

# Identification Notes for wildlife law enforcement

CATEGORY: BIRD

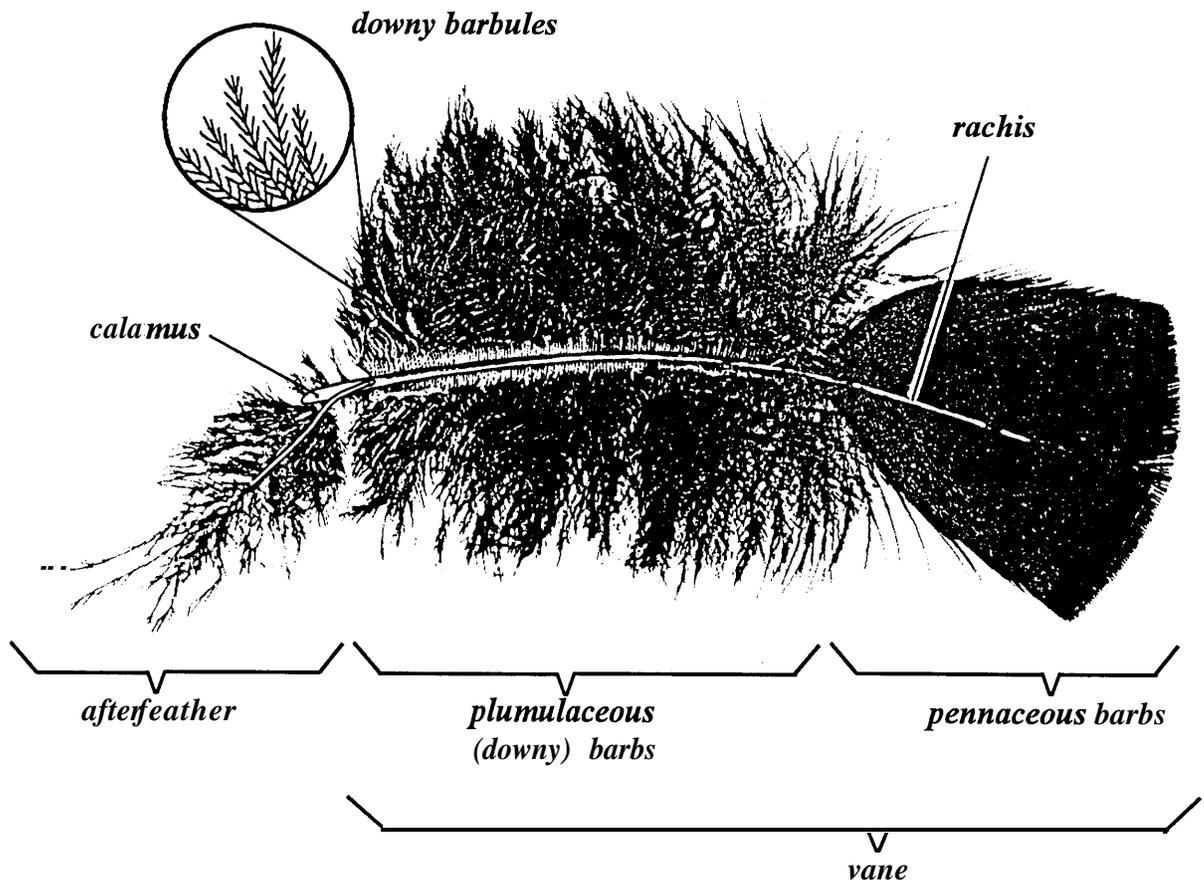
## DESCRIPTION:

### Feather morphology

**Birds are the only animals with feathers.**

Although shape, color, texture, and size of feathers vary with species, and with position on the body, each feather has one or more of the parts of a typical body feather. The **rachis** is the central shaft of the feather; the **calamus** at its base inserts into the skin of the bird.

**Down** or **plumulaceous barbs** are found at the base of the feather, and assist with insulation. **Pennaceous barbs** are found toward the tip of the feather, are most often visible to the observer, and provide protection to the bird by barrier and/or coloration. The **vanes** are the cumulation of the plumulaceous and pennaceous barbs on either side of the rachis. The **afterfeather** is a structure attached to the undersurface of the rachis near the calamus, and its morphology varies with family.



