



Tarcenay Road (Rengg-TaStrasse01)

Constructing of a road north of Tarcenay, the ideal outcrop at the border Callovian / Oxfordian. Time difference left/right: Approx. 3 month

W.J.Arkell: Ammonite Succession of Woodham Pit

p.209: *Kosmoceras spinosum* can be found within *lamberti*-Subzone.

p.188: it is said *Kosmoceras spinosum*, the youngest *Kosmoceras*, is common in the middle Upper Callovian and becomes very rare in the upper part of the Upper Callovian.

p.190: *K.tidmorensis* ranges from the *Athleta*-Zone to the *Lamberti*-Zone.

Remark:

- 1) How come that none of the publications from the well-known Prof.D.Marchand and his crew is mentioning a *Kosmoceras*?
- 2) How come that besides Tarcenay Road (see above) no other place in France south of Besancon (we have visited) has yielded a *Kosmoceras*?
- 3) *Kosmoceras* seems to be extremely rare at Liesberg (and only in the *anceps*-/athleta layers) and Kandern where one should be able to find (we only found one broken piece).

Nearly all outcrops known to me at the French departments Doubs or Jura are starting at what is marked as unten (bottom)+2 on the above photo. Even Remi Jardat only mentions one outcrop (called by him *scarburgense*1-horizon), though having a remarkable collection, he is not mentioning a single *Kosmoceras*.

Tarcenay-road, sensational by size and quantity / quality of findings, is exactly at the border area between Upper Callovian – Lower Oxfordian and was investigate by us strictly horizontally. Off course the findings were stored strictly separately as well. The names of the horizontal parts were called "Bank" (= lowest part) up to bottom+4.

As the outcrop was less than two weeks old, the findings could not have been shifted down the slope a lot, as well there was no rain at that time. And for sure a find could not have shifted up the slope.

Though "just picked up" the findings could have been very precisely correlated. The findings from what the excavator has been put aside, have been marked as Tarcenay road (general).

Further comments on that outcrop:

1. The layers "bank" and "below" yielded findings as pyrite casts, above these layers they were covered with limonite.
2. No other outcrop visited / investigated by us in France was going down to *lamberti*-subzone or yielded *Kosmoceras*ids.
3. The faunal spectrum is more or less identical to Woodham Brik Pit described by Arkell.

At the surrounding of that village several locations had been accessible:

- T/u = T/bottom = House construction below the church
- T/o = T/top = slope behind the house construction, in the forest (distance about 60 m)
- T/St = T/road = newly constructed road, north of Tarcenay
- Les Cloutiers = Water reservoir, very close to the road construction, north of Tarcenay

Tarcenay/bottom:

It was a 1.50 m deep hole below the church. Fossils only could be found in the upper parts (about 50 cm below the surface).

Ochetoceras / *Eochetoceras* could not be found yet (?), possibly the first two (questionable) *Creniceras*.

Again very remarkable, a *Cardioceras* (*Scarburgiceras*) *praecordatum* like ammonite, which absolutely does not fit to the other findings (see Kandern or Les Cloutiers / plate 16.1).

Tarcenay / road in general (TSt)

Location: between Les Cloutiers (ponds) and the village of Tarcenay

Here a slope was cut on a length of approximately 80 m by an excavator to construct a new road.

This location is divided into T/road, bank, -bottom, -bottom +1 up to +4, in which -bottom+4 is the utmost part of the outcrop.

Lowest part of this location is T/bank, a sandy clay yielding *Kosmoceras*. Above is a bank with *Terebratula* (up to a size of 3 cm, extremely frequent), after which presumably *Lamberti* subchone (T/road, bottom). Les Cloutiers seems to be a bit younger than T/road, bottom +1.

Within T/road, bottom+2 there might be the borderline Middle / Upper Jurassic with the starting of the Renggeri marl. Pending problem still for me is *Quenstedtoceras "paucicostatum"*. Presumably this is a general problem when defining *Cardioceratids* (see ARKELL).

