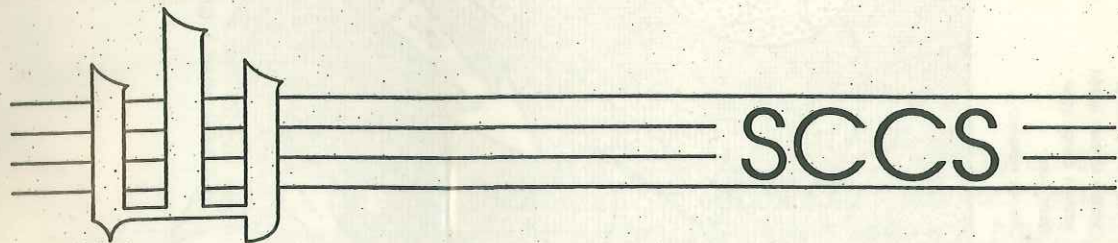


**International Union of Geological Sciences  
Commission on Stratigraphy**

**Subcommission on Carboniferous Stratigraphy (SCCS)**



**LATE FAMENNIAN TO NAMURIAN  
IN THE EASTERN ARDENNE, BELGIUM**

**GUIDEBOOK**

### Stop 4 : Chanxhe I road

The outcrop is located on the northern flank of the Chanxhe Syncline along a track to a quarry extracting Famennian (Monfort) sandstones. It displays an almost continuous section from the upper part of the Evieux Formation to the upper part of the overwhelming Comblain-au-Pont Formation.

A fault interrupts the continuity between the Comblain-au-Pont Formation and the overwhelming Hastière Formation. The transition between the Devonian Comblain-au-Pont Formation and the mostly Carboniferous Hastière Formation will be examined at Chanxhe II (Stop 5).

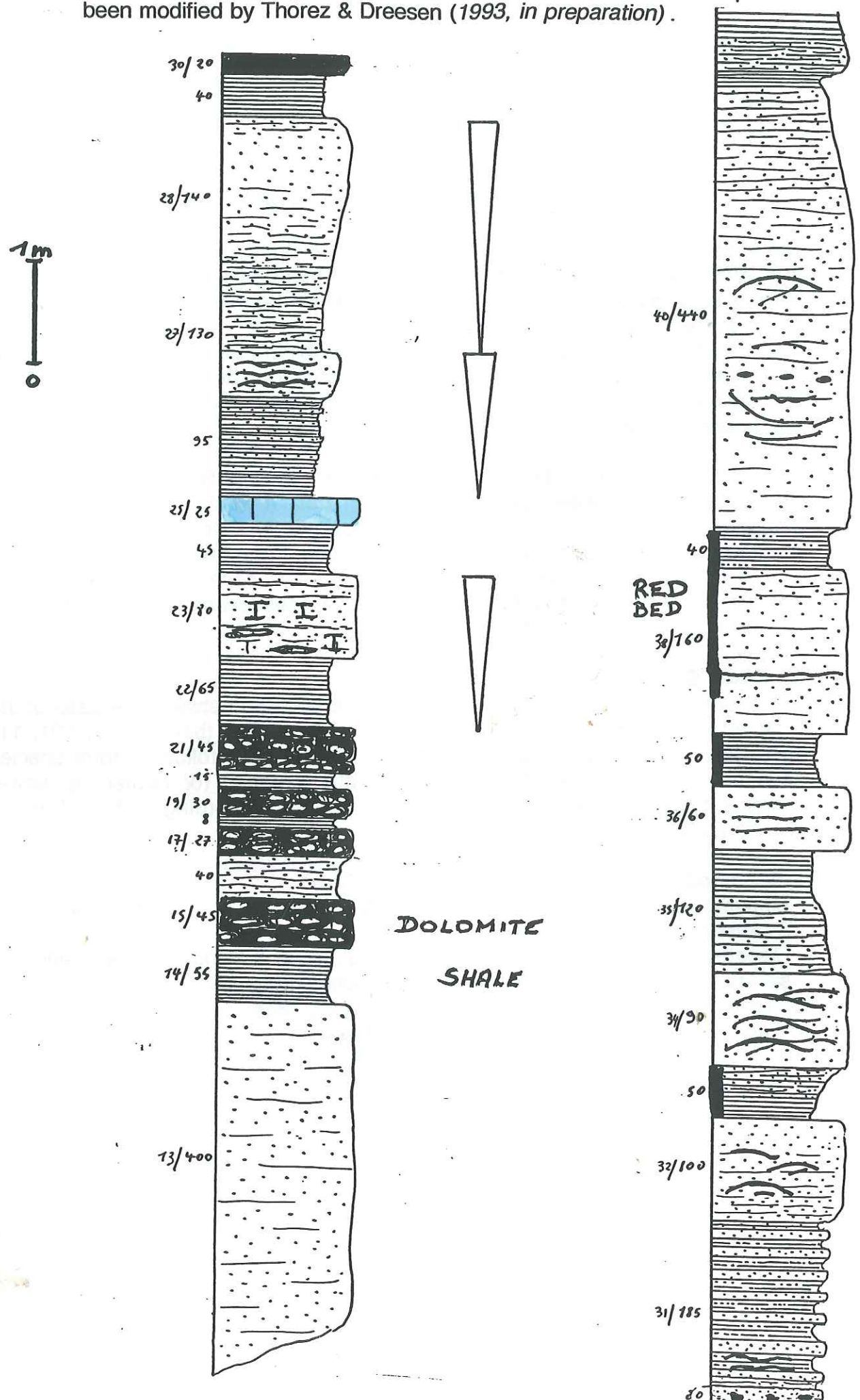
The section has been studied in detail by the late Professor R. CONIL, University of Louvain (See the references at the end of part II in the guide book). Two biostratigraphic limits of major significance for the regional geology and international correlation are known from the section. From below to the top occur in succession the base of the miospore *lepidophyta-verrucosa* (LV) Zone (at bed 94) and the base of the foraminifer *Quasiendothyra kobeitusana* (at bed 115, in the second stromatoporoid biostrome).

