

recent scorpions this segment is not visible in any position (at least, not in any which I have examined), there being only five ventral plates of the abdomen; while here there are six in sight, which are almost exactly coincident with the dorsals in position. Another feature, I feel, ought to be noticed here. In recent scorpions the tail-segments seem as if reversed in position; that is, when straightened out on a plane with the abdomen, what would appear as the dorsal surface is below, and the bend of the articulations is upward. In this one it has been exactly the reverse; the under surface, as shown on the specimen, presenting only the two longitudinal ridges, and showing also the sinus at the posterior part of the segments occupied by the chitinous portion of the joint. The Swedish specimen would also appear to present this feature, as the upper surface, as figured on Thorell and Lindström's plate, shows the four ridges of the dorsal side of the tail-segments. The proportionate breadth of the body would indicate the American individual as a female, as it is of an elongate, oval form, being half as wide across the fourth dorsal segment as the entire length of the abdomen.

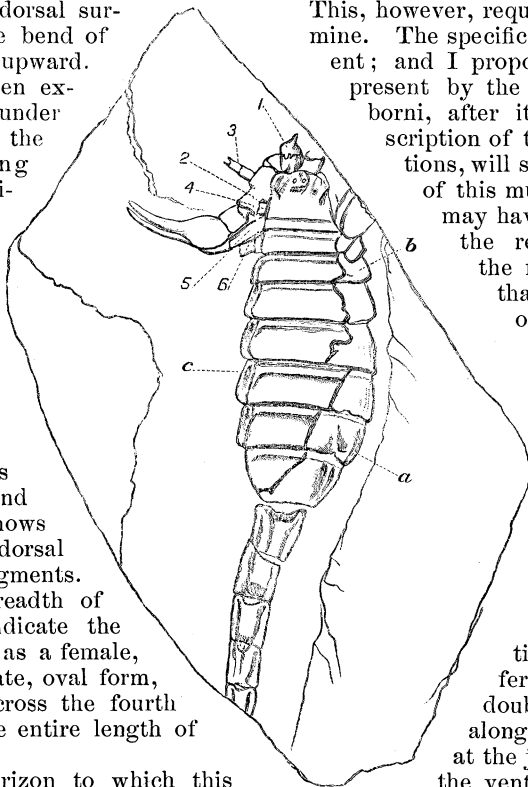
The geological horizon to which this American specimen belongs is that of the water-lime group, at the extreme base of, or perhaps more properly below, the lower Helderberg group (equivalent to the Onondaga salt group of central and western New York), and is nearly the same as that from which the Swedish specimen was obtained, probably somewhat lower. The associated fossils are *Eurypterus remipes* DeKay, *Dolichopterus macrocheirus* Hall (only lately obtained from this locality), *Pterygotus Osborni* Hall, and *Leperditia alta* Conrad. In other parts of the state, other forms of *Eurypteri* are found; also *Ceraticaris*, with a very few molluscan forms, — all indicating a marine deposit. The fossils associated with the Swedish specimen are closely similar to the above in part. But many of the

brachiopods mentioned as occurring there are allied to forms occurring in beds below, while others would indicate a horizon of lower Helderberg age; so that we may infer that the two forms belong very nearly in the same position geologically.

The zoölogical affinities of the American scorpion very closely resemble those of the Swedish specimen; and it may, perhaps, be classed under the same genus, *Palaeophonus*. This, however, requires further study to determine. The specific relations are quite different; and I propose to designate it for the present by the name *Palaeophonus Osborni*, after its discoverer. A full description of the specimen, with illustrations, will shortly be given in a bulletin of this museum. It is possible this may have been a land-animal, like the recent scorpions, certainly the natural inference would be that it was; and the finding of an undoubted stigmata in one of the ventral plates of the Swedish specimen would certainly lend strength to the supposition. But on this American specimen, where one end of each of the ventral plates is exposed to view, the stigmata certainly ought to appear; but it would require so great a stretch of imagination to see them, that I prefer to leave them as extremely doubtful. There are, however, along the left side of the body, at the junction of the dorsal with the ventral plates, in what should be the flexible chitinous membrane of the four stigmatic segments, what might very readily be interpreted as stigmatic openings(c); but these are so anomalous in their position that I have as yet felt uncertain of their nature, and also of the terrestrial character of the animal.

R. P. WHITFIELD.

Amer. museum natural history,
New-York City.



