**Dear Editor,**

**Below we provide our Reply to the Reviewers comments for the second revision of our manuscript entitled, “*Isthminia panamensis*, a new fossil inioid (Mammalia, Cetacea) from the Chagres Formation of Panama and the evolution of ‘river dolphins’ in the Americas.”**

**The revised text addresses all of these final concerns, and we have carefully proofread and edited the final document (along with the figures and supplemental materials) with an eye for any outstanding edits, cumbersome text, missing references/taxonomic authorities or typographic errors. Below, we clarify these final changes, and also why we disagree with Reviewer 2’s final suggestions. We hope that this version will be ready for acceptance.**

**As noted in the statement of competing interest, primary author Nicholas D. Pyenson is currently serving as an academic editor for *PeerJ*. This does not alter our adherence to *PeerJ*’s policies on sharing data and materials.**

**Thank you for your consideration.**

**Sincerely,**

**N. D. Pyenson et al.**

**REPLY IN BOLD, PRECEDED BY AN ARROW “>”**

Editor's comments

While both reviewers have made a recommendation of 'accept', I have made the decision of 'minor revision'. This is due to the comments of reviewer two made in regards to the diagnosis. His comments should be quick and easy to make, and once done so I can foresee no reason not to accept the manuscript.

Reviewer two also mentions typos in the manuscript. Can the authors make one final read through of the manuscript as well.

**> We thank the Editor for these suggestions. Please see below regarding our reply to Reviewer 2’s suggestions. We have fixed the typos mentioned by Reviewer 2 and made a rigorous final pass, correcting small errors, as suggested.**

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Reviewer Comments
Reviewer 1 (Anonymous)
Basic reporting

No Comments

Experimental design

No Comments

Validity of the findings

No Comments

Comments for the author

The revised version of the manuscript is significantly improved, especially in terms of stratigraphy and ecology. The arguments supporting the authors' views on taxonomic position and phylogeny of the new genus still seem to be challengeable. However, this is a subjective view which cannot impede the publication.

> **OK, we thank Reviewer 1.**

Reviewer 2 (Tomas Hrbek)
Basic reporting

No comments, everything appears to be OK.

Experimental design

No comments

Validity of the findings

No comments

Comments for the author

I believe the authors successfully addressed all my comments and those of the other reviewer. I am happy with the form that the MS is in now, but see rest of the comments.

**> OK. See below.**

With respect to the diagnosis of the new genus and species, both the other reviewer and I asked for an explicit diagnostic section, which suggests that for both us the diagnosis was unclear, although, as the authors point out, the MS contains a three page diagnosis. I carefully read though this section again, and I think it was unclear for several reasons including that the diagnosis is of both the species and the genus, and the diagnosis is also a statement of the phylogenetic relationship of the new species, establishing that it belongs to the Pan-Inia clade, and that it is sister taxon to Inia.

Thus while I recommend accept, I suggest that the diagnosis is restructure in the final version of this MS in a way I believe will make it easier to follow. I suggest this order:
1) The first paragraph L279-285 is kept (establishing that the new species belongs in Inioidea)
2) Second paragraph L323-331 establishes that this species is distinct and diagnosable via autapomorphies from all other Iniodea species (currently the last paragraph of the diagnosis)
3) Third paragraph L287-306 establishes through combination of characters that it is not a member of one of the existing genera (currently the second paragraph of the diagnosis)
4) Fourth paragraph L308-321 establishes that the new species is within the Pan-Inia clade, and is sister to Inia (currently the third paragraph of the diagnosis - this section in a strict sense is not a diagnosis, and this perhaps should be indicated via a heading or sub-heading such as "Phylogenetic relationships to other Inioidea taxa")

I also realize that given that most of the genera are monotypic, sections 2 and 3 in practice diagnose the same thing, that the new species is distinct from all others, but given that section 2 lists autapomorphies while section 3 lists combinations of characters, from a diagnostic point of view, autapomorphies provide better diagnoses, and in my opinion should be listed first.

**> We thank Reviewer 2 for these comments, but we strongly disagree with the suggested changes to the structure of the diagnosis section. As currently articulated in the Diagnosis section, the differential itemization of character states proceeds from more to less inclusive, following a typical structure that parallels the nomenclatural hierarchy in the systematic paleontology section. Reviewer 2 suggests altering this successive nesting by reversing the structure, but only after the initial paragraph, which is confusing and misguided because practicing systematists expect a rational sequence of taxonomic succession from more to less inclusive. The suggestion also contravenes traditional structures deployed in the modern systematic literature. Thus, we decline to follow these suggestions and retain the structure as it currently stands, which was accepted by both reviewers.**

Last there are few typos (Cooke et al. 2011 in the text and Cooke et al. 2012 in the bibliography; L1801 "heursitics"; and few others which I am sure will be fixed during copy editing)

**> Done. We have also made a rigorous final pass through the text, figures and supplemental materials.**