**Autopsie d’une radiation adaptative: Phylogénie des Theridomorpha, rongeurs endémiques du Paléogène d’Europe - histoire, dynamique évolutive et intérêt biochronologique.**

**Supplementary data - 3**

**Characters at the nodes A to W (**see Fig. 7A-B**)**: only the unambiguous characters are listed.

**Node A:** 33 characters changes among which 9 ambiguous: 24 unambiguous.

1:0-1; 13:1-0; 28: 0-1; 32: 0-1; 46:1-0; 51: 0-1; 56: 0-1; 71:0-1; 75: 0 -1; 78: 1-2; 123-0-1; 125: 0-1; 129:1-0; 187: 0-1; 192: 0-1; 208: 0-1; 210:1-0; 232: 0-1); 234: 0-1; 267: 0-1/2;

284: 0-1; 285: 0-1; 295: 0-2.

**Node B:** 21 characters changes among which 3 ambiguous: 18 unambiguous.

23: 0-1; 26: 0/1 -2; 121: 0-1; 131: 0-1; 135: 0-3; 142: 2-0; 151: 0-2; 152: 0-2; 157: 0-1; 175: 0-1; 195: 0-1; 201: 0-1; 204: 0-1; 252: 0-1; 267: 0-1; 305: 0-1; 314: 0-1.

**Node C:** 26 characters changes among which 6 ambiguous: 20 unambiguous.

9: 0-1; 27: 0-1; 50: 0/1-1; 67: 0-1; 68:1-0; 76: 2-1; 98: 1-0; 108: 2-0; 112:1-0; 119: 2-0;123:1-0; 126: 0-1; 136: 2-1; 138:1-0; 139:1-0; 144: 0-1; 158:0-1; 291: 1-0; 314: 0-3; 315: 0-1.

**Node D:** 29 characters changes among which 2 ambiguous: 27 unambiguous.

24: 2-3; 50: 0-1; 65: 0-1; 72: 1-0; 73: 1-0; 121: 1-2; 124: 1-0; 151: 1-0; 161: 0-2; 162: 2-0/1; 179: 2-0); 192: 1-0; 195: 1-0; 201: 0-1; 211: 0-1; 244:0-1; 250: 0-1; 251: 0-1; 252: 2-0; 264: 0 -1; 267: 1-2; 277: 1-0; 297: 2-1; 300: 1-0; 303: 1-0; 308: 2-0.

**Node D1:** 32 characters changes among which 8 ambiguous: 24 unambiguous.

5: 0-1; 12: 1-0; 16: 0-1; 29: 0-1; 80: 0-1; 123: 0-1; 127: 0-1; 129: 0-1; 140: 0-1; 161: 0-1; 175: 0-1; 176: 0-1; 187: 1-2; 188:1-0; 196: 0-1; 208: 2-0; 215: 2-0; 236: 0-4; 244:1-2; 245: 0-2; 250: 1-3; 257: 0-1; 305: 0-1; 309: 0-1.

**Node D2:** 40 characters changes among which 12 ambiguous: 28 unambiguous.

6: 0-1; 17: 0-1; 23:1-2; 59: 0-1; 66:1-0 Rem; 77: 0-1; 131: 0-2; 137: 0-1; 176:1-2; 177: 0-3; 179: 0-1; 190: 0-1; 201: 1-0; 211: 1-0; 215: 1-0; 247:1-0; 248: 2-0; 252: 0-2; 264: 1-0; 282: 0-1; 287: 0-1; 295: 2-0/1); 304:0-1.

**Node E:** 23 characters changes among which 7 ambiguous: 16 unambiguous.

13: 0-1; 39: 0-1; 53: 0-1; 84: 1-0; 111: 0-1; 159: 0 -1; 180: 0-1; 181: 2-0; 190: 0-1; 191: 1-0; 201: 0-2; 215: 0-2; 236: 0-1; 267: 0-1; 292: 0-1; 311: 2-0.