**PARTS OF A FEATHER**  
ventral view

**Identification Notes**

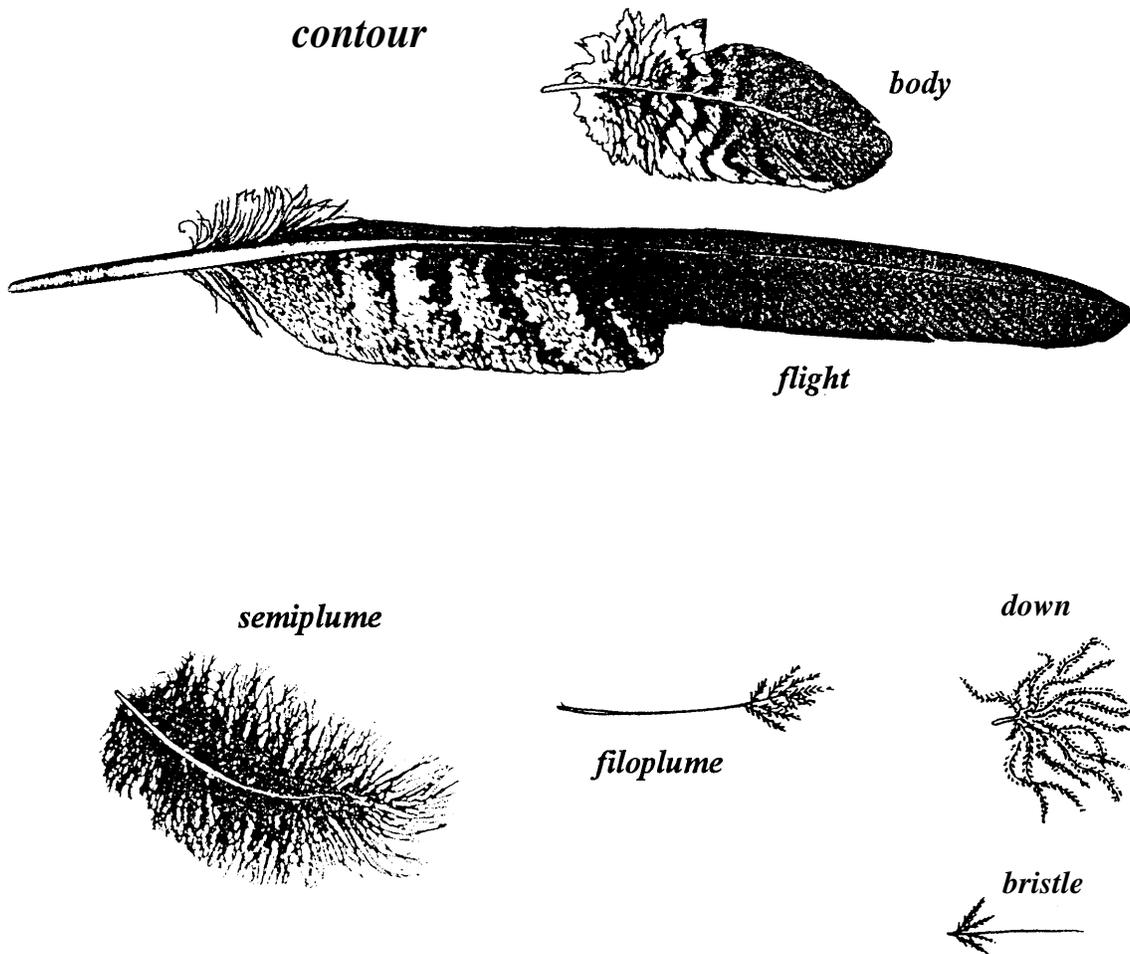
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CATEGORY: \_\_\_\_\_

**BIRD**

**Types of feathers**

Feathers are highly differentiated to serve several purposes, including insulation, flight, protection and display. **Contour feathers** create the outline of the bird, and include flight feathers of the wings and tail (**remiges** and **rectrices**, respectively), as well as **coverts** of the body, wings or tail. **Down feathers** (or **plumes**) are completely constructed of down, with little or no rachis. **Semiplumes** are similarly constructed completely of down, but have a distinct rachis. **Filoplumes** have only a rachis with a few barbs at the tip, while **bristles** have a few barbs at the base of an otherwise bare rachis.



**TYPES OF FEATHERS**