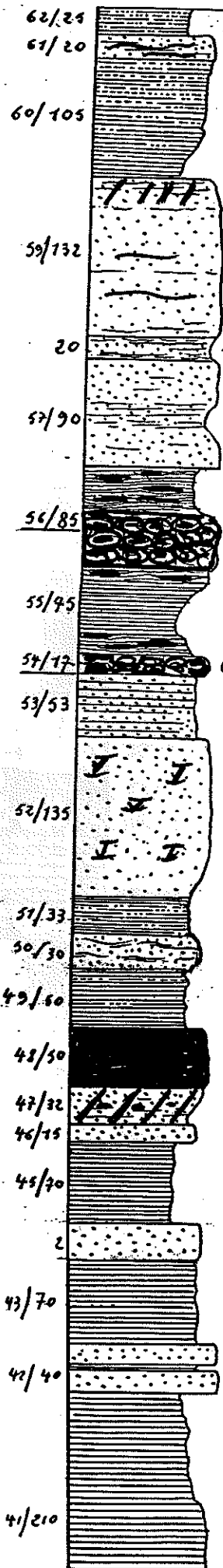
#### R. DREESEN

In the Chanxhe road section, 3 carbonate beds -located between the base of the Strunian and the first strunian stromatoporoid biostrome- (beds n° 97, 101, 111 base) have been resampled recently for conodonts. The following form species have been identified which point to the Late *expansa* (or former top Lower *costatus* / base Middle *costatus*) conodont zone, according to the standard conodont zonation :

- *Bispathodus aculeatus* (Branson & Mehl, 1934)
- *Bispathodus spinulicostatus* (Branson & Mehl, 1934) (sensu Ziegler, Sandberg & Austin, 1976)
- *Bispathodus ultimus* (Bischoff, 1957) (sensu Ziegler & Sandberg, 1984) and several robust transitional forms to *Pseudopolygnathus* sp.
- *Pseudopolygnathus primus* s.l. Branson & Mehl, 1934
- *Polygnathus delicatulus* Ulrich & Bassler, 1926
- "*Icriodus*" *raymondi* Sandberg & Ziegler, 1979

