

# WING AND FEATHERS OF DOMESTIC PIGEON

# WING AND FEATHERS OF DOMESTIC PIGEON

---

## > CONTENTS

I. INTRODUCTION OF THE WING AND FEATHERS OF DOMESTIC PIGEON (COLUMBA LIVIA DOMESTICA).....	3
II. WING STRUCTURE.....	4
III. FEATHERS.....	5
IV. ADDITIONAL FEATHERS TYPE.....	6
V. COMPERATIVE ANATOMY WITH THE HUMAN ARM.....	7
CONTACT INFORMATION.....	8

# WING AND FEATHERS OF DOMESTIC PIGEON

---

## > I. INTRODUCTION OF THE WING AND FEATHERS OF DOMESTIC PIGEON (COLUMBA LIVIA DOMESTICA)

Introducing an exceptional educational tool that offers a profound exploration into the intricate world of bird anatomy: our WING AND FEATHERS OF DOMESTIC PIGEON (COLUMBA LIVIA DOMESTICA).

This meticulously crafted product is designed to provide students, and educators with a detailed look at the complex structures that allow birds to fly with such grace and efficiency.

The model includes key components such as the wing assembly, scapulars, wing coverts, tail feathers, and down feathers, each is to showcase their unique contributions to avian flight.

These components are presented to provide a comprehensive understanding of the complexity and functionality of bird wing anatomy, ideal for educational purposes or detailed study.

Whether for classroom instruction, in-depth study, or display, this model serves as an invaluable resource for understanding the marvels of avian biology.

