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Sauropods under one (very high) roof

RECOMMENDATION

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Based on reviews by:

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A recommendation of

Tschopp E, Whitlock JA, Woodruff DC, Foster JR, Lei R, and Giovanardi S (2019). The Morrison Formation Sauropod Consensus: A freely accessible online spreadsheet of collected sauropod specimens, their housing institutions, contents, references, localities, and other potentially useful information. PaleorXiv — ver. 3 peer-reviewed by PCI Paleo. DOI: 10.31233/osf.io/ydvra

Fossils get around. Any one fossil locality might be sampled by several collectors from as many institutions around the world. Alternatively, a single collector might heavily sample a site, and sell or trade parts of their collection to other institutions, scattering the fossils far and wide. These practices have the advantage of making fossils from any one locality available to researchers across the globe. However, they also have the disadvantage that, in order to systematically survey any one species, a researcher must follow innumerable trails of breadcrumb to get to where the relevant materials are held.

This is true of many famous fossil localities, such as the Eocene Green River Formation in the USA, the Cretaceous Kem Kem beds of Morocco, or the Devonian Miguasha cliffs of Canada. It is especially true of the Upper Jurassic deposits of the Morrison Formation in the western USA, which have yielded an impressive assemblage of megaherbivorous sauropod dinosaurs over the last 150 years. Today, these bones are to be found in museums not just in the USA, but also in Canada, Argentina, Japan, Australia, Malaysia, South Africa, and throughout Europe. Trawling museum databases in search of sauropod material from the Morrison Formation can therefore be a daunting task, never mind traveling the globe to actually study them.

A new paper by Tschopp et al. (2019) seeks to ease the burden on sauropod researchers by introducing a database of Morrison Formation sauropods, consisting of over 3000 specimens housed in nearly 40 institutions around the world. The authors are themselves sauropod workers and, having suffered first-hand the plight of studying material from the Morrison Formation, came up with a solution to the problem of keeping track of it all. The database is founded largely on material personally seen by the authors, supplemented by information from the literature and museum catalogs. The database further provides information on bone representation, ontogeny, locality details, and fine-scale stratigraphy, among other fields. Like any database, it is a living document that will continue to grow as new finds are made. Tschopp et al. (2019) have wisely chosen to allow others to contribute to the listing, but changes must first be vetted for accuracy. This product represents 10 years of work, and I have little doubt that



it will be well-received by those of us who work on dinosaurs. Speaking personally, my PhD research on megaherbivorous dinosaurs from the Dinosaur Park Formation of Canada led me to institutions in Canada, the USA, and the UK, and further stops to Spain and Argentina would have been beneficial, if affordable. Planning for this work would have been greatly assisted by a database like the one provided us by Tschopp et al. (2019). Many a future graduate student will undoubtedly owe them a debt of gratitude.

References

Tschopp E, Whitlock JA, Woodruff DC, Foster JR, Lei R, and Giovanardi S (2019). The Morrison Formation Sauropod Consensus: A freely accessible online spreadsheet of collected sauropod specimens, their housing institutions, contents, references, localities, and other potentially useful information. *PaleorXiv* — ver. 3 peer-reviewed by PCI Paleo. DOI: 10.31233/osf.io/ydvra.

Appendix

Reviews by Kenneth Carpenter and Femke Holwerda, DOI: 10.24072/pci.paleo.100003.