

Table DR1

TABLE DR1. JURASSIC-CRETACEOUS AMMONOIDEA -- FIRST AND LAST APPEARANCES

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
1	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Schistophylloceras</i>	Hettangian	Hettangian	208	202	1	4
2	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Paradasyceras</i>	Hettangian	Hettangian	208	202	1	4
3	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Calliphylloceras</i>	Hettangian	Albian	208	99	1	45
4	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Dasyceras</i>	Sinemurian	Sinemurian	202	195	4	6
5	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Juraphyllites</i>	Sinemurian	Pliensbachian	202	190	4	8
6	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Meneghiniceras</i>	Sinemurian	Pliensbachian	202	190	4	8
7	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Phylloceras (Zetoceras)</i>	Sinemurian	Bajocian	202	169	4	17
8	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Phylloceras (Phylloceras)</i>	Sinemurian	Barremian	202	121	4	36
9	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Phylloceras (Partschiceras)</i>	Sinemurian	Maastrichtian	202	65	4	58
10	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Tragophylloceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
11	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Harpophylloceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
12	Phylloceratina	Phyllocerataceae	Juraphyllitidae	<i>Galatceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
13	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Geyeroceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
14	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Hantkeniceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
15	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Procliviceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
16	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Calaceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
17	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Holophylloceras</i>	Bajocian	Aptian	176	112	14	40
18	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Ptychophylloceras</i>	Bajocian	Aptian	176	112	14	40
19	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Sowerbyceras</i>	Oxfordian	Albian	159	99	21	45
20	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Hypophysyloceras</i>	Valanginian	Maastrichtian	137	65	30	58
21	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Phyllophacyceras</i>	Barremian	Maastrichtian	127	65	34	58
22	Phylloceratina	Phyllocerataceae	Phylloceratidae	<i>Carinophylloceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
23	Lytoceratina	Lytocerataceae	Ectocentrididae	<i>Ectocentrites</i>	Hettangian	Hettangian	208	202	1	4
24	Lytoceratina	Lytocerataceae	Ectocentrididae	<i>Fucinites</i>	Hettangian	Hettangian	208	202	1	4
25	Lytoceratina	Lytocerataceae	Pleuroacanthitidae	<i>Pleuroacanthites</i>	Hettangian	Hettangian	208	202	1	4
26	Lytoceratina	Lytocerataceae	Pleuroacanthitidae	<i>Analytoceras</i>	Hettangian	Hettangian	208	202	1	4
27	Lytoceratina	Lytocerataceae	Derolytceratidae	<i>Tragolytoceras</i>	Sinemurian	Sinemurian	202	195	4	6
28	Lytoceratina	Lytocerataceae	Ectocentrididae	<i>Lytoropites</i>	Sinemurian	Sinemurian	202	195	4	6
29	Lytoceratina	Lytocerataceae	Ectocentrididae	<i>Peltolytoceras</i>	Sinemurian	Sinemurian	202	195	4	6
30	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Lytoceras</i>	Sinemurian	Cenomanian	202	93.5	4	47
31	Lytoceratina	Lytocerataceae	Ectocentrididae	<i>Hololytoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
32	Lytoceratina	Lytocerataceae	Derolytceratidae	<i>Aegolytoceras</i>	Pliensbachian	Pliensbachian	195	190	7	8
33	Lytoceratina	Lytocerataceae	Derolytceratidae	<i>Derolytoceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
34	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Alocolytoceras</i>	Toarcian	Toarcian	190	180	9	12
35	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Pleurolytoceras</i>	Toarcian	Toarcian	190	180	9	12
36	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Ptycholytoceras</i>	Toarcian	Toarcian	190	180	9	12
37	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Trachylytoceras</i>	Toarcian	Toarcian	190	180	9	12
38	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Pachylytoceras</i>	Toarcian	Lower Bajocian	190	173.7	9	15
39	Lytoceratina	Lytocerataceae	Nannolytceratidae	<i>Nannolytoceras</i>	Bajocian	Bathonian	176	164	14	19
40	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Megalytoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
41	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Metrolytoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
42	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Villania</i>	Callovian	Callovian	164	159	19	21
43	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Hemilytoceras</i>	Oxfordian	Tithonian	159	144	21	27
44	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Protetragonites</i>	Upper Tithonian	Upper Albian	146.4	99	26	45
45	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Pterolytoceras</i>	Berriasian	Valanginian	144	132	27	32
46	Lytoceratina	Lytocerataceae	Lytoceratidae	<i>Eulytoceras</i>	Hauterivian	Lower Aptian	132	116.5	32	38
47	Lytoceratina	Tetragonitaceae	Gaudryceratidae	<i>Eogaudryceras</i>	Barremian	Upper Albian	127	99	34	45
48	Lytoceratina	Tetragonitaceae	Lytoceratidae	<i>Pictetia</i>	Upper Aptian	Middle Albian	116.5	103.3	38	43
49	Lytoceratina	Tetragonitaceae	Lytoceratidae	<i>Argonauticeras</i>	Upper Aptian	Middle Albian	116.5	103.3	38	43
50	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Jauberticeras</i>	Upper Aptian	Upper Albian	116.5	99	38	45
51	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Gabbioceras</i>	Upper Aptian	Lower Cenomanian	116.5	97.2	38	46
52	Lytoceratina	Tetragonitaceae	Gaudryceratidae	<i>Kossmatella</i>	Upper Aptian	Middle Cenomanian	116.5	95.3	38	46
53	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Tetragonites</i>	Upper Aptian	Maastrichtian	116.5	65	38	58
54	Lytoceratina	Tetragonitaceae	Lytoceratidae	<i>Ammonoceratites</i>	Albian	Albian	112	99	40	45
55	Lytoceratina	Tetragonitaceae	Gaudryceratidae	<i>Zelandites</i>	Lower Albian	Upper Maastrichtian	112	65	40	58
56	Lytoceratina	Tetragonitaceae	Gaudryceratidae	<i>Anagaudryceras</i>	Middle Albian	Maastrichtian	107.7	65	41	58
57	Lytoceratina	Tetragonitaceae	Gaudryceratidae	<i>Gaudryceras</i>	Upper Albian	Maastrichtian	103.3	65	43	58
58	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Parajaubertella</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
59	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Takahashia</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46

Table DR1

Yacobucci, p. 2

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
60	Lytoceratina	Tetragonitaceae	Gaudryceratidae	<i>Vertebrites</i>	Santonian	Maastrichtian	85.8	65	50	58
61	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Saghalinites</i>	Upper Santonian	Maastrichtian	84.3	65	51	58
62	Lytoceratina	Tetragonitaceae	Tetragonitidae	<i>Pseudophyllites</i>	Upper Santonian	Upper Maastrichtian	84.3	65	51	58
63	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Cochlocioceras</i>	Tithonian	Tithonian	151	144	24	27
64	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Protancycloceras</i>	Lower Tithonian	Lower Valanginian	151	134.5	24	31
65	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Bochianites</i>	Lower Tithonian	Barremian	151	121	24	36
66	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Vinalesites</i>	Middle Tithonian	Middle Tithonian	148.7	146.4	25	26
67	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Leptoceras</i>	Upper Berriasiian	Valanginian	140.5	132	28	32
68	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Parapedioceras</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
69	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Baculina</i>	Valanginian	Valanginian	137	132	30	32
70	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Eocioceratites</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
71	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Judiceras</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
72	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Umgazaniceras</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
73	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Menuthiocioceras</i>	Upper Valanginian	Upper Hauterivian	134.5	127	31	34
74	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Crioceratites</i>	Upper Valanginian	Upper Barremian	134.5	121	31	36
75	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Aegioceratites</i>	Lower Hauterivian	Upper Hauterivian	132	127	32	34
76	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Megacioceras</i>	Upper Hauterivian	Upper Hauterivian	128.7	127	33	34
77	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Hoplocioceras</i>	Upper Hauterivian	Lower Barremian	128.7	125	33	34
78	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Pseudothurmannia</i>	Upper Hauterivian	Lower Barremian	128.7	125	33	34
79	Ancycloceratina	Ancyclocerataceae	Hemihoplitidae	<i>Hemihoplites</i>	Upper Hauterivian	Barremian	128.7	121	33	36
80	Ancycloceratina	Ancyclocerataceae	Ptychoceratidae	<i>Eptychoceras</i>	Upper Hauterivian	Barremian	128.7	121	33	36
81	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Acrioceras</i>	Upper Hauterivian	Lower Aptian	128.7	116.5	33	38
82	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Uhligia</i>	Lower Barremian	Lower Barremian	127	125	34	34
83	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Lytocioceras</i>	Barremian	Barremian	127	121	34	36
84	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Hemicioceras</i>	Barremian	Barremian	127	121	34	36
85	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Leptoceratooides</i>	Barremian	Barremian	127	121	34	36
86	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Hamulinites</i>	Barremian	Barremian	127	121	34	36
87	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Orbignyeras</i>	Barremian	Barremian	127	121	34	36
88	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Janenschites</i>	Barremian	Barremian	127	121	34	36
89	Ancycloceratina	Ancyclocerataceae	Hamulinidae	<i>Anahamulina</i>	Barremian	Barremian	127	121	34	36
90	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Colchidites</i>	Barremian	Barremian	127	121	34	36
91	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Hemibaculites</i>	Barremian	Barremian	127	121	34	36
92	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Heteroceras</i>	Barremian	Barremian	127	121	34	36
93	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Imerites</i>	Barremian	Barremian	127	121	34	36
94	Ancycloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Paraspiticeras</i>	Barremian	Barremian	127	121	34	36
95	Ancycloceratina	Ancyclocerataceae	Hamulinidae	<i>Hamulina</i>	Lower Barremian	Upper Barremian	127	121	34	36
96	Ancycloceratina	Ancyclocerataceae	?Macroscaphitidae	<i>Macroscaphites</i>	Barremian	Lower Aptian	127	116.5	34	38
97	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Pedicoceras</i>	Barremian	Lower Aptian	127	116.5	34	38
98	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Lithancylus</i>	Barremian	Lower Aptian	127	116.5	34	38
99	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Karsteniceras</i>	Barremian	Lower Aptian	127	116.5	34	38
100	Ancycloceratina	Ancyclocerataceae	Bochianitidae	<i>Kabylites</i>	Barremian	Lower Aptian	127	116.5	34	38
101	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Ancycloceras</i>	Lower Barremian	Lower Aptian	127	116.5	34	38
102	Ancycloceratina	Ancyclocerataceae	Hemihoplitidae	<i>Camereiceras</i>	Middle Barremian	Middle Barremian	125	123	35	35
103	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Parancycloceras</i>	Upper Barremian	Upper Barremian	123	121	35	36
104	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Simancylceras</i>	Upper Barremian	Upper Barremian	123	121	35	36
105	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Spinocioceras</i>	Upper Barremian	Upper Barremian	123	121	35	36
106	Ancycloceratina	Deshayesitaceae	Deshayesitidae	<i>Turkmeniceras</i>	Upper Barremian	Upper Barremian	123	121	35	36
107	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Toxoceratooides</i>	Upper Barremian	Lower Aptian	123	116.5	35	38
108	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Kutatisites</i>	Upper Barremian	Lower Aptian	123	116.5	35	38
109	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Epancyloceras</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
110	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Shastoceras</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
111	Ancycloceratina	Ancyclocerataceae	Heteroceratidae	<i>Martelites</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
112	Ancycloceratina	Deshayesitaceae	Deshayesitidae	<i>Deshayesites</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
113	Ancycloceratina	Deshayesitaceae	Deshayesitidae	<i>Prodeshayesites</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
114	Ancycloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Megatyloceras</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
115	Ancycloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Procheloniceras</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
116	Ancycloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Roloboceras</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
117	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Helicancylus</i>	Aptian	Aptian	121	112	36	40
118	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Pseudoaustraliceras</i>	Aptian	Aptian	121	112	36	40
119	Ancycloceratina	Ancyclocerataceae	Ancycloceratidae	<i>Caspianites</i>	Aptian	Aptian	121	112	36	40
120	Ancycloceratina	Ancyclocerataceae	?Macroscaphitidae	<i>Cicatrites</i>	Lower Aptian	Upper Aptian	121	112	36	40

