is clarified further, this record is treated as a probable Himalayan/Oriental Cuckoo.

Batuk Bhil

Probable Himalayan/Oriental Cuckoo - Note dull rufous upperparts with broad black barring. Note regularly barred black rump, with fine white edges to few feathers. Black-and-white barred tail. White fringes to upperpart feathers indicates juvenile plumage. Mahuva, Gujarat.

[*The observers took many good photos of this cuckoo. As can be seen in the photos, this individual had dull rufous upperparts with*

black barring; whitish edges to black barring were visible on the wings and lower mantle, suggesting a juvenile/first-winter bird. The rump was distinctly and broadly barred with black barring, and had very fine whitish edges to few black bars on the lower rump, suggesting that some feathers had moulted to adult-type. The tail had black-and-white barring. The head was dull rufous, with black barring on nape. The upper mandible was black and the lower mandible was yellow with black tip. The chin and throat were unevenly barred blackish; underparts were whitish, broadly and prominently barred black; vent and undertail coverts were broadly and distinctly barred black and white. The observer stated that it was much smaller in size than a Common Cuckoo. It was tentatively identified as a Himalayan/Oriental Cuckoo. I discuss here the identification and separation of hepatic morph cuckoos seen in Gujarat. The Indian Cuckoo (Cuculus micropterus) occurs in Gujarat but is not covered here since there is no female hepatic morph in this species. It is pertinent to note that only females occur in hepatic morph in all these cuckoo species and the discussion here is regarding only hepatic morph birds. The identification and separation of males and females of the common grey morph of these species is beyond the scope of this work.

Pranjal J. Saikia

Common Cuckoo - Note thin underpart barring. Rump is sparsely barred with white tips to few rump feathers. Bill is black with yellowish base to lower mandible. Whitish tips to remnants of few rump feathers indicates a juvenile in post juvenile moult - other plain feathers on rump are adult-type. Rajasthan.

The Oriental Cuckoo and the Himalayan Cuckoo are now treated as separate species but treatment differs in various works; Payne & Kirwan (2020) treat optatus as a subspecies of C. saturatus. The Oriental Cuckoo breeds in N Eurasia while the Himalayan Cuckoo breeds in the Himalayas, from Kashmir through to Assam, Myanmar, Thailand and S China; the Himalayan Cuckoo is said to winter in Thailand, Malaysia, Philippines, Lesser Sundas and New Guinea (Payne & Kirwan 2020). The Oriental/Himalayan Cuckoo are very similar morphologically and are difficult to separate unless calls are heard and it is not possible to separate these two based only on photographs. There are no known differences in the plumage or bare parts between saturatus and optatus (King 2005, Payne 2005). However, Lindohm & Lindén (2007) suggest that the 'amount of yellow on the lower mandible may be more extensive and the yellow area more clear-cut in saturatus than in optatus. This character warrants closer investigation'. The measurements of flattened and straightened wing length are helpful in separating optatus and saturatus but this feature is useful only when the birds are trapped and measured (Lindohm & Lindén 2007). Thus, it is not possible to separate optatus and saturatus in the field from photographs. Rasmussen & Anderton (2012) stated that reports of optatus as a rare migrant through South Asia have not been verified and may be of saturatus, which averages larger in the western Himalayas; optatus is treated as hypothetical for our region by these authors. Grimmett et al. (2011) give isolated records of Himalayan Cuckoo from the plains of India from Rajasthan, Uttar Pradesh, Bihar, Maharashtra & Assam.

Prasad Ganpule

Grey-bellied Cuckoo - Note the sparsely barred upperparts and plain tail with blackish sub-terminal spots. The lack of yellow eye-ring and red iris is important for identification. Gujarat.

