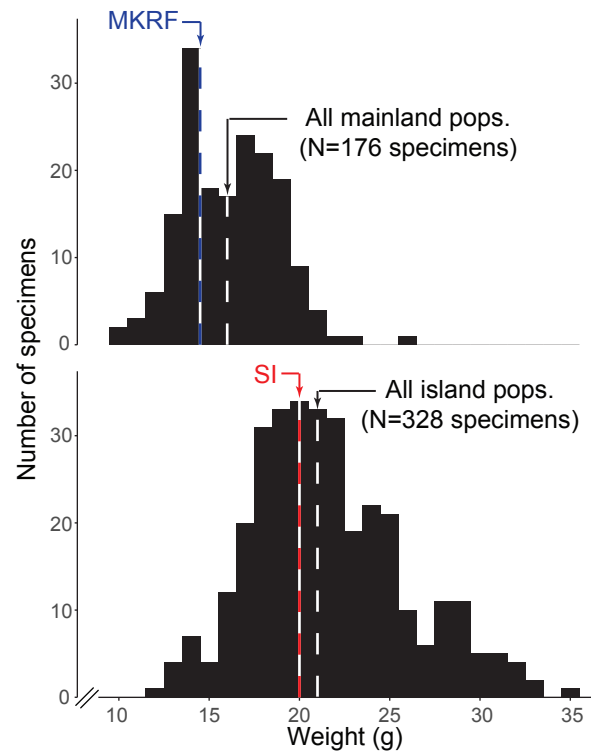
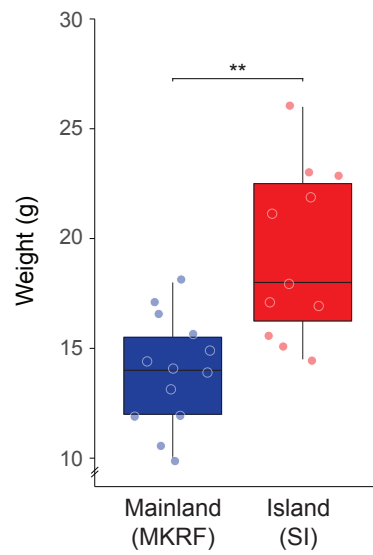


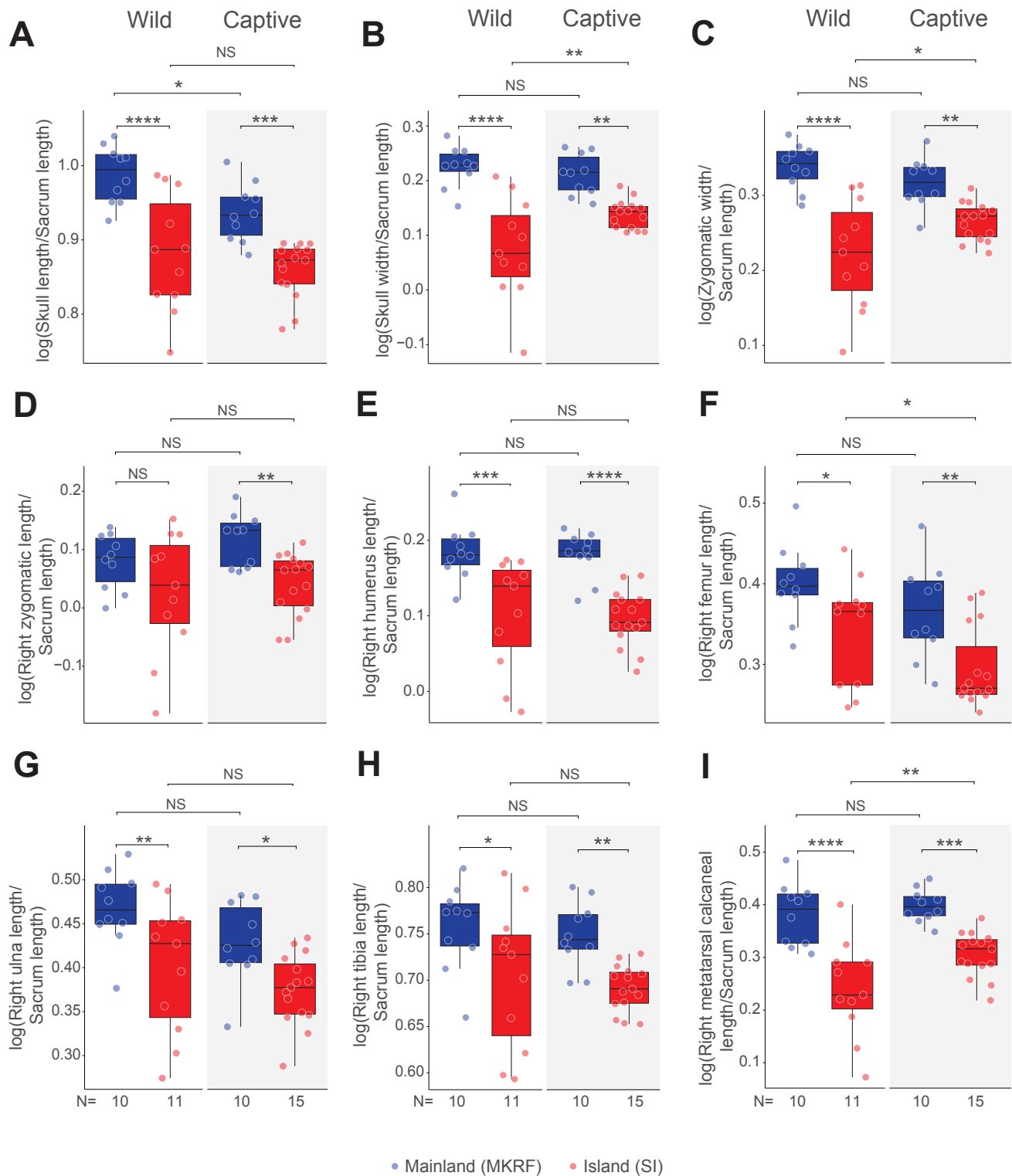
Suppl. Fig. 1. Haplotype network based on 381bp of the mitochondrial cytochrome b gene. Numbers on edges indicate the number of DNA substitutions separating adjacent haplotypes. Diameter of nodes is proportional to the number of specimens that carry the respective haplotype (see schematic at the top of the graph).



