

QUAILS and QUAIL-LIKE BIRDS



- *Plain Wanderers—male (top) and female (lower).*

Photos: L. C. Llewellyn

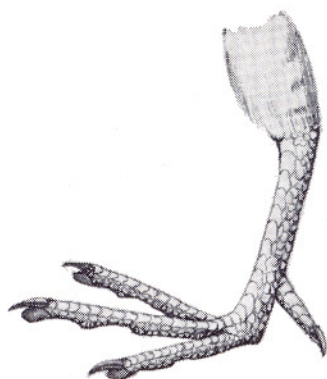
Quails—Phasianidae, Turnicidae and Pedionomidae

Quails belong to two orders. The 'true' quails are grouped with the Game or Fowl-like birds in the order Galliformes, and have a well-developed fourth, or hind, toe (Fig. 1). The Bustard Quails on the other hand are included

with the cranes and rails, etc. in the order Gruiformes and have only three toes (Fig. 2). The Plain Wanderer which also belongs to the latter order, is exceptional in having a small fourth toe (Fig. 3).

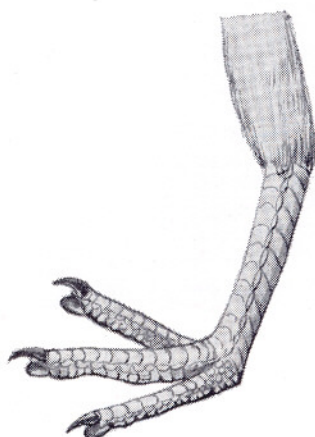
LEGS OF QUAIL-LIKE BIRDS

Figure 1



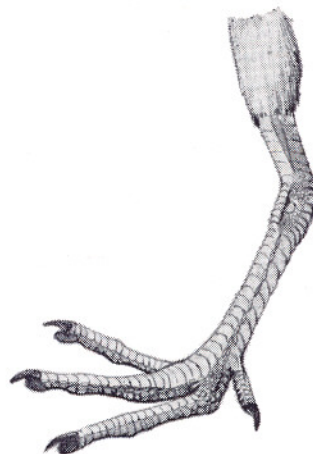
Phasianidae
True Quails

Figure 2



Bustard Quails
Turnicidae

Figure 3



Pedionomidae
Plain Wanderer

Australian Quails

Order: Galliformes

Family: Phasianidae (3)

Stubble Quail *Coturnix pectoralis*

Brown Quail *Synoicus australis*

(including Swamp Quail of Tasmania)

King Quail *Excalfactoria chinensis*

Order: Gruiformes

Family: Turnicidae (7)

Red-backed Quail *Turnix maculosa*

Painted Quail *Turnix varia*

Chestnut-backed Quail *Turnix castanota*

Buff-breasted Quail *Turnix olivii*

Black-breasted Quail *Turnix melanogaster*

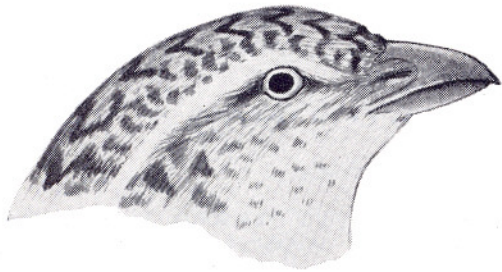
Little Quail *Turnix velox*

Red-chested Quail *Turnix pyrrhothorax*

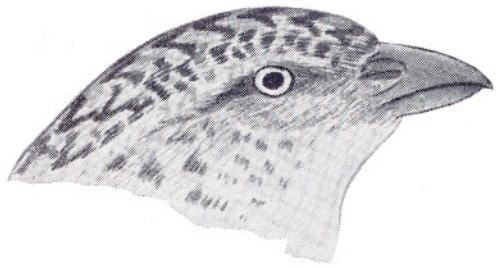
Family: Pedionomidae (1)

