Dr Olson has replied as follows:

In response to Mr Scarlett's letter I would point out that the lengths he gives for the two new elements attributed to "*Gallirallus hartreei*" fall well within the range of variation of *Gallinula (Tribonyx) hodgeni* (see Olson, *Nat. Mus. N.Z. Recs.* 1 (3): 66, table 1). Beyond this we are told that only certain unspecified "subtle differences" distinguish these two species. Yet Mr Scarlett places them in different genera! To accept *Gallirallus hartreei* as a valid species would appear to require faith; in this instance I do not count myself among the faithful.

STORRS L. OLSON

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Washington, D.C., U.S.A.
12 March 1976

The Editor,
Sir,

MOREPORK TELEMETRY

The extreme simplicity of the telemetry equipment and the crudity of the procedures involved during the exercise concerned with tracking Moreporks (*Notornis* 22: 222 *et seq.*) came as a considerable surprise to me in view of the degree of sophistication readily achievable at that date.

It would appear obvious that the inclusion of a number of additional features in the electronics could have resulted in the acquisition of considerably more information by the investigator, and reduced a number of his mentioned difficulties.

Firstly, the addition of a few extra, very small and light, components to the transmitter board attached to the bird would have made it possible to turn the transmitter on by command, or to have it transmit in some pulse mode; either technique or some combination, resulting in greatly reduced battery drain and hence much longer life.

Secondly, the idea of attempting to secure position lines with hand held directional aerials seems ludicrous. Surely a pair of direction finders, preferably of the automatic type, could have been set up at right angles and simultaneous bearings measured from the two sites either at prescribed intervals, or on command (e.g. when the bird's transmitter came on). Some such regime could have provided a series of plots during the night which would give a track which could then be investigated at leisure during the daylight hours, and not in real time.

Perhaps it should be pointed out that the techniques here advocated have been common practice since the beginning of 1915, and suitable surplus military equipment, notably the AD 7092 ADF ex-RNZAF aircraft, was fairly readily available through the Stores Board about that time. Alternatively a pair of the older AN/ARN-7 automatic radio compass receivers used by NAC on their DC-3 aircraft could have been equally easily modified.

Thirdly, since everything is computerised today this whole set-up surely lent itself to total automation; in which case the required data could have been presented hour by hour on sheets from an X-Y plotter!

Finally, and, in my opinion, not the least important result of some such sophistication would have been additional knowledge of the position and habits of each bird such as to considerably reduce the task of recapture and removal of its transmitter, so permitting the resumption of the normal degree of freedom. Clearly, the birds were aware of and resented the presence of the alien equipment and its harness.

P. A. G. HOWELL, M.N.Z.E.I.

Physics Department,
University of Canterbury,
Christchurch
15 January 1976

Dr R. E. Brockie, Section Leader, Orongorongo group, Ecology Division, DSIR, has replied on behalf of Dr Imboden (who has now returned to Switzerland) as follows:—

Dr Imboden's study on morepork movements was never conceived as a far-reaching or exhaustive investigation. Rather, he had a short time at his disposal and put to use some slightly modified telemetric equipment which had been designed for tracking opossums.

Hand-held aerials may seem ludicrously crude to Mr Howell but, in thick bush, these were found to give the best results (see G. D. Ward, 1972: *N.Z. Journal of Science* 15 (4): 628-36). The fixed aerials advocated by Mr Howell work well on flat ground and in the open forests of the northern hemisphere but have proved useless in the hilly country and dense, usually wet, New Zealand mixed broadleaf-podocarp forest, unless built on a vast and unacceptable scale. Hand-held aerials also enjoy the advantage of enabling an observer to approach and study an animal directly. Recent tests both here and overseas have shown that very high frequencies give reliable fixes in dense bush using directional aerials but Dr Imboden had neither the time nor money to exploit these techniques.

The Editor,
Sir,

SHUNTOV'S "SEABIRDS" IN TRANSLATION

I have looked into the possibility of printing or xeroxing The Interior Department's Tunisian translation of V. P. Shuntov's *Seabirds and the Biological Structure of the Oceans.* I cannot find a method to do it more cheaply than can NTIS. You can order it from the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22151; for $15.50 for foreign orders (including Canada). Ask for TT 74-55032. I do not know the quality of their reproductions but the copy we have is only a carbon and gives poor reproduction.

GEORGE E. WATSON

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4 June 1975