Electronic Supplementary Material: Binary data matrix subjected to PAUP, based on presence (1) absence (0) of the syntenic association of homologous chromosome segments.

No.	character (synteny)	*Rattus*	*Rhabdomys*	*Apodemus*	*Coelomys*	*Nannomys*	*Mus*	*Pyromys*
1	MMU 1prox/MMU 1dist	0	0	0	0	0	1	1
2	MMU 2prox/MMU 2dist	0	?	?	0	1	1	1
3	MMU 4prox/MMU 4dist	1	1	1	0	1	1	1
4	MMU 5prox/MMU 5med	0	0	0	0	0	1	1
5	MMU 5med/MMU 5dist	0	0	0	0	0	1	1
6	MMU 6prox/MMU 6dist	1	?	1	1	1	1	0
7	7a/7b	1	1	1	0	1	1	1
8	MMU 8prox/MMU 8dist	0	0	0	0	1	1	1
9	9a/9b	1	?	1	1	0	1	1
10	MMU 10prox/MMU 10dist	0	0	0	0	1	1	1
11	MMU 11prox/MMU 11dist	0	0	0	0	1	1	1
12	MMU 12prox/MMU 12dist	1	0	1	1	1	1	1
13	MMU 13prox/MMU 13med	0	?	0	0	0	1	1
14	MMU 13med/MMU 13dist	0	?	0	0	1	1	1
15	14a/14b	?	1	1	1	1	1	0
16	MMU 15prox/MMU 15dist	0	?	0	0	1	1	1
17	16a/16b	?	1	0	1	1	1	1
18	MMU 17prox/MMU 17dist	0	0	0	0	0	1	0
19	MMU 18prox/ MMU 18dist	1	1	?	1	0	1	1
20	15/10	1	0	0	0	0	0	0
21	10*MMU 4	1	1	0	0	0	0	0
22	10/13	1	0	0	0	0	0	0
23	13*17	1	0	0	0	0	0	0
24	17/MMU 7	1	0	0	0	0	0	0
25	MMU 7prox/MMU 19	1	1	1	1	1	0	1
26	MMU 13 dist/MMU 15prox	1	0	1	1	1	0	1
27	MMU 15prox/MMU 3	1	0	0	0	0	0	0
28	16*17	1	0	0	0	0	0	0
29	17/1	1	1	1	0	0	0	0
30	1/17	1	1	1	0	0	0	0
31	MMU 5prox/MMU 6	1	0	1	1	1	0	0
32	17/MMU 12prox	1	1	1	0	0	0	0
33	16/MMU 11dist	1	0	0	0	0	0	0
34	MMU 5med/MMU 11prox	1	0	1	1	0	0	0
35	8/14	1	0	0	0	0	0	0
36	MMU 2prox/MMU 13prox	1	0	0	1	0	0	0
37	MMU 14/1	0	1	0	0	0	0	0
38	1*MMU 3	0	1	0	0	0	0	0
39	11/17	0	1	1	0	0	0	0
40	17*MMU 2	0	1	0	0	0	0	0

41	17/10	0	1	0	0	0	0	0
42	10*MMU 7	0	1	0	0	0	0	0
43	MMU 18*9	0	1	0	0	0	0	0
44	9/13	0	1	0	0	0	0	0
45	17/10	0	1	0	0	0	0	0
46	MMU 11prox/MMU 16	0	1	0	0	0	0	0
47	9/17	0	1	0	0	0	0	0
48	10/17	0	1	1	0	0	0	0
49	16/17	0	0	1	0	0	0	0
50	18/13	0	0	1	0	0	0	0
51	MMU 15prox/13	0	0	1	1	0	0	0
52	7/8	0	0	0	1	0	0	0
53	8/7	0	0	0	1	0	0	0
54	MMU 17prox/10	?	?	1	1	0	0	0
55	MMU 1prox/MMU 4prox	0	0	0	1	1	0	0
56	MMU 18dist/9	0	0	0	0	1	0	0
57	9/MMU 5prox	0	0	0	0	1	0	0
58	MMU 5dist/MMU 8	0	0	0	0	1	0	0
59	MMU 18prox/MMU 14	0	0	0	0	1	0	0
60	MMU 5med/MMU 17prox	0	0	0	0	1	0	0
61	MMU 12/MMU 1	0	0	0	0	0	0	1
62	6/MMU 3	0	0	0	0	0	0	1
63	MMU 10/MMU 9	0	0	0	0	0	0	1
64	14/17	0	0	0	0	0	0	1
65	6/17	0	0	0	0	0	0	1
66	17/MMU 16	0	0	0	0	0	0	1
67	14/MMU 2	0	0	0	0	0	0	1

The identification of characters is based on *Mus* chromosomes, which the numbers refer to. When the homologous segment is identified precisely on the chromosome, the chromosomal number is preceded by MMU.

"dist", "med", "prox" refer to the distal, median and proximal segment of the chromosome respectively.

a, b refer to unidentified subchromosomal segments that are associated on the same chromosome.

"/" means that the chromosome segments lie together on the same arm

"*" means that the association of chromosome segments is interrupted by a centromere

? = unknown character state, owing to the unavailability of reciprocal painting. In addition, “?” in characters 2 and 16 of *Rhabdomys* are due to ambiguities (Robinson, in litt.). “?” in character 2 of *Apodemus* takes into a discrepancy between the studies of Matsubara *et al.* (2004) and Stanyon *et al.* (2004).