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Preliminary Concept Alignment of Two Weevil Classifications

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The following pages show the preliminary outcomes (!) of an attempt to properly align two influential weevil classifications (Insecta: Coleoptera: Curculionoidea) with the **Euler/X toolkit**.

The two **input classifications** are:

1. Thompson, R.T. 1992. Observations on the morphology and classification of weevils (Coleoptera, Curculionoidea) with a key to major groups. *Journal of Natural History* 26: 835–891.
2. Alonso-Zarazaga, M.A. & C.H.C Lyal. (1999) A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (Excepting Scolytidae and Platypodidae). *Entomopraxis*, Barcelona. 315 pp.

Shown on the succeeding pages:

Page 2: Euler/X alignment (reduced containment graph) *without* overlapping articulations.

Page 3: Euler/X alignment (reduced containment graph) *with* overlapping articulations.

Page 4: Thompson 1992 classification.

Page 5: Alonso-Zarazaga & Lyal 1999 classification.

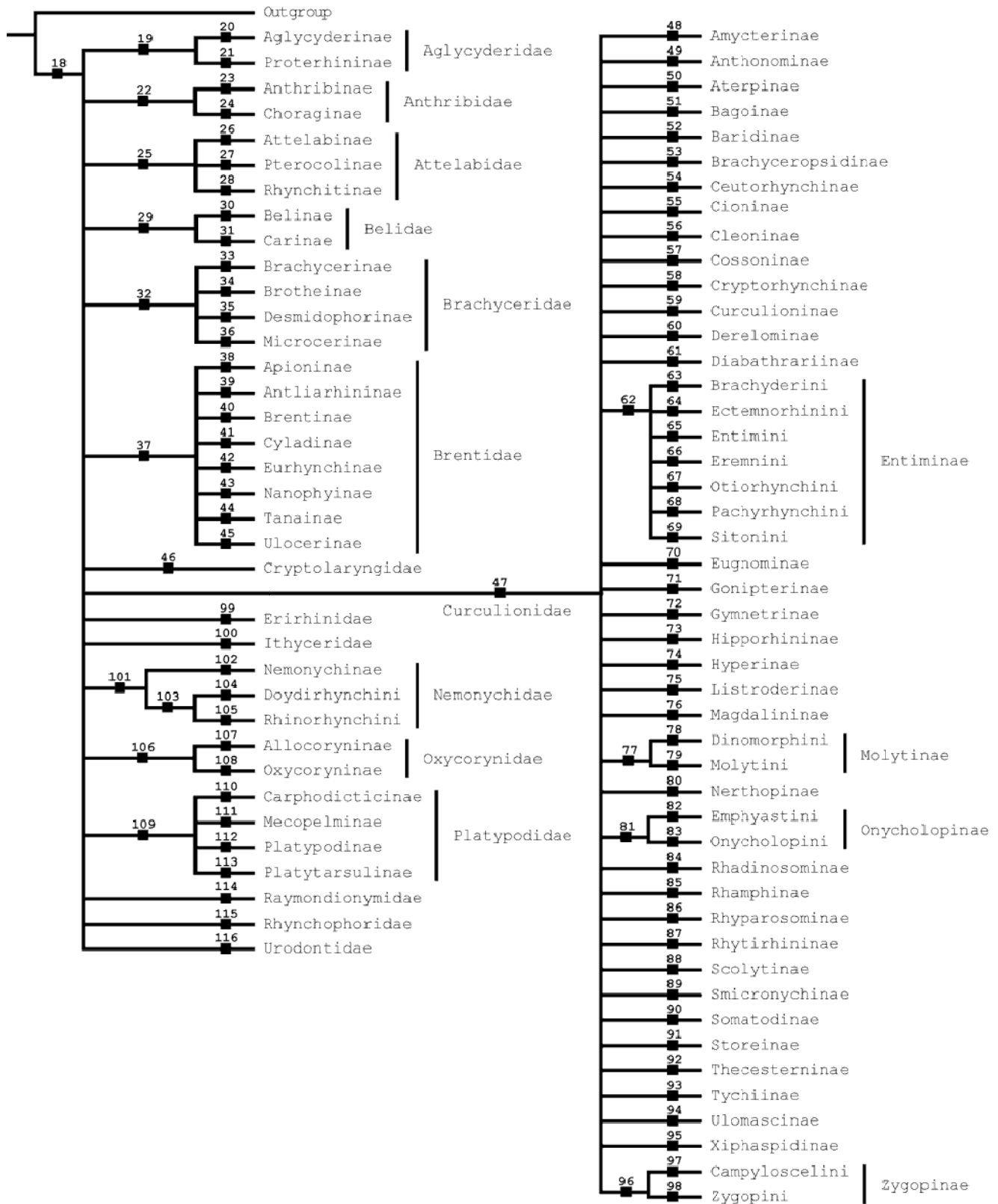
Pages 6-7: Listing of the 1992/1999 input concepts.

