

### III. — CALCAREOUS NANNOPLANKTON FROM THE KALLO WELL

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19 samples from the Kallo well between -82.70 m. and -174.00 m. have been studied for calcareous nannoplankton. Unfortunately only 4 samples contained calcareous nannoplankton, of which the following fossil-lists and age determinations are given.

#### Kallo well : — 82,70 m.

<i>Coccolithus pelagicus</i> (WALLICH)	...	...	...	...	...	...	...	...	...	r
<i>Cyclococcolithus</i> sp.	..	...	...	...	...	...	...	...	...	r
<i>Dictyococcites dictyodus</i> (DEFLANDRE and FERT)	...	...	...	...	...	...	...	...	...	r
<i>Discolithina</i> cf. <i>distincta</i> (BRAMLETTE and SULLIVAN)	...	...	...	...	...	...	...	...	...	r
<i>Reticulofenestra insignita</i> ROTH and HAY	...	...	...	...	...	...	...	...	...	f
<i>Zygrhablithus bijugatus</i> DEFLANDRE	...	...	...	...	...	...	...	...	...	r

= Lower to Middle Oligocene (placement within a nannoplankton zone impossible because lack of index-species).

#### Kallo well : — 85,90 m.

<i>Coccolithus</i> sp.	...	...	...	...	...	...	...	...	...	r
<i>Cyclococcolithus luminis</i> SULLIVAN	...	...	...	...	...	...	...	...	...	r
<i>Cyclococcolithus</i> sp. I	.	...	...	...	...	...	...	...	...	f
<i>Cyclococcolithus</i> sp. II	...	...	...	...	...	...	...	...	...	r
<i>Dictyococcites dictyodus</i> (DEFLANDRE and FERT)	..	...	...	...	...	...	...	...	...	c
<i>Isthmolithus recurvus</i> DEFLANDRE	...	...	...	...	...	...	...	...	...	f/c
<i>Reticulofenestra insignita</i> ROTH and HAY	..	...	...	...	...	...	...	...	...	c
<i>Reticulofenestra umbilica</i> (LEVIN)	...	...	...	...	...	...	...	...	...	r
<i>Sphenolithus pacificus</i> MARTINI	...	...	...	...	...	...	...	...	...	r
<i>Zygrhablithus bijugatus</i> (DEFLANDRE)	..	...	...	...	...	...	...	...	...	r

and reworked species from the Maastrichtian

= *Cyclococcolithus margaritae* zone (?) (Lower Oligocene).

(r=rare, f=few, c=common).

**Kallo well : — 124,60 m.**

<i>Coccolithus pelagicus</i> (WALLICH)	... ..	f
<i>Cyclococcolithus</i> sp.	.. ..	r
<i>Discolithina pulcheroides</i> (SULLIVAN)	... ..	r
<i>Ellipsolithus subdistichus</i> ROTH and HAY	... ..	r
<i>Isthmolithus recurvus</i> DEFLANDRE	... ..	r
<i>Reticulofenestra umbilica</i> (LEVIN)	.. ..	r
<i>Rhabdosphaera tenuis</i> BRAMLETTE and SULLIVAN	... ..	r

and some rare species reworked from the Upper Eocene like :

*Cyclococcolithus reticulatus* GARTNER and SMITH,  
*Helicosphaera seminulum lophota* BRAMLETTE and SULLIVAN,  
*Zygodolithus aff. minutus* PERCH-NIELSEN

= *Ellipsolithus subdistichus* zone (Lower Oligocene).

**Kallo well : — 174,00 m.**

<i>Chiphragmalithus alatus</i> (MARTINI)	... ..	r
<i>Coccolithus pelagicus</i> (WALLICH)	... ..	c
<i>Coccolithus grandis</i> BRAMLETTE and RIEDEL	. ... ..	r
<i>Coccolithus solitus</i> BRAMLETTE and SULLIVAN	... ..	r
<i>Cyclococcolithus formosus</i> KAMPTNER	... ..	c
<i>Discoaster barbadiensis</i> TAN SIN HOK	... ..	r
<i>Discoaster binodosus</i> MARTINI	. ... ..	r
<i>Discoaster distinctus</i> MARTINI	. ... ..	c
<i>Discoaster martinii</i> STRADNER	. ... ..	r
<i>Discolithina distincta</i> (BRAMLETTE and SULLIVAN)	... ..	r
<i>Discolithina pulchra</i> (DEFLANDRE)	.. ..	r
<i>Discolithina pulcheroides</i> (SULLIVAN)	... ..	c
<i>Helicosphaera seminulum lophota</i> BRAMLETTE and SULLIVAN	... ..	r
<i>Reticulofenestra umbilica</i> (LEVIN)	.. ..	f
<i>Rhabdosphaera cf. tenuis</i> BRAMLETTE and SULLIVAN	... ..	r
<i>Zygodolithus dubius</i> DEFLANDRE	. ... ..	r

and reworked species from the Maastrichtian and Danian

= *Chiphragmalithus alatus* zone (Middle Eocene).

(r=rare, f=few, c=common).

The calcareous nannoplankton assemblages found show similarities to those of some well known localities. The assemblage at -174.00 m. is comparable with that of the type Wemmelian and the Clay of Asse. The assemblage at -124.60 m. can be correlated approximately with that found at the type Grimmertingen, but contains some reworked species from the Upper Eocene (*Discoaster tani nodifer* zone). The assemblage at -85.90 m. is comparable best with that found in some samples from the Sands and Marls of Oude Biezen (=Vieux-Joncs) at Galgenberg near Tongeren.

## REFERENCES

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