

Fig. S1. The iridescence of single iridocytes is also increased in response to electrical stimulation of the FI nerve. (A) Fin tissue before and after electrical stimulation of the FI nerve. (B) Zoom in on region shown by red square in A. Arrows point to individual iridocytes.

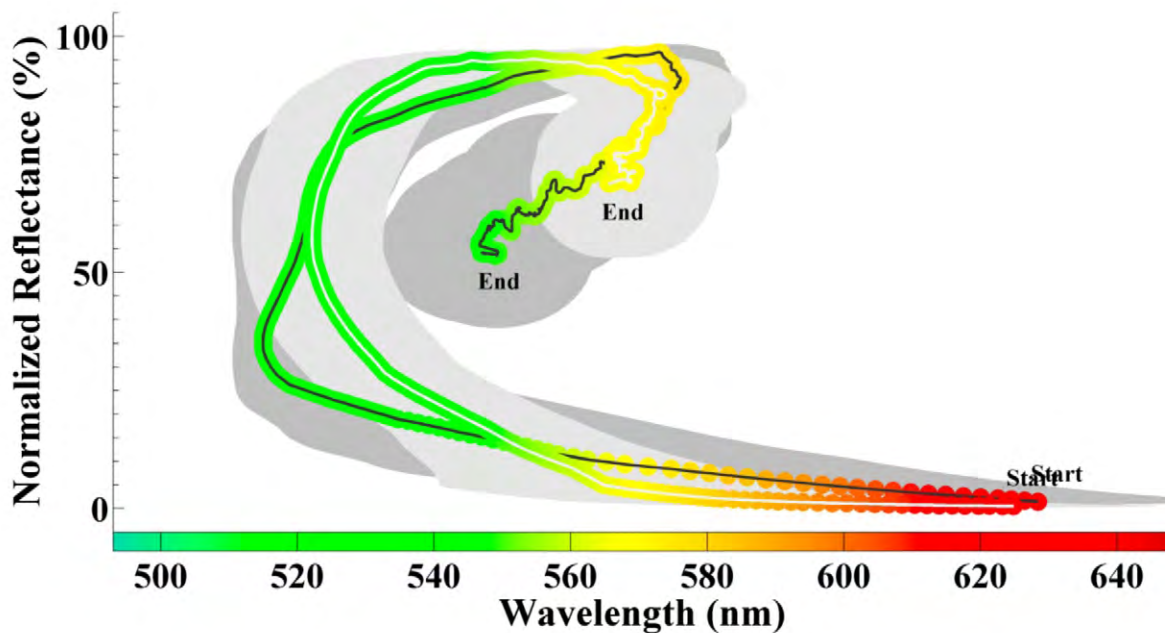


Fig. S2. Iridescence coloration and brightness dynamics due to nerve stimulation do not differ 7 or 15 days post-denervation. At maximum excitation, the iridophore color in animals whose stellate connective was severed 7 (light grey) and 15 days (dark grey) previous to the experiment was not significantly different. Grey shading represents the standard deviation. Note how the standard deviations overlap throughout the response, indicating the 1 and 2 weeks post denervation treatments are not significantly different.

