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Proof of the manuscript (APP-01105-2023-02)

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21 December 2023 at 01:32

To: "daniel.barta@okstate.edu" <daniel.barta@okstate.edu>

Cc: Aleksandra Szmielew <szmielew@twarda.pan.pl>, Mathew Wedel <mathew.wedel@gmail.com>

Hello, Daniel and Aleksandra.

Here are the changes to be made to the text of this paper, and my responses to your specific questions. I will send the revised figures separately if we conclude that this is necessary.

Page 1

- Your revised title, adding the words "the sauropod dinosaur" is an improvement, which I gratefully accept.
- In the manuscript as reviewed, I omitted the species names of monospecific genera, but I'm happy for them to be added in if that's house style. In the abstract, the species are *Brontosaurus excelsus* and *Giraffatitan brancai* — and, of course, *Brachiosaurus altithorax*.

Page 2

- In the list of institutional abbreviations, the address for MB should be "Humboldt Museum für Naturkunde Berlin, Berlin, Germany". The first Berlin is part of the name, the second is the city in which it is found.
- It looks as though house style is to omit the state from addresses in the USA: you have removed these from most of the addresses we gave. If that's intentional, you may wish also to remove the "Connecticut" from the address of the YPM in New Haven.
- Six lines from the end of this page we have: "similar to that figured by Marsh on the cervical vertebrae of *Apatosaurus*,". The comma at the end should be a full stop.
- We do not need the illustrations to be reproduced in colour in the printed version with the exception of Figure 3 — the one with the red/cyan anaglyph. This should be printed in colour, and we accept the 44 Euro charge for this. The other illustration can be automatically converted to greyscale.
- You have requested the addition of scalebars to this and other illustrations. Their omission was intentional, and we would prefer not to insert them. We dislike scalebars because they are inevitably misleading. It is much better to give an explicit measurement, and we have done this for the relevant bones and significant features. More of our thoughts on scalebars can be found in the comment thread beginning at <https://svpow.com/2013/03/15/our-neural-spine-bifurcation-paper-is-out/#comment-29198>
- The authority for *Camarasaurus supremus* is Cope 1877, and the corresponding reference is: Cope, Edward D. 1877. On a gigantic saurian from the Dakota epoch of Colorado. *Paleontology Bulletin* 25:5-10.
- We describe the rib (part B) of this figure as "modified from left rib 4 (mirrored)". Please delete "(mirrored)".
- In the caption to Figure 1, you have inserted a query "{above plate?}". The caption as written is correct: Osborn and Mook 1921 has both figures and plates: the vertebra is from a plate and the rib from a figure.
- In the caption to Figure 1, you have struck through the text "to the" in the phrase "due to the parapophyses being located more anteriorly than the diapophyses". These words should be retained.
- In the caption to Figure 1, "photograph by author" should specify MPT.
- The authority for *Apatosaurus louisae* is Holland 1915, and the corresponding reference is: Holland, William. J. 1915. A new species of *Apatosaurus*. *Annals of the Carnegie Museum* 10:143-145.

Page 3

- We refer to "Riggs's "second tubercle"" and you have inserted a query "({year?})". But Riggs refers to this in all three papers. If you wish, you can add "(1901, 1903, 1904)" here.
- In the caption to Figure 2, you have inserted the words "Sauropod dinosaur". That's fine.
- In the caption to Figure 2, you request the locality and age of the *Brachiosaurus altithorax* holotype FMNH PR 25107. It is from Dinosaur Quarry No. 13 near Grand Junction, Colorado, and dates to the Kimmeridgian–Tithonian ages of the Late Jurassic.

Page 4

- In the caption to Figure 3, locality and age is as given for Figure 2 above.
- As noted above, we are happy to pay for colour reproduction of Figure 3, due to the presence of a red-cyan

anaglyph that will otherwise be incomprehensible.

Page 5

- Near the bottom of column one you ask for "{year?}" in the statement "Riggs {year?} did not give a count of these ribs". But Riggs does not give a count in any of the three papers. If you wish, you can add "(1901, 1903, 1904)" here.
- Very near the bottom of column one we wrote "Two of the ribs are preserved in much more detail than the others — in particular, they are the only ribs that preserve the capitulum and tuberculum". You replaced the em-dash with a comma, making the sentence a run-on. Please reinstate the dash; or, if you prefer, substitute a colon.
- At the top of column 2: "**Rib A** (Fig. 2).—It was illustrated by ...". Please replace "It" with "This".
- At the bottom of column 2: "**Rib B** ({Fig. ?}).—It was not described". This should refer to Fig 3., and the "It" should be replaced by "This".
- In the caption to Figure 4, the authority for *Apatosaurus ajax* is Marsh 1877 and the corresponding reference is: Marsh, Othniel C. 1877. Notice of new dinosaurian reptiles from the Jurassic formation. *American Journal of Science* **3(14)**:514–516.
- The locality and age of the *Apatosaurus ajax* rib illustrated in Figure 4 are not known — nor indeed is the specimen number.

