

# John Gould in South Australia and a reappraisal of his type locality, 'The Belts of the Murray'

GRAHAM CARPENTER AND ANDREW BLACK

## Abstract

*John Gould visited South Australia from May to July 1839, making an extensive collecting expedition into 'the interior'. He reached country he termed the 'Belts of the Murray', given as the type locality for several bird taxa. In this paper information on Gould's journey to the interior is analysed. Contrary to previous reviews that locate the 'Belts of the Murray' between Palmer and Mannum, we conclude that the locality is at least 50 km further north in an area of the western Murray Mallee from about Sedan in the south to beyond Brookfield Conservation Park in the north.*

## INTRODUCTION

The famous English naturalist, John Gould, visited the fledgling colony of South Australia between 27 May and 19 July 1839 (Hindwood 1938, Somerville 1939). At that time little was known of the country more than 50 km from Adelaide and its residents were just beginning to explore further afield, primarily in search of new agricultural and grazing land. Survey and sale of land in the hills had just commenced, and the first stock were arriving overland from both New South Wales via the River Murray and along the coast from Victoria.

The main purpose of Gould's visit to Australia was to gather information and specimens for his *Birds of Australia* (1840-1848). After arrival Gould also turned his attention to mammals (Gould 1841-1842), and 'hoped to possess myself of sufficient information before my return to

enable me to clear up the confusion which exists with regard to the kangaroos, &c' (Gould in Anon. 1840a). His friend Captain Charles Sturt, who had just taken a position in Adelaide as Surveyor-General, prompted his visit to South Australia. Sturt had provided information and forwarded specimens of several new bird species ('novelties' – Gould in Anon. 1841) from the inland during his exploration down the Murray in 1830 (Gould 1837-1838, Stenhouse 1930) and his overland journey with cattle from Sydney, arriving in August 1838 (Sturt 1840a, 1849: 18). Further, South Australia was strategically located between eastern and western Australia, thus catering for Gould's special interest in the distribution of species (Gould in Anon. 1840a).

During June and July 1839, Gould journeyed inland from Adelaide towards the 'interior' with the aim of reaching the River Murray (Gould in Anon. 1840a). 'With difficulty [he] crossed the range over an entire new country and penetrated to the centre of the dense *Eucalypti* scrub' on the Murray flats (Gould *loc. cit.*). He called this country, from which he obtained type specimens of several new species, 'the Belts of the Murray'. This unique name was applied to the parallel belts of scrub that lay below him as he viewed the vast flat plain from a high point on the eastern Mount Lofty Ranges. Gould attempted in vain to reach the river, and 'spent a night and part of two days without water for my horses' but 'was compelled, much to my regret, to beat a retreat back to the ranges, in the gullies of which I even found difficulty in obtaining water' (Gould *loc. cit.*).

An interview with Gould published in the *Westminster Review* after his return to England (Gould in Anon. 1841) reported that 'he advanced nearly to the west bend of that noble river.' Hindwood (1938) interpreted the 'west bend' as the North-West Bend (34° 02' S, 139° 40' E) near present day Morgan. However Parker (1984) and Dawes (1981, 1991, 2011) argued that his journey was further south, and that he travelled towards what is in fact the western-most bend of the river below Mannum near Caloote. That conclusion was supported because Gould, having travelled via the 'Upper Torrens', found one of his new species, the Redthroat, *Pyrrholaemus brunneus*, to be 'tolerably abundant about forty miles northward of Lake Alexandrina' (Gould 1865, Volume 1: 384). Both Parker and Dawes (*loc. cit.*) therefore defined the 'Belts of the Murray' as 'in and between the districts of Palmer and Caloote, South Australia' (Figure 1). The course suggested by these authors, from the eastern foothills of the Mount Lofty Ranges towards Caloote, parallels the drainage of Reedey Creek, a distance of about 15 km.

We found it difficult to accept that Gould would have been unable to travel the 15 km required to reach the River Murray from the ranges or find water for his horses. In addition, several of the mallee bird species he recorded are not known from that area, but occur further north. We therefore examined the information on Gould's visit to South Australia and offer an alternative interpretation of the 'Belts of the Murray'.

## METHODS

We have sought and analysed references to Gould's time in South Australia. Many accompany remarks on birds and mammals seen or collected during his visit to the colony and are found in his *Handbook to the Birds of Australia* (Gould 1865, two volumes, hereafter abbreviated to H1 and H2), the *Birds of Australia* (Gould 1840-1848, in 7 volumes) and *Mammals of Australia* (Gould 1845-1863). Gould described his visit in his 'Maitland Letter' (in Anon. 1840a) and in the *Westminster Review* interview (Gould in Anon.

1841, republished in Cleland 1937). Hindwood (1938), Sauer (1982) and the extensive research by Sean Dawes (1981, 1991, 2011) provided reviews. We have also sought information from local and contemporary sources, particularly newspapers, and examined documents and maps relevant to the colony in 1839 and the early 1840s that are retained by State Records SA.

Gould's specimens, sometimes with collection and registration information (e.g. rodents – Mahoney 1974), are now distributed widely in museums throughout Europe and the United States (Stone and Mathews 1913, Ingersell and Fisher 2006) but were not accessed as part of this study.

