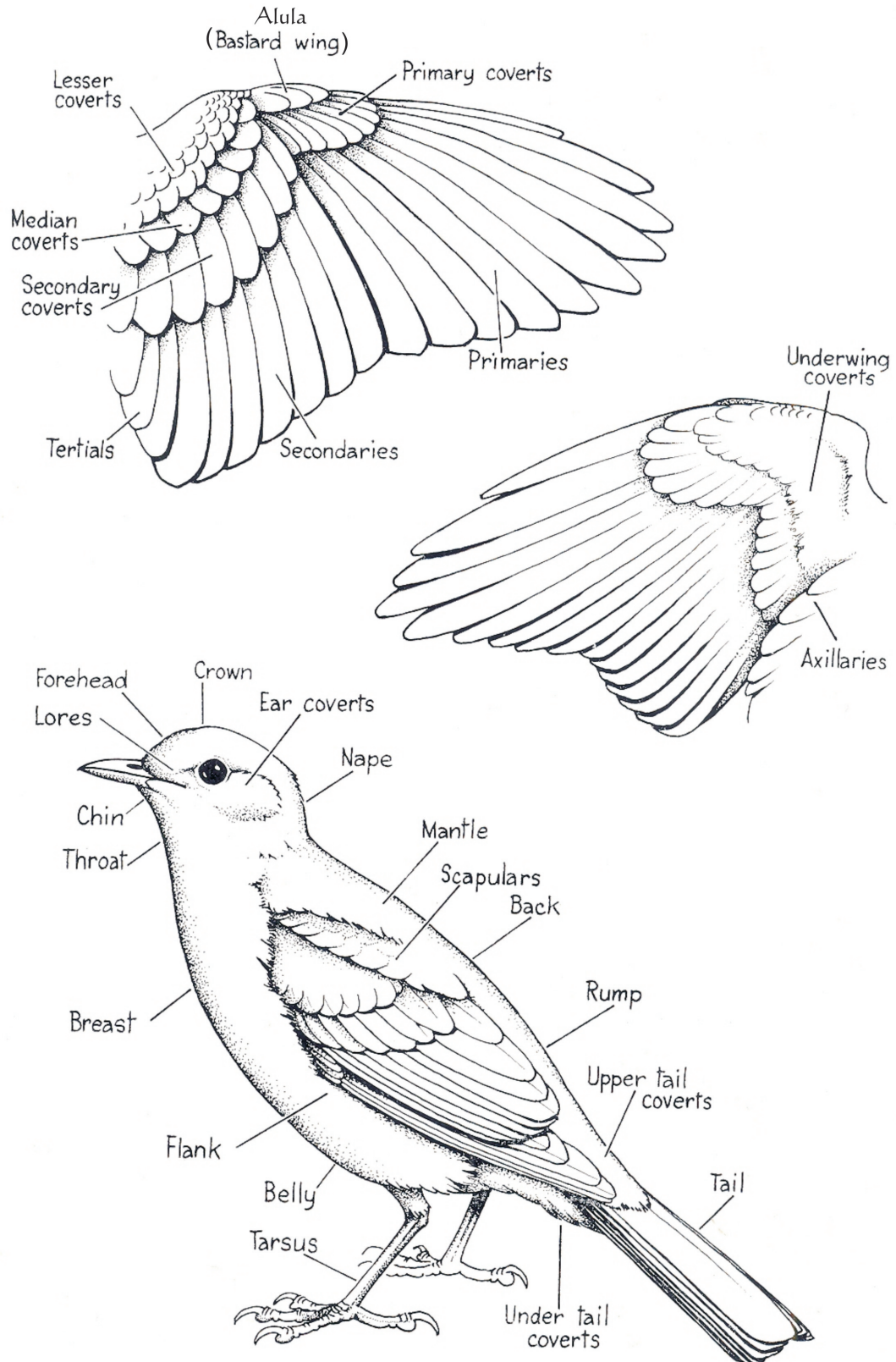


Topography, terminology, colours and measurements

The following three pages are extracted directly from *Bird in the Hand* (ed S.G. Lane), 1974:



Topography, Colours and Measurements

Topography

The bird in the hand can only be accurately described if its topography is known and standard methods of measurement are used. This section sets out the terms used and the methods of measuring different parts of the bird.