Pages 8-10: Listing of the Euler/X toolkit input alignment.

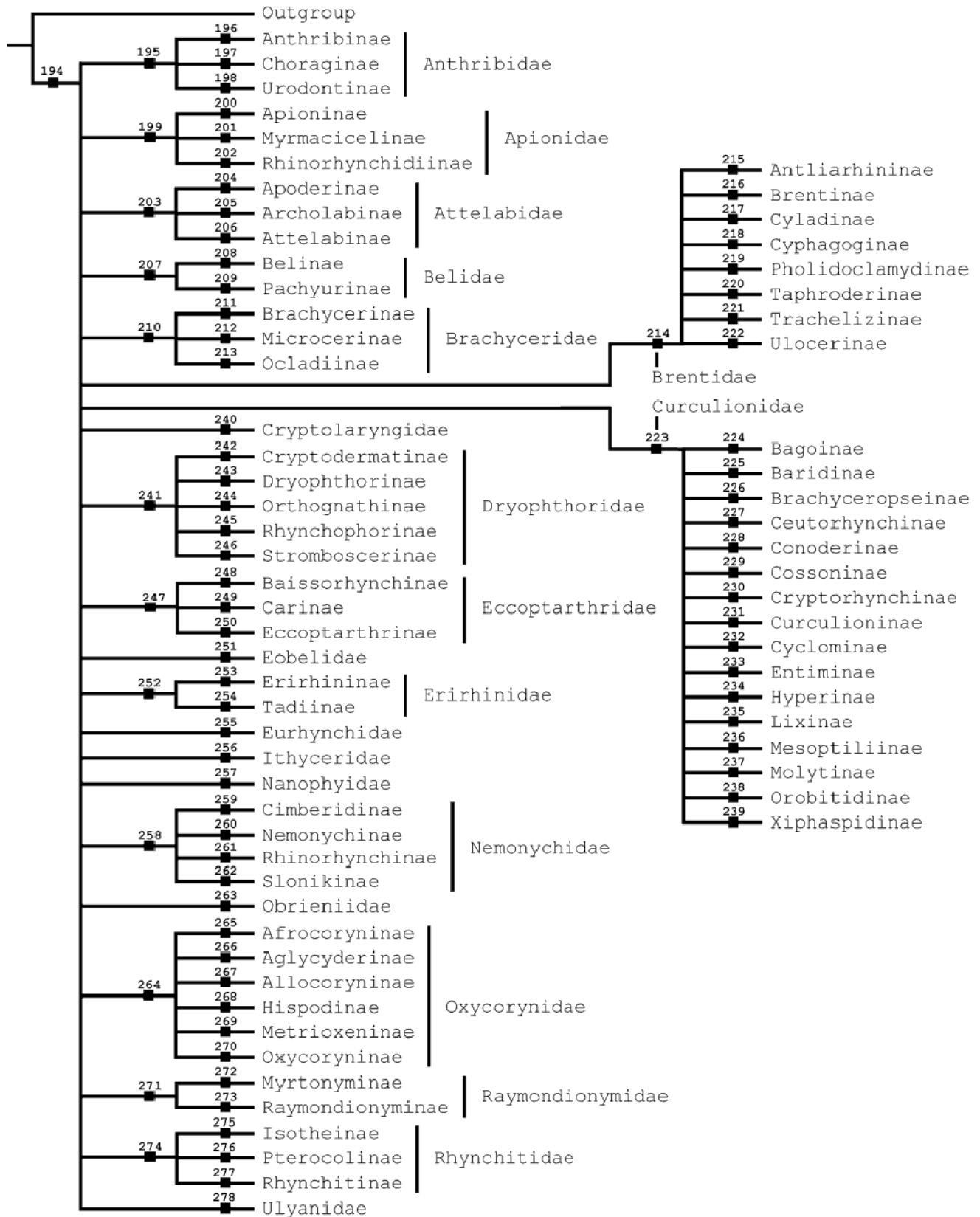
For more information see: <http://taxonbytes.org/prior-work-on-concept-taxonomy-2013/>

