

ID BIRD FEATHERS



by Bird Mentor

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A course by Bird Mentor ©2017

Getting Started

It all begins with Kristi's SEVEN QUESTIONS TO BIRD IDENTIFICATION to help you identify bird feathers. * This may seem basic, but if you approach your birding questions with this framework as your starting point you will not only cover all of your bases, you will also come to an answer more quickly. Asking yourself these seven questions may take some practice at first, but once you pattern your mind on them the answers will come to you almost instantly.

Habitat – What habitat did you find the feather in?

Behavior – Where on the bird's body is the feather from? What function does this feather have?

Shape – What is the overall shape of the feather? Does it have a flat/rounded/pointed tip? How much of the vane is on either side of the shaft? Is there any emargination?

Size – How long is the feather? Use this length to compare to a similar feather of a Family Ambassador to help determine the bird's approximate size.

Posture - Does it have camber (Is the shaft bowed or flat)?

Song – Although feathers do make sounds on certain birds and this feature can be used distinguish a bird in the field, you won't be able to use this question to help you identify an individual feather.

Markings – What is the texture of the feather (velvety, waxy, dull)? What is the color pattern (overall, the shaft, special features ... like a stripe or window)?



Lesson One

In this lesson I introduce the first of the 4 FUNCTIONS OF FEATHERS and the first two questions from the 7 Questions to Bird Identification.

I. 7 Questions to Bird Identification

1. Habitat – Ask yourself, “What specific habitat you found the feather in.” Who is likely to be found in this habitat? How close is the nearest body of water? How close is the nearest farm field? etc.

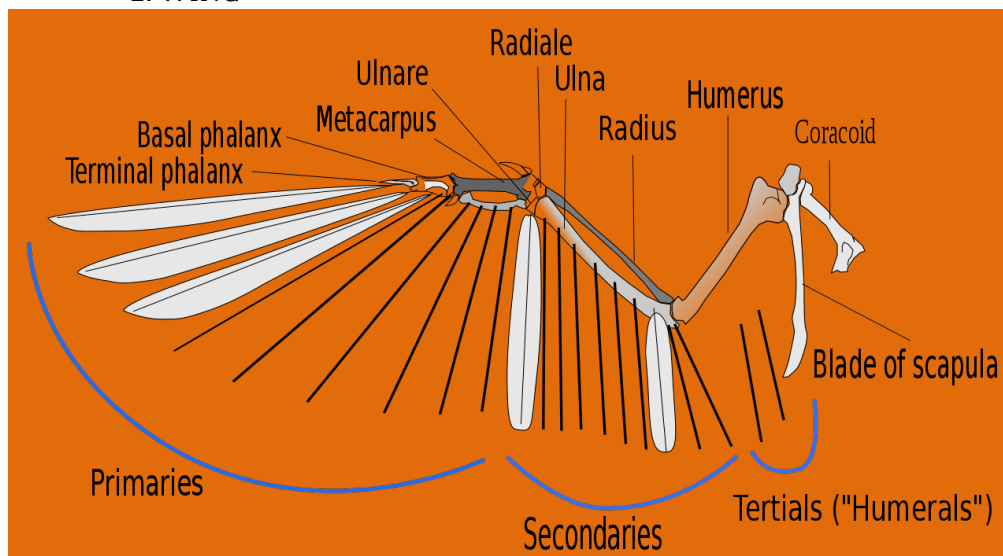


2. Behavior – Ask yourself, “What function does this feather serve on the bird’s body?”

II. 4 FUNCTIONS OF FEATHERS

A. **Flight** – Includes the wing and tail feathers.

1. WING



-Bird wing, Wikipedia, L.Shyamal Shyamal, 5/1/2007



a. Primary – Usually the 1st 9-10 feathers, but some birds (like the ostrich) have as many as 16 primary feathers. Attached to the carpometacarpus and phalange bones of the birds “hand”. Fairly pointed and narrow with more vane on one side of the shaft than the other. Another key feature is that the quill (the part of the shaft that does not have feathers on it) is quite a bit longer on the primaries compared to the other feathers of a bird. On some birds this can be true of the secondary’s as well.

b. Secondary – Next group of feathers attached to the ulna bone. There can be anywhere from 6 to 40 secondary feathers on a birds wing. Fairly rounded at the tip of the feather and tend to have bilaterally symmetrical design. Meaning the vane is more or less equal on both sides of the shaft.



c. Tertiary – Are not technically flight feathers (because they don’t actually attach to a bone), but are the last 3 feathers that rest closest to the body of the bird.