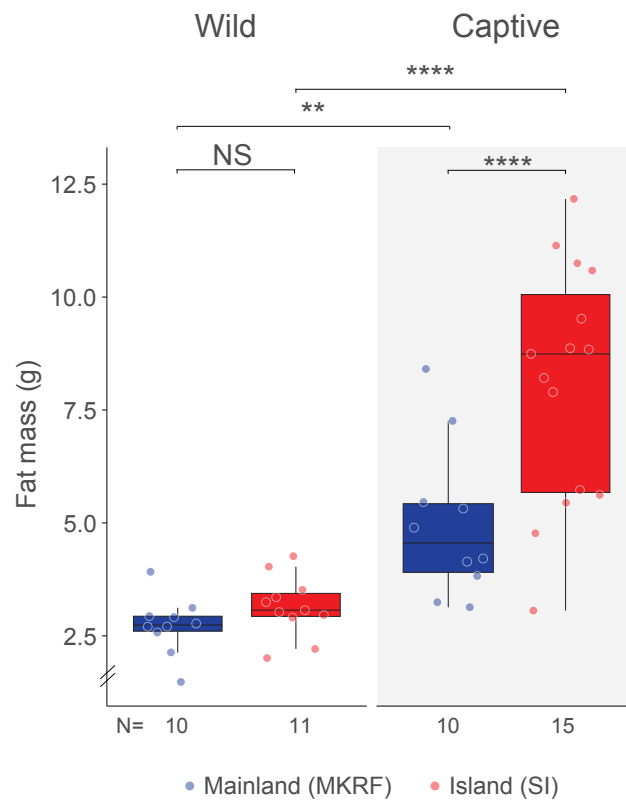
Suppl. Fig. 2. Histograms of body weight of mainland (top) and island (bottom panel) mice. The median weights for all populations are indicated by dashed lines.



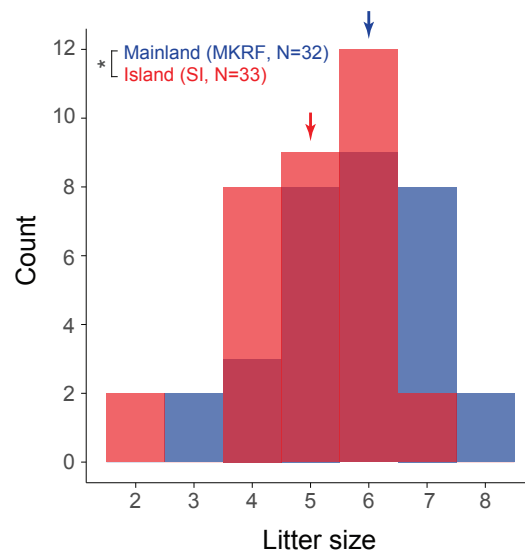
Suppl. Fig. 3. Body weight in adult female wild-caught island (red) and mainland (blue) mice. Statistical significance evaluated by linear fixed effects model (see Methods for details). ** $P < 0.01$.