A typical passerine bird is illustrated opposite with the different parts located and marked. Other terms which should be known are:-

- Rectrices* —Tail feathers, usually numbering 12.
- Remiges* —A collective term for the primaries and secondaries.
- Greater wing coverts* —Another name for secondary coverts.
- Outer* —Furthest from body.
- Inner* —Nearest to body.
- Bill* —Upper and lower mandible.
- Culmen* —The central ridge of the upper mandible.
- Leg* —Correctly consists of the tibia and tarsus, although often applied to the scaly tarsus alone.
- Iris* —The coloured part of the eye which surrounds the dark pupil.
- Eye ring* —The scaly ring of skin around the eye.

Colours

The colours of the soft parts (i.e. bill, legs, bare skin around eyes and eye rings) are sometimes a valuable guide to ageing and sexing. They should be determined in good light, preferably sunlight. In adults the colour of the soft parts may change in the breeding season and then back again after breeding.

Plumage colours should also be determined in good light, taking care that no coloured surface nearby is reflected on to the plumage. Very bright sunlight may alter the colours, especially if they are iridescent.

Measurements

Measurements of the wings, total length, wing span, tail, bill, and tarsus are used to separate similar species, geographical races and the sexes, and also in the ageing of birds.

The following methods of measurement, unless otherwise stated, have been used to obtain the data given in the text.

The first four measurements described below should not be taken if the relevant feathers are in moult.

Total Length

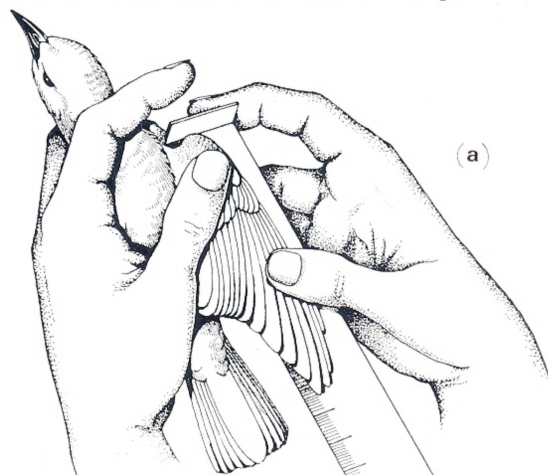
Place the bird on its back along a ruler, hold by the legs with one hand, and fix the tail with thumb. Grip the head or bill with the other hand and stretch the bird very gently. Let the bird's crown rest against the ruler so that the bill is roughly parallel with the ruler. Now loosen grip slightly to let the bird lie in its own natural and relaxed position. Read the measurement from tip of bill to tip of tail.

Wing

The method given here is that which gives the maximum measurement with the flattened and straightened wing. If possible, a stopped ruler should be used to make this measurement (Fig. a).

1. Slide the ruler under the closed wing until the carpal joint rests against the stop.
2. Straighten the bastard wing until it is as nearly as possible in line with the longest primary.
3. Press the wing flat.
4. Straighten and extend the longest primary to its maximum length by stroking thumb of free hand along shafts of the primaries, from base to tip, pressing firmly against the ruler all the time.
5. Check that the bend of the wing is still touching the stop and read measurement.

The wings of larger birds may be measured by stretching a steel tape from the front of the carpal joint to the tip of the longest primary, along the upper surface of the wing.



Wing Span

Although not yet widely adopted by banders, this is a very useful measurement for ageing and sexing some species (Fig. b).

1. Lay the bird on its back across a ruler or tape.
2. Hold out the wings by the carpal joints and bring the primaries parallel to the ruler.
3. Stretch out the wings to their maximum in this position and read measurement.

Done properly this method does not harm the bird, as individual birds have been repeatedly measured in this way.



Tail

Use either calipers or a ruler with the scale starting at one end (Fig. h).

1. With calipers, place one end underneath the undertail coverts, against the root of the tail, and the other against the tip of the longest tail feather. Record length.
2. With ruler, slide end under the undertail coverts until it reaches root of tail. Measure length of the longest tail feather.

Bill

Preferably use slide calipers with pointed tips for this measurement.

1. In small birds measure bill from tip to where it joins the skull. The latter point is often hidden by bristles or feathers (Fig. d).
2. In owls and birds of prey measure from tip to cere (Fig. c).
3. In waders and long-billed birds measure from tip to feathering at base (Fig. e).
4. State the method used.

