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FEATURE ARTICLES

BILL MORPHOLOGY OF SOUTH AMERICAN FLAMINGOS

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Abstract. We compare the bill morphology of Chilean (*Phoenicopterus chilensis*), Andean (*Phoenicoparrus andinus*) and James' (*Phoenicoparrus jamesi*) Flamingos and give dietary information as evidence of the size-selectivity of their filters. In Chilean Flamingo, the marginal and the outer submarginal lamellae of the upper jaw, together with the outer submarginal lamellae of the lower jaw, may function as a mesh during the outflow and as excluders during the inflow of water. When the beak is closed, the functional mesh has spaces between marginal lamellae with one dimension less than 80 μm in the proximal portion, while spaces are no wider than 959 μm in the curvature and distal portions. In both *Phoenicoparrus* species, the marginal lamellae of the upper jaw and the outer submarginal lamellae of both jaws probably act as a filter for large prey in the outflow and as excluders during the inflow of water. The inner submarginal lamellae, which have no fringes, lie in series that may form a second sieve for smaller prey. The distance between inner submarginal lamellae of both jaws are no larger than 106 μm in the Andean Flamingo and 56 μm in James' Flamingo. Dietary information on the three species suggests that their filters select different-sized particles. This study extends Jenkin's observations and presents the first complete lamellae description for genus *Phoenicoparrus*.

Key words: bill morphology, diet, mesh size, *Phoenicoparrus andinus*, *Phoenicoparrus jamesi*, *Phoenicopterus chilensis*.

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