The first record of the undescribed "Spectacled Flowerpecker" (*species novum*) for Indonesia

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Ringkasan. Berikut ini kami sajikan rincian dari sejumlah penampakan dari "spectacled flowerpecker" (*species novum*) yang belum terdeskripsikan di Bukit Batikap Hutan Lindung, Kalimantan Tengah, Indonesia, antara Januari dan Nopember 2015. Ini adalah pertama penampakan dari spesies ini yang belum terdeskripsikan untuk Indonesia. Kami menyediakan informasi tentang bulu, vokalisasi dan perilaku makan di sini, yang diharapkan akan menghasilkan lebih banyak catatan, dan deskripsi formal dari spesies yang belum terdeskripsikan.

Introduction

Edwards *et al.* (2009) mention the existence of a new species of flowerpecker (*species novum*) based on sightings and photographs of two birds at Danum Valley in Sabah. The species name "spectacled flowerpecker" (henceforth referred to as spectacled flowerpecker) is put forward and it is deduced that it is likely to belong to the genus of *Dicaeum* (Edwards *et al.* 2009). Unfortunately no holotype could be collected and therefore the species remained formally undescribed and consequently, placement in *Dicaeum* or *Prionochilus* remains speculation. Sykes and Loseby (2015) summarised records of spectacled flowerpeckers that have been made since the initial revelation of the species' existence by Edwards *et al.* (2009). The species has been observed at Labi Road, Brunei (2014) and at the Maliau Basin, Sabah (2014) (see figure 1) (Sykes and Loseby 2015). Phillipps and Phillipps (2014) assume the spectacled flowerpecker to be an endemic to Borneo, given that all records so far have originated from this island. However, prior to January 2015, no sighting of the species had been reported in Indonesia, which accounts for two thirds of the island.

Spectacled Flowerpecker in Indonesia

Definite sightings of a single, apparently adult, bird were obtained on 19 and 29 January and on 9 and 28 March 2015 in Bukit Batikap Protection Forest (BBPF), Central Kalimantan, Indonesia (Fig. 1). The adult bird was seen on the respective days at 11:40, 14:50, 10:05 and 09:15. In addition, a very brief and thus inconclusive sighting of an immature-looking bird resembling this species was obtained at around 11:00 on 28 March 2015. Despite regular efforts in April and May 2015, no sightings were obtained in those months, and no experienced birdwatcher was present to search for the bird from June to August. However, an adult bird was then observed at the same site on 27 September, 8, 9, 11 and 15 October 2015. On the 25 November 2015 two presumed adult birds were observed in quick succession; it is likely that these were different individuals. In December, spectacled flowerpecker calls and songs were heard on a number of days near the same mistletoe, but no clear sightings were obtained. All encounters from October to December were made between 05:45 and 08:30. During most of the sightings the bird was seen feeding on berries of a mistletoe, which was positioned only a few metres from the

nearest ground and so allowed for close views of the feeding bird. It was also occasionally observed singing or calling on treetops close to the mistletoe, and was once seen preening.

