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# THE SUNBIRD

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## THE DISTRIBUTION AND ABUNDANCE OF PIED CURRAWONG AND TORRESIAN CROW IN SOUTH-EAST QUEENSLAND

PETER F. WOODALL

### ABSTRACT

Reports of Pied Currawongs and Torresian Crows from gardens in South-east Queensland during two similar surveys conducted in 1979/80 and 1999/2000 are compared. Over the 20 year period between the surveys the distribution of the Pied Currawong increased to include the northern and southern suburbs of Brisbane. The wider distribution of the Torresian Crow also increased to include some suburbs where it was formerly unreported. The reporting rates for both species also increased over the period suggesting that they now occur more commonly in South-east Queensland gardens.

The Torresian Crow was reported year-round during both surveys and over the 20 years the mean maximum numbers reported rose from 3.0 to 4.2 birds. Months of highest maximum numbers of Pied Currawongs reported in both surveys were from May to July. In other months there were few birds reported in 1979/80, but by 1999/2000 reports had become more regular. As predators of smaller birds and/or their nests, it is suggested that the increased presence of both species may have contributed to decreases in reporting rates recorded for some of the smaller species reported during these garden bird surveys.

### INTRODUCTION

According to garden bird surveys conducted by members of Birds Queensland (Woodall 1995, 2002), the Pied Currawong *Strepera graculina* and the Torresian Crow *Corvus orru* both increased their distribution in

South-east Queensland from 1979/80 to 1999/2000. This paper provides a fuller analysis of the results of those surveys obtained for these two species.

Suburban gardens can provide an important habitat for many species of birds (Cannon 1999). The Pied Currawong and Torresian Crow are large omnivorous birds and known nest predators of smaller garden birds (Barker & Vestjens 1991; Major, *et al.* 1996). An increase in their distribution and abundance could have a deleterious affect on other smaller garden birds. Corvids also evoke strong reactions from suburban human residents. Some appreciate their presence while others hate them, particularly their loud calls, and advocate culls to reduce their numbers (Jones & Everding 1994). A knowledge of population trends in these two species is of interest to the community.

### METHODS

This analysis has used the results obtained in the 1979/80 and 1999/2000 garden birds surveys conducted by Birds Queensland (Queensland Ornithological Society). Here records of birds in the garden (IN), in the next garden (NG) and flying over (FO) have been summed and treated as a single record. Further details of the two surveys are described in Woodall (1995, 2002).

### RESULTS

#### Geographical Distribution

From the 1979/80 survey it was clear that the Pied Currawong was frequently recorded from the western suburbs of Brisbane (Table 1). Elsewhere in Brisbane it was uncommon, being recorded in only one garden in each of the northern, eastern and southern suburbs, and in two of these gardens only for a week. On the Gold Coast it was reported from 75% of the gardens surveyed. It was also recorded regularly from gardens at Gympie, Nanango, Toowoomba, Pittsworth, and Stanthorpe (Table 1).

Twenty years later, the 1999/2000 survey reported that the Pied Currawong presence had increased slightly in the western suburbs of Brisbane and now also included, more convincingly, gardens in northern and southern suburbs (Table 1). No records of Pied Currawong came from the 15 gardens located in the eastern suburbs. On the Gold Coast the species was recorded in 100% of the gardens surveyed, although only eight gardens were included in the survey. On the Sunshine Coast it was

**Table 1. The geographical distribution of the Pied Currawong**

Region	By Garden		By Week	
	1979/80	1999/2000	1979/80	1999/2000
West Brisbane	12/20 = 60%	11/14 = 79%	67/534 = 12.5%	213/514 = 41.4%
North Brisbane	1/19 = 5%	11/26 = 42%	1/500 = 0.2%	149/751 = 19.8%
South Brisbane	1/17 = 6%	5/19 = 26%	6/481 = 1.2%	33/514 = 6.4%
East Brisbane	1/10 = 10%	0/15 = 0%	1/250 = 0.4%	0%
Gold Coast	6/8 = 75%	8/8 = 100%	102/275 = 37.1%	146/240 = 60.8%
Sunshine Coast		9/13 = 69%		153/402 = 38.1%
Northern Qld	1/13 = 8%	4/17 = 24%	5/281 = 1.8%	52/387 = 13.4%
Western Qld.	0/5 = 0%		0	
Ipswich-Darling Downs	2/5 = 40%	8/11 = 73%	47/251 = 18.7%	136/348 = 39.1%
Southern Border	3/3 = 100%	1/1 = 100%	78/139 = 56.1%	18/29 = 62.1%

reported from the majority of gardens but it is not clear if this was an increase since the few sites located here in the 1979/80 survey were included in the category "Northern Queensland".