Thanks to Mingmin Chen, Shizhuo Yu, Shawn Bowers and Bertram Ludäscher.

Curculionoidea sec. Thompson 1992



Curculionoidea sec. Alonso-Zarazaga & Lyal 1999



#	Name	According To	Rank	#	Name	According To	Rank
18	Curculionoidea	Thompson 1992	Superfamily	194	Curculionoidea	Alonso-Zarazaga & Lyal 1999	Superfamily
19	Aglycyderidae	Thompson 1992	Family	195	Anthribidae	Alonso-Zarazaga & Lyal 1999	Family
20	Aglycyderinae	Thompson 1992	Subfamily	196	Anthribinae	Alonso-Zarazaga & Lyal 1999	Subfamily
21	Proterhininae	Thompson 1992	Subfamily	197	Choraginae	Alonso-Zarazaga & Lyal 1999	Subfamily
22	Anthribidae	Thompson 1992	Family	198	Urodontinae	Alonso-Zarazaga & Lyal 1999	Subfamily
23	Anthribinae	Thompson 1992	Subfamily	199	Apionidae	Alonso-Zarazaga & Lyal 1999	Family
24	Choraginae	Thompson 1992	Subfamily	200	Apioninae	Alonso-Zarazaga & Lyal 1999	Subfamily
25	Attelabidae	Thompson 1992	Family	201	Myrmacielinae	Alonso-Zarazaga & Lyal 1999	Subfamily
26	Attelabinae	Thompson 1992	Subfamily	202	Rhinorhynchidiinae	Alonso-Zarazaga & Lyal 1999	Subfamily
27	Pterocolinae	Thompson 1992	Subfamily	203	Attelabidae	Alonso-Zarazaga & Lyal 1999	Family
28	Rhynchitinae	Thompson 1992	Subfamily	204	Apoderinae	Alonso-Zarazaga & Lyal 1999	Subfamily
29	Belidae	Thompson 1992	Family	205	Archolabinae	Alonso-Zarazaga & Lyal 1999	Subfamily
30	Belinae	Thompson 1992	Subfamily	206	Attelabinae	Alonso-Zarazaga & Lyal 1999	Subfamily
31	Carinae	Thompson 1992	Subfamily	207	Belidae	Alonso-Zarazaga & Lyal 1999	Family
32	Brachyceridae	Thompson 1992	Family	208	Belinae	Alonso-Zarazaga & Lyal 1999	Subfamily
33	Brachycerinae	Thompson 1992	Subfamily	209	Pachyurinae	Alonso-Zarazaga & Lyal 1999	Subfamily
34	Brotheinae	Thompson 1992	Subfamily	210	Brachyceridae	Alonso-Zarazaga & Lyal 1999	Family
35	Desmidophorinae	Thompson 1992	Subfamily	211	Brachycerinae	Alonso-Zarazaga & Lyal 1999	Subfamily
36	Microcerinae	Thompson 1992	Subfamily	212	Microcerinae	Alonso-Zarazaga & Lyal 1999	Subfamily
37	Brentidae	Thompson 1992	Family	213	Ocladiinae	Alonso-Zarazaga & Lyal 1999	Subfamily
38	Apioninae	Thompson 1992	Subfamily	214	Brentidae	Alonso-Zarazaga & Lyal 1999	Family
39	Antliarhininae	Thompson 1992	Subfamily	215	Antliarhininae	Alonso-Zarazaga & Lyal 1999	Subfamily
40	Brentinae	Thompson 1992	Subfamily	216	Brentinae	Alonso-Zarazaga & Lyal 1999	Subfamily
41	Cyladinae	Thompson 1992	Subfamily	217	Cyladinae	Alonso-Zarazaga & Lyal 1999	Subfamily
42	Eurhynchinae	Thompson 1992	Subfamily	218	Cyphagoginae	Alonso-Zarazaga & Lyal 1999	Subfamily
43	Nanophyinae	Thompson 1992	Subfamily	219	Pholidoclamydiae	Alonso-Zarazaga & Lyal 1999	Subfamily
44	Tanainae	Thompson 1992	Subfamily	220	Taphroderinae	Alonso-Zarazaga & Lyal 1999	Subfamily
45	Ulocerinae	Thompson 1992	Subfamily	221	Trachelizinae	Alonso-Zarazaga & Lyal 1999	Subfamily
46	Cryptolaryngidae	Thompson 1992	Family	222	Ulocerinae	Alonso-Zarazaga & Lyal 1999	Subfamily
