

ART. VI. A REVIEW OF THE EURYPTERID RAMI OF THE
GENUS PTERYGOTUS WITH THE DESCRIPTIONS
OF TWO NEW DEVONIAN SPECIES.

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Mr. E. R. Eller, of the Carnegie Museum, Pittsburgh, Pennsylvania, has sent me two very small rami of the chelicerae of species of *Pterygotus* which were collected from Devonian rocks. One was obtained by Mr. Eller in the "Chemung" at Alfred Station, New York, and the other, collected many years ago by Dr. P. E. Raymond and Mr. Earl Douglass, from the green shale of the Three Forks shale, at Three Forks, Montana.

Both specimens are the free rami of the chelicerae and are of interest as representing a type of ramus that is different from the usual form with acutely pointed anterior angle as seen typically in *Pterygotus macrophthalmus* and *P. buffaloensis* from the New York Silurian. In the forms before us the anterior extremity of the ramus is well-rounded and terminating in a long, equally rounded tooth. This type of ramus was known to Clarke and Ruedemann* from *P. cobbi*; (op. cit. p. 371) represented by a single specimen from the Silurian Bertie waterlime of New York, and two possibly young fairly perfect specimens of the same species (*P. cobbi* var. *juvenis*, see ibid. p. 430) and a chelicera (ibid. p. 429) comparable in dimensions to the material before us. In Europe the second group is represented by a chelicera of *P. barrandei* Semper. Besides these we have described in Mem. 14 similar detached rami of *P. monroensis* Sarle (see ibid. p. 380) from the Pittsford shale and of *P. atlanticus* (ibid. p. 356) from the Devonian Dalhousie beds of New Brunswick.

As the species of *Pterygotus* are clearly divided into two groups by this striking difference in the form of the chelicerae it seems desirable to distinguish the groups as subgenera, viz:

*Clarke, J. M. and Ruedemann, R. Eurypterida of New York, N. Y. S. Mus. Mem. 14, 1912.

a. **Pterygotus**, subgenus **Acutiramus** nov.

Rami of chelicerae with subrectangular, acutely pointed extremities and vertically placed terminal teeth. Typical of this group are:

Pterygotus buffaloensis Pohlman, type

P. macrophthalmus Hall

P. osiliensis F. Schmidt

b. **Pterygotus**, subgenus **Curviram** nov.

Rami of chelicerae with rounded extremities and outwardly curved terminal teeth.

Pterygotus cobbi Hall, type

P. cobbi var. *juvenis* Clarke and Ruedemann

P. anglicus Agassiz

P. barrandei Semper

P. monroensis Sarle

P. atlanticus Clarke and Ruedemann

P. elleri Ruedemann

P. montanensis Ruedemann

EXPLANATION OF PLATE.

FIG. 1. *Pterygotus* (*Acutiramus*) *buffaloensis* Pohlman. Natural size. From Clarke and Ruedemann.

FIG. 2. *Pterygotus* (*Acutiramus*) *macrophthalmus* Hall. Natural size. From Clarke and Ruedemann.

FIG. 3. *Pterygotus* (*Acutiramus*) *osiliensis* Schmidt. Natural size. From Zittel and Broili.

FIG. 4. *Pterygotus* (*Curviram*) *cobbi* Hall. $\times \frac{1}{2}$. From Clarke and Ruedemann.