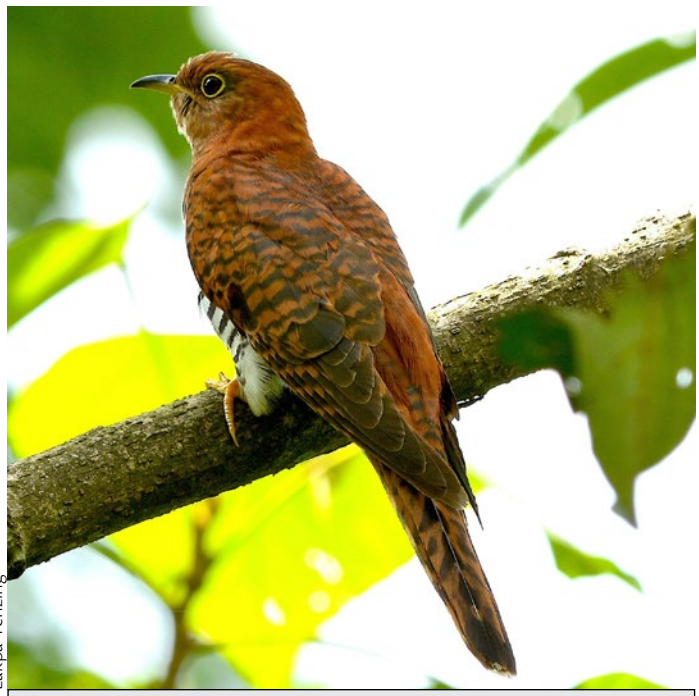
The identification and separation of hepatic morph Himalayan/Oriental Cuckoo from hepatic morph Common Cuckoo, Grey-bellied Cuckoo (Cacomantis passerinus) and Lesser Cuckoo is challenging. In hepatic morph adults of both Common Cuckoo and Lesser Cuckoo, the rump and uppertail-coverts are plain rufous and unmarked unlike in Himalayan/Oriental Cuckoo, where the rump and uppertial-coverts are rufous with dark barring (Payne & Kirwan 2020). However, in hepatic juvenile Common Cuckoo, the rump is unbarred or slightly (sparsely) barred dark brown and tipped white while uppertail-coverts are invariably barred dark brown and tipped white (Mann 2014); the author states that there is some degree of variation in this feature. Photos on OBI website of hepatic juvenile Common Cuckoos do show distinct, but uneven, barring on rump with each feather having prominent and broad white tips; many birds, by September, start showing plain areas

Summary of identification features of hepatic morph adult Oriental / Himalayan Cuckoo, Common Cuckoo and Lesser Cuckoo

Feature	Himalayan / Oriental Cuckoo	Common Cuckoo	Lesser Cuckoo	Remarks
Size	32-33 cm[1]	32-36 cm	22-27 cm	Lesser Cuckoo is smallest among these species
Underparts	White with broad black barring	White with thinner black barring	White with broad black barring	Black bars broader and more widely spaced in Himalayan/Oriental Cuckoo when compared with Common Cuckoo
Upperparts	Dark barred rufous	Dark barred rufous	Dark barred bright rufous	Lesser Cuckoo has richer rufous upperparts
Rump	Distinctly barred black-and-rufous	Unbarred rufous	Unbarred bright rufous	Oriental / Himalayan Cuckoo has barred rump in adult plumage
Bill Colour	Black with yellow, orange-yellow to greenish-yellow base	Black with yellow base	Black with yellow base	Similar in all these species
Nape	Barred rufous and brown	Barred rufous and brown	Usually unbarred bright rufous	Lesser Cuckoo has unbarred bright rufous nape
Voice	'hoop-hoop-hoop' or 'hoop-hoop'	Loud 'cuck-oo'	'chi-chi-chik-chee-cheee-cheee-k'	Voice, if heard, is the best feature for identification

[1]*Measurements taken from Payne & Kirwan (2020)*

on rump with adult-type feathers. However, in this individual from Mahuva, the barring on the rump was more regular (evenly barred) and broader than in a Common Cuckoo. Further, the ventral barring (especially on belly, undertail coverts and vent) was much broader and prominent here than what is usually seen in a Common Cuckoo. The smaller size was also indicative and further supported separation from a Common Cuckoo.



Lakpa Tenzing

Lesser Cuckoo - Note the overall bright rufous plumage. Note the plain nape and unbarred rump. Sparse barring on uppertail coverts is visible. Underpart barring is very prominent. Lack of white tips in plumage indicates adult. Sikkim.

Sumesh PB

Lesser Cuckoo juvenile. Note the barred rump with rump feathers showing prominent white tips. Note bright rufous head and nape, which is typical of Lesser Cuckoo. The larger looking head is quite apparent here. Neat white fringes to mantle indicates juvenile plumage. Kerala.

