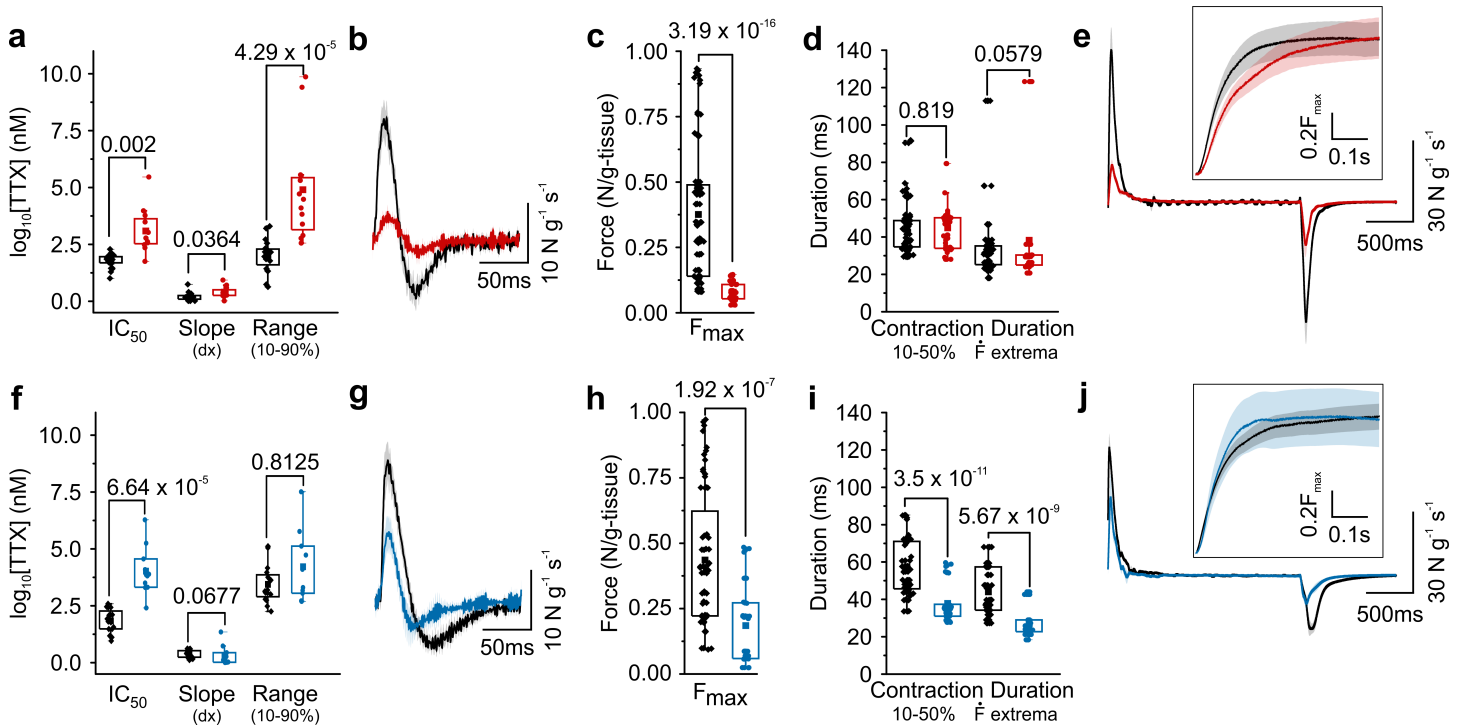


Supplementary Fig. 4. Further characterization of muscle performance is reduced in two snake species carrying independently evolved TTX-resistance mutations in $\text{Na}_v1.4$.



a,f, Parameters of Boltzmann sigmoidal fit to tetrodotoxin (TTX) dose-responses of snake skeletal muscle. Data are grouped by species and genotype: *Thamnophis sirtalis* (**a**) carrying TTX-sensitive $\text{Na}_v1.4^+$ (black) and TTX-resistant $\text{Na}_v1.4^{\text{LVNV}}$ (red) and *Thamnophis atratus* (**f**) carrying TTX-sensitive $\text{Na}_v1.4^+$ (black) and TTX-resistant $\text{Na}_v1.4^{\text{EPN}}$ (blue). **b,g**, First derivatives mean \pm sem of the transient contraction, with the peak (\dot{F}_{\max}) being indirectly but closely related to sodium channel performance in the skeletal muscle. **c,h**, Comparison of peak force output during phasic contraction. **d,i**, Statistical test on the distribution of contraction duration as defined from 10% of the peak during contraction to 50% of the peak during relaxation and as defined by the time between maximum and minimum \dot{F}_{\max} . **e,j**, First derivatives of the tetanic contractions alongside an inset of the first 500ms of the raw tetanic contraction normalized to the peak force. All p-values presented calculated by Kruskal-Wallis nonparametric analysis of variance.