Corella, 2009, 33(1): 18-21

A HIGH ALTITUDE OBSERVATION OF THE BEAUTIFUL FIRETAIL *Stagonopleura bella* FROM EAST GIPPSLAND, VICTORIA

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Received: 29 January 2008

There has been little research on the ecological requirements of the Beautiful Firetail *Stagonopleura bella,* and its habitat preferences are poorly understood. On mainland Australia, the Beautiful Firetail is generally considered to be a bird of coastal regions and the lowlands. This note reports an observation of Beautiful Firetails on the Great Dividing Range at a height of more than 1100 metres above sea level from an atypical habitat for mainland Australia. It appears that the observation may be the highest altitude at which this species has been recorded on the mainland.

INTRODUCTION

The Beautiful Firetail *Stagonopleura bella* is a small finch endemic to south-eastern Australia and Tasmania. It is generally regarded as uncommon and declining on the mainland, with potential threats including habitat loss, degradation and fragmentation, altered fire regimes, predation and illegal trapping (Blakers *et al.* 1984; Emison *et al.* 1987; Loyn 1987, 1997; Read 1994; Palmer 2005; Higgins *et al.* 2006).

There has been little research on the ecological requirements of the Beautiful Firetail and its habitat preferences are poorly understood (Palmer 2005). On the mainland, the Beautiful Firetail is considered to be a bird of coastal regions and the lowlands where it inhabits coastal scrubs, heathlands and dry sclerophyll woodlands and forests, often near riparian zones or wetland areas (Palmer 2005; Higgins *et al.* 2006). In Tasmania, it is widespread in all regions and occupies a range of habitats ranging from sedgelands to, occasionally, wet sclerophyll forests (Ratkowsky and Ratkowsky 1977, 1980; Higgins *et al.* 2006). It appears to be less confined to coastal districts and lowlands in Tasmania with records from as high as 800–1100 metres asl (Ratkowsky and Ratkowsky 1977; Higgins *et al.* 2006). In Victoria, nearly all Beautiful Firetail records are from the coastal lowlands and foothills where they are often associated with wetlands, riparian zones and coastal heaths; records on the inland slopes of the Great Dividing Range are rare (Palmer 2005).

This note reports an observation of Beautiful Firetails on the Great Dividing Range from an atypical habitat for mainland Australia. It appears that the observation may be the highest altitude at which this species has been recorded on mainland Australia.

OBSERVATIONS

A small group of Beautiful Firetails was detected by calls at dusk at approximately 1730 hours on 8 April 2007 within the Errinundra National Park, in East Gippsland, near the junction of the Goonmirk Rocks and Coast Range Roads (148°52' 44" E, 37°16'33" S). Visual confirmation of the species' identification was obtained from one individual. A minimum of two birds were present, possibly as many as four, based on calls that were heard in the surrounding dense vegetation at the time when the individual bird was seen. The birds were very vocal, frequently uttering their plaintive whistling call. The firetails were not heard or seen again the next morning at the site, nor was the species sighted again in other areas of the Errinundra Plateau over a consecutive two-day period.

This site has an altitudinal elevation of approximately 1145 metres asl and is located within wet sclerophyll forest with a closed scrub understorey. The area supports a unique vegetation community with an overstorey of old-growth Errinundra Shining Gum *Eucalyptus denticulata* approximately 60 metres tall and a dense mid-storey and shrub layer (Fig. 1). Dominant understorey

Figure 1. *Habitat at the site of the Beautiful Firetail observation in East Gippsland, Victoria. (Photo: M. Antos)*

species include Silver Wattle *Acacia dealbata*, Mountain Plum-pine *Podocarpus lawrencei*, Hazel Pomaderris *Pomaderris aspera*, Mountain Tea-tree *Leptospermum grandifolium* and Subalpine Beard-heath *Leucopogon maccraei* which was fruiting. The ground layer contained deep leaf litter and sparse bryophytes. Very few grasses, sedges or other seed-bearing monocots were observed at the site (see also DCFL 1985 and Barker 1991 for further details of vegetation at the site).

This site was located on a south-facing slope just below the crest of the Coast Range and was not associated with any riparian zones. The closest riparian zones, about one kilometre from the observation, supported cool temperate rainforest.

