

## Some Additions to the Llandovery Conodont Zonation

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In the *D. kentuckyensis* Zone, originally defined by Nicoll and Rexroad (1968), three distinct faunas are recognized. Here the concept of the *D. kentuckyensis* Zone is used only for the oldest one of these faunas. It is followed by the *Ozarkodina excavata puskuensis* - *Kockelella manitoulinensis* interval and the *Pranognathus tenuis* Zone. The last one, identified by Aldridge and Schönlaub (1989) as a subzone, is distinct and widespread to be treated as a zone.

Based on the morphology of the zonal fossil the *Pterospathodus celloni* Zone can be divided into a lower and upper part. Further, the lower part includes three distinct intervals: the *Astropentagnathus irregularis*, the *Aulacognathus kuehni* and the *Apsidognathus tuberculatus* ssp. n. intervals. The upper boundary of the *P. celloni* Zone needs to be redefined, and an *P. a. amorphognathoides lithuanicus* interval is recognized between the *P. celloni* and *P. a. amorphognathoides* zones. The extinction of *O. polinclinata estonica* is an additional indication of the upper boundary of the *P. celloni* Zone.

The lower boundary of the *P. a. amorphognathoides* Zone is marked by the appearance of *P. a. amorphognathoides*. The appearance of *O. p. polinclinata*, *Apsidognathus ruginosus* and *Pseudooneotodus bicornis* are other indicators of this boundary. The upper boundary of the *P. a. amorphognathoides* Zone is drawn according to Jeppsson (in press) and corresponds to the extinction level of *Nudibelodina sensitiva* (= the 1st datumplane of the Ireviken Event). For the Llandovery sequence above this level, and also for the lower Wenlock, a detailed conodont zonation is proposed by Jeppsson (in press).

The above listed conodont zones and intervals are recognizable in most known conodont sequences. Where only inadequate collections are available a less detailed zonation including the following "superzones" may be useful: *D. kentuckyensis*, *P. celloni* and *P. amorphognathoides*.

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