Bill Width

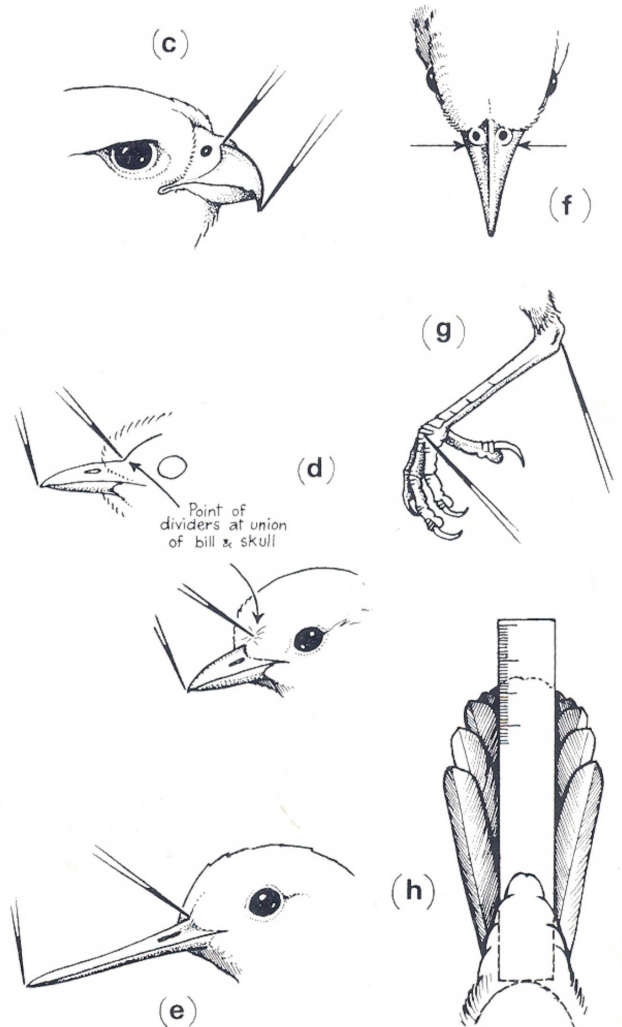
Measure with calipers just in front of nostrils (Fig. f).

Tarsus

It is the length of the tarso-metatarsal bone that is measured. Using calipers or dividers, place one point in the notch on the back of the intertarsal joint and the other on the lowest edge of first complete scale before the toes separate. Measure distance between points (Fig. g).

