

Thus the birds went to roost in moderate winds and steady rain — the more extreme conditions coming after dark. Though Civic Square was searched throughout the period 10 February - 30 March only one other bird was found dead — an adult male sparrow on 16 February. It seems clear that the unseasonable weather brought by cyclone "Diana" was responsible for this unusual bird mortality, which may have been widespread in Hawkes Bay. Three sparrows were found below a small roost in Havelock North on 4 February; and five adult and five juvenile Rooks (*Corvus frugilegus*) were found dead below trees at Bridge Pa on 11 February, and at least 20 others at Otane on 4 February (R. E. R. Porter and T. P. G. Purchas, *pers. comm.*). Probably the mortality was general and the species that roost communally were merely easier to find. Other contributing factors could include the moult and perhaps the poor season (as evidenced by fewer juvenile sparrows than at the same time in 1966).

ACKNOWLEDGEMENTS

The author wishes to thank Hastings City Council staff for allowing him to examine the dead birds. The N.Z. Meteorological Service and the staff of the Hastings Fire Station provided weather data.

REFERENCE

LACK, D., 1954: The Natural Regulation of Animal Numbers. Oxford.



SHORT NOTE

SEX RATIO OF THE BLACKBIRD (*Turdus merula*) IN CHRISTCHURCH BOTANIC GARDENS

The authors carried out two independent studies in the Christchurch Botanic Gardens during the winter of 1967. Tasker's study involved 180 separate counts of adult Blackbirds on the Archery Lawn, an area of 2.7 acres. Lumping all counts gave 1628 observations comprising 907 males and 728 females, a ratio of 1.22:1.00. East's study involved a series of transects, counting all birds within an area of 14.6 acres on each transect. Lumping the data from all transects gives 768 male Blackbirds and 632 females, a ratio of 1.21:1.00. Thus the two studies independently showed a ratio of approximately 6:5, much closer to unity than the ratio of approximately 2:1 obtained by Gurr (1954) for the Blackbird in New Zealand.

The tameness of birds in the Botanic Gardens makes it a particularly suitable area for determining the sex ratio. Each observer sampled an area in which all the birds present could be seen. Since the ratio of 6:5 is based on over 3000 observations it is likely to be very close to the actual sex ratio in the Gardens, indicating a slight excess of males. In birds the sex ratio is normally about equal in the young but there is often a small excess of males among the adults (Lack, 1954). Gurr's figures were based mainly on birds shot and seen from the road, a method which would tend to give a biased ratio in favour of the more conspicuous males.

REFERENCES

GURR, L., 1954: A study of the blackbird, *Turdus merula* in New Zealand. *Ibis* 96: 225-61.
LACK, D., 1954: The natural regulation of animal numbers. Clarendon Press, Oxford.

— R. EAST
— R. TASKER