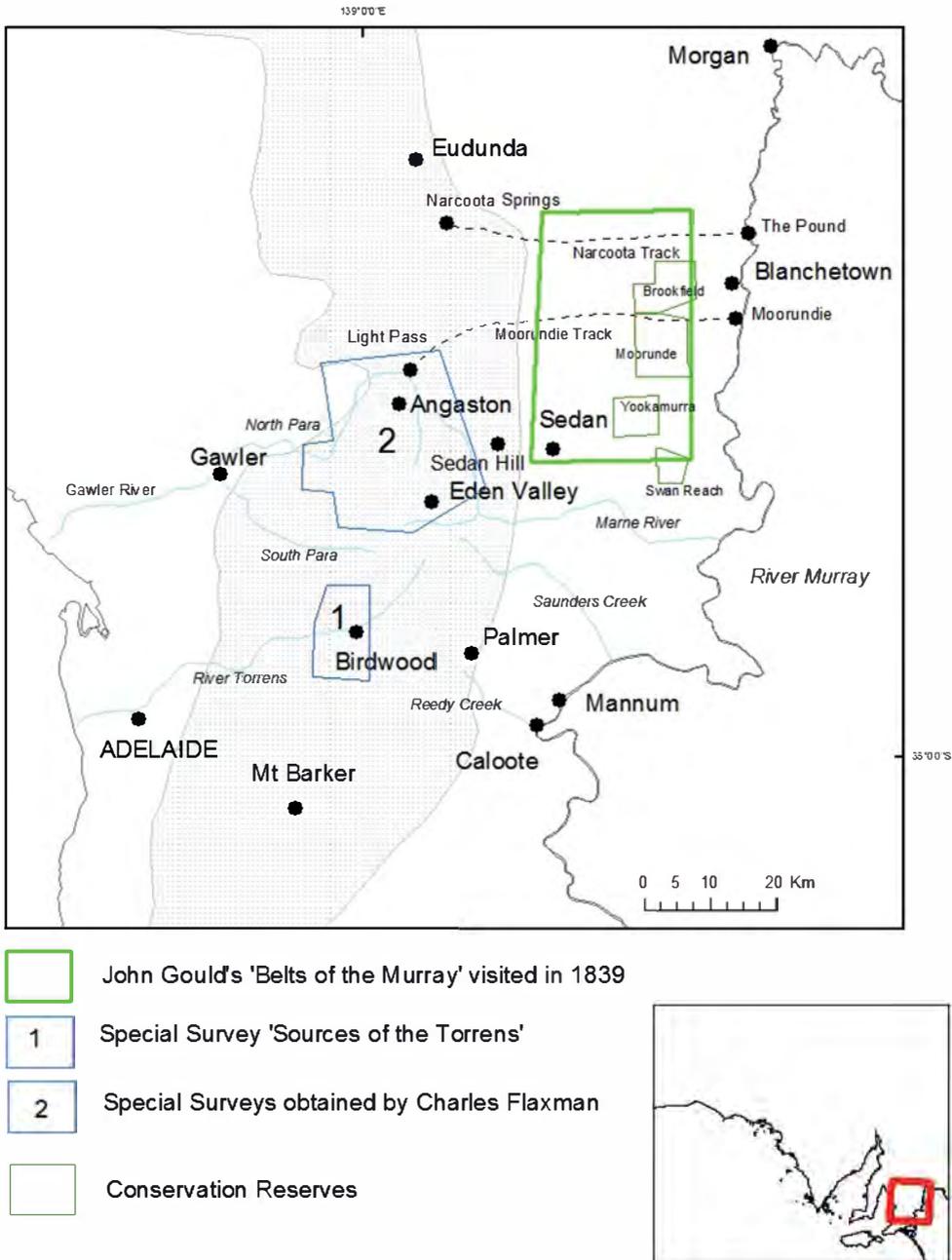
## RESULTS

### Gould's visit to South Australia

As acknowledged by Dawes (1991, 2011), there are few particulars regarding localities or dates associated with Gould's time in South Australia. Gould disembarked the *Black Joke* from Launceston, Tasmania at Holdfast Bay on 27 May 1839 (Hindwood 1938, Dawes 2011: 131). Soon after his arrival assistant surveyor Charles Hawker (1899a: 45) 'had the pleasure of his society and instruction in taxidermy' 'for several days' while based on the Onkaparinga River near Old Noarlunga. Hawker recounted their attempt to collect a Wedge-tailed Eagle, *Aquila audax* (republished in Cleland 1937).

Throughout his stay Gould took specimens on the Adelaide plains (Weebill, *Smicrornis brevirostris*, H1: 273, White-fronted Chat, *Epthianura albifrons*, H1: 379), in the woodland trees surrounding Adelaide (Red-lored Whistler, *Pachycephala rufogularis*, H1: 215, Red Wattlebird, *Anthochaera carunculata*, H1: 538) and within the town itself (Purple-crowned Lorikeet, *Parvipsitta porphyrocephala*, H2: 102, Adelaide Rosella, *Platycercus elegans adelaidae*, H2: 46-47, Southern Whiteface, *Aphelocephala leucopsis*, Gould 1845: Plate 67, White-plumed, *Ptilotula penicillata*, Regent, *Anthochaera phrygia*, and Black-chinned, *Melithreptus gularis*, Honeyeaters H1: 519, 527, 566).

Figure 1. Map of the Adelaide to River Murray region showing localities mentioned in the text, including the 'Sources of the Torrens' Special Survey ('Gleeson's Station') and the likely locality of John Gould's 'Belts of the Murray'. The Mount Lofty Ranges are stippled.



Gould was reported to be in Adelaide on 12 June (Anon. 1839a). He collected an immature male Pink Robin, *Petroica rodinogaster*, 'in a deep ravine under Mount Lofty' (H1: 276), likely to be Waterfall Gully (Rowley and Paton 1978).

In July he searched in the sandhills near Holdfast Bay (Rufous Songlark, *Cincloramphus mathewsi*, H1: 397), travelling through the salt-marshes to the Port of Adelaide (Adelaide Rosella H2: 46-47, Elegant, *Neophema elegans*, and Orange-

bellied, *Neophema chrysogaster*, Parrots H2: 73, 75 and Little Wattlebird, *Anthochaera chrysoptera*, H1: 541- 2). He also visited mangroves nearby where he reported the Yellow-faced Honeyeater, *Caligavis chrysops*, (sic; perhaps an error of recalled identity or an exceptional winter movement, H1: 521).