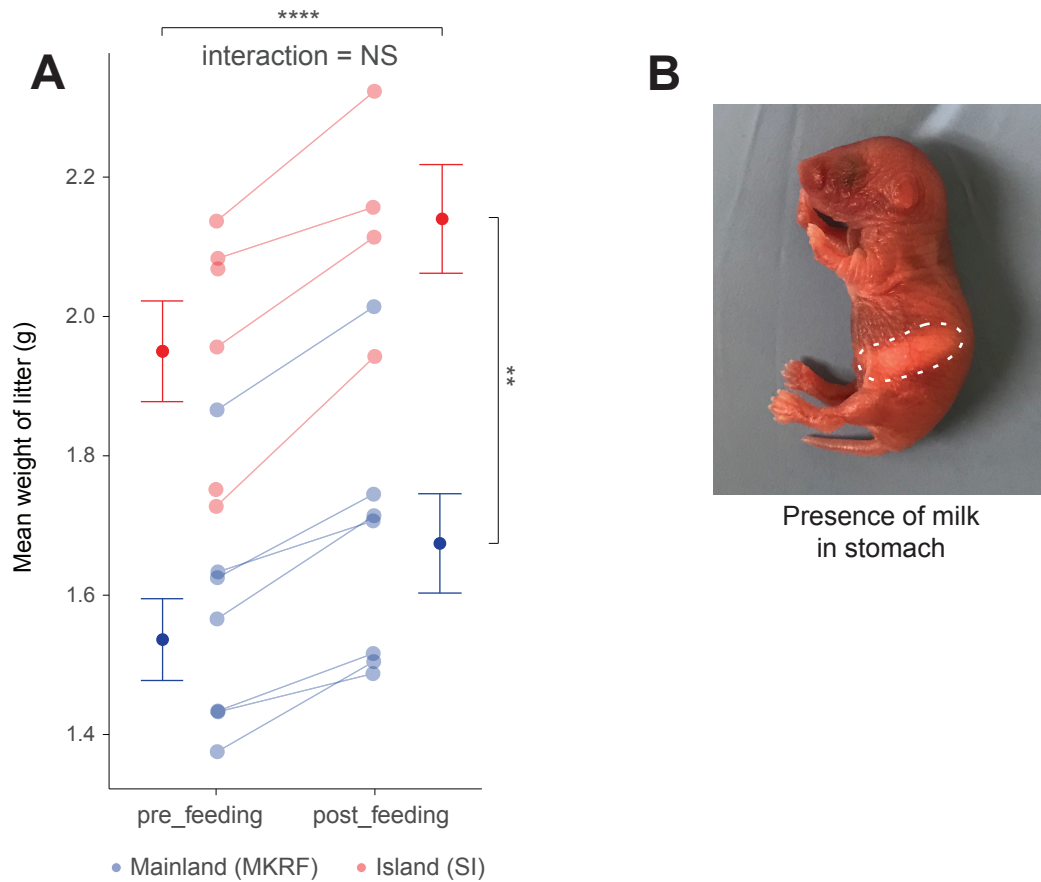
Suppl. Fig. 4. Size-corrected (A) skull length, (B) skull width, (C) zygomatic width, (D) right zygomatic length, (E) right humerus length, (F) right femur length, (G) right ulna length, (H) right tibia length, and (I) right metatarsal calcaneal length in male wild-caught (left) and captive-born (right) island (red) and mainland (blue) mice. Statistical significance evaluated by linear fixed effects model (see Methods for details). NS=not significant, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, **** $P < 0.0001$.