47	Curculionidae	Thompson 1992	Family	223	Curculionidae	Alonso-Zarazaga & Lyal 1999	Family
48	Amycterinae	Thompson 1992	Subfamily	224	Bagoinae	Alonso-Zarazaga & Lyal 1999	Subfamily
49	Anthonominae	Thompson 1992	Subfamily	225	Baridinae	Alonso-Zarazaga & Lyal 1999	Subfamily
50	Aterpinae	Thompson 1992	Subfamily	226	Brachyceropseinae	Alonso-Zarazaga & Lyal 1999	Subfamily
51	Bagoinae	Thompson 1992	Subfamily	227	Ceutorhynchinae	Alonso-Zarazaga & Lyal 1999	Subfamily
52	Baridinae	Thompson 1992	Subfamily	228	Conoderinae	Alonso-Zarazaga & Lyal 1999	Subfamily
53	Brachyceropsidinae	Thompson 1992	Subfamily	229	Cossoninae	Alonso-Zarazaga & Lyal 1999	Subfamily
54	Ceutorhynchinae	Thompson 1992	Subfamily	230	Cryptorhynchinae	Alonso-Zarazaga & Lyal 1999	Subfamily
55	Cioninae	Thompson 1992	Subfamily	231	Curculioninae	Alonso-Zarazaga & Lyal 1999	Subfamily
56	Cleoninae	Thompson 1992	Subfamily	232	Cyclominae	Alonso-Zarazaga & Lyal 1999	Subfamily
57	Cossoninae	Thompson 1992	Subfamily	233	Entiminae	Alonso-Zarazaga & Lyal 1999	Subfamily
58	Cryptorhynchinae	Thompson 1992	Subfamily	234	Hyperinae	Alonso-Zarazaga & Lyal 1999	Subfamily
59	Curculioninae	Thompson 1992	Subfamily	235	Lixinae	Alonso-Zarazaga & Lyal 1999	Subfamily
60	Derelominae	Thompson 1992	Subfamily	236	Mesoptiliinae	Alonso-Zarazaga & Lyal 1999	Subfamily
61	Diabathrariinae	Thompson 1992	Subfamily	237	Molytinae	Alonso-Zarazaga & Lyal 1999	Subfamily
62	Entiminae	Thompson 1992	Subfamily	238	Orobitidinae	Alonso-Zarazaga & Lyal 1999	Subfamily
63	Brachyderini	Thompson 1992	Tribe	239	Xiphaspidinae	Alonso-Zarazaga & Lyal 1999	Subfamily
64	Ectemnorhinini	Thompson 1992	Tribe	240	Cryptolaryngidae	Alonso-Zarazaga & Lyal 1999	Family
65	Entimini	Thompson 1992	Tribe	241	Dryophthoridae	Alonso-Zarazaga & Lyal 1999	Family
66	Eremnini	Thompson 1992	Tribe	242	Cryptodermatinae	Alonso-Zarazaga & Lyal 1999	Subfamily
67	Otiorhynchini	Thompson 1992	Tribe	243	Dryophthorinae	Alonso-Zarazaga & Lyal 1999	Subfamily
68	Pachyrhynchini	Thompson 1992	Tribe	244	Orthognathinae	Alonso-Zarazaga & Lyal 1999	Subfamily
69	Sitonini	Thompson 1992	Tribe	245	Rhynchophorinae	Alonso-Zarazaga & Lyal 1999	Subfamily
70	Eugnominae	Thompson 1992	Subfamily	246	Stromboscerinae	Alonso-Zarazaga & Lyal 1999	Subfamily
71	Gonipterinae	Thompson 1992	Subfamily	247	Eccoarthridae	Alonso-Zarazaga & Lyal 1999	Family
72	Gymnetrinae	Thompson 1992	Subfamily	248	Baissorhynchinae	Alonso-Zarazaga & Lyal 1999	Subfamily
73	Hipporhininae	Thompson 1992	Subfamily	249	Carinae	Alonso-Zarazaga & Lyal 1999	Subfamily
74	Hyperinae	Thompson 1992	Subfamily	250	Eccoarthrinae	Alonso-Zarazaga & Lyal 1999	Subfamily
75	Listroderinae	Thompson 1992	Subfamily	251	Eobelidae	Alonso-Zarazaga & Lyal 1999	Family
76	Magdalinae	Thompson 1992	Subfamily	252	Erihinae	Alonso-Zarazaga & Lyal 1999	Family
77	Molytinae	Thompson 1992	Subfamily	253	Erihinae	Alonso-Zarazaga & Lyal 1999	Subfamily
78	Dinomorphini	Thompson 1992	Tribe	254	Tadiinae	Alonso-Zarazaga & Lyal 1999	Subfamily

