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Multiscale characterization of the hierarchical structure of *Dynastes hercules* elytra

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Short title: Characterization of *Dynastes hercules* elytral structure

Highlights

- *Dynastes Hercules* has both balken and continuous endocuticle in upper and lower laminations respectively.
- The distribution of trabeculae investigated by X-Ray tomography shows periodicity over a small length.
- Using SEM, two models respecting the sizes and distributions of fibers were proposed.

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