



We've made the bed,
do mussels want to
lie in it?

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Native foundation species



Perna canaliculus (Green-lipped mussel, Kuku, Kutai)

-
- Habitat forming
 - Economic importance
 - Cultural importance



Understanding habitat requirements of native species



Field surveys

- Around NZ
- High density *Perna* cover
- Locating juveniles



Creating habitats



Scanned mussels



3D printed mussels

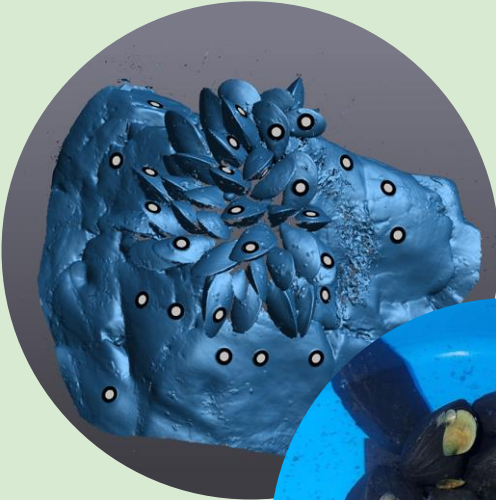
Produce and test artificial structures

- 3D field scanning
- 3D printing
- Lab testing
- Measuring complexity





Hypotheses



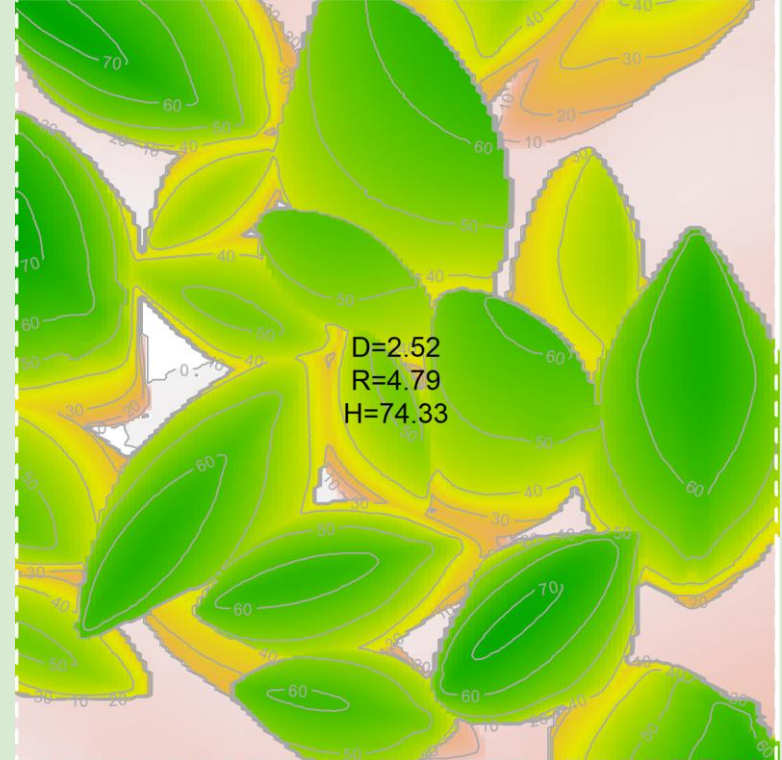
3D Field scans



Spat on models in situ

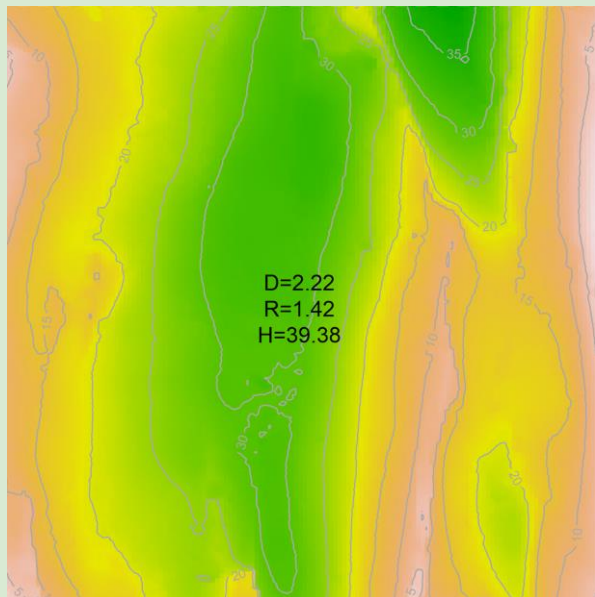
Complexity	Spat on model
↑	↑ Muss ↓ Rock
↓	↑ Clusters
↓	Bigger clusters

