Hints on ageing and sexing techniques for some reed-bed warblers

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Ageing and, in particular, sexing of many warbler species is difficult. In Europe, suitable field guides exist to meet the needs of European ringers; however, there is little or nothing available in southern Africa. Late in 1999, whilst in the field with ringers from as far away as the Western Cape and Gauteng, it was apparent that satisfactory ageing and sexing of birds was not being practised, despite its significant scientific value.

For purposes of ringing data analysis, knowledge of age, in particular, and sex can be critical in determining factors such as annual productivity and sex-biased mortality. This account offers some guidelines on ageing and sexing of certain *Acrocephalus* warblers and the African Sedge Warbler. The same or similar techniques may apply to other warbler species.

Most ringers know that the majority of young passerines show a very swollen gape which is sometimes a different colour to that shown in adults. This is particularly evident in sunbirds. The swollen gape gradually shrinks over a varying number of months (although some passerines retain the swollen gape into adulthood). Once this process is completed, it is difficult to age birds satisfactorily. However, other indicators may be found for warblers, e.g. eye colour, tongue spots and buccal colour.

Tongue spots appear as two black spots at the rear of the exposed part of the tongue and may be extremely conspicuous in some species. They are found only on first-year birds, although paler versions may be found in some species when adult (see below). Take care when opening the bill to examine the inside.

The buccal refers to the entire inside of the mouth.

The only useful measurement indicators for sexing purposes are those of wing, tail and weight. However, their reliability varies from species to species. Some species, such as African Marsh Warbler, show a huge overlap in these measurements for males and females, whilst the degree of overlap in Cape Reed Warbler measurements is smaller.

Great Reed Warbler *Acrocephalus arundinaceus*

- **Eye colour:** 1st-year birds show an olive-brown to olive eye. Adults show a hazel to brown eye.
- **Tongue spots:** not as conspicuous as in some species and normally very faint by March.

African Marsh Warbler *Acrocephalus baeticatus*

- **Eye colour:** 1st-year birds show a grey-olive to olive eye. Adults show a hazel to brown eye.
- **Tongue spots:** fairly strong in the juvenile but fade quickly and are quite faint by March/April. It is important to record both eye colour and presence or absence of tongue spots for this species, as eye colour may be equivocal.

European Marsh Warbler *Acrocephalus palustris*

- **Eye colour:** 1st-year in the olive range, adults in the red-brown range.
- **Tongue spots:** as with other late arrivals amongst the warblers, tongue spots are fading and are faint from February onwards. As with the previous species, carefully record both eye colour and tongue spots, as eye colour may be equivocal, particularly later in the season.

European Sedge Warbler *Acrocephalus schoenobaenus*

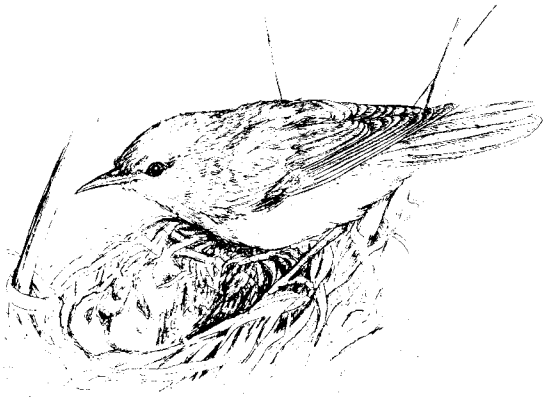
- **Eye colour:** 1st year in the olive-brown range. Adults in the red-brown range.
- **Tongue spots:** often strongly marked on arrival and fade during presence in the southern African region. A small proportion of birds of this species retain faded tongue spots as adults. I have found them on adults three years after initial capture. Eye colour should always be checked on birds with faded spots.

