The Jenei Formation: A new Raming-type lithostratigraphic unit from the Middle Triassic of the Aggtelek Hills (Silica Nappe, NE-Hungary) and comparisons with related units

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During the latest mapping between Aggtelek, Jésvafő and Égerszög a new basinal limestone sequence was recognised in between the Steinalm and Wetterstein platform limestones. It is defined formally as Jenei Fm.

We describe the type section, a paratype section and additional rock types. In the type section, the platform limestone (Steinalm Limestone Fm.) is followed by a 135 m thick sequence deposited in different basinal settings. The initial pelagic limestone is followed by turbiditic sediments which were deposited on the distal, later on the proximal parts of a basin. The upper part of the section is dominated by distal turbidites which are interrupted by a bed rich in reefbuilding organisms. At the top of the basinal limestone the onset of Wetterstein Fm. (reef facies) is abrupt.

In the paratype section (Baradla Cave) the platform carbonates are also followed by pelagic basinal sediments with an ammonitic bed at the base. Instead of the well recognisable turbidites, reef detritus appears in between the filament mud- to wackestones. In the upper part, the resedimented reef detritus becomes more and more frequent. In the uppermost 15 cm, radiolarite beds with an tuffite intercalation terminate the basinal succession.

The deepest basin is represented by grey and red cherty limestones which are situated out of the described sections. The base of the Jenei Fm. is isochronous: late Pelsonian (Binodosus Subzone) whereas the top is heterochronous: middle Illyrian (Trinodosus-Reitzi Zones) in the NW and Fassanian (Curionii Zone) in the SE part. The thickness of the Jenei Fm. varies between 45 m (Vöröš Lake) and 168 m (Magas and Pitics Hill).

The sedimentation was controlled by half-graben morphology of the basement (Fig. 1). The lowest part of the Jenei Fm. is everywhere filament rich micritic limestone. Later on the elevated parts of the basement reef building organism settled, these became the source of the allogenic limestones. The un lithified or semilithified sediments slid downslope and formed plasticlastic limestones. The conglomerates/breccias with gravels of different origins may be interpreted as scarp breccias. The forming of the reef was most likely preceded by remote volcanic activity.

The closest similarity to the Jenei Fm. can be found in the Slovak part of the Silica Nappe and in the better oxygenated zones of the Hronic Unit in the Reifling basin. The micritic, pelagic limestone of the Schreyeralm Fm. is deposited after the drowning of the Steinalm platform. It is followed by the Raming Fm. with distal turbidites. On the top the “Wetterstein bedded limestone” represents the sediments of the prograding Wetterstein platform.

In the Juvavic Domain of the Northern Calcareous Alps the “Southern” slope facies (sensu Mandl 1999, 2000) of the Wetterstein platform, where Raming-type turbidites interfinger with open marine variegated pelagic carbonate mud, is closely related to the Jenei Fm.

References
