

Mystery flycatchers in Central Sumatra—Rück's Blue-flycatcher or White-tailed Flycatcher?

ZULQARNAIN ASSIDDIQI¹, SEBASTIANUS (BAS) VAN BALEN² AND N. J. COLLAR³

¹Paguyuban Pengamat Burung Jogja, Yogyakarta, Indonesia zulqarnainhadza@gmail.com.

²Basilornis Consults, Muntendampad 15, 6835 BE Arnhem, Netherlands. ³BirdLife International, Pembroke Street, Cambridge CB2 3QZ, UK, and Bird Group, Department of Life Sciences, Natural History Museum, Akeman Street, Tring, Herts HP23 6AP, UK

Summary: Observations, photographs and a sound-recording taken in Jambi, Sumatra, in 2013 and 2014 refer to a pair of unidentified flycatchers with certain characters that match some features of Rück's Blue-flycatcher *Cyornis ruckii*. However, a review of alternative possibilities cannot exclude and indeed tends to favour White-tailed Flycatcher *C. concretus*, given that (i) the white breast-patch of the female and white tail-markings of the male can remain hidden, (ii) the female can be strikingly rufous in some light or some individuals, and (iii) the white belly patch seems to exclude *ruckii*. The sound recording has no match in sound archives and the song recorded might have involved infrequently heard phrases used in courtship. Nevertheless, new searches of the undisclosed site are planned, and new searches in any remaining tracts of primary lowland forest on Sumatra are urged.

Ringkasan: Pengamatan, foto, dan sebuah rekaman suara yang diambil di Jambi, Sumatera, pada tahun 2013 dan 2014 mengarah pada sepasang burung sikatan biru tak teridentifikasi dengan karakter tertentu yang cocok dengan Sikatan Aceh *Cyornis ruckii*. Namun, tinjauan mengenai kemungkinan jenis lain tidak dapat dikecualikan dan memang ada kecenderungan pada Sikatan besar *Cyornis concretus*, mengingat bahwa (i) warna putih pada bagian dada betina dan penanda berupa bulu ekor putih pada jantan tidak selalu terlihat, (ii) dalam cahaya tertentu atau pada individu tertentu seekor betina dapat terlihat kemerah-merahan yang mencolok mata, dan (iii) bercak tubuh putih tampaknya mengecualikan *ruckii*. Rekaman suaranya tidak menunjukkan kecocokan terhadap suara manapun di arsip bunyi burung di mana Sumatera merupakan kawasan yang memang sedikit terwakili dan dalam kicauan tersebut kemungkinan terdapat frasa yang digunakan saat masa pencarian pasangan yang jarang terdengar. Walaupun demikian, pencarian baru di lokasi yang masih dirahasiakan ini telah direncanakan dan pencarian baru di setiap kawasan hutan primer dataran rendah yang masih tersisa di Sumatera sangat disarankan.

Introduction

Species of *Cyornis* flycatchers on Sumatra are nine in number and similar in appearance, representing a considerable identification challenge, particularly in forest contexts where visibility can be greatly hampered. One of the species, Rück's Blue-flycatcher *C. ruckii*, has not been seen for over a century and is consequently of particular interest; the evidence suggests that it is probably endemic to Sumatra and may best be searched for in primary lowland forest (Collar 2020). Here we report on some observations of *Cyornis* flycatchers which created some uncertainty over the possibility that they represented *C. ruckii*.

Encounters in 2013 and 2014

From October 2013 to March 2016 ZA was engaged on biodiversity survey transects of lowland forest patches in Jambi province, Sumatra, Indonesia, organised by Fauna and Flora International (FFI). At around 13:45 hrs on Friday 28 December 2013, along a 2 km transect in an area of secondary lowland forest, he encountered and managed to photograph two unusual flycatchers behaving as a pair. They were slightly larger than a typical *Cyornis* flycatcher, in size closer to White-tailed Flycatcher *C. concretus* or Blue-and-white Flycatcher *Cyanoptila cyanomelana* (species with which ZA was only glancingly acquainted). One bird, assumed to be male, had uniform deep blue upperparts, pale blue supercilium and blackish-blue face, deep blue throat to breast, gradually becoming white on the belly and vent (Plates 1-2). The other bird, assumed to be female, had uniform rufous upperparts becoming brighter on the face (Plate 3). Both birds had black bills, pale legs and black eyes without an eye-ring. The male performed some dancing movements in front of the female, but no sound could be heard from either bird. After about five minutes, the pair flew off, as if disturbed. When the male flew, no white was seen in his tail.

