

The rediscovery and doubtful validity of the Blue-wattled Bulbul *Pycnonotus nieuwenhuisii*

ROBERT S. R. WILLIAMS

The first ever field observations of Blue-wattled Bulbul *Pycnonotus nieuwenhuisii* were made at the Kuala Belalong Field Centre, Batu Apoi Forest Reserve, Brunei, in September 1992. Five sightings of singles over a two-week period may have referred to just one individual. The description is compared to the two known specimens. This taxon may represent: (a) a rare morph of another species; (b) a genuinely rare habitat specialist; or (c) a hybrid between two commoner species. I favour the last hypothesis, and suggest Black-headed Bulbul *P. atriceps* and Grey-bellied Bulbul *P. cyaniventris* as putative parents. Further investigation is warranted; in particular a genetic study of the two specimens would be desirable.

INTRODUCTION

The Blue-wattled Bulbul *Pycnonotus nieuwenhuisii* was previously known from only two specimens: the type collected by A.W. Nieuwenhuis at 600 m in the upper Kayan (Kajan) River in central Kalimantan, Borneo, in October 1900 (Finsch 1901, RMNH Cat. no. 1) and a second (described as subspecies *inexpectatus*) collected by A. Hoogerwerf at about 700 m in secondary scrub in pastureland on an island in the Lesten River in northern Sumatra on 21 March 1937 (Chasen 1939, Chasen and Hoogerwerf 1941, RMNH reg. no. 14044).

Although the species has been considered 'one of the rarest of all birds' (Chasen 1939, Chasen and Hoogerwerf 1941), Smythies (1981) made no comment on it, listing only its two records. It was considered to be a presumably resident breeder in Sumatra by van Marle and Voous (1988). MacKinnon and Phillipps (1993) thought it very rare and poorly known. BirdLife International initially treated it as threatened (Collar and Andrew 1988) and then as Data Deficient (Collar *et al.* 1994). The following notes therefore constitute the first evidence from the field and only the third record of the form.

Field observations

I made my observations during a month-long visit to the Kuala Belalong Field Centre, Batu Apoi Forest Reserve, in the Temburong district of Brunei. All sightings were in lowland dipterocarp forest in the Belalong valley, 4°33'N 115°09'E, at an altitude of about 60 m.

The first observation was on the morning of 1 September 1992 whilst monitoring frugivorous bird

activity at a fruiting *Macaranga aetheadenia* tree. This was followed next morning by another brief view in the same tree, and then by good extended views of a perched bird in the afternoon of the same day. A single bird was seen on two further occasions, on 3 and 16 September. The sightings occurred during an influx of several bulbul species (notably Black-and-white Bulbul *P. melanoleucus* and Black-headed Bulbul *P. atriceps*, with smaller numbers of other species including Grey-bellied Bulbul *P. cyaniventris*) which coincided with widespread fruiting of several tree species, upon which many of the bulbuls appeared to be feeding. When fruiting activity declined the numbers of bulbuls in the area fell sharply (pers. obs. and T. Mitchell pers. comm.).

Clear views were obtained of a single bird on five separate occasions. However, when the first bird was first seen it was with an unidentified bulbul which looked very similar during the brief flight views gained, and which may have been of the same type. Three subsequent sightings, all of a single bird, were made over a period of three days within a short distance of the tree in which the initial sighting was made, and were thought to involve the same individual. The fifth sighting was nearly two weeks later and approximately 1 km downstream of the previous sightings. No more than a single individual may have been involved in all sightings.

Description

The following description is derived from notes made in the field during the extended close observation on the afternoon of 2 September, with details of the tail (which was obscured by vegetation on that occasion) added from a subsequent, more distant observation. The extended view involved a bird perched in the lower

Table 1. Biometrics of both specimens of Blue-wattled Bulbul (all measurements in mm). Measurements from descriptions and from examination of specimens.

| | <i>nieuwenhuisii</i> | <i>inexpectatus</i> |
|----------------|----------------------|------------------------------|
| Source | Finsch (1901) | Chasen and Hoogerwerf (1941) |
| Wing chord | 88 | 84 |
| Tail | 70 | 73 |
| Tarsus | 16 | 18 |
| Culmen | 15 | 15 |
| Bill from gape | Tip of bill missing | 21 |

branches of a small tree in a stream gully; it was facing me at a distance of about 8 m and was watched for several minutes.

