

It is just possible that in the Canadian areas that have been referred to the Belly River beds two or more distinct horizons have been confused under one name. In fact the late Dr. George M. Dawson admits this possibility in one of his early descriptions\* of the Belly River beds, stating that in certain areas the beds assigned to the Belly River might be supposed to *overlie* the Pierre shales rather than underlie them. His descriptions and the invertebrate fossils that he reports arouse the suspicion that at some localities the formation includes the Fox Hills and the Judith River beds.

Whether the subsequent work of the Canadian geologists has removed all grounds for doubt as to the stratigraphy in all the Belly River areas and whether these doubts could reasonably involve any of the localities at which vertebrate remains were obtained I have not been able to learn from the published reports. These queries are worthy of the attention of those familiar with the field.

The point which I wish to emphasize is the truth of Professor Osborn's statement that 'the true Judith River beds certainly overlie the Fort Pierre and are of more recent age.'

T. W. STANTON.

WASHINGTON, D. C.,  
November 25, 1902.

#### THE PRICKLES OF *XANTHOXYLUM*.

IN No. 413 of SCIENCE, p. 871, there appeared a note calling attention to an error which occurs in some books regarding the nature of the prickles of *Xanthoxylum*. As in that note also the 'Cyclopedia of American Horticulture' is cited as making the erroneous statement that the paired prickles at the base of the petioles are stipular spines, I should like to point out that this statement is made only in the illustration, while in the text these bodies are always called prickles, though no particular mention is made of the occasional occurrence of paired prickles at the base of the petioles, and none of the absence of stipules in the genus, since this is a character common to the whole family of

Rutaceae. The discrepancy of text and illustration is explained by the fact that the illustration was inserted without my knowledge after I had sent in my manuscript and that I had no opportunity to read proofs of my articles in the fourth volume of that work, since I was abroad in Europe during the time it was printed. If I had considered the prickles in *Xanthoxylum* metamorphosed stipules, I certainly should have spoken of them as spines and not as prickles. There occurs a similar arrangement of prickles in some species of roses, chiefly in species of the sections *Cinnamomeæ* and *Carolinæ*, but in this case no doubt can arise of their nature, since the true stipules are conspicuously present, usually adnate to the petioles. In both genera these prickly bodies are simply outgrowths of the epidermis and, therefore, morphologically to be considered prickles, though they might, in regard to their ecological significance, possibly be considered equivalent to stipular spines.

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ARNOLD ARBORETUM.

#### NATURAL HISTORY IN ENGLAND.

IN a letter to the editor of SCIENCE, December 5, 1902, Professor Packard writes as follows:

"Our American children are \* \* \* woefully lacking in interest in natural history \* \* \* far behind German, and even English children, I fancy."

The 'even' in this sentence staggered me so completely that I am moved to write in protest—or at least in inquiry. I received my school education—the regular English classical course—in Sussex and Worcestershire, and spent various holidays in Devonshire. I thus had groups of boy friends and acquaintances in three English counties. So far as I remember, it was a matter of course that we should be interested in some branch of natural history. At any rate, I can now recall but two exceptions to this rule from the whole list of my schooltime friends. And I well remember that our natural history interests proved a bond of friendship with farmers' boys and gamekeepers' sons, with whom we should otherwise, as public-school boys, have been at daggers drawn.

\* Geol. Surv. Canada, 'Rept. of Progress for 1882-83-84,' pp. 118-126 C.