Five months later, at 09:00 hrs on 21 May 2014, 9.8 km away from the site of the 2013 observation (on the other side of the forest patch), ZA encountered a pair of what he considered the same flycatchers, the deep blue male flying after the rufous female across the track in front of him, allowing brief views before disappearing into cover. Three minutes later, only 50 m away from the site of this observation, ZA heard and sound-recorded a flycatcher song unknown to him. Unfortunately the singer could not be seen, and during the 1 minute 38 seconds of recording the bird moved away and soon could not be heard. The song consisted of a first stressed note, a short pause, two descending notes, usually followed by a musical rapid cascade of descending tinkling notes (Plate 4), typically alternating with harsh *tchuk-tchuk* calls (which could be the singer or the responses of the female, but such notes are often heard in *Cyornis* song sequences: SvB pers. obs.).

Both these observations took place in hilly logged lowland forest at 250-400 m asl. Large trees dominated in both areas, but canopy cover was variably incomplete and the undergrowth was dense with tall, narrow-boled saplings and ferns. Small streams were within 200 m at both sites.

Identification options

The brevity of the encounters outlined above, the quality of the photographs and the inability to locate the singer of the unfamiliar song combine to render firm identification of the birds in question unfeasible. Given that on both occasions the two birds were closely associating, it is at least reasonable to assume they belonged to the same species. However, for the purposes of analysis, we consider the identity of the birds and the song separately here.

Identity of the male

We exclude the local subspecies of Indigo Flycatcher *Eumyias indigo ruficrissa* and the Verditer Flycatcher *E. thalassina thalassoides* because (apart from the fact that the sexes are alike) the male of the former has a rufous vent and occupies montane habitat and the male of the latter is pale greenish-blue with no white on the belly (Eaton *et al.* 2016). Based on their coloration and presence on Sumatra, other candidate flycatcher species to consider are: Blue-and-white Flycatcher, Zappey's Flycatcher *Cyanoptila cumatilis*, Pale Blue Flycatcher *Cyornis unicolor*, White-tailed Flycatcher and Rück's Blue-flycatcher.

- Blue-and-white Flycatcher male has a relatively small bill, black breast with a sharp edge at the transition to the white belly, and whitish bases to the outer tail; it also has a more elongate,

streamlined appearance than the bird in Plates 1-2. Moreover, as a winter visitor to Sumatra it would seem unlikely to show courtship behaviour in December or to be present in May.

- Zappey's Flycatcher male has a dark blue breast but otherwise shares the features that disqualify Blue-and-white Flycatcher.
- Pale Blue Flycatcher male has a relatively small bill and paler blue upperparts and underparts, the latter becoming greyer on the belly and vent, with no white.
- White-tailed Flycatcher male has, like the bird in Plates 1-2, a relatively large black bill, overall plumage colour pattern and variably shaded legs ('pink, pinkish-brown to dark lavender grey': Clement 2006), but it is not so extensively black on the loreal area. Moreover, it has bold white on the inner rectrices.
- Rück's Blue-flycatcher male has a bill size and colour pattern that, in one of the two known adult male specimens (Plate 1d-e in Collar 2020), resemble the bird in Plates 1-2 (but see 'Discussion and conclusion').

Identity of the female

Indigo and Verditer Flycatchers are immediately eliminated as their females are like males.

- Blue-and-white Flycatcher female has a relatively small bill, lacks the rufous coloration of the face, breast and upperparts of the bird in Plate 3, and has a more elongate, streamlined appearance. It would not be expected to be on Sumatra in May.
- Zappey's Flycatcher female very closely resembles that of the Blue-and-white Flycatcher (Leader *et al.* 2012) and can be eliminated for the same reasons.
- Pale Blue Flycatcher female has a relatively small bill and a much duller, more uniform plumage with no rufous on head or breast and an all-greyish belly.
- White-tailed Flycatcher female has a uniform warm brown plumage, paler and slightly greyer on throat and breast, with a broad white horizontal streak across the latter, rather greyish-white belly, and white panels in the outer rectrices. However, in some light (or in some individuals) the head can appear rufous, especially on the face. Moreover, the white breast-patch can be completely obscured, although when the bird is seen well it should be discernible, but this requires the right angle, or the bird to stretch to reveal it (J. A. Eaton *in litt.*).
- Rück's Blue-flycatcher female has a bill size and colour pattern, with strong rufous lores and breast shading to whitish belly, that makes a strong match for the bird in Plate 3.