In structure it was a medium-sized bulbul, very like Black-headed Bulbul in size (although no direct comparison between the two species was made). It appeared, however, slightly more slender and longer-tailed. Overall it was a pale bird, giving a washed-out appearance and lacking the brightness and contrast of *P. atriceps*. The head was completely blackish with a slight olive sheen on the nape. The black throat continued down onto the upper breast, which was a dark olive green-grey fading slowly to yellow on the belly, giving a smudgy appearance. The lower belly and undertail-coverts became progressively brighter yellow, but even at their brightest were dull in comparison to *P. atriceps*. The upperparts were dark olive. The wings appeared dark when the bird was perched and were not well seen in flight; the carpal area was pale yellow. The tail was seen only poorly, from below, but appeared to be greyish and noticeably paler terminally. The legs and bill appeared black. The eye was at least partially surrounded by a blue ocular ring; this was most noticeable on the lower and rear aspects of the eye. The iris appeared dark brown in colour.

Comparison with the type specimens

Examination of the specimens in the collection of the National Museum of Natural History (now Naturalis) in Leiden (in February 1993) showed that the bird I saw was closer to the Bornean specimen than to the Sumatran, as it appeared dark blackish and not grey on the head. However, both specimens seemed to differ slightly from the bird I saw in that the yellow on the belly appeared slightly less bright on the specimens. In size, the specimens are slightly larger than a typical Black-headed Bulbul (this may be an artefact of their preparation) but are within the size range of that species. It should be remembered that specimens can fade and shrink and that soft bare parts such as eye wattles are impossible to examine on specimens. The iris of the *inexpectatus* specimen was described as red (Chasen 1939), differing slightly from my field observation of brown. The description of the wattle as 'pale blue edges to the eyelids' (Chasen 1939) could be applied to the bird I observed. Biometrics of the two specimens are provided in Table 1.

Behaviour

All my sightings were made along the banks of the Belalong River and always in close proximity to it, although this may be a reflection of observer effort (owing to location of trails and study plots) or a reflection of fruit abundance. The bird was seen feeding briefly on three occasions, twice in the same *Macaranga* tree and subsequently in an unidentified tree. When feeding on the *Macaranga* fruits it made short visits to the canopy from the dense crown of an adjacent tree. In the other tree it was observed feeding on unidentified small orange fruits on one occasion.

Twice it was found perching quietly, once in the lower branches of a tree and once on a hanging vine. On the first occasion it was alone, but on the second it was near a mixed-species flock. Both these observations were made shortly after midday and both were in the immediate vicinity of small streams. The bird was

generally silent but whilst in the presence of the mixed-species flock two harsh but quiet notes heard were thought to be attributable to it.

DISCUSSION

The apparent extreme scarcity *P. nieuwenhuisii* is hard to explain, given its wide range and apparent ability to utilise both primary forest and degraded habitats. With the ever-increasing number of ornithologists and birdwatchers visiting Sumatra and Borneo and the extent of collecting in colonial times, even a relatively rare species would be expected to be reported more frequently.

Hoogerwerf wrote that during the days following the collection of the type of *inexpectatus* 'I exerted myself in vain to collect more specimens of this species'. The bird had been found perched alone in a low shrub beside the Lesten River, in an area frequented by 'a large number of other Pycnonotidae, such as *Brachypodius atriceps*' (= Black-headed Bulbul) (Chasen and Hoogerwerf 1941). Additionally Baron Victor von Plessen collected at the type locality on Borneo in 1935 and failed to obtain it (Chasen and Hoogerwerf 1941). These facts, combined with the observation of probably only a single individual during the bulbul influx in Brunei, suggest that the form is inexplicably rare even where and when encountered (although it is possible that the Brunei record and possibly both other records were not in the preferred habitat).