**Node F:** 21 characters changes among which 1 ambiguous: 20 unambiguous.

65: 0-1; 66: 1-0; 76: 0-1; 78: 0-2; 121: 0-2; 138: 0-1; 140: 0-1; 148: 0-1; 155: 1-0; 176: 0-1; 191: 0-1; 195: 1-0; 197: 0-1; 206: 2-1; 229: 1-0; 247: 0-1; 250: 0-1; 251: 0-1; 253: 0-1; 291: 0-1; 301: 0-1; 303: 0-1; 304: 0 -1.

**Node G:** 34 characters changes among which 6 ambiguous: 28 unambiguous.

1: 0-1; 14: 2-1; 45:1-0; 47: 0-1; 68: 0-1; 77: 0-1; 90: 0-1; 105: 0-1; 108: 0-2; 112: 0-1); 118: 0-1; 123: 0-1; 133: 1-2; 134: 0-1; 135: 0-1; 136: 1-2; 141: 0-1; 161: 0-2; 165: 0-1; 172: 1-0; 196: 0-1; 245: 1-2; 246: 0-1; 248: 0-1); 264: 1-0; 266: 1-0; 277: 1-0; 288: 1-0; 293: 0-1; 295: 1-2; 296: 1-0; 302: 1-0; 306: 0-1.

**Node H:** 31 characters changes among which 2 ambiguous: 29 unambiguous.

34: 1-0; 45: 1-0; 49: 0-1; 53: 1-0; 56: 0-2; 63: 1-0; 67: 0-1; 68: 1-0; 72: 1-0; 76: 0-2; 91: 0-1; 98: 0-1; 105: 0-1; 110: 0-1; 121: 1-2; 139: 1-0; 145: 0-1; 146: 0-1; 155: 0-1; 158: 1-0; 182: 0-1; 187: 0-1; 196: 1-0; 197: 0-1; 258: 0-1; 267: 0-1; 293: 0-1; 295: 1-2.

**Node I:** 37 characters changes including 5 ambiguous: 32 unambiguous.

11: 0-1; 17: 0-1; 23: 1-2; 33: 0-1; 45: 0-1; 52: 2-0; 56: 2-1; 59: 0-1; 72: 0-1; 75: 0-2; 80: 0 -1; 85: 0-1; 106: 0-1; 108: 2-1; 123: 1-0; 124: 0-1; 126: 0-1; 130: 0-1; 132: 1-0; 151: 2-1; 156: 3 -0; 158: 0-1; 176: 1-2; 183: 1-2; 191: 0-1; 206: 1-2; 212: 1-0; 232: 1-2; 247: 1-0; 248: 2-0; 254: 1-0; 277: 1-0; 302: 0-1; 304: 0-1; 314: 3-1.

**Node J:** 38 characters changes including 9 ambiguous: 29 unambiguous.

13: 0-1; 52: 0-1; 88: 0-2; 90:1-2; 96: 2-1; 101: 1-0; 102: 1-2; 116: 0-2; 138: 0-1; 139: 0-1; 148: 1-0; 151: 1-0; 153: 1-0; 177: 2-1; 180: 1-0; 194: 1-0; 233: 1-0; 234: 0-1; 235: 0-1; 238: 0-1; 240: 1-0; 246: 2-1; 255: 2-1; 257: 0-1; 258: 0-1; 273: 0-1; 303: 1-0; 315: 0-1.

**Node K:** 19 characters changes including 6 ambiguous: 13 unambiguous.

20: 0-1; 64: 2-0; 77: 1-0; 118: 0-1; 145: 1-0; 146: 0-1; 180: 2-1; 182: 2-1; 183: 2-0; 184: 1-0);

194: 1-2; 206: 1-2; 234: 1-0.