Table DR1

Yacobucci, p. 3

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
121	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Ammonitoceras</i>	Lower Aptian	Upper Aptian	121	112	36	40
122	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Australiceras</i>	Lower Aptian	Upper Aptian	121	112	36	40
123	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Tropaeum</i>	Lower Aptian	Upper Aptian	121	112	36	40
124	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Tonohamites</i>	Lower Aptian	Upper Aptian	121	112	36	40
125	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Dufrenoya</i>	Lower Aptian	Upper Aptian	121	112	36	40
126	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Peltocrioceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
127	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Helicancycloceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
128	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Luppovia</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
129	Ancyloceratina	Ancylocerataceae	Ancyloceratidae	<i>Epanisoceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
130	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Burckhardites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
131	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Cloioceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
132	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Kuntziella</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
133	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Somalites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
134	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Mathoceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
135	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Kazanskyllea</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
136	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Parahoplites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
137	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Quitmanites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
138	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Rhytidopilites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
139	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Acanthohopilites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
140	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Colombiceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
141	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Gargasiceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
142	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Nolaniceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
143	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Penaceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
144	Ancyloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Walpenites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
145	Ancyloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Cheloniceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
146	Ancyloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Diadochoceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
147	Ancyloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Vectistites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
148	Ancyloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Eodouvilleiceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
149	Ancyloceratina	Douvilleicerataceae	Trochleiceratidae	<i>Pseudoleymerieiella</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
150	Ancyloceratina	Deshayesitaceae	Parahoplitiidae	<i>Hypacanthoplites</i>	Upper Aptian	Lower Albian	116.5	107.7	38	41
151	Ancyloceratina	Douvilleicerataceae	Trochleiceratidae	<i>Trochleiceras</i>	Upper Aptian	Lower Albian	116.5	107.7	38	41
152	Ancyloceratina	Ancylocerataceae	Ptychoceratidae	<i>Ptychoceras</i>	Upper Aptian	Upper Albian	116.5	99	38	45
153	Ancyloceratina	Deshayesitaceae	Deshayesitidae	<i>Neodeshayesites</i>	Lower Albian	Lower Albian	112	107.7	40	41
154	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Rencurelites</i>	Lower Albian	Lower Albian	112	107.7	40	41
155	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Rossalites</i>	Lower Albian	Lower Albian	112	107.7	40	41
156	Ancyloceratina	Douvilleicerataceae	Douvilleiceratidae	<i>Douvilleiceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
157	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Metahamites</i>	Lower Albian	Middle Albian	112	103.3	40	43
158	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Prohelicoceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
159	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Protanisoceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
160	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Ephamulina</i>	Lower Albian	Middle Albian	112	103.3	40	43
161	Ancyloceratina	Turrilitaceae	Hamitidae	<i>Scaphamites</i>	Albian	Albian	112	99	40	45
162	Ancyloceratina	Turrilitaceae	Hamitidae	<i>Hamites</i>	Lower Albian	Upper Cenomanian	112	93.5	40	47
163	Ancyloceratina	Douvilleicerataceae	Astiericeratidae	<i>Astiericeras</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
164	Ancyloceratina	Turrilitaceae	Turrilitidae	<i>Proturilitoides</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
165	Ancyloceratina	Turrilitaceae	Turrilitidae	<i>Pseudohelicoceras</i>	Middle Albian	Upper Albian	107.7	99	41	45
166	Ancyloceratina	Turrilitaceae	Turrilitidae	<i>Ostlingoceras</i>	Middle Albian	Lower Cenomanian	107.7	97.2	41	46
167	Ancyloceratina	Ancylocerataceae	Labiceratidae	<i>Labceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
168	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Appurdiceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
169	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Prophyticrioceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
170	Ancyloceratina	Turrilitaceae	Hamitidae	<i>Hemipychoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
171	Ancyloceratina	Turrilitaceae	Turrilitidae	<i>Raynaudia</i>	Upper Albian	Upper Albian	103.3	99	43	45
172	Ancyloceratina	Turrilitaceae	Turrilitidae	<i>Turrilitoides</i>	Upper Albian	Upper Albian	103.3	99	43	45
173	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Algerites</i>	Upper Albian	Lower Cenomanian	103.3	97.2	43	46
174	Ancyloceratina	Turrilitaceae	Baculitidae	<i>Lechites</i>	Upper Albian	Lower Cenomanian	103.3	97.2	43	46
175	Ancyloceratina	Turrilitaceae	Turrilitidae	<i>Mariella</i>	Upper Albian	Lower Cenomanian	103.3	97.2	43	46
176	Ancyloceratina	Scaphitaceae	Scaphitidae	<i>Eoscapheites</i>	Upper Albian	Middle Cenomanian	103.3	95.3	43	46
177	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Idiohamites</i>	Upper Albian	Middle Cenomanian	103.3	95.3	43	46
178	Ancyloceratina	Scaphitaceae	Scaphitidae	<i>Worthoceras</i>	Upper Albian	Upper Turonian	103.3	89	43	49
179	Ancyloceratina	Turrilitaceae	Anisoceratidae	<i>Anisoceras</i>	Upper Albian	Upper Turonian	103.3	89	43	49
180	Ancyloceratina	Turrilitaceae	Baculitidae	<i>Sciponoceras</i>	Upper Albian	Upper Turonian	103.3	89	43	49
181	Ancyloceratina	Scaphitaceae	Scaphitidae	<i>Scaphites</i>	Upper Albian	Campanian	103.3	71.3	43	56

Table DR1

Yacobucci, p. 4

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
182	Ancycloceratina	Turrilitaceae	Turrilitidae	<i>Mesoturritites</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
183	Ancycloceratina	Turrilitaceae	Turrilitidae	<i>Hypoturritites</i>	Cenomanian	Cenomanian	99	93.5	45	47
184	Ancycloceratina	Turrilitaceae	Turrilitidae	<i>Turrillites</i>	Cenomanian	Cenomanian	99	93.5	45	47
185	Ancycloceratina	Turrilitaceae	Turrilitidae	<i>Carthaginites</i>	Lower Cenomanian	Upper Cenomanian	99	93.5	45	47
186	Ancycloceratina	Turrilitaceae	Turrilitidae	<i>Neostingoceras</i>	Lower Cenomanian	Upper Cenomanian	99	93.5	45	47
187	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Yezoites</i>	Lower Cenomanian	Santonian	99	83.5	45	51
188	Ancycloceratina	Turrilitaceae	Anisoceratidae	<i>Allocyoceras</i>	Upper Cenomanian	Lower Coniacian	95.3	87.4	46	50
189	Ancycloceratina	Turrilitaceae	Hamitidae	<i>Puebloites</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
190	Ancycloceratina	Turrilitaceae	Hamitidae	<i>Metaptychoceras</i>	Lower Turonian	Upper Turonian	93.5	89	47	49
191	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Scalarites</i>	Turonian	Coniacian	93.5	85.8	47	50
192	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Nostoceras</i>	Turonian	Lower Maastrichtian	93.5	68.2	47	57
193	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Muramoceras</i>	Middle Turonian	Middle Turonian	92	90.5	48	48
194	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Neocioceras</i>	Middle Turonian	Campanian	92	71.3	48	56
195	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Nipponites</i>	Upper Turonian	Lower Santonian	90.5	85	48	50
196	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Pteroscapites</i>	Upper Turonian	Santonian	90.5	83.5	48	51
197	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Hyphantoceras</i>	Upper Turonian	Santonian	90.5	83.5	48	51
198	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Pseudoxbyloceras</i>	Upper Turonian	Upper Campanian	90.5	71.3	48	56
199	Ancycloceratina	Turrilitaceae	Baculitidae	<i>Baculites</i>	Upper Turonian	Upper Maastrichtian	90.5	65	48	58
200	Ancycloceratina	Turrilitaceae	Baculitidae	<i>Pseudobaculites</i>	Coniacian	Coniacian	89	85.8	49	50
201	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Rhyoptychoceras</i>	Coniacian	Coniacian	89	85.8	49	50
202	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Tridenticeras</i>	Coniacian	Coniacian	89	85.8	49	50
203	Ancycloceratina	Turrilitaceae	Anisoceratidae	<i>Phlycticrioceras</i>	Coniacian	Santonian	89	83.5	49	51
204	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Polyptychoceras</i>	Coniacian	Campanian	89	71.3	49	56
205	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Jouaniceras</i>	Santonian	Santonian	85.8	83.5	50	51
206	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Cioscaphites</i>	Santonian	Campanian	85.8	71.3	50	56
207	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Ryugaselia</i>	Santonian	Campanian	85.8	71.3	50	56
208	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Glyptoxoceras</i>	Santonian	Upper Maastrichtian	85.8	65	50	58
209	Ancycloceratina	Turrilitaceae	Baculitidae	<i>Boehmoceras</i>	Middle Santonian	Upper Santonian	85	83.5	51	51
210	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Heresiceras</i>	Upper Santonian	Lower Campanian	84.3	79.4	51	53
211	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Desmoscapites</i>	Upper Santonian	Campanian	84.3	71.3	51	56
212	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Parabinneyites</i>	Lower Campanian	Lower Campanian	83.5	79.4	51	53
213	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Smedalliceras</i>	Lower Campanian	Lower Campanian	83.5	79.4	51	53
214	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Chesapeakekella</i>	Lower Campanian	Lower Campanian	83.5	79.4	51	53
215	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Neoglyptoxoceras</i>	Lower Campanian	Middle Campanian	83.5	75.4	51	54
216	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Acanthoscaphites</i>	Campanian	Campanian	83.5	71.3	51	56
217	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Rhaeboceras</i>	Campanian	Campanian	83.5	71.3	51	56
218	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Neancyloceras</i>	Campanian	Campanian	83.5	71.3	51	56
219	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Exiteloceras</i>	Campanian	Campanian	83.5	71.3	51	56
220	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Astreptoceras</i>	Campanian	Campanian	83.5	71.3	51	56
221	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Masonites</i>	Campanian	Campanian	83.5	71.3	51	56
222	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Pravictoceras</i>	Campanian	Campanian	83.5	71.3	51	56
223	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Discoscaphites</i>	Campanian	Maastrichtian	83.5	65	51	58
224	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Solenoceras</i>	Campanian	Maastrichtian	83.5	65	51	58
225	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Hoploscapites</i>	Campanian	Upper Maastrichtian	83.5	65	51	58
226	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Diplomoceras</i>	Campanian	Upper Maastrichtian	83.5	65	51	58
227	Ancycloceratina	Turrilitaceae	Nostoceratidae	<i>Didymoceratooides</i>	Middle Campanian	Middle Campanian	79.4	75.4	53	54
228	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Ponteixites</i>	Upper Campanian	Lower Maastrichtian	75.4	68.2	54	57
229	Ancycloceratina	Scaphitaceae	Scaphitidae	<i>Indoscaphites</i>	Maastrichtian	Maastrichtian	71.3	65	56	58
230	Ancycloceratina	Turrilitaceae	Baculitidae	<i>Eubaculites</i>	Maastrichtian	Maastrichtian	71.3	65	56	58
231	Ancycloceratina	Turrilitaceae	Baculitidae	<i>Fresvilia</i>	Lower Maastrichtian	Upper Maastrichtian	71.3	65	56	58
232	Ancycloceratina	Turrilitaceae	Diplomoceratidae	<i>Cyrtptychoceras</i>	Upper Maastrichtian	Upper Maastrichtian	68.2	65	57	58
233	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Alsaites</i>	Hettangian	Hettangian	208	202	1	4
234	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Discampicheras</i>	Hettangian	Hettangian	208	202	1	4
235	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Euphyllites</i>	Hettangian	Hettangian	208	202	1	4
236	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Kammerkaroceras</i>	Hettangian	Hettangian	208	202	1	4
237	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Laqueoceras</i>	Hettangian	Hettangian	208	202	1	4
238	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Paracaloceras</i>	Hettangian	Hettangian	208	202	1	4
239	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Parapsiloceras</i>	Hettangian	Hettangian	208	202	1	4
240	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Protocymbites</i>	Hettangian	Hettangian	208	202	1	4
241	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Pseudoaetomoceras</i>	Hettangian	Hettangian	208	202	1	4
242	Ammonitina	Psilocerataceae	Psiloceratidae	<i>Psiloceras</i>	Hettangian	Hettangian	208	202	1	4