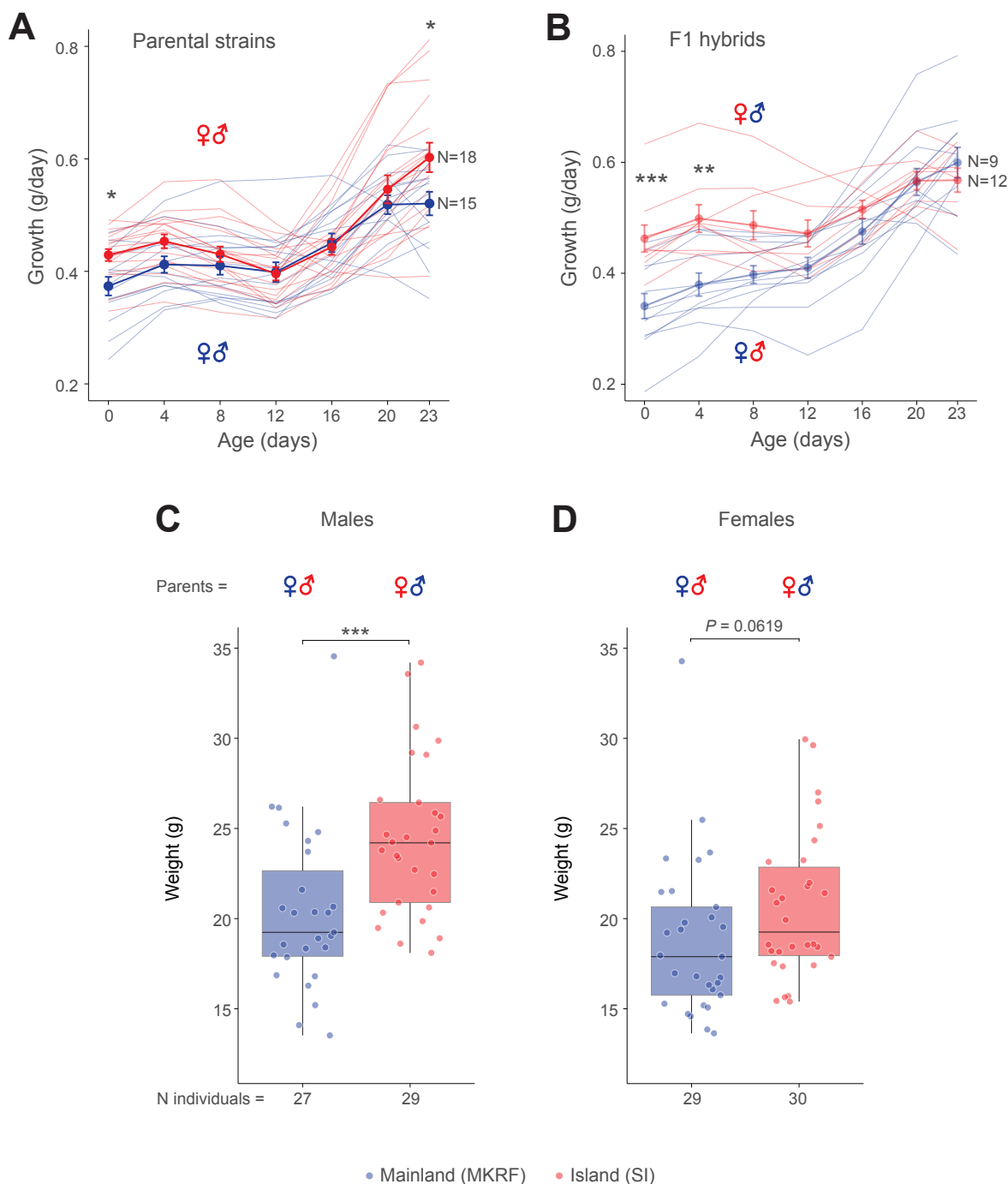
Suppl. Fig. 5. Fat mass in adult male wild-caught (left) and captive-born (right) island (red) and mainland (blue) mice. Statistical significance evaluated by linear fixed effects model (see Methods for details). NS=not significant, ** $P < 0.01$, **** $P < 0.0001$.