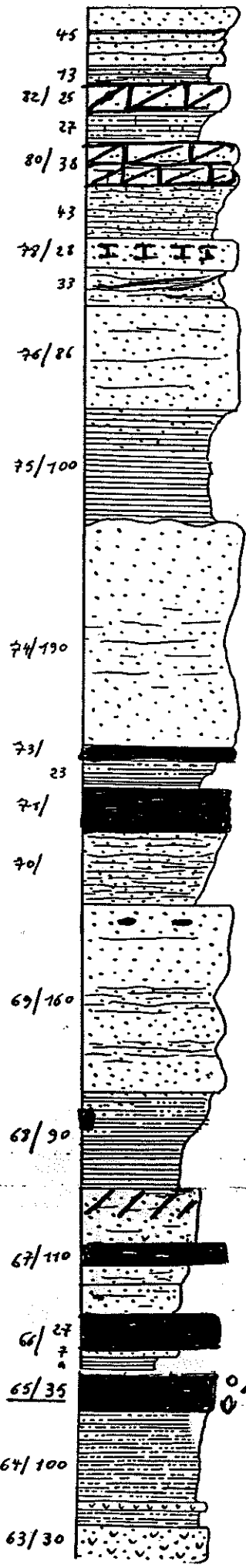
Fig. 20: Columnar section of successive lithologies exposed in the Chanxhe road outcrop: top of Evieux Formation through Hastière Formation. (Conil, unpublished document; lower late Famennian part has been modified by Thorez & Dreesen (1993, in preparation).





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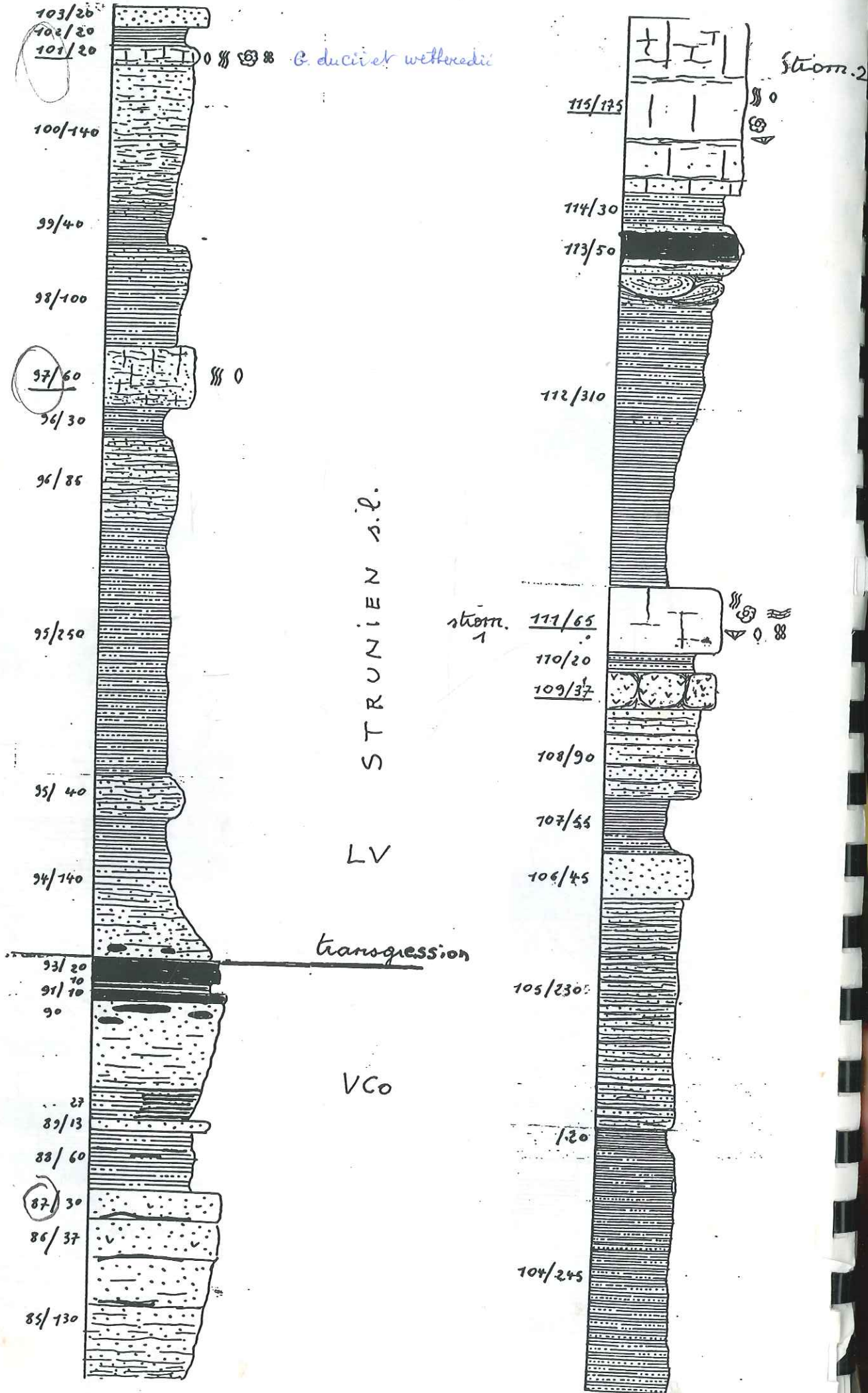
Bevoacstria