Table DR1

Yacobucci, p. 5

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
243	Ammonitina	Psiolcerataceae	Psiolceratidae	<i>Psilophyllites</i>	Hettangian	Hettangian	208	202	1	4
244	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Kammerkarites</i>	Hettangian	Hettangian	208	202	1	4
245	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Saxoceras</i>	Hettangian	Hettangian	208	202	1	4
246	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Schlotheimia</i>	Hettangian	Hettangian	208	202	1	4
247	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Waeheroceras</i>	Hettangian	Hettangian	208	202	1	4
248	Ammonitina	Psiolcerataceae	Arietitidae	<i>Arietites</i>	Lower Sinemurian	Lower Sinemurian	202	198.5	4	5
249	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Charmasseiceras</i>	Lower Sinemurian	Lower Sinemurian	202	198.5	4	5
250	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Hongkongites</i>	Lower Sinemurian	Lower Sinemurian	202	198.5	4	5
251	Ammonitina	Psiolcerataceae	Arietitidae	<i>Aegasteroceras</i>	Sinemurian	Sinemurian	202	195	4	6
252	Ammonitina	Psiolcerataceae	Arietitidae	<i>Agassiceras</i>	Sinemurian	Sinemurian	202	195	4	6
253	Ammonitina	Psiolcerataceae	Arietitidae	<i>Arnioceras</i>	Sinemurian	Sinemurian	202	195	4	6
254	Ammonitina	Psiolcerataceae	Arietitidae	<i>Arniotites</i>	Sinemurian	Sinemurian	202	195	4	6
255	Ammonitina	Psiolcerataceae	Arietitidae	<i>Asteroceras</i>	Sinemurian	Sinemurian	202	195	4	6
256	Ammonitina	Psiolcerataceae	Arietitidae	<i>Coroniceras</i>	Sinemurian	Sinemurian	202	195	4	6
257	Ammonitina	Psiolcerataceae	Arietitidae	<i>Cymbites</i>	Sinemurian	Sinemurian	202	195	4	6
258	Ammonitina	Psiolcerataceae	Arietitidae	<i>Epammonites</i>	Sinemurian	Sinemurian	202	195	4	6
259	Ammonitina	Psiolcerataceae	Arietitidae	<i>Eparieties</i>	Sinemurian	Sinemurian	202	195	4	6
260	Ammonitina	Psiolcerataceae	Arietitidae	<i>Ephophioceras</i>	Sinemurian	Sinemurian	202	195	4	6
261	Ammonitina	Psiolcerataceae	Arietitidae	<i>Euagassiceras</i>	Sinemurian	Sinemurian	202	195	4	6
262	Ammonitina	Psiolcerataceae	Arietitidae	<i>Eusteroceras</i>	Sinemurian	Sinemurian	202	195	4	6
263	Ammonitina	Psiolcerataceae	Arietitidae	<i>Eucoroniceras</i>	Sinemurian	Sinemurian	202	195	4	6
264	Ammonitina	Psiolcerataceae	Arietitidae	<i>Hypasteroceras</i>	Sinemurian	Sinemurian	202	195	4	6
265	Ammonitina	Psiolcerataceae	Arietitidae	<i>Megarietites</i>	Sinemurian	Sinemurian	202	195	4	6
266	Ammonitina	Psiolcerataceae	Arietitidae	<i>Metarnioceras</i>	Sinemurian	Sinemurian	202	195	4	6
267	Ammonitina	Psiolcerataceae	Arietitidae	<i>Metophioceras</i>	Sinemurian	Sinemurian	202	195	4	6
268	Ammonitina	Psiolcerataceae	Arietitidae	<i>Paracoroniceras</i>	Sinemurian	Sinemurian	202	195	4	6
269	Ammonitina	Psiolcerataceae	Arietitidae	<i>Pompekioceras</i>	Sinemurian	Sinemurian	202	195	4	6
270	Ammonitina	Psiolcerataceae	Arietitidae	<i>Primarietites</i>	Sinemurian	Sinemurian	202	195	4	6
271	Ammonitina	Psiolcerataceae	Arietitidae	<i>Pseudasteroceras</i>	Sinemurian	Sinemurian	202	195	4	6
272	Ammonitina	Psiolcerataceae	Arietitidae	<i>Ptycharitetites</i>	Sinemurian	Sinemurian	202	195	4	6
273	Ammonitina	Psiolcerataceae	Arietitidae	<i>Vermiceras</i>	Sinemurian	Sinemurian	202	195	4	6
274	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Proteochioceras</i>	Sinemurian	Sinemurian	202	195	4	6
275	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Tmaegophioceras</i>	Sinemurian	Sinemurian	202	195	4	6
276	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Cheltonia</i>	Sinemurian	Sinemurian	202	195	4	6
277	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Fastigiceras</i>	Sinemurian	Sinemurian	202	195	4	6
278	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Gleviceras</i>	Sinemurian	Sinemurian	202	195	4	6
279	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Oxynoticeras</i>	Sinemurian	Sinemurian	202	195	4	6
280	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Paraoxynoticeras</i>	Sinemurian	Sinemurian	202	195	4	6
281	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Slatterites</i>	Sinemurian	Sinemurian	202	195	4	6
282	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Retenticeras</i>	Sinemurian	Sinemurian	202	195	4	6
283	Ammonitina	Psiolcerataceae	Psiolceratidae	<i>Canavarites</i>	Sinemurian	Sinemurian	202	195	4	6
284	Ammonitina	Psiolcerataceae	Psiolceratidae	<i>Gyrophioceras</i>	Sinemurian	Sinemurian	202	195	4	6
285	Ammonitina	Psiolcerataceae	Psiolceratidae	<i>Hyerifalchia</i>	Sinemurian	Sinemurian	202	195	4	6
286	Ammonitina	Psiolcerataceae	Psiolceratidae	<i>Pseudotropites</i>	Sinemurian	Sinemurian	202	195	4	6
287	Ammonitina	Psiolcerataceae	Psiolceratidae	<i>Tmaegoceras</i>	Sinemurian	Sinemurian	202	195	4	6
288	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Angulaticeras</i>	Sinemurian	Sinemurian	202	195	4	6
289	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Bouaulticeras</i>	Sinemurian	Sinemurian	202	195	4	6
290	Ammonitina	Psiolcerataceae	Schlotheimiidae	<i>Sulciferites</i>	Sinemurian	Sinemurian	202	195	4	6
291	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Microderoceras</i>	Sinemurian	Lower Pliensbachian	202	192.5	4	7
292	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Apoderoceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
293	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Bifericeras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
294	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Crucilobiceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
295	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Eoderoceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
296	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Hemimicroceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
297	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Ophideroceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
298	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Promicroceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
299	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Xipheroceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
300	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Echioceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
301	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Gagaticeras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
302	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Leptechioceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
303	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Palaeoechioceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6

Table DR1

Yacobucci, p. 6

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
304	Ammonitina	Psiolcerataceae	Echioceratidae	<i>Paltechioceras</i>	Upper Sinemurian	Upper Sinemurian	198.5	195	5	6
305	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Prodactylioceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
306	Ammonitina	Eoderocerataceae	Liparoceratidae	<i>Androgynoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
307	Ammonitina	Eoderocerataceae	Liparoceratidae	<i>Beaniceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
308	Ammonitina	Eoderocerataceae	Liparoceratidae	<i>Oistoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
309	Ammonitina	Eoderocerataceae	Liparoceratidae	<i>Platynoticeras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
310	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Acanthopleuroceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
311	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Dayiceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
312	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Gemmellaroceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
313	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Peripleuroceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
314	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Platypleuroceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
315	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Morphomphites</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
316	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Tropidoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
317	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Uptonia</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
318	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Coeloceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
319	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Coeloderoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
320	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Hyperderoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
321	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Phricodoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
322	Ammonitina	Euderocerataceae	Eoderoceratidae	<i>Tetraspidoceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
323	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Hypoxynticeras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
324	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Metoxynticeras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
325	Ammonitina	Psiolcerataceae	Oxynoticeratidae	<i>Radstockiceras</i>	Lower Pliensbachian	Lower Pliensbachian	195	192.5	7	7
326	Ammonitina	Psiolcerataceae	Liparoceratidae	<i>Liparoceras</i>	Lower Pliensbachian	Upper Pliensbachian	195	190	7	8
327	Ammonitina	Eoderocerataceae	Liparoceratidae	<i>Metacycmibites</i>	Lower Pliensbachian	Upper Pliensbachian	195	190	7	8
328	Ammonitina	Eoderocerataceae	Amaltheidae	<i>Amaltheus</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
329	Ammonitina	Eoderocerataceae	Amaltheidae	<i>Amauroceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
330	Ammonitina	Eoderocerataceae	Amaltheidae	<i>Pleuroceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
331	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Reynesceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
332	Ammonitina	Eoderocerataceae	Polymorphitidae	<i>Kondiloceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
333	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Arieticas</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
334	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Asaphoceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
335	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Canavaria</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
336	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Fontanelliceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
337	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Fucinicas</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
338	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Leptaleoceras</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
339	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Lioceratooides</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
340	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Peltarpites</i>	Upper Pliensbachian	Upper Pliensbachian	192.5	190	8	8
341	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Protogrammoceras</i>	Upper Pliensbachian	Lower Toarcian	192.5	185	8	10
342	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Catacoeloceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
343	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Dactylioceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
344	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Peronoceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
345	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Zugodactylites</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
346	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Bouleceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
347	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Eleganticas</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
348	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Frechella</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
349	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Harpoceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
350	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Hildaites</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
351	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Hildoceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
352	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Leukadiella</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
353	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Maconicas</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
354	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Mercaliceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
355	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Orthildaites</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
356	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Paroniceras</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
357	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Renzicas</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
358	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Tiltonicas</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
359	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Whitbyicas</i>	Lower Toarcian	Lower Toarcian	190	185	9	10
360	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Collina</i>	Toarcian	Toarcian	190	180	9	12
361	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Sphaeroeloceras</i>	Toarcian	Toarcian	190	180	9	12
362	Ammonitina	Eoderocerataceae	Dactylioceratidae	<i>Subcollina</i>	Toarcian	Toarcian	190	180	9	12
363	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Fanninoceras</i>	Toarcian	Toarcian	190	180	9	12
364	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Sphenarpites</i>	Toarcian	Toarcian	190	180	9	12