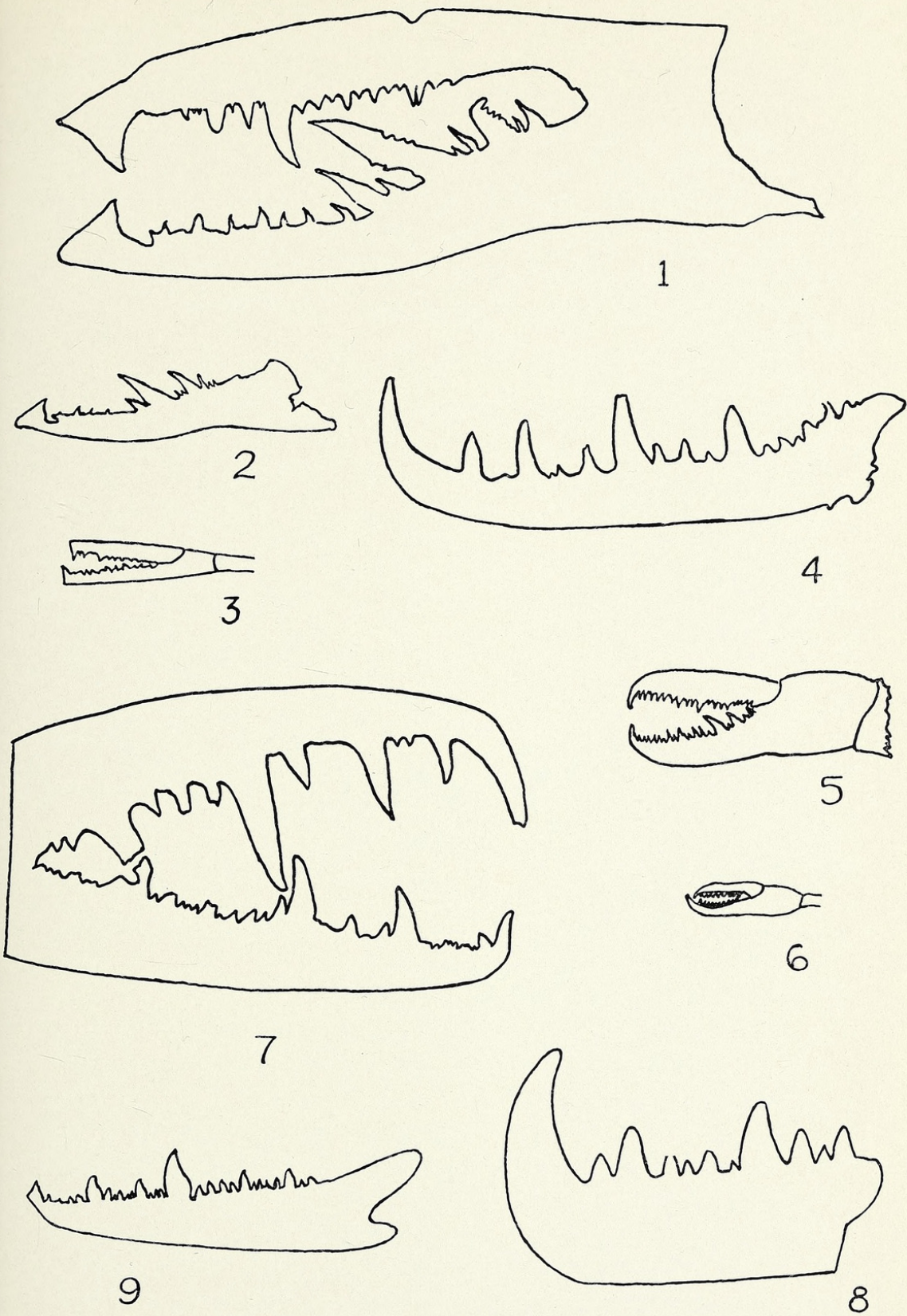
FIG. 5. *Pterygotus* (*Curviram*) *cobbi* var. *juvenis* Clarke and Ruedemann. Natural size. From Clarke and Ruedemann.

FIG. 6. *Pterygotus* (*Curviram*) *anglicus* Agassiz. $\times \frac{1}{3}$. From Zittel and Broili.

FIG. 7. *Pterygotus* (*Curviram*) *barrandei* Semper. $\times \frac{1}{2}$. From Clarke and Ruedemann.

FIG. 8. *Pterygotus* (*Curviram*) *monroensis* Sarle. $\times 3$. From Clarke and Ruedemann.

FIG. 9. *Pterygotus* (*Curviram*) *atlanticus* Clarke and Ruedemann. Natural size. From Clarke and Ruedemann.



Eurypterid Rami of the Genus Pterygotus.

It would seem that the ramus of *Acutiramus* was specialized perhaps for holding very slippery prey. It is suggestive in its harpoon shape, while the other ramus is principally adapted for seizing the prey, by reaching out as far as possible. A comparison of *P. buffaloensis* with *P. anglicus* suggests that there exists further difference between the two subgenera the elucidation of which awaits the finding of more complete specimens of all species.