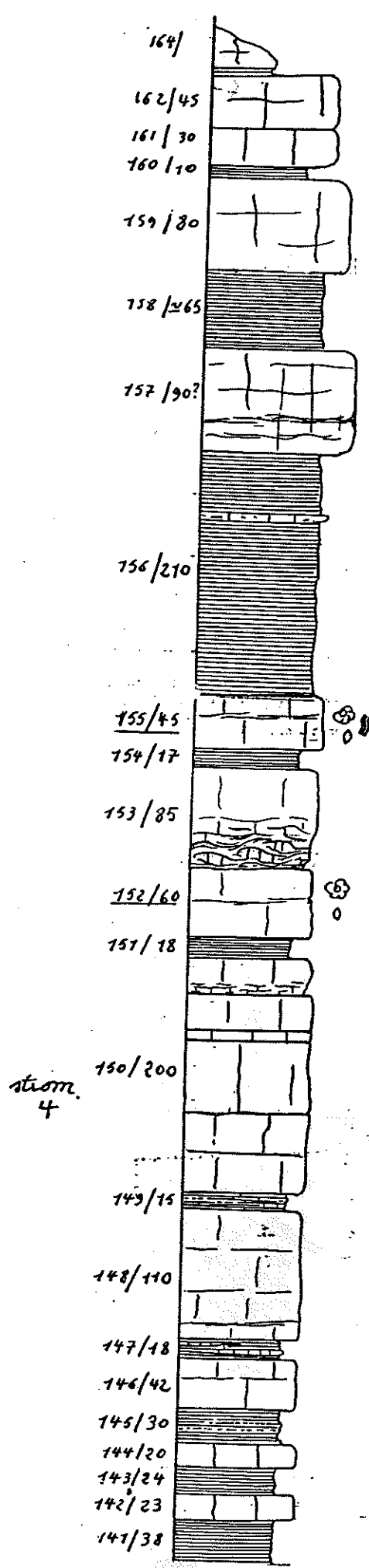
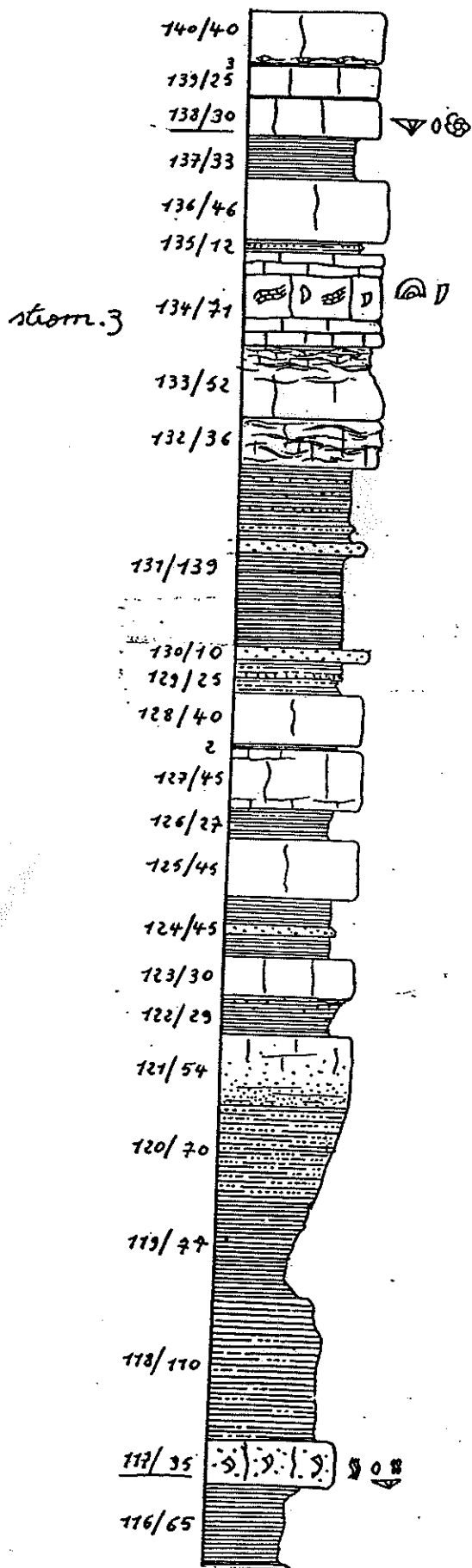