Table DR1

Yacobucci, p. 7

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
365	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Brodieia</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
366	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Crassiceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
367	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Esariceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
368	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Hammatoceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
369	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Haugia</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
370	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Pelecoceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
371	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Phymatoceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
372	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Pseudomercaticeras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
373	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Catulloceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
374	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Dumortieria</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
375	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Grammoceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
376	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Onychoceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
377	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Phlyseogrammoceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
378	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Polyplectus</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
379	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Pseudolloceras</i>	Upper Toarcian	Upper Toarcian	185	180	11	12
380	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Pleydella</i>	Upper Toarcian	Lower Bajocian	185	173.7	11	15
381	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Brasilia</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
382	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Canavarella</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
383	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Costileoceras</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
384	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Cyclocceras</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
385	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Geyerina</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
386	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Leioceras</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
387	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Ludwigia</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
388	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Pseudographoceras</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
389	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Staufenia</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
390	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Bredya</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
391	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Erycites</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
392	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Planammatoceras</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
393	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Hudlestonia</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
394	Ammonitina	Hildocerataceae	Hildoceratidae	<i>Tmetoceras</i>	Lower Bajocian	Lower Bajocian	176	173.7	14	15
395	Ammonitina	Haplacerataceae	Strigoceratidae	<i>Praestrigites</i>	Lower Bajocian	Middle Bajocian	176	171.4	14	16
396	Ammonitina	Haplacerataceae	Graphoceratidae	<i>Graphoceras</i>	Lower Bajocian	Middle Bajocian	176	171.4	14	16
397	Ammonitina	Haplacerataceae	Sonniniidae	<i>Euhoplceras</i>	Lower Bajocian	Middle Bajocian	176	171.4	14	16
398	Ammonitina	Haplacerataceae	Sonniniidae	<i>Haplopleuroceras</i>	Lower Bajocian	Middle Bajocian	176	171.4	14	16
399	Ammonitina	Haplacerataceae	Sonniniidae	<i>Sonninia</i>	Lower Bajocian	Middle Bajocian	176	171.4	14	16
400	Ammonitina	Haplacerataceae	Haplaceratidae	<i>Proteocostraus</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
401	Ammonitina	Haplacerataceae	Haplaceratidae	<i>Toxamblyites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
402	Ammonitina	Haplacerataceae	Oppeliidae	<i>Bradfordia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
403	Ammonitina	Haplacerataceae	Oppeliidae	<i>Stegoxylites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
404	Ammonitina	Haplacerataceae	Strigoceratidae	<i>Hebetoxyites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
405	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Darellella</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
406	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Dariella</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
407	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Dissoroceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
408	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Hyperioceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
409	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Oedania</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
410	Ammonitina	Hildocerataceae	Graphoceratidae	<i>Reynesella</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
411	Ammonitina	Hildocerataceae	Hammatoceratidae	<i>Eudmetoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
412	Ammonitina	Hildocerataceae	Sonniniidae	<i>Bajocia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
413	Ammonitina	Hildocerataceae	Sonniniidae	<i>Dorsetenia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
414	Ammonitina	Hildocerataceae	Sonniniidae	<i>Fissilobceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
415	Ammonitina	Hildocerataceae	Sonniniidae	<i>Fontanesia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
416	Ammonitina	Hildocerataceae	Sonniniidae	<i>Guhsania</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
417	Ammonitina	Hildocerataceae	Sonniniidae	<i>Papilliceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
418	Ammonitina	Hildocerataceae	Sonniniidae	<i>Pelekodites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
419	Ammonitina	Hildocerataceae	Sonniniidae	<i>Poecilomorphus</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
420	Ammonitina	Hildocerataceae	Sonniniidae	<i>Shirbuirnia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
421	Ammonitina	Hildocerataceae	Sonniniidae	<i>Witchellia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
422	Ammonitina	Hildocerataceae	Sonniniidae	<i>Zurcheria</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
423	Ammonitina	Stephanocerataceae	Otoitidae	<i>Dodicoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
424	Ammonitina	Stephanocerataceae	Otoitidae	<i>Emileia</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
425	Ammonitina	Stephanocerataceae	Otoitidae	<i>Normannites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16

Table DR1

Yacobucci, p. 8

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
426	Ammonitina	Stephanocerataceae	Otoitidae	<i>Otoites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
427	Ammonitina	Stephanocerataceae	Otoitidae	<i>Pseudotoites</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
428	Ammonitina	Stephanocerataceae	Otoitidae	<i>Trilobiticeras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
429	Ammonitina	Stephanocerataceae	Otoitidae	<i>Zemistephanus</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
430	Ammonitina	Stephanocerataceae	Sphaeroceratidae	<i>Chondroceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
431	Ammonitina	Stephanocerataceae	Sphaeroceratidae	<i>Labryinthoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
432	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Kumatostephanus</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
433	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Stemmatoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
434	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Stephanoceras</i>	Middle Bajocian	Middle Bajocian	173.7	171.4	15	16
435	Ammonitina	Haplocerataceae	Haploceratidae	<i>Cadomoceras</i>	Middle Bajocian	Upper Bajocian	173.7	169	15	17
436	Ammonitina	Haplocerataceae	Oppeliidae	<i>Oppelia</i>	Middle Bajocian	Upper Bajocian	173.7	169	15	17
437	Ammonitina	Haplocerataceae	Strigoceratidae	<i>Strigoceras</i>	Middle Bajocian	Upper Bajocian	173.7	169	15	17
438	Ammonitina	Stephanocerataceae	Sphaeroceratidae	<i>Sphaeroceras</i>	Middle Bajocian	Upper Bajocian	173.7	169	15	17
439	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Teloceras</i>	Middle Bajocian	Upper Bajocian	173.7	169	15	17
440	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Leptosphinctes</i>	Middle Bajocian	Upper Bajocian	173.7	169	15	17
441	Ammonitina	Haplocerataceae	Haploceratidae	<i>Lissoceras</i>	Middle Bajocian	Lower Bathonian	173.7	167.3	15	18
442	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Præparkinsonia</i>	Basal Upper Bajocian	Basal Upper Bajocian	171.4	169	16	17
443	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Caumontisphinctes</i>	Lower Upper Bajocian	Lower Upper Bajocian	171.4	169	16	17
444	Ammonitina	Haplocerataceae	Oppeliidae	<i>Trimarginia</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
445	Ammonitina	Perisphinctaceae	Morphoceratidae	<i>Dimorphinites</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
446	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Hemigarantia</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
447	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Pseudogarantiana</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
448	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Strenoceras</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
449	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Lobosphinctes</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
450	Ammonitina	Stephanocerataceae	Sphaeroceratidae	<i>Oeoptychoceras</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
451	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Ermoceras</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
452	Ammonitina	Stephanocerataceae	Thamboceratidae	<i>Thamboceras</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
453	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Bigotties</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
454	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Cleistosphinctes</i>	Upper Bajocian	Upper Bajocian	171.4	169	16	17
455	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Parkinsonia</i>	Upper Bajocian	Lower Bathonian	171.4	167.3	16	18
456	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Garantiana</i>	Upper Bajocian	Middle Bathonian	171.4	165.7	16	18
457	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Cadomites</i>	Upper Bajocian	Bathonian	171.4	164	16	19
458	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Epistrenoceras</i>	Upper Bajocian	Upper Bathonian	171.4	164	16	19
459	Ammonitina	Haplocerataceae	Oppeliidae	<i>Oecotraustes</i>	Upper Bajocian	Middle Callovian	171.4	160.7	16	20
460	Ammonitina	Perisphinctaceae	Morphoceratidae	<i>Morphoceras</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
461	Ammonitina	Perisphinctaceae	Morphoceratidae	<i>Polysphinctites</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
462	Ammonitina	Perisphinctaceae	Parkinsoniidae	<i>Pseudocosmoceras</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
463	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Planisphinctes</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
464	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Zigzagiceras</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
465	Ammonitina	Stephanocerataceae	Thamboceratidae	<i>Thambites</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
466	Ammonitina	Stephanocerataceae	Thamboceratidae	<i>Bramkampia</i>	Lower Bathonian	Lower Bathonian	169	167.3	17	18
467	Ammonitina	Perisphinctaceae	Morphoceratidae	<i>Ebrayiceras</i>	Lower Bathonian	Middle Bathonian	169	165.7	17	18
468	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Procerites</i>	Lower Bathonian	Middle Bathonian	169	165.7	17	18
469	Ammonitina	Stephanocerataceae	Clydoniceratidae	<i>Micromphalites</i>	Lower Bathonian	Middle Bathonian	169	165.7	17	18
470	Ammonitina	Haplocerataceae	Oppeliidae	<i>Stringia</i>	Bathonian	Bathonian	169	164	17	19
471	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Berbericeras</i>	Bathonian	Bathonian	169	164	17	19
472	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Siemiradzka</i>	Bathonian	Bathonian	169	164	17	19
473	Ammonitina	Stephanocerataceae	Stephanoceratidae	<i>Polylectites</i>	Bathonian	Bathonian	169	164	17	19
474	Ammonitina	Stephanocerataceae	Tulitidae	<i>Bullatimorphites</i>	Lower Bathonian	Lower Callovian	169	162.3	17	20
475	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Gracilisphinctes</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
476	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Lycetticeras</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
477	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Morrisiceras</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
478	Ammonitina	Stephanocerataceae	Tulitidae	<i>Krumbeckia</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
479	Ammonitina	Stephanocerataceae	Tulitidae	<i>Schwandorfia</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
480	Ammonitina	Stephanocerataceae	Tulitidae	<i>Sphaeroptychius</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
481	Ammonitina	Stephanocerataceae	Tulitidae	<i>Tulites</i>	Middle Bathonian	Middle Bathonian	167.3	165.7	18	18
482	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pseudoperisphinctes</i>	Middle Bathonian	Upper Bathonian	167.3	164	18	19
483	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Wagnericeras</i>	Middle Bathonian	Upper Bathonian	167.3	164	18	19
484	Ammonitina	Stephanocerataceae	Clydoniceratidae	<i>Clydoniceras</i>	Middle Bathonian	Upper Bathonian	167.3	164	18	19
485	Ammonitina	Haplocerataceae	Oppeliidae	<i>Paralcidia</i>	Middle Bathonian	Middle Callovian	167.3	160.7	18	20
486	Ammonitina	Haplocerataceae	Oppeliidae	<i>Prohecticoceras</i>	Upper Bathonian	Upper Bathonian	165.7	164	18	19

Table DR1

Yacobucci, p. 9

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
487	Ammonitina	Stephanocerataceae	Clydoniceratidae	<i>Delecticeras</i>	Upper Bathonian	Upper Bathonian	165.7	164	18	19
488	Ammonitina	Stephanocerataceae	Clydoniceratidae	<i>Dhrumaites</i>	Upper Bathonian	Upper Bathonian	165.7	164	18	19
489	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Choffatia</i>	Upper Bathonian	Middle Callovian	165.7	160.7	18	20
490	Ammonitina	Haplocerataceae	Oppeliidae	<i>Hecticoceras</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
491	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Proplanulites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
492	Ammonitina	Perisphinctaceae	Reineckeidae	<i>Epimorphoceras</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
493	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Arcticoceras</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
494	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Arctocephalites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
495	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Microcephalites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
496	Ammonitina	Stephanocerataceae	Kosmoceratidae	<i>Kepllerites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
497	Ammonitina	Stephanocerataceae	Kosmoceratidae	<i>Sigaloceras</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
498	Ammonitina	Stephanocerataceae	Kosmoceratidae	<i>Toricellites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
499	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Eucycloceras</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
500	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Eurycephalites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
501	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Indocephalites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
502	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Lilloetia</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
503	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Macrocephalites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
504	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Nothococephalites</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
505	Ammonitina	Stephanocerataceae	Tulitidae	<i>Kheraiceras</i>	Lower Callovian	Lower Callovian	164	162.3	19	20
506	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Kinkeliniceras</i>	Lower Callovian	Middle Callovian	164	160.7	19	20
507	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Cadoceras</i>	Lower Callovian	Middle Callovian	164	160.7	19	20
508	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Chamousetia</i>	Lower Callovian	Middle Callovian	164	160.7	19	20
509	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Pseudocadoceras</i>	Lower Callovian	Middle Callovian	164	160.7	19	20
510	Ammonitina	Haplocerataceae	Oppeliidae	<i>Chanasia</i>	Callovian	Callovian	164	159	19	21
511	Ammonitina	Haplocerataceae	Oppeliidae	<i>Lorioloceras</i>	Callovian	Callovian	164	159	19	21
512	Ammonitina	Haplocerataceae	Oppeliidae	<i>Petitcleria</i>	Callovian	Callovian	164	159	19	21
513	Ammonitina	Haplocerataceae	Oppeliidae	<i>Subbonarellia</i>	Callovian	Callovian	164	159	19	21
514	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Indospinches</i>	Callovian	Callovian	164	159	19	21
515	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Subgrossouvrinia</i>	Callovian	Callovian	164	159	19	21
516	Ammonitina	Perisphinctaceae	Reineckeidae	<i>Nequeniceras</i>	Callovian	Callovian	164	159	19	21
517	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Xenocephalites</i>	Callovian	Callovian	164	159	19	21
518	Ammonitina	Stephanocerataceae	Tulitidae	<i>Bombrurites</i>	Callovian	Callovian	164	159	19	21
519	Ammonitina	Haplocerataceae	Oppeliidae	<i>Phylcticeras</i>	Lower Callovian	Upper Callovian	164	159	19	21
520	Ammonitina	Stephanocerataceae	Kosmoceratidae	<i>Kosmoceras</i>	Lower Callovian	Upper Callovian	164	159	19	21
521	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Grossouvrinia</i>	Callovian	Lower Oxfordian	164	156.5	19	22
522	Ammonitina	Haplocerataceae	Oppeliidae	<i>Sindeites</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
523	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Obtusicostites</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
524	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Sivajiceras</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
525	Ammonitina	Stephanocerataceae	Kosmoceratidae	<i>Epikosmoceras</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
526	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Idiocycloceras</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
527	Ammonitina	Stephanocerataceae	Macrocephalitidae	<i>Subkossomatis</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
528	Ammonitina	Stephanocerataceae	Oeceptychiidae	<i>Oeceptychius</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
529	Ammonitina	Stephanocerataceae	Pachyceratidae	<i>Rollerites</i>	Middle Callovian	Middle Callovian	162.3	160.7	20	20
530	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Binatispinches</i>	Middle Callovian	Upper Callovian	162.3	159	20	21
531	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Hubertoceras</i>	Middle Callovian	Upper Callovian	162.3	159	20	21
532	Ammonitina	Perisphinctaceae	Reineckeidae	<i>Reineckeia</i>	Middle Callovian	Upper Callovian	162.3	159	20	21
533	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Longaeviceras</i>	Middle Callovian	Upper Callovian	162.3	159	20	21
534	Ammonitina	Stephanocerataceae	Pachyceratidae	<i>Erymnoceras</i>	Middle Callovian	Upper Callovian	162.3	159	20	21
535	Ammonitina	Haplocerataceae	Oppeliidae	<i>Acanthaecites</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
536	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Peltoceras</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
537	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Pseudopeltoceras</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
538	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Ruriceras</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
539	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Orionoides</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
540	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Poulispinches</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
541	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Prososhincoites</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
542	Ammonitina	Perisphinctaceae	Reineckeidae	<i>Collotia</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
543	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Quenstedtoceras</i>	Upper Callovian	Upper Callovian	160.7	159	20	21
544	Ammonitina	Haplocerataceae	Oppeliidae	<i>Distichoceras</i>	Upper Callovian	Lower Oxfordian	160.7	156.5	20	22
545	Ammonitina	Haplocerataceae	Oppeliidae	<i>Horioceras</i>	Upper Callovian	Lower Oxfordian	160.7	156.5	20	22
546	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Alligatoricas</i>	Upper Callovian	Lower Oxfordian	160.7	156.5	20	22
547	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Properisphinctes</i>	Upper Callovian	Lower Oxfordian	160.7	156.5	20	22