Also in July he met Eliza Mahony (née Reid) at Reid's Station near the current town of Gawler (Mahony in Lendon 1928). He collected a Plains-wanderer, *Pedionomus torquatus*, on the 'Gawler Plains', caught by one of his dogs (Gould 1840a).

Dawes (1991: 97) stated that Gould 'was assuredly in Adelaide' on 10 July. This was based on the date when Governor Gawler acknowledged receipt of gifts from three sources, including Gould's (1837-1838) *A Synopsis of the Birds of Australia and Adjacent Islands* for the 'Adelaide' (now South Australian) Museum (Anon. 1839b, Hale 1956). However there is no evidence that he or the other donors actually attended Government House on 10 July, as suggested by Dawes (2011: 167, 188). Gould left Adelaide by boat for Kangaroo Island and Tasmania on 19 July (Hindwood 1938).

Gould's main excursion in South Australia was into 'the interior' in an attempt to reach the Murray River. The journey is thinly documented (Dawes 1981). According to Gould (in Anon. 1840a) the journey lasted five weeks although evidence indicates it was nearer to four. The Adelaide press (Anon. 1839c) reported that 'the Surveyor-General [Captain Sturt] started on Monday [17 June] on an expedition towards the Murray. The principal object of his journey is to inspect the boundaries of the numerous special surveys in that direction, preparatory to their being surveyed, and to lay down a line of road in that direction. The drays etc started on Saturday [15 June], in charge one of the surveyors, Mr Calder. Mr Gould, the celebrated South Australian ornithologist, accompanies the Surveyor-General'. Gould (in Anon. 1840a) wrote, 'Through the kindness of Col. Gawler, the

Governor, and Capt. Sturt, whom I accompanied into the interior on an especial expedition of survey, I was provided with horses, a cart, and a small company, with the view of reaching the Murray'.

Gould (in Anon. 1840b) regarded the trip as highly successful, stating, 'My gratification on arriving at the belts of the Murray was almost unbounded, on finding, not only new birds, but even new forms of birds; the botany of this part of Australia surpasses everything I have seen.' Anon. (1840b) reported that 'the result of Mr Gould's excursion to South Australia is a large collection of specimens, including 500 birds, and a considerable number of quadrupeds and insects, the product of three months' labour'. The success of the expedition is also judged by the numerous references to birds and mammals from the interior of South Australia and Belts of the Murray in his subsequent works (Table 1). These include 31 birds (15 in the Belts) and five mammals (one in the Belts). Gould's bird collections from the Belts include type specimens of 10 new species, six of which are still recognised as species with the names he gave them.

The initial route taken on the inland expedition is not recorded but on the day after departure he collected type material of what is now a subspecies, the Grey (Black-winged) Currawong, *Strepera versicolor melanoptera*, (Ingersell and Fisher 2006) and a Bush Rat, *Rattus fuscipes*, (Mahoney 1974). According to a letter dated 7 August 1839 from Australian Museum Curator, Dr George Bennett, to Professor Owen in London (in Sauer 1998: 73), Gould wrote to him from the 'upper part of the Torrens' on 23 June [six days after leaving Adelaide]. Gould reported that Sturt had joined him there 'on our way to the Murray'.

On 26 June, Gould collected the first of several specimens of the Purple-gaped Honeyeater, *Lichenostomus cratitius*, (H1: 513) 'on the range near the Upper Torrens', noting that the trees inhabited by it there 'are very lofty'. On 1 July he took an Australasian Bittern, *Botaurus*

*poiciloptilus*, 'above Gleeson's Station while journeying towards the Murray' (H2: 314). Gould also crossed the eastern part of the Mount Lofty Range on 1 July, where he 'killed a Striped-backed Bandicoot' [Western Barred Bandicoot, *Perameles bougainville*] 'on the ranges bordering the great scrub on the road to the Murray' (Gould 1845-1863: 161).

Gould (in Anon. 1840a) described the view from the top of the range as 'one flat or dead level covered with low shrub-like trees ... of the most beautiful and singular form, ... succeeded by a belt of dense dwarf *Eucalypti*, through the centre of which the river Murray winds its course'. Gould (*loc. cit.*) 'penetrated to the centre of the dense *Eucalypti* scrub' and later 'during a week's stay under the ranges I made daily visits to this rich arboretum'.

Gould (*loc. cit.*) was then obliged to 'retrace his steps' and return to Adelaide because of failing provisions.

### Defining 'The Upper Torrens'

The locations of the 'upper part of the Torrens' or 'Upper Torrens' are imprecise. Dawes (1981) presumed that the terms referred to the area near the source of the River Torrens at Birdwood.

Another of Gould's references to the River Torrens was in his description of the Black-capped Sittella, *Daphoenositta pileata*. Gould (H1: 612) transcribed from his journal the following notes, 'I met with a flock of these birds on the hills near the source of the River Torrens, about forty miles northward of Adelaide.'

At that time the only named features in the interior other than prominent landmarks were 'Special Surveys'. Special Surveys were part of a formal land ownership system adopted by the Colonization Commissioners of South Australia that aimed for rapid sale to provide funds for the new colony. Special Surveys comprised an irregular district of about 6,000 ha, and the owner had the right to portion of the land once the

Surveyor-General had surveyed it into individual allotments.

Allen (1841) stated that 'the Torrens takes its rise, as far as yet known, in the heart of a splendid tract of country, about forty-five miles to the north-east of Adelaide' and that 'at the upper extremity of this river, the South Australian Company have two Special Surveys – the first denominated, "The Sources of the Torrens" – and the second, "Its Streams and Tributaries"'. '.

The Special Survey known as the 'Sources of the Torrens' is near present day Birdwood and was claimed on 3 May 1839 (South Australian Colonization Commission 1840) (shown in Arrowsmith 1841, Anon. 1842 and Anon. 1843, Figure 1). The second survey, 'Its Streams and Tributaries', was immediately downstream.