**Node K1:** 18 characters changes including 4 ambiguous: 14 unambiguous.

10: 1-0; 16: 0-1; 46: 1-2; 130: 1-0; 141: 1-0; 155: 1-0; 157: 2-1; 195: 1-0; 200: 0-1; 215: 1-2; 241: 1-0; 263: 2-0; 311: 1-0.

**Node K2:** 24 characters changes including 2 ambiguous: 22 unambiguous.

33: 0-1; 34: 0-1; 43: 0-1; 52: 1-2; 53: 1-0; 121: 2-1; 156: 0-1; 159: 2-1; 160: 3-2; 163: 0-1; 165: 1-2; 166: 1-0; 181: 2-0; 194: 1-2; 198: 0-1; 212: 0/1-2; 213: 0-1; 234: 0; 241: 0-1; 246: 0-2; 277: 0-1; 314: 1-4.

**Node K3:** 26 characters changes including 5 ambiguous: 21 unambiguous.

14: 1-0; 44: 0-2; 62: 1-0; 65:1-2; 75: 1-2; 79: 1-0; 102: 1-0; 113: 0-1; 131: 0-1; 138: 0-1; 162: 0-1; 181: 1-2; 182: 0-1; 186: 1-0; 207: 0-1; 212: 0-1; 222: 1-0; 254: 0-2; 255: 1-0; 264: 1-0; 314: 1-2.

**Node K4:** 37 characters changes unambiguous.

16: 0/1-0; 20: 0-1; 21: 0-1; 26: 1-2; 35: 1-0; 40: 0-3; 41: 0-3; 43: 0-2; 53: 1-0; 57: 1-0; 58: 1-0; 64: 0-1; 66: 1-0; 76: 0-2; 78: 1-2; 84: 1-2; 85: 0/1-1; 86: 0-1/2; 96: 2-1; 116: 2-0; 118: 1-0; 123: 0-1; 144: 0/1-1; 154: 0-0/1/2; 172: 0-1; 190: 1-0; 191: 1-2; 200: 0/1-0; 211: 0-1; 214: 0/1-1; 215: 2-1; 222: 0-2; 233: 0/1-0; 247: 1-0; 277: 1-0/1; 279: 0-1; 288: 0-1; 300: 0-1.

**Node L:** 46 characters changes including 7 ambiguous: 39 unambiguous.

20: 1-0; 23: 2-1; 28: 1-0; 44: 0-1; 49: 2-1; 51: 0-1; 54: 1-0; 62: 1-0; 73: 1-0; 76: 3-2; 77: 1-0; 81: 0-1; 92: 1-0; 108: 1-2; 113: 2-0; 130: 0-1; 131: 2-0; 139: 1-0; 159: 1-0; 170: 1-2; 177: 0-1; 180: 0-2; 186: 0-1; 190: 0-1; 91: 1-0; 207: 0-1; 208: 1-2; 210: 1-0; 212: 1-0; 230: 2-1; 236: 1-3; 247: 0-1; 248: 0-3; 252: 0-1; 253: 1-2; 254: 1-0; 259: 0-1; 287: 0-1.

**Node M:** 34 characters changes including 7 ambiguous: 27 unambiguous

76: 3-2; 83: 0-1; 87: 0-1; 106: 1-2; 109: 0-1; 113: 3-0; 116: 0-2; 119: 3-0; 123: 0-1; 132: 2-1; 136: 3-2; 139: 1-0; 140: 1-0; 141: 0-1; 147: 0-1; 153: 0-2; 167: 1-0; 179: 2-0; 196: 2-0; 200: 1-0; 204: 1-2; 206: 0-1; 212: 2-0; 222: 2-0; 252: 0-1; 255: 2-3; 271: 0-2; 273: 0-1; 279: 1-2.

**Node N:** 27 characters changes including 8 ambiguous: 19 unambiguous

5: 2-1; 6: 3-0; 40: 1-0; 57: 1-0; 66: 1-0; 84: 1-0; 87: 0-1; 101: 0-1; 116: 2-0; 122: 1-0; 135: 0-4; 139: 0-1; 162: 2-1; 191: 1-3; 194: 1-0; 208: 0-1; 260: 1-2; 269: 2-0: 300: 0-1.

