Supplementary Information (SI) for Faraday Discussions. This journal is © The Royal Society of Chemistry 2025

# **Supplementary information**

for

Convergence in biomineralization patterns across animal eggshells

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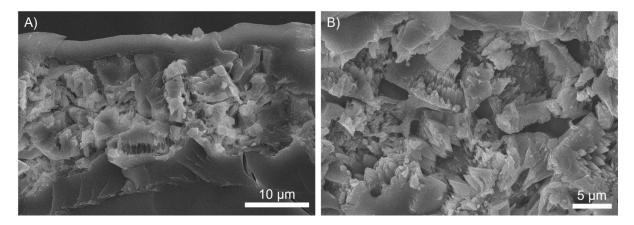
Supplementary figure 2

Supplementary figure 3

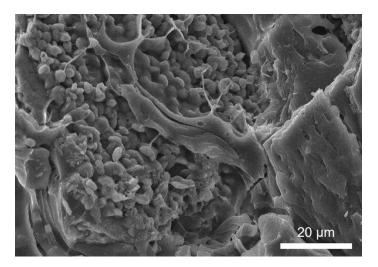
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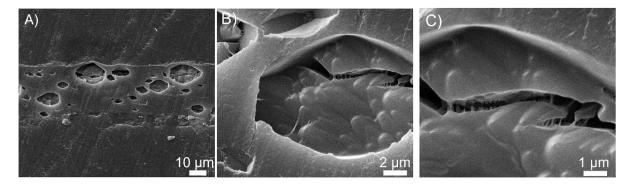
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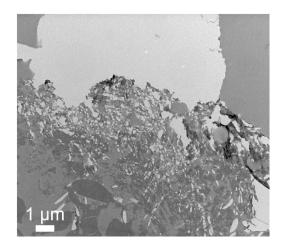
**Supplementary figure 1 Microstructure of** *Helix pomatia* **eggshells.** Scanning electron images showing the cross section of the eggshell of *Helix pomatia* at two different magnifications.



**Supplementary figure 2 Vaterite spherulites of** *Pomacea canuliculata.* Scanning electron microscope image shows the vaterite spherulites in between two adjacent eggs in the egg mass of *Pomacea canuliculata*.



**Supplementary figure 3** Organic matrix in calcium oxalate crystals of *Periplanata lateralis*. Scanning electron microscopy at different magnifications shows the presence of organic fibrils.



**Supplementary figure 4 Organic matrix of** *Pelusios carinatus.* Transmission electron microscopy image shows the presence of the organic matrix near the mamillary knobs below the empty space represents the location where the rest of the calcium unit was but became detached.

#### Supplementary Table 1: Overview of examined eggshell from different taxa and their source.

Class	Order	Species	English name	Source
Insecta	Blattodea	Periplaneta lateralis	Turkestan cockroach	Private breeder
Insecta	Phasmatodea	Diapherodes gigantea	Giant lime green stick- insect	Private breeder
Insecta	Phasmatodea	Rhynchacris ornata	Stick insect	Private breeder
Insecta	Phasmatodea	Mearnsiana bullosa	Manobos stick insect	Private breeder
Reptilia	Testudines	Pelusios carinatus	African keeled mud turtle	Zoo Antwerp
Reptilia	Crocodilia	Caiman crocodilus	Spectacled caiman	Zoo Antwerp
Gastropoda	Stylommatophora	Achatina fulica	Giant African snail	Private breeder
aGastropod a	Stylommatophora	Archachatina marginata	Banana rasp snail	Private breeder
Gastropoda	Stylommatophora	Helix aspersa	Garden snail	Private breeder
Gastropoda	Archataenioglossa	Pomacea canaliculata	Apple snail	Private breeder
Aves	Rheiformes	Rhea americana	Greater rhea	Private breeder
Aves	Psittaciformes	Psittacula roseata	Blossom-headed parakeet	Private breeder