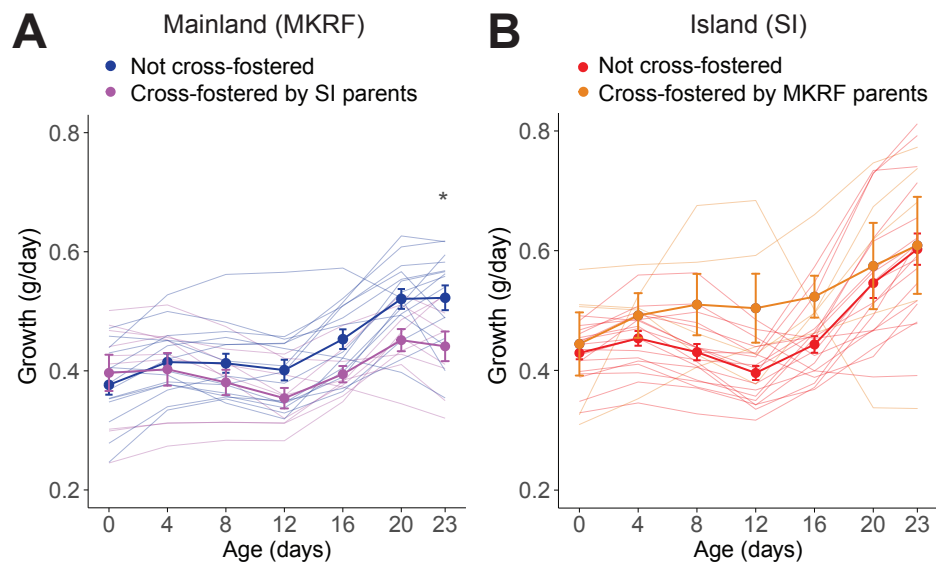
Suppl. Fig. 6. Litter size of island (red) and mainland (blue) mice. Arrows indicate the median litter size for each strain. Statistical significance evaluated by Kruskal-Wallis test (see Methods for details). * $P < 0.05$.



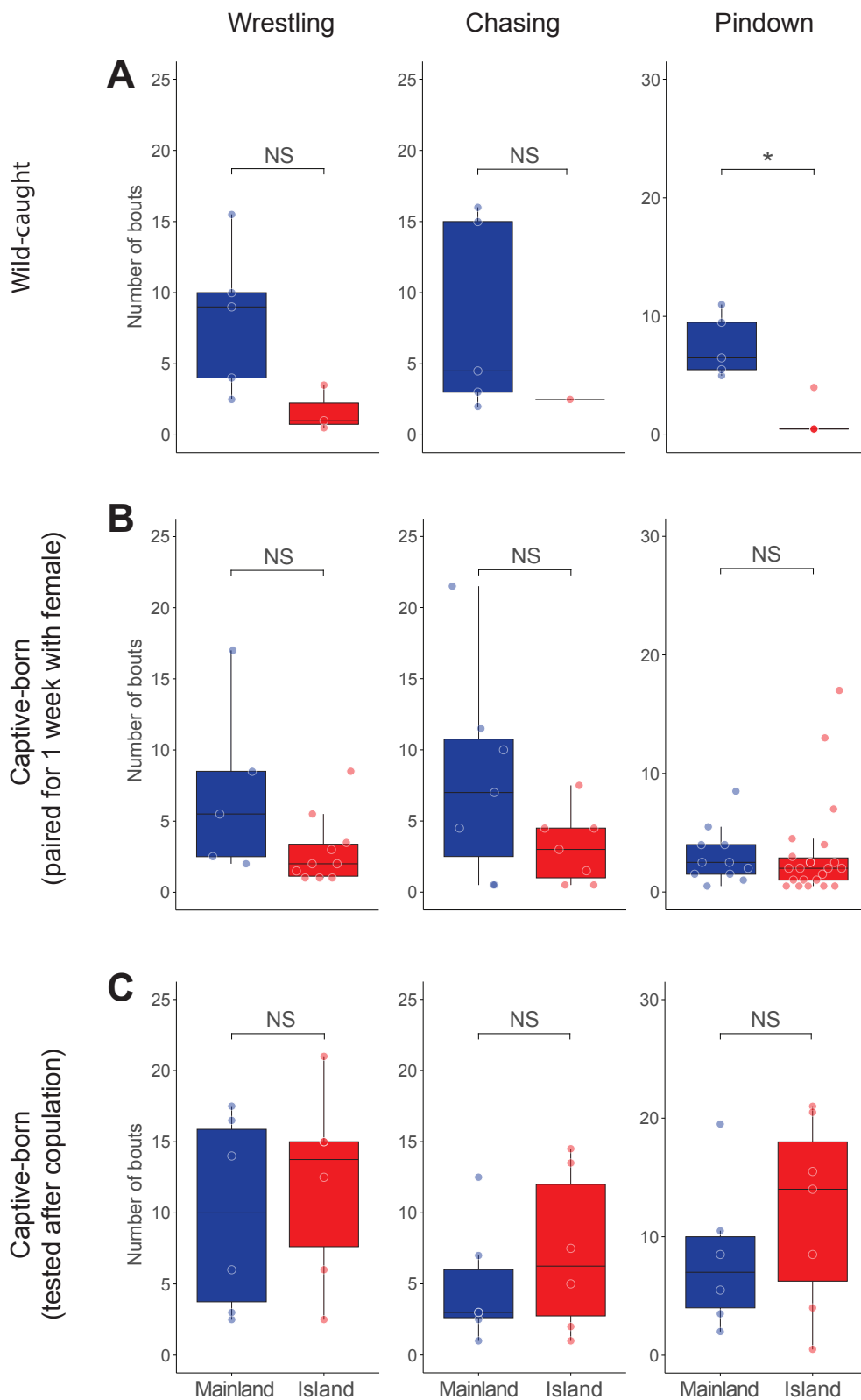
Suppl. Fig. 7. (A) Mean weight of island (red) and mainland (blue) litters before and after the first milk meal. Statistical significance evaluated by repeated measures linear mixed effects model (see Methods for details). NS=not significant, ** $P < 0.01$, **** $P < 0.0001$. **(B)** Example of pup with milk present in stomach (outlined).