79 Molytini	Thompson 1992	Tribe	255 Eurhynchidae	Alonso-Zarazaga & Lyal 1999	Family
80 Nerthopinae	Thompson 1992	Subfamily	256 Ithyceridae	Alonso-Zarazaga & Lyal 1999	Family
81 Onycholopinae	Thompson 1992	Subfamily	257 Nanophyidae	Alonso-Zarazaga & Lyal 1999	Family
82 Emphyastini	Thompson 1992	Tribe	258 Nemonychidae	Alonso-Zarazaga & Lyal 1999	Family
83 Onycholopini	Thompson 1992	Tribe	259 Cimberidinae	Alonso-Zarazaga & Lyal 1999	Subfamily
84 Rhadinosominae	Thompson 1992	Subfamily	260 Nemonychinae	Alonso-Zarazaga & Lyal 1999	Subfamily
85 Rhamphinae	Thompson 1992	Subfamily	261 Rhinorhynchinae	Alonso-Zarazaga & Lyal 1999	Subfamily
86 Rhyparosominae	Thompson 1992	Subfamily	262 Slonikinae	Alonso-Zarazaga & Lyal 1999	Subfamily
87 Rhytirhininae	Thompson 1992	Subfamily	263 Obrienidae	Alonso-Zarazaga & Lyal 1999	Family
88 Scolytinae	Thompson 1992	Subfamily	264 Oxycorynidae	Alonso-Zarazaga & Lyal 1999	Family
89 Smicronychinae	Thompson 1992	Subfamily	265 Afrocoryninae	Alonso-Zarazaga & Lyal 1999	Subfamily
90 Somatodinae	Thompson 1992	Subfamily	266 Aglycyderinae	Alonso-Zarazaga & Lyal 1999	Subfamily
91 Storeinae	Thompson 1992	Subfamily	267 Allocoryninae	Alonso-Zarazaga & Lyal 1999	Subfamily
92 Thecesterminae	Thompson 1992	Subfamily	268 Hispodinae	Alonso-Zarazaga & Lyal 1999	Subfamily
93 Tychiinae	Thompson 1992	Subfamily	269 Metrioxeninae	Alonso-Zarazaga & Lyal 1999	Subfamily
94 Ulomascinae	Thompson 1992	Subfamily	270 Oxycoryninae	Alonso-Zarazaga & Lyal 1999	Subfamily
95 Xiphaspidae	Thompson 1992	Subfamily	271 Raymondionymidae	Alonso-Zarazaga & Lyal 1999	Family
96 Zygopinae	Thompson 1992	Subfamily	272 Myrtonyminae	Alonso-Zarazaga & Lyal 1999	Subfamily
97 Campyloscelini	Thompson 1992	Tribe	273 Raymondionyminae	Alonso-Zarazaga & Lyal 1999	Subfamily
98 Zygopini	Thompson 1992	Tribe	274 Rhynchitidae	Alonso-Zarazaga & Lyal 1999	Family
99 Erirhinidae	Thompson 1992	Family	275 Isotheinae	Alonso-Zarazaga & Lyal 1999	Subfamily
100 Ithyceridae	Thompson 1992	Family	276 Pterocolinae	Alonso-Zarazaga & Lyal 1999	Subfamily
101 Nemonychidae	Thompson 1992	Family	277 Rhynchitinae	Alonso-Zarazaga & Lyal 1999	Subfamily
102 Nemonychinae	Thompson 1992	Subfamily	278 Ulyanidae	Alonso-Zarazaga & Lyal 1999	Family
103 Doydirhynchinae	Thompson 1992	Subfamily			
104 Doydirhynchini	Thompson 1992	Tribe			
105 Rhinorhynchini	Thompson 1992	Tribe			
106 Oxycorynidae	Thompson 1992	Family			
107 Allocoryninae	Thompson 1992	Subfamily			
108 Oxycoryninae	Thompson 1992	Subfamily			
109 Platypodidae	Thompson 1992	Family			
110 Carphodicticinae	Thompson 1992	Subfamily			
111 Mecopelminae	Thompson 1992	Subfamily			
112 Platypodinae	Thompson 1992	Subfamily			
113 Platytarsulinae	Thompson 1992	Subfamily			
114 Raymondionymidae	Thompson 1992	Family			
115 Rhynchophoridae	Thompson 1992	Family			
116 Urodontidae	Thompson 1992	Family			