Plain Wanderer *Pedionomus torquatus*

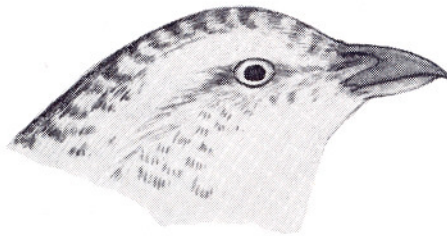
Females of the Australian 'True Quails', Phasianidae



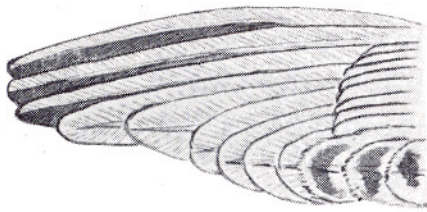
Female Stubble Quail



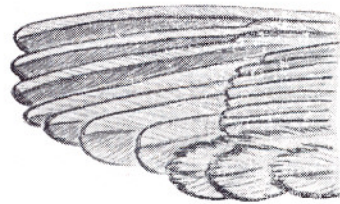
Female Brown Quail



Female King Quail



Stubble Quail



Brown Quail

Drawings by S. Beresford

STUBBLE QUAIL

Coturnix pectoralis

Length: 180-185 mm

Primaries: Outer two equal in length and the next almost the same length.

Leg colour: Fleshy white.

Bill: 10-13 mm, usually 12 mm (20 measured).

Wing (flattened): 99-105 mm

Line over eye: Well marked white stripe extending to side of neck.

Mantle and back: Feathers with large creamy-buff spear-shaped centres to feathers.

Throat and chin: Whitish, sometimes slightly spotted.

Rest of underparts: Whitish buff streaked with dark brown.

BROWN QUAIL

Synoicus australis

Length: 152-203 mm. Southern Australian birds are similar in size to the Stubble Quail, but the size decreases towards the north. A similar variation occurs with altitude in New Guinea, the lowland birds being smaller than those at higher altitudes.

Primaries: First four primaries nearly equal, the next slightly shorter.

Leg colour: Yellow.

Bill: 12-14 mm, usually 13 mm (11 measured).

Wing (flattened): 91-101 mm in Australia, 82-103 mm in New Guinea.

Line over eye: Indistinct pale to deep buff stripe with dark brown spots, extending down side of neck.

Mantle and back: Feathers with large 'square' black spots and narrower pale rufous bars, and with narrow white shaft streaks.

Rump: Feathers with narrow white shaft streaks, similar to back.

Throat and chin: Whitish buff.

Rest of underparts: Buff with dark brown bars on each side of narrow white shaft.

KING QUAIL

Excalfactoria chinensis

Length: 108-127 mm

Primaries: The outer primaries vary in length, sometimes being similar to the Stubble Quail and at other times similar to the Brown Quail. This variation may be related to age.

Leg colour: Bright yellow.

Bill: 9-11 mm, usually 9-10 mm (12 measured).

Wing (flattened): 65-74 mm

The plumage pattern of the upper and under parts of the female King Quail is similar to that of the Brown Quail.

Line over eye: Broad rufous buff line extending down side of neck.

Mantle and back: Similar to Brown Quail; feathers with large 'square' black spots and narrow rufous bars, and with narrow creamy white shaft streaks.

Rump: Feathers with large spear-shaped buff cream centres, in contrast with back.

Throat: Pale rufous.

Chin: Whitish, tinged rufous.

Rest of underparts: Buff sometimes tinged with rufous, with strong black bars. Belly with or without bars.

DIAGNOSTIC CHARACTERS

The Stubble and Brown Quails can be separated by the outer primaries, unless these are moulting, and the eye stripe.

Brown and King Quails can be separated by size and by the line over the eye.

STUBBLE QUAIL



• *Stubble Quail (female) on nest.*

Photo: P. A. Bourke

Stubble Quail *Coturnix pectoralis*

Ageing

Much work has been done in other countries on the ageing of game birds, especially quails. It has been found that first year quails (and some other game birds) do not moult the outer two or three primaries until after breeding and this has been used as an ageing character. The position is more complex in Australia because quails may breed after good rains, even as very young birds. It is not known to what extent the stimulus to breed may advance or retard moulting of the wings and body feathers into adult plumage, but it does appear that the outer three primaries and the primary coverts of the juvenile plumage are not moulted until the bird is about a year old. The state of these feathers is therefore a useful ageing character.