It is also relevant that a Special Survey was offered for sale in April 1840, which was described as 'a compact district, including the sources of the Upper Torrens and those of Bremer [*sic*] 'lying to the north and east of the survey taken by the South Australian Company which is described as the Sources of the Torrens' (Anon. 1840c). Another source (Anon. 1840d) described the above survey as the northern of three 'on the sources and tributaries of the Torrens' and that it 'extends to the north to the Sources of the Rhine [Marne]' (South Australian Colonization Commission 1840, Arrowsmith 1841). The 'Sources of the Rhine' was among seven adjoining special surveys taken by Charles Flaxman on behalf of George Fife Angas in May 1839 (Anon. 1839e, Somerville 1940, Bright 1983) that also included much of the North Para and parts of the South Para catchments 'about fifty miles to the north of Adelaide' (Figure 1).

It is therefore evident that the area described as the 'Upper Torrens' and 'Sources of the Torrens' included three Special Surveys, and that these were located from near Birdwood northwards to Eden Valley, including the southern Marne River catchment in the eastern Mount Lofty Ranges.

**Table 1. Birds and mammals reported by John Gould during his expedition into the interior of South Australia, June-July 1839.**

Those described as new taxa are denoted \*. H1 and H2 are the *Handbook to the birds of Australia* (Gould, 1865, two volumes).

Gould's name	Current name	Locality	Reference
<i>Bernicola jubata</i>	Maned Duck <i>Chenonetta jubata</i>	'the brooks of the interior'	H2: 354-6
<i>Botaurus australis</i>	Australasian Bittern <i>B. poiciloptilus</i>	'above Gleeson's Station, while journeying towards the Murray'	H2: 313-4
<i>Ardea leucophaea</i>	?White-necked Heron <i>A. pacifica</i>	'interior of South Australia'	H2: 295-6
* <i>Pedionomus microrurus</i>	Plains-wanderer <i>P. torquatus</i>	'plains of the interior of South Australia' 'Gawler Plains'	Gould 1842a Gould 1848
<i>Licmetis tenuirostris</i>	Long-billed Corella <i>Cacatua tenuirostris</i>	'in the interior of South Australia'	H2: 11-12
<i>Platycercus barnardii</i>	Australian (Mallee) Ringneck, <i>Barnardius zonarius barnardi</i>	'the Great Murray scrub of South Australia'	H2: 40-1
<i>Platycercus adalaidae</i> <i>P. adalaidensis</i>	Crimson (Adelaide) Rosella, <i>P. elegans adalaidae</i>	'South Australia' 'the interior of South Australia'	Gould 1840b H2: 46-8
<i>Psephotus haematonotus</i>	Red-rumped Parrot	'towards the interior'	H2: 69-71
<i>Strix personata</i>	Masked Owl <i>Tyto novaehollandiae</i>	'during my visit to the interior of South Australia, numerous individuals fell to my gun'	H1: 64-5
<i>Athene boobook</i>	Southern Boobook <i>Ninox boobook</i>	'as it passed through the shrubby trees that cover the vast area of the belts of the Murray, it strongly reminded of a Woodcock'	H1: 74-5
* <i>Malurus melanotus</i>	Splendid (Black-backed) Fairywren <i>M. splendens melanotus</i>	'Western belts of the Murray' 'The Belts of the Murray in South Australia ... particularly in the small open glades and little plains by which the outer belt of this vast scrub is diversified.'	Gould 1840b H1:322-3
* <i>Acanthiza pyrrhopygia</i>	Inland Thornbill <i>A. apicalis</i>	'Belts of the Murray'	Gould 1845
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill	'common in SA, where I observed it in every part of the country that I visited'	H1: 376-7
<i>Xerophila leucopsis</i>	Southern Whiteface <i>Aphelocephala leucopsis</i>	'in all parts of the colony of South Australia that I visited, both in the interior and in the neighbourhood of the coast'	H1:382-3

Gould's name	Current name	Locality	Reference
* <i>Hylacola cauta</i>	Shy Heathwren <i>Calamanthus cautus</i>	'Western belts of the Murray' 'the great scrub clothing the banks of the river Murray in South Australia'	Gould 1842b H1: 347-8
* <i>Pyrrholaemus brunneus</i>	Redthroat	'Belts of the Murray in South Australia' 'the Belts of the Murray, about 40 miles to the northward of Lake Alexandrina'	Gould 1840d H1: 384-5
<i>Smicromnis brevirostris</i>	Weebill	'the gullies of the ranges skirting the belts of the Murray'	H1: 273-4
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater	'the interior of South Australia'	H1: 534-5
<i>Anthochaera carunculata</i>	Red Wattlebird	'in most parts of the interior'	H1: 538-40
<i>Ptilotis chrysops</i>	Yellow-faced Honeyeater <i>Caligavis chrysops</i>	'in the interior of the country'	H1: 521-2
* <i>Ptilotis cratitius</i> <i>P. cratitia</i>	Purple-gaped Honeyeater <i>Lichenostomus cratitius</i>	'interior of South Australia' 'on the ranges near the Upper Torrens in South Australia ... and in the Belts of the Murray'	Gould 1840b H1: 513-4
<i>Ptilotis leucotis</i>	White-eared Honeyeater <i>Nesoptilotis leucotis</i>	'the belts of the Murray'	H1: 510
<i>Ptilotis ornatus</i>	Yellow-plumed Honeyeater <i>Ptilotula ornata</i>	'the Belts of the Murray'	H1: 515-6
<i>Glyphiphila albifrons</i>	White-fronted Honeyeater <i>Purnella albifrons</i>	'the great Murray scrub of South Australia'	H1: 497-8
<i>Pomatostomus superciliosus</i>	White-browed Babbler	'near the bend of the river Murray'	H1: 482-3
* <i>Cinlosoma castanotus</i> <i>C. castaneonotum</i>	Chestnut Quailthrush <i>C. castanotum</i>	'Belts of the Murray' 'various parts of the great scrub bordering the Murray above Lake Alexandrina' 'the more level plains of the Belts of the Murray'	Gould 1840c Gould 1848 H1: 435-7
<i>Sittella pileata</i>	Varied (Black-capped) Sittella <i>Daphoenositta chrysoptera pileata</i>	'on the hills near the source of the River Torrens, about forty miles northward of Adelaide'	H1: 612-3
* <i>Pachycephala inornata</i>	Gilbert's Whistler	'Belts of the Murray in South Australia'	Gould 1840b

