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Territorial Interaction Between Two Rufous Bristlebirds

JOHN M. PETER

Birds Australia, Suite 2-05, 60 Leicester Street, Carlton, Victoria 3053

Summary. A territorial interaction between two Rufous Bristlebirds *Dasyornis broadbenti* of the subspecies *D.b. caryochrous* is described. The behaviour associated with this interaction included an apparently ritualised wing-flicking display, physical confrontation and a subsequent vocal interaction. This behaviour is placed in the context of previous observations of territorial interactions of the nominate subspecies in South Australia.

The Rufous Bristlebird *Dasyornis broadbenti* is the most widespread of Australia's three endemic species of bristlebirds. The current range (comprising two subspecies) broadly extends from Jan Juc (38°20′S, 144°18′E), near Torquay, in Victoria, to the Younghusband Peninsula (35°34′S, 138°53′E), around the mouth of the Murray River, in South Australia (Barrett *et al.* 2003; Peter 2003; Seymour *et al.* 2003). Within this distribution there are numerous settled areas and many transient observers, especially along the Great Ocean Road, yet there are relatively few published accounts of the behaviour of this threatened species (Higgins & Peter 2002). Most observations in the literature are historical, often noting only the most basic elements of the species' behaviour, and they usually refer to either the cryptic nature of the species (almost invariably interpreted as shyness) or the penetrating resonance of its song, frequently the first indication of the bird's presence (e.g. Hill 1903; Belcher 1906; Campbell 1907; White 1918; Chisholm 1936). Many behavioural aspects of the behaviour of the Rufous Bristlebird remain unobserved, obscured by the dense vegetation among which Bristlebirds often remain concealed, and, as a result, many are still unpublished.

The coastal shrubland on the cliff-tops between Jan Juc and Bell's Beach, a few kilometres south-west of Torquay, Victoria, supports the easternmost population of Rufous Bristlebirds of the subspecies *D.b. caryochrous* (Peter 2003). In this locality, Bristlebirds are readily heard calling from deep within the dense vegetation, and are occasionally seen scurrying across open pathways between thickets. On 8 January 2006, while walking through this area, my attention was attracted by the vigorous singing of a Bristlebird, which I subsequently surprised in the open, beside the path. It scuttled quickly over the ground for about 30 m, in full view, singing continuously as it went, until it stopped beside a large, gnarled Moonah *Melaleuca lanceolata* tree, where it stood on the ground, apparently agitated. It repeatedly pivoted from side to side, through an angle of roughly 90°, while flicking its partly-extended wings and singing continuously. As it stood beside the tree, it was quickly approached by another singing Bristlebird, which ran at it from the opposite direction with its tail and head held horizontally. It also stopped abruptly beside the Moonah tree, and raised its head slightly as it continued to call, while maintaining an overall horizontal posture. As this second bird approached, the first bird ceased singing and retreated back about 10 m in the direction from whence it had come, calling quietly as it ran. The call it gave as it ran away was a *chip chip chip*, similar to the contact call of a New Holland Honeyeater *Phylidonyris novaehollandiae*. It then stopped running and resumed singing its familiar full song for about 1 minute [see Higgins & Peter (2002) for a full description of the song]. The second bird also continued singing for about

30 seconds, but at no stage ventured beyond the Moonah tree. Though the singing of the two birds was simultaneous, it was not antiphonal; they sang independently of each other. Eventually both birds quietly moved into the cover of dense vegetation and were lost to view.

My interpretation of this observation was that the first Bristlebird closely approached the territory of a neighbouring bird, the boundary of which was marked by the gnarled Moonah tree. On reaching the boundary, which it was unwilling to cross, it performed the wing-flicking behaviour that I observed. The owner of the adjacent territory then repelled this potential intruder, but would not cross the territorial boundary to do so. The physical confrontation was then followed by a brief vocal interaction (see below).

In an ecological study (which included radio-tracking) of the nominate subspecies in The Coorong in south-eastern South Australia, males maintained exclusive territories, and of 131 individuals recorded, none was known to have entered another Bristlebird's territory (Seymour *et al*. 2003). Though the relative position of neighbouring Bristlebirds may remain rather constant, the position of territorial boundaries is more variable, fluctuating seasonally (Seymour *et al*. 2003; Rogers 2004). Most activity associated with the re-establishment and maintenance of territorial boundaries occurs early in the breeding season, and usually involves birds participating in vocal interactions, where two neighbours sing simultaneously at close quarters (Rogers 2004). The occurrence of territorial interactions probably declines as the breeding season progresses, and is virtually non-existent in autumn and winter (Rogers 2004). That the interaction near Jan Juc was observed in January (that is, late in the breeding season) indicates that some birds maintain boundaries at least until mid summer.

Territorial interactions involving physical confrontations between Bristlebirds are probably less common than vocal interactions. Similar territorial behaviour involving physical confrontation has also been observed in south-eastern South Australia. In their exhaustive review of the behaviour of the Rufous Bristlebird, Higgins & Peter (2002) published an observation of a wing-flicking display. However, on that occasion, three Bristlebirds were involved in the territorial interaction, though one was hidden. The two visible birds performed a display that included wing-flicking, but this differed from the display described here in that both the intruder and the territory owner (not just the intruder) displayed at each other by flicking their wings; and apparently neither bird pivoted from side to side while performing the display. It is not known whether the bird, which was hidden from view, performed any type of display. In addition, the territory owner called antiphonally with the bird which was hidden from view.

There have now been several recent studies conducted on Rufous Bristlebirds (both subspecies) in Victoria and South Australia, particularly with respect to voice (e.g. Rogers 2003, 2004), habitat requirements (e.g. Peter 1999; Wilson *et al*. 2001; Seymour *et al*. 2003; Gibson *et al*. 2004) and general ecology (e.g. Wilson *et al*. 2001; Seymour *et al*. 2003). Thus, there is some potential for other aspects of the species' behaviour, observed incidentally during the course of those studies, being documented in the future.

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