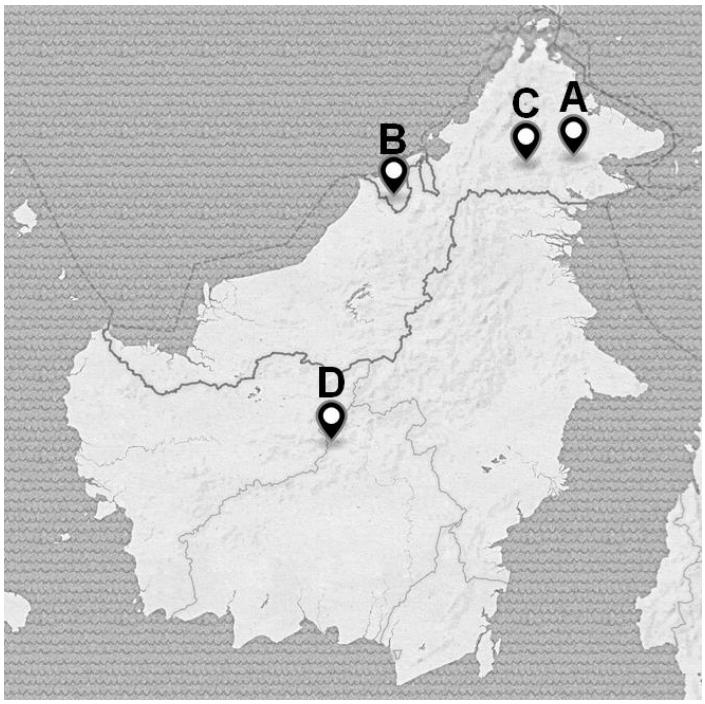

Figure 1. "Spectacled flowerpecker" (*species novum*) records based on Edwards *et al.* (2009), Sykes and Loseby (2015) and our record. A: Danum Valley, Sabah, Malaysia, B: Labi Road, Brunei, C: Maliau Basin, Sabah, Malaysia, D: Bukit Batikap Protection Forest, Central Kalimantan, Indonesia.

All spectacled flowerpecker sightings in BBPF were made on a small free-standing ridge hill located in the valley basin. BBPF consists of approximately 400 000 hectares of lowland and hill forest, of which the vast majority is undisturbed. The forest at lower elevations is dominated by trees of family Dipterocarpidae. However, the forest type on the hills, including this small free-standing hill, is hill or lower montane forest with a notably lower canopy (Fischer unpub. data). The altitude of all sightings was approximately 280 m asl, with the location bounded by 0°1'53"N, 113°29'27"E. The mistletoe on which the spectacled flowerpecker was observed feeding was parasitizing a fig tree rooted to the side of a cliff adjacent to the top of the hill. While the mistletoe was around six metres above the tree's roots, it was no more than three metres higher than the ground at the top of the cliff.

Plumage description

The following information is based on photographs taken of a presumed adult spectacled flowerpecker from 29 January (Plate 1) and 28 March 2015 (Plate 2). It remains uncertain whether these sightings concern the same bird.

HEAD: The plumage on the head was mostly uniform dark grey. The centre of the throat was clean white (continuing onto the ventral stripe), diffusely bordered by a dark grey malar stripe. The eye-ring was broken, clean white, well-defined and striking. The supraloral and submoustachial markings were faint white and less prominent than the eye

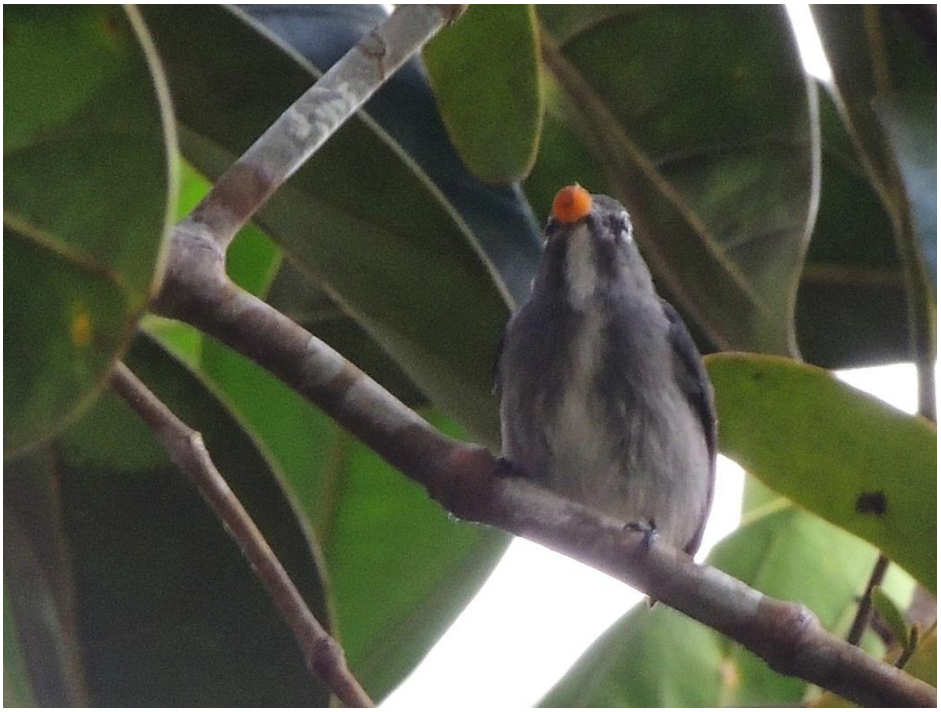

Plate 1. "Spectacled Flowerpecker", Bukit Batikap Protection Forest, Central Kalimantan, Indonesia, 29 January 2015.