# WING AND FEATHERS OF DOMESTIC PIGEON

## > II. WING STRUCTURE

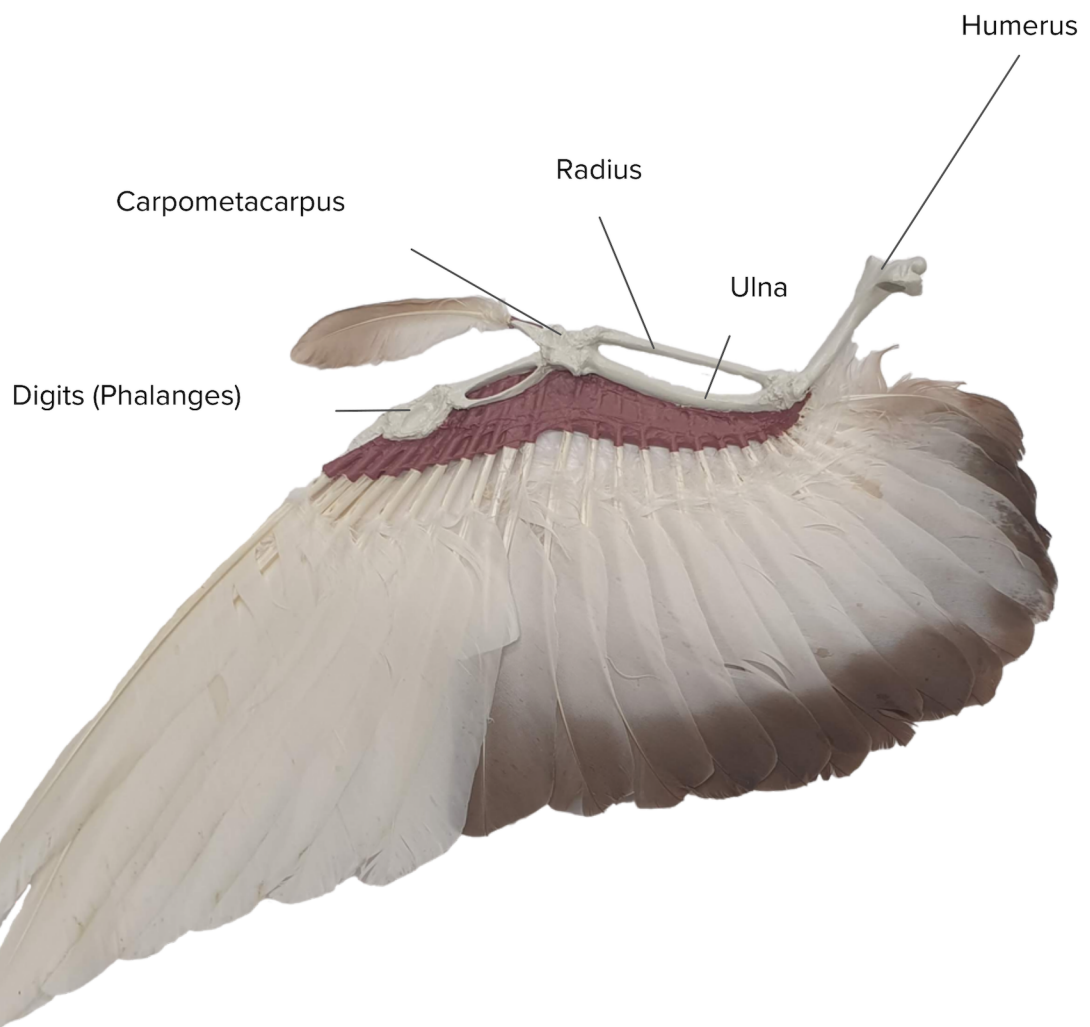
### BONES

HUMERUS: The largest bone in the wing, it is located in the upper wing and connects to the bird's body. It supports the primary muscles responsible for the downward stroke during flight.

RADIUS AND ULNA: These two bones are parallel and form the main structure of the lower wing. The ulna is typically larger and sturdier, often bearing attachment points for secondary flight feathers. The radius allows for rotation and finer control during flight.

CARPOMETACARPUS: This is a fusion of several bones that would be separate in humans (the carpals and metacarpals), forming a stiff structure at the tip of the wing from which the primary flight feathers extend.

DIGITS (Phalanges): Birds typically have three reduced digits at the end of the wing, providing attachment sites for the primary flight feathers, crucial for the control and power in flight.