Separation from hepatic morph Grey-bellied Cuckoo is relatively straightforward; adult hepatic Grey-bellied Cuckoo is bright rufous

above, with sparse, scattered chevrons on mantle and unmarked rufous tail (sometimes with black shaft-streaks and some dark sub-terminal spots or band) and rump is unbarred. Underpart barring is somewhat variable, and is sometimes thin and in some individuals, quite broad and prominent. Hepatic juvenile Grey-bellied Cuckoo is variable, with heavy barring on upperparts, but tail is usually unmarked or very sparsely marked. If seen closely, the iris colour is red and it lacks the prominent yellow eye-ring, which is different from the three Cuculus sp. cuckoos discussed here.

S. N. Varu

Common Cuckoo immature. Note that the rump is sparsely barred, with mix of few plain adult-type feathers and retained barred juvenile type feathers. Note broad black and rufous barred mantle, which has adult-type feathers with only 2-3 retained juvenile feathers, showing white tips. Wings are juvenile and show white tips. Underpart barring note visible. An immature Common Cuckoo as rump shows plain adult type feathers and it lacks the bright rufous of Lesser Cuckoo. Kachchh, Gujarat.

Separation from hepatic Lesser Cuckoo is more problematic. Unless calls are heard, it is very difficult to separate hepatic Himalayan/ Oriental Cuckoo from Lesser Cuckoo. In general, in adult hepatic Lesser Cuckoo, the rufous on head is brighter and nape is unbarred; the overall plumage is brighter. While the adult hepatic Lesser Cuckoo is said to have unbarred rump and uppertail-coverts ['barring often lacking on crown and rump' as per Rasmussen & Anderton (2012)], the variation shown by juvenile hepatic Lesser Cuckoo is not well known. A close scrutiny of photographs of hepatic Lesser Cuckoo and Himalayan/Oriental Cuckoo posted on the OBI website shows that the rump and uppertail-coverts are distinctly barred in adult Himalayan/Oriental Cuckoo while in adult hepatic Lesser Cuckoo, these are either unbarred or only very faintly/sparsely barred and are bright rufous. Thus, separation of adult Lesser Cuckoo from Himalayan/Oriental Cuckoo is easier if rump/nape is seen well.

Hepatic juvenile Lesser Cuckoo shows barring on rump, but the extent of barring is probably variable and this feature has not been well studied. A hepatic Lesser Cuckoo from Maharashtra, depicted in Vartak & Shenai (2018), shows an individual with very sparse barring on rump (which is bright rufous) and it has a bright rufous, plain nape with some white spots, indicating it as a juvenile/first-winter bird moulting into adult plumage. There are a few photographs, posted as Lesser Cuckoo on the OBI website and on eBird, where the rump is barred and the plumage looks somewhat 'muted' with only a few adult-type bright rufous feathers while in a few other photos, the plumage looks bright rufous on the head but the rump is barred – in all these birds, each rump and uppertail-covert feather shows prominent and broad white tips (somewhat similar to juvenile Common Cuckoo), and also white tips to mantle and wing feathers, indicating these as juveniles. See photo of a juvenile hepatic Lesser Cuckoo from Kerala (https://ebird.org/checklist/S32374244), which is given here, where the rump is barred and each rump feather shows prominent white tips; note here that it has a proportionately large-headed appearance and few adult-type feathers on the nape are unbarred bright rufous, which is typical of hepatic Lesser Cuckoo. In other photos of the same bird posted on eBird, the plumage looks tawny and not as rufous, and only a few nape feathers looks rufous. Thus, camera settings will also affect the plumage tone in these cuckoos to some extent. The Himalayan/Oriental Cuckoo and Lesser Cuckoo hepatic juveniles show barred rump but in Lesser Cuckoo, the pattern of barring is probably different (each feather showing prominent white tips to rump and uppertail covert feathers) from Himalayan / Oriental Cuckoo. However, the extent of variation in rump barring in juvenile hepatic Lesser Cuckoo needs more study and it remains to be seen if it it varies from Himalayan/Oriental Cuckoo. As per Mann (2013), optatus and saturatus lack white tips to rump feathers but it is not clarified whether this is true for hepatic juveniles. However, photos of hepatic juvenile Oriental / Himalayan Cuckoo on OBI and eBird do show very faint white tips to rump feathers, somewhat similar to what is seen in the Mahuva bird, but these white tips are not as broad, uneven and prominent as seen in juvenile hepatic Lesser Cuckoo and the rump is more evenly and regularly barred. Further, in Lesser Cuckoo, even in hepatic juveniles, the nape usually shows

