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Matched Song and Duetting by a Breeding Pair of Golden Whistlers *Pachycephala pectoralis*

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Birds are well known to react to their reflections in bright surfaces although not often in windows. At one of our house windows where a bottlebrush has grown to within 10 cm of the window panes, honeyeaters and small insectivores foraging in the bottlebrush sometimes respond to, or appear aware of, their reflected images. The species that has reacted most vigorously and persistently was the Golden Whistler *Pachycephala pectoralis*, a pair of which have nested on our 2 ha property (at the above address) since 1988, but not near the house. Between 2 May and 9 June 1991 the male and female were at the window both singing and displaying at their respective reflections, singly or as a pair, at least once each day. Their visits were audible throughout the

house and called attention; both birds were individually colour-banded.

Song and display sessions varied from a few minutes to 35 minutes. The earliest visit was at 0645 h and the latest 1715 h; most were before 1330 h. Of the 91 episodes observed 55 (60%) were by the female and 36 (40%) by the male. Rain had no observable effect but fewer visits of shorter duration were made on dull days. After the appearances at the window ended the pair remained on the property to nest.

In display the Golden Whistlers used a stretched posture, with feathers fluffed, head up and beak pointing to the sky and chest forward followed by a bow; this was interspersed with fluttering flights towards

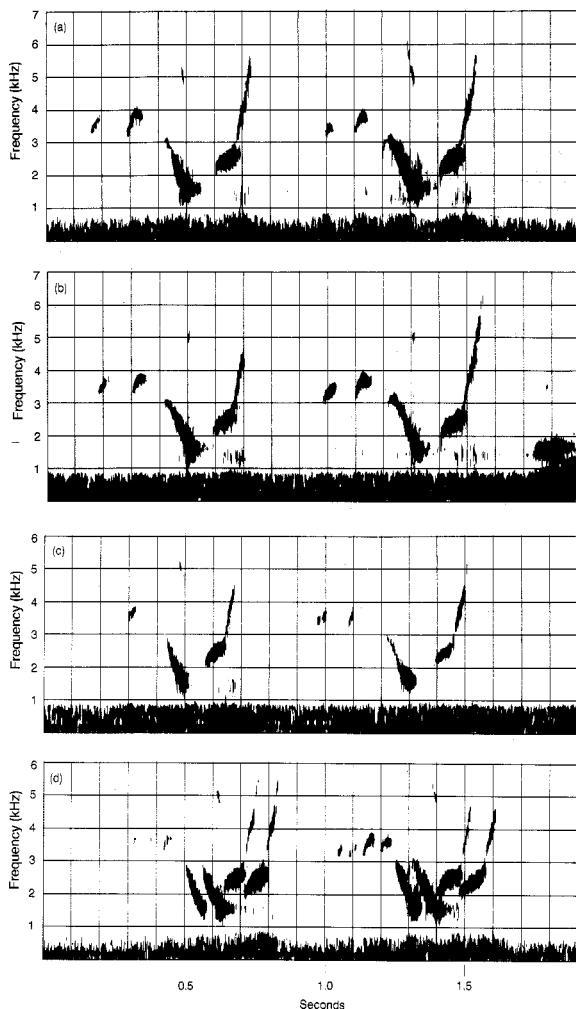


Figure 1 Sonagrams of calls from a pair of Golden Whistlers *Pachycephala pectoralis* at Manjimup, Western Australia. (a) call female; (b) call of male; (c) alternating duet; and (d) overlapping duet.

their reflection. Both sexes displayed similarly, except that the fluttering flight was more vigorous in the male.

The song sounded the same in both sexes and was impossible to differentiate by ear alone. From 20 minutes of song recorded (Philips 2205 Recorder), both solo and duet, two sonagrams were prepared by digital signal processing and analysis (DSP 5500, Kay Elemet-

rics). Figure 1a & b confirms that the song was without differences in time or frequency characteristics between male and female. Even more interestingly Figure 1c & d shows that when both birds sang there were two kinds of duet. Firstly one bird gave its whole song, followed by the other 0.25 s later (Fig. 1c). Secondly they overlapped their songs in close coordination (Fig. 1d).

It has long been suspected that the female Golden Whistler sings (Reader's Digest 1986), but it has proved difficult to achieve certain identification of the singer since they may forage up to 25 m in forest (Wooller & Calver 1981).

We have banded 905 Golden Whistlers and, of the 280 known to be adults, 142 were males and 138 females. Of the 262 individuals re-trapped, 89 were adult males and 82 adult females. This suggests that the balance of the sexes is remarkably even. Of the 142 males only 106 were full plumage. Only full plumage males can be accurately identified in the field. Two completely brown birds were known to be the breeding males at nests. Thus, only 106 (12%) of Golden Whistlers could be positively sexed in the field, visually or aurally.

Our nest records and sightings of marked birds indicate no pair-bonding in successive seasons and little evidence of territory or site attachment. The solo song of the Golden Whistler may therefore represent the advertisement for a mate and the first duet could serve to advertise dual occupancy of the territory. The overlapped duet could serve to strengthen the pair bond of birds together only for the breeding season. It would be interesting to know if the female imitates the song of her partner of that season or *vice versa*. That suggestion seems more likely than birds pairing selectively with partners using identical songs.

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