

February 4, 1963

R/H

Professor, Dr. H.B. Stenzel,
 Shell Oil Company,
 3737 Bellaire Boulevard,
 Houston, Texas. U.S.A.

Dear Professor Stenzel,

Thank you very much for your kind greetings for Christmas and the New Year.

Dr. Stearns MacNeil, working on Vicksburg fossils, has shown interest in my Dano-paleocene fauna from West Greenland, certainly embracing a lot of forerunners for his Vicksburg forms. I just sent him a short account of the upper part (Montian) of the Greenland Mollusc fauna, underlining that the generic names used, ought not to be taken too seriously, because the Greenland forms would possibly turn out to be forerunners of the genera mentioned. I am now sending you a copy of the account, showing the strong tertiary affinity of that fauna.

The lower part of the West Greenland Dano-paleocene series, I have termed Danian. It contains spines of *Tylocidaris* similar to the Lower Danian *T. ødumi* from Denmark. The upper part termed Montian (by me) rests unconformably on the Danian and possesses spines of a *Tylocidaris*, which seems to be close to the *T. brünnichi* or *vexillifera* of the Middle or Upper Danian of Denmark. As you remember from Bordeaux, the Tuffeau de Cibly, according to Wienberg Rasmussen, belongs to the Middle Danian (*T. brünnichi*). No break is to be found between the Tuffeau de Cibly and the genuine Montian (Calcaire grossier du Mons). As I put forth in the discussion, this may mean that the Montian proper covers the Uppermost Danian of Denmark, and possibly also the Copenhagen Paleocene, which has often been compared with the Montian, but has many molluscs in common with the Upper Danian. Especially all mollusc possessing a calcite shell from the Copenhagen Paleocene are to be found in our Upper Danian. The aragonite species are badly preserved in the Upper Danian pure limestone, but some imprints and casts found there seem to belong to species beautifully preserved in the Paleocene clay of Copenhagen.

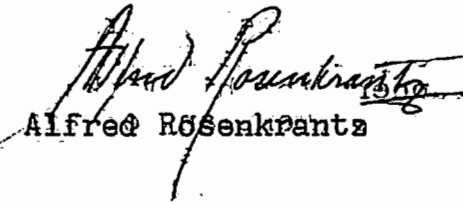
My arguments for putting the Upper series in West Greenland into the Montian are based mostly on the gastropod fauna having a good deal of similarity to that fauna, but also embraces forms closely related to the Middle Danian of Denmark (Faxe) and the Tuffeau de Cibly. I should think we will finally reach a scheme on the Lower Tertiary for the Northern hemisphere as follows:

Thanetian	
	Upper
	Montian proper
Danian	Greenland Montian
Danian	Middle
	Tuffeau de Cibly
	Lower
	Greenland Danian
Maestrichtian	

The Danian Upper limit in Denmark is then to be placed above the greensand limestone, greensand and dark clays off East Zealand, but has not been exactly fixed. The upperpart of our Paleocene is said to belong to the Thanetian (forams).

With my very best wishes for the New Year,

Sincerely Yours


Alfred Rosenkrantz

Montian Molluscs from West Greenland.

(Nûgssuaq).

Cephalopods only fragments of Nautiloids.

Pelecypoda about 100 species mostly belonging to genera occurring as well in the Cretaceous as in the Tertiary.

Pure mesozoic genera are:

Stegoconcha also occurring in the Danish Danian and Lower Paleocene.

Nemodon " " " " " " " " " "

Tertiary genera " " " " " " " " " "

Acar and Arcopsis close to Danish species. " " " "

Species identical with or very close to Danian forms in Denmark:

Pinna danica n.sp., Gryphæostrea n.sp. ("canaliculata"), Veniella n.sp.

Species identical or closely related with species from the Lower Paleocene of Denmark (P) and the Montian of Belgium (M):

Cucullæa (Latiarca) a large species (P), Glycymeris (M), Venericor aff. Duponti (Cossm.) (M), Venericardia roedeli Ravn (P), Protocardia semidecussata (v.Koenen) (P), Callista montensis Cossm. (M), Verticordia aff. granulosa Ravn (P), Corbula Koeneni Cossm. (P,M).

Gastropoda.

Pleurotomaridae: Emarginula, Rimula, Diodora, Subemarginula.

Patellidae: Nacella aff. subglabra Ravn (P), Acmaea aff. poulseni Ravn (P) + 2 sp. Scurria.

Trochidae: Basilissa, Clanculus, Olivia aff. incerta (Briart & Cornet) (M), Gibbula (Phorculus) briarti (G.Vincent) (M), Calliostoma aff. princeps Cossm. (M), Osilinus aff. carinata Ravn (Danian Faxé).

