

GROWTH OF PLUMAGE FROM CHICK TO JUVENILE IN THE WEDGE-TAILED EAGLE

An occupied nest of the Wedge-tailed Eagle *Aquila audax* was found in southern Victoria, approximately forty kilometres from Melbourne during the latter weeks of September 1968. The clutch of two eggs was regularly observed until one hatched on 28 September 1968. The other egg was found to be missing from the nest, the cause or means of removal unknown. The remaining chick was studied from the forementioned date in the nest for seventy-seven days, at seven-day intervals when the growth and sequence of the plumage was recorded. A nest containing one chick was ideal for this purpose because confusion with a nest mate with a different hatching date was avoided. The observations were conducted from a tree adjacent to the nest at a distance of some eight metres. The chick was not handled and measurements were not taken.

On hatching, the chick is covered in white down and cannot stand, only raising itself to excrete at the edge of the nest. It grows but remains entirely in down for the following fourteen days. Subsequent events were noted as follows:

Day 21: the tips of the primaries and tail-feathers appear.

Day 28: signs of the upper wing-coverts appear at the shoulder and the primary and tail-feathers have grown longer, almost doubling their length.

Day 35: The young bird seen to be standing for the first time. The area of the upper wing is patchily covered with the secondary feathers beginning to show and the primary and tail-feathers grown still farther.

Day 42: patches of feathers appear on the back, mantle and ear-coverts. Feathers on the forehead begin to

protrude and a narrow line of feathers appears running from the sides of the throat, down the sides of the breast and belly to the rear of the thighs. The upper wing-coverts and secondaries are well developed; so too are the primaries and tail.

Day 49: feathers on the back and mantle have joined. The forehead, crown and ear-coverts have joined and a line of feathers runs down the sides of the hind neck, joining the cheeks and the mantle. Another tract of feathers has formed from the mantle, across the sides of the breast, up the sides of the neck and down the sides of the breast to the rear of the thighs. The upper wings, secondaries, primaries and tail are now nearing full length. At this stage the only remaining downy areas are the hind neck, sides of the neck, throat and upper breast, belly, the fronts of the thighs, rump and under tail-coverts. From this point on, the remaining down, rather than growth of new feathers is most evident.

Day 56: down remains from the base of the hind neck, round the sides of the neck to just below the cheeks. The other remaining downy areas are on the throat, central upper breast, vent and base of the rump.

Day 63: a broad line of feathers now runs down the sides of the neck, separating three patches of down: one at the base of the hind neck and two at the front sides of the neck towards the throat. Patches of down still remain on the throat, central upper breast and vent.

Day 70: the whole of the neck is feathered, with down only on the throat, central upper breast and vent.

Day 77: the juvenile flew from a tree near that in which the nest was. The only down left on the bird was a small patch on the central upper breast.

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MOVEMENT OF WELCOME SWALLOWS THROUGH LOORANA, KING ISLAND, TASMANIA

INTRODUCTION

King Island on the western approaches of Bass Strait (40°S: 144°E), approximately eighty-eight kilometres south of Cape Otway on the Victorian coast and eighty-five kilometres north of Cape Grim, north-eastern Tasmania, is ideally situated as a resting area for migrating birds crossing Bass Strait.

Welcome Swallows *Hirundo neoxena* are present throughout the year. In May and June groups of up to fifty birds have been observed feeding over sheltered water at the estuary of Porky Creek during rough weather. By July birds appear at nesting sites with numbers increasing in August and September; breeding starts in late September and early October. In late

December and January groups of up to fifty birds form on fences and telephone wires.

Observations were made at Loorana on the central western coast of the Island. The area, one kilometre from the sea shore, included a settlement of eleven houses surrounding a factory for dairy products with Porky Creek, spanned by two small bridges, passing through the area. All electricity and telephone services were connected by overhead cables, which the swallows used for resting singly or in groups. Fifteen pairs bred in the area each year.

METHOD

Counts, each of twenty minutes, were made round the