Depth (metres below KB)

Biostratigraphy (based on palynology) THIS STUDY

biostratigraphic details

Miocene

Oligocene

Rupelian

Bartonian-Priabonian

Lutetian

Selandian-Ypresian

Danian

Maastrichtian

Campanian

Turonian - Santonian

Cenomanian

Albian

400 500 600 700 800 900 1000 1100 1200 1300 1400 1500

(CL = 2) *Pentadinium favatum* (v.rare; genus top 8.55 Ma)

(CL = 3) *Chiropteridium galea* (22.36 Ma)

(CL = 3)

(CL = 2) *Wetzeliella* spp.
Wetzeliella simplex (v.rare; comparable species at 30.4)

(CL = 2) *Phthanoperidinium resistente* (v.rare; similar species 29 Ma)

(CL = 1) *Cordosphaeridium "delimurum"* (v.rare but consistent)
Enneadocysta arcuata (v.rare; 31.1 Ma)
Membranophoridium aspinatum (frequent; 24.6)

(CL = 2) *Rottnestia borussica* (v.rare; 37 Ma)

(CL = 3) *Thalassiphera pelagica* (17 Ma)

(CL = 3) *Areoligera spp.* (common; 48 Ma)
Sparse assemblage but *Cordosphaeridium* spp. prominent

(CL = 2) *"Alterbidinium pannuceum"/"denticulatum"* (common)
Cerodinium spp., *Manumiella cretacea* (v.rare)

(CL = 4) *Phelodinium tricuspe* (v.rare), *Svalbardella* cf. *bulliformis*
Circulodinium distinctum (v.rare)
Damassadinium spp.(60 Ma), *Hystrichosphaeridium tubiferum* (46.52 Ma)
Cordosphaeridium "brevimurum", reworked palynomorphs

(CL = 2) *Exochosphaeridium* spp., *Isabelidium* spp.

(CL = 2) *Trithyrodinium "pentasabulum"*
Trithyrodinium "evitti" (v.rare)

(CL = 3) *Cordosphaeridium fibrospinosum* (peak), *Cribroperidinium* spp.
Alterbidinium fleximorphum (good top), *Glaphyrocysta intricata* (good top)

(CL = 4) *Cometodinium breve* (v.rare, but semi-consistent)

(CL = 4) *Areoligera coronata* (top of peak)

(CL = 4) *Fibradinium "lophophorum"* (?consistent)
Glaphyrocysta exuberans (top of peak)
Impletosphaeridium "choanum"

(CL = 4)

(CL = 4) *Spongodinium delitiense* (63.98 Ma)

(CL = 4) *Fibradinium "tabulatum"*
Palaeotetradinium silicorum
Oligosphaeridium pulcherrimum (consistent)

(CL = 4) *Glaphyrocysta "perforoechinata"*
Hystrichosphaeridium truswelliae (36.7 Ma - baloney)

(CL = 3) *Cyclonephelium vannophorum* (v.rare but semi-consistent; 85.8 Ma)(see peak zone below)

(CL = 2) *Rugubivesiculites* sp.

(CL = 2) *Samlandia carnarvonensis*
Xenascus gochtii (v.rare)

(CL = 2) *Trithyrodinium suspectum* (70.5 Ma)
(Some reworked palynomorphs)

(CL = 2) *Circulodinium brevispinosum* (v.rare but consistent)

(CL = 4) *Odontochitina costata* (v.rare but consistent; 69.6 Ma)
Chatangiella spp., *Palambages* sp.

(CL = 4) *Palambages* sp. (peak)

(CL = 4) *Palaeohystrichophora infusorioides* (69.6 Ma; good top)

(CL = 4)

(CL = 2) *Asbeckiaspora wirthii, Callaiosphaeridium asymmetricum* (76.2 Ma - local top - Santonian), *Canningia reticulata* (local top - Santonian)
Pervosphaeridium "granoaciculare", Impletosphaeridium "capitatum", Odontochitina rhakodes (v.rare but semi-consistent)

(CL = 3) *Oligosphaeridium* spp. (diversity increase), *Subtilisphaera* spp., *Surculosphaeridium longifurcatum* (76.2 Ma)
Coronifera "brevicornuta", Florentinia clavigera, Florentinia perforata (v.rare but semi-consistent)

(CL = 3) *Oligosphaeridium "elegantulum", Xenascus perforatus, Xenascus "biperferatus"*

Florentinia cooksoniae (93.5 Ma), *Oligosphaeridium "perforoalbertense"*

(CL = 3) *Circulodinium brevispinosum* (top common)

(CL = 3)

(CL = 2) *Chlamydophorella nyeii*

(CL = 4) *Kiokansium williamsii* (96.2 Ma), *Litosphaeridium siphoniphorum* (v.rare; 92 Ma)

(CL = 4) *Circulodinium "ultrabrevispinosum", Xiphophoridium alatum* (84.1 Ma)
Chlamydophorella "ectobaculum", Chlamydophorella huguoniottii, Palaeohystrichopiora "palaeoinfusa" (consistent)

(CL = 4) *Palaeoperidinium "denticulatum"*
Protoellipsodinium "spinicapitatum" (v.rare but consistent)

(CL = 4) *Afropollis sp.* (Top of frequent), *Florentinia tenera* (consistent)
Cyclonephelium "brevivannophorum", Diphyes "conjunctum", Nyktericysta sp.
Oligosphaeridium perforatum, Vesperopsis mayii (96.2)
Epelidosphaeridia spinosa (94.85 Ma)

(CL = 3)

(CL = 2) *Chichaouadinium "glabrum", Protoellipsodinium "bifidum"*
Sculptisporis sp.

(CL = 2) *Tribotrys* sp. (v.rare)

(CL = 3) *Chichaouadinium "scotium"*
Oligosphaeridium albertense (97.55 Ma)
Oligosphaeridium totum (96.2 Ma)
Triporoletes "reticulatus"

305-314 *Apteodinium spiridoides* (top 14.27 Ma), *Apteodinium australiense* (v.rare but consistent; 12.25 Ma)
Cleistosphaeridium diversispinosum (rare), *Cyclopsiella "robusta"*
Dapsilidinium pastielsii (frequent here, but not consistent)

396 *Deflandrea phosphoritica* (22.36 Ma), *Heteraulacacysta "stoveri"* (v.rare but consistent)
Pentadinium laticinctum (8.55 Ma), *Phthanoperidinium coreoides* (v.rare; similar species; 30.7 Ma)
Wetzeliella simplex (common), *Wetzeliella truncata* (rare but consistent)
Svalbardella "teespinosa" (v.rare)

488 *Corrudinium "reticulatum"* (v.rare), *Diphyes colligerum* (Lutetian local top)
Glaphyrocysta "extensa", Lentinia "glabra"
Hafniasphaera cryptovesiculata (59.9 Ma - which I don't believe)
Heteraulacacysta porosa (v.rare; 36.8 Ma), *Hystrichokolpoma granulatum*
Samlandia reticulifera, Spiniferites pseudofurcatus (frequent)

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