***Pterygotus (Curviramus) elleri* sp. nov.**

Description. Free ramus of chelicera of relatively short, (l. = 5.1 mm.) solid structure; body of ramus five times as long as wide; expanding from initial width of .75 mm. to one of 1 mm. forward of middle, then rapidly decreasing in width. Basal margin forming an evenly convex curve with terminal tooth, which is slightly curved outward and measures 1.4 mm. in length. The posterior teeth are short (poorly preserved) and vertical in position; the anterior ones fairly long (.9 mm.) and slightly turned forward. The teeth show traces of longitudinal striation.

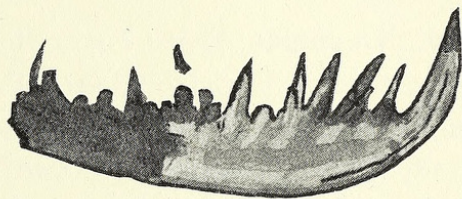


Fig. 1. *Pterygotus (Curviramus) elleri* nov. sp.

Holotype x 8. Carnegie Museum, Section of Invertebrate Paleontology, No. 7220.

Horizon and locality. Devonian "Chemung" beds at Alfred Station, N. Y., E. R. Eller coll. 1934.

Remarks. The small size of the ramus suggests that it is derived from a very young individual. If the chelicera described by us (op. cit. p. 429) as *Pterygotus cobbi* var. *juvenis* actually comes from a young individual of the species, the chelicerae of the young individuals were distinguished from those of the mature individuals by their relatively much shorter and stouter form. The ramus of *P. elleri* is similarly broad and short like that of *P. cobbi* var. *juvenis* and therefore is quite probably from a very young individual. It is distinguished from the Silurian type by the greater development of the terminal tooth.

***Pterygotus (Curviramus) montanensis* sp. nov.**

Description. Free ramus of chelicera fairly slender; body of ramus seven times as long as wide (l. = 8.6 mm., w. = 1.2 mm.); gradually expanding from an initial width of 1 mm. to one of 1.2 mm. near the anterior extremity; with a straight base and a forwardly convex anterior margin leading into the large projecting terminal tooth. Teeth slightly inclined forward; long (about 2 mm.) and slender; increasing in size forward; with minute teeth interspersed. Length of terminal tooth not known.

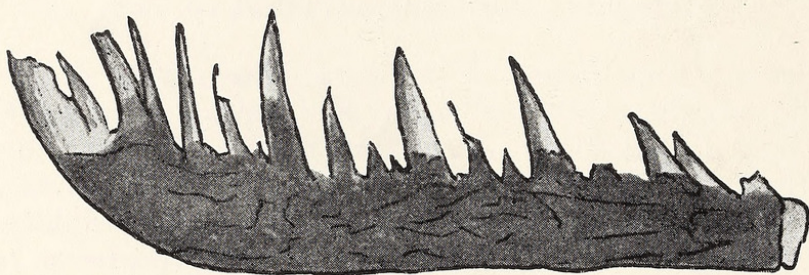


Fig. 2. *Pterygotus (Curviramus) montanensis* nov. sp.

Holotype x 8. Carnegie Museum, Section of Invertebrate Paleontology, No. 7221.

Horizon and locality. Devonian Three Forks shale at Three Forks, Montana. P. E. Raymond and Earl Douglass coll. 1905.

Remarks. The ramus here described as *P. montanensis* is probably also from a young individual; its small size and short, stocky form leave hardly any doubt of that. A distinctive character is the close arrangement and the great length of the acutely pointed teeth. Towards the front, several teeth are clearly alongside of each other, so that it appears that there were double teeth or even a double series, such as is found in the spines of walking legs of the eurypterids.



Ruedemann, Rudolf. 1935. "A review of the Eurypterid remains of the genus *Pterygotus* with the descriptions of two new Devonian species." *Annals of the Carnegie Museum* 24, 69–72. <https://doi.org/10.5962/p.215193>.

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