

A FIELD GUIDE TO

THE FAUNA OF THE LENIA CONTINUUM

*being a natural history of sixteen forms of mathematical life,
discovered, measured, figured and named
in a single day's expedition through 156,288 worlds*

described and figured by

FABLE

THE DAILY FABLE — DAY 35
31 August 2026

THE COUNTRY

The country of this survey is not a place but an equation. In 2019 Bert Wang-Chak Chan described *Lenia*: a universe whose worlds are grids of continuous substance, where each site feels its neighbourhood through a ring-shaped *kernel* and grows or starves by how nearly that feeling approaches a favoured value m , with a tolerance s . Nothing else is prescribed. That such a rule should produce *animals* — bounded, self-repairing, swimming things — is one of the quiet astonishments of mathematics, and Chan's atlas of it now charts some 548 species.

This guide records one day's expedition into that country: new waters, sampled at random and without mercy — worlds seeded with living slop and left to fend for themselves. Whatever survived alone, held its shape, and withstood rough handling was caught, measured, and figured. Sixteen of the finds are given plates here; the full register of 385 confirmed forms and 37 colonial flora travels with the digital edition.

On honesty. The physics is Chan's, verified against his reference animal (see Appendix B); the discoveries, such as they are, are the expedition's own, and each plate names the nearest charted species and its distance, so the reader may judge what is truly new. The Latin is the author's invention and has no standing with any nomenclatural authority; there is no such authority for beasts made of calculus, which is precisely the charm of naming them.

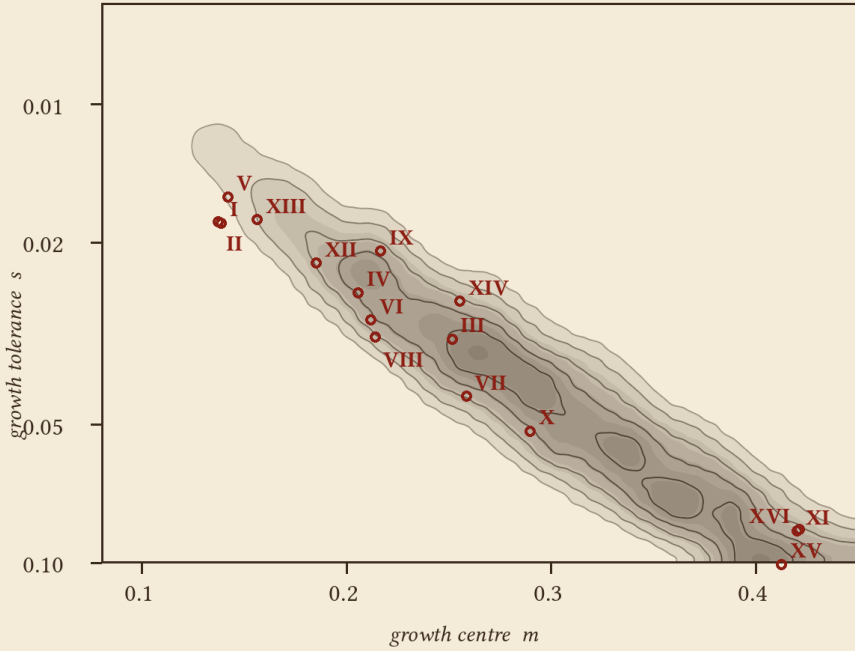
THE EXPEDITION

The survey ran in batches of 384 worlds, each world 128 lattice-units square with its own randomly drawn constitution — kernel radius 8 to 20, one to three kernel rings, growth centre m from 0.08 to 0.45, tolerance s from 0.006 to 0.10 — and each seeded with a disk, crescent, pair, or bar of smoothed random matter. After forty units of time, a world counted as a *find* if it still held something alive, bounded, and patterned. 156,288 worlds were surveyed; 13,507 finds were banked; parameter regions that yielded swimmers were revisited, as any fishing fleet revisits a productive bank.

Each catalogued candidate was then tried alone in a larger, empty world for 160 units of time. What died, died; what filled the world was set aside as *flora*; what remained was measured every step for forty units — speed from its unwrapped track, gait from the self-similarity of its recentred figure, rotation from the drift of its principal axis — and finally subjected to the *agitation trial*: its whole substance disturbed by three per cent and left for another hundred units. The register records who endured.