Claws

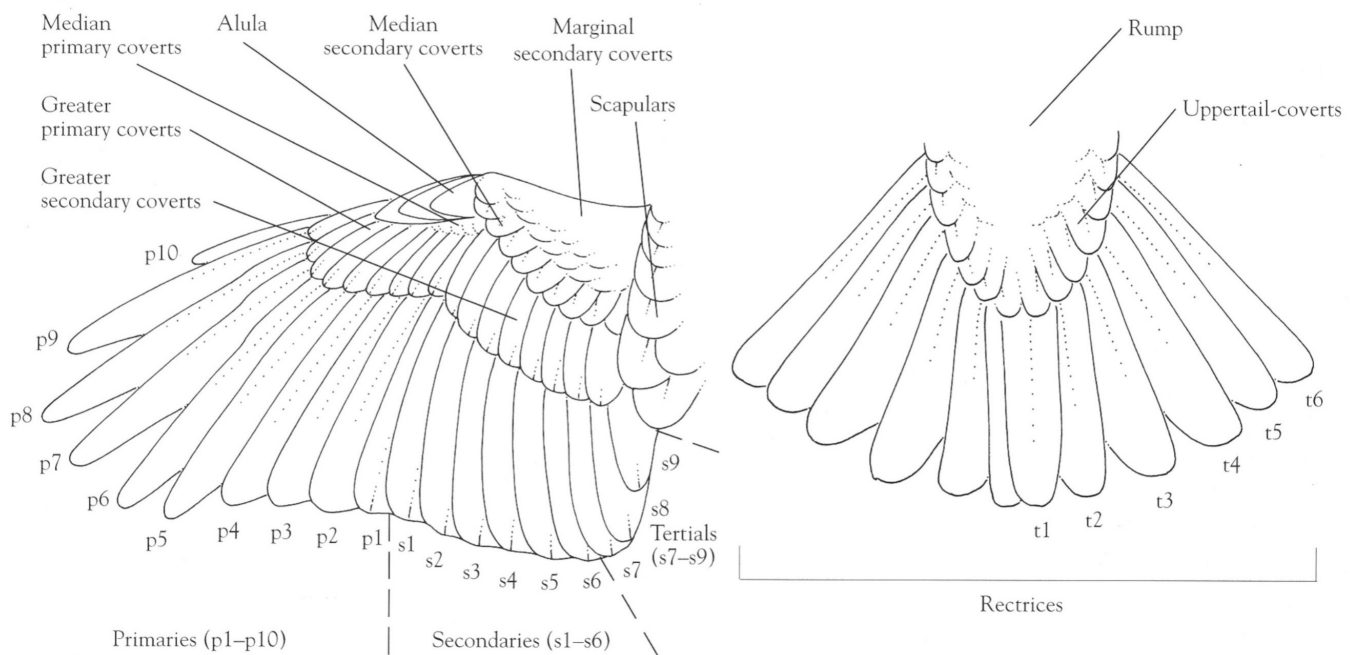
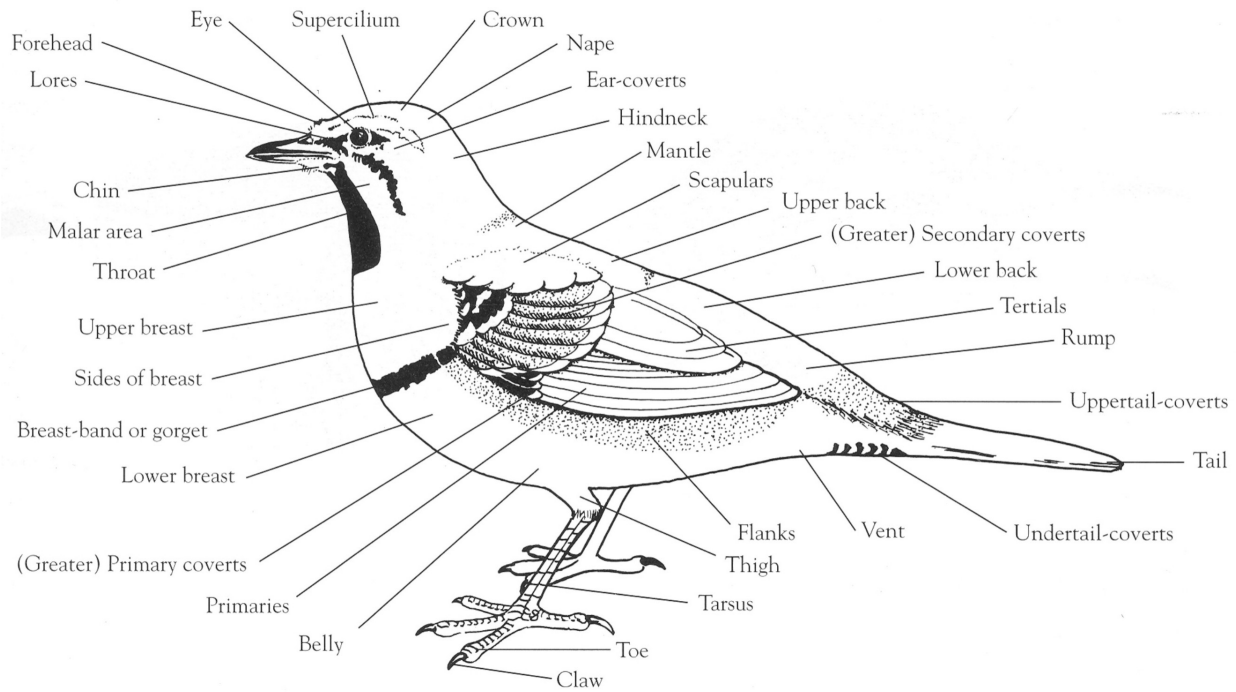
Using dividers, measure the chord on top of the claw from the tip to the edge of the skin. Do not measure if the tip is broken.