**Node O:** 27 characters changes including 7 ambiguous: 20 unambiguous.

2: 1-3; 16: 1-0; 17: 0-1; 34: 1-0; 40: 2-0; 52: 1-2; 65: 2-1; 79: 0-1; 106: 2-1; 112: 1-0; 119: 3 -0; 122: 1-0; 129: 0-1; 140: 0-1; 167: 1-0; 169: 2-0; 192: 1-0; 196: 0-1; 236: 3-2; 242: 1-0; 280: 0-1.

**Node P:** 39 characters changes including 4 ambiguous: 35 unambiguous

12: 0-1; 27: 1-2; 43: 0-2; 54: 0-1; 67: 0-1; 71: 1-0; 72: 1-0; 79: 1-3; 83: 1-0; 84: 1-0; 108: 2-4; 109: 1-0; 113: 0-2; 119: 0-3; 130: 0-1; 135: 2-4; 143: 1-0; 153: 5-2; 177: 2-3; 179: 0-1; 180: 4 -2; 182: 0-1; 187: 0-1; 194: 0-2; 202: 2-1; 211: 1-0; 212: 1-0; 230: 1-0; 236: 2-4; 238: 0-1; 252: 1-0; 255: 3-1; 260: 2-1; 271: 0-2; 287: 1-0.

**Node Q:** 38 characters changes including 7 ambiguous: 31 unambiguous.

6: 0-2; 9: 1-0; 15: 0-1; 51: 0-1; 54: 1-2; 55: 1-0; 57: 0-1; 62: 1-2; 81: 0-1; 82: 2-0; 94: 1-0; 113: 1-2; 125: 0-1; 134: 0-2; 149: 1-2; 154: 1-2; 168: 0-2; 170: 1-2; 179: 1-2; 186: 0-1; 188: 0 -1; 191: 1-3; 204:1-0; 224: 0-2; 244: 1-2; 255: 1-2; 256: 0-1; 269: 2-0; 279: 1-2; 281: 1-2: 306: 1-0.

**Node R:** 43 characters changes including 6 ambiguous: 37 unambiguous.

2: 1-2; 7: 0-2; 15: 2-1; 24: 3-4; 38: 2-1; 42: 1-0; 55: 0-2; 56: 2-; 61: 1-0; 71: 0-1; 76: 2-3; 103: 1-0; 113: 2-0; 117: 1-0; 132: 1-2; 136: 2-3; 162: 2-1; 170: 3-2; 172: 1-0; 179: 1-2; 182: 1-2; 184: 0-1; 185: 0-1; 191: 4-3; 192: 2-0; 193: 2-0; 201: 1-2; 202: 0-1; 213: 1-0; 215: 0-2; 217: 1-0; 221: 0-1; 223: 2-0; 233: 0-1; 239: 1-0; 240: 0-1; 248: 3-0; 273:1-0; 312: 1-0.

**Node S:** 53 characters changes including 7 ambiguous: 46 unambiguous.

2: 0/2-3; 3: 1-0; 6: 3-2; 11: 1-2; 16: 0-1; 27: 1-2; 30: 0-2; 40: 0-1; 41: 0-1; 59: 1-4; 70: 1-2; 73: 1-0; 77: 0-1; 79: 2-3; 81: 2-1; 108: 3-4; 120: 2-1; 122: 0-1; 129: 1-0; 135: 0-4; 177: 3/4-5; 187: 2-1; 189: 1-0; 192: 1-0; 193: 0-2; 194: 1-3; 195: 1-0; 198: 0-1; 201: 2-0; 206: 2-1; 211: 1-0; 212: 2-0; 215: 2-0; 217: 0-2; 230: 1-0; 231: 1-2; 235: 2-1; 236: 3-4; 242: 3-0; 247: 0-1; 264: 0-1; 267: 0-1; 274: 1/2-0; 279: 1-2; 282: 1-0; 294: 0-1; 297: 0-1.

