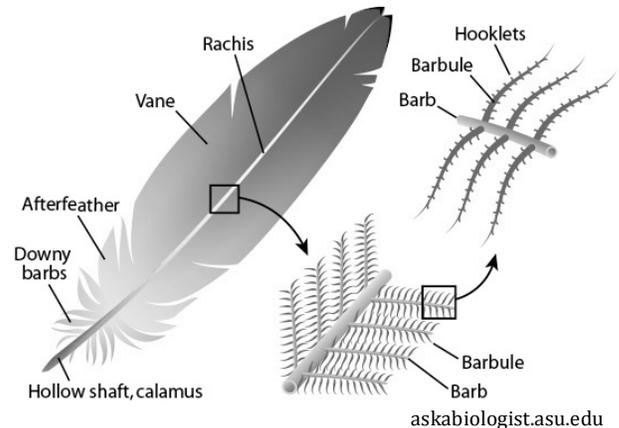


Environmental Education Module from Talking Talons Youth Leadership
Bird Basics 1: Form, Function, and Field Markings

FEATHERS

While we may credit feathers for birds' ability to fly, they do a lot of other things too. Feathers help hide birds, or make them stand out vividly. They keep bird bodies warm and repel water. They even do some very unexpected things, like produce sound, or even help some birds hear better!

Feathers are made of *keratin*, like our hair and fingernails. Bird keratin is rather special - the **genes** that control its forms do some amazing things.



1. The basic **vaned feather** consists of a central shaft.
2. The central shaft is called a **rachis** and it supports the lateral branches known as the **barbs**.
3. Smaller **barbules** (sometimes called **vanules**) project off the barbs. *Barbules are single lines of cells that may have tiny hooks, called barbicels or **hooklets**.*
4. The hooklets latch on to adjacent barbules, creating a feather surface that is interlocked and flexible.

Wow! Next time you find a feather, look at it very closely to find these features!

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(Please Turn Over)

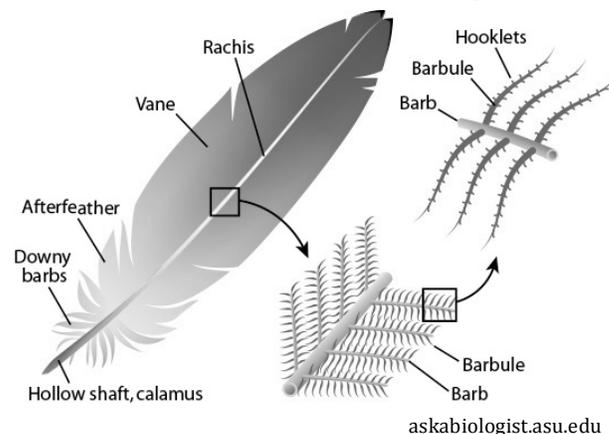


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Bird Basics 1 (continued)

OBSERVE

The surface of the feather can be broken, but it can also be “zipped” back together. Watch carefully when you observe *preening* behavior in birds. Sometimes a bird will grab a long feather in its beak and pull it through, thus reconnecting the hooklets to the barbules.

SPECIALIZED FEATHERS

Feathers do a great many things. Look for, example, at the face of this magnificent barn owl (right). The feathers create a *disc shaped face* that catches sound and funnels it to the ear canals.



Feathers can provide *cryptic coloration* that effectively **hide** a bird from potential predators, like this screech owl perched on a tree branch (left).



FIND

Next time you are outside, or in a pet store, look closely at the feathers of the birds you see! You will be amazed at the variety of shapes, colors and functions!

Inspiring tomorrow's environmental leaders, today.

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