METHODS

To add further context to the observation, records of Beautiful Firetails across south-eastern Australia were collated from Birds Australia (Atlas of Australian Birds), the Victorian Department of Sustainability and Environment (Atlas of Victorian Wildlife), the New South Wales Department of Environment and Climate Change (Atlas of NSW Wildlife) and the Tasmanian Department of Primary Industries and Water (Natural Values Atlas) in April 2007. Duplicate records between the Victorian and Australian Atlases were removed. Observers do not typically record the altitude of the location where the observation took place within these databases. Thus these records were overlayed with height class data in ArcView GIS 3.3 to determine their altitude (in 200 m intervals). Height class data for Victoria and New South Wales was derived from 1:250 000 digital elevation modelling and for Tasmania and South Australia from contours derived from maps at the 1:1 250 000 scale. For all records nominally above 1000 metres asl, the level of accuracy (distance) and the site descriptions (where available) were cross checked with aerial photography and satellite imagery within GoogleEarth to confirm the likely accuracy of the derived height.

RESULTS AND DISCUSSION

This observation occurred in an atypical habitat for Beautiful Firetails in Victoria (montane wet sclerophyll forest) and at the highest known altitude for this species in Australia (~1145 m asl). Beautiful Firetail records away from the coastal plain and foothills in Victoria are rare and the Great Dividing Range is believed to form a biogeographical barrier for this species (Palmer 2005). Although there are a few records of Beautiful Firetails from the inland areas of East Gippsland, such

TABLE 1

Altitudinal records of the Beautiful Firetail in Victoria and New South Wales.

Altitude (m asl)	Atlas of Victorian Wildlife	Atlas of Australian Birds (Vic)	Atlas of NSW Wildlife	Atlas of Australian Birds (NSW)	% of Vic and NSW records
0-100	279	30	47	21	49.2
100-200	54	4	26	12	12.5
200-400	58	4	40	30	17.2
400-600	3	0	34	44	10.7
600-800	1	0	29	15	5.7
800-1000	0	0	15	18	4.3
1000-1200	0	1*	0	1	0.3
Total	395	39	191	141	100

* Record described in this paper.

TABLE 2

Altitudinal records of the Beautiful Firetail in Tasmania and South Australia.

Altitude (m asl)	Atlas of Australian Birds (Tas)	Tasmanian Natural Values Atlas	% of Tasmanian records	Atlas of Australian Birds (SA)	% of SA records
0-200	572	38	71.9	185	82.6
200-400	143	22	19.5	39	17.4
400-1000	56	10	7.8	0	0
1000-1200	6	1	0.8	0	0
Total	777	71	100	224	100