Table DR1

Yacobucci, p. 10

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
548	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Euspidoceras</i>	Upper Callovian	Upper Oxfordian	160.7	154	20	23
549	Ammonitina	Stephanocerataceae	Pachyceratidae	<i>Pachyceras</i>	Upper Callovian	Upper Oxfordian	160.7	154	20	23
550	Ammonitina	Haplocerataceae	Oppeliidae	<i>Berniceras</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
551	Ammonitina	Haplocerataceae	Oppeliidae	<i>Scaphitodes</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
552	Ammonitina	Haplocerataceae	Oppeliidae	<i>Sphaerodromites</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
553	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Intranodites</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
554	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Peltoceratoides</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
555	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Peltomorphites</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
556	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Pseudogregoryceras</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
557	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Mirospinctes</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
558	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Prososphinctes</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
559	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Herznachites</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
560	Ammonitina	Stephanocerataceae	Oeocystichiidae	<i>Protophites</i>	Lower Oxfordian	Lower Oxfordian	159	156.5	21	22
561	Ammonitina	Haplocerataceae	Oppeliidae	<i>Creniceras</i>	Oxfordian	Oxfordian	159	154	21	23
562	Ammonitina	Haplocerataceae	Oppeliidae	<i>Popanites</i>	Oxfordian	Oxfordian	159	154	21	23
563	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Parawedekindia</i>	Lower Oxfordian	Upper Oxfordian	159	154	21	23
564	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Cardioceras</i>	Lower Oxfordian	Upper Oxfordian	159	154	21	23
565	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Goliathiceras</i>	Lower Oxfordian	Upper Oxfordian	159	154	21	23
566	Ammonitina	Haplocerataceae	Oppeliidae	<i>Ochetoceras</i>	Lower Oxfordian	Lower Kimmeridgian	159	153	21	23
567	Ammonitina	Haplocerataceae	Haploceratidae	<i>Glochiceras</i>	Oxfordian	Kimmeridgian	159	151	21	24
568	Ammonitina	Haplocerataceae	Oppeliidae	<i>Tarameliceras</i>	Oxfordian	Kimmeridgian	159	151	21	24
569	Ammonitina	Haplocerataceae	Oppeliidae	<i>Cubaechetoceras</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
570	Ammonitina	Haplocerataceae	Oppeliidae	<i>Trimarginites</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
571	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Clambites</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
572	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Epipeltoceras</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
573	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Gregoryceras</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
574	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Decipia</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
575	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Neomorphoceras</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
576	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Ringsteadia</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
577	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Vinalesthinctes</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
578	Ammonitina	Stephanocerataceae	Mayaitidae	<i>Dhosites</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
579	Ammonitina	Stephanocerataceae	Mayaitidae	<i>Epimayaites</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
580	Ammonitina	Stephanocerataceae	Mayaitidae	<i>Mayaites</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
581	Ammonitina	Stephanocerataceae	Mayaitidae	<i>Paryphoceras</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
582	Ammonitina	Stephanocerataceae	Mayaitidae	<i>Prograyceras</i>	Upper Oxfordian	Upper Oxfordian	156.5	154	22	23
583	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Nebrodites</i>	Upper Oxfordian	Lower Kimmeridgian	156.5	153	22	23
584	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Idoceras</i>	Upper Oxfordian	Lower Kimmeridgian	156.5	153	22	23
585	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pachypticonia</i>	Upper Oxfordian	Lower Kimmeridgian	156.5	153	22	23
586	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Perisphinctes</i>	Upper Oxfordian	Lower Kimmeridgian	156.5	153	22	23
587	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Amoeboceras</i>	Upper Oxfordian	Lower Kimmeridgian	156.5	153	22	23
588	Ammonitina	Haplocerataceae	Oppeliidae	<i>Cymaceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
589	Ammonitina	Haplocerataceae	Oppeliidae	<i>Oxydiscites</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
590	Ammonitina	Haplocerataceae	Oppeliidae	<i>Strebites</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
591	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Benacoceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
592	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Mesosimoceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
593	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Pseudosimoceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
594	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Simaspidoceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
595	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Ataxioceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
596	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Aulacostephanus</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
597	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Epicephalites</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
598	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Involuticeras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
599	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pachysphinctes</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
600	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Parasrenia</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
601	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pictoria</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
602	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Prorasnia</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
603	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Rasnenia</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
604	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Raseniodites</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
605	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Subneumayria</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
606	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Sutneria</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
607	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Trioziites</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23
608	Ammonitina	Stephanocerataceae	Cardioceratidae	<i>Hoplocardioceras</i>	Lower Kimmeridgian	Lower Kimmeridgian	154	153	23	23

Table DR1

Yacobucci, p. 11

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
609	Ammonitina	Haplocerataceae	Oppeliidae	<i>Eurynoticeras</i>	Lower Kimmeridgian	Middle Kimmeridgian	154	152	23	24
610	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Enosphinctes</i>	Lower Kimmeridgian	Middle Kimmeridgian	154	152	23	24
611	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Lithacoceras</i>	Lower Kimmeridgian	Middle Kimmeridgian	154	152	23	24
612	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Subdichotomoceras</i>	Lower Kimmeridgian	Middle Kimmeridgian	154	152	23	24
613	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Torquatiphinctes</i>	Lower Kimmeridgian	Middle Kimmeridgian	154	152	23	24
614	Ammonitina	Haplocerataceae	Oppeliidae	<i>Hemihaploceras</i>	Kimmeridgian	Kimmeridgian	154	151	23	24
615	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Orthaspidoceras</i>	Kimmeridgian	Kimmeridgian	154	151	23	24
616	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Physodoceras</i>	Kimmeridgian	Kimmeridgian	154	151	23	24
617	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Aspidoceras</i>	Lower Kimmeridgian	Upper Kimmeridgian	154	151	23	24
618	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Kossmatia</i>	Kimmeridgian	Upper Tithonian	154	144	23	27
619	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Paraboliceras</i>	Kimmeridgian	Upper Tithonian	154	144	23	27
620	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Paraboliceratooides</i>	Kimmeridgian	Upper Tithonian	154	144	23	27
621	Ammonitina	Haplocerataceae	Haploceratidae	<i>Haploceras</i>	Kimmeridgian	Valanginian	154	132	23	32
622	Ammonitina	Haplocerataceae	Oppeliidae	<i>Neochetoceras</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
623	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Hemisimoceras</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
624	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Virgatosimoceras</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
625	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Gravesia</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
626	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Katolericeras</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
627	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Metagravesia</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
628	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Procraspedites</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
629	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Virgataxioceras</i>	Middle Kimmeridgian	Middle Kimmeridgian	153	152	23	24
630	Ammonitina	Haplocerataceae	Oppeliidae	<i>Mazapilites</i>	Middle Kimmeridgian	Upper Kimmeridgian	153	151	23	24
631	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Hybonoticeras</i>	Middle Kimmeridgian	Lower Tithonian	153	148.7	23	25
632	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Anavirgatites</i>	Middle Kimmeridgian	Lower Tithonian	153	148.7	23	25
633	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Subplanites</i>	Middle Kimmeridgian	Lower Tithonian	153	148.7	23	25
634	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pectinatites</i>	Upper Kimmeridgian	Upper Kimmeridgian	152	151	24	24
635	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Wheatleyites</i>	Upper Kimmeridgian	Upper Kimmeridgian	152	151	24	24
636	Ammonitina	Haplocerataceae	Haploceratidae	<i>Hildoglochiceras</i>	Upper Kimmeridgian	Lower Tithonian	152	148.7	24	25
637	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Aulacosphinctoides</i>	Upper Kimmeridgian	Lower Tithonian	152	148.7	24	25
638	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pavlovia</i>	Upper Kimmeridgian	Lower Tithonian	152	148.7	24	25
639	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Aulasimoceras</i>	Tithonian	Kimmeridgian	151	151	24	24
640	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Dorsoplanites</i>	Lower Tithonian	Upper Kimmeridgian	151	151	24	24
641	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Acuticostites</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
642	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Djurjuriceras</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
643	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Epivirgatites</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
644	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Laugeites</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
645	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Lomonosovella</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
646	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Michalskia</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
647	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Paraberriasella</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
648	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Parapallasiceras</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
649	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Sublithacoceras</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
650	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Virgatites</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
651	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Zaraikites</i>	Lower Tithonian	Lower Tithonian	151	148.7	24	25
652	Ammonitina	Haplocerataceae	Oppeliidae	<i>Oxylenticeras</i>	Tithonian	Tithonian	151	144	24	27
653	Ammonitina	Haplocerataceae	Oppeliidae	<i>Semiformiceras</i>	Tithonian	Tithonian	151	144	24	27
654	Ammonitina	Haplocerataceae	Oppeliidae	<i>Gymnodiscoceras</i>	Tithonian	Tithonian	151	144	24	27
655	Ammonitina	Perisphinctaceae	Aspidoceratidae	<i>Simoceras</i>	Tithonian	Tithonian	151	144	24	27
656	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Corongoceras</i>	Tithonian	Tithonian	151	144	24	27
657	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Dickersonia</i>	Tithonian	Tithonian	151	144	24	27
658	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Durangites</i>	Tithonian	Tithonian	151	144	24	27
659	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Himalayites</i>	Tithonian	Tithonian	151	144	24	27
660	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Tithopeltoceras</i>	Tithonian	Tithonian	151	144	24	27
661	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Windhauseniceras</i>	Tithonian	Tithonian	151	144	24	27
662	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Nothostephanus</i>	Tithonian	Tithonian	151	144	24	27
663	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Phanerostephanus</i>	Tithonian	Tithonian	151	144	24	27
664	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pseudoinvolviticeras</i>	Tithonian	Tithonian	151	144	24	27
665	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Pseudovirgatites</i>	Tithonian	Tithonian	151	144	24	27
666	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Glaucolithites</i>	Lower Tithonian	Upper Tithonian	151	144	24	27
667	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Virgatophinctes</i>	Lower Tithonian	Upper Tithonian	151	144	24	27
668	Ammonitina	Haplocerataceae	Oppeliidae	<i>Substreblites</i>	Tithonian	Upper Valanginian	151	132	24	32
669	Ammonitina	Haplocerataceae	Haploceratidae	<i>Pseudolissoceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27

