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A photographic record of a possible New Holland Honeyeater *Phylidonyris novaehollandiae longirostris* × White-cheeked Honeyeater *P. niger gouldii* hybrid

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Abstract. An unusual *Phylidonyris* honeyeater was photographed in a tract of remnant bushland in a suburb of Perth, Western Australia. My initial field impression was of a New Holland Honeyeater but later inspection of photographs revealed some unusual characteristics. Although no additional field information was obtained, the possibility that the bird was a New Holland Honeyeater *P. novaehollandiae longirostris* × White-cheeked Honeyeater *P. niger gouldii* hybrid is explored.

Introduction

Estimates of the frequency of hybridisation in bird species range between 9 and 16 percent (Grant & Grant 1992; Ottenburghs *et al.* 2015), yet there is relatively sparse literature regarding natural hybridisation between Australian species. A well-known example in Australia is Cox's Sandpiper (in this case, the hybridisation would have occurred in the Northern Hemisphere), which was once described as a full species (Parker 1982; Christidis *et al.* 1996). Other hybrids have also been previously described as full species (e.g. Blunt & Frith 2005; Frith 2013). Hybridisation between White-browed *Sericornis frontalis* and Atherton Scrubwrens *S. keri* has been examined (Joseph & Moritz 1993), and Pacific Black Duck *Anas superciliosa* × Domestic Mallard *A. platyrhynchos* hybrids are encountered on a regular basis in some parts of Australia (Guay & Tracey 2009; Taysom 2015). In a global review of avian hybrids, McCarthy (2006) noted several documented cases of honeyeater hybrids but only one record of a hybridisation involving a *Phylidonyris* honeyeater (a Crescent Honeyeater *P. pyrrhopterus*). Dabb (2016) documented hybridisation between a New Holland Honeyeater *P. novaehollandiae* (NHH) and a White-cheeked Honeyeater *P. niger* (WCH) at Jerrabomberra Wetlands in Canberra, Australian Capital Territory, in 2016. Duncan & Bissett (2017) photographed a presumed NHH × WCH hybrid at Lake Manchester, near Brisbane, Queensland, in August 2017. Most field observations of Australian bushbirds are relatively fleeting. Here, I report a further instance of a possible NHH × WCH hybrid from Perth, Western Australia, drawing attention to five field marks that in combination support the identification of this individual as a hybrid.

Observations

The observation of the unusual honeyeater took place in Kensington Bushland (31°59′S, 115°53′E), Kensington, Western Australia, on 1 June 2019. Kensington Bushland is considered to be of some significance, being a remnant of the nationally endangered Banksia Woodlands of the Swan Coastal Plain ecological community; 70% of the bushland was burnt in a bushfire in 2016. The characteristic chatter of a New Holland Honeyeater was heard in a Common Woolly Bush *Adenanthos cygnorum*, and two *Phylidonyris* honeyeaters were seen feeding in the bush. One was photographed at 1519 h over a period of *c.* 20 seconds. Few other field observations were made. Upon later inspection of the photographs (Figure 1) and enhancement of them using Adobe Photoshop CC 19.1.8 release (Figure 2), it was clear that the honeyeater photographed on 1 June 2019 was not typical of either NHH or WCH. NHH and WCH photographed in the same bushland on 2 June 2019 (Figures 3–4) are compared with the bird photographed on 1 June.

There was some support for a hybrid when the photograph was posted on the Australian Bird Identification Facebook page (https://www.facebook.com/groups/209677085864957/), specifically raising the possibility that the photographed bird represented an example of a WCH × NHH hybrid. Members of the group brought to my attention the previous Canberra and Brisbane sightings.

The following observations are made in support of the Kensington bird being a hybrid:

1. The dark iris. A dark iris is typical of an adult WCH. The photographed bird is not a juvenile bird, based on bill and plumage characteristics (see Higgins *et al*. 2001) (compare Figures 2 and 3).
2. The white cheek-plume/patch has a somewhat rectangular shape (Figure 2). It is narrower posteriorly in the Western Australian WCH subspecies *P. n. gouldii* (compare Figures 2 and 3). The photographed bird's cheek-plume is relatively broad posteriorly and the last image in Figure 2 supports symmetry of the plumes.
3. The beard bristles are sparse and white (Figure 2). Black and white throat/beard bristles are a feature of the adult NHH but are not seen in the WCH (Figures 3 and 4).
4. The lateral crown-stripe is discontinuous with the white forehead-patch. The WCH has a continuous crown-stripe, which is slightly narrower than the NHH's discontinuous lateral crown-stripe (Higgins *et al*. 2001).

