TECHNIQUES

SEXING MONOMORPHIC SPECIES

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Svensson (1984, *Identification guide to European passerines*. B.T.O.) indicates that the shape of the cloacal protuberance may be used to sex birds of some species, usually during the breeding season, but that it is not an infallible method.

Over several years in Malawi and Zimbabwe I have recorded the cloacal shape of birds of many species, monomorphic and dimorphic, at all times of the year and have found that it is a fairly good guide to the sex of a bird in many species, particularly if the bird is adult, but that is all it is: a guide.

I have found a second character which is also a guide to a bird's sex and this, taken in conjunction with cloacal shape (and any other known sex-linked feature, like size) makes the correct sexing of an adult monomorphic bird more certain; it is still not fool-proof.

Examining the underside of a bird, in the hope of sexing it (by finding a brood patch, for example), I have noticed that the shape of the lower chest of a known adult female is different from that of a known adult male, particularly in small species (under 50 g).

If the bird is laid on its back, tail towards the ringer and the feathers are blown away from the mid-line, the keel and ribs are visible. In some birds the keel stands proud, with the ribs sloping downwards, giving an invented 'V' shape in section (Fig. la), whereas in other birds the keel is either level with the longitudinal muscles next to it or actually lower and the ribs spring outwards horizontally before curving round to the spine, giving an inverted 'U' or even 'W' shape in section (Fig. lb).

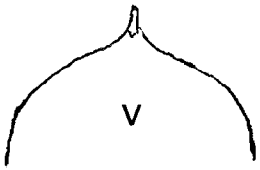

Figure 1a. Male lower chest profile.

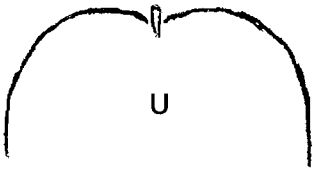

Figure 1b. Female lower chest profile.

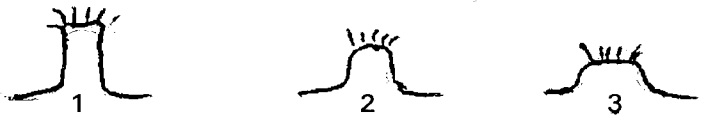

Figure 1c. Grades of cloacal protuberances.

This difference is visible in known adults of many small species, at all times of the year, although more pronounced during and just after the breeding season.

Known immatures show a 'V-ish', or 'U-ish' section and these usually have an intermediately-shaped cloacal protuberance. I divide cloacal shape into three categories; very elongated/protuberant, intermediate and low/wide or stretched (Fig. lc). This, coupled with the four chest-shape categories (V, V-ish, U-ish and U) enable me to be fairly certain of the sex of an adult bird: adult male (breeding) = V1, (non-breeding) = V2; adult female (breeding) U3, (non-breeding) = U2; immature (either sex, before first breeding) V-ish 2; immature or young adult female (at first breeding) U-ish 2.

My theory regarding chest shape is that developing eggs in small birds require more space in the lower chest cavity, hence the ribs are pushed outwards and (if the bird were right way up) downwards. The ribs tend to remain in this position for the rest of the female's life, although it is most obvious during and just after the breeding season.

It is also noticeable that the muscles next to the keel and overlying the ribs of a female are thicker and contribute to the 'U' shape. This may be an adaptation to provide a wider, softer brood patch area for incubation. Possibly males of species where both sexes incubate do not have the sharp 'V' shaped chest, but I have not determined this.

I should like other ringers to examine known-sex birds, to see if they agree with my findings. If they do, it would be useful to make a list of the monomorphic species which can be sexed (and, of course, aged) by this means. Even if they do not, it would be nice if other ringers would actually publish their findings in *Safring News*.