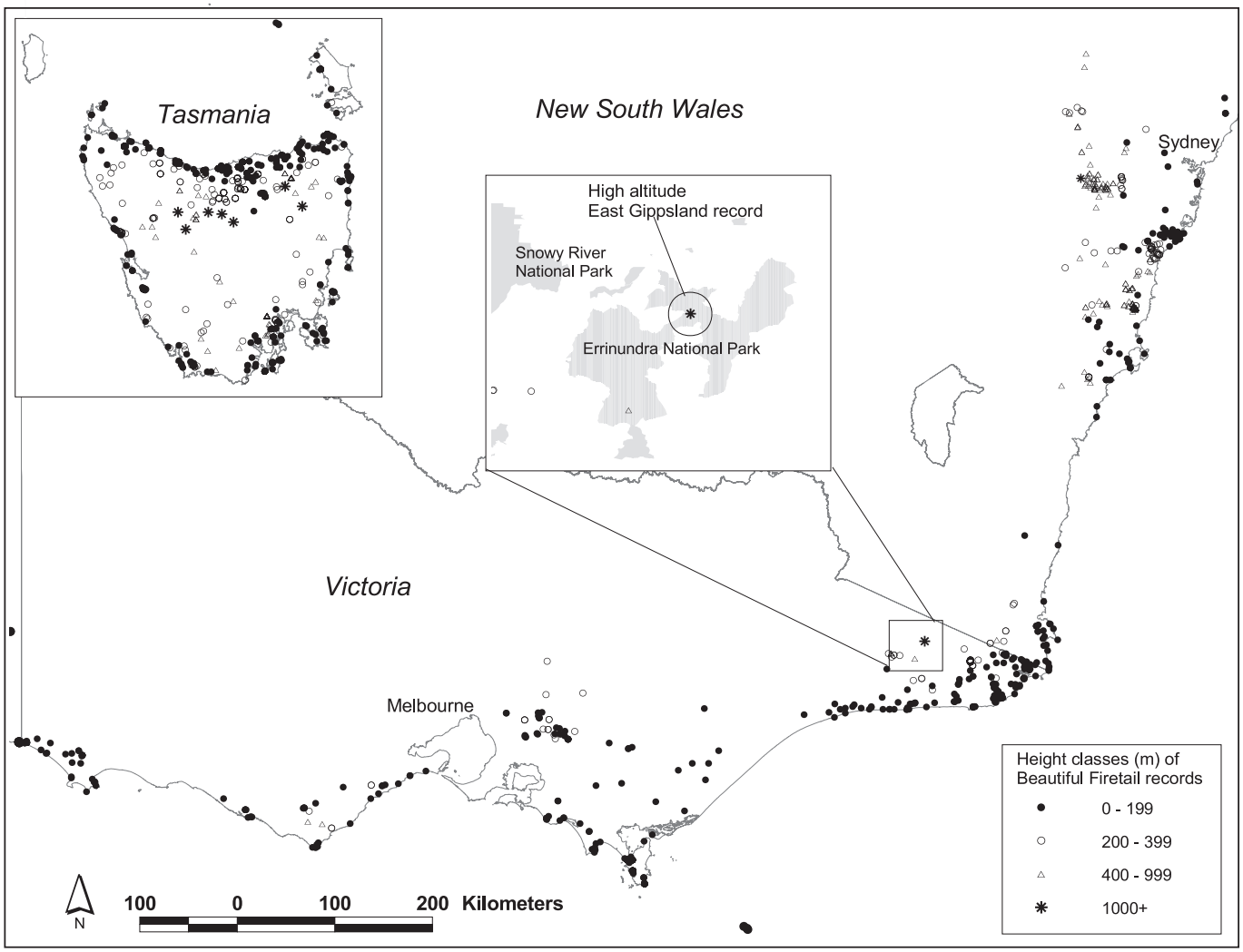

Figure 2. *Distribution in height classes of Beautiful Firetail in New South Wales, Victoria and Tasmania.*

as the Little Yalmy River-Bonang Highway area, Coopracambra National Park, and the Goolengook and Cooaggalah Forest Blocks, these are at 200–600 m asl and are largely associated with river valleys (Loyn *et al.* 1992; Loyn 1997; Atlas of Victorian Wildlife; Fitzsimons, pers. obs. 2006). The highest previous record in Victoria (c.770 m asl), which is also the closest to our Coast Range observation, was at Greens Road on the edge of the Errinundra Plateau (Lobert *et al.* 1991). The distribution in East Gippsland reflects the recorded altitudinal distribution elsewhere in Victoria for this species with most records occurring below 100 metres asl (Table 1, Fig. 2).

Across its range, the Beautiful Firetail is predominantly recorded in lowland habitats. In New South Wales there are disproportionately more high altitude records around the Blue Mountains district where most records appear to coincide with the Hawkesbury Sandstone Formation (Tables 1 and 2, Fig. 2). It is possible that the absence of high altitudinal records along the Great Dividing Range between Melbourne and Canberra may be due to the lack of preferred habitat.

It is uncertain whether the birds observed in this instance were sedentary or passing through the area. It is thought that small, locally nomadic feeding flocks form following the breeding season (Higgins *et al.* 2006). The immediate site of observation did not contain any of the plants previously identified as food items of the Beautiful Firetail (Barker and Vestjens 1990). An area of native grasses (*Poa* spp.) was present a few hundred metres away at Goonmirk Rocks but was not in seed, although the stands of Subalpine Beard-heath in the area were fruiting. The area of observation provided suitable nesting habitat for this species in the form of a dense, tall shrub layer (Beruldsen 1980; Emison *et al.* 1987).

It is possible that higher altitude wet forests may provide an alternative habitat for the Beautiful Firetail. These areas often receive lower observer coverage than coastal regions (Barrett *et al.* 2003), although much of upland East Gippsland has been the subject of past systematic pre-logging fauna surveys (e.g. Carr *et al.* 1984; Chesterfield *et al.* 1988; Westerway *et al.* 1990; Lobert *et al*. 1991; Robinson 1991). As Palmer (2005) asserts, further study of the range and habitat use of the Beautiful Firetail is required and, given the rarity of records at high altitudes on the Great Dividing Range in Victoria, observers should search for this species to help ascertain whether they are resident or transient in this habitat. In addition to this, apparent geographical gaps in distribution where potentially suitable habitat exists (around Bateman's Bay, Ninety Mile Beach, and Port Fairy) warrant further investigation.

ACKNOWLEDGEMENTS

We thank Andrew Silcocks, Hugh Robertson, Cameron Williams and Fred Cumming for assistance with data extraction and analysis. Grant Palmer and Chris Tzaros provided useful comments and we are indebted to Richard Loyn (Arthur Rylah Institute for Environmental Research, Department of Sustainability and Environment) and Rory O'Brien (Museum Victoria) for reviewing the manuscript.

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