Plate 2. "Spectacled Flowerpecker", Bukit Batikap Protection Forest, Central Kalimantan, Indonesia, 28 March 2015.

ring. The supraloral white line extended from the bill just below the nostril almost as far as the upper eye-ring arc.

UNDERPARTS: The white stripe starting in the centre of the throat extended downwards to the vent and undertail coverts. Either side of this stripe was bordered by grey, which covered the rest of the underparts. On the breast the white stripe was well-defined and narrow, becoming broader on the belly, where the surrounding grey became less uniform with patches of paler grey feathering. On the belly the grey became progressively paler away from the centre towards the flanks. The photographs from 29 January 2015 (Plate 1) suggest white or near-white feathering on flanks revealed in "puffed-up" posture with the wings held back. These photographs appear to show the white/near-white flanks as contiguous with the downy white feathers of the pectoral tufts, which otherwise appear isolated against grey in normal posture. The photographs do not give a clear view of the lower belly but suggest darker grey markings on the thighs and along part of the border of the white vent.

UPPERPARTS AND TAIL: The upperparts were mostly uniform dark grey, although the photographs from 28 March 2015 (Plate 2) show the flight feathers on the wing as black. The upperparts appeared darker than the breast. No clear image or view was obtained of the rump or upper tail but they gave a dark impression with no obvious contrast with the rest of the upperparts. The undertail was grey.

BARE PARTS: The bill and legs appeared all-dark, with the bill paler grey on the upper mandible surrounding the nostril. The bill was slender and slightly down-curved, reminiscent of *Dicaeum spp*. such as Orange-bellied (*D. trigonostigma*) as was previously observed by Edwards *et al.* (2009), therefore noticeably more slender than *Prionochilus spp*. such as Yellow-rumped (*P. xanthopygius*) or Crimson-breasted Flowerpecker (*P. percussus*). At a distance the eye appeared dark, but one photograph demonstrates a dark brown iris (Plate 2).

STRUCTURE AND OVERALL IMPRESSION: There were no noticeable differences in the size or structure of this bird from other flowerpeckers (*Dicaeum/Prionochilus spp*.). The overall impression was a neat, bicoloured bird, the dark grey on the upperparts appearing black when seen without binoculars. The "clean" plumage, fairly prominent eye-ring, apparent lack of buff colour on the underparts and relatively long tail projecting beyond the undertail coverts may suggest an adult male bird following Edwards *et al.* (2009), but at the current stage sexing is purely speculative (D. Edwards *in litt.* 2015).

Vocalisations

Two vocalisation types, a call and a song, were heard from an adult spectacled flowerpecker at BBPF. The call was a brief, harsh "tsep!" which seemed relatively low-pitched for a flowerpecker. This call was given in rapid bursts of several notes as the bird landed and flew off, with individual or double notes given irregularly while it foraged but not while feeding. This vocalisation type was recorded on 9 March 2015 and a sonogram showed these calls to last a mere 0.03 second with a pitch of 4 kHz and harmonics going up to 7 kHz. The sound recording of the call can be found on xeno-canto.org under the catalogue number XC239907. Calls were also recorded on 25 November 2015 (XC301233). These recordings were of much better quality, but showed the calls showed the same structure, but with harmonics reaching 14 kHz (Fig. 2). These harsh calls notes were occasionally heard alternating with higher-pitched whistled notes: “tsep-*peep*, tsep-

peep", but these were not recorded. The harsh call was reminiscent of the flight calls of Scarlet-backed (*D. cruentatum*) and Scarlet-headed Flowerpecker (*D. trochileum*), neither of which have been found in BBPF (Fischer unpub. data). The call was harsher than the calls of Orange-bellied (*D. trigonostigma*) or Plain Flowerpecker (*D. minullum*), and more crisp and less drawn-out than the calls of Yellow-rumped (*P. xanthopygius*) and Crimson-breasted Flowerpecker (*P. percussus*).

