

External Bird Anatomy

Module 2 · Online Birding Enthusiast Course · curriculum by Joe Grosel (1966–2021)

Once you can name what you're looking at, identification becomes a system rather than a guess. This module is the vocabulary every confident birder uses — and the structural logic behind every named part.

2.1 Topography

The named regions of a bird's body: crown, forehead, lores, supercilium, eye-ring, malar stripe, throat, nape, mantle, scapulars, back, rump, uppertail coverts, breast, belly, vent, undertail coverts.

2.2 Feather types

Contour (cover the body), flight feathers — primaries (outer wing), secondaries (inner wing), tertials (innermost) — tail feathers (rectrices), down (insulation), semiplumes, filoplumes (sensory) and bristles (around mouth, sensory).

2.3 Feather structure

Central shaft (rachis), barbs branching off, barbules locking together with microscopic hooks. This Velcro-like locking creates the smooth, water-shedding aerofoil surface that allows flight.

2.4 Beak adaptations

Beak shape = feeding strategy. Probing (sunbird), tearing (raptor), sieving (flamingo), hammering (woodpecker), cracking (finch, weaver), spear-fishing (heron), scooping (pelican).

2.5 Foot types

Anisodactyl (3 forward, 1 back — perching), zygodactyl (2 forward, 2 back — climbing, parrots, cuckoos), palmate (webbed — ducks), totipalmate (all four toes webbed — cormorant), lobed (coots, grebes), raptorial (eagles, owls).

2.6 The alula

The 'bastard wing' — 3-5 small feathers at the wrist that act as a leading-edge slat, preventing stall at low speed during take-off and landing.

Key Terms

Rachis	Central shaft of a feather.
Barbs / barbules	Branching structures that interlock to form the feather vane.
Supercilium	Eyebrow stripe above the eye.
Malar stripe	Moustache-like stripe from base of beak.

Alula

Small thumb-like wing slat.

Anisodactyl

Most common foot type: 3 toes forward, 1 back.