

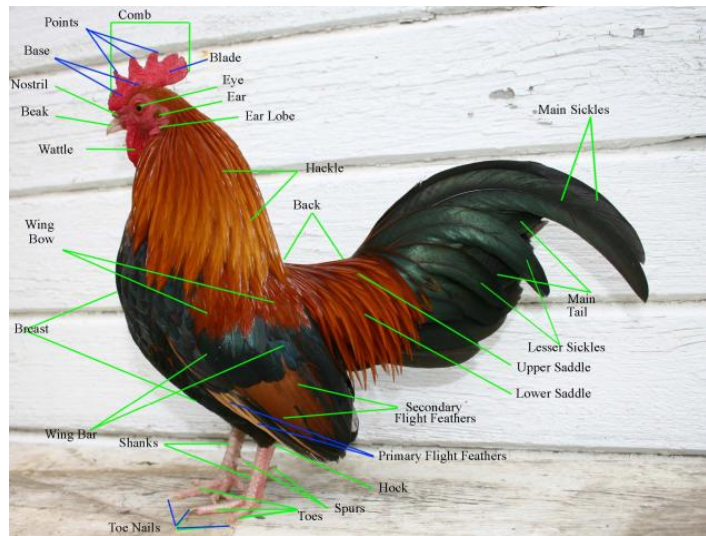
Anatomy of a Feather

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Birds come in different shapes and sizes, but one thing they have in common is feathers. Feathers are unique to birds; that is, everything that has feathers is a bird. Figure 1 shows feathers of various sizes, shapes, colors, and purposes on an adult male rooster.

Fig. 1. Parts of an adult male rooster.
Source: John Anderson, The Ohio State University.



Feathers play three main roles in birds' lives:

- Feathers provide insulation, allowing birds to maintain their body temperatures in a wide variety of environmental conditions.
- Certain feathers are instrumental in allowing birds to fly.
- Because they come in different shapes and colors, feathers provide individual plumage that can serve to camouflage a bird or attract a mate.

Figures 2 and 3 illustrate features of flight feathers, and Figure 4 shows a feather whose purpose is ornamentation.

Fig. 2. Parts of a feather. Source: Jesse Lyons, University of Missouri.

Fig. 3. Electron microscope image of part of a pheasant secondary flight feather. Flight feathers must be tough to withstand the rigors of flight. The barbs on a flight feather are strong and are connected to adjoining barbs of the same vane by the hooks on the barbules. Source: John Anderson, The Ohio State University.

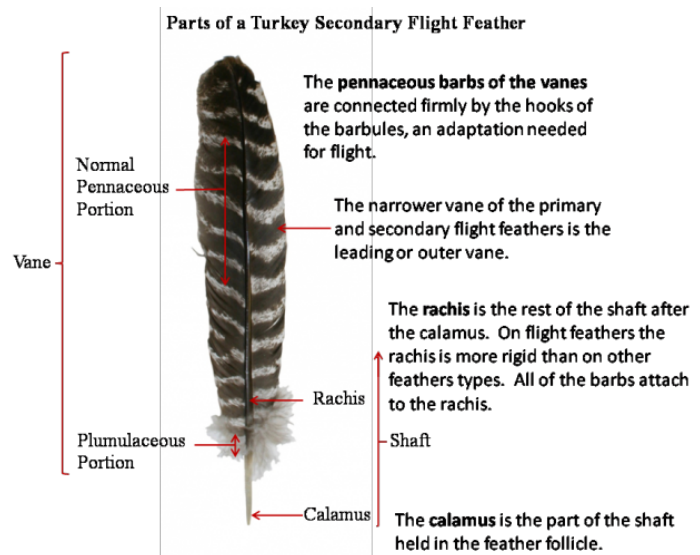


Fig. 4. Electron microscope image of part of a peacock eye feather. This feather is ornamental and not meant to withstand the forces a flight feather must endure. Spacing exists between the barbs, and the hooks do not hold the barbs together. The ridges on the barbs are part of the complex color-producing system present on peafowl. Source: The Ohio State University.