Pycnonotus bulbuls are generally reasonably common and there are no very rare but widespread bulbuls other than *P. nieuwenhuisii*; the only other 'rare' bulbuls tend to be endemics to either small islands or threatened habitats, although even these are reasonably common within their confined ranges (pers. obs., G. Dutson pers. comm., Dee 1986). There are a few genuinely low-density bulbuls such as the Yellow-bearded Greenbul *Criniger olivaceus* of West Africa (pers. obs., Allport *et al.* 1989, Dutson and Branscombe 1990), but only the extraordinary Liberian Greenbul *Phyllastrephus leucolepis* (Gatter 1985, BirdLife International 2000) is less known than *P. nieuwenhuisii*. Possible explanations for this extreme paucity of records (resulting from discussions with R. W. R. J. Dekker while studying skins in Leiden, and the second from F. Lambert *in litt.* 2002) are (1) that it represents a rare morph of a commoner species, (2) that it is a genuinely rare habitat specialist that is occasionally forced into other areas in search of food, or (3) that it is a hybrid. These possibilities are discussed below.

Morph of another species

There is a relatively rare grey morph of *P. atriceps*, which was at first considered a separate species; it was even described as three different species in the early part of the eighteenth century (data from specimen labels in Leiden). However, the obvious problem with *P. nieuwenhuisii* being a morph of another species is that there are no other species that it closely resembles. Both the tail pattern and the ocular ring are unique to this species within its range, and it is difficult to imagine such features being characteristic of a morph.

A genuinely rare species

It is feasible that the taxa may represent a genuinely rare species that shows a habitat specialisation that is currently not understood. It may be that the three records all come from areas that have this habitat (although the lack of other records in the two well studied localities would seem to refute this). Alternatively the species may occasionally be forced to wander in search of food. If this is the case the specialised habitat would have a large geographic range and would have to have been little visited by ornithologists. It is also possible that a relatively inconspicuous species such as *P. nieuwenhuisii* could be overlooked.

A hybrid between two commoner species

Hybridisation of bulbuls *Pycnonotus* has recently been documented within the *P. capensis* complex from South Africa, involving the three species Cape Bulbul *P. capensis*, Common Bulbul *P. barbatus* and Black-fronted Bulbul *P. nigricans* (Keith *et al.* 1992). The most telling feature of *Pycnonotus* hybridisation in South Africa is that unusual ocular ring colours and intermediate degrees of enlargement of the eye-wattles have been produced in some cases (Markus 1963, 1966, 1967, Liversidge 1985, Lloyd *et al.* 1997). Additionally, several *P. barbatus* with unusual eye-ring enlargement and coloration have also been seen in the Kerio Valley, Kenya (Wilson 1994). Therefore it is certainly possible that hybridisation may explain the unusual and distinctive blue eye wattle of *P. nieuwenhuisii*.

The most likely candidates as parent species for *P. nieuwenhuisii* would seem to be *P. atriceps* and a congener, probably *P. cyaniventris*. A mix of these two species might well be expected to produce the overall coloration of this bird, although the tail seems harder to account for. *Pycnonotus atriceps* and *P. cyaniventris* have similar tail patterns to each other, with a distinctive dark subterminal band, while *P. nieuwenhuisii* shows a greyish tail with a distinct whitish terminal area and no defined dark subterminal band. There are apparently no sympatric *Pycnonotus* that display a similar tail pattern.

CONCLUSIONS

The curious rarity of *Pycnonotus nieuwenhuisii*, and the fact that South African *Pycnonotus* hybrids have similar ocular ring colours and enlargements as *P. nieuwenhuisii*, suggest that the form may be an intrageneric hybrid. Biochemical analysis of the original skins could be helpful in this regard; and examination of *Pycnonotus* series in museums may well disclose other possible hybrids. If genetic investigation were to validate the taxon, it is undoubtedly one of the least known and inexplicably rare species in the world. However, I suggest treating the form as a probable hybrid at this time. This recommendation was, incidentally, adopted by BirdLife International (2000, 2001) in anticipation of the publication of this paper.

