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DISPERSION, SIZE AND ORIENTATION OF BOWERS OF THE GREAT BOWERBIRD *Chlamydera nuchalis* (PTILONORHYNCHIDAE) IN TOWNSVILLE CITY, TROPICAL QUEENSLAND

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Eighty active Great Bowerbird *Chlamydera nuchalis* bowers were examined of which 54 were measured and 61 plotted in the suburbs of Townsville City, tropical E. Queensland, where the species was reported by earlier authors to be absent or uncommon. The average number of years a bower was known to have been in use at 54 sites was 4.4 (range 1–13, SD = 3.3) and seven of them were known to be so for more than a decade. Mean nearest neighbour distance of 45 bowers was 790 m (range 300–1 875, SD = 378.4). Of 54 bowers examined only four had a structure(s) additional to the two parallel walls that constitute the avenue bower typical of this species. Bower shape, quality and size are described and discussed. Compass orientation of the bower avenue was strongly biased toward a NNW–SSE alignment, and 76% of bowers were orientated within 45° either side of the N–S axis. While only 32% were within 45° either side of the E–W axis. The main display platform was to the E half of the compass in 60% of 54 bowers. Sixty-three per cent of bowers had their main display platform orientated within the quarter of the compass centred on the NNW–SSE axis. Compass orientation of bower avenue and main display platform are discussed with respect to previously observed biases and these findings are compared with data for other avenue bower-building bowerbird species. A plausible explanation for observed orientations is that males orientate their bowers to maximize advantageous illumination of their display decorations and postures during mornings of the annual peak courtship season, but further studies are required.