Spectacled flowerpecker songs were heard in November and December 2015 but not from January to October 2015. The song consisted of a very brief note followed by a pleasant, high-pitched, rapid trill that rose in pitch before slightly dropping at the end. The song was recorded at around 07:00 on 25 November 2015 (XC301233). The sonogram shows that the trill consists of two short notes at 5 kHz, followed by a series of notes which first rose to 6 kHz and then dropped to 5.5 kHz (Fig. 3). The rate of the trill was 14 notes/second. The total length of the trill was 1.3 to 1.4 seconds. This song appears to be distinctive from other flowerpecker species (*Dicaeum/Prionochilus spp*.). However, it should be noted that, at 07:45 on the same morning, a spectacled flowerpecker was observed singing again around 25m from the first location, but this time the song was slower, at a rate of approximately four notes per second. Despite the difference in speed, the pitch, quality and structure was similar to the recorded song. The rising then slightly dipping pitch helps to separate the slower song from the similar but more resonant song of the Orange-bellied Flowerpecker (*D. trigonostigma*), which typically drops in pitch throughout and lacks the separated first notes. It slightly resembles the slow and simple trilled song of Plain Flowerpecker (*D. minullum*), but this also lacks the rising and dropping quality of the trilled song of spectacled flowerpecker.

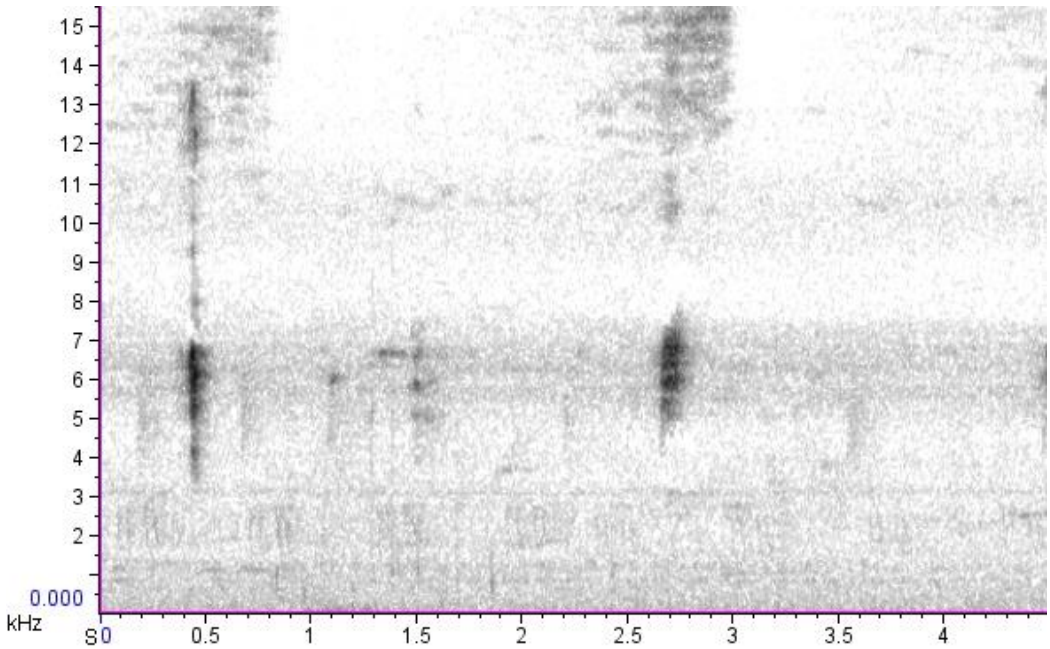

Figure 2. Sonogram of the calls of a presumed adult "spectacled flowerpecker" (*species novum*). Note that the time between the two calls has been shortened. Recorded at Bukit Batikap Protection Forest, Central Kalimantan, Indonesia. 25 November 2015. Nicholas S. Boyd. Sonogram produced using Raven Lite 1.0.

