

The Paleogene Richmond Formation of Jamaica: Not an impact related succession - a comment

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Introduction

Donovan & Pickerill published a short paper in 2008 which was essentially a comment on just part of an earlier contribution (James, 2005) on a broader topic. Although the latter was published in *Caribbean Journal of Earth Sciences*, to which Donovan & Pickerill originally submitted their paper, this journal has not been published since late 2005. Of necessity, this discussion has moved elsewhere.

Discussion

I did not argue that many successions are related to the K/T boundary, I suggested that since many range from Cretaceous to Middle Eocene that if we take out reworked material this age range could collapse upward to the later boundary. The title of my paper does not mention Cretaceous.

I quoted Trechmann as follows: "Trechmann (1924) likened the Palaeocene-early Eocene Richmond Formation of Jamaica and its conglomerates to the flysch and Nagelfluhe of the European Alpine system and Switzerland, respectively. Conglomerates near the base of the section contain Cretaceous, rudist-bearing limestones, gneiss, schist, quartzite, clay slate, veined jasper-like rocks, chert, marble and various igneous rocks and occasional silicified wood."

This does not mean that I interpret the Richmond Formation to be Cretaceous any more than it is the same age as the other disparate rocks it contains. My Table I lists the formation as Paleocene - Eocene.

However, I would be very interested if you could tell me more about those gneiss, schist, quartzite, clay slate, jasper, chert, marble, igneous rocks and silicified wood. Are any of them dated? If not, why not? What was the provenance? Presumably a basement with a range of lithologies? Where was it?

Over 130 references is pretty comprehensive. When you say I ignored some papers you imply a decision to do so on my part. You might, instead, consider that publications

of the Geological Society of Jamaica are not widely available and that I simply did not know of the references you quote. However, I am glad you quote these works.

Your statement "The obvious gaps in the bibliography of James (2005) do not inspire confidence in any of his speculations as applied to other parts of the Caribbean region" is insinuation. It would be constructive and scientific if you were to point out actual deficiencies.

You are correct when you point out that curious mixtures of rocks can arise by gravity collapse of island margins. It would be courteous and ethical to acknowledge that I discuss this possibility in my paper.

At the end of the day I hope we are all pursuing understanding of Caribbean geology. So I think it would be helpful if you could discuss why the Richmond Formation seems to range up to the Middle Eocene and is overlain (locally) by the Font Hill limestone, with exotic masses of the Richmond. Can you think of reasons why this succession is so common around the Caribbean? This was the focus of my paper, not the K/T impact.

References

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- Trechmann, C.T. 1924. The Carbonaceous Shale or Richmond Formation of Jamaica. *Geological Magazine*, **61**: 2-19.