Cambro-Silurian fossils in Finnmark, Northern Norway.

By

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This is a preliminary report on new finds of Cambrian, Ordovician (Tremadocian), and Silurian fossils in Finnmark, Northern Norway.

Until 1934 the only Palaeozoic fossils found in Finmark were *Platysolenites antiquissimus* and *Obolus* sp. in the Lower Cambrian so-called Hyolithes-zone, which crops out in a narrow belt along the south-eastern border of the Caledonian mountain zone (Holtedahl, 1918). In that year Mr. Sven Føyn succeeded in finding a small Cambrian fauna on the north-western side of Digermulhalvøya (Digermul Peninsula) in the district of Tana (Føyn, 1937). The fossils were described by Strand (1935) as *Lingulella (Lingulepis)* cf. *roberti, Billingselle retroflexa, Hyolithes* sp., and trails of the *Cruziana* type. They were assumed to be of Middle Cambrian age.

In 1951, Holtedahl (1952, p. 72) reported on a recent (1950) find of *Paradoxides* by Mr. H. G. Reading (now of the University Museum, Oxford) on the Digermul Peninsula, proving the Middle Cambrian age of the fauna described by Strand.

In 1959, Dr. H. G. Reading (with two companions, Mr. R. Pattinson and Mr. J. K. Russel) carried out geological mapping of the Digermul Peninsula for the Geological Survey of Norway. They discovered numerous fossil localities and brought back rather extensive collections of fossils from various localities and horizons. In 1960 the present writer, accompanied by stud. real. Frank Nikolaisen, visited the Digermul Peninsula and collected more material, in part from new localities.

The fossils from the Digermul Peninsula are generally well preserved (in shale or quartzite) and consist of trilobites, graptolites, brachiopods, hyolithids, and various kinds of problematica and tracks. The problematical fossil *Syringomorpha nilssoni* indicates the presence of Lower Cambrian beds. Several Middle Cambrian horizons are present, with three species of *Paradoxides* (including *P. paradoxissimus)*, agnostids

(Doryagnostus incertus and *Peronopsis fallax)*, an ellipsocephalid, an undetermined trilobite, hyolithids, articulate and inarticulate brachiopods (including those described by Strand), and tracks and problematica. A Lower Ordovician (Tremadocian) fauna contains *Dictyonema flabelliforme* and the olenid trilobites *Saltaspis* n. sp., *Peltocare* n. sp., and *Parabolina* n. sp. This apparently constitutes the northernmost occurrence of *Dictyonema flabelliforme* and is the first find of Ordovician fossil in Finnmark. A black shale which has yielded inarticulate brachiopods and the olenids *Beltella* sp., *Boeckaspis* sp., and a pelturid may be of late Late Cambrian or Early Tremadocian age.

In another area, on the south-eastern side of the island of Magerøy, Rektor S. Føyn, Prof. O. Holtedahl, and Dr. P. H. Reitan found some crinoid stems in a limestone, during a reconnaissance trip in 1959 in connection with the planning of an excursion of the International Geological Congress in 1960. The limestone bed occurs in a sequence of moderately metamorphic rocks (shales, sandy shales), previously of unknown age. The cause for examining this limestone bed was a manuscript geological map of the area recently prepared by Mr. J. J. C. Geul for the Geological Survey of Norway.

In 1960, the present writer, accompanied by Mr. F. Nikolaisen, visited the same area and collected some more crinoid stems from the same limestone bed as well as in limestone pebbles in a nearby conglomerate. Graptolites were specially searched for in the shales, but only a few poorly preserved, straight monograptids were found. They occurred in a single loose slab collected by Mr. F. Nikolaisen at the limestone locality. Except for tracks, no other certain fossils were found, but during the Congress excursion later the same year, another limestone bed was found to yield not too well preserved chain corals, rugose corals, crinoid stems, and pentamerids. Previously, no certain Silurian fossils have been found in Norway north of the Trondheim region.

A report on the stratigraphical survey of the Digermul Peninsula will later be published by Dr. H. G. Reading. The fossils from Magerøy and the Digermul Peninsula are being described by the present writer.

References.

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Sammendrag.

En foreløpig meddelelse om nye funn av kambro-silur-fossiler i Finnmark.

Underkambriske(?), mellomkambriske, overkambriske(?) og underordoviciske (tremadoc) fossiler (trilobitter, brakiopoder, graptolitter, spor og problematika) er funnet på Digermulhalvøya i Tana og siluriske fossiler (enkrinitt-stilker, kjedekoraller, hornkoraller, pentamerider, og dårlig oppbevarte monograptider) på sydøst-kysten av Magerøy.