

I am grateful to Dr G. W. Johnstone, Antarctic Division, for advice on this note.

REFERENCE

PENNY, R. L. 1968. Territorial and social behaviour in Adelie Penguins. *Ant. Bird Studies*, *Ant. Res. Ser.* 12: 83-131. O. L. Austin (ed.) Am. Geophys. Union Pub. 1686.

PETER L. KEAGE, *Antarctic Division, Department of Science and Technology, Kingston, Tasmania 7150*

OYSTERCATCHER'S BREAST IMPALED BY BILL

On 11 April 1982 on the beach at Miranda, Firth of Thames, I saw a South Island Pied Oystercatcher (*Haematopus ostralegus finschi*) flying in an awkward way. Something was wrong with its neck. On closer inspection I discovered that the unfortunate bird had impaled itself through the breast with its bill. The bill entered high up on the bird's breast and emerged at the bottom of the breast. Altogether about 4-5 cm of the bill was hidden from sight.

Although I tried to catch the bird, it was able to fly. I tried again the next day but, although the bird was weaker, it could still fly. I could not find it on the fourth day.

LEN BUCHANAN, *C/- Mangatarata School, R.D. 1, Waitakaruru*



REVIEW

C. McGowan 1982: *The wing musculature of the Brown Kiwi Apteryx australis mantelli and its bearing on ratite affinities. J. Zool. Lond.* 97: 173-219, 18 figs.

Most previous accounts have dealt only with the proximal muscles. The kiwi's wing musculature resembles that of other ratites but is markedly dissimilar to that of carinates. In fore-limb musculature the ratite condition is closer to that of reptiles than carinates. The present skeleto-muscular data, with other evidence, suggests that ratites are primitive birds that evolved from a primitive flying ancestor. Some of the discrepancies in the published descriptions of ratite muscles may be due to individual variation and there is obvious need for more dissections. McGowan, who works in the Royal Ontario Museum and University of Toronto, used two adult female kiwis provided, in a fresh-frozen condition, by the National Museum, Wellington. McGowan summarises the arguments of Furbringer, Beddard, Parker and Owen, last century, P. R. Lowe's (1935) forceful argument that ratites evolved from a non-volant ancestor, and the later contributions of Tucker, De Beer and Ostrom. He concludes that his results are consistent with a hypothesis that derives ratites from a primitive volant ancestor that had not evolved the advanced flight mechanism of carinates.

— C. A. Fleming