

## Darwin's 'joint paper'

I would like to comment upon Alice Kenyon's 'Darwin's "joint paper"'.<sup>1</sup>

The events leading up to the publication of Charles Darwin's *On the Origin of Species* were summarized in fine detail by Arnold Brackman.<sup>2</sup> Recognizing that Alice Kenyon confined her paper to the circumstances surrounding the formal publication of the theory of evolution by Charles Darwin and A.R. Wallace, there is more to this that your readers may find quite interesting.

To be as brief as possible, Darwin had cogitated over his theory for well over a decade when, in 1855, he received Wallace's 'Sarawak' paper written in February of that year and submitted for publication. Darwin realized that Wallace was extremely close to being acclaimed the author of the very theory that he had himself been working on for all these years. Darwin's friend and mentor, Charles Lyell, persuaded him to immediately begin writing an abstract on all that he had thus far discovered.

Three years later, in June of 1858, he suffered a second shock when he received a copy of Wallace's 'Ternate' paper. This paper outlined the entire theory that Darwin had so painstakingly been preparing for publication. Wallace's theory was complete with the elusive 'key', the survival of the fittest as the mechanism by which selection took place and caused one species to **diverge** to become another. As we shall see, 'divergence' is the key word that until this moment Darwin seems not to have considered.

Darwin was devastated but his friends, Charles Lyell and Joseph Hooker, came to the rescue in what was described as a 'delicate arrangement'. They conspired to present to the Linnaean Society meeting in London on 1 July 1858, Darwin's 1844 sketch of his theory (which did not mention divergence), followed by reading Darwin's copy of his letter to Asa Gray of 5 September 1857, which purportedly did mention divergence. Finally, they read Wallace's Ternate

paper of March 1858. The protocol of science would dictate that as a 'paper', Wallace's presentation should have been made first.

The purpose of the entire exercise was to establish the priority for Darwin by presenting it in a gentlemanly manner as a 'joint paper' but then by reading Darwin's copy of his letter to Asa Gray to establish Darwin as the true originator. We should be reminded that there was no such thing as photocopies in those days and authors of letters had to hand-write two copies of every letter; one was sent to the recipient and the other was kept for reference when the reply was received. This could be six months later in the case of overseas correspondents. It would be a simple matter for Darwin to write another copy of his letter to Asa Gray and include the sentence using the word 'divergence' thus securing his priority. Darwin actually admitted editing his copy of the letter to Asa Gray for the Linnaean Society meeting. Indeed, it might well be questioned whether Darwin ever wrote the alleged letter to Asa Gray in the first place. It turns out that correspondence for the period just prior to the July meeting is mysteriously missing, and there seems to be no record of the actual letter received by Asa Gray. All of Gray's replies to Darwin for this crucial period are also missing. All this was part of what Lyell meant by a 'delicate arrangement'. Circumstances conspired in their favour because Asa Gray was in America and thus could not be contacted in time; Wallace was safely out of the way in the Malayan jungle suffering with bouts of fever; and Darwin was at that time embroiled in a disease-ravaged household and could not attend the meeting, so contrary to what is commonly reported, Darwin did not present a preliminary joint paper with the Wallace paper and 'with fineness of character' share the priority with Wallace. It would, in fact, be another full year before Darwin made his formal disclosure in his 'abstract' which appeared as the title, *On the Origin of Species* in November 1859.<sup>3</sup>

The media and science community of the day referred to what we now call

'Darwin's Theory' as the Darwin-Wallace Theory, but Wallace was always cast into Darwin's shadow. Then, after Wallace's public excursion into the occult, his name was quickly dropped altogether. The general public today seldom hear of Wallace's name. Such is the doubtful and confused paternity of a theory birthed a century and a half ago and that has been the cause of more bloodshed, misery and plain wrong-headedness than any other theory.

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## References

1. Kenyon, A., Darwin's 'joint paper', *CEN Tech. J.* **14**(3):72-73, 2000.
2. Brackman, A., *Delicate Arrangement*, Times Books, New York, 1980.
3. 'Darwin's "abstract" actually contained 490 pages and was entitled *On the Origin of Species by Means of Natural Selection or the Preservation of the Favoured Species in the Struggle for Life*, which had been popularly contracted to simply the *Origin*.' See Taylor, I.T., *In the Minds of Men*, TFE Publishing, Toronto, pp. 130-133, 1984.

## Green River fish fossils

The article in the last issue of *TJ* entitled *Fish preservation, fish coprolites and the Green River formation* by D.A. Woolley,<sup>1</sup> missed a rather obvious speculative point. From a catastrophic perspective, fish that bear their young alive should be expected to leave a fossil record of the trauma-induced aborted young, in addition to a record of their trauma-induced tetany and fecal remains. Indeed, such appears to be the case. In the evolutionary book *Discovering Fossil Fishes*<sup>2</sup> we find a photograph of a fossil stingray from the Green River formation. This 30-cm *Heliobatis* stingray is surrounded by three small pups each 4 cm long. The author discusses this event in pages 108-114 of his book. He reasons