

2. Unconformity.
3. *Union formation*, consisting for the most part of red shales and sandstones, &c., as seen in the excellent rock-cuttings along the I. C. R., near Union Station, eight miles below Riversdale.
4. *Riversdale formation*, marked by black carbonaceous, dark grey and red, greenish-grey and rusty shales and grey sandstones with a few calcareous layers as seen in the numerous cuttings along the I. C. R. east of Riversdale station and in the valleys of the Calvary Brook and Black River.

Considerable discussion has arisen of late as to whether the rocks of the *Union* and *Riversdale* formations belong to the Carboniferous or Devonian systems. After describing the two specimens obtained by the writer, Prof. Jones and Dr. Woodward make the following statement regarding the horizon at which the genus *Bellinurus* usually occurs :

"Although *Bellinurus* is a very ancient type of *Limulus*, it has not at present been found in rocks of earlier age than the Coal-measures, nor can we assert that the black, grey and glossy shales of Riversdale, Colchester County, Nova Scotia, in which these specimens occur, are older than Carboniferous."

Several interesting examples of a species of *Leaia* were found associated with *Bellinurus grandævus* in the black shales of the fifth cutting east of Riversdale station which, after examination, Prof. T. R. Jones refers to his *Leaia Leidyi*. The authors add :

"*Leaia Leidyi*, T. R. Jones, which occurs with *Bellinurus* in these Riversdale black shales, occurs in the Lower Carboniferous of Pennsylvania, but in rocks 'regarded by some geologists as the uppermost part of the Devonian or Old Red Sandstone.\*' *Leaia* also occurs in the Upper Coal Measures of Lancashire and the Lower Carboniferous of Fifeshire. As the two specimens of *Bellinurus* (Pl. XV, figs. 2 and 3) are both imperfect, and better materials may at any time be forthcoming, it seems prudent to refrain from suggesting more than one trivial name. This Crustacean may therefore be known as *Bellinurus grandævus*, Jones

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\*"Fossil Estheriæ," Pal. Soc. Monogr. p. 117, pl. V, figs. 11 and 12. London, 1862.