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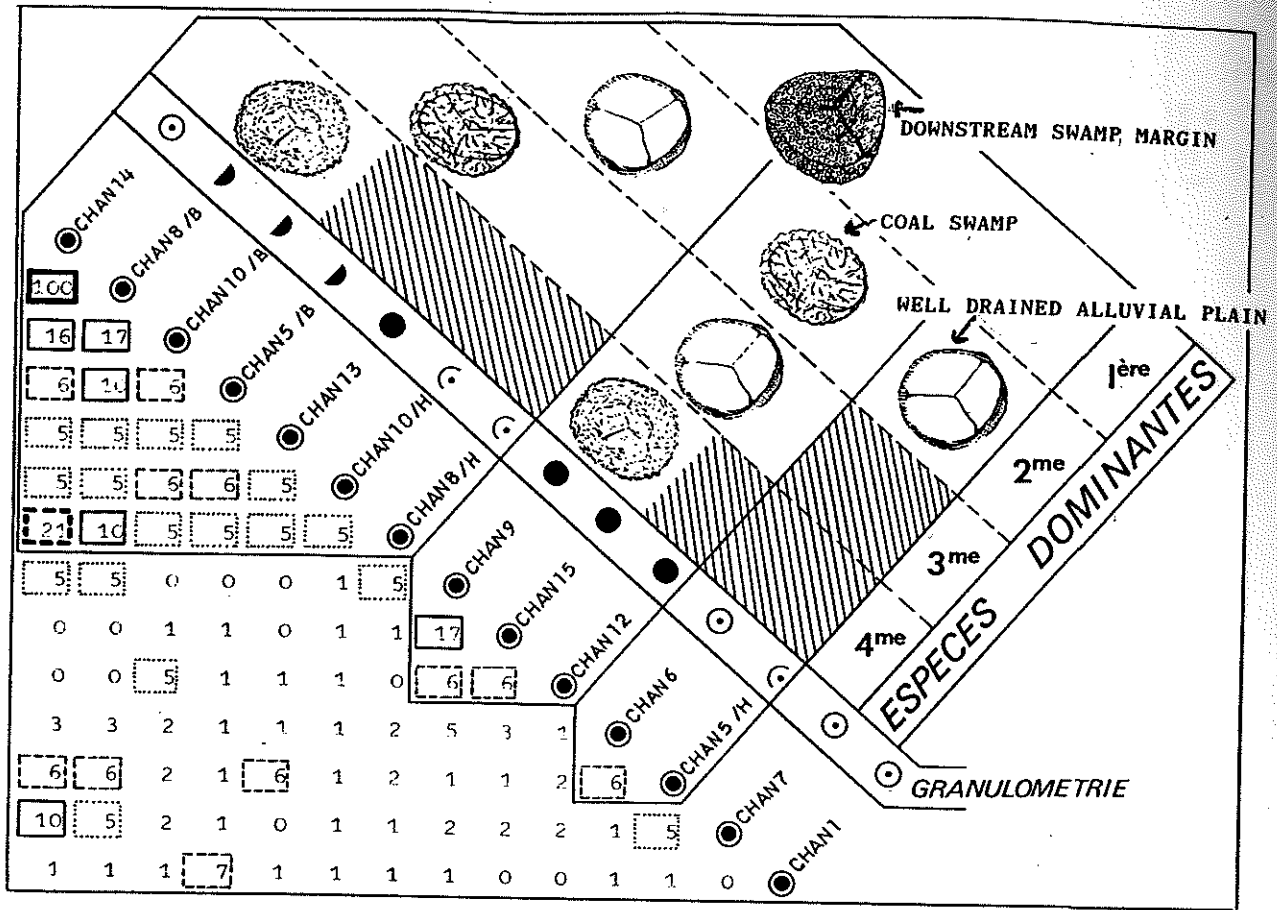
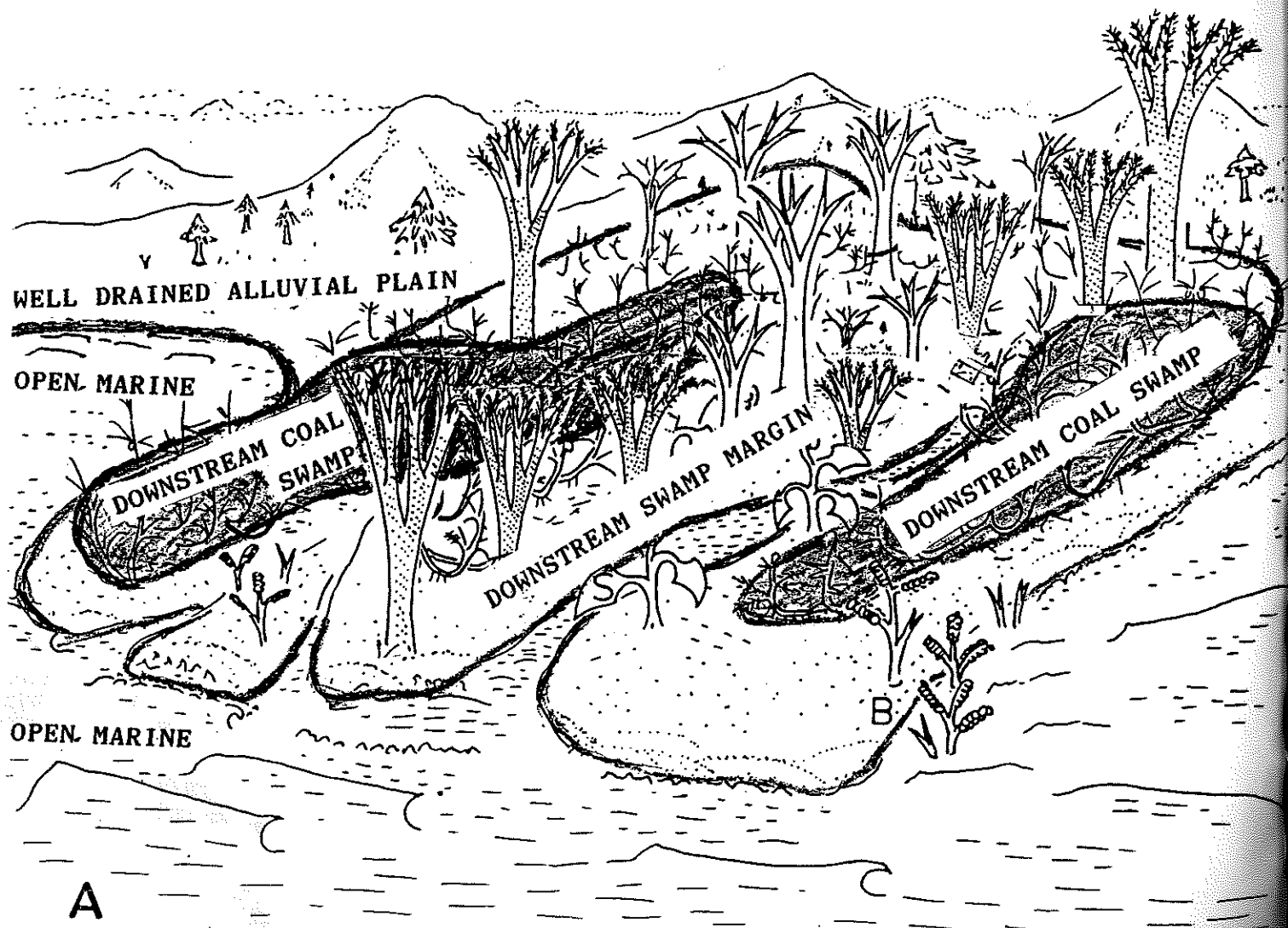