Table DR1

Yacobucci, p. 12

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
670	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Parodontoceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
671	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Andiceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
672	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Blandfordiceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
673	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Chigaroceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
674	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Protacanthodiscus</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
675	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Protothurmannia</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
676	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Raimondiceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
677	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Substeueroferas</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
678	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Proniceras</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
679	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Umiaites</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
680	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Glottoptychinites</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
681	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Kerberites</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
682	Ammonitina	Perisphinctaceae	Perisphinctidae	<i>Titanites</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
683	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Craspedites</i>	Upper Tithonian	Upper Tithonian	146.4	144	26	27
684	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Hemispiceras</i>	Uppermost Tithonian	Uppermost Tithonian	146.4	144	26	27
685	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Negreliceras</i>	Upper Tithonian	Lower Berriasian	146.4	140.5	26	28
686	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Subcraspedites</i>	Upper Tithonian	Lower Berriasian	146.4	140.5	26	28
687	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Garnierceras</i>	Upper Tithonian	Lower Berriasian	146.4	140.5	26	28
688	Ammonitina	Haplocerataceae	Oppelliidae	<i>Cyrtosiceras</i>	Upper Tithonian	Berriasian	146.4	137	26	30
689	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Berriasella</i>	Upper Tithonian	Berriasian	146.4	137	26	30
690	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Lyt-hoplitops</i>	Upper Tithonian	Berriasian	146.4	137	26	30
691	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Pseudargentiniceras</i>	Upper Tithonian	Berriasian	146.4	137	26	30
692	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Spiticeras</i>	Upper Tithonian	Berriasian	146.4	137	26	30
693	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Dalmasiceras</i>	Upper Tithonian	Upper Berriasian	146.4	137	26	30
694	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Malbosiceras</i>	Upper Tithonian	Upper Berriasian	146.4	137	26	30
695	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Subalpinites</i>	Upper Tithonian	Lower Valanginian	146.4	134.5	26	31
696	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Subthurmannia</i>	Upper Tithonian	Lower Valanginian	146.4	134.5	26	31
697	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Frenguelligeras</i>	Lower Berriasian	Lower Berriasian	144	140.5	27	28
698	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Praetolia</i>	Lower Berriasian	Lower Berriasian	144	140.5	27	28
699	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Hectoroceras</i>	Lower Berriasian	Lower Berriasian	144	140.5	27	28
700	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Argentiniceras</i>	Berriasian	Berriasian	144	137	27	30
701	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Cuyaniceras</i>	Berriasian	Berriasian	144	137	27	30
702	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Neocosmoceras</i>	Berriasian	Berriasian	144	137	27	30
703	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Parandiceras</i>	Berriasian	Berriasian	144	137	27	30
704	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Riasanites</i>	Lower Berriasian	Berriasian	144	137	27	30
705	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Borealites</i>	Lower Berriasian	Upper Berriasian	144	137	27	30
706	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Surites</i>	Lower Berriasian	Upper Berriasian	144	137	27	30
707	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Callipythocheras</i>	Berriasian	Valanginian	144	132	27	32
708	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Odontodiscoceras</i>	Berriasian	Valanginian	144	132	27	32
709	Ammonitina	Haplocerataceae	Haploceratidae	<i>Neoliissoceras</i>	Berriasian	Upper Hauterivian	144	127	27	34
710	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Bankoceras</i>	Upper Berriasian	Upper Berriasian	140.5	137	28	30
711	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Groebericeras</i>	Upper Berriasian	Upper Berriasian	140.5	137	28	30
712	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Peregrinoceras</i>	Upper Berriasian	Upper Berriasian	140.5	137	28	30
713	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Kilianella</i>	Upper Berriasian	Upper Valanginian	140.5	132	28	32
714	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Thurmanniceras</i>	Upper Valanginian	Upper Valanginian	140.5	132	28	32
715	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Acantholissonia</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
716	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Baronites</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
717	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Virgatopychites</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
718	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Nikitinoceras</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
719	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Thorsteinssonoceras</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
720	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Menjaites</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
721	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Platyleniceras</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
722	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Delphinites</i>	Lower Valanginian	Lower Valanginian	137	134.5	30	31
723	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Paquiericeras</i>	Upper Lower Valanginian	Lower Upper Valanginian	137	132	30	32
724	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Saynoceras</i>	Lower Valanginian	Upper Valanginian	137	132	30	32
725	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Valanginites</i>	Lower Valanginian	Upper Valanginian	137	132	30	32
726	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Tolla</i>	Lower Valanginian	Upper Valanginian	137	132	30	32
727	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Polyptychites</i>	Lower Valanginian	Upper Valanginian	137	132	30	32
728	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Sarasinella</i>	Valanginian	Valanginian	137	132	30	32
729	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Neocomites</i>	Lower Valanginian	Lower Hauterivian	137	130.3	30	32
730	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Olcostephanus</i>	Lower Valanginian	Lower Hauterivian	137	130.3	30	32

Table DR1

Yacobucci, p. 13

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
731	Ammonitina	Haplocerataceae	Oppeliidae	<i>Uhligites</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
732	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Chamalocia</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
733	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Criosarasinella</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
734	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Karakaschiceras</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
735	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Lissonia</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
736	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Neohoploceras</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
737	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Stoicoceras</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
738	Ammonitina	Perisphinctaceae	Oosterellidae	<i>Pseudoosterella</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
739	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Dichotomites</i>	Upper Valanginian	Upper Valanginian	134.5	132	31	32
740	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Distoloceras</i>	Upper Valanginian	Lower Hauterivian	134.5	130.3	31	32
741	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Lyticoceras</i>	Upper Valanginian	Lower Hauterivian	134.5	130.3	31	32
742	Ammonitina	Perisphinctaceae	Oosterellidae	<i>Oosterella</i>	Upper Valanginian	Lower Hauterivian	134.5	130.3	31	32
743	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Homolosomites</i>	Upper Valanginian	Lower Hauterivian	134.5	130.3	31	32
744	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Spiridiscus</i>	Upper Valanginian	Upper Hauterivian	134.5	127	31	34
745	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Acanthodiscus</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
746	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Breistrofferella</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
747	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Favrella</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
748	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Hannites</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
749	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Leopoldia</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
750	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Pseudofavrella</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
751	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Subosterella</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
752	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Capelotes</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
753	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Ceratotuberculus</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
754	Ammonitina	Perisphinctaceae	Olcostephanidae	<i>Parastieria</i>	Lower Hauterivian	Lower Hauterivian	132	130.3	32	32
755	Ammonitina	Haplocerataceae	Oppeliidae	<i>Bornhardticas</i>	Hauterivian	Hauterivian	132	127	32	34
756	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Malgesaynella</i>	Hauterivian	Hauterivian	132	127	32	34
757	Ammonitina	Perisphinctaceae	Neocomitidae	<i>Saynella</i>	Hauterivian	Hauterivian	132	127	32	34
758	Ammonitina	Perisphinctaceae	Polyptychitidae	<i>Simbirskites</i>	Lower Hauterivian	Upper Hauterivian	132	127	32	34
759	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Valdedorsella</i>	Middle Hauterivian	Upper Aptian	130.3	112	32	40
760	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Plesiospitiidicus</i>	Upper Hauterivian	Upper Hauterivian	128.7	127	33	34
761	Ammonitina	Haplocerataceae	Oppeliidae	<i>Protaconeckeras</i>	Upper Hauterivian	Upper Hauterivian	128.7	127	33	34
762	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Subsaynella</i>	Upper Hauterivian	Barremian	128.7	121	33	36
763	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Barremites</i>	Upper Hauterivian	Upper Barremian	128.7	121	33	36
764	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Pulchellia</i>	Upper Hauterivian	Upper Barremian	128.7	121	33	36
765	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Psilotissotia</i>	Upper Hauterivian	Lower Aptian	128.7	116.5	33	38
766	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Torcapella</i>	Lower Barremian	Lower Barremian	127	125	34	34
767	Ammonitina	Perisphinctaceae	Holcodiscidae	<i>Almohadites</i>	Lower Barremian	Lower Barremian	127	125	34	34
768	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Abrytusites</i>	Barremian	Barremian	127	121	34	36
769	Ammonitina	Desmocerataceae	Silesitidae	<i>Silesites</i>	Barremian	Barremian	127	121	34	36
770	Ammonitina	Perisphinctaceae	Holcodiscidae	<i>Astieridiscus</i>	Barremian	Barremian	127	121	34	36
771	Ammonitina	Perisphinctaceae	Holcodiscidae	<i>Holcodiscus</i>	Barremian	Barremian	127	121	34	36
772	Ammonitina	Perisphinctaceae	Holcodiscidae	<i>Metahoplites</i>	Barremian	Barremian	127	121	34	36
773	Ammonitina	Perisphinctaceae	Holcodiscidae	<i>Parasaynocalceras</i>	Barremian	Barremian	127	121	34	36
774	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Coronites</i>	Barremian	Barremian	127	121	34	36
775	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Lopholobites</i>	Barremian	Barremian	127	121	34	36
776	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Nicklesia</i>	Barremian	Barremian	127	121	34	36
777	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Buergericas</i>	Barremian	Barremian	127	121	34	36
778	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Pseudohaploceras</i>	Barremian	Aptian	127	112	34	40
779	Ammonitina	Pulchelliaceae	Pulchelliidae	<i>Subpulchellia</i>	Barremian	Upper Aptian	127	112	34	40
780	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Zuercherella</i>	Upper Barremian	Upper Aptian	123	112	35	40
781	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Callizoniceras</i>	Upper Barremian	Lower Albian	123	107.7	35	41
782	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Melchiorites</i>	Upper Barremian	Lower Albian	123	107.7	35	41
783	Ammonitina	Haplocerataceae	Oppeliidae	<i>Aconeckeras</i>	Upper Barremian	Lower Albian	123	107.7	35	41
784	Ammonitina	Haplocerataceae	Oppeliidae	<i>Doridiscus</i>	Lower Aptian	Lower Aptian	121	116.5	36	38
785	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Pseudosaynella</i>	Lower Aptian	Upper Aptian	121	112	36	40
786	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Aioloceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
787	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Pseudosilesites</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
788	Ammonitina	Desmocerataceae	Silesitidae	<i>Neoastieria</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
789	Ammonitina	Desmocerataceae	Silesitidae	<i>Miyakoceras</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
790	Ammonitina	Haplocerataceae	Oppeliidae	<i>Nothodiscus</i>	Upper Aptian	Upper Aptian	116.5	112	38	40
791	Ammonitina	Desmocerataceae	Silesitidae	<i>Neosilesites</i>	Upper Aptian	Lower Albian	116.5	107.7	38	41

