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SOME NOTES ON A BEACH THICK-KNEE RUNNER

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INTRODUCTION

During the autumn of 1984 I was able to follow the development of a single Beach Thick-knee *Burhinus neglectus* from newly hatched to twelve weeks of age at Red Rock, New South Wales (29°59'S., 153°14'E.). Information was gathered on growth rate and plumage development. The biology and breeding success of these birds has been discussed by Clancy (1986).

METHODS

Thirteen visits were made to the breeding site between 14 March 1984 when the egg was located and 8 July 1984. Measurements and a general description of the runner were taken at about weekly intervals from the age of four weeks. Measurements of total head length, tarsus length and exposed culmen were made using vernier calipers while a rule was used to measure length of longest primary, wing, wing span and tail (Table 1). Primaries were numbered from innermost outwards and secondaries from outermost inwards. Mass was taken with a 500 g and later a 1.5 kg Pesola spring balance. Colour photographs were taken on most visits (Pringle 1987). The site was reached by wading to the sand bar. This was impossible at high tide, so visits varied from mid-morning to dusk.

RESULTS

The egg was located on 9 March, 1984 in a shallow, unlined scrape in the sand in an area of sparse grass well above high tide mark. Details of the egg were not taken to minimize the risk of attention being drawn to the nest. A single bird

TABLE 1

Measurements of a developing Beach Thick-knee Runner and of an adult bird.

Age (days)	Tarsus length mm	Exposed Culmen mm	Total head length mm	Length of primary mm	Wing length mm	Wing span mm	Tail length mm	Mass g
27	—	—	74.9	—	—	—	—	284
36	56.0	—	83.7	—	—	—	—	362
43	58.0	—	87.4	18	—	—	40	473
49	62.3	—	92.9	35	—	—	55	515
55	67.0	—	97.6	58	131	—	68	651
64	74.4	—	98.3	—	163	—	95	640
84	76.1	—	103.4	—	200	970	110	650
Adult	100.0	77.8	137.4	—	277	1 061	130	—

was observed incubating on the subsequent weekend, leaving the nest quietly when I approached within 100 m.

DAY 1

The newly hatched chick was located in the nest with a portion of membrane still attached to its back. The young bird was covered in grey down, heavily marked with black on the upperparts.

DAY 27

No further visits were possible until 27 April, 1984 when the runner was located and banded with band number 100-26356 supplied by the Australian Bird and Bat Banding Scheme. The runner was covered in light grey down with four longitudinal stripes on the upperparts. The inner two stripes were broken into blotches. There was no trace of emerging pin feathers anywhere on the body. The facial markings were superficially similar to that of an adult; that is, a pale ear patch bordered above and below by black markings, the upper one continuing back to the base of the neck and appearing to continue in a disjointed manner similar to the centre lines mentioned above, and another area of black extended across the forehead. There was no trace of the white eyebrow characteristic of older birds. The bill was black, legs and feet grey and iris grey-yellow. On being released, the runner assumed a cryptic posture, crouching close to the sand with neck outstretched. It was sufficiently mobile to move quickly into concealment.

DAY 36

The runner was still primarily covered in down although there were a few grey-buff feathers on the edge of the breast. The scapulars were feathered while the tail and flight feather pinions had only just emerged. The bird uttered a single deep-throated squawk whilst being handled, but when released gave adult-like whistles as it ran toward concealment.

DAY 43

The breast and mantle now had a coverage of buff-grey feathers. The head and neck were beginning to feather while a white eyebrow, separate from the ear patch, had developed. A number of hard objects, presumed to be soldier crabs, were present in the throat and crop and almost certainly affected the mass of the bird. Again the runner uttered deep-throated squawks while being handled and this caused the adults to become quite apprehensive, at times almost aggressive, as they approached to within 5 m. On no other occasion did the parents approach, or were able to be approached, any closer than about 30 m.

DAY 49

The breast and abdomen were well covered in buff-grey feathers, while the head and neck were well feathered, although some down remained. The upper facial stripe was still strongly evident, while the lower had now developed into a black patch below a white ear patch. There was another smaller black patch at the base of the bill separated from the black above by an area of dull white running from the gape to the throat. The back and rump were still covered in down with only a few feathers evident on the back. A pale wing bar had developed in the region of the upper coverts. The bill was now dark grey to black with a yellow base. The legs were grey-green and feet grey. The iris was dull yellow.

DAY 55

The head, neck and mantle were now fully feathered, being grey-brown. The upper facial stripe had largely disappeared now that the area had become feathered. The back and rump were still covered in down. The primaries were well developed as were the secondaries. The wing showed the following pattern: Primaries; numbers 10 to 8 were black with white areas apparent in the quill but as yet unemerged; numbers 7 and 6 were black and numbers 5 to 1 were white; secondaries; number 1 was white and grey and numbers 2 to 10 were white. The primaries were now almost fully extended so wing length was recorded rather than the length of the longest exposed pin feather. Once again large numbers of crabs were in the throat and crop, affecting the mass of the runner.

DAY 64

The runner was now approaching full feathering, down remaining only on back with traces around the mantle, neck and wings. The region above the pale shoulder bar was noticeably darker than the general body colour. The bill remained dark grey to black with a yellow base and the iris dull yellow. The legs and feet were a uniform grey-green. The runner was located on the tidal flats with the adults.

On all previous occasions it had been found hiding in thick foliage, although it had fled onto the sand spit when released. The runner was approximately two-thirds the size of the adults.

DAY 84

The bird was now almost fully feathered, only the back having substantial areas of down, although many feathers were emerging in this area. Tufts of down were still evident on the neck, mantle and wings. The plumage in general appeared to be somewhat darker than it had been previously. The breast was grey-brown and similar in colour to that of the upperparts. The undertail coverts were buff, while the abdomen was white and the flanks buff-white. The area above the pale shoulder bar was dark grey-brown, while a conspicuous white bar was located in the region of the secondary coverts. The face was generally black with three distinct areas of white, the separate ear patch, the eyebrow and the area from the gape to the throat. When approached, the runner tried to escape by unsuccessfully attempting to fly.

This was the last time the runner was seen in this area, only the adults being present a week later on 23 June 1984. The adults were also absent on 8 July. They have been known to very occasionally leave the estuary for brief periods when not breeding.

DISCUSSION

The fate of the runner is not known, although it is most unlikely to have been capable of independent survival at the age of 12 weeks. Clancy (1986) recorded juveniles being able to fly quite strongly by the 12th week. At this age, the bird in question here was still incapable of flight since it had unsuccessfully attempted to do so under 'threat'. It should be noted that this hatching was unseasonal as it followed three unsuccessful breeding attempts, with an egg being laid in late December 1983. It is therefore possible that the development of this bird may have been hindered because of the unseasonable breeding attempt.

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