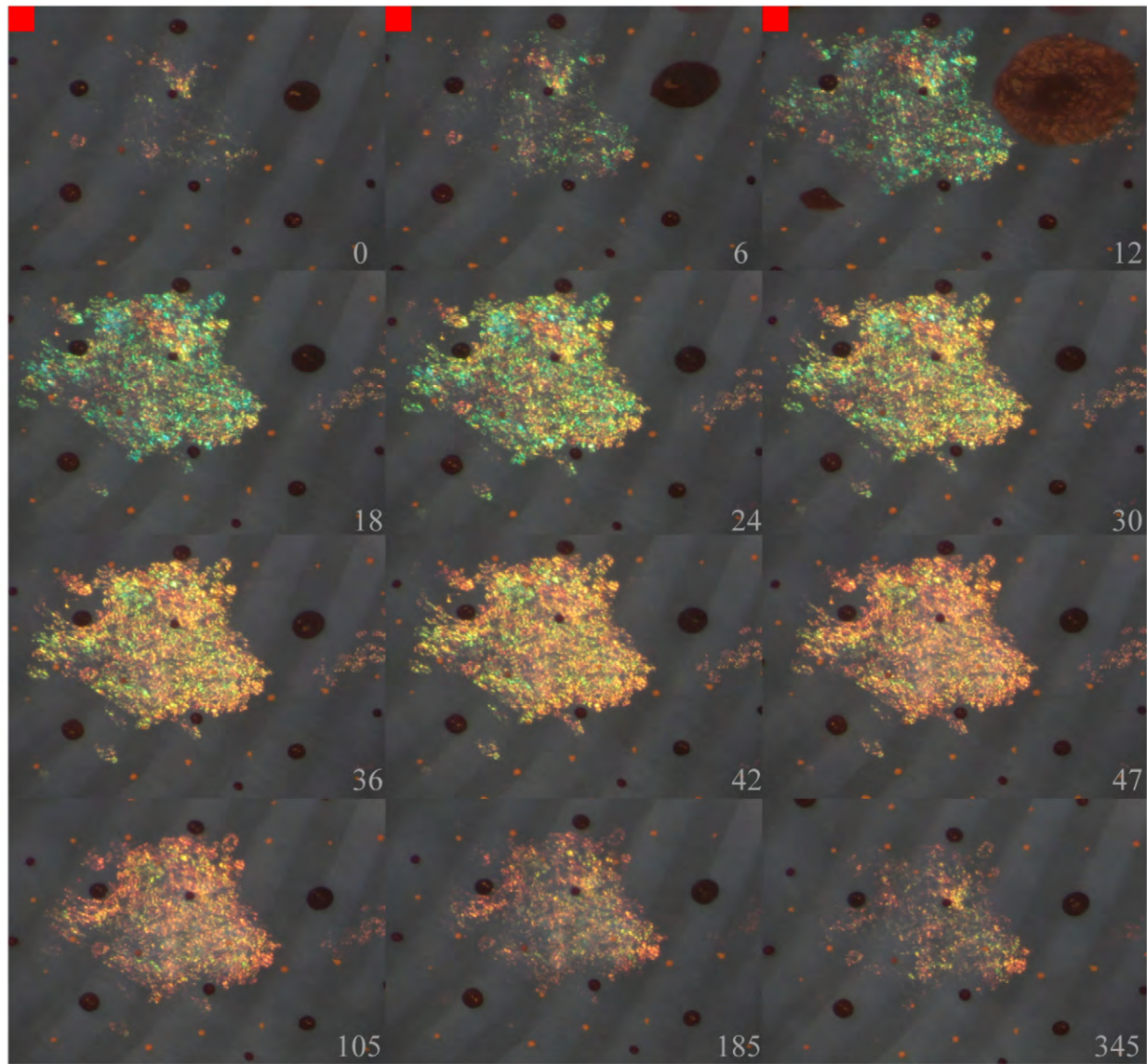


Fig. S3. Iridescence change in a denervated animal due to electrical stimulation. Electrical stimulation of a small dermal nerve in a denervated animal reveals that an iridophore is located within a patch of skin where only a few iridocytes were visible at rest. The increase in intensity and the color change can be appreciated. Numbers on the lower corners show the time after stimulation had started. The red square indicates when electrical stimulation was given (stimulation lasted 15 s).

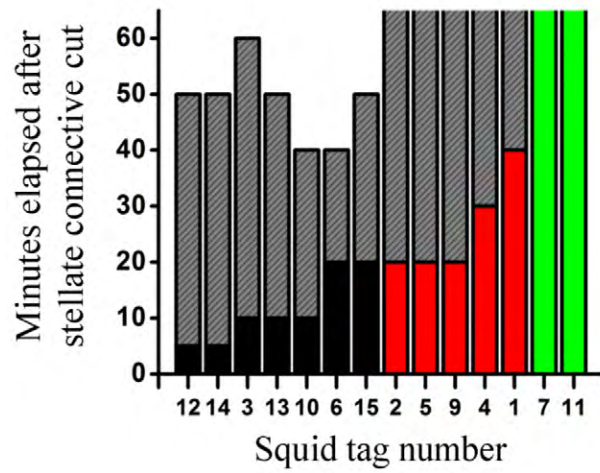


Fig. S4. Decline in iridescence after the stellate connective is cut. Each squid in the experiment was given a number. They are plotted on the x-axis according to the time taken until a substantial decline in iridescence was noticed (solid bars). The distribution of the results from our sampled population show that the majority of the population would exhibit a decline in iridescence within 30 min, but that only 50% of the population would have complete absence of iridescence within 1 h.



Movie 1. Full red flash warning display in an animal missing iridescence on one side due to stellate connective cut.



Movie 2. An animal with a stellate connective cut exhibits lack of iridescent, but retains fin motility.



Movie 3. Electrical stimulation of the fin iridescence nerve (FI nerve) results in a dramatic iridescence increase and in fin muscle contractions, but the chromatophores remain relaxed. The video is shown 4× faster than real time.