Table DR1

Yacobucci, p. 14

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
792	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Uhligella</i>	Upper Aptian	Middle Albian	116.5	103.3	38	43
793	Ammonitina	Desmocerataceae	Kossmatceratidae	<i>Marshallites</i>	Upper Aptian	Upper Cenomanian	116.5	93.5	38	47
794	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Desmoceras</i>	Upper Aptian	Lower Turonian	116.5	92	38	48
795	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Parabrancceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
796	Ammonitina	Acanthocerataceae	Leymeriellidae	<i>Epileymeriella</i>	Lower Albian	Lower Albian	112	107.7	40	41
797	Ammonitina	Acanthocerataceae	Leymeriellidae	<i>Proleymeriella</i>	Lower Albian	Lower Albian	112	107.7	40	41
798	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Prolyelliceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
799	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Anadesmoceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
800	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Archoplites</i>	Lower Albian	Lower Albian	112	107.7	40	41
801	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Cymahoplites</i>	Lower Albian	Lower Albian	112	107.7	40	41
802	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Lemuroceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
803	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Tetrahoplitoides</i>	Lower Albian	Lower Albian	112	107.7	40	41
804	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Brewericeras</i>	Lower Albian	Lower Albian	112	107.7	40	41
805	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Freboldiceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
806	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Leconteites</i>	Lower Albian	Lower Albian	112	107.7	40	41
807	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Moretella</i>	Lower Albian	Lower Albian	112	107.7	40	41
808	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Colvilia</i>	Lower Albian	Lower Albian	112	107.7	40	41
809	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Feruglioceras</i>	Lower Albian	Lower Albian	112	107.7	40	41
810	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Kennicottia</i>	Lower Albian	Lower Albian	112	107.7	40	41
811	Ammonitina	Hoplitaceae	Hoplitidae	<i>Farnhamia</i>	Lower Albian	Lower Albian	112	107.7	40	41
812	Ammonitina	Hoplitaceae	Hoplitidae	<i>Otohoplites</i>	Lower Albian	Lower Albian	112	107.7	40	41
813	Ammonitina	Hoplitaceae	Hoplitidae	<i>Pseudosonneratia</i>	Lower Albian	Lower Albian	112	107.7	40	41
814	Ammonitina	Hoplitaceae	Hoplitidae	<i>Sokolovites</i>	Lower Albian	Lower Albian	112	107.7	40	41
815	Ammonitina	Hoplitaceae	Hoplitidae	<i>Sonneratia</i>	Lower Albian	Lower Albian	112	107.7	40	41
816	Ammonitina	Hoplitaceae	Hoplitidae	<i>Tetrahoplites</i>	Lower Albian	Lower Albian	112	107.7	40	41
817	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Brancoceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
818	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Oxytropidoceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
819	Ammonitina	Acanthocerataceae	Leymeriellidae	<i>Leymeriella</i>	Lower Albian	Middle Albian	112	103.3	40	43
820	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Lyelliceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
821	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Tegoceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
822	Ammonitina	Desmocerataceae	Cleoniceratidae	<i>Cleoniceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
823	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Silesitoides</i>	Lower Albian	Middle Albian	112	103.3	40	43
824	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Parasilesites</i>	Lower Albian	Middle Albian	112	103.3	40	43
825	Ammonitina	Hoplitaceae	Hoplitidae	<i>Protohoplites</i>	Lower Albian	Middle Albian	112	103.3	40	43
826	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Platiknemiceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
827	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Parengonoceras</i>	Lower Albian	Middle Albian	112	103.3	40	43
828	Ammonitina	Desmocerataceae	Kossmatceratidae	<i>Hulenites</i>	Albian	Albian	112	99	40	45
829	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Beudanticeras</i>	Lower Albian	Upper Albian	112	99	40	45
830	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Knemiceras</i>	Lower Albian	Upper Albian	112	99	40	45
831	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Puzosia</i>	Lower Albian	Upper Campanian	112	71.3	40	56
832	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Fallictoceras</i>	Lower Middle Albian	Lower Middle Albian	107.7	103.3	41	43
833	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Mojisoviczia</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
834	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Umsinenceras</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
835	Ammonitina	Hoplitaceae	Hoplitidae	<i>Gastroplyites</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
836	Ammonitina	Hoplitaceae	Hoplitidae	<i>Hoplites</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
837	Ammonitina	Hoplitaceae	Hoplitidae	<i>Pseudopulchellia</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
838	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Protengonoceras</i>	Middle Albian	Middle Albian	107.7	103.3	41	43
839	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Diploceras</i>	Middle Albian	Upper Albian	107.7	99	41	45
840	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Hysteroferas</i>	Middle Albian	Upper Albian	107.7	99	41	45
841	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Mortoniceras</i>	Middle Albian	Upper Albian	107.7	99	41	45
842	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Neophlycticeras</i>	Middle Albian	Upper Albian	107.7	99	41	45
843	Ammonitina	Haplocerataceae	Oppeliidae	<i>Falcifera</i>	Middle Albian	Upper Albian	107.7	99	41	45
844	Ammonitina	Haplocerataceae	Oppeliidae	<i>Naramoceras</i>	Middle Albian	Upper Albian	107.7	99	41	45
845	Ammonitina	Hoplitaceae	Hoplitidae	<i>Anahopites</i>	Middle Albian	Upper Albian	107.7	99	41	45
846	Ammonitina	Hoplitaceae	Hoplitidae	<i>Dimorphoplites</i>	Middle Albian	Upper Albian	107.7	99	41	45
847	Ammonitina	Hoplitaceae	Hoplitidae	<i>Epihoplites</i>	Middle Albian	Upper Albian	107.7	99	41	45
848	Ammonitina	Hoplitaceae	Hoplitidae	<i>Euhoplites</i>	Middle Albian	Upper Albian	107.7	99	41	45
849	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Engonoceras</i>	Middle Albian	Cenomanian	107.7	93.5	41	47
850	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Arestoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
851	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Elobiceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
852	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Erioliceras</i>	Upper Albian	Upper Albian	103.3	99	43	45

Table DR1

Yacobucci, p. 15

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
853	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Neoharpoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
854	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Neokentroceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
855	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Prohysteroferas</i>	Upper Albian	Upper Albian	103.3	99	43	45
856	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Goodallites</i>	Upper Albian	Upper Albian	103.3	99	43	45
857	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Cantabrigites</i>	Upper Albian	Upper Albian	103.3	99	43	45
858	Ammonitina	Acanthocerataceae	Flickidae	<i>Salaziceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
859	Ammonitina	Acanthocerataceae	Forbesiceratidae	<i>Paradolphia</i>	Upper Albian	Upper Albian	103.3	99	43	45
860	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Protissotia</i>	Upper Albian	Upper Albian	103.3	99	43	45
861	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Cenisella</i>	Upper Albian	Upper Albian	103.3	99	43	45
862	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Zulusaphites</i>	Upper Albian	Upper Albian	103.3	99	43	45
863	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Lytodiscoides</i>	Upper Albian	Upper Albian	103.3	99	43	45
864	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Achilleoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
865	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Boliteceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
866	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Cophinoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
867	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Eomarshallites</i>	Upper Albian	Upper Albian	103.3	99	43	45
868	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Eopachydiscus</i>	Upper Albian	Upper Albian	103.3	99	43	45
869	Ammonitina	Hoplacerataceae	Oppelliidae	<i>Koloceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
870	Ammonitina	Hoplitaceae	Hoplitidae	<i>Calliphilites</i>	Upper Albian	Upper Albian	103.3	99	43	45
871	Ammonitina	Hoplitaceae	Hoplitidae	<i>Discohoplites</i>	Upper Albian	Upper Albian	103.3	99	43	45
872	Ammonitina	Hoplitaceae	Hoplitidae	<i>Irenicoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
873	Ammonitina	Hoplitaceae	Hoplitidae	<i>Pleurohoplites</i>	Upper Albian	Upper Albian	103.3	99	43	45
874	Ammonitina	Hoplitaceae	Hoplitidae	<i>Semenoviceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
875	Ammonitina	Hoplitaceae	Placenticeratidae	<i>Hengestites</i>	Upper Albian	Upper Albian	103.3	99	43	45
876	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Hypengonoceras</i>	Upper Albian	Upper Albian	103.3	99	43	45
877	Ammonitina	Acanthocerataceae	Flickidae	<i>Flickia</i>	Lower Cenomanian	103.3	97.2	43	46	
878	Ammonitina	Acanthocerataceae	Flickidae	<i>Ficheuria</i>	Upper Cenomanian	103.3	97.2	43	46	
879	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Stoliczkaia</i>	Upper Cenomanian	103.3	97.2	43	46	
880	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Yeharites</i>	Lower Cenomanian	103.3	97.2	43	46	
881	Ammonitina	Hoplitaceae	Hoplitidae	<i>Hyphoplites</i>	Lower Cenomanian	103.3	97.2	43	46	
882	Ammonitina	Hoplitaceae	Hoplitidae	<i>Neogastropolites</i>	Upper Albian	Lower Cenomanian	103.3	97.2	43	46
883	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Eogunnerites</i>	Upper Albian	Cenomanian	103.3	93.5	43	47
884	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Metengonoceras</i>	Upper Albian	Upper Cenomanian	103.3	93.5	43	47
885	Ammonitina	Hoplacerataceae	Binneyitiidae	<i>Borissjakoceras</i>	Upper Albian	Lower Turonian	103.3	92	43	48
886	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Pachydesmoceras</i>	Upper Albian	Lower Turonian	103.3	89	43	49
887	Ammonitina	Hoplitaceae	Placenticeratidae	<i>Placenticeras</i>	Upper Albian	Lower Campanian	103.3	79.4	43	53
888	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Acompsoceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
889	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Manteliceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
890	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Mhriliceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
891	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Graysonites</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
892	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Sharpeiceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
893	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Utatunceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
894	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Algericeras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
895	Ammonitina	Acanthocerataceae	Brancoceratidae	<i>Euhystrichoceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
896	Ammonitina	Acanthocerataceae	Flickidae	<i>Adkinsia</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
897	Ammonitina	Acanthocerataceae	Flickidae	<i>Neosaynaceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
898	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Budaiceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
899	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Ojinigeras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
900	Ammonitina	Acanthocerataceae	Lyelliceratidae	<i>Paracalycceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
901	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Yakushiceras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
902	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Protokossmaticeras</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
903	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Mikasaites</i>	Lower Cenomanian	Lower Cenomanian	99	97.2	45	46
904	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Calycoceras</i>	Cenomanian	Cenomanian	99	93.5	45	47
905	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Microdesmoceras</i>	Cenomanian	Cenomanian	99	93.5	45	47
906	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Eomadrassisites</i>	Cenomanian	Cenomanian	99	93.5	45	47
907	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Maccarthites</i>	Cenomanian	Cenomanian	99	93.5	45	47
908	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Wellmanites</i>	Cenomanian	Cenomanian	99	93.5	45	47
909	Ammonitina	Hoplitaceae (?)	Engonoceratidae	<i>Neolobites</i>	Cenomanian	Cenomanian	99	93.5	45	47
910	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Acanthoceras</i>	Lower Cenomanian	Upper Cenomanian	99	93.5	45	47
911	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Protacanthoceras</i>	Lower Cenomanian	Upper Cenomanian	99	93.5	45	47
912	Ammonitina	Acanthocerataceae	Forbesiceratidae	<i>Forbesiceras</i>	Lower Cenomanian	Upper Cenomanian	99	93.5	45	47
913	Ammonitina	Hoplitaceae	Schloenbachiiidae	<i>Schloenbachia</i>	Lower Cenomanian	Upper Cenomanian	99	93.5	45	47

Table DR1

Yacobucci, p. 16

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
914	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Lewesiceras</i>	Lower Cenomanian	Upper Turonian	99	89	45	49
915	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Damesites</i>	Cenomanian	Campanian	99	71.3	45	56
916	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Cunningtoniceras</i>	Middle Cenomanian	Middle Cenomanian	97.2	95.3	46	46
917	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Conlinoceras</i>	Middle Cenomanian	Middle Cenomanian	97.2	95.3	46	46
918	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Paraconlinoceras</i>	Middle Cenomanian	Middle Cenomanian	97.2	95.3	46	46
919	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Plesiacanthoceras</i>	Middle Cenomanian	Middle Cenomanian	97.2	95.3	46	46
920	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Kastanoceras</i>	Middle Cenomanian	Middle Cenomanian	97.2	95.3	46	46
921	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Metoicoceras</i>	Upper Middle Cenomanian	Middle Upper Cenomanian	97.2	93.5	46	47
922	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Plesiakanthoceratoidea</i>	Middle Cenomanian	Upper Cenomanian	97.2	93.5	46	47
923	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Alzadites</i>	Middle Cenomanian	Upper Cenomanian	97.2	93.5	46	47
924	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Dunveganoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
925	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Eucalyccoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
926	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Euomphaloceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
927	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Paracompoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
928	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Kennediella</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
929	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Tarrantoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
930	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Microsulcatoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
931	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Pseudocalycoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
932	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Nigericeras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
933	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Lotzeites</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
934	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Paraburoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
935	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Cryptometoiceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
936	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Nannometoiceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
937	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Buccinamonites</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
938	Ammonitina	Acanthocerataceae	Vascoceratidae	<i>Vascoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
939	Ammonitina	Acanthocerataceae	Vascoceratidae	<i>Rubroceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
940	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Moremanoceras</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
941	Ammonitina	Haplocerataceae	Binneyitiidae	<i>Johnsonites</i>	Upper Cenomanian	Upper Cenomanian	95.3	93.5	46	47
942	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Neocardioceras</i>	Upper Cenomanian	Lower Turonian	95.3	92	46	48
943	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Thomelites</i>	Upper Cenomanian	Lower Turonian	95.3	92	46	48
944	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Cibolaites</i>	Upper Cenomanian	Lower Turonian	95.3	92	46	48
945	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Parapuzosia</i>	Upper Cenomanian	Campanian	95.3	71.3	46	56
946	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Benuites</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
947	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Metasigaloceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
948	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Watlinoceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
949	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Quitmaniceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
950	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Morrowites</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
951	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Kamerunoceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
952	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Rhamphidoceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
953	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Mitonia</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
954	Ammonitina	Acanthocerataceae	Coilopoceratidae	<i>Erichsenites</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
955	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Lecointericeras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
956	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Thomasites</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
957	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Eottisotia</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
958	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Donenriquoceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
959	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Choffatriceras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
960	Ammonitina	Acanthocerataceae	Vascoceratidae	<i>Ezilloella</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
961	Ammonitina	Acanthocerataceae	Vascoceratidae	<i>Fagesia</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
962	Ammonitina	Acanthocerataceae	Vascoceratidae	<i>Infrabricaticeras</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
963	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Epipuzosia</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
964	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Bassites</i>	Lower Turonian	Lower Turonian	93.5	92	47	48
965	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Pseudoaspidoceras</i>	Lower Turonian	Middle Turonian	93.5	90.5	47	48
966	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Pseudotissotia</i>	Lower Turonian	Middle Turonian	93.5	90.5	47	48
967	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Wrightoceras</i>	Lower Turonian	Middle Turonian	93.5	90.5	47	48
968	Ammonitina	Acanthocerataceae	Coilopoceratidae	<i>Hoplitooides</i>	Turonian	Turonian	93.5	89	47	49
969	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Collignoniceras</i>	Turonian	Turonian	93.5	89	47	49
970	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Prionocyclus</i>	Turonian	Turonian	93.5	89	47	49
971	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Holcodiscooides</i>	Turonian	Turonian	93.5	89	47	49
972	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Mammites</i>	Lower Turonian	Upper Turonian	93.5	89	47	49
973	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Romaniceras</i>	Lower Turonian	Upper Turonian	93.5	89	47	49
974	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Spathites</i>	Lower Turonian	Upper Turonian	93.5	89	47	49