2. TAIL



a. Most species have 6 pairs of rectrices, or tail feathers, but some (like the grouse) can have more than this. These feathers most closely resemble the secondaries in shape and symmetry. Although, there is one key distinguishing characteristic that can help you distinguish between a tail feather and a secondary.

*Bow – a slight bend in the shaft of certain tail feathers (as seen in the video). Secondary feathers do not have this bow (or “step” as Casey McFarland calls it in his book *Bird Feathers*).

3. COVERTS & CONTOUR FEATHERS

I did not talk about the coverts and contour feathers in the video lessons, but these are also important feathers to know about because a large covert from, say a hawk, might be misidentified as a secondary from a smaller song bird.

The coverts are feathers that “cover” the main flight feathers in a similar fashion as shingles cover the roof of a house. The contour feathers are those that lay over the body of the bird and typically have a gentle curve to them, mimicking the shape of the bird’s body.

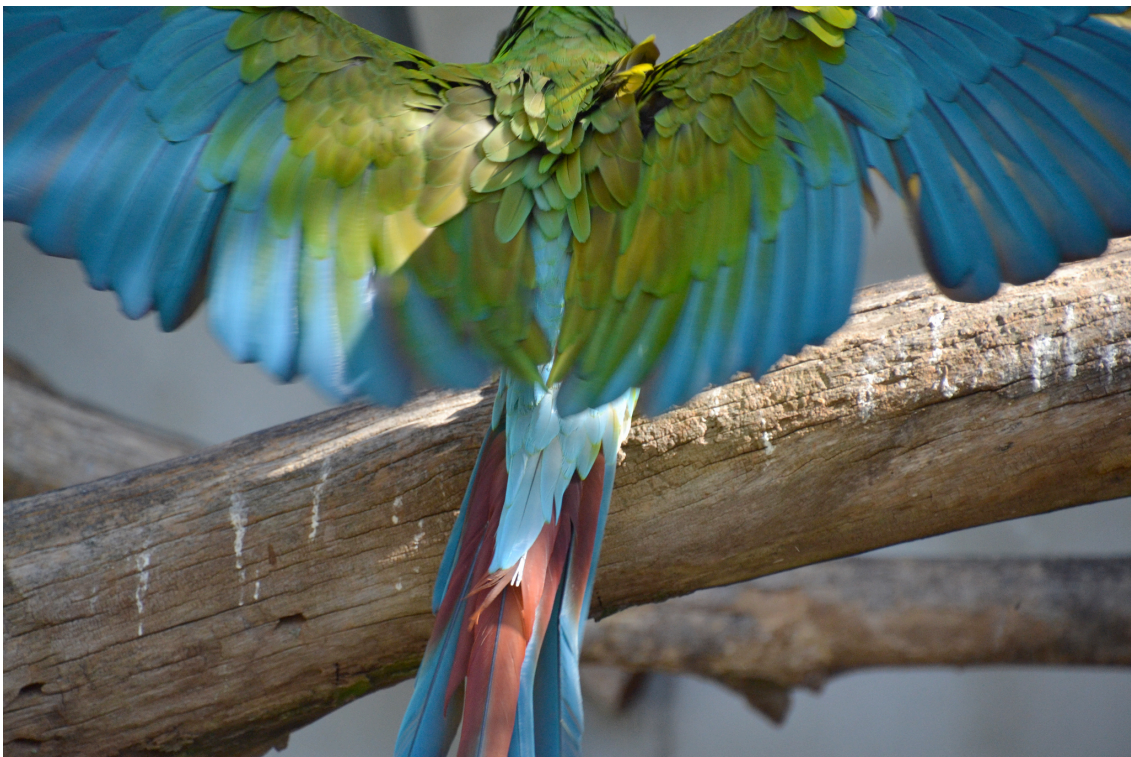


Photo by: Jeanne Menjoulet, flickr creative commons, 9/10/16

II. Understanding The Vane & The Shaft

Inspecting the amount of vane on either side of the shaft can help to determine which feather you are looking at (primary, secondary, tail). For instance, most primary feathers have more vane on the trailing edge of the feather than the leading edge. Secondary feathers tend to be more or less balanced (bilaterally symmetrical). Tail feathers display a little of both tendencies.