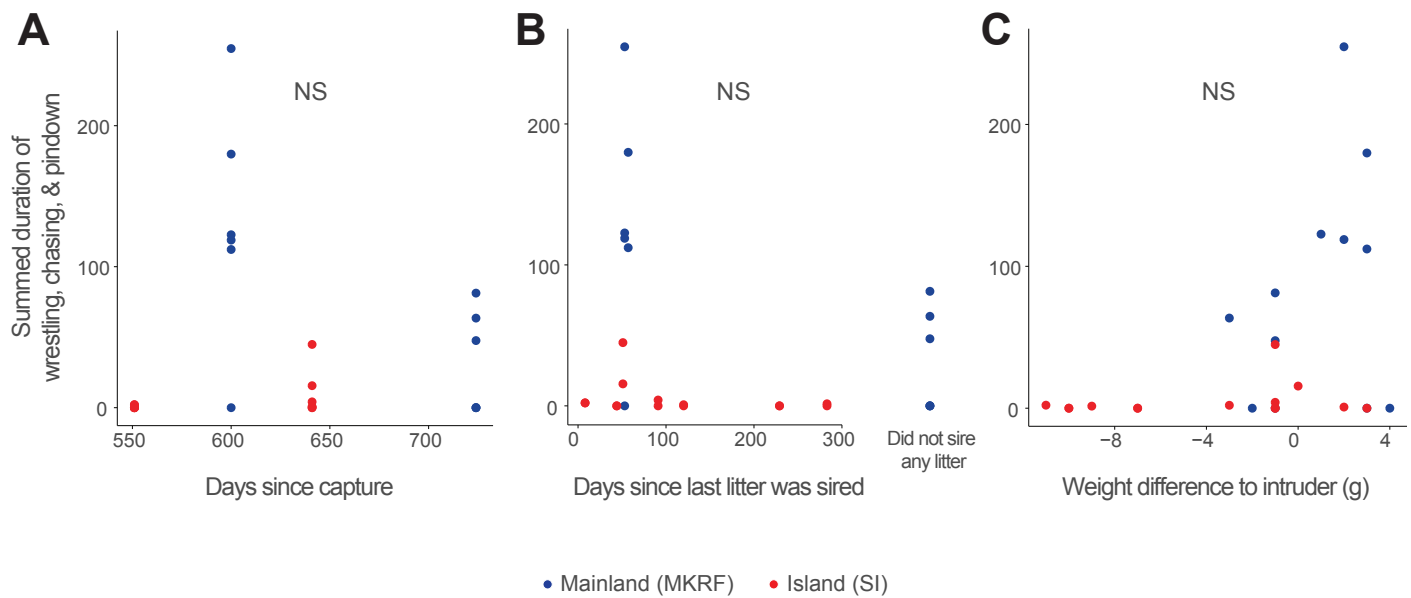
Suppl. Fig. 8. (A-B) Growth curves of (A) island (red) and mainland (blue) litters and (B) F1 hybrid litters by maternal strain. Points and error bars represent mean and SEM of growth of litters. (C-D) Weight of adult hybrid mice plotted by maternal strain identity. The natural logarithm of weights of (C) males and (D) females were separately compared by maternal strain with linear fixed effects models (see Methods for details). * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.