The road is rising very slightly compared to the Renggeri marl. Therefore the grouping bottom+1 up to bottom+4 is not 100% correct.

"Bank" and "bottom" can be recognised by the colour of the ammonites (pyrite). In the layer of "bottom+1" the same fossil can be preserved as pyrite or limonite. Above that, fossils are generally preserved in limonite.

What the excavator has used for levelling the base of the road was picked up and registered as Tarcenay/road -in general and/or just Renggeri marl respectively. Besides that fossils were picked up by "zones" (road/bank = sandy clay bank on the level of the road, road/bottom = up to approx. 1-1.5 m above the bank, bottom +1 up to +4 = each about a width of approx. 1.5 m, measured on the slope of 45 degree **Error! Bookmark not defined.** and not in vertical).

Summary:

Error! Bookmark not defined. *Kosmoceratids* only had been found at Tarcenay / road, bank.

Error! Bookmark not defined. Above the *Kosmoceratids* a big brachiopod is very frequent,

nearly building up a bank.

Error! Bookmark not defined. Directly above is a layer where centre of ammonites are covered with small gypsum crystals (size up to 2-3 mm).

Error! Bookmark not defined. The first *Creniceras renggeri* appears at "Tarcenay/bottom +2" and becomes more frequent to the top.

Error! Bookmark not defined. The only *Horioceras* was dug together with *Kosmoceratids* in Tarcenay/Bank.

Tarcenay/top

Location: In the forest north-east of the church.

Villers-s/s-Montrond / F (S-No.02)

Location: Northeast of the village, at a slope on the meadows.

These are several small outcrops within hilly meadows where occasionally a 10 m wide horizontal soil with grass is between the *praecordatum* and the *bukowskii* / *costicardia* subchrone. A **mixture** of fossils of these two subchrones by heavy rainwater is therefore **not possible**.

Four locations are distinguished:

- Villers / bottom** (*Praecordatum* subchrone)
- Villers / top** (*Bukowskii* / *Costicardia* subchrone)
- Villers / new** (*Costicardia* subchrone)
- Villers / utmost top** (*Cordatum* subchrone ?)

Viller-s/s-Montrond / bottom

F-Villers-s/s-Montrond-bottom

At a place like this without any reference point, even with a photo it is quite difficult to have a description. The geological correlation of such a place in my opinion is only possible by the findings. Therefore there is no better description of this site possible than "Viller-top" (=Vo / Villers-oben) and so is the registration of the findings.

Members of museums or universities, who judge such a description as insufficient till worthless, obviously haven't seen: "Die Ammoniten des Schwaebischen Jura" by QUENSTEDT from 1866-1888. They specially should read the description of the finding places. This work of QUENSTEDT even to day is referred as a standard reference for Jurassic ammonites worldwide.

What can be an alternative for these specialists? Forgetting / ignoring such superb outcrops ? Can't be true / hopefully not ! By the way and just for remembering: There do exist something like leading fossils. The findings of these outcrops could be correlated with the (bukowski)/costicardia-Sz . At outcrop Villers-s/s-Montrond point A yielded a Scayburgiceras praecordatum together with a nice Mirosphinctes kobyi (page above, where the A is on the photo).

Villers-new

Garden of a villager



F-Villers "new"

This small mound in the garden of a villager of Villers-s/s-Montond (at the collection registered as Villers-new) has been flattened by a machine to get space for storing wood. The manual flattening would have taken weeks.

As the Renggeri Marl in this area is more or less horizontal (could easily be proofed, see also exposure Tarcenay-road close to this place), the picking up at this place corresponds practically "in situ" and gives for that relatively large surface a fantastic overview on that horizon. Additionally, findings at this place have been numerous and diverse, large and well preserved.

Villers-s/s-Montrond, top

How to define findings from that site ? According to leading fossils all (X) are within the same sub-chrone.



Villers-s/s-Montro, typical for the marl: wacholder trees growing there

Villers-s/s-Mer



This location at Villers-s/s-Mer is only accessible at low tide but exposes beautiful big and well preserved cardioceratids.