Figure 4-source data 1 : Data on dependent and independent factors used in models 2. Sex difference in immergence was used as the dependent factor whereas strategy fatstoring or foodstoring, body mass change through the end of mating, body mass immergence, dimorphism at immergence maternal effort, maternal effort duration, female specific reproductive effort, minimum temperature and precipitation were considered as independent factors. The exact hibernation phenology data for *Cricetus cricetus* have been confirmed by the authors. Weaning body mass for *Zapus princeps* and *Urocitellus mollis* was calculated from body mass data at 52-60 days and 29 days, respectively, and corrected at 48 and 34 days, corresponding to weaning dates. For maternal effort duration of *Urocitellus brunneus* and *Ictidomys parvidens*, we used respectively the averages for the clade *Marmotini* obtained from Hayssen (2008). The body mass at weaning for *Urocitellus brunneus* correpsonds to the body mass at weaning of *Urocitellus townsendii* (phylogenetically close species)corrected for the difference in body mass of the females from Hayssen (2008) as body mass accounts for 76–84% of the variation in weaning mass in the clade *Marmotini* (Hayssen, 2008)

Sex difference in immergence was calculated as follows: female Julian date – male Julian date.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Species | Food/  Fat- | Sex diff immerg | Minimum temper | Body mass change end of mating | Precipitation | Body mass immerg | Maternal effort duration | Littersize | Weaning mass | Body mass femelle | Dimorphism immergence | Specific reprod effort |
| Callospermophilus saturatus | Food | 32 | -7,3 | -13,12 | 863 | 2732 | 701,3 | 2,72 | 762 | 1852 | 0,972 | 110,7 |
| Cricetus cricetus | Food | 274 | -2,7 | 3,28 | 595 | 3445,6 | 433 | 7,315 | 1055 | 2456 | 1,445,6 | 313,2 |
| Cynomys leucurus | Fat | 1110 | -11,5 | -17,77 | 337 | 12887 | 671 | 5,647 | 198,57 | 4917 | 1,557 | 227,6 |
| Erinaceus europaeus | Fat | 15,78,9 | -5,2 | -10,18,9 | 803,5 | 11528,9 | 722 | 510 | 23511 | 6068,9 | 1,168,9 | 193,8 |
| Glis glis | Fat | 1412 | -2,5 | -2,513 | 758 | 122,2613 | 583 | 4,914 | 39,215 | 99,3213 | 1,2113 | 193,3 |
| Ictidomys parvidens | Fat | 1516 | -2,4 | 24,416 | 347 | 282,516 | 681 | 6,416 | 43,816 | 18716 | 1,2416 | 149,9 |
| Marmota monax | Fat | -217 | -11,5 | -6,218 | 1156 | 3798,718 | 76,051 | 3,519 | 49017 | 261018 | 1,0818 | 65,7 |
| Microcebus murinus | Fat | 020 | 14,6 | -13,521 | 922 | 74,521 | 983 | 222 | 36,623 | 6021 | 0,7121 | 121,6 |
| Poliocitellus franklinii | Fat | 15,7524,25 | -21,1 | -4,524,25 | 517 | 577,8824,25 | 581 | 6,7525 | 101,331 | 32224,25 | 1,2624,25 | 211,7 |
| Spermophilus citellus | Fat | -21,2526 | -2,5 | -13,326 | 556 | 352,4726 | 64,51 | 3,926 | 51,527 | 18826 | 1,3126 | 106,8 |
| Tachyglossus aculeatus | Fat | 2428 | 3,5 | -6,629 | 625 | 418029 | 167,530 | 131 | 165031 | 380629 | 1,1329 | 43,3 |
| Urocitellus armatus | Fat | -8,632 | -13 | 2,232 | 402 | 521,8332 | 451 | 633 | 60,334 | 26232 | 1,3232 | 137,7 |
| Urocitellus beldingi | Fat | 2035 | -12,3 | -4,535 | 568 | 381,835 | 51,531 | 6,3136 | 6937 | 21735 | 1,2135 | 200,6 |
| Urocitellus brunneus | Fat | -238 | -11 | -6,539 | 610 | 269,539 | 66,51 | 6,240 | 36,551 | 12139 | 1,3539 | 186,7 |
| Urocitellus columbianus | Fat | 11,741 | -16,1 | 8,441 | 693 | 57941 | 53,21 | 3,642 | 112,643 | 38041 | 1,3241 | 106,6 |
| Urocitellus elegans | Fat | -944 | -16,6 | -3,844 | 281 | 363,6844 | 55,581 | 5,8845 | 80,546 | 20344 | 1,2544 | 233,1 |
| Urocitellus mollis | Fat | -3,6647 | -5,4 | -3,448 | 248 | 227,8348 | 581 | 8,147 | 32,847 | 122,548 | 1,3848 | 216,8 |
| Urocitellus parryii | Food | -2849 | -30,2 | -21,250 | 237 | 1034,7450 | 53 | 5,8 | 234,5 | 61550 | 1,0550 | 221,1 |
| Urocitellus richardsonii | Food | 12,1651–54 | -14,42 | -4,452,54 | 370 | 524,5252,54 | 51,79 | 7,1 | 83,75 | 22952,54 | 1,3052,54 | 259,6 |
| Zapus hudsonius | Fat | 1449 | -8,5 | -9,555 | 837 | 22,7855 | 47 | 5,5 | 7,8 | 16,755 | 0,9255 | 256,8 |
| Zapus princeps | Fat | 056 | -14,1 | -7,957 | 570 | 35,2457 | 48 | 5,4 | 12,9 | 2357 | 157 | 296,9 |

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