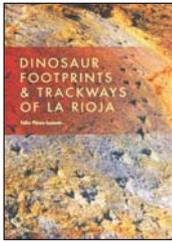




Tracking dinosaurs in Spain



Félix Pérez-Lorente 2015. *Dinosaur Footprints and Trackways of La Rioja*. 376 pp. Indiana University Press. Hardcover. ISBN: 978-0-253-01515-0. Price \$85.00/£61.00; e-book \$84.99.

This is a book with a story and a lesson. The story is the discovery of dinosaur tracksites of the Iberian Peninsula and more specifically La Rioja. The lesson is that there is a lot of understanding that can be inferred without

resorting to expensive scanning techniques. The variety of form, type and taphonomy of those described from the Spanish La Rioja region by Pérez-Lorente is all that is needed to understand dinosaur tracks worldwide. With a wealth of expertise and experience of dinosaur tracks and other ichnites from the Triassic to Miocene of Spain and Morocco, Pérez-Lorente is eminently qualified to introduce us to his *tapas* of Iberian dinosaur ichnology.

The book begins with a description of the global significance of the La Rioja dinosaur trackways with over 25 000 and maybe as many as 70 000 tracks that could be eventually uncovered. Known of since 1969, dinosaur tracks in La Rioja have continued to be an important region for research. New discoveries have been made continuously with the enthusiasm various researchers as well as a school teacher and his students. Pérez-Lorente describes the Late Jurassic to Early Cretaceous La Rioja tracksites that have been covered in the literature, as well as indicating where there are others that have not. The second chapter on ichnology covers all aspects of the interpretation of trackways from their preservation in different environments to their shapes and the track-makers behaviour. He carefully circumvents the controversy of swimming tracks by describing the possibility of such tracks in the La Virgen del Campo and El Villar-Poyales tracksites.

The tracksites that Pérez-Lorente selects are for the variety of tracks and their significance in helping us to better understand their environments and ecological interpretation. With simple and accurate maps, relevant quality photographs and diagrams, the features of the tracksites as well as the behaviour of the dinosaurs is easy to follow and guides the reader towards an inevitable interpretation. The third chapter reads like a field guide taking us on a trip close to some of the best wine-making areas in La Rioja—especially the area south of Logroño near to Arnedo. It is worth mentioning that some of the sites mentioned in the book also form part of the Dinosaur Route promoted by *España es Cultura* for tourism in La Rioja (which includes *Yacimientos*

de Icnitas [tracksites] at Enciso, Munilla, Arnedillo, Préjano, Cornago, and Igea), so well worth a visit!

The taxonomy of the tracks is covered in a sensibly cautious manner. The ichnogenera are mentioned where they have been described in the past, but Pérez-Lorente is prudent and questions to usefulness of ichnotaxa other than to assign them to the highest taxonomic groupings of sauropod, theropod and ornithopod. A position I agree with whole heartedly.

There are five chapters in the book. The first is an introduction to the history of La Rioja tracksites (12 pages), the second is on the ichnology and how to interpret tracks and trackways (23 pages), but the third is the largest, and most important, chapter on the sites themselves (277 pages) with the remainder chapters on the conservation (8 pages) and the summary (15 pages). The table of contents is sparse with only the five chapter headings mentioned. I would have preferred the table of contents to have included the sub-headings to help with navigating the rather large third chapter.

Although Thulborn's *Dinosaur Tracks* published in 1990 is probably still oft used as an introduction to the study of dinosaur tracks, it is out of print (although second hand copies appear to be available quite cheaply) and the science has moved on apace. It is therefore timely, that Pérez-Lorente has published this book laying the contextual foundation for the current revolution in dinosaur track imaging and visualisation. It will be an essential read, introducing our understanding and interpretation of dinosaur tracks as a compliment to the forthcoming book of the series *Life of the Past* by Peter Falkingham entitled *Dinosaur Tracks* out next year which will take the study of footprints a step further.

James Farlow, series editor and of this book, stated that it is "likely to become a landmark reference in dinosaur ichnology." I agree with him on this and hope that La Rioja becomes one of the most important training grounds for dinosaur ichnology as a result. If you are a palaeontologist with an interest in dinosaurs, or their footprints, buy this book.

References

- Falkingham, P.L., Marty, D., and Richter, A. (in press). *Dinosaur Tracks: The Next Steps*. Indiana University Press, Bloomington.
Thulborn, R.A. 1990. *Dinosaur Tracks*. 432 pp. Chapman and Hall, London.

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