

SUPPLEMENTARY INFORMATION

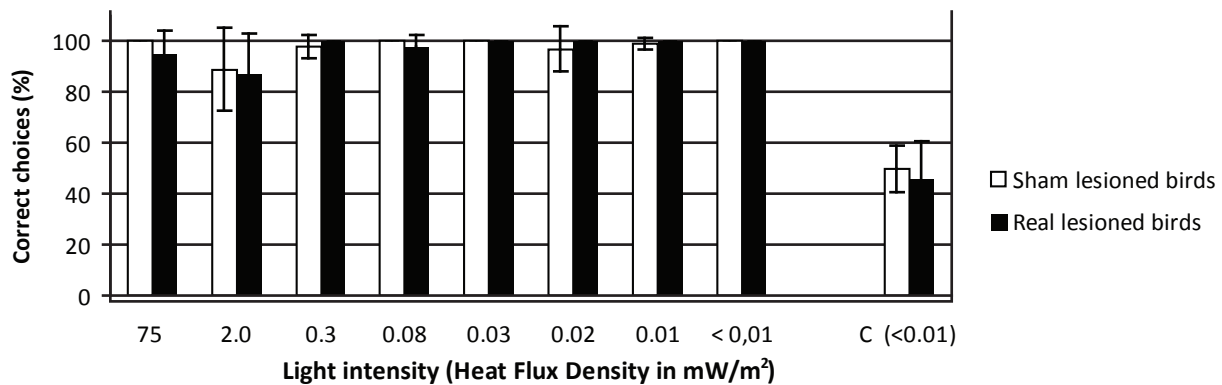


Fig. S1. Light spot detection capabilities of European robins were not affected by Cluster N lesions. We performed a set of simple, two choice operant conditioning experiments, which required the birds to jump from a choice perch onto the one of two response perches associated with a white diode being turned on in order to receive a food reward. Before the real tests, the birds learned the task at the highest light intensity (75 mW/m²). Each of the four birds (2 lesioned and 2 sham lesioned) took part in 10-20 sessions consisting of 10-12 choices per session. After they had learned the task, no further training at the other light intensities was done. In the experiments, we reduced the intensity of the diode in steps until its intensity was approximately 400 times dimmer than the light present in the wooden huts during the orientation experiments. For the critical tests, each bird was tested for an average of 8 sessions each consisting of 10 choices. The percent correct choice at each light intensity is represented by the bars. In the control experiment ("C"), both diodes were turned on at the <0.01 mW/m² intensity. The experimental chamber's dim house lights were always turned on. The two lesioned birds (black bars) and the two sham lesioned birds (white bars) could all detect the conditioned light stimulus irrespective of the light intensity used at a success rate close to 100%, including when the light stimulus which was 400 times dimmer than the light present in the wooden huts during the orientation experiments. Error bars represent SD.

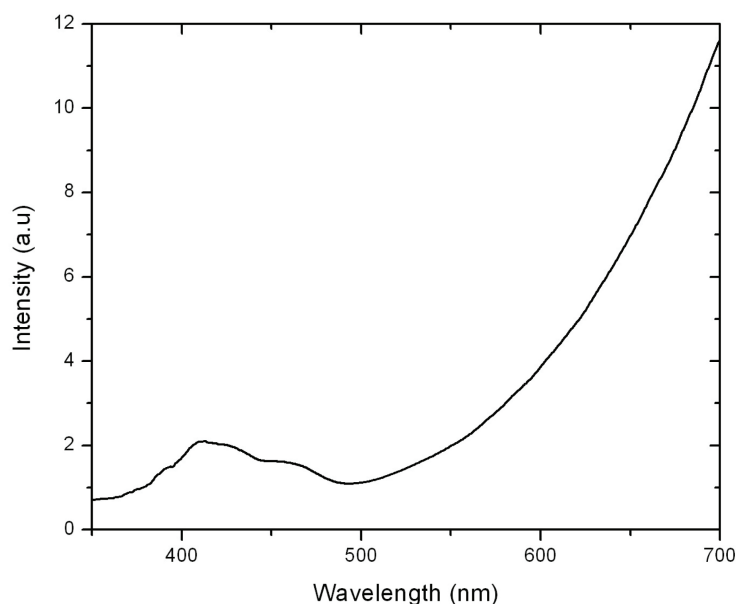


Fig. S2. Spectrum of light produced by the incandescent bulbs in the testing huts. The total intensity was 4 mW/m². The units on the y-axis are arbitrary, relative intensity units.