

The Editor,
Sir,

DUCKS' TAKE-OFF

I was interested in Dr Fraser's letter on the direction of ducks' take-off (*Notornis* 23 (1): 75; 1976) although I cannot altogether agree with his explanation of this behaviour in terms of Coriolis Force. The Coriolis Force on a duck is extremely small (and undetectable by the duck unless it is unusually sensitive) and secondly, since this force only acts on bodies in motion, the duck would not be aware of such a force until it began to move, by which time the decision on which direction to travel has already been made. By way of a numerical example: suppose a duck weighing 1 kilogram accelerates from rest to 36 km/hr (10 m/sec) in 10 seconds. This requires a force of 1 newton. In fact a considerably larger force would be required since no account has been taken of the work done against water or air resistance, or the work done against gravity in gaining altitude. Taking air drag for example: the drag on a sphere of 30 cm diameter travelling at 10 m/sec is of the order of 2 newtons. By comparison the Coriolis Force (at latitude 45°S) acting on the duck increases from zero (when its velocity is zero) to .001 newton at 10 m/sec which is some thousands of times smaller than the other forces mentioned above.

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[Another reader comments that no doubt Dr Fraser's observations would explain why ducks ought to take off vertically on the Equator (or perhaps this is the behaviour of another well-known bird ?) — Ed.]

The Editor,
Sir,

PETRELS AND LIGHT AT NIGHT

In the course of his interesting speculations about why petrels are inconspicuous when the moon is shining but are attracted by other lights (*Notornis* 22: 302-306, 1975) Mr Imber omits to mention some other considerations. For example, in some other parts of the world landbird migrants come to bright lights much more freely than petrels, to such an extent that the British Association for the Advancement of Science mounted a great enquiry into the phenomenon in the 1880s. It was found that they also are inconspicuous on moonlit nights and in fact are most numerous when the local visibility is poor, and the few petrels that come to our coastal lights behave in the same way. A number of people whom I have interrogated about what happens when petrels come to ships' lights off subantarctic islands have confirmed that the local visibility was poor there as well.