

Letter from Prof Hall to Dr Dutton
Albany between 21st 1862
on the probable connection of Platichites
with animals resembling Limulus.

*See last page of
Albany*

I have been much interested in reading your observations upon the tracks of Limulus in sand, and comparisons with the tracks in the Potsdam sandstone; and more especially as these observations ~~are~~ ^{apparently} correct themselves ~~in~~ ^{at} ~~at the risk of a charge of plagiarism~~ and a question in a remarkable manner, with a view ^{of my own} ~~to~~ ^{to} whether you have described ^{an} ~~the~~ animal which I have found, or I have found the animal corresponding to your description, I will leave you and the scientific world to judge of the facts. However, after what you have written, I cannot now publish what I communicated to the Albany Institute last winter, without referring to your paper, and in ~~order to avoid any mis-~~ ^{the mean time} ~~understanding~~, you ~~will oblige me by~~ ^{may} laying this note before the Montreal Natural History Society, and publishing it or such parts of it as you please.

In February last, I communicated to the Albany Institute a notice of a new Crustacean from the Potsdam Sandstone of Wisconsin, and subsequently I sent a drawing of the same to Mr. Barrande.

In 1855, I obtained, from the Potsdam Sandstone of the Upper Mississippi river, a fragment of what
Canadian Naturalist and Geologist, for August, 1862.

appeared to be a spine of a Crustacean, of very remarkable and peculiar structure, reminding one of bony structure, and which might at one time, before we had accustomed ourselves to limit the geological range of Fishes, have been taken for an ichthyic remain.

This fragment remained in my collection a subject of much interest, for I was aware from its structure that it could belong to no genus of Trilobites; but at the same time I did not think it worth while to publish any notice of it from its incompleteness.

In 1857 ~~or 1858~~, Mr Daniels of the Geological Survey of Wisconsin, discovered in the Potsdam Sandstone of Black River in that State, tracks similar to those described by Sir W. L. Logan in the Sandstone of Canada. This added a new interest to the unknown Crustacean fragment; - and in 1860 I visited the Black River region to procure if possible some of these impressions. I failed however in finding the precise locality; and in 1861 I sent my assistant in the Wisconsin Survey, Mr Hale, to make farther explorations, but he did not succeed in finding any thing of interest. At another locality however he obtained some fragments of the Crustacean before mentioned, among which are two cephalic shields sufficiently perfect to be characterized. I inclose you a drawing of one of these.

The relations to *Limulus* are at once suggested by the form and expression of these ^{carapaces} ~~shields~~, while the large prominent eye tubercles hold relatively the same position as the small approximate oculiform tubercles or spots on the anterior part of the shield in *Limulus* (and also in *Eurypterus*). The ^{carapace} ~~shield~~ is proportionally flatter than in *Limulus*, and has, like that, a strong thickened border; the posterior angles rounded. The margin is impressed or sinuate in front, and there are slight indications of longitudinal grooves on each side of the central, leaving a median lobe proportionally wider than in *Limulus*. The eyes though imperfect remind one somewhat of the eyes of *Trilobites*, and are remarkably prominent.

There is a single fragment of what appears to have been an articulation of the thorax, or a portion of some appendage analogous to the branchial feet of *Limulus*; it is a flattened, curving, pointed extremity. Another fragment I infer may have been the caudal extremity; it is comparatively thick and strong; but the specimen is too imperfect to be determined. The first specimen I obtained is a straight spine-like body, and I infer that the animal may have been provided with a caudal spine, as in *Limulus*.

Prof Wall Oct 31

Such in general are the characters of this Crustacean. Whether this may have been the animal making the peculiar tracks in the sandstone, I cannot say, but I have so inferred. The first specimen was found at a distance of thirty miles or more in a northwesterly direction from the locality of the tracks of Black river, and in higher beds of the sandstone. The last found specimens are from a more distant locality in a southeasterly direction, and also from beds above those of the tracks. All this however cannot furnish matter for argument against the origin of the tracks, in the present state of our knowledge of a country, which has been comparatively but little explored.

Whatever may be proved hereafter in this respect, it does not diminish the great interest attached to so new and remarkable a form of Crustacean from the unequivocal primordial zone of the Northwest.

I am very sincerely
Yours

Jaynes Hall