Gould's name	Current name	Locality	Reference
* <i>Strepera melanoptera</i>	Grey (Black-winged) Currawong, <i>S. versicolor melanoptera</i>	'South Australia'	Gould 1846
<i>Corcorax leucopterus</i>	White-winged Chough, <i>C. melanorhamphos</i>	'in the interior of South Australia'	H1: 470
* <i>Drymodes brunneopygia</i>	Southern Scrub Robin	'Belts of the Murray in South Australia' 'The great Murray Scrub'	Gould 1840d H1: 290
<i>Osphranter rufus</i>	Red Kangaroo <i>Macropus rufus</i>	'grassy hills of South Australia, particularly those to the northward of Adelaide and between the River Murray and the City of Adelaide'	Gould 1841-2
<i>Lagorchestes leporides</i>	Eastern Hare Wallaby <i>L. leporides</i>	'the plains of South Australia, particularly those situated between the Belts of the Murray and the mountain ranges' 'the grassy plains of South Australia'	Gould 1841-2 Gould 1845-63
<i>Perameles fasciata</i>	Western Barred Bandicoot <i>P. bougainville</i>	'the stony ranges and spurs which run down towards the great bend of the river Murray'	Gould 1845-63
<i>Dasyurus geoffroyi</i>	Western Quoll	'the Murray Scrub in South Australia'	Gould 1845-63
<i>Hydromys fulvolavatus</i>	Water Rat <i>H. chrysogaster</i>	'the pools of the upper part of the River Torrens'	Gould 1845-63

### The location of 'Gleeson's Station'

Parker and Dawes were unable to locate 'Gleeson's Station'. On the basis of Gould's reference to the Australasian Bittern, a bird closely associated with reed-beds, they presumed it to be along Reedy Creek or near the River Murray at Mannum. However, Crawford (1840) provided information on Gleeson's Station, noting that 'the best [sheep] run the writer has seen is the one selected by E. B. Gleeson, Esq., in the early part of last year [1839] and now taken in the special survey by the South Australian Company, denominated the Sources of the Torrens; it consists generally of gentle hills without anything like flat marshy bottoms'. As indicated above, the Special Survey known as the 'Sources of the Torrens' was near present day Birdwood.

'Above Gleeson's Station while journeying towards the Murray' could therefore be

anywhere upstream (north) of Birdwood, and in the same region as the 'Upper Torrens' (see above). It was from here on 1 July that Gould headed eastwards towards the Murray (Gould in Anon. 1840a).

### Which was Gould's 'road to the Murray'?

It is clear that Gould's object to visit the Murray might best have been achieved by accompanying Sturt's expedition (Anon. 1839c). In considering Gould's possible route it is useful to know what tracks existed at that time.

Soon after establishing the site of Adelaide in 1836, South Australia's first Surveyor-General, Colonel Light, identified the need for a road from Adelaide to the River Murray to link the new colony to the eastern states. A route to the Murray via Mount Barker had been established in 1837, but the steep pinches up the Beaumont

spur to Crafers were treacherous for carts (Stacey 2006). In December 1837, Light (in Elder 1984) attempted to find a new route that skirted the steep western slopes of the Mount Lofty Ranges. This route ran north from Adelaide to present day Gawler, then eastwards to near Lyndoch (Light in Elder 1984, Hambidge 1944). Imlay and Hill (1838) noted that 'with a view to ascertaining the probability of taking a cart by the plain to the Murray, by heading the range which runs to the northward of Mt Lofty, there is every reason to believe that a good road might be found in that direction; in fact, [Light and his party] were within 15 miles of the river, when compelled to return to transact some public business in town.'

Oakden (1838) and others followed Light's route on horseback to Light Pass in March 1838, then headed north-east, crossing the eastern part of the Mount Lofty Ranges. After a further day's travel through 'thick scrub' they reached the river 'situated in a narrow valley, with high table land on either side'. They then proceeded upstream for two days until reaching a point where the river 'coming from the east turns south' and then, after a return day's travel downstream, headed back to the ranges. The route taken across the Murray flats is not clear, but the description of the river is consistent with that near Blanchetown.

By 1839 the need for a quick reliable route to Adelaide became a priority as more parties arrived overland along the river with stock from New South Wales. Light (1839 diary, in Fenner 1933) made a further attempt to establish a route to the river in late May – early June 1839. Arriving at Light Pass (east of Stockwell, not the current village of Light Pass), Light was again 'quite satisfied as to the best road to the Murray' but again was forced to turn back, this time due to ill health (Light in Fenner 1933). Two annotated maps drafted in February 1840, one showing 33 numbered and other un-numbered Special Surveys (Select Committee on South Australia 1841, Arrowsmith 1841), show the road towards the Murray, named the Parra [*sic*]

Road, that ran east from near the Gawler estuary parallel to and south of the Gawler (Para) River and north of the Barossa Range, through 'Light Pass' and onto the 'Plains of the Murray' but without crossing them.