An analysis of the data by weeks (=records) (Table 1) shows similar trends. There was a consolidation in the western suburbs of Brisbane (from 12.5% to 41.4%) and increases in northern and southern suburbs. There were also many more records from the Gold Coast (37% to 60%) and more for North Queensland, Ipswich and the Darling Downs. All regions in Table 1 show greater numbers of records during the later survey.

The Torresian Crow was widespread and common across Brisbane and all other regions surveyed in 1979/80 except for the Southern Border (Table 2). The 1999/2000 survey revealed a similar result with generally more gardens reporting Torresian Crows (up to 100% in several regions) and also a higher percentage of weeks (=records) of Torresian Crow for all regions except for East Brisbane and North Queensland which were stable.

#### Seasonal variation in Reporting Frequency

In 1979/80 the Pied Currawong was clearly a winter visitor in Brisbane gardens in May, June and July (Fig. 1) It occurred in far fewer gardens for the rest of the year. In the winter of 1980 it was recorded from many more gardens than in 1979.

**Table 2. The geographical distribution of the Torresian Crow**

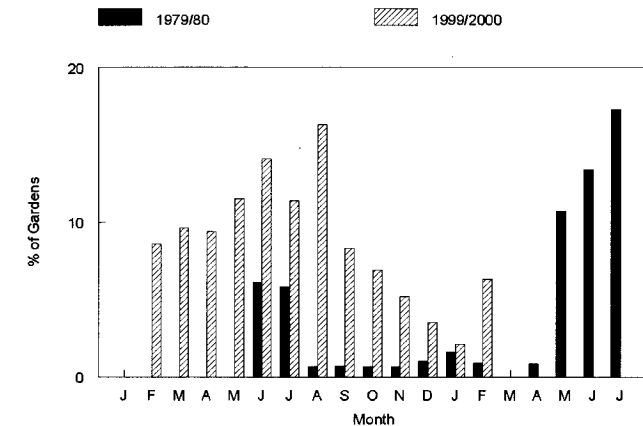
Region	By Garden		By Week	
	1979/80	1999/2000	1979/80	1999/2000
West Brisbane	19/20 = 95%	12/14 = 86%	355/534 = 67%	459/514 = 89%
North Brisbane	16/19 = 84%	26/26 = 100%	370/500 = 74%	651/751 = 87%
South Brisbane	16/17 = 94%	19/19 = 100%	324/481 = 67%	392/514 = 76%
East Brisbane	10/10 = 100%	14/15 = 93%	192/250 = 77%	248/333 = 74%
Gold Coast	7/8 = 88%	8/8 = 100%	218/275 = 79%	218/240 = 91%
Sunshine Coast		13/13 = 100%		318/402 = 79%
Northern Qld	10/13 = 77%	11/14 = 79%	159/281 = 57%	223/387 = 58%
Western Qld.	5/6 = 83%		30/77 = 39%	
Ipswich-Darling Downs	5/5 = 100%	10/11 = 91%	159/251 = 63%	317/348 = 91%
Southern Border	0/3 = 0%	0/1 = 0%	0/139 = 0%	0/29 = 0%

In 1999/2000 the Pied Currawong was again recorded from most gardens in May, June, July and August (Fig. 1) and from fewest gardens in summer (December and January). The winter peak was much less accentuated because birds were recorded from many more gardens in autumn and spring. The difference between in the seasonal patterns of the two surveys was tested using a chi-squared test on raw data and was highly significant ( $P < 0.001$ ).

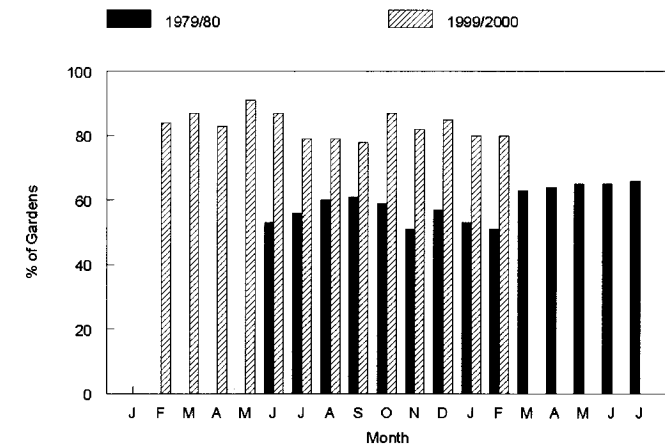
The Torresian Crow showed very little seasonal variation in the percentage of gardens from which it was recorded in both 1979/80 and 1999/2000 (Fig. 2). Chi-squared tests on the raw data showed that there were no significant differences in the distribution by month ( $P > 0.8$  for 1979/80 and  $P > 0.9$  for 1999/2000).