Identity of the singer

As the recording was made just after the sighting of the pair of unidentified blue-flycatchers, it is obviously possible and arguably probable that the song came from the male of this pair, particularly given its courtship-like behaviour less than three minutes earlier. Moreover, given the pair's fairly strong match to *Cyornis ruckii* it is wholly consistent that the song in question would not find a match with any other recorded species.

Certainly based on existing recordings there is no clear match for the song with any other species of flycatcher on Sumatra. The song appears typical of a *Cyornis* flycatcher, with its short phrases of sweet tinkling notes, but the pattern is distinctive. Here we consider all *Cyornis* flycatchers (taxonomy of Eaton *et al.* 2016, del Hoyo & Collar 2016) known from Sumatra with the exception of Mangrove Blue-flycatcher *C. rufigastra* (confined to

mangroves) and Indochinese Blue-flycatcher *C. sumatrensis* (like *C. ruckii* known only from Sumatra through van Heyst's collection: van Marle & Voous 1988).

- Fulvous-chested Jungle-flycatcher *C. olivaceus* has a song phrase with marked descent in pitch, but lacks the sudden change in pace.
- Grey-chested Jungle-flycatcher *C. umbratilis*, which was the commonest of 11 species of flycatcher encountered during ZA's fieldwork, has a song phrase consisting of a few whistles descending in pitch, typically given with an introductory thin *tee* or sharper *zeet* (see Eaton *et al.* 2016). The recorded song closely matches the song of this species (J. A. Eaton, *in litt.*), but Grey-chested lacks the fast descending note series heard on the recording.
- Pale Blue Flycatcher has a whistled song phrase which typically has a narrower bandwidth and also lacks fast series of short notes.
- Large-billed (Sunda) Blue-flycatcher *C. caerulatus* has a song phrase of some 3-5 whistles, typically a few high-pitched and a few low-pitched, again lacking any fast descending series of notes.
- Malay Blue-flycatcher *C. turcosus* typically has song phrases of some 4-6 notes, either descending or rising in pitch, lacking fast series of short notes.
- White-tailed Flycatcher, which was later found in the forest patch, has a very variable song, sometimes incorporating avian mimicry (Robson 2000), but typically consists of phrases of 3-7 piercing but tuneful notes. Although difficult to eliminate this species, we have not found examples of phrases that include fast descending note series.

Despite this evidence, the songs of *Cyornis* species from Sumatra are very poorly represented in online sound archives (P. Boesman *in litt.*), such that the degree of variation in them remains undocumented.

Discussion and conclusion

The only real choice in identifying the pairs of flycatchers under discussion is between White-tailed Flycatcher and Rück's Blue-flycatcher. Of the two, the evidence might be considered to favour the latter. Nevertheless, there are at least five problems.

The first concerns the amount of white apparent on the belly of the male. This was noted by ZA in his observation, and a clear area of white on the lower right flank of the bird in Plate 2 certainly suggests a fairly extensive patch of white on the belly. This conforms well with the illustration of *ruckii* in Clement (2006), Eaton *et al.* (2016) and del Hoyo & Collar (2016), but unfortunately this feature is a significant error (Collar 2020). In reality, barely any white should be expected on a bird fully conforming with the two adult male museum specimens.

A second drawback concerns the confidence with which White-tailed Flycatcher can be ruled out on the basis that the tail of the male and the breast of the female showed no white. The white in the tail might be most apparent when a bird lands, spreading its rectrices as a brake, not when it takes off; and in the experience of J. A. Eaton this feature is rarely if ever seen except when the bird is very excited (although the male seen in December 2013 appeared to be performing a courtship dancing display, so any tail marks if present might be expected to have been exposed). Moreover, the breast-patch in the female can remain concealed (Plate 6) or at least be difficult to see at certain angles.