taxonomy a Taxonomy2

(194 195 199 203 207 210 214 223 240 241 247 251 252 255 256 257 258 263 264 271 274 278)
 (195 196 197 198)
 (199 200 201 202)
 (203 204 205 206)
 (207 208 209)
 (210 211 212 213)
 (214 215 216 217 218 219 220 221 222)
 (223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239)
 (241 242 243 244 245 246)
 (247 248 249 250)
 (252 253 254)
 (258 259 260 261 262)
 (264 265 266 267 268 269 270)
 (271 272 273)
 (274 275 276 277)

taxonomy t Taxonomy1

(18 19 22 25 29 32 37 46 47 99 100 101 106 109 114 115 116)
 (19 20 21)
 (22 23 24)
 (25 26 27 28)
 (29 30 31)
 (32 33 34 35 36)
 (37 38 39 40 41 42 43 44 45)
 (47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 70 71 72 73 74 75 76 77 80 81 84 85 86 87 88
 89 90 91 92 93 94 95 96)
 (62 63 64 65 66 67 68 69)
 (77 78 79)
 (81 82 83)
 (96 97 98)
 (101 102 103)
 (103 104 105)
 (106 107 108)
 (109 110 111 112 113)

articulation azl azltho

[a.194 includes t.18]
 [a.195 includes t.22]
 [a.195 includes t.116]
 [a.195 rsum t.22 t.116]
 [a.196 equals t.23]
 [a.197 equals t.24]
 [a.198 equals t.116]
 [a.199 is_included_in t.37]
 [a.199 includes t.38]
 [a.200 overlaps t.38]
 [a.201 is_included_in t.38]
 [a.202 is_included_in t.38]
 [a.200 includes t.44]
 [a.199 rsum t.38 t.44]
 [a.203 is_included_in t.25]
 [a.203 equals t.26]
 [a.204 is_included_in t.26]
 [a.205 is_included_in t.26]
 [a.206 is_included_in t.26]
 [a.204 a.205 a.206 l3sum t.26]
 [a.207 is_included_in t.29]
 [a.208 is_included_in t.30]
 [a.209 is_included_in t.30]
 [a.208 a.209 lsum t.30]
 [a.210 equals t.32]
 [a.211 includes t.33]
 [a.211 includes t.34]
 [a.211 rsum t.33 t.34]
 [a.212 equals t.36]
 [a.213 equals t.35]

[a.214 is_included_in t.37]
[a.199 a.214 a.255 a.257 lsum t.37]
[a.215 equals t.39]
[a.216 is_included_in t.40]
[a.217 equals t.41]
[a.218 is_included_in t.40]
[a.219 is_included_in t.40]
[a.220 is_included_in t.40]
[a.221 is_included_in t.40]
[a.222 equals t.45]
[a.223 is_included_in t.47]
[a.223 disjoint t.88]
[a.224 equals t.51]
[a.225 is_included_in t.52]
[a.238 is_included_in t.52]
