Some notes on ageing and sexing Watercocks *Gallicrex cineria* with specific reference to a vagrant bird in Oman

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On 6 January 2013, a Watercock *Gallicrex cineria* was discovered by SM, Oscar Nilsson, Andreas Wernersson and Raul Vicente at Khawr Rawri, Dhofar, southern Oman (Plates 1–3). It is the fourth record for Oman and, following a record from Socotra in 2011, apparently the fifth record for the OSME region (Eriksen & Victor 2013, Porter & Suleiman 2011). Following the discovery of the Khawr Rawri individual, an investigation was conducted by SM to determine if it was possible to age and/or sex this individual reliably. Skins were examined at the Natural History Museum of Denmark, Copenhagen, and the World Museum, Liverpool. Material available for study was limited; only birds collected during the non-breeding season were considered, with six skins at Natural History Museum Denmark and eight at World Museum Liverpool. Specimens examined were collected in India (1), Malaysia (1), Indonesia (3), Philippines (2), Singapore (2), Thailand (3), and unknown (2).

The Watercock is strongly dimorphic in size and during the breeding season in plumage (Taylor & van Perlo 1998). Males are considerably larger than females with wing lengths given by Taylor & van Perlo (1998) as 175–224 mm for males and 163–192 mm for females; culmen length (including shield) as 41–65 and 32–43 mm respectively; tail as 66–83 and 53–70 mm; and tarsus as 64–78 and 53–67 mm. The species is monotypic (Taylor & van Perlo 1998, Taylor 1996) with no reported variation in size across its range. Thus, sexing of museum skins by size was reasonably straightforward. Overall size difference was substantial enough that differences were clearly visible when specimens of different

Plate 1. The immature male Watercock *Gallicrex cineria*, Khawr Rawri, Dhofar, Oman, 6 January 2013. © *Stephen Menzie*

Plate 2. The immature male Watercock *Gallicrex cineria*, Khawr Rawri, Dhofar, Oman, 6 January 2013. © *Stephen Menzie*

Plate 3. The immature male Watercock *Gallicrex cineria*, Khawr Rawri, Dhofar, Oman, 6 January 2013. © *Stephen Menzie*

sex were compared side-by-side (Plate 4). Leg length was visibly much longer in males than in females, while bill depth gave an additional visual reference that should be useful for sexing in the field. Average and range of bill depth at base, measured to 0.1 mm, were: 14.7 (14.0–15.2 mm, n = 3) in males, 13.0 (12.5–13.6 mm, n = 4) in females. Skins on which the bill was visibly partly open were not measured.

Details of moult and ageing in Watercock are scant in the standard references (Ali & Ripley 1980, Grimmett *et al* 2012, Porter & Aspinall 2010, Rasmussen & Anderton 2012, Roberts 1991, Taylor 1996). Ripley & Lansdowne (1984) stated of immature birds, "like the [adult] female but less barred below and more tawny generally". Wells (1999) stated, "Iris pale grey-brown (juvenile) or deep brown (adult)". Rasmussen & Anderton (2012) offered the most in-depth description, "Juvenile and immature as female but can be more rufous-buff above and on head and neck; immature male can be paler grey overall, some with prominent rufous-buff fringes on head and body". Whilst not stated, their description of 'immature male' presumably refers to the breeding plumage acquired in the bird's second calendar-year. There is no information regarding the age or sex of birds previously recorded in Oman (Eriksen & Victor 2013), though Porter & Suleiman (2011) stated of the Socotra bird, "the unbarred underparts…and the pale brown crown suggest it was an immature, which would have hatched the previous year." A vagrant bird from the Australian Cocos Islands, in December 2005, was also aged as an immature (first calendar-year) due to its incomplete breast barring (Chongkin *et al* 2009). Primary moult was stated by Taylor & van Perlo (1998) to be 'possibly simultaneous'. Specific details regarding post-juvenile moult are entirely lacking.