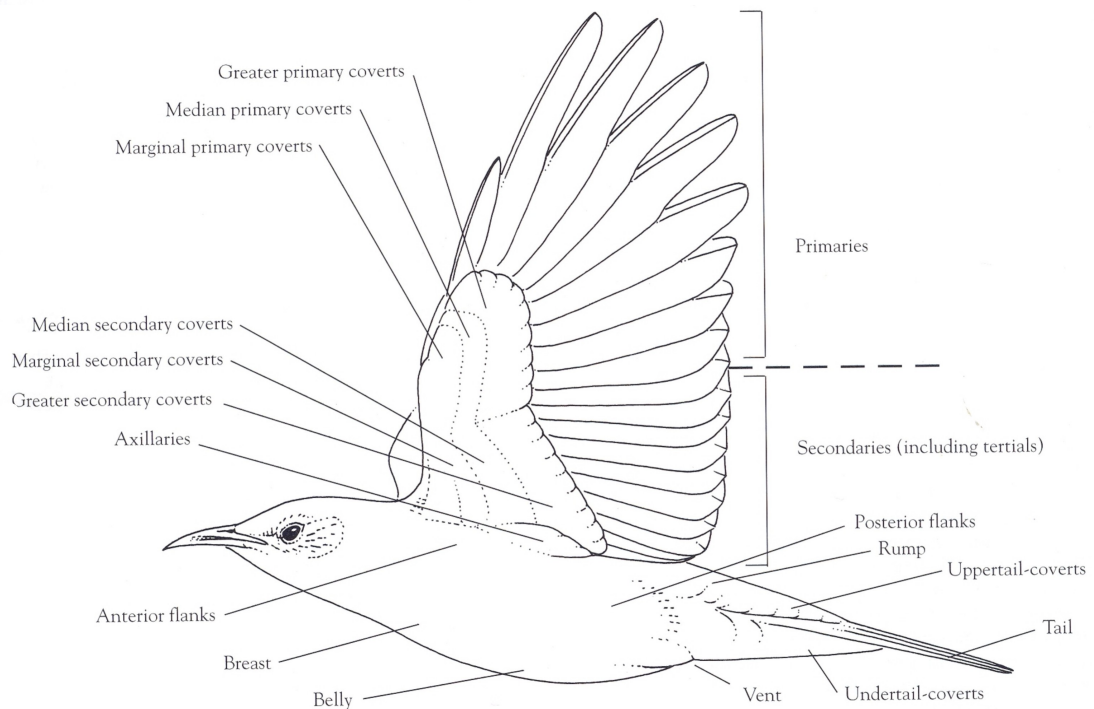
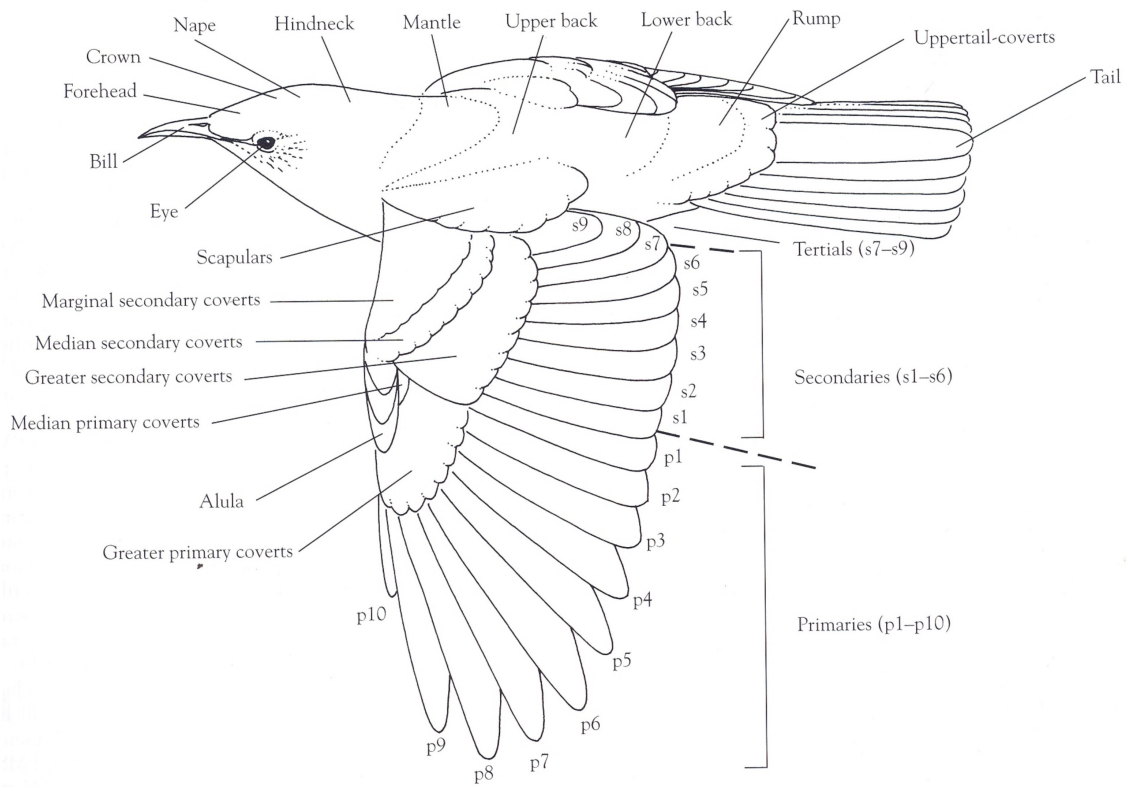
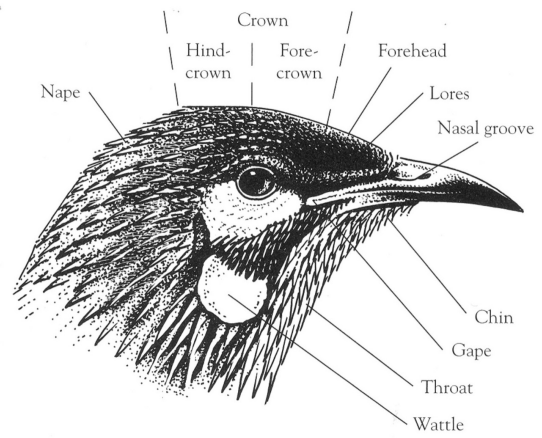
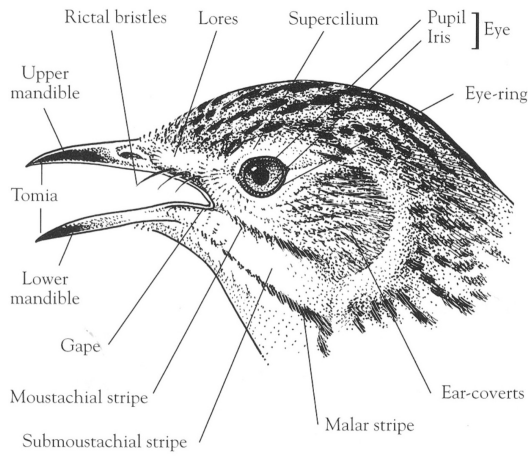