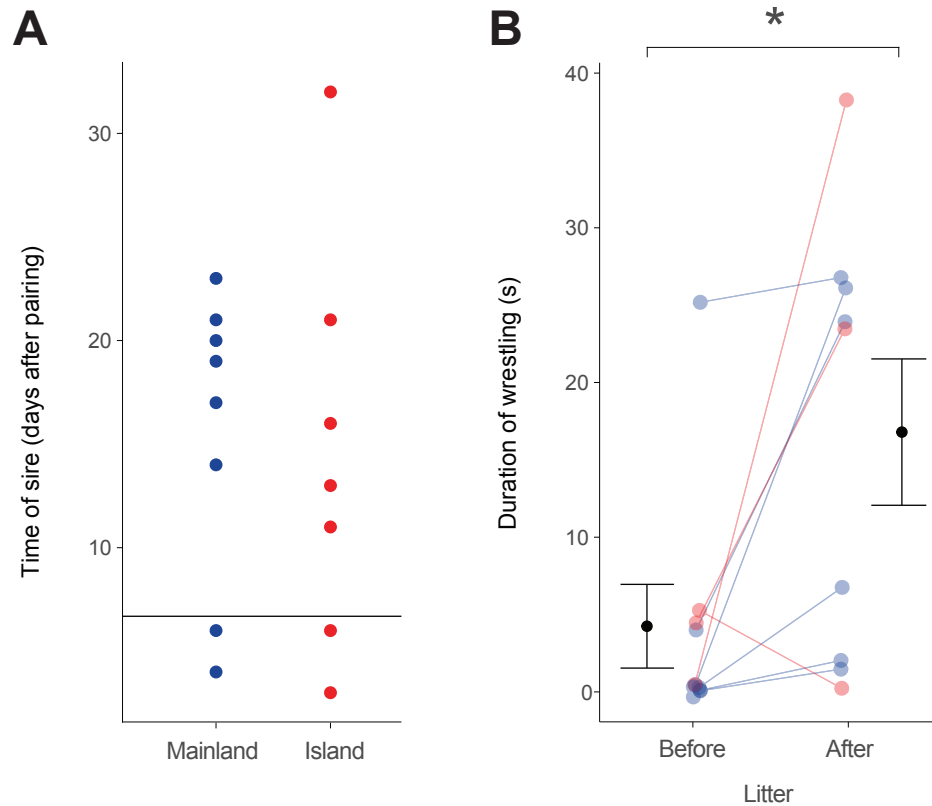
Suppl. Fig. 9. Growth rates of **(A)** mainland litters cross-fostered by island parents (purple) compared to mainland litters that were not cross-fostered (blue); **(B)** island litters cross-fostered by mainland parents (orange) compared to island litters that were not cross-fostered (red). Points and error bars represent mean and SEM of growth of litters. Statistical significance evaluated by linear fixed effects model (see Methods for details). * $P < 0.05$.



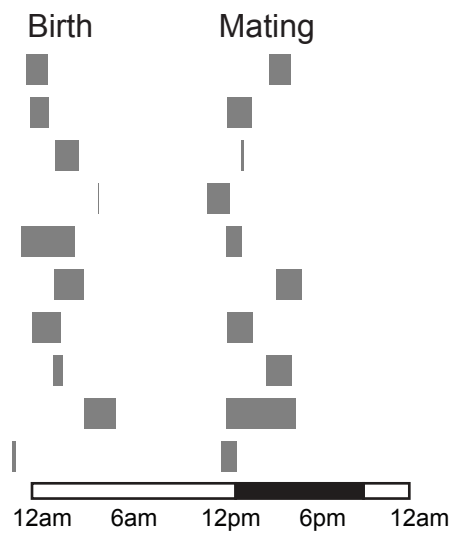
Suppl. Fig. 10. Count data of wrestling, chasing, and pindown behaviours in **(A)** wild-caught founder animals, **(B)** captive-born males paired with a female for one week before testing, and **(C)** captive-born breeding males tested after verified copulation. Statistical significance evaluated by generalized linear models (see Methods for details). NS=not significant, * $P < 0.05$.