I thank René Dekker at Naturalis, Leiden, Netherlands, who allowed access to the specimens and made the inspirational comment that prompted this paper. Nigel Collar, The Earl of Cranbrook, Clive Mann, Guy Dutton and James Williams commented on an early draft; Jonathan Eames and Adrian Long also commented and helped. Lincoln Fishpool, Frank Lambert and William Duckworth all reviewed the paper and contributed their wisdom. Thanks also to Tom Mitchell, Royal Geographical Society, University of Brunei and the corporate sponsors of the Brunei Rainforest Project: Royal Brunei Airlines, Baring Foundation, DICAM, Greencard Trust, Hong Kong Bank, Morgan Grenfell & Nomura-NIMCO. Catriona Preeble and John Wills kindly provided geographical data.

REFERENCES

- Allport, G. A., Ausden, M., Hayman, P. V., Robertson, P. and Wood, P. (1989) *The birds of the Gola Forest Reserves, Sierra Leone, and their conservation*. Cambridge, U.K.: ICBP Study Report No. 38.
- BirdLife International (2000) *Threatened birds of the world*. Cambridge, U.K.: BirdLife International.
- BirdLife International (2001) *Threatened birds of Asia*. Cambridge, U.K.: BirdLife International.
- Chasen, F. N. (1939) Preliminary diagnoses of new birds from North Sumatra II. *Treubia* 17: 183-184.
- Chasen, F. N. and Hoogerwerf, A. (1941) Birds of the Netherlands; Indian Mt. Leuser expedition 1937 to Northern Sumatra. *Treubia* 18 (supplement).
- Clements J. F. (1991) *Birds of the world, a checklist*. California: Ibis Publishing Company.
- Collar, N. J. and Andrew, P. (1988) *Birds to watch. The ICBP world check-list of threatened birds*. Cambridge, U.K.: International Council for Bird Preservation: Techn. Publ. 8.
- Collar, N. J., Crosby, M. J. and Stattersfield, A. J. (1994) *Birds to watch 2: the world list of threatened birds*. Cambridge, U.K.: BirdLife International.
- Dee, T. J. (1986) *The endemic birds of Madagascar*. Cambridge, U.K.: International Council for Bird Preservation.
- Dutson, G. and Branscombe J., eds. (1990) *Rainforest birds in south-west Ghana*. Cambridge, U.K.: International Council for Bird Preservation: Study Report No. 46.
- Finsch O. (1901) Note XIII. Ueber eine neue Art Haarvogel aus Central-Borneo. *Notes Leyden Museum* 23: 95.
- Gatter, W. (1985) Ein neuer Bulbul aus Westafrika (Aves, Pycnonotidae). *J. Orn.* 126: 155-161.
- Keith S., Urban E. K. and Fry C. H. (1992) *The birds of Africa*, Vol. 4. London: Academic Press.
- Liversidge, R. (1985) Habitat degradation and hybridization in bulbuls. *Proc. Symp. Birds and Man, Johannesburg 1983*: 99-106.
- Lloyd, P., Craig, A. J. F. K., Hulley, P. E., Faadiel Essop, M., Bloomer, P. and Crowe, T. M. (1997) Ecology and genetics of hybrid zones in the southern African *Pycnonotus* bulbul species complex. *Ostrich* 68(2-4): 90-96.
- MacKinnon, J. and Phillipps, K. (1993) *A field guide to the birds of Borneo, Sumatra, Java and Bali*. Oxford: Oxford University Press.
- van Marle, J. G. and Voous, K. H. (1988) *Birds of Sumatra. An annotated checklist*. Tring, U.K.: British Ornithologists' Union.
- Markus, M. B. (1963) Bulbuls from the zone of contact between *Pycnonotus barbatus layardi* Gurney, 1879, and *Pycnonotus nigricans* (Vieillot) in the Transvaal. *Ostrich* 34: 110.
- Markus, M. B. (1966) Systematic notes on *Pycnonotus* from the southwestern Transvaal. *Ostrich* 37: 234.
- Markus, M. B. (1967) Secondary intergradation amongst bulbuls of the genus *Pycnonotus* in the Transvaal Province, South Africa. *Bull. Brit. Orn. Club* 87: 17-23.
- Smythies, B. E. (1981) *The birds of Borneo*. Third edition. Kota Kinabalu: Sabah Society with the Malayan Nature Society.
- Wilson, N. (1994) Common Bulbul *Pycnonotus barbatus* with a white eye-ring from the Kerio Valley, Kenya. *Scopus* 18: 59.