AN EVENING IN CAMP AMONG THE OMAHAS.

WE had just finished our supper in the long conical shadow of the tent; and, the dishes being disposed of, we settled ourselves for the

evening chat. While Ma-wa-da-ne was filling his pipe, the other four men disposed themselves comfortably preparatory to the enjoyment of the smoke. Te-me-ha, with her usual industry, had spread upon her lap the brilliant-colored porcupine-quills with which she was embroidering a pair of moccasins, while old Me-pe sat rocking to and fro, and dividing her attentions between the gay-colored quills and the fringe of my wrap. After the ceremonial round of the pipe, I said to the men, —

“You do your share in this embroidery, since you capture the porcupine. Tell me about hunting them.”

After a few moments of silence, a smile that broadened into a quiet laugh stole over Ma-wa-da-ne's face; then tightening his blanket about his bent knees, and giving a little shake of the shoulders to settle himself, he began, —

“The porcupine is a great digger, and makes a hole large enough for a man to crawl in. He likes best to live on the brow of a sandy hill, where there are no hollow trees. We hunt them with a long crotched stick. This we thrust into the hole until it strikes the animal; then we twist it to snarl it in the quills and fur. When we think the stick is well caught, we begin to pull gently to draw the animal out. Sometimes the stick loosens, and only the fur comes; then we have to try again, and get a better hold. When the animal is successfully brought to the opening, we look for his head, and give it a sharp, hard stroke with a stick which we carry for the purpose, and so kill him. We then have to skin him, and the women take what they want of the quills.”

The smile had faded during this practical talk, but it returned as Ma-wa-da-ne resumed, —

“There were two Poncas who married sisters. The wives were fond of embroidery, and used so many porcupine-quills that it was hard to keep them supplied. One day they were at work, when they discovered they would very soon be out of quills, and each wife began to tease her husband to go hunting for porcupine. The young men were newly married, and wanted to please their wives: so, after enjoying the teasing a while, the men started, each going his own way toward the sand-hills. As one of them sped along, he noted near the top of a hill the large hole of a porcupine. As he approached the opening, he saw that the hole ran through to the opposite side of the hill. He thrust in his stick to search for the lateral burrows, hoping to find the animal. Creeping into the opening himself, while he was thus engaged, the entrance from the opposite side of the hill slowly darkened, and he discerned, to

his consternation, the figure of a man. Not knowing whether this apparition might be friend or foe, he concluded to keep perfectly still. While thus watching, he felt a stick gently strike his breast; then, with more force, it began to be twisted. He seized it in his hands, holding it firmly, when the holder of the stick began to pull. The man in the hole allowed his arms to be stretched forward a little, and then dropped the stick. By repeating this operation, the outside hunter's enthusiasm was aroused, and he exclaimed, ‘He must be a big fellow!’

“The man in the hole recognized the voice of his brother-in-law, and fear gave place to the desire to play a trick. After baffling the hunter for a while longer, the man crept slowly toward the opening, keeping tight hold of the stick as he advanced, while the hunter kept twisting to make sure of his game. The entrance reached, the make-believe porcupine plunged suddenly forth, exclaiming, ‘What do you want?’

“The terror-stricken hunter dropped his stick, his excitement being too great to recognize his relative, and ran crying, ‘Grandfather, have mercy on me!’ A shout of laughter from the ‘grandfather’ made the hunter turn, and he, too, joined in the laugh.”

When the merriment over the story had subsided, Sin-da-ha-ha remarked, —

“We catch rabbits and raccoons and skunks in the same way. The skunk hears the hunter advancing; and the animal will sometimes come near the entrance of his hole, and pound with his feet, making quite a loud noise, hoping to scare us. When we have thrust in our stick, and twisted it well in the tail, we draw the skunk near the entrance; then we put our arm in the hole, and grasp him tightly around the hind-quarters, pressing the tail firmly against the body; we then draw him out, striking the head quickly to prevent the animal biting. Sometimes we find eight or ten skunks in a single hole, each one of whom will try his charm of drumming on us. Young men like to wear gaiters made of the skunk-skin,” turning, as he said this, to the youngest member of the party, to whom I said, —

“You tell me a story now.”