At the end of 1839 a reliable route was found between the river and the Mount Lofty Ranges (Buchanan 1839, 1922). E.J. Eyre possibly discovered this route as 'a practical route for drays' on return from his northern exploration in June 1839 (in Waterhouse 1984), noting 'from these hills I found a passage to the river, shorter and better as a route to Adelaide than the one in present use, and communicating at once with the unlocated [*sic* ?unallocated] country to the north and north west. I struck the river in about 34° 16' [north of Blanchetown]' (Eyre 1839). Later known as the Narcoota Track, it ran from the river at 'The Pound' ('a small piece of flat ground on the banks of the Murray, enclosed landward with cliffs having only one entrance' suitable for holding travelling stock, about 8 km north of Blanchetown) to a permanent spring on the Narcoota Creek, about 12 km south of Eudunda (O'Halloran's 1841 diary in Hawker 1899b, Dreckow 1986: 11, Nixon 1841). The track covered extensive open limestone plains and avoided much of the dense mallee further south.

As Eyre returned to Adelaide at the end of June 1839 it is unlikely that Sturt knew the Narcoota route, and would most likely have been instructed to follow the road started by Light. Such a road, following much the same route as the current Sturt Highway, was established late in 1841 to the new settlement on the river at Moorundie (5 km S of Blanchetown) (Eyre 1843). The northern and southern roads are shown on plans of the settled districts of 1842 (Anon. 1842 and 1843, Figure 1).

#### **Description of Gould's 'Belts of the Murray'**

Gould described parallel bands of scrub that lay below him as he viewed the vast flat plain from a high point on the eastern Mount Lofty Ranges as the 'Belts of the Murray'.

His first description (Gould in Anon. 1840a) was of 'one flat or dead level covered by low shrub-like trees, of a character quite different from any I have seen elsewhere, particularly that portion which lies at the foot of the eastern range. They are of the most beautiful and singular form that can be imagined; this is succeeded by a belt of dense dwarf *Eucalypti*, through which the river Murray winds its course'.

On his return to London, Gould in Anon. (1841) described a vast plain that was 'composed of a close mass of brush-like trees, amongst which dwarf *Eucalypti* and *Pittosporums* are abundant'.

In his introduction to the *Birds of Australia*, Gould (1840-1848: 35) described the area as: 'this enormous flat, of nearly one hundred miles in length and twenty in breadth, is clothed with a vegetation peculiarly its own – the prevailing trees, which form a belt down the centre, consisting of dwarf *Eucalypti*, while the margins are fringed with shrub-like trees of various kinds'.

The extensive plain is also mentioned under entries for individual species. For example, under Chestnut Quailthrush, *Cinclosoma castanotum*, (H1: 435) he stated, 'The more level plains, particularly those that are studded with clumps of dwarf-like trees and scrubs, would appear to be situations to which it is peculiarly adapted, at least such was the character of the country of the Belts of the Murray where I discovered it.' Another, with reference to the Southern Boobook, *Ninox boobook*, (H1: 74-75), was of 'shrubby trees that cover the vast area of the belts of the Murray.' He stated that the Splendid (Black-backed) Fairywren, *Malurus splendens melanotus*, inhabited the 'small open glades and little plains by which the outer belt of this vast scrub is diversified' (H1: 322).

From these descriptions it is evident that Gould saw and explored a strip of 'shrub-like trees' 'of a beautiful and singular form' (possibly the Native Apricot, *Pittosporum angustifolium*) at the foot of

the ranges that was succeeded by a larger belt of dense mallee scrub.

The country along the Narcoota and Moorundie tracks was also well described by early travellers. Comparing these descriptions with that of Gould helps to locate Gould's 'Belts of the Murray'.

Nixon (1841) described the country along the Narcoota Track in June 1841. After leaving Narcoota Springs, it 'assumes a very dreary and arid aspect, in places thickly covered with scrub, gum, wattle, and coarse grass – this last, having soon disappeared after leaving the hills. On approaching the Murray the plains even acquire a more uninviting appearance, in consequence of the gum, wattle and coarse grass giving place to a kind of pale blue shrub which at a distance looks as if it was powdered with fine salt' [presumably Bluebush Daisy, *Cratystylis conocephala*, or Pearl Bluebush, *Maireana sedifolia*].

In his *Narrative of an expedition into Central Australia*, Sturt (1849: 22) described the Moorundie track in August 1844 passing east from Gawler Town through 'Angas Park' [Nuriootpa and Light Pass] and on 'through hilly country of inferior description' and 'from the brow of the last of those hills, the eye wanders over the dark and gloomy sea of scrub known as the Murray belt, through which the traveller has to pass before he gains the bank of the river or the Station at Moorundi. He descends direct upon the level plain ... and after passing some pretty scenery on the banks of a creek ... and crossing an open interval, he enters the belt, through which it will take him four hours to penetrate. This singular feature is a broad line of wood, composed of *Eucalyptus Dumosa* [one of several species of mallees in the area], a straggling tree growing to an inconsiderable height, rising at once from the ground in several slender stems, and affording but an imperfect shade'.

A description of the road to the Murray in March 1849 was offered by Behr (1849): 'The road to

Maronde [Moorundie] ... leads for five hours, starting from the eastern slopes of the mountains, through plains which are covered with the low shrubs of a Compositae with white foliage [Bluebush Daisy]. From a distance this gives the impression - rather strange under the burning Australian sun - of snow-covered fields. Apart from a few species of *Salsola* [chenopods] and an occasional *Stenochilus* [*Eremophila*], it is difficult to find anything else, at least at this time of year. The white plain extends 'ad infinitum'. A black forest belt marks the horizon; at long last it is reached. But behind it, already visible through the sparse foliage of scrub *Eucalyptus*, glimmer once more the white shrubs of the plains. Thus it goes on, until finally the unbroken forest is reached. The black border along the horizon, which promised shade and coolness, spreads its thin, bare, snake-like branches ... It does not take long before one is as tired of the scrub as one is of the flats, and one greets joyfully the first clearing which shimmers from afar like a snowfield beneath the frame formed by the bare trunks, carrying foliage only high up in the crowns. These flats are, by the way, the most desolate spot I have found anywhere in the five continents of this earth'.