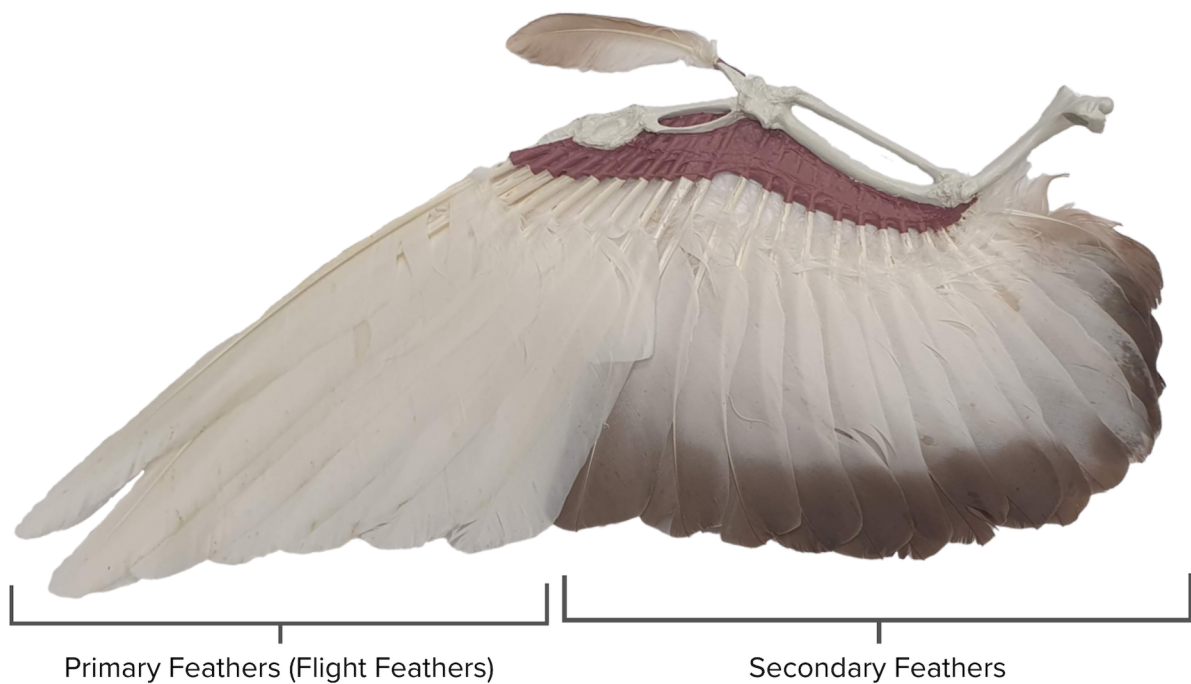


# WING AND FEATHERS OF DOMESTIC PIGEON

---

## > III. FEATHERS

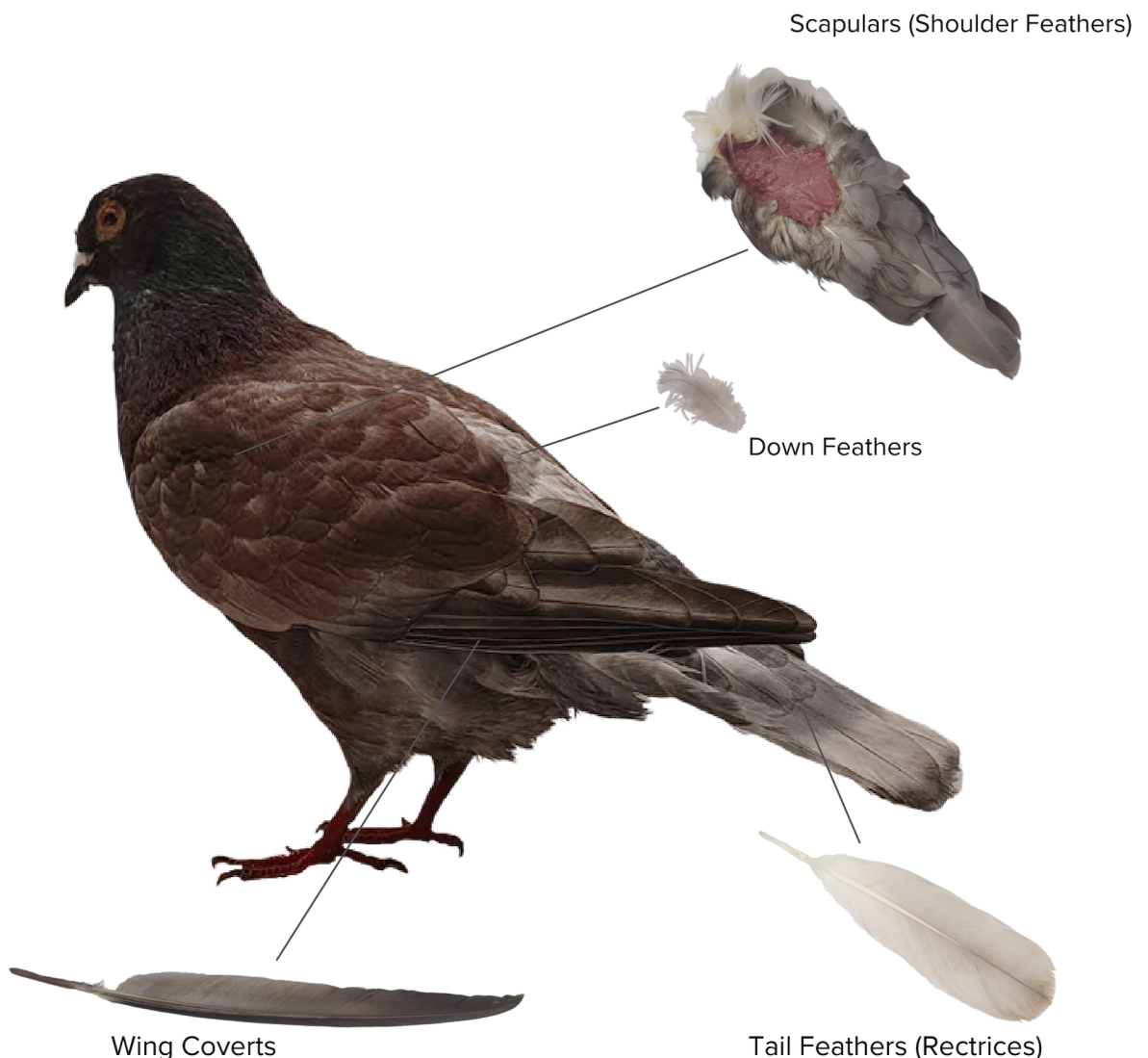
- **Primary Feathers (Flight Feathers):** These are the longest and strongest feathers attached to the digits and carpometacarpus. They are crucial for generating lift and are used in the power strokes of flight.
- **Secondary Feathers:** Attached along the ulna, these feathers are shorter than the primaries and provide lift and stability. They also aid in braking and steering during flight.



# WING AND FEATHERS OF DOMESTIC PIGEON

## > IV. ADDITIONAL FEATHERS TYPE

- a) **Scapulars (Shoulder Feathers):** Positioned around the shoulder joint, these feathers overlap the base of the wing and protect the shoulder area, also aiding in the overall aerodynamics of the bird.
- b) **Wing Coverts:** These small feathers are layered over the bases of the primary and secondary feathers in overlapping rows. They smooth the airflow over the wing and protect the larger feathers underneath from wear and weather.
- c) **Tail Feathers (Rectrices):** Long and strong, these feathers extend from the tail and are crucial in controlling the direction and stability of flight. They act as a rudder, allowing the bird to steer and balance in the air.
- d) **Down Feathers:** Soft and fluffy, these feathers are found beneath the external contour feathers. They trap air and insulate the bird, keeping it warm in cold weather. Down feathers also play a role in buoyancy for water birds.



