

All quiet on the avian front.

If you can believe it, June 2024 was a dry, cool and sunny month compared to the UK's long-term average, according to provisional Met Office figures. Rainfall was also in relatively short supply, especially in the south.

You may have noticed the relative quietness in the mornings as the usual dawn chorus waned. A lot of bird watchers tend to hang up their binoculars in June and August. The birds are still there but they are just keeping a low profile. By July, many juvenile birds have fledged and even those who have multiple nests, have finished breeding by early August.

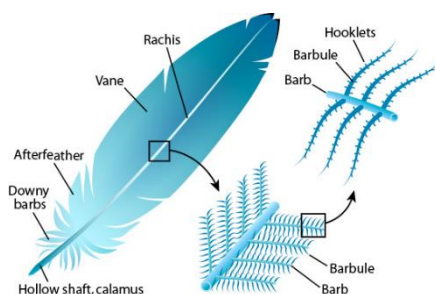
After breeding, the moulting season kicks in, heralding major changes in both the appearance and behaviour of birds. Moulting is the systematic replacement of feathers. As birds grow new flight feathers, they are particularly vulnerable to predators. To avoid attracting the attention of predators, many birds—such as sparrows, warblers, and thrushes—lie low, calling infrequently and hiding in vegetation.

Feathers are complex structures created from the ectoderm, or outer layers of the body. Among the creatures we share the planet with today, only birds have feathers. In the 1990's archaeologists made a remarkable series of discoveries that ended the notion that feathers were a unique feature of birds. Fossil finds established that feathers were widespread among several lineages of the bipedal, carnivorous dinosaurs known as theropods.



There are numerous feathers (usually >20,000) on one bird, and their morphological forms (shape, structure, colour, pattern, size) are diverse. They arise from follicles in the skin, in a similar manner to the hairs on our own bodies. Single follicles can produce feathers with different types for distinct functions at the various life stages of a bird.

At the embryonic stage, skin begins to form as a single epithelial layer overlying a single dermal layer. The first step in feather patterning is the establishment of feather tracts; feathers within different tracts will show different characteristics. In an effort to understand the molecular basis for feather patterning, several genes have been mapped in the DNA of birds.



In adult birds, feathers undergo natural cycling through phases of initiation, growth, rest, and moulting before beginning a new cycle. Cells in a particular (ramogenic) zone form barb ridges, which will eventually differentiate into the barbs and barbules, which exist to link the vanes of the feathers together. During formation it takes a little while for the new tissues to keratinise and harden.

The vane structure of the “pennaceous feathers” allows for the movement of air, which is necessary for flight. Birds can be highly decorated with distinct and colourful pigmentation patterns which are used to attract a mate or to hide from or frighten a potential predator. The brighter colours you will have witnessed in the spring are now replaced by less noticeable feathers at the later stage of the year.