

## Flight Adaptations in Birds.

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Young in 1958 called birds as a 'masters of the air' due to their capacity to fly in air. Adaptations in body due to flight mode of life are various related to their anatomy, embryology, physiology and ecology.

- (1) Shape - A perfectly stream lined body and spindle shape designed to offer minimum resistance to the wind.
- (2) Compact body - compact, light but strong dorsally and heavier ventrally. Body helps in maintaining balance in air.
- (3) Feathers - The smooth, closely fitting and backwardly directed contour feathers make the body streamlined and help its passage through the air by reducing friction to the minimum. The light feather act as a blanket for enveloping air and adding buoyancy, it also insulates the body perfectly and prevents loss of heat to maintain constant body temperature.
- (4) Forelimbs modified into wings - The forelimbs have been converted into the wings, equipped with special flight muscles and developed as instruments of propulsion through air. The elongated flight feathers are called the remiges.
- (5) Short tail - The short muscular tail bears a series of long but strong, light caudal feathers arranged in a fan like like manner ~~act~~ acts as a rudder for steering during flight.