Skull pneumatization is used to estimate age in many species, but with quails it is not known how long pneumatization takes. There is some evidence that pneumatization in Stubble Quails is completed except for very small "windows" in 12 months or less. However, an early breeding stimulus may cause a bird to develop more adult feathers and so possibly delay pneumatization.

A consideration of all these characters is therefore necessary for correct ageing.

Sexing

Sex differences are illustrated in both Cayley (1968) and Slater (1970). The pale rufous patch on the throat of the male is diagnostic, and is at least partly discernible at a very early age. Most probably it would be evident by the time young birds are large enough to band.

MALE

Juvenile (less than four months old).

Breast: Feathers loosely textured, whitish buff with two or four brown spots on each side of shaft.

Primaries: Nos. 1-7 with buff edges and tips, 5-7 pointed; Nos. 8-10 still emerging. The innermost (Nos. 1-6 and sometimes 7) moult almost immediately into first year feathers.

Primary coverts: Dark brown, tipped and edged buff, and with well marked white shaft lines; tips rounded. Outer two coverts less buff, more as in adult.

Immature (this plumage is usually assumed by the fourth month).

Breast: Feathers half black and half white, not fully black as in adult (adult breast plumage is sometimes assumed directly from juvenile plumage).

Primaries: Nos. 1-6 new, without buff edges and with blunt tips, squarish and much broader than in juvenile plumage. No. 7 often still juvenile, but may be renewed with the others. Juvenile Nos., 8-10 now fully emerged, grading to pointed tips. These feathers are not moulted during the first year.

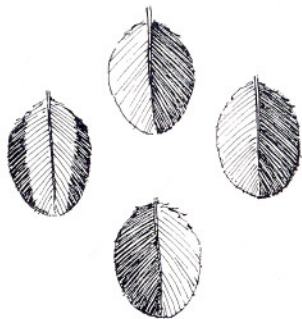
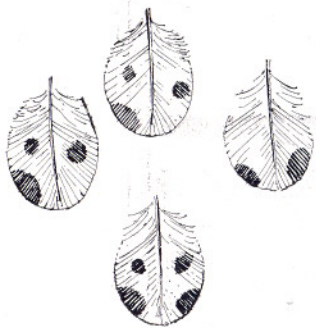
Primary coverts: Still juvenile, with buff slightly pointed tips.

Under suitable conditions birds may breed in this plumage at four months or later. A further partial moult may occur before the main breeding season, to give adult-type breast feathers. No. 7 juvenile primary, if still unmoulted, is also renewed. However, the primary coverts remain juvenile.

Adult

Breast: Centre of breast with some entirely black feathers, forming a well-marked black patch. Sides of belly with heavy black streaking.

This plumage may be assumed before the normal breeding season and possibly even directly from juvenile plumage.



• UPPER CENTRAL BREAST FEATHERS

Juvenile (above left)

Immature Male (above centre)

Adult Male (above right)

Immature Female (left)

Adult Female (right)



Primaries: A bird moulting into second year plumage will have Nos. 1-7 similar to immature; Nos. 8-10 are blunt and rounded at first, not tapering to a point as in immature. However, with wear they may become very similar to the immature plumage.

Primary coverts: Dark grey (becoming brown) with dark shafts. Tips square, with no buff or very slight buff in the form of a V.

FEMALE

Juvenile (less than four months old).

Breast and wing: Similar to male.

Immature

Breast: Feathers with dark brown streaks or

spots, well separated from shaft by whitish-buff area.