1. Vane – The vane is the soft part of the feather that is formed by interlocking barbs.
2. Shaft – The central part of a feather where the barbs attach.

Lesson Two

This lesson introduces you to the next two Functions of Flight and the next three questions from the 7 Questions to Bird Identification.

I. 4 Functions of Flight

B. Decoration – Any feather that does not either help the bird to fly, keep it insulated or dry. The Peacock tail feather is a great example of this. You can also think about the plumes on the head of the Great Blue Heron as an example. They are often more “buoyant” in their appearance.

C. Insulation – The feathers containing some form of down (like a contour feather, the semiplume and true down feather) are the ones that help insulate and warm a bird.

The downy part of these feathers does not have barbs and they look fluffy.



II. 7 Questions to Bird Identification

3. *Shape* - Using the book, *Bird Feathers*, a wonderful resource written by Casey McFarland and David Scott you can learn more about the **5 Shapes of Bird Wings**.

A. 5 Shapes of Bird Wings

- a. *High-speed* - Falcon
- b. *High-aspect-ratio* - Albatross
- c. *Game Bird* – Turkey or Grouse
- d. *Classic Elliptical* – Song birds
- e. *Slotted High-Lift* – Raptors

B. Shape of the Feather Tip



- a. *Flat* – Tail and some contour feathers
- b. *Rounded* - Tail, wing, contour, covert feathers
- c. *Angled* – Primary & secondary wing and tail feathers
- d. *Pointed* – Primary & tail feathers

C. Emargination

A dip in a bird's outermost primary feathers that indicates the feather belongs to a high-loft bird like a raptor. There are two types of "dips" in a bird's primary feathers that are distinguished by the angle of the dip. A **notch** is a dip that has a sharp angle. **Emargination** is a dip that is more gradual. Both forms of dipping make a bird wing look as if it has "fingers".



4. *Size* – Using the known size of an **Ambassador Bird** feather (as covered in the first video lesson you received) you can get pretty close to determining what size bird your feather is from by making a *relative comparison*.

5. *Posture* – The attitude of a bird and its feather. How curvy or flat is the feather? Notice where, if at all, the shaft of the feather is curved. Some may curve vertically, some horizontally. When a feather looks as if it has a convex curvature to it this is known as having a deep **camber** or bow, indicating the bird is some type of a game or shore bird allowing them to make quick powered flight. If the feather is more or less flat, the feather has a shallow camber.



Lesson Three

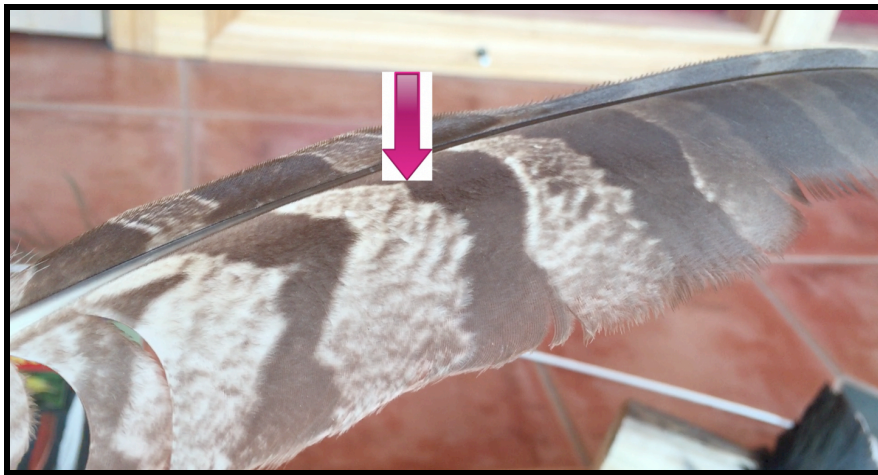
In this lesson I go over the last of the **4 FUNCTIONS OF FEATHERS** and the final question from the **7 Questions to Bird Identification**.

