

# Part 4



## Development of raptor chicks

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The photographs in this part of the book illustrate the development of nestlings for six species of birds of prey. The young of diurnal birds of prey (Falconiformes and Accipitriformes) and owls (Strigiformes) are classed as 'semi-altricial' (Campbell & Lack, 1985). They hatch covered in dense down (fine feathers) and are unable to leave the nest. They are wholly dependant on the parent birds until after they fledge. The nestlings of the raven (not shown here) are 'altricial' (Campbell & Lack, 1985). In common with other passerines, they hatch naked (except for a thin covering of light downy filaments on their upper body and crown), blind and unable to leave the nest. They are also dependant on the parent birds until after fledging.

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## Golden eagle



**Plate 58.** Golden eagle, 2 day old chick and hatching egg. The chick is weak and unsteady and covered in the first coat of down which is white (or white with pale grey tips). The cere is pale flesh-coloured (as are the feet and claws). A second chick is hatching using the egg tooth at the tip of the bill.



**Plate 59.** Golden eagle, 15 days. The chick can now sit up strongly and has a second coat of white or creamy white down, thicker and coarser than the first. At this age feather sheaths begin to emerge on the wings (although this is not clear from the angle of the photograph). The cere (fleshy portion of the upper bill next to the forehead) and feet are pale yellow and the claws darkening to black. The egg tooth has gone.



## Golden eagle (cont.)

**Plate 60.** Golden eagle, 28 days. The chick is now able to stand and tear at food. Feather vanes are emerging from their sheaths in feather tracts on the body and wings.



**Plate 61.** Golden eagle, 34 days. As Plate 60 – the feather vanes on the wings in particular have emerged further from their sheaths.

## Golden eagle (cont.)



**Plate 62.** Golden eagle, 46 days. Body size is now approaching that of an adult. Feathers cover most of body and wings although feather growth is not completed and sheaths are still present around the feather bases. Down is still visible, adhering to the tips of feathers, particularly on the head and hind neck, belly and legs. The nestling on the right may be two days older than its sibling.



**Plate 63.** Golden eagle, 70 days. Feather growth is complete and the bird is in its first juvenile plumage although wisps of down are still present for example on the back of the head (nestling down should not be confused with the newly grown under-down which is now visible on the breast of this juvenile and is present in all fully grown raptors). At this stage the bird is likely to be capable of flight – a fledgling - and may leave the nest but return for food. Nest visits should be avoided at this stage so that these so-called ‘flappers’ do not leave the nest prematurely.



## Merlin



**Plate 64.** Merlin, 1 day. The chicks are in their first cream-white down and one appears to be still damp after emerging from the egg, fragments of which are present.



**Plate 65.** Merlin, 3-5 days. The second down is present on the three eldest chicks (top and right). This is brown-grey above, paler grey below, and white with grey bases on chin, throat and belly. The egg tooth is still present.



## Merlin (cont.)



**Plate 66.** Merlin, 12-16 days. The chicks are now 'balls of down with attitude' - aggressive with feet and claws and very vocal. Feather sheaths are present on the wings and feather vanes are just beginning to emerge. They are now old enough for ringing.



**Plate 67.** Merlin, 16-18 days. Feather growth is now well established on the back and wings, and chicks can be sexed based on measurements (see Section 3.5 of merlin species account). This is an ideal age for ringing.

## Merlin (cont.)

**Plate 68.** Merlin, 21-24 days. Feathers cover most of the body but feather sheaths are still present and there are tufts of down adhering to the head, body and wings. At this age caution needs to be exercised if approaching a crag or tree nest as chicks may jump prematurely.



**Plate 69.** Merlin, 28 days. The growth of the juvenile plumage is complete, although traces of down are still present on the head and body. The bird is capable of weak but sustained flight and has moved out of the nest so is likely to have fledged. Traces of down are still present on the head and body.



## Hobby



**Plate 70.** Hobby, 10-12 days. The second (grey white) coat of down is present and the egg tooth has been lost. Feather sheaths are emerging on the wings ('in pin') and the chicks are (just) old enough for ringing (if it is possible to return to a nest, chicks are best left for several more days). Note the full crop on the left chick.



**Plate 71.** Hobby, 18-19 days. The sheaths for wing and tail feathers have appeared and the feathers have emerged 10-20mm ('out of pin'). Body feathers are also starting to emerge from their sheaths. This is a good age to ring.



**Plate 72.** Hobby, 26 days. Feather growth is nearing completion though a 'waxy' sheath and possibly a blood supply remains at the base of each feather. Down is still present on the top of the head and wings. Some chicks of this age may have already moved out of the nest on to an adjoining limb or ledge. They are capable of sustained flight and may leave the nest prematurely if approached. Therefore, nest visits should be avoided.

## Little owl



**Plate 73.** Little owl, 1 day. The recently hatched chick is covered with short white down over the whole body to the base of the toes, except for the back of the tarsal joint which is bare. The eyes are closed and the bill is flesh-coloured. The external ear area is also visible.



**Plate 74.** Little owl, 7 days. The chick now has a greyish appearance and tracts of feathers are beginning to grow on the head, body and wings. The beak is greyish green in colour. The eyes are still closed.



## Little owl (cont.)



**Plate 75.** Little owl, 11 days. The eyes are opening and the feet are well-grown. The nestling is able to sit up.



**Plate 76.** Little owl, 15 days. The eyes are fully open and the flight feathers are beginning to grow, still 'in-pin'.

## Little owl (cont.)

**Plate 77.** Little owl, 23 days. The wing feathers are part-grown and the tail feathers are emerging from their pins.



**Plate 78.** Little owl, 39 days. At this stage the young owl will have left the nest and be capable of flight but still dependent on its parents for food, i.e. a fledgling. The flight and body feathers of the juvenile plumage are well-grown.



## Short-eared owl



**Plate 79.** Short-eared owl brood with chicks at different stages of development, a typical feature of owl broods. The estimated ages of the chicks (top to bottom) are 13-15, 11 and 7 days (see section 3.5 of species account). Owls are born with eyes closed, and the eyes of the youngest chick in this brood are not yet fully open. At this particular site there were also three larger chicks, which had already left the nest but were found nearby.

## Hen harrier



**Plate 80.** Hen harrier, 24-26 days. Females (left) have a rich chocolate iris colour whereas males (right) have a distinct greyish cast. Males are also smaller in size, with thinner tarsi and shorter toes than females (see section 3.5 of species account).