

time (Ma)	stratigraphy		classic NW European subdivision	NW European Standard Ammonite Zonation	selected dinoflagellate datums	selected sporomorph datums	selected foraminifer/ ostracod datums		
160	Callovian	L	Dogger	lamberti athleta	Lithodinia jurassica; c Pareodinia prolongata	Raistrickisporites brevitruncatus	Lophocythere flexicosta (o); Nophrecythere cruciata cruciata (o); Epistomina mosquensis (f) Lophocythere interrupta interrupta (o) Lophocythere scabra scabra (o); L. bipartita (o); Pseudohutsonia tuberosa (o)		
		M		coronatum jason					
		E		calloviense macrocephalus					
165	Bathonian	L		discus orbis hodsoni	Meiourogonyaulax reticulata; Nannoceratopsis gracilis Nannoceratopsis spiculata		Preciatricosisporites spp. Calliasporites segmentatus; Lycopodiacidites rugulatus; Neoraistrickia truncata; Uvaesporites argenteaeformis; c. Lycopodiumsporites semimuris	Progonocythere stilla (o); Glyptocythere guembeliana(o) Micropneumatocythere subconcentrica (o); Oligocythereis fullonica (o) Progonocythere polonica (o); Lophocythere plena (o) Pleurocythere connexa (o); Lenticulina quenstedti (f)	
		M		morrissi subcontractus progracilis	Carpathodinium predae				
		E		tenuiplicatus zigzag	Bejuia polygonalis Meiourogonyaulax valensii				
170	Bajocian		δ2	parkinsoni garantiana niortense	Nannoceratopsis dictyambonis; N. tricerias; Walloodium cylindricum	Callialasporites segmentatus Chasmatosporites major	Glyptocythere auricula (o) Ammopalmula infrajurensis (f); Fuhrbergiella gigantea (o); Pleurocythere impar (o); Glyptocythere tuberodentina (o) Pleurocythere richteri (o) Pleurocythere regularis (o) Fuhrbergiella primitiva (o) Glyptocythere scitula (o); Fuhrbergiella horrida horrida (o); Ljubimovella piriformis (o) Glyptocythere polita (o) Praeschuleridea decorata (o); Camptocythere pusilla (o)		
				δ1				humphriesianum propinquans laeviuscula discites	Scriniocassis weberi
				γ				concovum bradfordensis murchisonae	Parvocysta spp.; Reutlingia spp.; Susadinium spp.; c Phallocysta eumekes
175	Aalenian		β2-4 β1 α	opalinum	Neoraistrickia gristhorpensis; Uvaesporites argenteaeformis; c Densoisporites; Sestrosporites pseudoalveolatus Circulina meyeriana	Camptocythere media (o) Camptocythere foveolata (o) Otocythere callosa (o); Aphelocythere kuhni (o); Camptocythere praecox (o); Lenticulina foveolata (f)			
				Toarcian			ζ	aalensis pseudoradiosa dispansum thouarsense variabilis	Trilites spp.
								ε2	
ε1	tenuicostatum	Luehndea spinosa							
180	Pliensbachian	L	δ2	spinatum	Ischyosporites variegatus; Staplinisporites (incl. Coronatisporites) c Rogalskaisporites cicatricosus	Ogmoconcha contractula (o); Trachycythere tubulosa (o); Saracenaria sublaevis (f); Bolivina liasica liasica (f) Wicherella semiora semiora (o); Gramannella apostolescui (o) Pleurifera harpa (o); Gammacythere ubiquita (o); Ogmoconchella bispinosa (o); Gramannicythere bachi (o); Ogmoconcha amalthei (o); Bairdia clio (o); Polycope cincinnata (o)			
		E	δ1	margaritatus					
		γ3	davoei	Calliasporites spp.; Neoraistrickia truncata					
185	Sinemurian	L	γ2	ibex	Leptolepidites spp.; Sestrosporites pseudoalveolatus c Heliosporites altmarkensis	Klinglerella variabilis (o) Lophodentina pumicosa (o); Ekythphocythere betzi (o); Ekythphocythere triebeli (o); Lophodentina lacunosa (o) Ogmoconcha hagenowi (o); Nanacythere elegans (o) Ogmoconchella ellipsoidea (o); Cytherelloidea circumscripta (o); Cytherelloidea pulchella (o) Klinglerella translucens (o)			
		E	γ1	jamesoni					
		β3	raricostatum	Liasidium variabile					
190	Hettangian		α3	turneri	Dapcodinium priscum	Contignisporites problematicus Ricciisporites tuberculatus; Zebrasporites interscriptus Cerebropollenites spp. Ovalipollis pseudoalatus	Cytherelloidea buisensis (o); Lingulina tenera collenoti (f) Lutkevichinella sp. (o) Rhombocythere penarthensis (o)		
				β2				oxynotum	
				β1				obtusum	
200	Rhaet.		α2	angulata liasicus	Rhaetogonyaulax spp.	Cingulizonates rhaeticus; Cornutisporites seebergensis; Densoisporites fissus; Lunatisporites rhaeticus; Rhaetipollis germanicus; Semiretisporis spp.; Triancoraesporites reticulatus; Tsugaepollenites pseudomassulae; Zebrasporites laevigatus			
				α1				planorbis	
				marshi suessi					
210	Norian			macer hogarti bicrenatus					

└─ top occurrence

└─ base occurrence

(f) forami nifer

(o) ostracod

c consistent

sporomorph entries/exits are only approximate