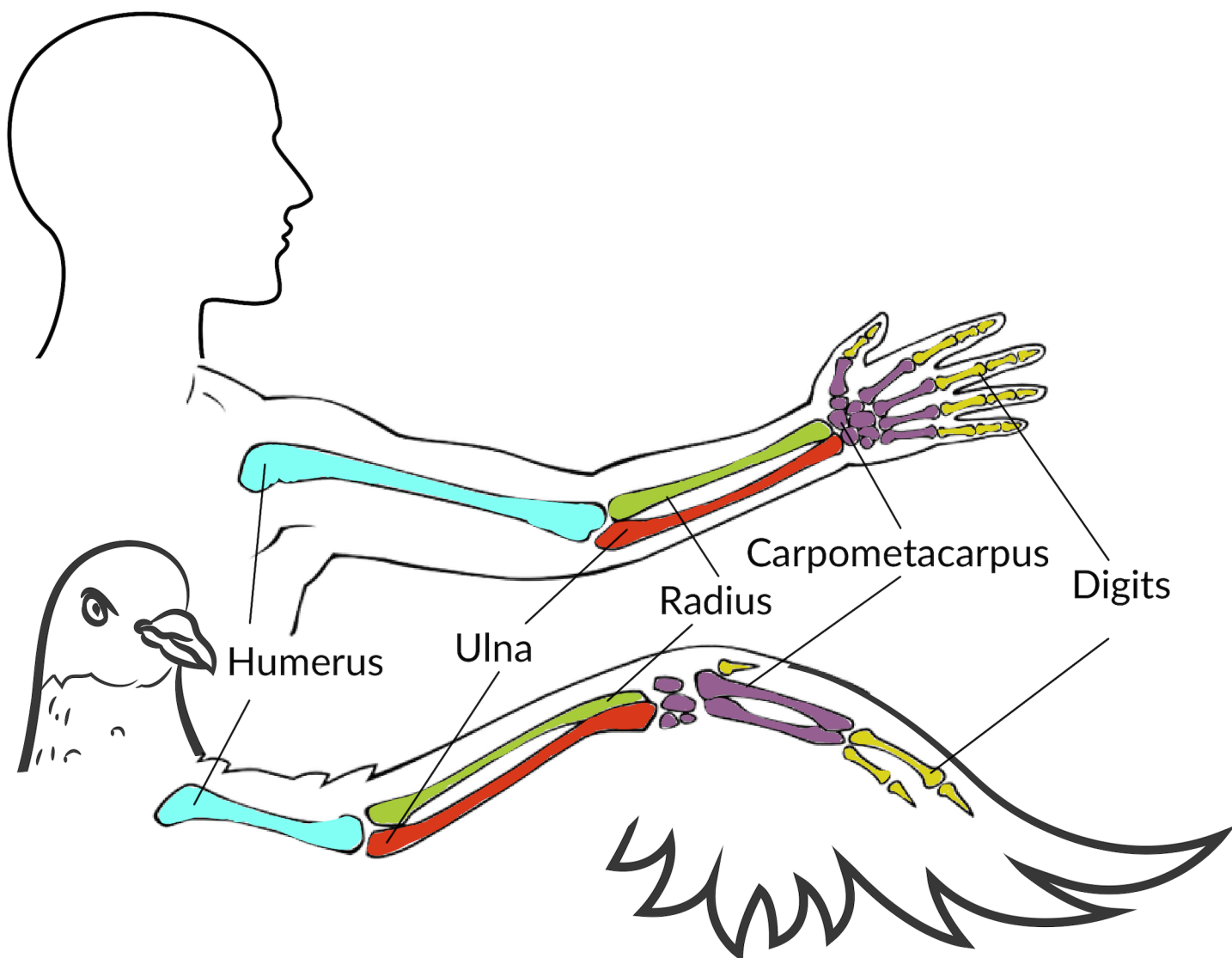
# WING AND FEATHERS OF DOMESTIC PIGEON

## > V. COMPERATIVE ANATOMY WITH THE HUMAN ARM

Comparison to the Human Arm:

- The humerus in birds is similar to the human upper arm bone, anchoring major muscle groups.
- The radius and ulna in birds are akin to the human forearm, providing necessary support and flexibility.
- The carpometacarpus and digits in birds are analogous to the human hand's structure, specifically the fused area of the carpals and metacarpals and the fingers, which support and control the primary feathers, crucial for the mechanics of flight.

This comparison helps illustrate how certain elements of bird wing anatomy parallel parts of the human arm, providing a relatable framework for understanding avian mechanics.



# WING AND FEATHERS OF DOMESTIC PIGEON

---

## > CONTACT INFORMATION



### **3B Scientific GmbH**

Ludwig-Erhard-Straße 20 • 20459 Hamburg • Germany  
Phone: + 49 (0)40-73966-0 • Fax: + 49 (0)40-73966-100  
3bscientific.com • info@3bscientific.com