

THE INCUBATION PROCESS

Incubation refers to the process by which birds hatch their eggs, and to the development of the embryo within the egg. The most vital factor of incubation is the constant temperature required for its development over a specific period. In most species, body heat from the brooding parent provides the constant temperature, though several groups, notably the Megapodes, instead use heat generated from rotting vegetable material, effectively creating a giant compost heap while Crab Plovers make partial use of heat from the sun. The Namaqua Sandgrouse of the deserts of southern Africa, needing to keep its eggs cool during the heat of the day, stands over them drooping its wings to shade them. Humidity is also critical, and if the air is too dry the egg will lose too much water to the atmosphere, which can make hatching difficult or impossible. As incubation proceeds, an egg will normally become lighter, and the air space within the egg will normally become larger, owing to evaporation from the egg.

In the species that incubate, the work is divided differently between the sexes. Possibly the most common pattern is that the female does all the incubation, but in other species the male and the female take turns incubating the eggs; and in yet others only the male incubates.

The incubation period, the time from the start of uninterrupted incubation to the emergence of the young varies from 11 days to 85 days depending on the species. In general smaller birds tend to hatch faster, but there are exceptions, and cavity nesting birds tend to have longer incubation periods. Incubation can be an energetically demanding process, with adult Albatrosses losing as much as 83g of body weight a day. Megapode eggs take from 49 to 90 days depending on the mound contents and the ambient temperature.

Embryo development remains suspended until the actual onset of incubation. Some species begin incubation with the first egg, resulting in the young to hatching at different times; others begin after laying the second egg, so that the third chick will be smaller and more vulnerable to food shortages, and some only start incubating after the last egg of the clutch is laid, causing the young to hatch simultaneously.

R.V.C. with help from Wikipedia