


Palaeoworld

PALAEOWORLD Editorial Office
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PALAEOWORLD online submission:
http://ees.elsevier.com/palwor/

PALAEOWORLD full-text (Volume 15 –) available at:
http://www.sciencedirect.com/science/journal/1871174X

*Palaeo*world No.13, pp. 276-279

UPPER CAMBRIAN LEVELS OF BIOSTRATIGRAPHICAL CORRELATION IN THE KHOS-NELEGE RIVER REFERENCE SECTION (NORTHEASTERN FLANK OF THE SIBERIAN PLATFORM)

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The Ogon'or Formation section on the Khos-Nelege River is located in the Kharaulakh Mountains system, Northern Verkhoyanye and appears to be a type section for the Upper Cambrian open-basin deposits of the Siberian Platform. The traditional Middle-Upper Cambrian boundary (the top of the *Lejopyge laevigata* Zone) and several well correlatable global levels of the Upper Cambrian (the bases of *Glyptagnostus stolidotus, G. reticulatus* zones, beds with genus *Irvingella* in association with *Agnostotes*) have been determined to be here.

The continuous monoclinal section composed of the Ogon'or Formation argillaceous-carbonate deposits dipping at an angle of 55-57º, is exposed in a set of outcrops with a height not more than 8 m from the Khos-Nelege River mouth, over a length of 650-700 m along the river channel 2 to 10 m wide. The uppermost Middle and Upper Cambrian strata are divided into 54 beds and overlain by the terrigenous Permian. The specific feature of the formation is the pronounced cyclic alternation of rocks with the sharply dominant rank of the cyclic pattern being 0.5-5.0 m. On the whole, it is composed of inequigranular gray, dark gray, greenish- and brownish-gray limestone, argillaceous and silty to various extents, and interbedded with thinly laminated brownish-gray siltstone, greenish-gray mudstone, and domanik-type black calcareo-argillaceous-flinty shale. Considerable silicification is observed in the lower half of the formation.

Along with trilobites, rare ostracodes, articulate brachiopods, gastropods, and hyolithids occur in the Ogon'or Formation. Numerous sponge spicules, conodonts and indefinable graptolite fragments are found within individual age levels. Abundant, though not very diversified, inarticulate brachiopods occur across the entire section. Trilobites are diverse and represented by more than 200 species. The base of their assemblage is made up of forms of wide geographic range. Paleontological examination of the section is not completed yet.

Below are biref characteristics of trilobite assemblages from the Ogon'or Formation interval involving the upper part of the *Lejopyge laevigata - Aldanaspis truncata* Zone from the Middle