#### Changes in Mean Numbers

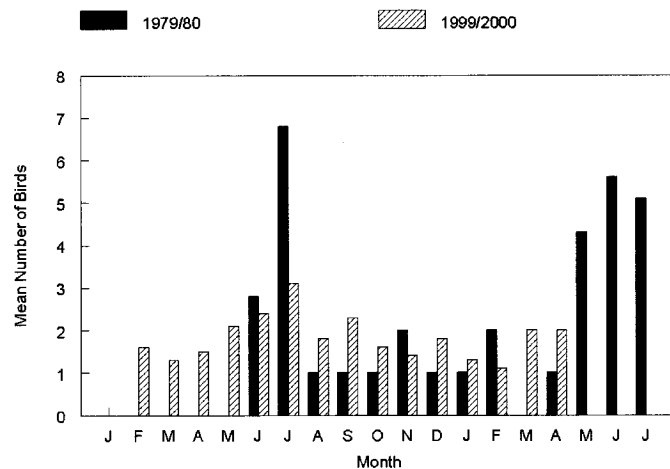
The monthly mean maximum numbers of Pied Currawongs reported per Brisbane garden showed a range of 1 to 6.8 (mean 4.3) in 1979/80 and 1.1 to 3.1 (mean 1.9) in 1999/2000. These means are significantly different (Mann-Whitney U-test,  $P < 0.001$ ). The seasonal variation (Fig. 3) illustrates these changes more dramatically. In 1979/80 there were mean maxima of 1 for much of the year (single records from single gardens) but then pronounced winter peaks of 4 to 6.8 birds per garden. In 1999/2000 there was much less seasonal variation in the mean maxima, with a peak of just over 3 in July but these means derived from many more gardens.



**Fig. 1. Seasonal variation in the percentage of gardens in Brisbane that recorded Pied Currawongs in 1979/80 (solid bars) and 1999/2000 (shaded bars).**



**Fig. 2. Seasonal variation in the percentage of gardens in Brisbane that recorded Torresian Crows in 1979/80 (solid bars) and 1999/2000 (shaded bars).**



**Fig. 3. Seasonal variation in the mean maximum numbers of Pied Currawongs in Brisbane gardens that recorded them in 1979/80 (solid bars) and 1999/2000 (shaded bars).**

The monthly mean maximum numbers of Torresian Crows reported per Brisbane garden showed a range of 2.5 to 3.9 (mean 3.0) in 1979/80 and 3.2 to 5.4 (mean 4.2) in 1999/2000. The mean maximum numbers are significantly different (Mann-Whitney U-test,  $P < 0.001$ ) and there is no apparent seasonal variation in the presence of Torresian Crows in Brisbane gardens.

#### Correlations between Pied Currawongs and Torresian Crows

Possible association between the two species was investigated by using Spearman's correlation on the number of weeks of records for each species in each garden. In 1979/80 there was a weak positive correlation ( $r = 0.245$ ,  $P < 0.007$ ) which was stronger in 1999/2000 ( $r = 0.486$ ,  $P < 0.0001$ ). This suggests that the species more frequently recorded together in particular gardens, probably reflecting a similar habitat selection, particularly during the second survey.

## DISCUSSION

There are many possible explanations for the reported increases in distribution and abundance of these two large omnivorous birds. In Australia (Bell 1984, Veerman 2002), as elsewhere in the world (Marzluff et al. 2001), corvids have expanded in urban and suburban areas over the past four to five decades. Jack (1938) wrote, "Much patient stalking has been necessary to certify that the Australian Raven is present at Mt Coot-tha. Possibly the Crow is also there, but the identification of these two birds is always a problem in the field, and is not rendered any easier by their excessive wariness". Although his identification of the Australian Raven *Corvus coronoides* as the species present at Mt Coot-tha was probably incorrect, the scarcity of corvids is clearly apparent. Similar comments for Sydney were made by Bell (1984). By the 1970's Roberts' (1979) publication on the birds of South-east Queensland reported that the Torresian Crow was "Very common. [In] Urban, lightly-wooded, pastoral and other open areas".

The 1979/80 Garden Bird Survey showed that the Torresian Crow was common and widespread in Brisbane gardens and twenty years later the percentages of gardens and percentage of weeks reporting it was greater across most regions. Sinden (2002) surveyed 110 randomly selected sites in Greater Brisbane and recorded the percentage presence of Torresian Crows and the mean numbers seen in 0.785 ha (50 m radius) plots as follows: Urban 80%, 2.5; Urban Parks 100%, 2.3; Suburbs 92%, 2.4; Suburban Parks 96%, 3.0; Rural 90%, 1.6; Wildland 20%, 0.2. These results are broadly comparable with those of the Garden Bird Surveys and confirm the abundance and wide distribution of Torresian Crows in Brisbane.