There are similarities in Gould's varied descriptions of the Belts of the Murray and accounts by others a few years later, that also use the term 'belts'. It is also salutary to compare Behr's 'desolate plains' and 'trees with snake-like branches' with Gould's 'rich arboretum' (Anon. 1840a), experienced in different seasons.

Sturt's and Behr's descriptions refer to a strip of open country at the base of the range, followed to the east by a belt of dense mallee. Behr described a thin strip of mallee as well as the 'unbroken forest.' It is evident from Behr's description that the Moorundie Road crossed more open plain than Gould encountered. Open plains become more extensive in the northern drier parts of the western Murray flats, so it is presumed that Gould was in trackless country south of the Moorundie route.

Such a landscape can be viewed today from various sites on the eastern edge of the Mount Lofty Ranges between Sedan and Truro, including Sedan Hill west of Sedan (34° 34' S, 139° 17' E) (Figure 1). At the base of the range, where soil and substrate moisture are more favourable than on the flat country beyond, there is indeed a 1-2 km belt of open mixed shrubland. This shrubland separates the open Gum and Box *Eucalyptus* spp. and Drooping Sheoak, *Allocasuarina verticillata*, woodlands of the hill slopes from the dense mallee of the plain (C. Harris pers. obs.). Although now largely cleared, remaining native vegetation at the base of the hills is still dominated by Native Apricot (a shrub-like tree of up to 3-5 m), with an array of shrubs including Sheepbush, *Geijera linearifolia*, Narrow-leaf Hopbush, *Dodonaea viscosa angustissima*, Silver Mulga, *Acacia argyrophylla*, and cassias, *Senna* spp. Gould's reference to a rich arboretum was not a wild exaggeration, though few visitors to the mallee over the next century appreciated it as he had done.

#### Which 'Bend' did Gould nearly reach?

While Gould failed to reach the river he claimed that he met with the White-browed Babbler, *Pomatostomus superciliosus*, 'near the bend of the river Murray' (H1: 482) and it was subsequently reported that 'he advanced nearly to the west bend of that noble river' (Anon. 1841). Gould later (1845-63) referred to 'the great bend of the Murray' and (H1: 384) 'the bend of the River Murray'. Like many of the places named in Gould's writings, the locality of the 'bend' of the Murray in South Australia is not explicit.

Dawes (1981, 2011) and Parker (1984) concluded that Gould's journey followed Reedy Creek from Palmer towards the western-most bend of the river near Mannum, about 50 km south of Sedan. Dawes (1981) believed that Gould followed the route taken by Imlay and Hill (1838) in January 1838, in which they reached 'a remarkable bend to the westward, in about 34° 54' south latitude', and that they 'encamped at the most westerly bend of the whole river and the nearest point

of it to Adelaide', the bend below Mannum near Caloote. Viewing from the ranges, Imlay and Hill (*loc. cit.*) noted the 'country before us was nearly level, covered with belts of small bushy gum trees, alternating with forests of pine, through which we worked our way for several hours'.

The person who best knew the bends of the Murray in South Australia at that time was Captain Sturt, who discovered and explored the river downstream to Lake Alexandrina in 1830 (Sturt 1833). He subsequently overlanded cattle in August 1838 and travelled upstream with Governor Gawler's party in November – December 1839 (Sturt 1840b). In Sturt's (1833) journal, he described with some frustration the constant changes of direction of the river downstream of the Darling. On 3 February 1830, Sturt found a welcome change in the direction of the river from north-west to its 'permanent southerly course'. Soon afterwards he wrote, 'we had now gained a distance of at least sixty miles from that angle of the Murray at which it reaches its extreme west.'

In reality the river continues to drift westwards in its southerly course until just below Mannum, described by Eyre (in Dutton 1967) as the 'most westerly bend'. From Sturt's viewpoint the river continued south and its deviations were of little consequence in the overall pattern of its geography.

The locality where the Murray River alters its course from westerly to southerly at the present town of Morgan was variously named in the 1830s and 40s. These included 'North-west angle of the Murray' (Sturt's 1838 overland trip – Sturt 1849: 18), 'the northern bend' (Wetherell 1839), 'Great South Bend' (South Australian Colonization Commission 1840, Eyre 1839), 'the Great Elbow' (Sturt 1840b, Select Committee on South Australia 1841), 'the Great Bend' (Gawler 1840, Anon. 1843) and 'Great north-west bend' (Bagot in Anon. 1847) but by the mid 1840s it was generally known as the 'North-West Bend' (e.g. Bonney's 1838 overland trip in Bonney

1901, Nixon 1841, Sturt 1849). Eyre's westernmost bend is inconspicuous and un-named on the maps prepared in the early 1840s (e.g. Arrowsmith 1841) and there is no road marked in that direction. Gould made no mention of (native) pine, *Callitris*, scrub which impressed Imlay and Hill (1838) and which characterises the area around Reedy Creek today.

Gould was clearly guided by Sturt's unmatched experience of the Murray. We therefore conclude that the 'west' or 'great' bend referred to by Gould was the North-West Bend at Morgan.

### **Gould's return to Adelaide**

Being unable to reach the River Murray, Gould was compelled to remain near limited water available at the base of the eastern Mount Lofty Ranges, from which he made daily excursions into the mallee. Gould (1841-1842) then made 'a forced march between the River Murray and the City of Adelaide, at a time when our provisions were exhausted'.