**Node T:** 22 characters changes including 6 ambiguous: 16 unambiguous.

6: 0/1/2/3-0; 7: 2-0; 9: 0-1; 17: 0-1; 18: 1-0; 29: 1-0; 33: 1-0; 81: 1-0; 101: 0-1; 116: 2-0; 117: 1-0; 139: 1-0; 196: 2-1; 220: 0-4; 237: 2-1; 265: 0-1.

**Node U:** 26 characters changes including 2 ambiguous: 24 unambiguous.

5: 1-2; 7: 1 -2; 20: 1-0 Arc); 21: 1-0; 28: 1-0; 30: 5-2; 34: 1-0; 41: 6-2; 56: 1-2; 59: 3-4; 92: 1-0; 115: 1-2; 116: 2-0; 149: 2-1; 153: 4-3; 191: 1-3; 192: 1-0; 200: 0-1; 220: 4-1; 222: 2-1; 223: 0-1/2; 225: 1-4; 226: 2-0; 227: 1-0; 247: 1-0; 287: 0-1.

**Node V:** 25 characters changes including 3 ambiguous: 22 unambiguous.

2: 3-0; 16: 1-0; 29: 1-0; 32: 0-1; 55: 2-3; 56: 2-4; 59: 4-5; 72: 1-0; 81: 1-2; 82: 0-1; 140: 1-0; 149: 2-1; 169: 0-1; 171: 0-1; 186: 1-0; 187: 1-3; 191: 3-2; 223: 1-2; 241: 1-0; 256: 1-2; 269: 1-2; 287: 1-0 .

**Node V1:** 16 characters changes including 2 ambiguous: 14 unambiguous.

17: 1-0; 18: 0-1; 71: 0-1; 73: 0-1; 83: 1-0; 84: 0-1; 131: 0-2; 139: 0-1; 141: 1-0; 142: 0-2; 187: 1-2; 219: 1-0; 223: 1-2; 227: 1-0.

**Node V2:** 34characters changes including 4 ambiguous: 30 unambiguous.

4: 0-1; 6: 3-4; 12: 0-1; 18: 0-1; 54: 0-2; 70: 2-3; 82: 1-0; 103: 1-3; 115: 2-4; 122: 0-1; 129: 0-1; 168: 1-2; 178: 0-1; 187: 3-4; 192: 0-1; 202: 0-1; 220: 4-1; 222: 2-1/0; 225: 1-4; 226: 2-0; 233: 1-0; 238: 2-3; 245: 3-2; 252: 0-1; 255: 1-3; 256: 2-4; 260: 0-2; 271: 2-1; 287: 2-0; 297: 0-1.

**Node W:** 19 characters changes including 2 ambiguous: 17 unambiguous.

8: 2-1; 13: 1-0; 20: 1-0; 21: 1-0; 63: 0-1; 69: 0-1; 82: 0-1; 114: 1-0; 131: 0-1; 140: 1-0; 166: 1 -2; 187: 5-4; 193: 4-3; 202: 2-1; 205: 1-0; 252: 1-2.

**Node W1:** 14 characters changes including 3 ambiguous: 11 unambiguous.

6: 5-4; 8: 2-0; 32: 1-0 Others; 68: 1-0; 71: 0-1; 113: 4-3; 72: 0/1-1; 220: 2-1; 221: 1-0; 222: 0-1; 227: 0-1.

**Node W2:** 10 characters changes including 1 ambiguous: 9 unambiguous.

6: 2-4; 8: 1-2; 60: 0-1 Others; 68: 0-1; 121: 2-1; 122: 0-1; 170: 3-2; 203: 2-1; 223: 0-2.