

## INCUBATION AND REARING OF OFFSPRING

Most species begin to sit on their eggs after the last egg has been laid, a period that can range from 10 days (e.g. songbirds) to 80 days (e.g. large birds of prey). Birds need to provide the eggs with a near-constant temperature to allow the embryo to develop properly. Most birds will have a brood patch on the abdomen, which is a bare swollen skin surface rich in a network of blood vessels.

Cracking of the eggshell is usually done by the hatchlings, which develop a temporary horn-like structure on the upper beak, the egg tooth, which soon dries up after hatching.



Source: <https://pixabay.com/ru/photos/keltet%5%91-csib%3%A9ket-toj%3%A1sh%3%A9j-sz%3%BCnet-2448541/>

After hatching, the hatchlings are at different stages of development depending on the species.



**Mallard (*Anas platyrhynchos*) nestlings with their mother**

Source: <https://pixabay.com/ru/photos/t%5%91k%3%A9s-r%3%A9ce-csaj-csecsem%5%91-%3%BAsz%3%A1s-2415731/>

After hatching, **precocial** nestlings are able to follow their mother in foraging. Such species usually nest on the ground or in water, e.g. ducks (Anatidae). They cannot fly yet.

The nestlings of the **altricial** species are quite immature, naked and in many cases blind. This means that the parents have to care for them for a long time.



Source: <https://pixabay.com/hu/photos/mad%C3%A1rfi%C3%B3k%C3%A1k-mad%C3%A1rf%C3%A9szek-fj%C3%B3k%C3%A1k-7168916/>

Feeding the nestlings, which do not drink but take their water from the food during their development, is a major task for the parents. Parent birds usually prepare the food they carry for their young. This can be done by pre-digestion and mechanically, e.g. by removing the chitinous shell.

For pigeons, feeding is very specific in the first few days: the parent feeds its young with glandular fluid from the wall of its crop.

The final stage of rearing in altricial birds is fledging. Before leaving the nest, nestlings of some species perform various flight exercises.