Jack (1938) recorded Pied Currawongs from Mt Coot-tha, writing "the reserve is likely to suffer at any time an influx of Currawongs, who take over control for a while, and then disappear as mysteriously as they came". Roberts (1979) reported that the Pied Currawong was "common" in South-east Queensland, being found in rainforests and other forests with thick under storey.

The 1979/80 survey showed that the Pied Currawong was recorded from a few gardens in the western suburbs of Brisbane for most of the year but from May to July it was reported from a wider range of gardens. The gardens in the western suburbs are in closer proximity to the Brisbane Forest Park and other forested areas that probably provided the source of these birds. This also supports Roberts (1979) statement that they

dispersed to "more open habitats in winter months". Results from the 1999/2000 survey showed that Pied Currawongs had expanded into the northern and southern suburbs and that there was still a peak in their distribution from May to August but their distribution outside this period did not decline nearly so much as it had in 1979/80. The peak in mean maximum numbers per garden was also much more evident in 1979/80 than in 1999/2000. The Canberra Garden Bird Survey (Veerman 2002) also showed that the Pied Currawong had a strong seasonal pattern with higher numbers in winter, when it formed flocks, and then a decline to smaller numbers in summer. This pattern persisted over the 18 years of the Canberra survey, but in the latter years (1993-1999) the amplitude of the changes was much less, with lower winter numbers and higher summer ones. Veerman (2002) argued that the higher spring and summer numbers of the 1990's were of most significance when evaluating its role as a predator of smaller birds, since it is at this time that most of them are breeding.

Regardless of the causes of the demonstrated increases in the presence of both Torresian Crow and Pied Currawong in Brisbane this may affect other species. A comparison of the 1979/80 and 1999/2000 Queensland garden bird surveys (Woodall 2002) indicated that ten species that declined over the 20-year period were all small (<50g) and species that increased in frequency were all large (>100g). There are probably many reasons for the declines of the smaller species, including increases in the Noisy Miner *Manorina melanocephala* (Woodall 1996, 2002) and increases of Torresian Crows and Pied Currawongs. Major *et al.* (1996) showed that in 134 cases of observed predation at artificial nests, Pied Currawongs accounted for 52% and were the major nest predator in the suburban gardens surveyed, followed by Australian Magpies *Gymnorhina tibicen* (13%).

#### ACKNOWLEDGEMENTS

I am very grateful to the many members of Birds Queensland who recorded the birds of their gardens for these surveys and to the volunteers who included the survey forms with the Birds Queensland newsletter each month. Their contributions were invaluable for this project and I hope that these analyses provide some indication of the value of their efforts. Dr Darryl Jones provided valuable comments on the paper.

#### REFERENCES

- BARKER, R.D. & VESTJENS, W.J.M. 1991. *The Food of Australian Birds. 2. Passerines*. Lyneham: CSIRO.
- BELL, H. 1984. The House Crow is coming! RAOU Newsletter 60: 5.
- CANNON, A. 1999. The significance of private gardens for bird conservation. *Bird Conservation International* 9: 287-297.
- JACK, N. 1938. Ornithology of the Mt Coot-tha Reserve, Taylor Range. *Queensland Naturalist* 10 (6): 114-124.
- JONES, D. & EVERDING, S. 1994. Torresian Crows: urban terrorists or useful opportunists? *Wildlife Australia* 31 (4): 4-7.
- MAJOR, R.E., GOWING, G. & KENDAL, C.E. 1996. Nest predation in Australian urban environments and the role of the Pied Currawong, *Strepera graculina*. *Australian Journal of Ecology* 21: 399-409.
- MARZLUFF, J.M., MCGOWAN, K.J., DONNELLY, R., & KNIGHT, R.L. 2001. Causes and consequences of expanding American crow populations. In: *Avian Ecology and Conservation in an Urbanizing World*. (Eds. J.M. Marzluff, R. Bowman & R. Donnelly) pp. 331-363. Boston: Kluwer Academic.
- ROBERTS, G.J. 1979. *The Birds of South-east Queensland*. Brisbane: Queensland Conservation Council.
- SINDEN, K.E. 2002. *Synanthropy of Torresian Crows Corvus orru in the Greater Brisbane region: abundance foraging and conflicts*. Brisbane: Hons. Thesis. Australian Environmental Studies, Griffith University.
- VEERMAN, P.A. 2002. *Canberra Birds: a Report on the first 18 years of the Garden Bird Survey*. Kambah, ACT: Privately published.
- WOODALL, P.F. 1995. Results of the QOS garden bird survey, 1979-80, with particular reference to south-east Queensland. *Sunbird* 25: 1-17.
- WOODALL, P.F. 1996. Limits to the distribution of the House Sparrow *Passer domesticus* in suburban Brisbane, Australia. *Ibis* 138: 337-340.
- WOODALL, P.F. 2002. The Birds Queensland garden bird survey, 1999-2000. *Sunbird* 32: 37-51.

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