Understanding complexity

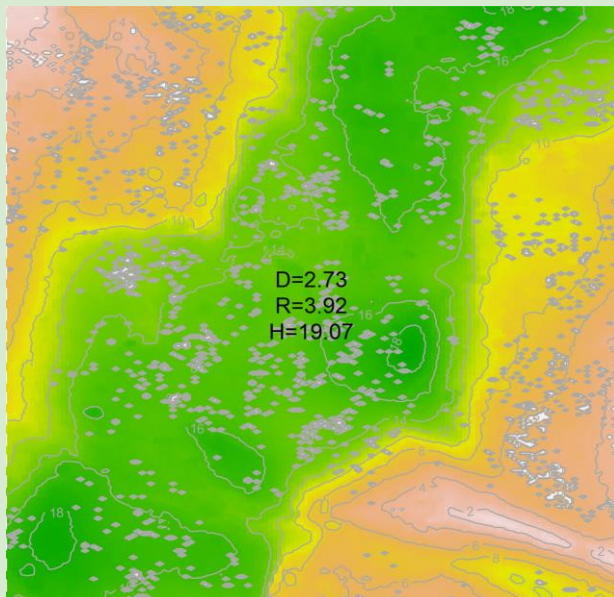


Complexity - Rock

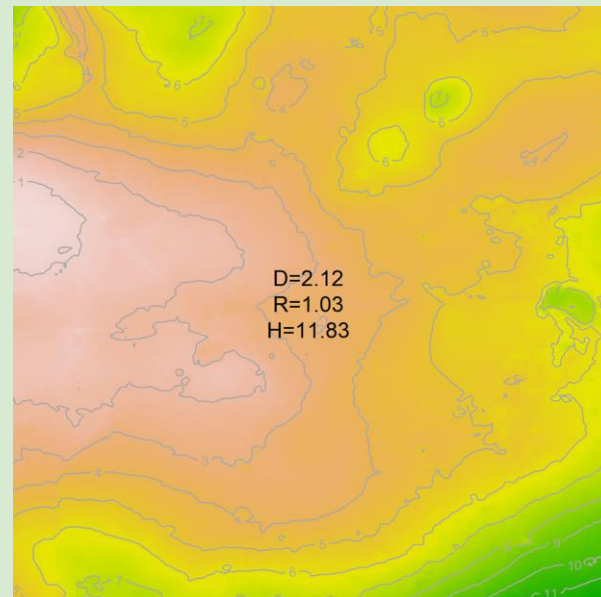
Tenor



Alto



Bass



Complexity - Mussels

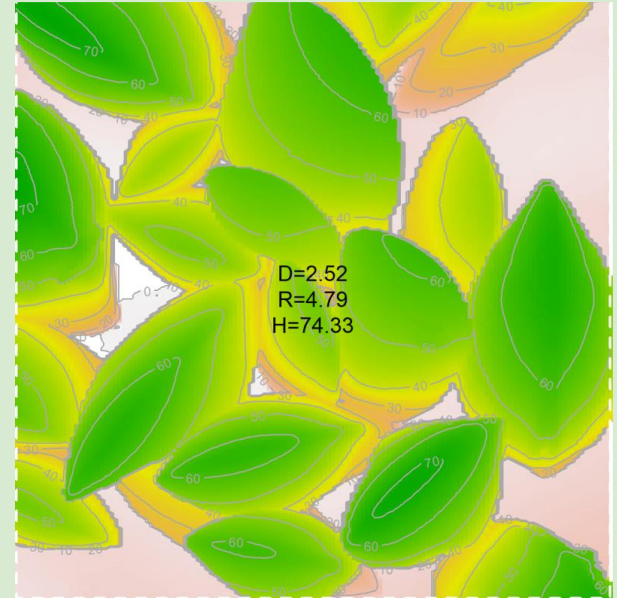
Tenor



