

Supplementary material accompanying

**Non-random perch selection by male lizards,**  
***Amphibolurus muricatus***

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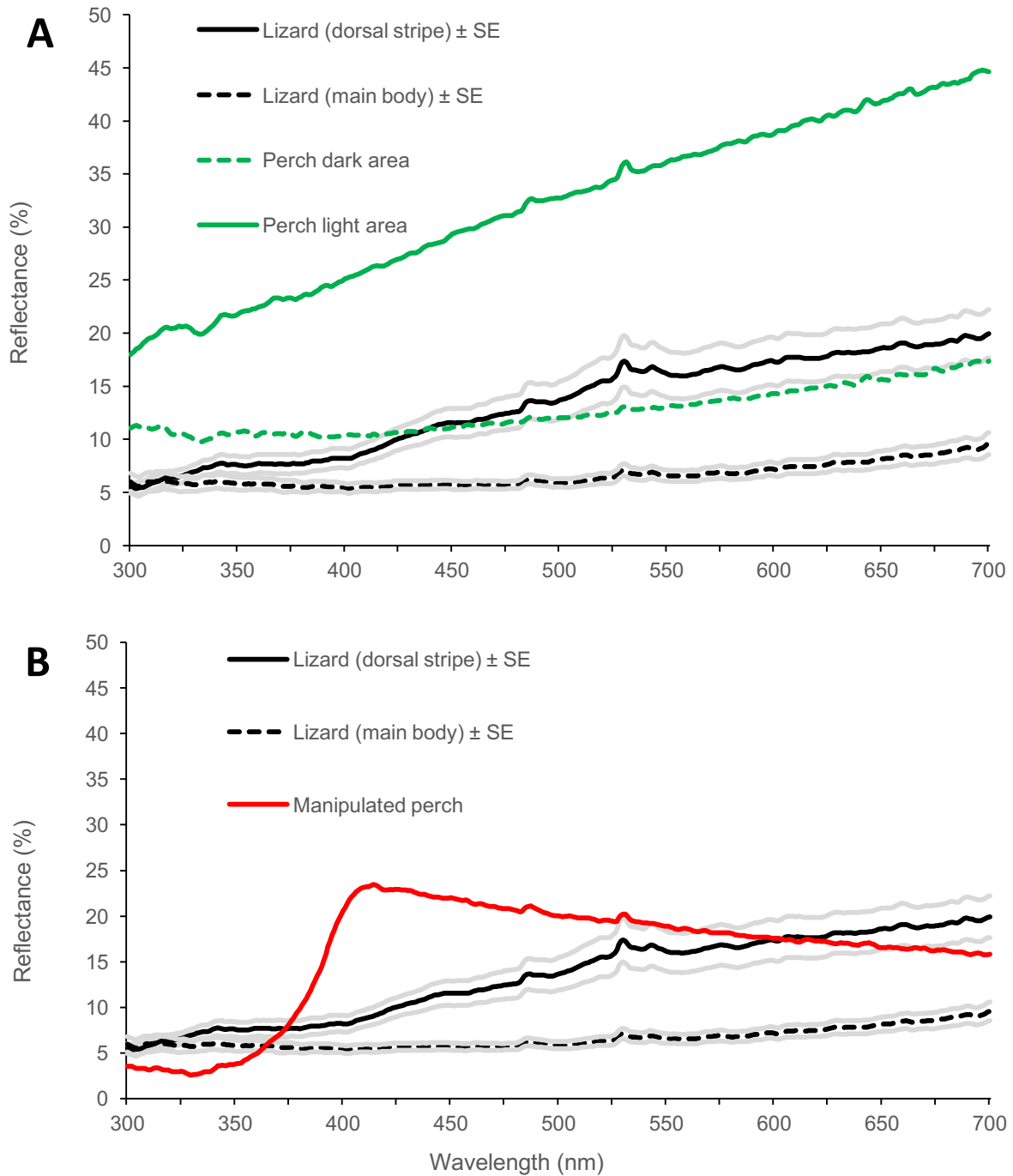
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Figure S1

