MORPHOLOGY AND ULTRASTRUCTURE OF THE PALEOCENE *AULACOSEIRA GALLICA* (EHRENBERG 1854, LAUBY 1910) *COMB.NOV.* FROM THE BITUMINOUS SCHISTS IN THE MAAR OF MENAT (PUY-DE-DÔME, AUVERGNE)

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Since the beginning of the XIXth century, the lacustrine sediments of Menat have been subject to numerous paleontological studies on leaves, insects, fishes … These sediments are the result of an explosion crater situated over a volcanic pipe.
In 1898, Renault and Roche highlighted the microscopic constitution of the bituminous schists of Menat, which contained, among others, numerous diatoms. However, Héribaud argued in 1902 that there were no diatoms in sediments. In 1910, a list of 112 diatoms was published by Lauby. In 1929, Cayeux claimed that this pond was constituted of 3 types of rocks. One of them consisting essentially of diatoms and spicules of sponges. In 1934, Dangeard discussed about the difficulty in finding this rock.
Indeed, none of the tens of samples taken from Menat in July 2008 during the paleontology field camp organized by the Rhinopolis association displayed the presence of diatoms. On the other hand, the 48,80 m deep core, made by the BRGM in June 2008, allowed to find diatoms in 19 out of the 49 samples.
According to valve morphology, *Melosira gallica* (Ehr.) Lauby belongs to the genus *Aulacoseira* Thwaites, hence we propose its formal transfer into this genus. The morphology of this species is documented by light and scanning electron micrographs.
A new study (unpublished data 2012) of isotopic carbon organic matter ($\delta^{13}C_{org}$) indicates a Selandian/Thanetian age (Upper Paleocene). This would mean that the freshwater diatoms of Menat are the oldest in France.