

CHARLES DARWIN IN THE FALKLAND ISLANDS, 1833 & 1834

by

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On March 1st 1833, HMS Beagle dropped anchor in Berkeley Sound and a young naturalist on board gazed for the first time on the shores of the Falkland Islands. Charles Darwin, for it was he, was 24 years old and this was the first of two visits that he would make to the islands. He had been born in Shrewsbury on 12 February 1809 and was fresh from a theological education at Cambridge University. His experiences during the Beagle's round-the-world voyage changed his life and laid the foundation for the revolutionary work on evolution that has made him a household name. *The Origin of Species by means of Natural Selection* was explosive stuff and Darwin, mindful of its likely impact and reception by the religious establishment, delayed publication for years – until he was finally forced into action by the intimation of similar views by Alfred Russel Wallace.

2009 marks 150 years since publication of *The Origin of Species*, 200 years since the birth of Darwin, but controversy continues with various creation myths or pseudo-scientific notions of “intelligent design” still preferred by many of the world's religious faithful to the Darwinian theory of evolution driven by natural selection. Perhaps it is the enduring controversy that has ensured Darwin's scientific pre-eminence. If you asked anyone, anywhere, to name a few famous scientists it's a fair bet that they would come up with Charles Darwin (**Figure 1**). But very few would be aware of his Falklands connection. Instead, they would probably link him with the Galapagos Islands, visited much later in the Beagle's voyage and often credited as providing the spark that ignited Darwin's theory of evolution. There will be many international events celebrating the 2009 anniversaries, with one contribution from the Falkland Islands Museum and National Trust: an illustrated brochure entitled *Charles Darwin in the Falkland Islands*.

For an impression of Darwin's experiences in the Falkland Island there are three important sources. First and foremost is his own scientific journal – his *Journal of*

Researches – first published in 1839. Second is Darwin’s diary, which has appeared in several versions with a recent, 1988, iteration authoritatively edited by Professor Richard Keynes. Thirdly, Darwin’s time in the Falklands and its influence on his later work has been expertly and thoroughly researched by Patrick Armstrong, and discussed in his 1992 book *Darwin’s Desolate Islands*. The following account owes much to these sources.

Darwin’s first recorded impression of the Falklands was accurate enough “... *the land is low and undulating with stony peaks and bare ridges; it is universally covered by a brown wiry grass, which grows on the peat*”. But he was not too impressed by what he saw – “*The whole landscape ... has an air of extreme desolation*” – and after a while confessed to being a little bored: “*This is one of the quietest places we have ever been to*”. Then he took a fortuitous walk around the small, isolated settlement at Port Louis and “*The whole aspect of the Falkland Islands, were however changed to my eyes from that walk; for I found a rock abounding with shells; and these of the most interesting age*”. Darwin’s fossils (**Figure 2**) were even more interesting than he imagined since they proved to be about 400 million years old and an important link in the subsequent development of continental drift theories. Most of them, about 50 rock samples each containing many shells, are now housed in The Natural History Museum, London. A few more can be found in the Sedgwick Museum, Cambridge, along with rock specimens devoid of fossils.

The Beagle’s first visit to the Falklands lasted about a month and it was a year before Captain Fitzroy, Darwin and company returned, arriving back in Berkeley Sound on March 10th 1834. The circumstances of their arrival were not auspicious. Port Louis had just been the scene of a murderous rampage by renegade gauchos that had claimed the life, amongst others, of Matthew Brisbane, an intrepid Scottish sea-captain and at the time a partner in the Port Louis cattle ranching venture (**Figure 3**). Darwin reported “... *complicated scenes of cold-blooded murder, robbery, plunder, suffering, such infamous conduct in almost every person ...*”, but nevertheless he soon boldly set out on a horse-back journey of exploration with two of the surviving gauchos as guides. As he noted later, fortunately “... *they had no temptation to murder me and turned out to be most excellent ...*”. The journey took them south from Port Louis, skirted the Princes Street stone run (which Darwin had investigated on his

first visit), crossed the Wickham Heights and continued south-west as far as the isthmus joining Lafonia to the rest of East Falkland, terminating in the vicinity of the present-day, and eponymous, Darwin settlement.