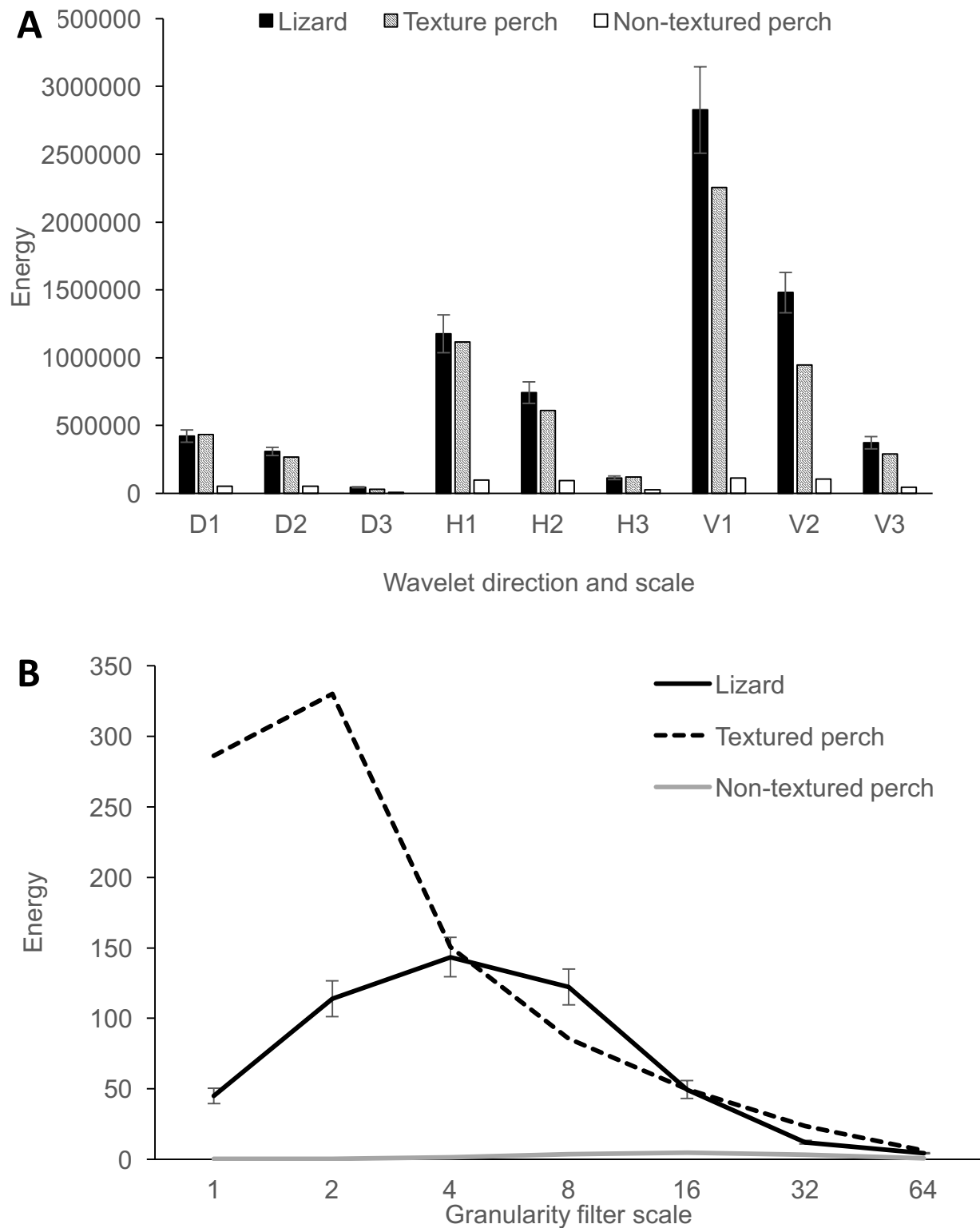
Spectral properties of natural and manipulated perches used in Experiment 1 in relation to lizard dorsal regions

Figure S2

Wavelet and granularity analysis of lizard dorsal patterns and artificial perches used in Experiment 2.



**Figure S1.** Reflectance of perch options and dominant colours of *Amphibolurus muricatus* dorsal pattern used in perch choice experiment. To assess relative suitability we measured the spectral reflectance of each perch and compared them to the lizard's dominant colours on the dorsal surface. Measurements were taken with a portable Jazz spectrometer (Ocean Optics) with built in xenon light source. A tubular holder of 3.5 mm diameter cut at 45° relative to the surface was used to measure reflectance. (A) Measured reflectance of natural perch option light and dark areas, relative to Jacky dragon dorsal colours. Jacky dragon measurements are means  $\pm$  standard errors. (B) Reflectance of manipulated perch option relative to Jacky dragon dorsal colours. Jacky dragon measurements are means  $\pm$  standard errors.



**Figure S2.** Wavelet (A) and granularity (B) analysis of *Amphibolurus muricatus* dorsal regions and perch options offered in perch choice experiment 2. We performed two quantitative techniques to confirm that the textured perch would be more suitable for crypsis for the Jacky dragons relative to the non-textured perch, using images of perch options and *A. muricatus* dorsal patterns. Images were captured with a Canon 7D Digital SLR equipped with a Canon EF-S 17-85mm IS USM Lens and Canon MR-14EX Macro ring flash. Included in each frame was an X-Rite mini colour checker, and all

images were created in RAW format at  $f/4$  and  $1/60$ s shutter speed. Granularity analysis was performed as per Barbosa et al., 2008, and wavelet analysis per Kiltie et al., 1995, both implemented via a custom GUI, provided by Dr. Martin Stevens (University of Exeter, Penryn, United Kingdom) created in MATLAB 2014b. Wavelet analysis was performed on a region (240 x 240 pixels) at the midpoint of the dorsal pattern between the fore- and hind legs. Granularity analysis was performed on the same region. (A) Measured diagonal (D1-D3), horizontal (H1-H3) and vertical (V1-V3) wavelet energy of perch options at three scales, relative to Jacky dragons. Jacky dragon measurements are means  $\pm$  standard errors. (B) Granularity measurements of perch options at several scales relative to Jacky dragon dorsal patterns. Jacky dragon measurements are means  $\pm$  standard errors.