

impression made in the sand, and the ridges correspond to the depressions made by the gnathobases. The trail numbered 3 is similar to the one described, but the one numbered 2 is of a different sort.

The increase in width of the axial lobe, caused by the development of the gnathobases in the adaptation to the crawling mode of life, explains the parallelism which exists between certain genera of the *Asaphidæ*, and the parallelism between *Nileus* and some of the *Illaenidæ*. A number of forms, arising from different stocks, were becoming adapted to near-shore life, and all found that enlarged gnathobases assisted them in their new mode of life. Thus the narrow-axised *Asaphus* produced *Onchometopus*, *Isoteloides* produced *Isotelus*, and *Symphysurus* developed into *Nileus*, just as some as yet unknown form developed into the *Illaenurus* of the sands of the Potsdam.

LOCALITY.—This species is represented in the collections at the Museum of the Geological Survey by a thorax and pygidium from Deschenes, and a free cheek from Britannia, which are holotype and paratype respectively. There is also a partial thorax and pygidium collected by James Richardson in 1853 from the sandstone of the Chazy at West Hawkesbury. The pygidium of this specimen is 72 mm. long and about 110 mm. wide, and shows a single rib on each pleural lobe. The axial lobe of the thorax is very narrow, being only 33 mm. in width. The total width appears to have been somewhat over 100 mm. The fourth specimen was found loose at Point Claire, but was undoubtedly from the Chazy, which outcrops there. This specimen shows the posterior portion of the hypostoma and portions of six thoracic segments. The forks of the hypostoma are very short, and the body portion is convex. The axial lobe of the thorax is 53 mm. wide, and the total width of the thorax is 160 mm.

EXPLANATION OF PLATE II.

1. *Bathyurus superbus* Raymond. A small cranium. About natural size.
2. The same species. An imperfect thorax and pygidium. Slightly smaller than natural size.
3. The same species. A nearly complete specimen. About natural size.
4. Trail, supposed to be that of an *Isotelus*.
5. Impression of the ventral surface of a trilobite, presumably *Isotelus arenicola*. About one-fifth natural size.