Angariidae: Pseudoniella n.sp.

Skeneidae: Teinostoma n.sp.

Turbinidae: Boutilleria.

Pseudomelanidae: "Bayania" aff. obtusata (v.Koenen) (P).

Neritidae: Nerita s.str. n.sp. + 3 sp., Amphinerita sp.nov., Neritoplica n.sp. + 2 sp.

Lacunidae: Pseudocirsope, Entomope, Cirsope.

Littorinidae: Littorinopsis.

Hydrobiidae: 4-5 species.

Rissoidae: Rissoina s.str. 2 sp. Alvania s.str., Taramellia 4-5 sp., Pezantia 2 sp.

Tornidae: Adeorbis.

Turritellidae: Mesalia 2 sp., Haustator 3-4 sp., Turritella s.str. 2 sp.

Mathildidae: Promathildia? (D), Mathilda 2 sp., Fimbriatella 3-4 sp., Acrocoelum, Gegania 2 sp.

Architectonicidae: Pseudomalaxis, Architectonica.

Vermetidae: Lemintina 2 sp.

Procerithiidae: Metacerithium.

Cerithiidae: Semivertagus, Thericium, Campanile s.str., + div.sp.

Cerithiopsidae: Cerithiopsis, Cerithiella.

Triphoridae: Epetrium, Triphora.

Scalidae: Hemiacirsa, Dentiscala, Cerithiscala, Acrilla aff. brünnichi Ravn (P), Acrilla 2 sp. Coniscala.

Melaneliidae: Margineulima?

Pyramidellidae: Evalea?, Odostomia div.sp., Turbonilla, Beyrichi v.Koenen (P), Creonella, Hipponyx?, inevolutus (Br. & Corn.) (M), Hipponyx div.sp.

Calyptraeidae: Calyptraea div.sp. (M), Crepidula n.sp.

Aporrhaidae: Arrhoges, Drepanocheilus nov.subgenus, Columbellina nov.subgen.

- Cypræidae: Palæocypræa 2 sp.
Amphiperatidae: Eocypræa.
Naticidae: Ampullina, Tylostoma (D) (M), Polinices, Lunatia 3 sp., Tectonatica, + div. peculiar genera.
Cassididae: Procassidaris aff. elongata (v.Koenen) (P).
Cymatiidae: Prohilda gen.nov., Sassia 3 sp.
Ficidae: Ficopsis, Priscoficus 2 sp.
Muricidae: Pterochelus, Poirieria, Favartia?.
Pyrenidae: Columbellopsis?.
Buccinidae: Siphonalia 2 sp., Laevibuccinum, Cominella, Pollia div.sp., Janiopsis?, Suessionia + div. genera.
Caleodidae: Levifusus aff. mørchi (v.Koenen)(P)+div.sp., Sycostoma.
Fasciolaridae: Clavilithes, "Taiomites" nov.genus (≠ Wangahoan), Buccinofusus.
Oliviidae: Pseudoliva aff. robusta Br. et Corn (M), Pseudoliva div.sp., Sparella af buccinoides Lam (N).
Mitridae: Conomitra, Fusimitra, Mitra? div.sp.
Harpidae: Eocithara?.
Volutidae: Volutocorbis s.str. (≠ P), Cryptochorda, Scaphella + div.sp.
Volutidae.
Cancellaridae: Merica, Bonnellitia aff. conoidea (v.Koenen) (P), Bonnellitia aff. latesulcata (v.Koenen) (P), Bonnellitia? aff. curta (v.Koenen) (P). Bonnellitia div.sp., Coptostoma 2 sp., Sveltia aff. angulifera (v.Koenen) (P), Sveltia aff. planistria (v.Koenen) (P), Sveltia aff. multistriata (v.Koenen) (P).
Turridae: Surcula div.sp., Hemipleurotoma div.sp., Surculites, Eopleurotoma, Exilia 2 sp., Cochlespira aff. Koeneni (Arkh.) (P) + div.sp., Borsonia?, Cordieria, Raphitoma, Genotia aff. brevior (v.Koenen) (P).

Scaphopoda.

Antalis, Fustaria, Dentalium, Cadulus, Gadila, Pulsellum. ≠ P.

Euthyneura.

Retusa, Crenilabium aff. elata (v.Koenen) (P), Actæon, Ravniella, (now subgenus of Tornatellæa) ≠ P, Poxania, Gilbertina (≠ P), Ringiculina, Cylichna, Traliopsis (≠ M).

_____ Mesozoic genus _____ Danian + Tertiary genus

_____ Tertiary genus _____ Mesozoic + Danian

P = Lower Paleocene of Denmark.

D = Danian of Denmark.

M = Montian of Belgium.