To allow comparison with the Khawr Rawri bird, only museum specimens collected between October and April—when birds were in or largely in non-breeding plumage—were examined. As a starting point, the primary feathers of each specimen were examined. Using shape, wear and colour, two categories could be discerned: specimens with pointed tips to the brownish and apparently worn outer primaries (Plate 5), and specimens with rounder tips to the blacker and apparently less worn outer primaries

Plate 4. Four male (left) and four female Watercocks *Gallicrex cineria*. © *National Museums Liverpool*

Plate 5. Worn and pointed outer primaries of a Watercock *Gallicrex cineria*, considered to belong to an immature bird, collected in March. © *Natural History Museum of Denmark*

Plate 6. Relatively fresh and rounded outer primaries of a Watercock *Gallicrex cineria*, considered to be an adult bird, collected in January. © *Natural History Museum of Denmark*

(Plate 6). This feature has not previously been noted in the Watercock but is known to be a reliable ageing criterion for other Rallidae *eg* Water Rail *Rallus aquaticus* (pers obs) and Moorhen *Gallinula chloropus* (Baker 1993). It was therefore taken that this feature could be used as a first step for ageing the Watercock specimens. Following the same principles as in related species, it was assumed that the worn and pointed outer primaries related to immature (first/second calendar-year) birds while the less worn and more rounded outer primaries related to adult birds. I henceforth refer to the two groups as immature (n = 9) and adult (n = 5), though note that none of the skins examined were of known age prior to examination. Comparing immature and adult birds, a number of plumage features were found that should prove useful for ageing in the field.

Plate 7. Undertail coverts of a Watercock *Gallicrex cineria*, aged as immature. © *Natural History Museum of Denmark*

Plate 8. Undertail coverts of a Watercock *Gallicrex cineria*, aged as adult. © *Natural History Museum of Denmark*

Plate 9. Wing coverts of an immature male (top) and an immature female Watercock *Gallicrex cineria.* © *National Museums Liverpool*

Plate 10. Wing coverts of an adult male (top) and an adult female Watercock *Gallicrex cineria.* © *Natural History Museum of Denmark*

Undertail coverts. The undertail coverts of immature birds were washed cinnamon-buff with weak or no barring (Plate 7). On adult birds, undertail coverts were whiter with bolder dark barring (Plate 8). This feature appeared to be independent of sex.

Wing coverts. Wing coverts of immature birds were overall brown-toned, darker brown variably variegated paler cinnamon-buff in the centre and with a broad cinnamon-buff feather fringe (Plate 9). In adult birds, wing coverts were overall a rather smooth dark grey with a blue-grey bloom to the feather centres and a broad blue-grey feather fringe (Plate 10). In immatures, the greater coverts appeared to be less variegated in males than in females; in adults, the greater coverts were overall darker and more bluish in males, browner tinged in females.

Underpart colour. Underpart barring was more prominent on males than on females. On average, immature birds were less heavily barred and warmer toned below than adult birds, though there was overlap.

Upperpart colour. Although differences were subtle, the upperparts of immature birds were on average warmer toned than on adults. Males showed, on average, darker less variegated feather centres than females.

Cap colour. Cap colour was similar in many birds. On average, the cap was blacker in adults but in many cases coloration was similar enough as to not be of practical use in determining age. On three immature birds, the cap was distinctly brown and showed a diffuse rear border, blending into the nape. It seems that a brown and diffusely rear-bordered cap is a feature of immatures, though a dark-looking more solid cap is not necessarily diagnostic of an adult. Males appeared to show on average a blacker crown than females.

KHAWR RAWRI BIRD

The Khawr Rawri bird showed cinnamon-buff undertail coverts with sparse broken barring (Plate 2). The wing coverts were dark with a broad brown-buff fringe, and lacked any blue or grey tones. The bird displayed rather warm cinnamon-toned underparts. In all, this bird fits the criteria deduced from museum specimens for an immature bird, hatched the previous year. Additionally, photos appear to show the iris as being rather pale and grey-tinged (Plate 2 inset), fitting well with the description given by Wells (1999) for juvenile birds. Although no direct comparison is available, the bird appeared large. It was long-legged with the body appearing high off the ground. The bill was large and thick. The apparent size and dimensions of the bird fit with that noted on skins for a male. The relatively heavy flank barring and dark-centred wing coverts (Plate 3) also agree with this conclusion.

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