Cape Reed Warbler *Acrocephalus gracilirostris*

- **Eye colour:** 1st year in the olive range; transition goes through a brown stage. Adults in the red-brown range.
- **Tongue spots:** very strongly marked in young birds fading slowly over the first year.
- **Upperparts colouration:** young birds are **much** more rufous on the upperparts than adults. The difference between adults and juveniles is far greater in northern (Zimbabwean) populations than in southern (Cape Province) populations. In Zimbabwe, adults have cold brown upperparts whilst in the Eastern Cape, adults are slightly rufous.
- **Measurements:** there is a size cline from the smallest birds in Zimbabwe to the largest birds along the south coast. Measurements in *Roberts'*, therefore, should not be used, as their provenance is not specified. Ringers in each locality must develop their own dataset from which to determine the local male and female measurement ranges. Throughout the species' range, the male is considerably larger in wing, tail and weight measurements but there is a degree of overlap. This species has a very extended breeding season, giving rise to pronounced age anomalies in any one catch of birds.

African Sedge Warbler *Bradypterus baboecala*

- **Buccal colour:** young birds start with a pale flesh/pink buccal colouration. As the year progresses, the pink is gradually replaced by grey and then black until the buccal is completely black in the adult. The replacement period shows as irregularly blotched pink and black.
- **Measurements:** there is a slight size cline from smallest birds in the north to largest in the south. Use of tail and weight measurements may indicate that a percentage of birds can be sexed. My data is too limited to be more specific.
- **Eye colour:** variable and may be equivocal but should be noted in conjunction with buccal colouration.



Ageing and sexing the Blacksmith Plover in the hand

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The Blacksmith Plover *Vanellus armatus* is, on plumage, a monomorphic species and, once juvenile dress is lost, it is a difficult species to age or sex successfully. Juvenile plumage moult is completed by the fourth month after fledging, apart from a few lingering feathers on the scapulars. Thereafter the bird appears similar to an adult. Further, as breeding may take place in any month of the year, somewhere within the species' southern African range, annual moult is not a good indicator of age either. However, there is a method of ageing this species up to two years of age, and also of sexing late immature or adult birds, namely, the size and colour of the spur found on the carpal joint of the wing.

When the bird fledges the spur is just emerging and feels like a small rounded bump on the carpal joint. As the bird passes through its juvenile plumage into its post-juvenile stage the spur emerges further in a well-rounded, grey-coloured form.

Growth is slow and, at about one year, the spur is still grey-coloured and the tip still rounded. At this stage the bird should be well into its first full moult.

During the course of the second year the spur changes from grey to black and gradually becomes sharper, but **not** needle-sharp. The differential growth rate of the male and female spurs becomes more obvious; that of the female is shorter and that of the male is longer.

Once the bird is fully adult, probably during its third year, the tip of the spur becomes ivory-coloured whilst the rest of the spur remains black; the tip is now needle-sharp. The shorter spur of the female is easily separated from the longer one of the male, although a slight area of overlap may occur. The growth rate of the spur is slow and it appears, from recaptures of ringed birds, that growth may continue slowly for some time, particularly in males. Certainly known-age birds have shown continued growth up to three or four years of age (pers. obs.).

MEASURING SPUR LENGTH

The method used to measure the spur is important. A pair of either dividers or, preferably, callipers should be used for greater accuracy. Measurement should be taken from the notch at the distal base of the spur where it joins the wing, to the tip.

Data for adult birds shown in Table 1 was derived initially from captured breeding pairs or individual adults caught whilst incubating in either Zimbabwe or the Eastern Cape Province of South Africa. Post-laying/incubating females have widely parted pelvic bones. The preponderance of adult males was due to

Table 1. Approximate ranges of spur length in Blacksmith Plover.

	Range	Mean	SD	n	spur
Adult males*	13.0–18.0	14.25	1.14	43	Black with ivory tip, very sharp
Adult females*	7.5–12.0	9.86	1.29	21	Black with ivory tip, very sharp
2nd year (both sexes)	5.0–12.0	–	–	69	Grey, rounded (late wing moult) to black, fairly sharp
1st year (both sexes)	< 7.5	–	–	54	Grey, rounded

* Data on adult birds based on measurements of known-sex birds.