The stone runs (**Figure 4**) had intrigued Darwin: “... *the bottoms of the valleys are covered in an extraordinary manner by myriads of great loose fragments of the quartz rock ... spread out into level sheets or great streams*”. His description was accurate enough but his speculation that the stone runs were produced during earthquakes was a little wide of the mark; a modern interpretation invokes the effect of countless freeze-thaw cycles during the last ice age. The stone runs were impassable on horse-back, but the Wickham Heights also posed something of an obstacle as Darwin noted: “*There is one main range of quartz rock hills, whose broken barren crests gave us some trouble to cross*”. Their precise route is uncertain, but Patrick Armstrong’s research suggests that they may well have picked their way across close to Smoko Rocks. As he crossed the hills Darwin noted the folding of the rock beds and imaginatively described “... *the curved strata ... piled on each other, like the ruins of some vast and ancient cathedral*”. In his more prosaic, scientific account, he accurately noted hills that were “... *anticlinal with a broken summit*” (**Figure 5**). Even the main range was similarly arched: “... *strata on its northern flank dip northward; on the summit ... they are horizontal; on its southern side they are almost vertical with a southerly dip.*”

During the journey south Darwin and the gauchos lived off the land, butchering wild cattle as required, and spent two uncomfortable nights sleeping under their saddles. The weather was consistently bad, their horses floundered in mud – “*I suppose my horse fell at least a dozen times ...*” – and they were not sorry to turn for ‘home’. Even then, whilst fording the Fitzroy River estuary, they were caught out by a rising tide with Darwin complaining that “*To finish our misery ... the sea ... was up to the top of the horses backs, & the little waves from the violent winds broke over us*”. He was also rather disappointed at the lack of wildlife seen – “*Few sorts of birds inhabit this miserable looking country ...*” – and summed up his trip dismissively: “... *excepting some little geology nothing could be less interesting*”.

But despite that claimed absence of interest Darwin was assiduously collecting all manner of zoological and botanical specimens. During his student days at Cambridge he had been an avid collector of beetles so not surprisingly the Falklands insects were targeted, with dead and decaying animals proving a rich source (**Figure 6**). Many specimens, including fish and some of the marine invertebrates were preserved in ‘spirits of wine’, other specimens were dried, plants were pressed, birds were skinned and dissected, with some organs pickled, and the stomach contents noted – one preserved sample consists of rats’ teeth taken from the stomach of a hawk. Uneaten rats, mice, rabbits and hares were all sampled, as was the ill-fated warrah, of which more later. Darwin noted animal behaviour too, as when describing penguins. He was aware that there were four different varieties in the Falklands but seems to have encountered only Magellanic of which he wrote “... *this bird is commonly called the jackass penguin, from its habit, whilst on shore, of throwing its head backwards and making a loud strange noise, very like the braying of an ass ...*”. The steamer ducks also caught his attention, but were than subjected to a rather extreme experiment: “*These clumsy logger-headed ducks make such a noise and splashing that the effect is exceedingly curious ... The head is so strong that I have scarcely been able to fracture it with my geological hammer*”. Meanwhile, Striated Caracaras (Johnny Rooks) experimented on the expedition: “*They were constantly flying on board the vessel ... and it was necessary to keep a good look out to prevent the leather being torn from the rigging ... These birds are very mischievous and inquisitive; they will pick up almost anything ... a large black glazed hat was carried nearly a mile ...*”.

At the time of Darwin’s visit the native Falklands fox, the warrah, was still common (**Figure 7**). Its presence puzzled him – “*As far as I am aware there is no other instance in any part of the world, of so small a mass of broken land, distant from a continent, possessing so large a quadruped peculiar to itself*”. He was also struck by reports of subtle differences between the warrahs of East and West Falkland and this interest, together with several other notes in his scientific journal, suggests that Darwin was already beginning to think about the development of animals in isolation, on islands. This theme was to prove fundamental to his later ideas on evolution, and the warrah is the subject of the only specific reference to the Falklands in “*The Origin of Species*” (wherein Darwin speculated on an original arrival by iceberg) – but by then the unfortunate animals were nearing extinction. Noting their inquisitive nature

and complete lack of fear Darwin had predicted that “*Within a very few years after these islands shall have become regularly settled, in all probability this fox will be classed with the dodo, as an animal which has perished from the face of the earth*”. Sadly, he was right. The last known warrah was shot at Shallow Bay, West Falkland, in 1876. The skulls illustrated were collected by the *Beagle* expedition and are now held by The Natural History Museum, London (**Figure 8**).

