

The earliest of known fossil insects is from Graptolitic slates in the upper part of the Lower Silurian of southern Sweden. It is a Hemipter, and is named by Moberg *Protocimex Siluricus* (1892).

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Telson of *Ceratiocaris Angelini*, nat. size. Jones and Woodward, '88.

Characteristic Species.

Great Britain. — *Arenig* group. — The Skiddaw slates of the Arenig group abound in Graptolites of the genera *Diplograptus*, *Climacograptus*, *Didymograptus*, *Phyllograptus*, *Dendrograptus*, etc. Other prominent genera and species of the group are: *Orthis calligramma*, *Obolella plicata*, *Lingulella Davisi*; *Pleurotomaria*, *Ophileta*, *Raphistoma*; *Bellerophon*, *Conularia Homfrayi*, *Orthoceras*; *Agnostus*, *Æglina grandis*, *Ogygia*, *Asaphus Homfrayi*, *Ampyx Salteri*; also the new genera *Trinucleus*, *Illænus*, *Barrandia*, *Calymene*, *Phacops*, *Placoparia*, *Homalonotus*.

Llandeilo flags and Lower Bala. — Graptolites of the same genera as in the Arenig; also *Halysites catenulatus*, *Monticulipora favulosa*, *Favosites fibrosus*; *Actinocrinus*, *Echinosphærites*, *Glyptocrinus*, *Palæaster*; *Acrotreta*, *Crania*, *Leptæna*, *Strophomena*, *Rhynchonella*; *Modiolopsis*, *Ctenodonta*, *Palæarca*, *Pleurorhynchus* (*Conocardium*), *Ophileta compacta*, *Murchisonia bellicincta*, *Euomphalus*, *Loxonema*, *Pleurotomaria*; *Orthoceras*, *Endoceras*, *Piloceras*; *Ogygia Buchii*, *Asaphus tyrannus*, *A. Powisi*, *Ampyx nudus*, *Barrandia*, *Trinucleus*, *Acidaspis Jamesii*, *Lichas*, *Illænus*, *Homalonotus*, *Cheirurus*, *Phacops*, *Calymene Blumenbachii*, *Æglina mirabilis*.

Bala beds, Caradoc sandstone, and Coniston limestone. — *Monticulipora frondosa* M., *Favosites fibrosus*, *Heliolites interstinctus*, *Halysites catenulatus*, *Cyathophyllum*, *Petraia*; *Leptæna rhomboidalis*, *Orthis biforata*, *O. calligramma*, *O. flabellulum*, *O. porcata*, *O. elegantula*, *Atrypa imbricata*, *Leptæna* (*Plectambonites*) *sericea*, *Crania divaricata*; *Murchisonia*, *Holopella*, *Trochonema*, *Raphistoma*, *Cyclonema*, *Bellerophon bilobatus*, *B. nodosus*, *B. carinatus* (which three species occur also in the Lower and Upper Llandovery); *Orthoceras vagans*, *O. annulatum*, *O. Barrandii* (the three continuing into the Lower Llandovery); *Endoceras*, *Lituites*, *Cyrtoceras*, *Trocholites*, *Piloceras*; *Illænus*, *Phacops*, *Cheirurus*, *Lichas*, *Acidaspis*, *Ampyx*, *Agnostus*, *Harpes*, *Remopleurides*, *Calymene Blumenbachii*, *C. Allportiana*, *Sphærexochus mirus*.

Lower Llandovery group. — *Favosites fibrosus*, *Halysites catenulatus*, *Heliolites interstinctus*, *Petraia bina*, *Orthis Bouchardi*, *Atrypa*, *Meristella subundata*, *Stricklandinia lens*, *Rhynchonella tripartita*, *Spirifer plicatellus*, *S. exporrectus*, *Strophomena arenacea*, *Pentamerus oblongus*, *P. undatus*, *P. globosus* (the three occurring in the Lower and Upper Llandovery); *Illænus Bowmani*, *Cheirurus bimucronatus*, *Trinucleus concentricus*, *Proetus Girvanensis*. Lower Silurian beds occur in the south of Scotland, and also in the northwest Highlands. But in the latter region there is a striking resemblance in fossils, as pointed out by Salter, to forms in Canada and New York — the species including *Orthoceras arcuoliratum*, *Orthis striatula*, *Ophileta compacta*, *Murchisonia gracilis*, *M. bellicincta*, and also species of *Maclurea*, *Raphistoma*, and others of American type. Moreover, at the same time, the species of northwestern Scotland differed from those of England and Wales. From these facts it is evident that troughs with Archæan confines had the same importance on the British or European border of the Atlantic as on the North American side. We may conclude also that the barrier between northwestern Scot-