Mrs Eliza Mahony née Reid, when writing her reminiscences aged 74 (in Lendon 1928), remembered Gould visiting their homestead at Gawler when she was a girl. The station was established in February 1839, and was at a key location on the 'main line of road both to the north and to the Murray River'. Mahony listed noteworthy visitors during 1839, the first being Governor Gawler, Captain Sturt and party, returning from their ill-fated expedition to North-West Bend and Mount Bryan on 26 December (Gawler 1840, Sturt 1840b). Next ('soon after') she named Evelyn Sturt, the younger brother of Charles Sturt, 'on his way to Adelaide to send back provisions to his party, whom he had quite left out of flour. Gould, the ornithologist was with him, and as they had been several days without anything to eat, except what they shot, enjoyed a good breakfast. Gould gave me a lesson in skinning and stuffing, or rather preserving. His wonderful book shows the number of new birds he found in Australia, and when with us he was much pleased with a white kangaroo-skin he

preserved, the first I had ever seen. Evelyn Sturt's large herd of cattle passed a few weeks later, so he was one of the first to bring stock overland'.

Dawes (1991) concluded that Mahony's account was unreliable because Gould was in fact in South Australia in June-July 1839, before Gawler's expedition in November-December. It is most likely that Mahony's recollection combined two visits of Evelyn Sturt to Reid's Station, once in July 1839 and once immediately after Governor Gawler in early 1840. The first occasion was in advance of the rest of his party that arrived in Adelaide on 17 July 'the second to bring sheep overland from New South Wales' (E. Sturt 1839). The second is likely to have been in early 1840, when the party suffered severely from lack of water (Cockburn 1925: 190-191).

It is plausible therefore that Gould and Evelyn Sturt arrived together at Reid's Station in early July 1839. Gould (1841-1842) did not report collecting an albino kangaroo, but had killed a large male Red Kangaroo, *Macropus rufus*, (later displayed as a mounted specimen in the British Museum) which had sustained his party for the previous four days. Mahony would have been unfamiliar with this species and the off white undersurface of the fresh skin may have been what she particularly noticed.

Based on Mahony's account it appears likely that Gould returned to Adelaide via the route established earlier by Light.

## DISCUSSION

Much of John Gould's visit to South Australia in May-July 1839 involved an expedition into the interior of South Australia. Gould's party departed Adelaide on 17 June 1839 and joined Captain Sturt at the 'upper part of the Torrens' on 23 June, on their way to the Murray. It is unknown what route Gould travelled to get to the Upper Torrens district. Dawes (1991) speculated that he travelled via Gawler then south-eastwards through the hills, based on

Gould's reference (in Anon. 1840a) to 'retracing his steps' from the Murray flats back to Adelaide.

Sturt's duties as Surveyor-General were primarily to oversee and provide instructions to the surveying teams in the field, to determine the route of new roads and to inspect the boundaries of new Special Surveys (Hawker 1899a). There were numerous new surveys in the area of the 'Upper Torrens' and to the north and it is likely that Sturt was occupied inspecting them, although there is no official record of his work. He may have directed Gould's small party north-eastwards from the 'Upper Torrens' towards the Murray, perhaps with the intention of meeting later on the route proposed to the east of Light Pass. It is clear that Gould returned to Adelaide via that route.

There is no evidence that Sturt and Gould met again during the expedition, other than ambiguously implied by Sturt (1849: 452) in listing the birds along the Murray, in which the Chestnut Quailthrush was described as 'a bird of the Murray belt, first shot by my friend Mr. Gould, when in a bush excursion with me in South Australia'. As Gould had been supplied with 'a cart and a small party' (Anon. 1840a), he was presumably self-sufficient. It is unknown who was in Gould's party, although Whittell (1947) speculated that it might have included Frederick Strange, who was previously employed by Sturt as an assistant surveyor and was later a supplier of specimens to Gould. Gould was also accompanied by a couple of dogs that were valuable in flushing and capturing birds and mammals, including Plains-wanderer (Gould 1840a), Red Kangaroo and Eastern Hare Wallaby, *Lagorchestes leporides*, (Gould 1845-1863). Hawker (1899a: 44) cited one of Surveyor-General Sturt's circulars to survey parties, from the 'Banks of the Torrens', dated 29 June 1839. A further circular was sent from the Surveyor-General's office in Adelaide on 7 August, ordering that fresh meat be provided to combat scurvy 'that had manifested itself in

several of the survey parties now in the field' (Hawker 1899c). It is possible therefore that Sturt had been burdened by official duties or ill-health and returned to Adelaide early.

Although much of the western Murray Mallee is now cleared of its original vegetation, the area visited by Gould is still extensively covered with a dense scrub. This comprises mallee eucalypts and other small trees and shrubs, but with some naturally more open areas, particularly in the north. Gould made no mention of any watercourse with larger trees that could be followed to the east when viewing the Murray flats from the top of the range, such as the Marne or Saunders Creek, so presumably he was not within sight of any. It is therefore concluded that he crossed the range east of Eden Valley and reached the Murray flats in the vicinity of Sedan or immediately north thereof.

From Gould's base camp under the ranges he made daily excursions that presumably involved travelling up to 30 km north-east to south-east towards what is still quite extensive mallee in and around Brookfield, Moorunde and Yookamurra conservation reserves. The 'Belts of the Murray' are thus defined as the mallee and associated woodlands and shrublands of the western Murray Mallee between the Mount Lofty Ranges and the southerly course of the Murray below North-West Bend. It extends from around Sedan in the south to beyond Brookfield Conservation Park north-west of Blanchetown in the north (Figure 1).

Interestingly the birds that Gould described and collected in the Belts of the Murray can still be found there today (e.g. Paton, Carpenter and Sinclair 1994).

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- Graham Carpenter**  
**24 Dryden Road**  
**Black Forest SA 5035**
- Andrew Black**  
**South Australian Museum**  
**North Terrace**  
**Adelaide SA 5000**  
**abblack@bigpond.com**