Plate 1. Unidentified male *Cyornis* flycatcher, 28 December 2013. Photograph Z. Assiddiqi.



Plate 2. Unidentified male *Cyornis* flycatcher, 28 December 2013. Photograph Z. Assiddiqi.

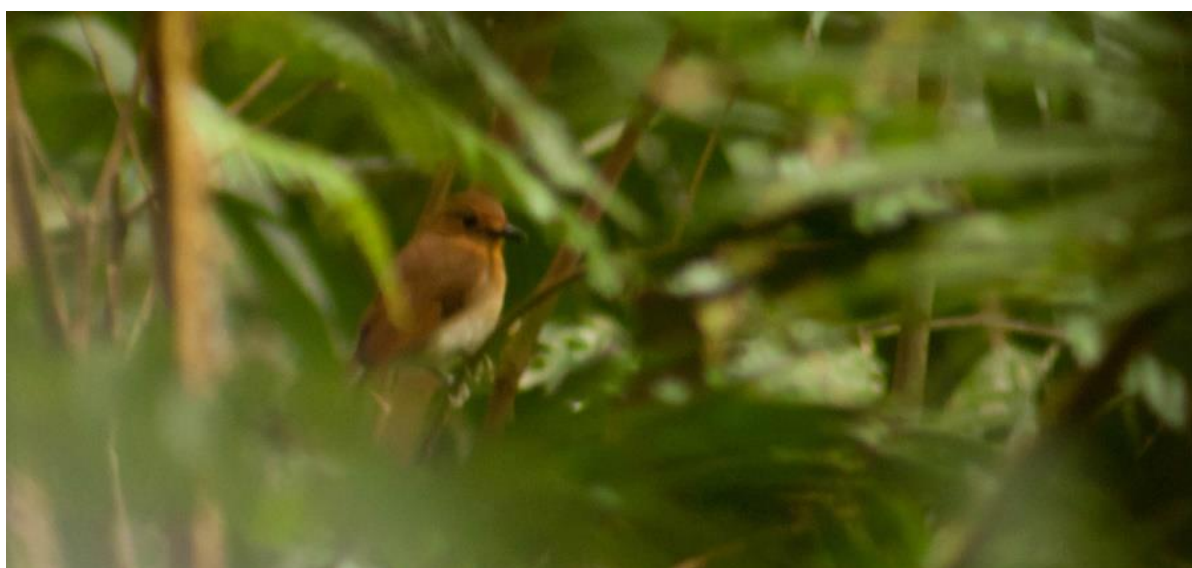


Plate 3. Unidentified female *Cyornis* flycatcher, 28 December 2013. Photograph Z. Assiddiqi.

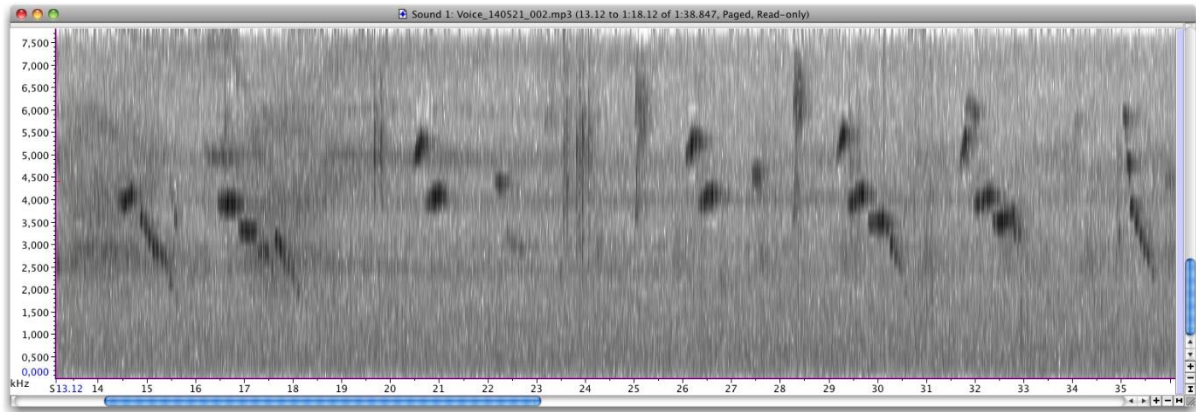


Plate 4. Sonogram of part of the unidentified blue-flycatcher song recorded 21 May 2014.