a few bright rufous feathers and structurally, it looks rather large-headed, which was not noted in the Mahuva bird.

After post-juvenile moult to adult plumage, the rump and nape becomes unbarred bright rufous in Lesser Cuckoo while it remains barred in Himalayan/Oriental Cuckoo, which can be seen in the photos of hepatic adults of these species. Hence, an adult plumaged hepatic cuckoo which shows a barred rump can be identified as a Himalayan/Oriental Cuckoo but this feature (rump barring) is probably not very useful in hepatic juveniles unless the rump is seen closely and very well and other features (especially nape feathers and structure) are noted. The few bright rufous adult-type feathers, usually present on mantle or nape, are indicative of Lesser Cuckoo as Himalayan/Oriental Cuckoo does not show such bright rufous feathers. There are some differences even in reference texts for the hepatic morph Himalayan Cuckoo; this is illustrated as having a barred rump in Grimmett et al. (2011), Rasmussen & Anderton (2012) and Payne & Kirwan (2020) while Brazil (2010) shows the hepatic Himalayan Cuckoo with unbarred plain rump and hepatic Oriental Cuckoo with prominent rump barring!

Prasad Ganpule

Probable Himalayan/Oriental Cuckoo. Note evenly barred rump, which lacks white tips indicating adult plumage. The mantle feathers lack white tips. The underpart barring is partly visible, which shows somewhat broader bars. A Himalayan/Oriental Cuckoo? - adult type plumage with evenly barred rump, lack of bright rufous feathers on nape/mantle suggests that this is not a Common or Lesser Cuckoo. September 2017, Kachchh Gujarat.

We sent the images of the Mahuva bird to Dr. Clive Mann for his opinion and to confirm the identification. He opined that for this individual, 'the plumage is that of an Oriental / Himalayan Cuckoo, and I cannot separate them. But if the observer says it was much smaller than a Common Cuckoo, then I think it must be Himalayan Cuckoo'. Regarding separation from Lesser Cuckoo, he stated that 'the Lesser Cuckoo does not have black and white barring on the tail, is much more rufous on the head, and the rufous colour is much brighter' (in litt., email dated 20 November 2019). We also consulted Antero Lindholm, who has studied optatus and saturatus in detail. He informed (in litt., email dated 21 December 2019) that compared with a Lesser Cuckoo, the Gujarat bird seems to 'have a stronger bill, relatively smaller head, and somewhat longer-looking body, and possibly also tail. This leads away from Lesser Cuckoo. Most rufous feathers in this individual may be already moulted to adult-like (hepatic) plumage'. Thus, structurally, the individual from Mahuva fits more closely to a Himalayan/Oriental Cuckoo rather than a Lesser Cuckoo and the adult-type feathers seen on the mantle here are similar to Himalayan/Oriental Cuckoo and are not bright rufous, as seen in a Lesser Cuckoo. Thus, two expert opinions indicated that the Mahuva bird was an Oriental/Himalayan Cuckoo.

Ali & Ripley (1981) stated that the Himalayan Cuckoo 'has been (rarely) taken from the plains of India' and suggest that this species is liable to be overlooked or misidentified in the non-breeding season. The Oriental Cuckoo is known to be prone to vagrancy and there is a record from Africa (Mann 2013), and it has been noted in Israel, Iran, Crimea and also to western Russia and towards Aleutians and Bering Sea Islands, Alaska, which are all attributed to optatus (Payne & Kirwan 2020). However, vagrancy for Himalayan Cuckoo is not widely reported, probably due to identification difficulties. For this record from Mahuva, it is likely a saturatus rather than an optatus. As stated by Dr. Mann, it is possible that it could be a likely C. optatus too and unless such wintering birds are trapped, measured and subjected to DNA analysis, we cannot be sure. It is very likely that the Himalayan Cuckoo (or even Oriental Cuckoo) could be a winter/passage vagrant to the plains of India in the non-breeding season, but, since the birds are silent, and the identification is tricky, these could be overlooked. Though Rasmussen & Anderton (2012) had stated that reports of optatus from India have not been verified, it is possible that optatus could occur here and hence, saturatus as well as optatus is considered here till more data is gathered and museum studies are done. It is essential that future studies involve large scale trapping and measuring the birds as well as testing for DNA to confirm whether optatus occurs here in India.

