Balancing Act

Tengku Rinalfi Putra Tengku Azizan, Mohd Hezmee Mohd Noor, Hafandi Ahmad, Hasliza Abu Hassim, Ahmad Afifi Abd Ghani, Mohd Qayyum Ab. Latip, Amirul Faiz Mohd Azmi, Muhammad Syafiq Shahudin, Mohd Azri Azmi, Alif Aiman Zakaria Birds are always associated with symbols of freedom. This sentiment originates from the fact that birds are anatomically designed to fly and are able to manipulate space in 3 dimensions; sidewards, front to back, and up and down. Artistic impression of birds usually depicts flying movements and aerodynamic forms. Bird-themed arts often assert elements of flight patterns and graceful postures of birds perching.

While most birds are anatomically adapted for flying, all birds are also adapted for perching. Its skeleton is lightweight and large keeled sternum anchors large breast muscles that empower the wings. Adjustments of knees that bend forwards and ankles that bend backwards provide balance to maintain the centre of gravity, which is important in a perching bird. A perching bird describes a stationary bird balanced in what is quite an extraordinary feat of anatomical adaptation.

For a stable balance on land, a bird's centre of gravity is positioned directly over and between its feet. The equal length of the two main leg bones, the tibiotarsus and tarsometatarsus, evident in long-legged birds ensures this balance. In water propelling birds such as ducks, this adaptation is foregone for a better suited "feet at the hind of the body" to assist in forceful propelling, hence the awkward gait when such birds walk on land. In arboreal birds, feet are adapted to grab tree branches. When a perching bird squats, the leg tendons, which are located on the rear side of the ankle flexes, results in the automatic grip lock of the branch where it perches.



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