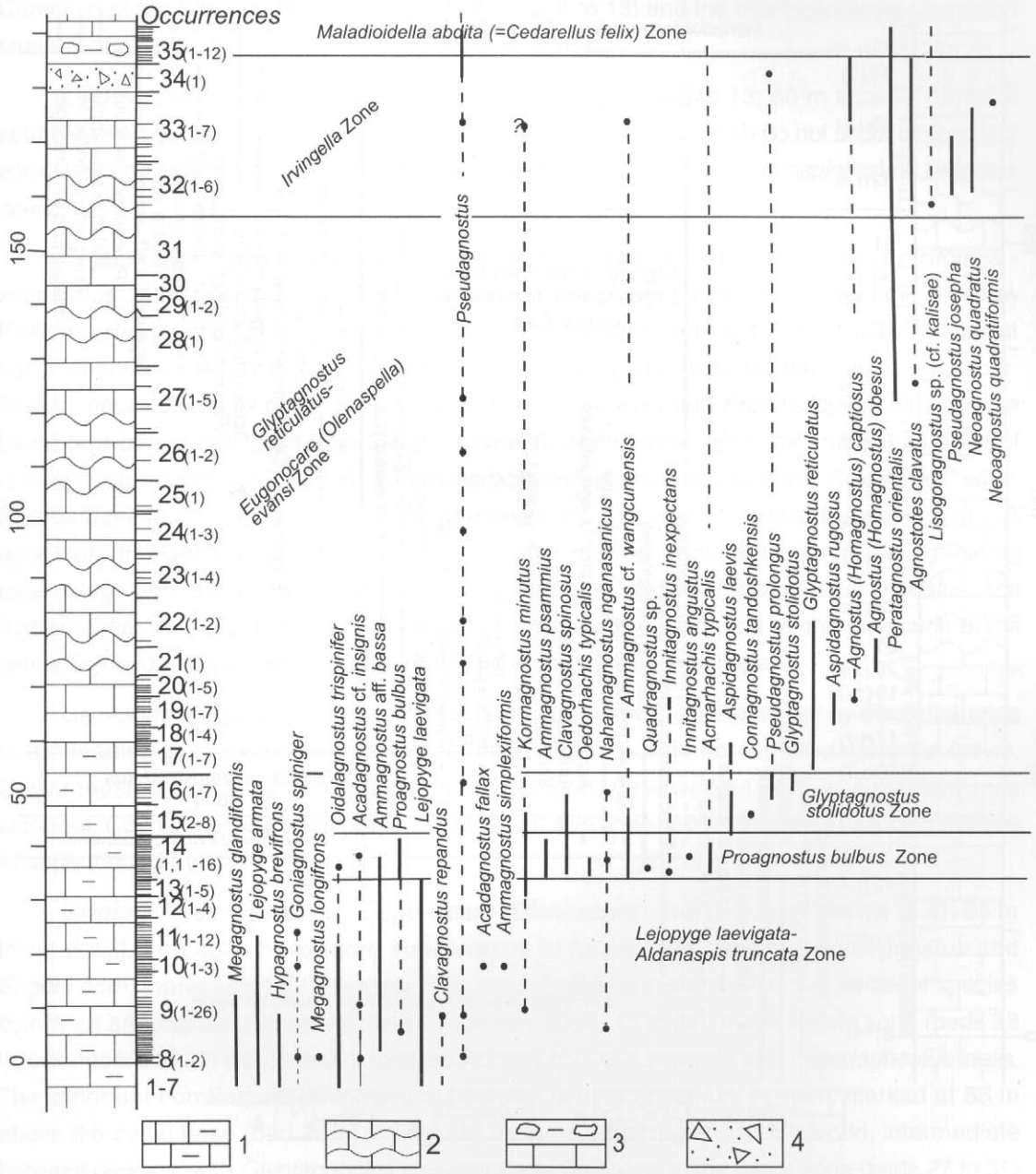

Fig. 1. Stratigraphical distribution of agnostoid trilobites in the Ogon'or Formation, Khos-Nelege River section. Scale is in meters. 1 - alternation of dark-gray laminated wackstone to shale and greenish carbonate-silliceous siltstone. Limestone with minor chert and pyrite; 2 - dark-gray wavy limy flagstone (mud-wackstone) with black argillaceous laminaes; 3 - gray-greenish argillaceous-dolomitic limestone with gray silty nodular limestone; 4 - lime mass flow conglomeratic breccia.