Alto

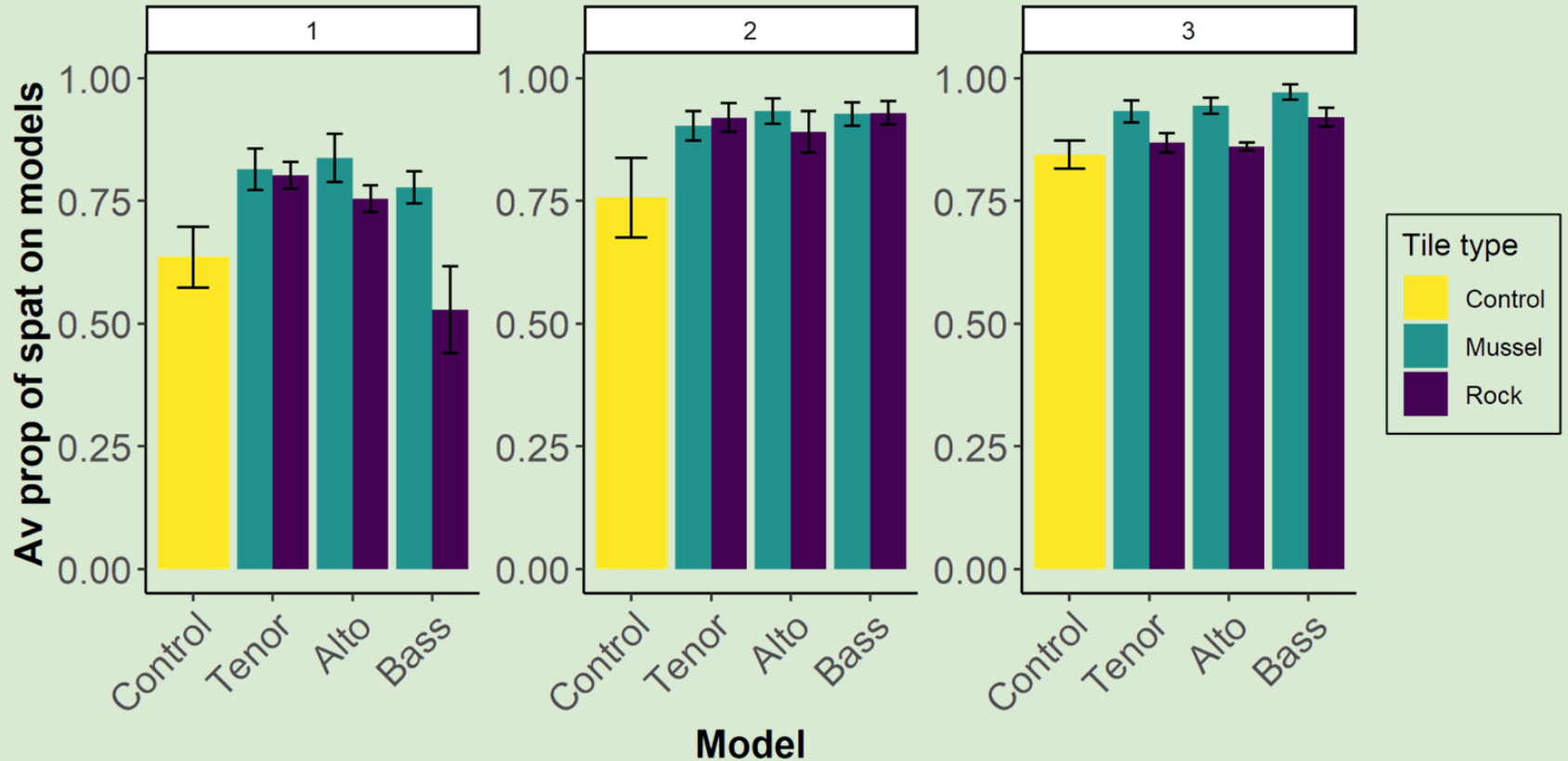


Bass



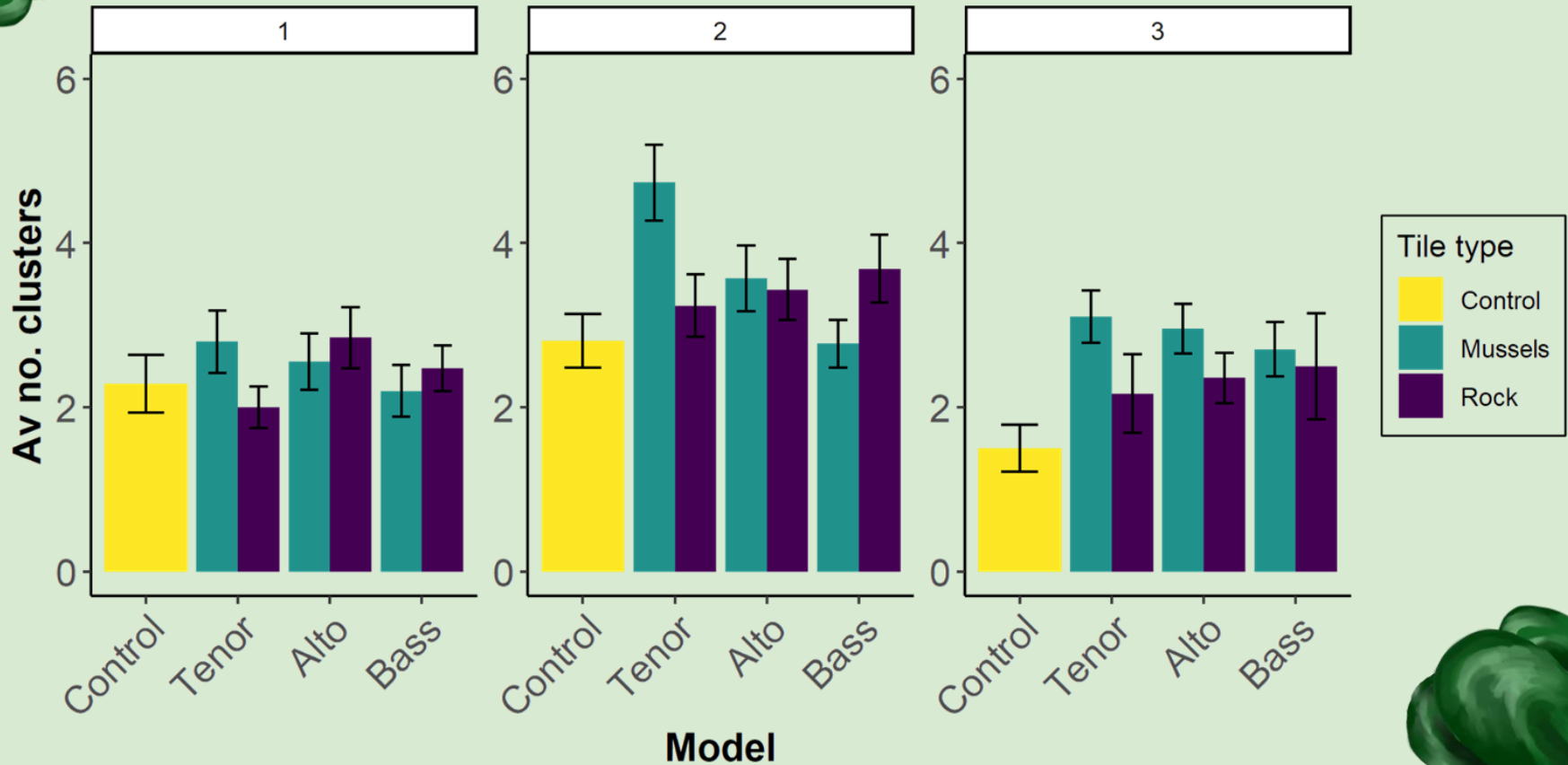


H_1 : More complexity = higher spat retention



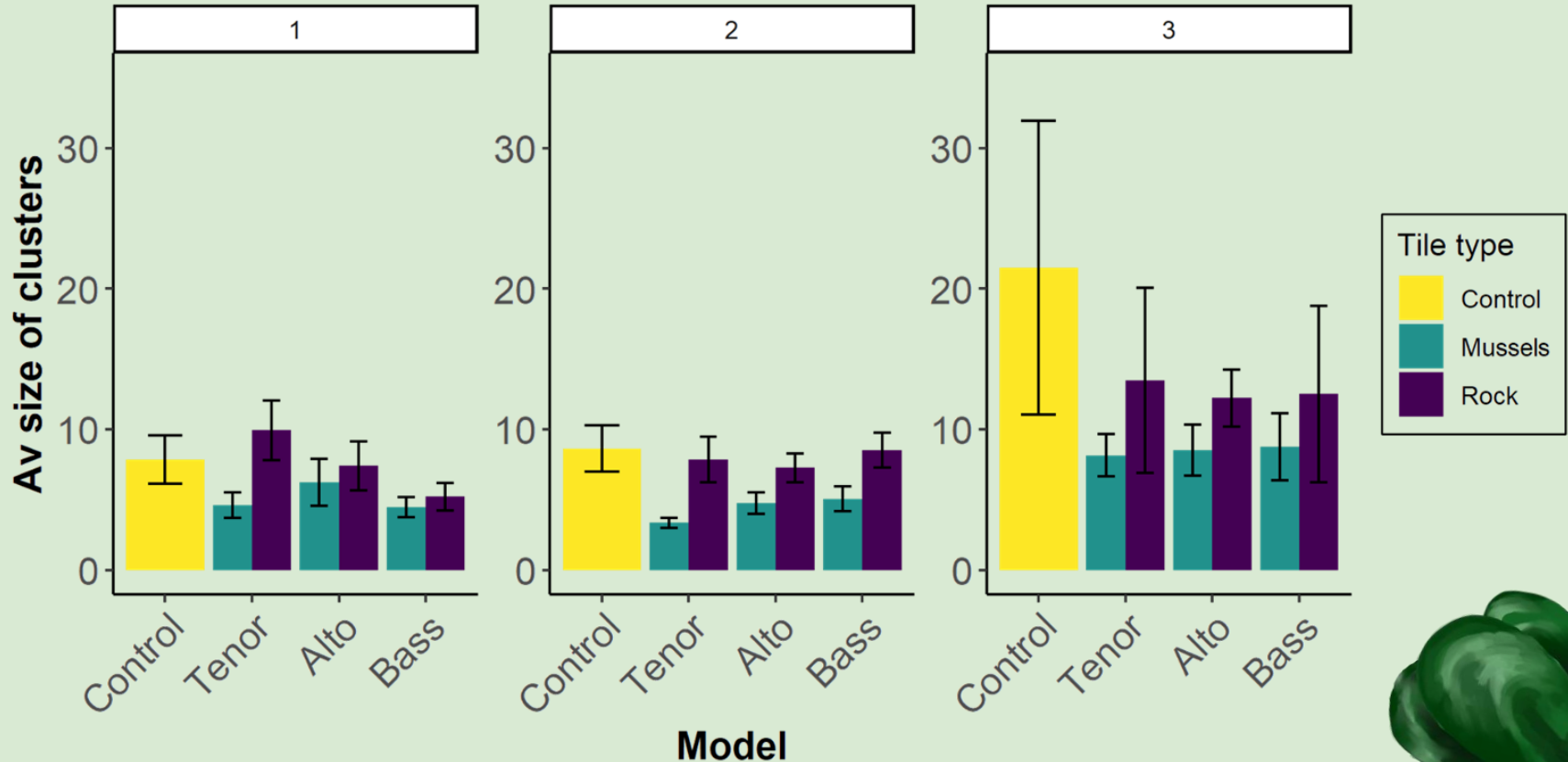


H₂ : Lower complexity = more clusters





H_3 : Lower complexity = bigger clusters



Interpretation



Complexity	Spat on model	Supported
↑	↑Muss ↓Rock	✓
↓	↑ Clusters	x
↓	Bigger clusters	?



Thanks

New Zealand Ministry of Business,
Innovation and Employment (MBIE)
endeavour fund

<https://www.biosecurity-toolbox.org.nz/>

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Kia tiroiro mangōpare, arā ko ngā tai e whā
Look through the eyes of the mangōpare,
observing in all directions