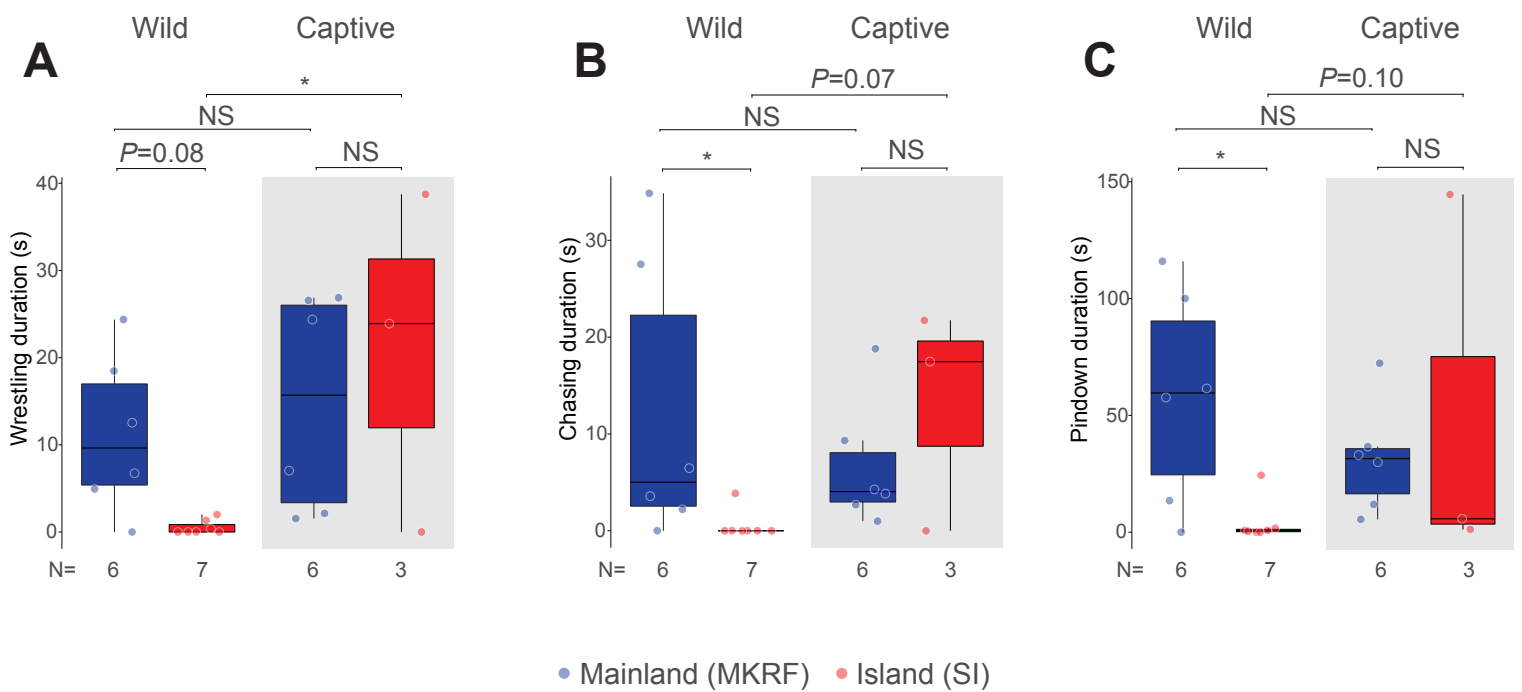
Suppl. Fig. 11. Effect of (A) time since capture at testing, (B) time since a litter was last sired, and (C) weight difference between resident and intruder on the aggressive behaviour of wild-caught deer mice (N=7 island [red], N=6 mainland [blue]). Replicate trials are plotted separately. Statistical significance evaluated with a repeated measures mixed effects linear model (see Methods for details). NS=not significant.



Suppl. Fig. 12. Effect of reproductive experience on territorial aggression. **(A)** Time of mating after pairing in a subset of mice from the experiment in Fig. 5A-B. We backdated for females that went on to give birth when the litter was sired. The horizontal line marks the time when males were tested in the resident-intruder assay (7 days after pairing); at this time, few males in this subset had sired litters. **(B)** We re-tested a subset of these males after they had sired a litter, and compared wrestling duration before and after siring a litter with a repeated measures linear mixed effects model (see Methods for details). Only mice were included that had not sired a litter by the time of first testing. Mean and SEM across strains is shown in black. * $P < 0.05$.



Suppl. Fig. 13. Schematic showing birth and mating events in breeding pairs. Each row corresponds to one pair. The grey boxes indicate the maximum duration of behaviours (it was not possible to observe females continuously, e.g. when they were inside the nest at the time of birth). The light cycle (16h:8h, light:dark) is shown at the bottom.



Suppl. Fig. 14. Direct comparison of aggressive behavior of mice exposed to comparable reproductive experience and experimental conditions in captivity (i.e., data from captive-born mice in Fig. S12B [right column] and from wild-caught mice in Fig. 4). Statistical significance evaluated with a fixed effects linear model with a strain (island/mainland) by origin (captive/wild) interaction. NS=not significant, * $P < 0.05$.