[a.225 a.238 lsum t.52]
[a.226 equals t.53]
[a.227 equals t.54]
[a.228 equals t.96]
[a.228 includes t.97]
[a.228 includes t.98]
[a.228 rsum t.97 t.98]
[a.229 includes t.57]
[a.229 includes t.81]
[a.229 rsum t.57 t.81]
[a.230 equals t.58]
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[a.231 includes t.60]
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[a.231 includes t.94]
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[a.232 includes t.50]
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[a.232 includes t.71]
[a.232 includes t.73]
[a.232 includes t.75]
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[a.232 includes t.86]
[a.232 includes t.87]
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[a.233 includes t.62]
[a.233 includes t.92]
[a.233 rsum t.62 t.92]
[a.234 equals t.74]
[a.235 equals t.56]
[a.236 includes t.76]
[a.236 overlaps t.77]
[a.237 disjoint t.76]
[a.237 is_included_in t.77]
[a.237 includes t.78]
[a.237 overlaps t.79]
[a.239 equals t.95]
[a.240 equals t.46]
[a.241 equals t.115]
[a.247 overlaps t.29]
[a.248 disjoint t.18]
[a.249 equals t.31]
[a.250 disjoint t.18]
[a.251 disjoint t.18]

[a.252 equals t.99]
[a.255 is_included_in t.37]
[a.255 equals t.42]
[a.256 equals t.100]
[a.257 is_included_in t.37]
[a.257 equals t.43]
[a.258 includes t.101]
[a.259 equals t.104]
[a.260 equals t.102]
[a.261 equals t.105]
[a.259 a.261 lsum t.103]
[a.262 disjoint t.101]
[a.263 disjoint t.18]
[a.264 includes t.19]
[a.264 includes t.106]
[a.264 rsum t.19 t.106]
[a.265 is_included_in t.108]
[a.266 equals t.19]
[a.266 includes t.20]
[a.266 includes t.21]
[a.266 rsum t.20 t.21]
[a.267 equals t.107]
[a.268 is_included_in t.108]
[a.269 is_included_in t.108]
[a.270 is_included_in t.108]
[a.265 a.268 a.269 a.270 l4sum t.108]
[a.271 equals t.114]
[a.272 is_included_in t.114]
[a.273 is_included_in t.114]
[a.272 a.273 lsum t.114]
[a.274 overlaps t.25]
[a.275 disjoint t.18]
[a.276 equals t.27]
[a.277 equals t.28]
[a.274 disjoint t.26]
[a.278 disjoint t.18]
[a.194 disjoint t.88]
[a.194 disjoint t.109]