Plate 5. Female White-tailed Flycatcher *Cyornis concretus everetti*, Poring Hot Springs, Sabah, Borneo, 24 October 2008, showing no white breast-patch but considerable rufous on the face to upper breast, and pale legs. Photograph Troy Shortell; at www.orientalbirdimages.org.



Plate 6. (a) Female White-tailed Flycatcher *Cyornis concretus everetti*, Kinabalu Park, Borneo, 25 April 2015. Photograph Andy Boyce; at <https://ebird.org/checklist/S38482793>.

A third difficulty is that the orange-rufous on the breast of the only adult female *ruckii* and warm rufous-chestnut on its head and upperparts (see Plate 1a-c in Collar 2020), which seems well matched by the female photographed in 2013, appears to be typical of White-tailed Flycatcher females in Sumatra (according to J. A. Eaton) and indeed elsewhere in Indonesia. Plates 5 and 6a show such birds with rufous plumage, perhaps caught by a particular angle of the light; 6a seems closely to resemble the bird photographed in 2013, even though the subspecies in question, Bornean *everetti*, is supposedly 'duller than nominate', the form on Sumatra (Clement 2006).

A fourth consideration is the colour of the legs. These were pale in ZA's birds, as suggested in Plate 2. Oustalet (1881) used 'grisâtres' (greyish) for the tarsi of the long-dead type of *ruckii*, Robinson & Kloss (1919) dubbed the legs of their material 'plumbeous' and van Heyst himself, presumably contemplating his freshly collected adult male, wrote 'pooten blauwachtig grijs' (feet bluish-grey) on its label (specimen 450702 in the American Museum of Natural History; see Collar 2020). However, Clement (2006) indicated that the legs of White-tailed Flycatcher run a spectrum from pale to dark, so this seems marginally the likelier candidate on this character.

A final issue concerns the recorded song. While this appears very different from the song of White-tailed Flycatcher, three factors need consideration. First, as noted, *Cyornis* songs on Sumatra are rather poorly documented, and their diversity within species may be greater than is currently apparent. Second, as also noted, White-tailed Flycatcher is capable of mimicry, rendering comparisons unusually difficult. Third, the male flycatcher was actively seen chasing the female just prior to the song being heard, which suggests that the song was not a usual territorial self-advertisement but a similar vocalisation incorporating elements specifically used in courtship or for mate attraction. For all these reasons White-tailed Flycatcher cannot be eliminated.

Moreover, while White-tailed Flycatcher is certainly a bird of primary lowland forest, it is also known to tolerate secondary forest, regenerating formations, bamboo, abandoned plantations and 'scrub-covered hillsides', often near watercourses or in 'dark gulleys' (Clement 2006, Wells 2007, Mann 2008, Eaton *et al.* 2016). This then fits the species well to the habitat of ZA's encounters. On the other hand, if van Heyst's two specimens came from lowland primary forest (Collar 2020), we cannot confidently say the same thing of *Cyornis ruckii*. Moreover, if *ruckii* was indeed a primary lowland forest specialist, the wholesale destruction of such habitat in the course of the last century (Whitten *et al.* 2001) perfectly explains the failure of ornithologists to rediscover the species. Even so, the *possibility* that ZA's birds were *ruckii* cannot and should not be ignored. An intensive survey of the forest in which the observations were made in 2013 and 2014 is urgently needed. Information identifying the site is withheld here for security purposes, in accordance with Collar *et al.* (2017), as blue-flycatchers are not immune from the Indonesian bird trade (Gwee *et al.* 2019), but it will be made available for *bona fide* researchers, and fieldwork at the site is already being planned. A programme of systematic searches for and surveys of any remaining fragments of lowland forest on Sumatra, particularly in the northern part of the island, would still be welcome in whatever stands remain, as well as in logged forest still retaining tall trees. The recorded song will also be made available to researchers for playback in order to facilitate the search and, at least, to discover the identity of the singer.

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