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- All the comments on this page refer to the caption of Figure 5.
- The authority for *Brontosaurus excelsus* is Marsh 1879 and the corresponding reference is: Marsh, Othniel C. 1879. Notice of new Jurassic reptiles. *American Journal of Science* **18(108)**:501–505.
- The authority for *Giraffatitan brancai* is Janensch 1914 and the corresponding reference is: Janensch, Werner. 1914. Übersicht über der Wirbeltierfauna der Tendaguru-Schichten, nebst einer kurzen Charakterisierung der neu aufgeführten Arten von Sauropoden. *Archiv für Biontologie, Berlin* III, **1(1)**:81-110.
- The authority for *Apatosaurus louisae* is as given above for Figure 1.
- "pneumatic foramen between capitulum and tuberculum and fossa below capitulum": please insert a comma after "tuberculum".
- The authority for *Malawisaurus dixeyi* is Houghton 1928 and the corresponding reference is: Houghton, Sidney H. 1928. On some reptilian remains from the Dinosaur Beds of Nyasaland. *Transactions of the Royal Society of South Africa* **16**:67–75.
- The authority for *Brontomerus mcintoshii* is Taylor et al. 2011 and the corresponding reference is: Taylor, Michael P., Mathew J. Wedel and Richard L. Cifelli. 2011. A new sauropod dinosaur from the Lower Cretaceous Cedar Mountain Formation, Utah, USA. *Acta Palaeontologica Polonica* **56(1)**:75-98. doi:10.4202/app.2010.0073
- The authority for *Rapetosaurus krausei* is Curry Rogers and Forster 2001 and the corresponding reference is: Curry Rogers, Kristina and Catherine A. Forster. 2001. The last of the dinosaur titans: a new sauropod from Madagascar. *Nature* **412**:530–534.
- The authority for *Rukwatitan bisepultus* is Gorscak et al., 2014 and the corresponding reference is: Gorscak, Eric, and Patrick M. O'Connor. 2019. A new African titanosaurian sauropod dinosaur from the middle Cretaceous Galula Formation (Mtuka Member), Rukwa Rift Basin, Southwestern Tanzania. *PLOS ONE* **14(2)**:e0211412. doi:10.1371/journal.pone.0211412
- "highlights indication the locations": please replace "indication" with "indicating".
- I do not see the purpose or value of providing the locality and age for each of the illustrations reproduced in Figure 5. It's not like the situation with Figures 2 and 3 where we are illustrating the paper's primary specimens. We didn't do this for such illustration in previous APP papers, e.g. Taylor et al. 2011:figures 3 and 9 at <https://app.pan.pl/archive/published/app56/app20100073.pdf>

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- At the top of column 1, "Riggs's descriptions mention Rib A and possibly Rib B". If you really want to add "(1901, 1903, 1904)" here, feel free, but I'm not convinced it adds any new information.
- Section heading "**Pneumaticity in ribs of referred *Brachiosaurus* specimens**" — we are happy to retain this as it is.
- "There are no discernible pneumatic features on any of these ribs in Jensen's (year: fig. ?) illustrations". If you think it clarifies matters, you can insert "(1985, 1987)" here, but surely this is obvious from context?
- At the bottom of the page: "Wedel and Taylor ({until accepted, unpublished data})". This is a manuscript in revision at PeerJ, accepted subject to the revisions, and should be cited as such so that readers can find the indicated information.

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- Two thirds of the way down the first column: "Variability of pneumatic features in sauropod bones has been documented in the literature, differences between ...". In the manuscript as submitted, the comma after literature was an em-dash. As amended here, it is a run-on sentence. Please either reinstate the em-dash or substitute a colon.
- At the start of the next paragraph: "one or two ribs in a given individual;". Please replace the semicolon with a colon.
- Bottom of column 1: "(Janensch 1950{a,b?})". Thanks for catching this! This citation is to Janensch 1950b.
- Top of column 2: the reference to *Giraffatitan* should be to *Giraffatitan brancai*.
- In the acknowledgements, the following species should be references in place of their genera: *Malawisaurus dixeyi*, *Rukwatitan bisepultus*, *Rapetosaurus krausei*.
- Institutions mentioned in the acknowledgements are in the following towns: Ohio University, Athens, Ohio; Macalester College, Saint Paul, Minnesota; Oklahoma State University, Stillwater, Oklahoma.
- Colin Boisvert's affiliation is UC Davis, Davis, California.

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- Institutions mentioned in the acknowledgements are in the following towns: Utah Tech University, St. George, Utah; Universidad Nacional de Río Negro, Río Negro Province, Argentina.
- The Maltese et al. 2018 reference is: Maltese, Anthony, Emanuel Tschopp, Femke Holwerda and David Burnham. 2018. The real Bigfoot: a pes from Wyoming, USA is the largest sauropod pes ever reported and the northern-most occurrence of brachiosaurids in the Upper Jurassic Morrison Formation. *PeerJ* 6:e5250. doi:10.7717/peerj.5250
- The publisher of Marsh 1896 is the Government Print Office, Washington DC. So far as I can tell, there is no named editor.

I believe that's everything. Do let me know if you need anything more!

-- Mike.

[Quoted text hidden]