Throughout Darwin’s time in the Falklands his work rate must have been prodigious, yet his written accounts present a very modest view of his activities: “*My time passes very evenly – one day hammering the rocks; another pulling up the roots of the Kelp for the curious little Corralines that are attached to them*”. He did not enjoy the best of weather, about which a typical comment reads “*The weather was very boisterous & cold, with heavy hail storms*”. The Port Louis murders must have made a gloomy impression on him and a sad event had also occurred during the *Beagle*’s first visit. Then, the young ship’s clerk had been drowned whilst trying to retrieve a shot duck, a tragedy for which Darwin felt partially responsible: “*... the motive which urged him to strip and swim after the bird he had shot, was probably a desire to get it for my collection*”. Darwin was also acutely aware of the friction between Britain and Argentina over the Falklands and regretted that the islands seemed destined to continue “*... a bone of contention between nations*”. Against this background it is easy to see why some of his descriptions of the Falklands appear rather jaundiced, though “*The theatre is worthy of the scenes acted out on it. An undulating land with a desolate and wretched aspect ...*” was perhaps a bit over the top.

HMS *Beagle* sailed out of Berkeley Sound on April 7th 1834 to continue Darwin’s momentous voyage around the world. Perhaps the seeds of some revolutionary ideas had already been sown in his mind by his time on the “desolate” Falkland Islands. On his eventual return to England his collection from the *Beagle* expedition was split up for description amongst various scientific specialists and has never since been reunited. The specimens are now mostly distributed between The Natural History Museum, London, and various departments of Cambridge University; some of the plants are in the herbarium at Kew Gardens, London, whilst a collection of crabs ended up at Oxford University. Odd bits and pieces, like the beetle illustrated, are present in several other museums’ collections.

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Figure Captions

Figure 1. Charles Darwin in a water-colour portrait by George Richmond painted in the late 1830s, shortly after Darwin's return from the Beagle expedition. Source: http://commons.wikimedia.org/wiki/Image:Charles_Darwin.

Figure 2. Fossil specimens collected by Darwin at Port Louis, East Falkland, in 1833. The well-defined shell impressions are of brachiopods, and there is a scattering of crinoid columnals. The modern names for the principal brachiopods present are *Australospirifer hawkinsii* (labelled b) and *Schellwienella sullivanii* (labelled c and named after Lieutenant Bartholomew Sullivan of HMS Beagle). The Falkland Island 2-pence coin is 2.5 cm in diameter. The Natural History Museum, London.

Figure 3. Part of the headboard from Matthew Brisbane's grave. His remains were recovered and reburied in 1842 by members of the James Clark Ross, *Erebus* & *Terror* expedition, with the headboard renewed in 1906 on the orders of Governor Allardyce. Falkland Islands Museum, Stanley. A full account of the Port Louis murders and their aftermath is given by Andrew David in the 2007 issue of *Falkland Islands Journal*.

Figure 4. Part of the Princes Street stone run, a huge periglacial blockfield examined by Darwin in 1833. British Geological Survey photograph number P575725.

Figure 5. The summit ridge of Mount Challenger, East Falkland, looking east and showing the anticlinal structure in the rocks that was noted elsewhere by Darwin during his cross-country journey in 1834. British Geological Survey photograph number P696224.

Figure 6. *Lissopterus quadrinotatus* – Darwin’s black beetle, a species discovered by him in the Falkland Islands. The specimen is pinned to the card recording Darwin as the collector. University of Glasgow (Hunterian Museum).

Figure 7. A stuffed and mounted warrah (*Dusicyon antarcticus*) from the collection of the Institut Royal des Sciences Naturelles de Belgique, Brussels. The base-board on which the warrah stands is about 60 cm long.

Figure 8. Warrah skull and mandible specimens collected by the Beagle expedition. Frontal view: female, West Falkland. Left lateral view: male, East Falkland. Scale in millimetres and centimetres. The Natural History Museum, London.