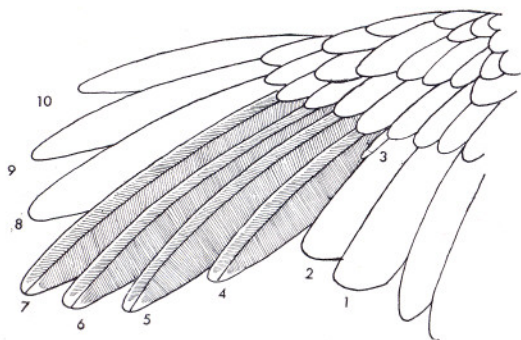
Wing: Similar to male.

Adult

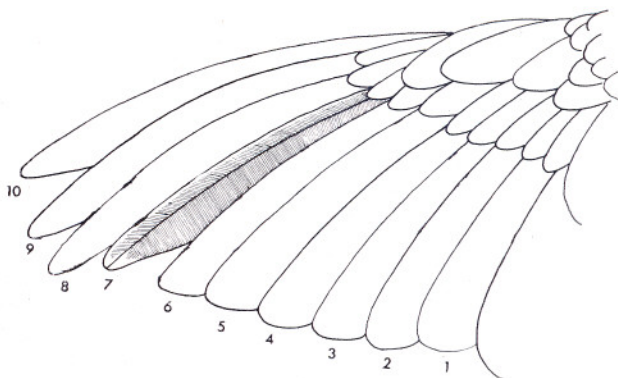
Breast: Brown marks on feathers of central breast in form of crescents which touch, or nearly touch, the shaft. The effect is of crescents and spots, rather than streaks as in immature.

Wing: Similar to male.

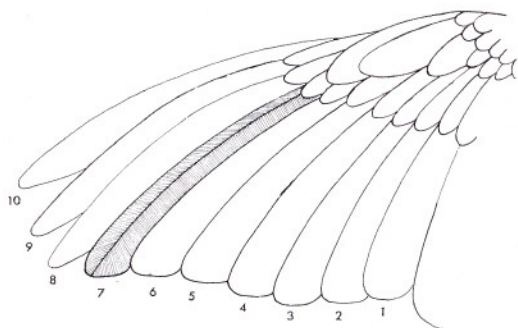
This plumage may be assumed before the normal breeding season and sometimes direct from juvenile plumage. Alternatively it may be delayed until after the primaries and primary coverts have completely moulted into adult plumage.



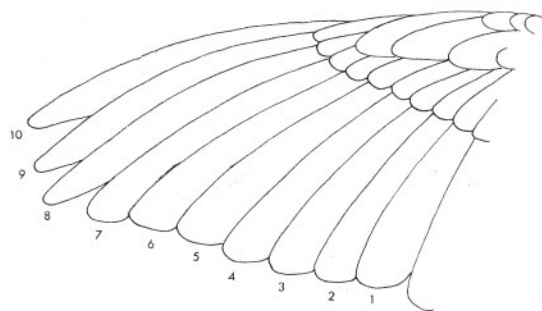
- **Juvenile:** *Primaries Nos. 1-3 already moulted and new immature feathers emerging; Nos. 4-7 juvenile; Nos. 8-10 juvenile and still emerging.*



- **Immature:** *Primaries Nos. 1-6 new; No. 7 juvenile; Nos. 8-10 juvenile.*



- **Immature:** *Primaries Nos. 1-7 new; Nos. 8-10 juvenile.*



- **Adult:** *Primaries all renewed.*

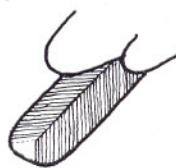
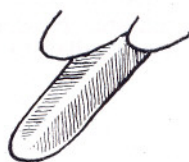
SUMMARY

Wing characters are the best indicators of age. Body moult can be advanced or retarded by external breeding stimuli, so that a bird may have fully adult wing feathers and yet still have worn immature breast feathers.

References

- Cayley, N. W. (1968), *What Bird Is That?* (Fifth Edition). Angus and Roberston, Sydney.
- Slater, P. (1970), *A Field Guide to Australian Birds. Non-passerines.* Rigby, Adelaide.

Drawings by D. Rae



- **PRIMARY
COVERTS**

Juvenile (above left)

**Adult (above right and
right)**