Fig. 21:



Miospores are very abundant in the Comblain-au-Pont Formation. Acritarchs (mainly species of the genus *Gorgonisphaeridium*) occur in all samples. The miospores belong to the LV Zone with rather abundant specimens, (up to 50%) of its main characteristic, *Retispora lepidophyta* (*S. lepidophytus* on fig. 22 and 23).

This species has been shown (Streel, 1966) to display a change in size from large specimens at the bottom to smaller specimens at the top of the stratigraphic sequence (See fig. 22). The change in size (biometric zones C/D/E/F) was used to make regional correlations between many sections from the central and eastern part of the Dinant Synclinorium.

Correlation between the Chanxhe road section and the Tohogne Borehole / a few kilometers to the SW) is demonstrated on fig. 22.

The most abundant miospores are illustrated on fig. 21. They originated from three distinct continental environments (see also page 19). The parent plant of *R. lepidophyta* is still unknown but is generally referred to lycopods. A downstream swamp margin environment is proposed for *R. lepidophyta* parent plant by Jarvis (1992, unpublished thesis).

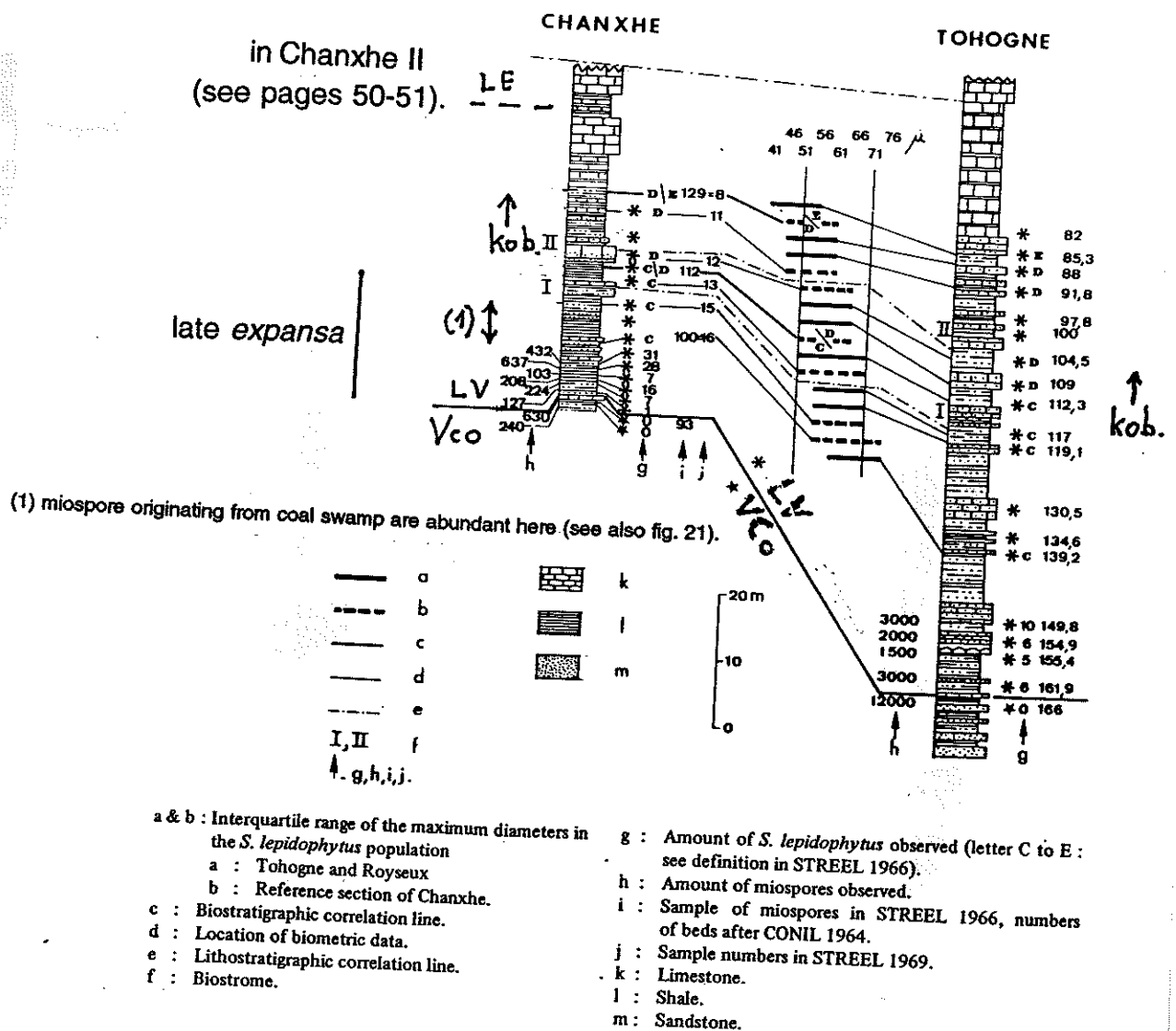


Fig. 22: Correlation between the Tohogne borehole and the Chanxhe section using biometric criteria of *R. lepidophyta* (after Bouckaert et al., 1977).



### Foraminifers/miospores/biostromes correlation R. CONIL

Correlation (fig. 23) between sections from the Tohogne Borehole in the SW to the Welkenraedt Boreholes, in the NE are made using lithology (including 5 levels of biostrome occurrence), foraminifers and biometric zonation of miospores. The Rivage section is almost similar to the Chanxhe section. The first occurrence of *Q. kobeitusana* ranges from the first biostrome in the SW to the third biostrome in the NE.