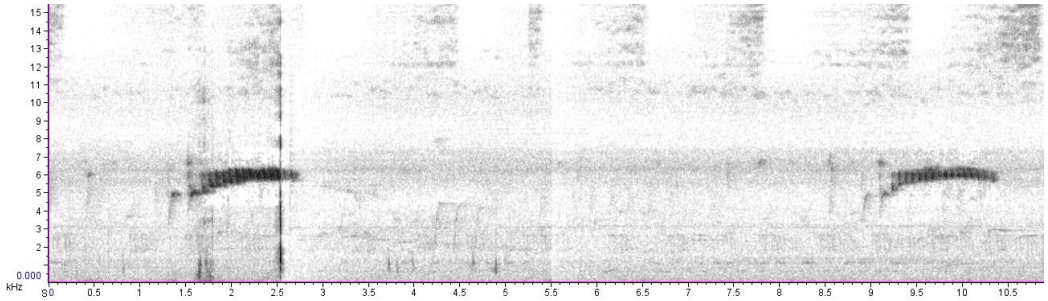

Figure 3. Sonogram of two song phrases of a presumed adult "spectacled flowerpecker" (*species novum*). Note that the time between the two phrases has been shortened. Recorded at Bukit Batikap Protection Forest, Central Kalimantan, Indonesia. 25 November 2015. Nicholas S. Boyd. Sonogram produced using Raven Lite 1.0.

Members of this family are difficult to identify solely on sound, especially as their songs seem to be poorly understood and documented. However, we hope that the presented information proves useful when hearing flowerpecker vocalisations from the canopy in pristine lowland dipterocarp and hill forest on Borneo, especially given that the species whose contact calls are closest to spectacled flowerpecker seem to avoid this habitat type.

Feeding behaviour

Every time a spectacled flowerpecker was seen at BBPF it spent between 30 seconds and two minutes actively feeding on the berries of a mistletoe (*Viscum sp*.) parasitizing a Fig (possibly *Ficus xylophylla*). Although another species of mistletoe (*Loranthus sp.)* was present in the vicinity of the *Viscum* mistletoe, no feeding observations were made from this mistletoe. No individual bird was observed feeding more than once a day at the *Viscum* mistletoe.

On the 28 March 2015, the feeding method was observed clearly and photographed: the bird pierced the berry on its lower mandible, removed the pulp (and possibly the seed) with the tongue to ingest (Plate 3), and then discarded the skin, indicating a type of behaviour more commonly known as pulp predation. It is thought to have derived from the need to optimize food intake. Footage from 29 January and 25 November 2015 shows the bird holding the berry for several seconds while rhythmically appearing to open and close the bill in a chewing-like action before appearing to drop it; these videos probably demonstrate the same feeding technique to predate pulp. However, as the spectacled flowerpecker was only seen feeding on this single mistletoe species, it cannot be concluded that this is the species' universal feeding technique. At different times a yellow-vented flowerpecker (*D. chrysorrheum*) was observed feeding on the same mistletoe using the same technique, suggesting berries of this *Viscum* species to be particularly susceptible to pulp predation by flowerpeckers. No other species of bird was seen to feed at this mistletoe, although a pair of plain flowerpecker (*D. minullum*) briefly foraged in it on one occasion.

Plate 3. "Spectacled Flowerpecker" eating pulp of a *Viscum* mistletoe, Bukit Batikap Protection Forest, Central Kalimantan, Indonesia, 28 March 2015.

Concluding remarks

These observations constitute the first record of the spectacled flowerpecker for Indonesia, resulting in a significant southward range extension. This species was only observed at a single site at BBPF and all sightings were related to the presence of mistletoe. The species was observed across a considerable time span (11 months) at the same *Viscum* mistletoe. However, it should be noted that this species seems to occur at very low densities and feeding patterns seem irregular, as several days were spent in vain looking for the species at this particular site. Furthermore, sightings were far more reliable early in the morning (before 8am) than in the middle of the day.

Comparison to earlier observations of the species (Phillipps and Phillipps 2014) indicates this species to be a specialist of a single genus of mistletoe (*Viscum*). There is also evidence that the spectacled flowerpecker is a trap line feeder or a short-distance migrant, similar to Spiderhunters (*Arachnothera ssp.*), as it has solely been observed feeding on *Viscum* mistletoes, which are generally rarer in Borneo than *Loranthus* mistletoes, and our observations showed repeated usage of this single food source over a long time span. These observations suggest that it might pay off to make regular visits to fruiting *Viscum* mistletoes over a long time span throughout Borneo.

We hope that the plumage features, vocalisation characteristics and notes on behaviour provided in this note increase the likelihood of further records of this species. Ultimately this should lead to the identification of a suitable site for collection and

description of this species, as it remains undescribed to the present day. Description is of paramount importance as an undescribed species does not receive protection.

Acknowledgments

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