Figure 1. Whole-of-bird images of a possible New Holland Honeyeater × White-cheeked Honeyeater hybrid at Kensington Bushland, Western Australia. Photos: Geoffrey N. Groom

Figure 2. Possible New Holland Honeyeater × White-cheeked Honeyeater hybrid, Kensington Bushland: processed images (see method). Note the dark iris, sparse white bristles in the beard, the broad posterior margin of the white cheek-patch, and the black malar patch within the white cheek-plume. The lateral crown-stripe is discontinuous anteriorly with the forehead-patch. Photos: Geoffrey N. Groom

Figure 3. White-cheeked Honeyeater photographed in same bushland as the possible hybrid: processed images. Note the dark iris, absent beard, and the narrow posterior margin of the uniform white cheek-patch. The lateral crown-stripes are continuous anteriorly with the corresponding forehead-patches. Photos: Geoffrey N. Groom

Figure 4. New Holland Honeyeater photographed in same bushland as the possible hybrid: processed images. Note the white iris, prominent beard, and the broad wispy white cheek-plume. The lateral crown-stripes are discontinuous anteriorly with the white forehead-patches. Note also the white patch on the lower face. Photos: Geoffrey N. Groom

Table 1. Characteristics of eight New Holland Honeyeater × White-cheeked Honeyeater hybrids recorded in the Macaulay Library, Cornell Lab of Ornithology, for 2016–2019. Several other sightings recorded in the Macaulay Library (89252391, 111567371, 105977181) are almost certainly bird 89252441. The quality of the photographs is variable. The lateral crown-stripe is noted as either discontinuous or continuous with the corresponding white forehead-patch.

Macaulay bird no.	*Location*	*Lateral crown-stripe*	*Size of malar patch*	*Cheek-plume shape and size*	*Beard*	*Iris*
65114211	Brisbane	Discontinuous	Moderate	Fan, moderate	Present, moderate size	Grey-white
71699261	Canberra	Probably continuous	Moderate, indistinct	Fan, moderate	Absent	Brown-grey
85431201	Canberra	Continuous	Small, indistinct	Fan, large	Present, sparse with small bristles	Brown-grey
89252441	Brisbane	Continuous	Small, indistinct	Fan, large	Present, sparse with small bristles	Brown-grey
112481041	Canberra	Continuous	Moderate	Fan, large	Present, sparse with small bristles	Brown-grey
115882221	Canberra	Continuous	Moderate	Fan, large	Uncertain	Grey-white
133911401	Canberra	Continuous	Moderate	Fan, large	Obscured	Grey-white
163552311	Canberra	Continuous	Moderate	Fan, large	Present, sparse with small bristles	Dark

5. There is a black patch in the malar area (Figure 2), which does not occur in either the NHH or the WCH (Figures 3 and 4).

I believe that the combination of these five features supports the photographed bird being a NHH × WCH hybrid.

A search of the Macaulay Library images, from the Cornell University Lab of Ornithology, for putative NHH × WCH hybrids located photographs taken on 15 different dates from 2016 to 2019 (https://search.macaulaylibrary.org/catalog?searchField=species&q=New+Holland+x+White-cheeked+Honeyeater+%28hybrid%29+-+Phylidonyris+novaehollandiae+x+niger&taxonCode=x00923&hotspotCode=&regionCode=&customRegionCode=&userId=) (Table 1). Several of the photographic sequences likely captured the same bird. The appearance of the five listed field marks varies between each of the photographed birds reported to be NHH x WCH hybrids in the Macaulay Library records. It is important to note that the Western Australian bird photographed in the present study, if considered to be a hybrid, would represent hybridisation between the south-western Western Australian subspecies of each species, namely *P. niger gouldii* and *P. novaehollandiae longirostris*, increasing the likelihood that any hybrid would have plumage characteristics different from those recorded for putative hybrids of the same species in the eastern states of Australia.

Discussion

Natural hybrids are infrequently reported in the ornithological literature. There are many possible reasons why this may be the case. Rarity of interspecies mating and the similarity of individual hybrid birds to one of the parental species are suggested as possible explanations. A more recent trend to increasing reports of natural hybrids may be driven by a variety of factors, including greater awareness (e.g. Simpson 1985; Leggett & Woodall 1987; Hull & Wiltshire 1999; Donato & Potts 2004; Kentish & Brennan 2004; Hingston 2018). With the advent of digital cameras and their widespread use for bird photography, more reports may be expected.

McCarthy (2006) noted only one record of a hybridisation involving a *Phylidonyris* honeyeater (Crescent Honeyeater *P. pyrrhoptera* × White-plumed Honeyeater *Ptilotula penicillata*: Quinn 1978) but did not document WCH × NHH hybridisation. Higgins *et al.* (2001) also did not record hybridisation between the latter two species.

Although a well-experienced observer may recognise the unusual appearance of a bird during a few seconds of visualisation, it is only with the more widespread use of digital recording that the extent of natural hybridisation may be realised. Considering that this is now the third published record of a putative free-ranging wild NHH × WCH hybrid, hybridisation between these two species may be more common than previously thought.

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