Table DR1

Yacobucci, p. 17

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
975	Ammonitina	Acanthocerataceae	Vascoceratidae	<i>Neopychites</i>	Lower Turonian	Upper Turonian	93.5	89	47	49
976	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Menabonites</i>	Turonian	Coniacian	93.5	85.8	47	50
977	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Jimboiceras</i>	Turonian	Lower Santonian	93.5	85	47	50
978	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Tragodesmoceroides</i>	Turonian	Lower Santonian	93.5	85	47	50
979	Ammonitina	Haplocerataceae	Binneytidae	<i>Binneyites</i>	Lower Turonian	Lower Santonian	93.5	85	47	50
980	Ammonitina	Desmocerataceae	Muniericeratidae	<i>Tragodesmoceras</i>	Lower Turonian	Upper Santonian	93.5	83.5	47	51
981	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Nebraskites</i>	Middle Turonian	Middle Turonian	92	90.5	48	48
982	Ammonitina	Acanthocerataceae	Coilopoceratidae	<i>Coilopoceras</i>	Middle Turonian	Upper Turonian	92	89	48	49
983	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Germariceras</i>	Upper Turonian	Upper Turonian	90.5	89	48	49
984	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Subprionocyclus</i>	Upper Turonian	Upper Turonian	90.5	89	48	49
985	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Lymaniceras</i>	Upper Turonian	Upper Turonian	90.5	89	48	49
986	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Masiapisites</i>	Upper Turonian	Upper Turonian	90.5	89	48	49
987	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Hourqia</i>	Upper Turonian	Upper Turonian	90.5	89	48	49
988	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Barroisiceras</i>	Upper Turonian	Lower Coniacian	90.5	87.4	48	50
989	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Subprionotropis</i>	Upper Turonian	Lower Coniacian	90.5	87.4	48	50
990	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Pseudojacobites</i>	Upper Turonian	Coniacian	90.5	85.8	48	50
991	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Tongoboryceras</i>	Upper Turonian	Coniacian	90.5	85.8	48	50
992	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Kossmaticeras</i>	Upper Turonian	Campanian	90.5	71.3	48	56
993	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Codazziceras</i>	Lower Coniacian	Lower Coniacian	89	87.4	49	50
994	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Forresteria</i>	Lower Coniacian	Lower Coniacian	89	87.4	49	50
995	Ammonitina	Acanthocerataceae	Tissotiidae	<i>Tissotoides</i>	Lower Coniacian	Lower Coniacian	89	87.4	49	50
996	Ammonitina	Acanthocerataceae	Acanthoceratidae	<i>Buchiceras</i>	Coniacian	Coniacian	89	85.8	49	50
997	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Niceforoceras</i>	Coniacian	Coniacian	89	85.8	49	50
998	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Peroniceras</i>	Coniacian	Coniacian	89	85.8	49	50
999	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Prionocycloeras</i>	Coniacian	Coniacian	89	85.8	49	50
1000	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Yabeiceras</i>	Coniacian	Coniacian	89	85.8	49	50
1001	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Pseudobarroisiceras</i>	Coniacian	Coniacian	89	85.8	49	50
1002	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Ishikariceras</i>	Coniacian	Coniacian	89	85.8	49	50
1003	Ammonitina	Acanthocerataceae	Pseudotissotidae	<i>Hemitissotia</i>	Coniacian	Coniacian	89	85.8	49	50
1004	Ammonitina	Acanthocerataceae	Tissotiidae	<i>Metatissovia</i>	Coniacian	Coniacian	89	85.8	49	50
1005	Ammonitina	Acanthocerataceae	Tissotiidae	<i>Tissotia</i>	Coniacian	Coniacian	89	85.8	49	50
1006	Ammonitina	Acanthocerataceae	Tissotiidae	<i>Paratissotia</i>	Coniacian	Coniacian	89	85.8	49	50
1007	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Onitshoceras</i>	Coniacian	Coniacian	89	85.8	49	50
1008	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Yokoyamaoceras</i>	Coniacian	Coniacian	89	85.8	49	50
1009	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Lenticeras</i>	Coniacian	Lower Santonian	89	85	49	50
1010	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Paratexanites</i>	Lower Coniacian	Middle Santonian	89	84.3	49	51
1011	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Protextanites</i>	Lower Coniacian	Middle Santonian	89	84.3	49	51
1012	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Nowakites</i>	Coniacian	Santonian	89	83.5	49	51
1013	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Pachydiscoides</i>	Coniacian	Santonian	89	83.5	49	51
1014	Ammonitina	Desmocerataceae	Muniericeratidae	<i>Muniericeras</i>	Coniacian	Upper Santonian	89	83.5	49	51
1015	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Eupachydiscus</i>	Coniacian	Campanian	89	71.3	49	56
1016	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Hauericeras</i>	Coniacian	Maastrichtian	89	65	49	58
1017	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Gauthiericeras</i>	Upper Coniacian	Upper Coniacian	87.4	85.8	50	50
1018	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Aneurotoceras</i>	Upper Coniacian	Upper Coniacian	87.4	85.8	50	50
1019	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Paralenticeras</i>	Upper Coniacian	Lower Santonian	87.4	85	50	50
1020	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Texanites</i>	Upper Coniacian	Lower Campanian	87.4	79.4	50	53
1021	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Eulophoceras</i>	Upper Coniacian	Lower Campanian	87.4	79.4	50	53
1022	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Tuberodiscoides</i>	Lower Santonian	Lower Santonian	85.8	85	50	50
1023	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Defordiceras</i>	Santonian	Santonian	85.8	83.5	50	51
1024	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Bevahites</i>	Lower Santonian	Middle Campanian	85.8	75.4	50	54
1025	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Regnaites</i>	Santonian	Campanian	85.8	71.3	50	56
1026	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Kitchinites</i>	Santonian	Lower Maastrichtian	85.8	68.2	50	57
1027	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Patagiosites</i>	Lower Santonian	Maastrichtian	85.8	65	50	58
1028	Ammonitina	Desmocerataceae	Desmoceratidae	<i>Desmophyllites</i>	Santonian	Upper Maastrichtian	85.8	65	50	58
1029	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Menutes</i>	Santonian	Upper Maastrichtian	85.8	65	50	58
1030	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Pleurotexanites</i>	Middle Santonian	Middle Santonian	85	84.3	51	51
1031	Ammonitina	Desmocerataceae	Muniericeratidae	<i>Texasia</i>	Middle Santonian	Lower Campanian	85	79.4	51	53
1032	Ammonitina	Desmocerataceae	Muniericeratidae	<i>Pseudoschloenbachia</i>	Middle Santonian	Lower Campanian	85	79.4	51	53
1033	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Diaziceras</i>	Upper Santonian	Upper Santonian	84.3	83.5	51	51
1034	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Haboroceras</i>	Upper Santonian	Lower Campanian	84.3	79.4	51	53
1035	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Neogauthiericeras</i>	Upper Santonian	Lower Campanian	84.3	79.4	51	53

Table DR1

Yacobucci, p. 18

Record Number	Suborder	Superfamily	Family	Genus	FA Substage	LA Substage	FA (Ma)	LA (Ma)	FA (interval)	LA (interval)
1036	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Submortoniceras</i>	Upper Santonian	Middle Campanian	84.3	75.4	51	54
1037	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Canadoceras</i>	Upper Santonian	Campanian	84.3	71.3	51	56
1038	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Cryptotexanites</i>	Lower Campanian	Lower Campanian	83.5	79.4	51	53
1039	Ammonitina	Acanthocerataceae	Collignoniceratidae	<i>Menabites</i>	Lower Campanian	Middle Campanian	83.5	75.4	51	54
1040	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Grossouvreites</i>	Campanian	Campanian	83.5	71.3	51	56
1041	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Gunnarites</i>	Campanian	Campanian	83.5	71.3	51	56
1042	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Jacobites</i>	Campanian	Campanian	83.5	71.3	51	56
1043	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Maorites</i>	Campanian	Campanian	83.5	71.3	51	56
1044	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Neogramhamites</i>	Campanian	Campanian	83.5	71.3	51	56
1045	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Urakawites</i>	Campanian	Campanian	83.5	71.3	51	56
1046	Ammonitina	Hoplitaceae	Placenticeratidae	<i>Metaplacenticeras</i>	Campanian	Campanian	83.5	71.3	51	56
1047	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Manambolites</i>	Lower Campanian	Maastrichtian	83.5	65	51	58
1048	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Pachydiscus</i>	Campanian	Upper Maastrichtian	83.5	65	51	58
1049	Ammonitina	Desmocerataceae	Pachydiscidae	<i>Teshioites</i>	Upper Campanian	Upper Campanian	75.4	71.3	54	56
1050	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Libycoceras</i>	Upper Campanian	Lower Maastrichtian	75.4	68.2	54	57
1051	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Sphenodiscus</i>	Upper Campanian	Maastrichtian	75.4	65	54	58
1052	Ammonitina	Hoplitaceae	Placenticeratidae	<i>Hoplitoplacenticeras</i>	Upper Campanian	Upper Maastrichtian	75.4	65	54	58
1053	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Daradiceras</i>	Maastrichtian	Maastrichtian	71.3	65	56	58
1054	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Indoceras</i>	Maastrichtian	Maastrichtian	71.3	65	56	58
1055	Ammonitina	Acanthocerataceae	Sphenodiscidae	<i>Coahulites</i>	Maastrichtian	Maastrichtian	71.3	65	56	58
1056	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Brahmaites</i>	Lower Maastrichtian	Upper Maastrichtian	71.3	65	56	58
1057	Ammonitina	Desmocerataceae	Kossmaticeratidae	<i>Pseudokossmaticeras</i>	Lower Maastrichtian	Upper Maastrichtian	71.3	65	56	58

Notes

FA - first appearance

LA - last appearance

Intervals are 2.5 million years long, starting at 210 Ma and ending at 65 Ma

Time scale from Palmer, A.R., and Geissman, J., 1999, 1999 Geologic Time Scale: Denver, The Geological Society of America

Ammonoid ranges from:

Arkell, W.J., et al., 1957, Mollusca 4, Cephalopoda, Ammonoidea. Part L of:

Moore, R.C. (Ed.). Treatise on invertebrate paleontology. Geological Society of America, Boulder, and University of Kansas, Lawrence, 490 pp.

Wright, C.W., with Calloman J.H., Howarth, M.K., 1996, Mollusca 4, Revised, Volume 4: Cretaceous Ammonoidea. Part L of:

Moore, R.C. (Ed.). Treatise on invertebrate paleontology. Geological Society of America, Boulder, and University of Kansas, Lawrence, 362 pp.