

*Cælospira Scotica*, Clinton, Great Britain (May Hill).  
*Rhynchonella bidentata*, Niagara, Great Britain (Wenlock).  
*Rhynchotreta cuneata*, Niagara, Great Britain (Wenlock), Gothland.  
*Rhynchonella Wilsoni*, Niagara, Great Britain (Wenlock).  
*Rhynchonella Stricklandi*.  
*Pentamerus galeatus*, Helderberg, Great Britain (Wenlock, Ludlow), Eifel.  
*Pentamerus brevirostris*, Niagara, Great Britain (Devonian).  
*Pentamerus oblongus*, Clinton, Niagara, Great Britain (Wenlock).  
*Pentamerus laevis*, Great Britain (Wenlock). — *P. Knightii*, Great Britain (Ludlow).  
*Anastrophia interplicata*, Great Britain.  
*Bellerophon bilobatus*, Trenton to Clinton, Great Britain (Wenlock).  
*Orthoceras annulatum*, Clinton, Niagara, Great Britain (Wenlock, Ludlow).  
*Orthoceras virgatum*, Niagara, Great Britain.  
*Calymene tuberculosa*, Niagara, Great Britain (Bala, Wenlock, Ludlow), Sweden, Norway, Bohemia, France.  
*Homalonotus delphinocephalus*, Clinton, Niagara, Great Britain (May Hill, Wenlock).  
*Proetus Stokesi*, Niagara, Great Britain (Wenlock).  
*Trinucleus concentricus*, Trenton, Hudson, Great Britain (May Hill).  
*Tentaculites ornatus*, Water-lime, Great Britain (May Hill, Ludlow).

#### *Arctic American Upper Silurian Species Occurring Elsewhere.*

*Stromatopora concentrica*, Great Britain, Eifel.  
*Halysites catenulatus*, Great Britain, Norway, Sweden, Russia, United States.  
*Favosites Gothlandicus*, Great Britain, Sweden, United States.  
*Favosites polymorphus*, Great Britain, France, Belgium, Eifel.  
*Receptaculites Neptuni*, Great Britain, Belgium, Eifel, United States.  
*Orthis elegantula*, Great Britain, Gothland, Russia, United States.  
*Atrypa reticularis*, Great Britain, Gothland, Urals, Altai, United States.  
*Pentamerus conchidium*, Gothland.  
*Encrinurus laevis* (?), Gothland.  
*Leperditia Baltica*, Gothland.

The number of Lower Llandovery (top of Lower Silurian) species that are known to pass into the Upper Silurian in Great Britain is 104 in 45 genera, out of a fauna of 204 species in 68 genera (Etheridge).

#### *Devonian Relations of the Lower Helderberg Fauna.*

This subject has been ably discussed by J. M. Clarke, in the 42d Annual Report of the New York State Museum, 1889, under the title "The Hercynian Question." The terms *Hercynian shales* and *Hercynian fauna* were first given by E. Kayser, in a paper on the oldest Devonian formations of the Hartz Mountains, to the second of four formations in the region — the "Unterer Wieder Schiefer" of A. Roemer. It contains the oldest fauna of the Hartz, and was pronounced by him the oldest or lowest Devonian, and also the equivalent of Barrande's Upper Silurian divisions, F, G, H.

Clarke gives the following summary of the history of Hercynian ideas: "A. ROEMER, in 1843, regarded the fauna in the Hartz, in its typical development, as Upper Silurian; but subsequently made the Cephalopod facies and Brachiopod facies thereof represent distinct faunas, the former Devonian, the latter Silurian. Beyrich, in 1867, believed the two faunas of Roemer one, and suggested their equivalence to the Bohemian F, G, H, and their relation to the Devonian. KAYSER, in 1878, demonstrated their unity and Devonian character and regarded them as the lowest Devonian, and as representing a calcareous