white. On these features alone we (and the Rare Birds Committee; see Annual Report 1976/77) were in no doubt that the bird was, in fact, an adult Red-kneed Dotterel *(Charadrius cinctus)*.

Although named the Red-kneed Dotterel the red knees, or more correctly as Mr R. B. Sibson (pers. comm.) notes " red ankles," are not readily distinguishable in the field due to the active behaviour of the species. Another possible ambiguity which we have noted is that the scientific name *Charadrius cinctus* = banded dotterel, and we suggest the local Banded Dotterel *(Charadrius bicinctus)* might be more correctly called the Double-banded Dotterel as it is in Australia where both species occur.

Although the Red-kneed Dotterel was certainly the highlight of the year, comprehensive counts by Manawatu members produced an unusually high number of rarities. Royal Spoonbill *(Platalea leucorodia regia)* numbers reached a record peak of 52 in March 1976 and, interestingly, a small group stayed over summer. In early December a single White Ibis *(Threskiornis molucca)* joined them and remained till February 1977. Other notable records included: 14 Spur-winged Plover *(Lobibyx novaehollandiae)*, 31 Golden Plover *(Pluvialis dominica fulva)*, one juvenile N.Z. Dotterel *(Charadrius obscurus)*, 3 Long-billed Curlew *(Numenius madagascariensis)*, 3 Terek Sandpiper *(Xenus cinereus)*, 17 Sharp-tailed Sandpiper *(Calidris acuminata)*, 3 Pectoral Sandpiper *(Calidris melanotos)*, 7 Curlew Sandpiper *(C. ferruginea)* and a possible Baird's Sandpiper *(C. bairdi)* [see Annual Report, Rare Birds Committee, 1976/77]. These results perhaps show that regular watching at an estuary can pay dividends.

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THE ENERGY VALUE OF THE YOLK RESERVE IN A NORTH ISLAND BROWN KIWI CHICK *(Apteryx australis mantelli)*

Reid 1971 (*Notornis* 18 (4): 250-252) found that the yolk of a fresh kiwi egg contained 43.3% water and 56.7% solids; and Calder & Rowe 1977 (*Notornis* 24 (2): 129-135) found that the yolk of another egg had an energy value of 18.16 kilojoules (or 4.34 Kcal.) per gram wet weight.

An egg laid at the Mt Bruce Reserve measuring 126.9 x 78.3 mm and having a calculated fresh weight of 435-440g produced a chick which immediately following hatching and while wet weighed 351.3g. This chick died 37 hours after emerging from the shell and at the time of death its weight had decreased by 60.8g to 290.5g. Surface moisture on newly hatched chicks is thought to weigh about 15-25g so the actual

decrease in body weight during the time the chick was alive was about 35 to 45g, or about 1g/hour. Post-mortem examination revealed a yolk-sac containing 86.5g yolk and analysis showed this yolk to contain 43.55% water and 56.45% solids; and to have an energy value of 18.34 kilojoules (4.38 Kcal.) per gram wet or 32.49 kilojoules (7.76 Kcal.) per gram dry weight.

The very close agreement between the proportions of solids and between the relative energy values of yolk in kiwi eggs and in a kiwi chick would indicate that the composition of the yolk, at least in so far as these criteria are concerned, probably changes very little during embryonic development.

Another chick that died between the ages of 12 and 15 hours had then a yolk reserve weighing 111.9g (Reid 1972; *Notornis* 19 (3): 261-266). This second chick, therefore, lived for about 24 hours less and carried about 25g more yolk in its sac than the chick mentioned above. Data from both chicks would indicate that young kiwis lose weight at a rate of approximately 1g/hour during their first 24-36 hours following hatching and this, in turn, implies that both of these chicks emerged from their shells carrying a yolk reserve considerably greater than shown by the dissections i.e. about 120-125g yolk with an energy value of approximately 2235 kilojoules (535 Kcal.) in the case of the first (351.3g) chick.

The data given by Calder & Rowe show that a fresh egg having the same dimensions as the egg from which this chick hatched would have an energy content of about 5140 kilojoules (1225 Kcal.). Hence, it seems that the prolonged developmental process within the kiwi egg utilizes only 56 or 57% of the stored energy — and the disproportionately large surplus (when compared with that available to chicks of other species) is available to nourish the young kiwi during its first week, or more, of life.

I am indebted to Trevor Daly, Chemistry Division, DSIR, for calorimetric analysis of the yolk sac, and to Tony Caley and Colin Roderick for weights of chicks hatched at Mt. Bruce.

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NEW ZEALAND FALCON EATING CARRION

On 17 January 1977, at Jackson Bay, south of Haast, I observed a New Zealand Falcon flying low over the wharf. It landed on the boulder beach and began eating a fish head. This is unusual in that they are usually stated not to be carrion eaters. I was able to approach