Drawings by W. T. Cooper

Methods for measuring birds were more recently fully described in Chapter 6 of the Australian Bird and Bat Banding Scheme's 1989 *The Australian Bird Bander's Manual*.

The drawings below are reproduced by the Australian Bird Study Association Inc from *The Handbook of Australian, New Zealand and Antarctic Birds (HANZAB)* with permission from BirdLife Australia. © BirdLife Australia:





Measurement methods used in *The Handbook of Australian, New Zealand and Antarctic Birds* (HANZAB) and in this 2nd Edition of *Bird in the Hand* are as follows:

Wing Length (WL): Length of the wing measured to the nearest millimetre on the folded wing from the carpal joint to the tip of the longest primary. Maximum chord is measured by flattening the wing against a butt-ended ruler and straightening it as much as possible. Maximum chord is thus the longest measurement between the carpal joint and the tip of the longest primary;

Wing Span (WS): See extract from *Bird in the Hand*, 1974 above;

Tail (TA): Length of tail, measured to the nearest millimetre with a ruler, as the distance between the point of emergence of the central rectrix from the skin to the top of the longest rectrix;

Bill measurements: Length of bill, measured with calipers to 0.1 mm. Several methods used because of differences in species, but the method used for a particular species is referenced in the text for that species as follows:

Bill F or Bill: Length of exposed culmen, which is the chord of the culmen from frontal feathering to tip;

Bill S: Length of bill from junction of culmen and skull (ie. naso-frontal hinge) to tip;

Bill N: Length of bill from the anterior corner of nostril to the tip;

Bill C: Length of bill from the front edge of the cere to tip;

Bill D: Depth of bill measured at junction of frontal feathering with the exposed culmen to the lower edge of the ramus below (it is the minimum depth possible at this point);

Bill W: Width of bill (distance between tomia) measured at junction of frontal with the feathering with the exposed culmen (it is the minimum width possible at this point);

Total Head Length (THL) or Head Bill (HB): Measured to 0.1 mm with calipers from the back of the skull to tip of bill;

Tarsus (TL): Length of tarsus measured with calipers to 0.1 mm from the midpoint of the hindside of the tibiotarsal joint to the midpoint of the joint between tarsus and middle toe in front;