In a few moments the young man began, —

“When I was young [here the old men shouted, but the young man with a merry twinkle in his eye went on], ‘I was very observing. One day I was looking about me, near the slough back of father's, when I noticed a frog hopping very fast. Suddenly he stopped, and picked up a stick three or four inches long,

and turned, holding it firmly in his mouth. I saw he was being closely chased by a water-snake who tried to swallow the frog, but the stick in the frog's mouth caught in the jaws of the snake. Several times the snake withdrew, and tried to attack the frog from the rear; but he would jump around, and immediately face the snake again. This happened several times; and at last the snake got tired, and slipped off in the bushes, leaving the frog victorious."

"Pretty good," said Wa-ja-pa. "I'll tell you something. Once late in the fall, Badger and I went hunting along the Loup River. We were afoot. We started up several elk, ran them down, and killed one. While I was butchering, Badger returned to camp for a pony to bring in the meat. After I had skinned the animal, and piled the cuts of meat on the skin, I lay down near by in the tall grass, and fell asleep. I was awakened by the sound of footsteps. Rising cautiously, I saw a large gray wolf standing near the meat. When he espied me, he began to growl, showed his teeth, and all the hair on his back stood up. Taking my gun, I levelled it at him, and shot. He was a fine fellow, and, as he fell, I determined to have his skin at once. It was the work of a few moments to flay him. As I threw his skin to one side, the legs of the wolf began to twitch, and the blood to trickle. In a moment the wolf was on his feet, and walking off without his skin.

"I never have believed in dreams, or the wonderful animals they tell about; but, when I saw that wolf walking away, I felt uncomfortable, but I made up my mind to shoot again. I did so, and he fell, and walked no more."

"When I got there with the pony," put in Badger, "I saw the place where the wolf was skinned, and tracked his steps by his blood to where he lay dead from the second shot."

"I remember hearing," said the young man, "Ou-zu-ga-hae and his brother tell that once, when they were flaying a buffalo-bull they had just shot." Then, turning to me, he said, "You remember, we first cut the skin of a bull down the centre of the back, and take off one-half at a time. Well, when the men had one-half the hide off, up got the buffalo-bull, shaking his head and staggering forward. The frightened brothers ran away as fast as their legs could carry them. The bull went but a little distance, fell, and died. It was some time, however, before the brothers could make up their mind to go back and skin the other side of that animal."

Old Me-pe gave a twitch at my wrap, and said, —

"Can't you tell a story?"

"Yes," I replied, "I will tell you about a black hen I once had. A friend sent me a present of a pair of guinea-fowl. By and by the guinea-hen began to lay; and, as I wanted to be sure to raise some fowl, I put ten of her eggs under a little black hen. She sat patiently for three weeks (the time it takes chickens to hatch), but she had to wait another week for the guinea-chicks. When they came out, — little sleek brown things with yellow legs, — the hen was very happy. But she was soon a troubled hen; for, when she clucked and bustled and scratched for them, they all darted away and hid. In her astonishment, as she stood silently looking for them, they would gradually creep back. Then she would cluck and scratch again, desiring to give them something good to eat; but away would dart the chicks, leaving the hen alone. After several such experiences, the hen evidently thought it was the clucking that scared them: so, as she walked along with her brood, she would scratch, but make no sound. Still, every time she scratched, the chicks shot off and hid. Then she thought a second time, and determined to cluck and call them, but not to scratch. This suited the little guineas, and ever after that the black hen and her ten guineas walked among my flowers and vegetable-garden, doing no damage."

"I have heard white men say hens have no sense," said Wa-ja-pa; "but your hen knew something. Of all the animals, I like the beaver best. He is most like a man. He plans and works and builds."

"You wanted to see an artichoke: there is one," said the young man, tossing the little brown root into my lap. "Yesterday evening I found a field-mouse's nest, and he had stored many artichokes. I went back to-day to get you some; but the mouse had been busy all night, transferring his stores to a secret place. Although I tracked him, it was too bad to rob the little fellow: so I only took one for you." I dropped the root into my purse, where it lies to the present day. A. C. FLETCHER.

THE MEXICAN AXOLOTL, AND ITS SUSCEPTIBILITY TO TRANSFORMATIONS.¹

THE prolonged researches of Miss Marie von Chauvin on the biological relations of the amphibians have led to most interesting results concerning the transformability of the Mexican axolotl. The observations published by this lady ten years ago proved that under certain conditions, and by certain treat-

¹ From the *Journal of science*, June, 1885.