The discussion on identification given here is restricted only to hepatic morph birds of Himalayan/Oriental, Common, Lesser and Grey-bellied Cuckoo but this also requires further study, especially

regarding differences in plumages in hepatic juveniles of these species. It is quite likely that grey morph Himalayan Cuckoo, or even Oriental Cuckoo, could also be occurring as a vagrant in the plains of India and birdwatchers should familiarize themselves with the features of these Cuculus sp. in all their morphs. Normal plumaged juveniles would be especially difficult to identify and separate in these species. Further, there are many photos of these species where rufous-looking juveniles show grey newly moulted adult-type feathers, indicating that these would be normal plumaged adults. Such birds are not covered here. It is important to get as many photographs as possible, from all angles, and also note the size of the bird in the field. Photographs showing the underwings are useful for identification, and should be obtained if possible. An overview of all photographs of birds which would fit to Himalayan/Oriental Cuckoos from the plains of India will be helpful to check for more records of the species in the winter, away from its breeding range. Studies of museum specimens will be very helpful in understanding different plumages in these cuckoos. Unfortunately, there are no specimens, from the Himalayas, of hepatic juvenile Lesser Cuckoo and of hepatic juvenile C. saturatus in NHM, Tring, UK, and hence, specimen photos could not be studied or compared to check the various features discussed here (Hein Van Grouw, in litt, email dated 27 January 2020). However, specimens from other areas, especially from Southeast Asia, can be studied and compared.

A detailed paper on the identification of Oriental Cuckoo and Common Cuckoo is set to be published in the journal 'Dutch Birding' in the near future, which will discuss identification of hepatic morph birds also, and will be helpful in the identification of these species (Antero Lindholm, in litt, email dated 21 December 2019). In addition to plumage details, structural differences of Himalayan/ Oriental Cuckoo from Lesser Cuckoo should also be studied and could prove to be important in separating these species. In general, hepatic morph cuckoos have not been studied in Gujarat, or even India, and much work is required before we can establish criteria for identification, especially in hepatic juveniles, for these species. It is hoped that this paper would form a base for future studies.

At this stage, after discussions with senior birders from Gujarat, it was decided to treat this record as a 'probable' Himalayan/Oriental Cuckoo since features in hepatic juveniles of Himalayan/Oriental Cuckoo, Common Cuckoo and Lesser Cuckoo are not widely studied and the criteria for identification are not well established. It was decided to wait till further publications, which clarify the identification in these species, are available. Based on the expert opinions given here, the Himalayan/Oriental Cuckoo is a likely addition to the Gujarat checklist as it has not been noted in Gujarat earlier (Ganpule 2016, 2017). But, the decision on whether to add the Himalayan/Oriental Cuckoo to the state checklist can be taken in the future, based on more expert opinions, and after referring to the latest publications which will better illustrate the features to be studied for conclusive identification. A photo of another probable Himalayan/Oriental Cuckoo from Kachchh is given here, which can be referred to experts in the future. It is suggested that all photographs of Common Cuckoos and Lesser Cuckoos, posted on birding websites in India, be scrutinized for possibility of Himalayan/ Oriental Cuckoo and such photographs can then be referred to experts for further clarifications.

I thank Dr. Clive Mann and Antero Lindholm for helping with the identification of this individual from Mahuva. I am thankful to Hein Van Grouw for checking specimens in NHM, Tring, UK. I am grateful to Pranjal J. Saikia, Lakpa Tenzing Sherpa, Sumesh P. B and S. N. Varu for contributing photographs – Prasad Ganpule]

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