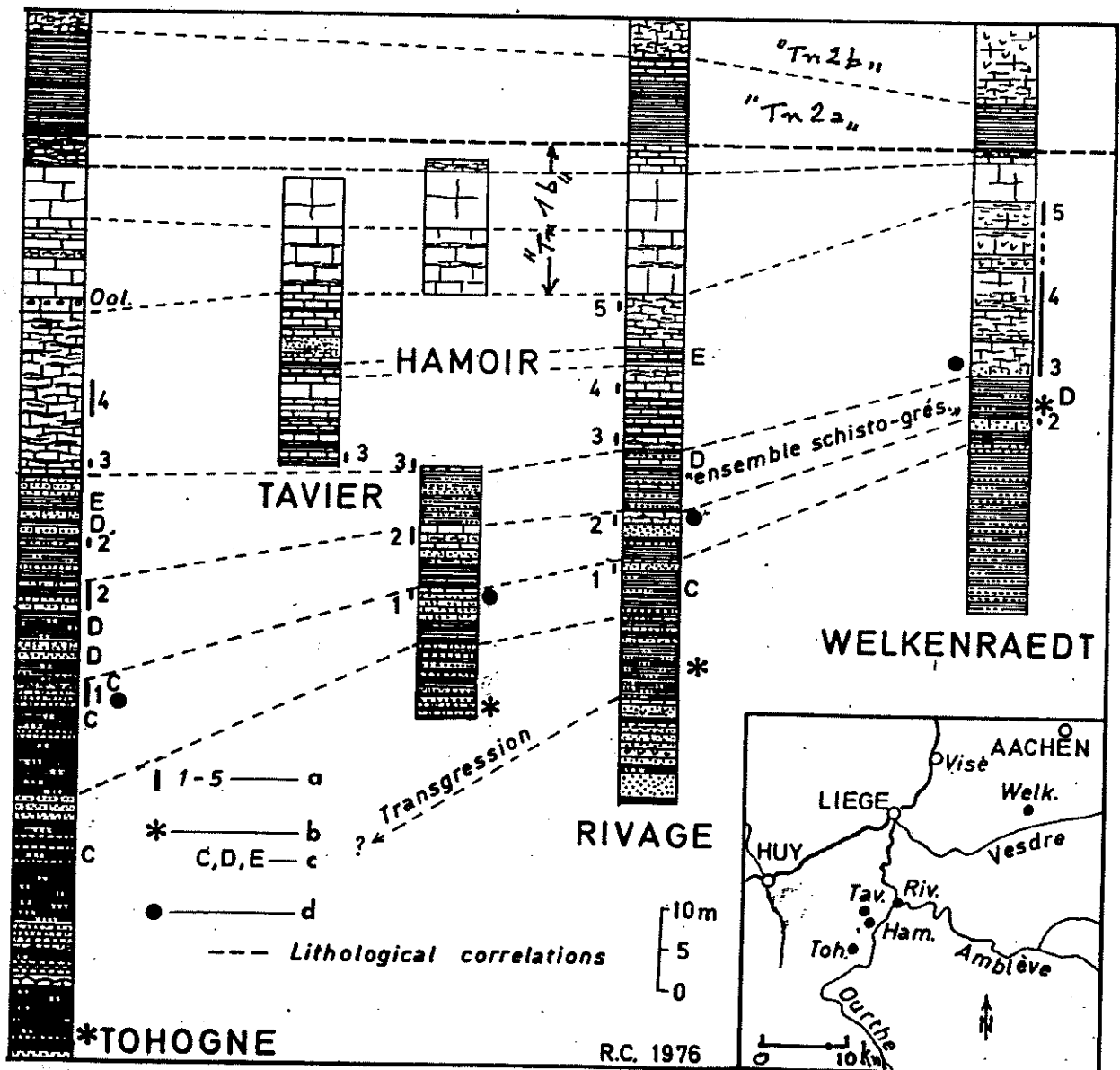


Fig. 23: \*TOHOGNE

R.C. 1976

- a. "biostromes" with corals and stromatopores.
- b. *S. leptidophytus*, first occurrence (Not studied below at Welkenraedt and Hamoir).
- c. biometric zones, STREEL 1966.
- d. *Quasiendothyra kobeitusana*, first occurrence.