

Upper Silurian.

Stage K. Upper Oesel Zone (50 or 60 ft. = Ludlow Group)—gray limestones and marls, yellow limestones: *Spirifer elevatus*, *Chonetes striatella*, *Beyrichia tuberculata*, *Pterinea retroflexa*; an abundant eurypterid fauna and fish remains (*Onchus*, *Pachylepis*).

" I. Lower Oesel Zone (60 ft. = Wenlock)—chiefly dolomites with marls: *Orthoceras annulatum*, *Euomphalus funatus*, *Spirifer crispus*, *Orthis elegantula*, *Leptaena transversalis*.

" H. *Pentamerus-esthonus* Zone—in the east, dolomites; in the west, gray coral limestone, with *Pentamerus esthonus* (*oblongus*), *Syringopora bifurcata*, *Favosites gotlandica*, *Halysites* (5 sp.).

3. Raiküll Beds (100 ft.)—coral-reefs and flagstones: *Leperditia Keyserlingii*, *Phacops elegans*.

" G. 2. Borealis Bank (40 ft.)—consisting almost entirely of agglomerated shells of *Pentamerus borealis*.

1. Jörden Beds (20–30 ft.)—thin calcareous flagstones and marls: *Leperditia Hisingeri*, *Orthis Davidsoni*, *Strophomena pecten*, *Rhynchonella affinis*.

" F. (1) Lyckholm and (2) Borkholm Zones (100 ft. = Middle Bala or Caradoc), contain the most abundant fauna of all the stages: *Phacops* (*Chasmops*) *macroura*, *Cheirurus octolobatus*, *Encrinurus multisegmentatus*, *Bellerophon bilobatus*, *Strophomena expansa*, *Orthis vespertilio*, *O. Actoniae*, *O. insularis*.

" E. Wesenberg Zone (30 ft. = Bala or Caradoc)—hard yellowish limestone, with marly partings: *Leptaena sericea*, *Strophomena deltoidea*, *Orthis testudinaria*, *Phacops Nieszkowskii*, *P. wesenbergensis*, *Encrinurus Seebachi*, *Cybele brevicauda*.

" D. Jewe Zone (100 ft.), consisting of a lower or Jewe band and an upper or Kegel band: *Cheirurus pseudohemicranium*, *Hemicosmites extraneus*, *Lichas deflexa*, *L. illænoides*, *Chasmops bucculenta*, *Strophomena Asmusii*.

3. Itfer Beds (20–30 ft.)—hard limestone with siliceous concretions; fauna nearly same as in C. 2, but with some peculiar trilobites, and some forms belonging to Stage D.

" C. 2. Kuckers Shale (Brandschiefer) consisting of bituminous marls and limestones (30–50 ft.): *Phacops exilis*, *P. (Chasmops) Odini*, *Cheirurus spinulosus*, *Pleurotomaria elliptica*, *Porambonites teretior*, *Orthis lynx*, *Echinosphaerites aurantium*.

1. *Echinosphaerite* Limestone, etc. (20–50 ft. = uppermost *Orthoceratite* Limestone of Sweden)—*Echinosphaerites aurantium*, and *Orthoceras regulare* are the most characteristic fossils, with numerous trilobites.

3. *Orthoceratite* (*Vaginaten*-) Limestone (3–20 ft. = *Orthoceras* limestone of Scandinavia)—hard gray limestone crowded with *Orthoceras commune* and *O. vaginatum*; also *Phacops sclerops*, *Cheirurus ornatus*, *Asaphus heros*, *Ampyx nasutus*, etc.

" B. 2. *Glaucinite* Limestone (12–40 ft.)—*Megalaspis planilimbata*, *Cheirurus clavifrons*, *Asaphus expansus*, *Porambonites reticulatus*, *Orthis parva*.

1. *Glaucinite* Sand (Greensand), lying directly on the Cambrian *Dictyonema* shale (1–10 ft. = *Ceratopyge* Stage of Scandinavia)—*Obolus siluricus*, *Siphonotreta*, *Lingula*; "conodonts" of Pander.

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