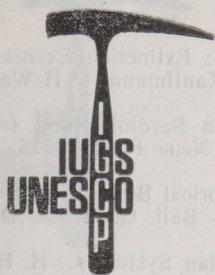


Dimitri KALJO\*

## SILURIAN BIOEVENT STUDIES — A PART OF THE IGCP PROJECT 216 “GLOBAL BIOLOGICAL EVENTS IN EARTH HISTORY”



GLOBAL  
BIOEVENTS

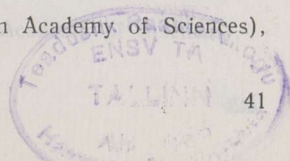
The Bioevent Project is one of the most popular projects of the International Geological Correlation Programme (IGCP). According to data presented at a subregional meeting in Espoo, Finland, last June, 45 countries participated in the project. The reasons for such popularity, at least in the author's opinion, are: (a) the project is exploring a very exciting old idea of catastrophes (= events) in Earth history, (b) the idea is promising good practical applications for detailed correlation of sections, and (c) high level activity of the project.

Speaking about catastrophes, one usually means (mass) extinction events, but innovation, radiation, etc. events are not less interesting.

The Silurian was preceded by the well-known late Ordovician glaciation-triggered extinction (O/S Boundary Event) and followed by several events of different scale and origin within the Devonian (a major one, the so-called Kellwasser Event seems to be very instructive for Silurian students as a typical anoxic layer oscillation event with a complex of other factors; Walliser, 1986). In the Silurian A. J. Boucot (1990) listed the following levels at which relatively minor bioevents occurred: C<sub>2</sub>—C<sub>3</sub> boundary (late Llandovery) in the early Wenlock, the late Wenlock, the late Ludlow, and the Silurian-Devonian boundary. Until now these events have gained little attention, but the top Wenlock, the *lundgreni* event and the following *leintwardinensis* event were thoroughly described from the aspect of graptolite diversity changes by T. Koren (1987). The first level was earlier known also as the *dubius-nassa* Interregnum (Jaeger, 1976), which might be called also the *nassa-ludensis* crisis (Great Crisis — H. Jaeger, oral comm.).

Ranking of events is rather arbitrary, but exact definition of a level where something happens is important. Otherwise we cannot distinguish whether there was a “big” event or a series of minor ones. For example, when the late Wenlock or Wenlock-Ludlow Boundary or *lundgreni* event or *nassa-ludensis* crisis are mentioned, one can think that we are speaking about different happenings. Actually there is a series of events which started with clear extinction of graptolites at the end of the *lundgreni* Zone and was accompanied by different developments in other groups of organisms (Kaljo, Märss, in press; Siveter, 1989; etc.). In this sense the terminology needs to be revised.

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Silurian bioevent studies have shown good correlation between events and environmental changes, especially sea level ones (Koren, 1987; Kaljo, Märss, in press). This aspect is demonstrated also in papers published below.

In last August the above aspects of the global bioevents were discussed within the framework of the Field Meeting Estonia 1990, organized by the Institute of Geology, Estonian Academy of Sciences, jointly with Ordovician and Silurian Subcommissions, IUGS, and IGCP Project 216 Working Group. Most of the papers read at the meeting are published below and some more will appear in the next issue of these Proceedings.

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Received  
Dec. 17, 1990

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#### SILURI BIOSÜNDMUSTE UURINGUD — OSA RGKP PROJEKTIST 216 «GLOBAALSED BIOLOOGILISED SÜNDMUSED MAA AJALOOS»

Rahvusvahelise Geoloogilise Korrelatsiooni Programmi (RGKP) projekt 216 on väga levinud, sest see baseerub tuntud ideel katastroofidest ning uues käsitluses võimaldab täpsustada läbilõigete korrelatsiooni.

Siluris on olnud mitmeid biosündmusi, millest silmapaistvaim on Hilis-Wenlockis toimunu. Selle sündmuse erinevad aspektid olid kõne all möödunud augustis toimunud välinõupidamisel "Estonia 1990".

*Димитрий КАЛЪО*

#### ИССЛЕДОВАНИЯ СИЛУРИЙСКИХ БИСОБЫТИЙ — ЧАСТЬ РАБОТ ПРОЕКТА 216 МПГК «ГЛОБАЛЬНЫЕ БИОЛОГИЧЕСКИЕ СОБЫТИЯ В ИСТОРИИ ЗЕМЛИ»

Проект 216 Международной программы геологической корреляции очень популярен, так как он основывается на известной идее о катастрофах. В новой трактовке она позволяет уточнить корреляцию разрезов. В силуре установлен ряд биологических событий, среди которых наиболее существенным является происшедшее в конце венлока. Разные аспекты этого события обсуждались на полевой сессии «Эстония 1990» в августе прошлого года.