I. **7 Questions to Bird Identification** (Remember we won't cover the 6th question, Song, because this does not apply to feather identification. It is good to remember that some of the sounds we hear birds make come from their feathers and not simply their syrinx.)

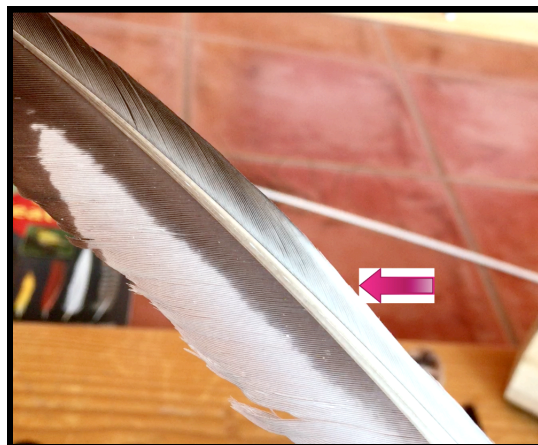
7. *Markings* –

a. Texture – Describes what the feather feels like.

1. Velvety - Some feathers, like owl feathers, have a velvety or “furry” texture. This helps them to remain nearly silent in flight.



2. Waxy – Also known as the **Tegmen**. This is a shiny or waxy-looking section of the feather on the underside of the primaries. This characteristic often shows up in waterfowl, some game birds, gulls, owls and vultures. It is different from the overall shiny sheen that most flight feathers have on their underside.



b. Color – Take a look at both the upper and underside color of the vane, as well as the color of the shaft. Certain patterns in color can help you determine which bird family the feather is from. A striped pattern can indicate a raptor or game bird feather. Regarding the shaft, the flicker has one of the most well known colors. Here in the west their shaft appears “red” or orange, whereas in the east the shaft is yellow.

This is the most common feature that people use to identify a bird. The reason I placed it as the last question is because it is quite often deceptive. In regard to feather ID, it is important to remember that time of year plays an important part, as does the various morphs certain birds, like hawks, can take on.



Wrapping It Up

When you find a bird feather do what you can to remember what you found when you get home (because of the Migratory Bird Feathers Act most feathers are illegal to possess); draw it in your journal or take a photo.

Journaling is always the best because you can add details and information that you won't be able to with a photo, which really comes in handy days or years down the road. Take yourself through the **SEVEN QUESTIONS TO BIRD IDENTIFICATION**.

When you get home pull out your [Bird Feathers](#) book or open up the [Feather Atlas](#) (an amazing free resource online with a host of bird feathers. They don't have quite as many as the Bird Feathers book does, but they are always adding more... and it's free ;-)) to compare the feather you found with those in the resources.

If you are totally stumped, but have authentically done your work to figure it out, you can either send me a message with as much info as you have or post your question to the Facebook Group "[Animals Don't Cover Their Tracks](#)". I love this group. They cover everything from mammals, birds to amphibians. There are a number of very talented trackers and naturalists who show up on this group.

REVIEW OF THE SEVEN QUESTIONS TO BIRD IDENTIFICATION

1. *Habitat* – Describe where you found the feather, the substrate, what trees and shrubs and plants are around you, where the nearest body of water is, what the overall habitat is, etc.
2. *Behavior* – Say a little bit about what you think this feather is used for; what function might it perform. What side of the bird is the feather from?
3. *Shape* - Note if the feather has any unique shape to it (emargination). What is the shape of the feather tip?
4. *Size* – Take measurements from the tip of the shaft to the top tip of the feather vane and then across the feather as well. Are there any other bird species whose feathers are a similar size (Ambassador Birds)? If you are taking a photo be sure to take at least one photo that shows something (your hand, your keys) to compare the size to when you get home.
5. *Posture* – Does the feather have high or low camber? Does the shaft curve at the base at all?
6. *Song*
7. *Markings* – Does the feather have a unique texture? Are there any color patterns that stand out to you?

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If you practice these Seven Questions you will be well on your way to having the capacity to identify any bird feather you find.

Enjoy your newfound skill set.

~Kristi (Bird Mentor)

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