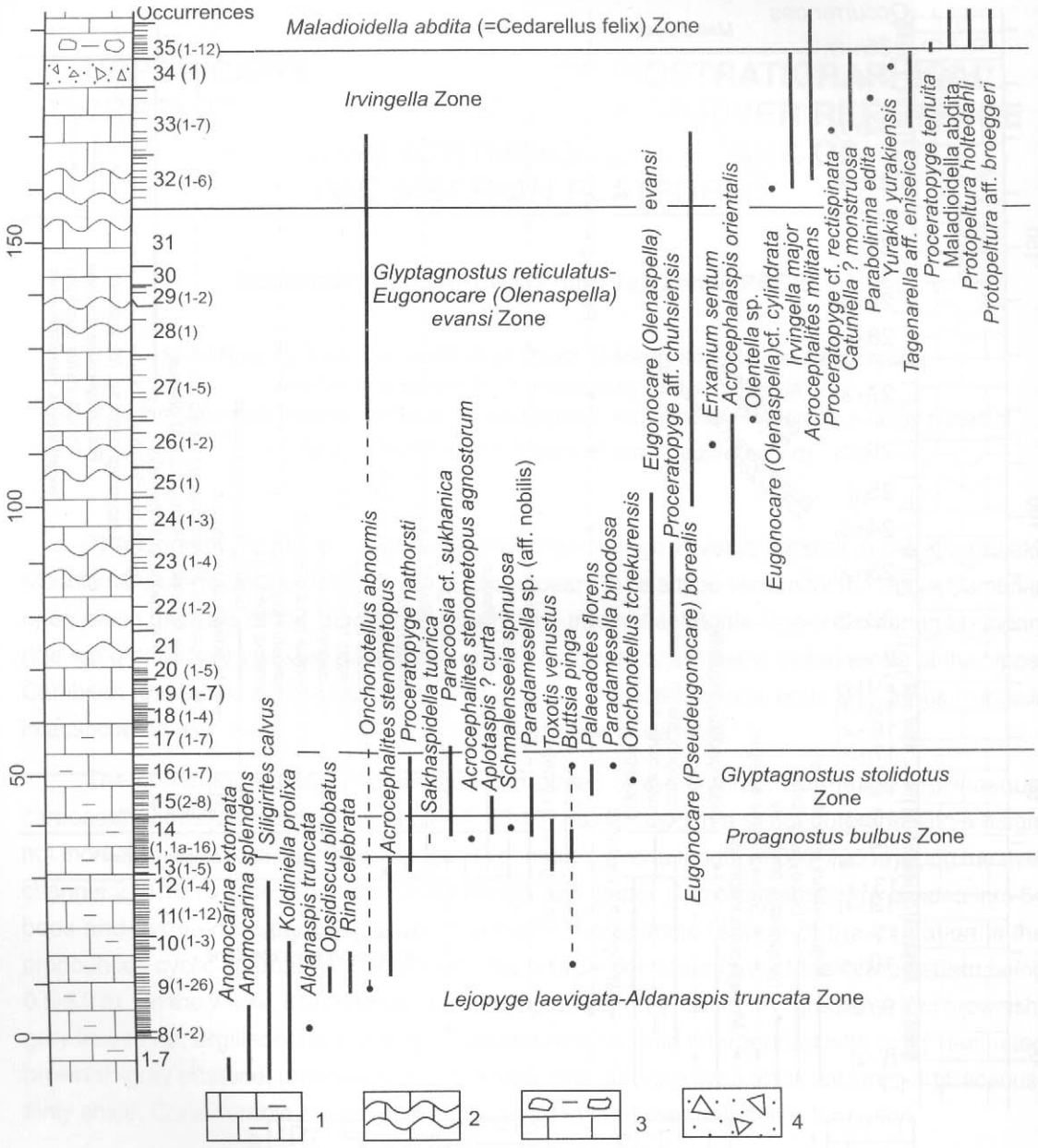

Fig. 2. Stratigraphical distribution of non-agnostoid trilobites in the Ogon'or Formation, Khos-Nelege River section. Scale is in meters. 1 - alternation of dark-gray laminated wackstone to shale and greenish carbonate-silliceous siltstone. Limestone with minor chert and pyrite; 2 - dark-gray wavy limy flagstone (mud-wackstone) with black argillaceous laminaes; 3 - gray-greenish argillaceous-dolomitic limestone with gray silty nodular limestone; 4 - lime mass flow conglomeratic breccia.

Cambrian of the Siberian Platform (Figs. 1, 2, beds 8 to 13) and the overlying Upper Cambrian strata. Correlatable levels are indicated (beds 14 to 35).

Lejopyge laevigata – Aldanaspis truncata Zone (beds 8 to 13; 80 m thick). The most abundant trilobites are *Lejopyge laevigata* and *Lejopyge armata,* which do not occur beyond the zonal upper boundary. Less abundant, though common, are *Oidalagnostus trispinifer* and *Siligirites calvus.*

Proagnostus bulbus Zone (bed 14; 8 m thick, corresponds to the *Agnostus pisiformis - Homagnostus fecundus* Zone, the lower zone in the Upper Cambrian scale of the Siberian Platform) Pronounced changes in the faunal assemblage occurred 10-15 m below the zonal base, where taxa widely developed within the underlying strata sharply decreased in number. The distinctive elements of the zone such as *Toxotis venustus* and *Proceratopyge nathorsti* are found 3 m below the zonal base. In the deposits of the zone itself the first appearance of *Ammagnostus psammius, A.* cf. *A. wangcunensis, Innitagnostus inexpectans, Aplotaspis ? curta, Paradamesella* sp. (aff. *nobilis*), *Schmalenseeia spinulosa*, *Acrocephalites stenometopus agnostorum, Sakhaspidella tuorica* etc. are marked. The dominant taxa in the agnostoid assemblage here are *Proagnostus bulbus, Oedorhachis typicalis, Innitagnostus angustus,* and *Acmarhachis typicalis.* The lower boundary of the zone is determined by the extinction of the genus *Lejopyge* and an almost entire renewing of the trilobite assemblage.

Glyptagnostus stolidotus Zone (beds 15-16; 16 m thick) is determined by disappearance of the leading taxa of the underlying deposits and appearance of *Aspidagnostus laevis, Glyptagnostus stolidotus, Pseudagnostus prolongus, Palaeadotes florens, Paradamesella binodosa, Onchonotellus tchekurensis,* etc. Most trilobite species of the zone do not occur beyond its upper boundary.

Glyptagnostus reticulatus - Eugonocare (Olenaspella) evansi Zone (beds 17 to 31; 98 m thick) It will, probably, have more subdivisions in future. The genera *Pseudagnostus* and *Eugonocare,* represented by a few species, are common to the entire zone. The zonal species combined are characteristic of the lower 30 m only (beds 17 to 22). In the middle zone (beds 23 to lowermost bed 27) the dominant taxa are *Acrocephalaspis orientalis* and *Pseudagnostus idalis.* The important correlatable level there is beds containing *Erixanium sentum,* marked at 58 m above the zonal base (bed 26-1), being, like in some other regions of the world, intermediate between deposits with *Glyptagnostus reticulatus* and *Irvingella.* In the upper zone (beds 27 to 31) the trilobite assemblage composition changes again and includes *Onchonotellus abnormis, Eugonocare (P.) borealis, Agnostotes clavatus, Peratagnostus orientalis, Pseudagnostus* ex gr. *rotundatus,* etc.

Irvingella Zone (beds 32 to lowermost bed 35 inclusive; 27 m thick) It is characterized by a specific trilobite assemblage consisting of more than 30 species. The leading taxa are *Agnostotes clavatus, Neoagnostus quadratus, Pseudagnostus josepha, Irvingella major, Tagenarella* aff. *T. eniseica,* and *Parabolina edita.*