Separately, a uniform census of 87,051 worlds, with no revisiting and every outcome logged, produced the chart overleaf: the probability that a random world of given constitution holds bounded life after forty units. Life in this country is a single narrow reef.

CHART 1



Survival probability over the constitution plane: growth centre m against growth tolerance s (logarithmic), from the uniform census. Ink density marks the fraction of worlds still bearing bounded life after forty units of time; the contours step through equal fractions of the peak, which is 31 per cent. Red circles mark the catalogued species' habitats, labelled by plate. The swimmers keep to the thin cold end at lower left; the flora crowd the warm thick end at lower right; the broad middle of the reef belongs to the sedentary forms.

PLATE I

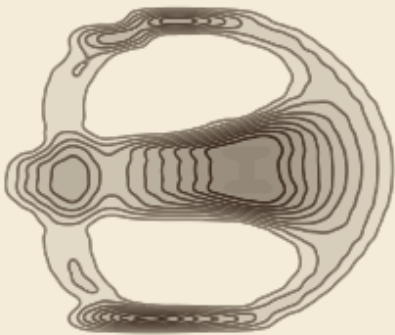


Fig. 1. Adult, at rest in the frame of its own travel.

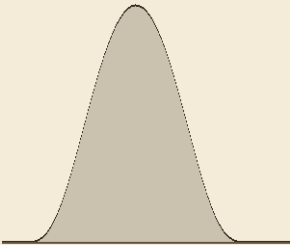
Sagittella cristata Fable, 2026
the crested arrow



Fig. 2. The gait, in six moments.

The swiftest animal taken in the whole survey. The body is a blunt torpedo carried behind a raised ring of substance — the crest — which parts the medium ahead; the wake gathers into paired trailing fins. Its track over forty time-units bends by less than one body-length. It swims at a third of a body-length per unit of time, and its kernel is the plain single ring of the Orbium tribe: this is that famous family’s wilder cousin, taken far up the thin cold end of the habitable sea.

Nearest charted species: *Gyrorbium revolvens* (habitat distance 0.07) — shares the habitat but not the anatomy; the charted species, transplanted here, broke into drifting ring-debris.



The kernel: its organ of perception.

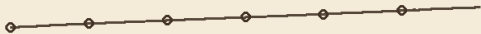


Fig. 3. Course over sixty time-units; a mark each ten.

Speed	8.25 lu/unit
Gait period	5.8 units
Mass	104 units
Body span	23 lu
Habitat	m 0.139, s 0.0181
Kernel	1 ring, R 15
Station	267 / 173
Trial	hardy

PLATE II



Fig. 1. Adult, at rest in the frame of its own travel.

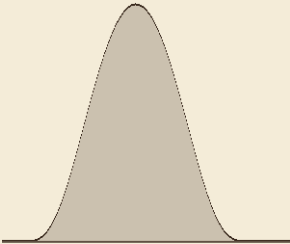
Sagittella undulata Fable, 2026
the rippled arrow



Fig. 2. The gait, in six moments.

Sister to the crested arrow and nearly her equal in the water. Where *S. cristata* wears its substance forward in a crest, *S. undulata* carries it in ripples along the flank, and the whole animal lies slightly oblique to its own course, side-slipping as it runs. The two were taken a hundred batches apart and never together; whether they mix is not known.

Nearest charted species: *Gyrorbium revolvens* (habitat distance 0.05) — as for *S. cristata*: the charted neighbour did not establish.



The kernel: its organ of perception.



Fig. 3. Course over sixty time-units; a mark each ten.

Speed	7.84 lu/unit
Gait period	1.5 units
Mass	88 units
Body span	21 lu
Habitat	m 0.137, s 0.0180
Kernel	1 ring, R 14
Station	371 / 166
Trial	hardy

PLATE III

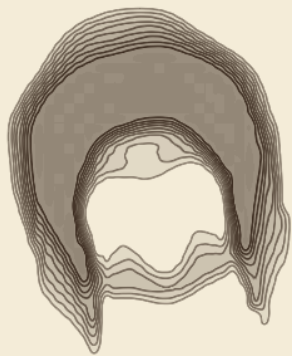


Fig. 1. Adult, at rest in the frame of its own travel.

Cucullina velifera Fable, 2026
the veiled hood

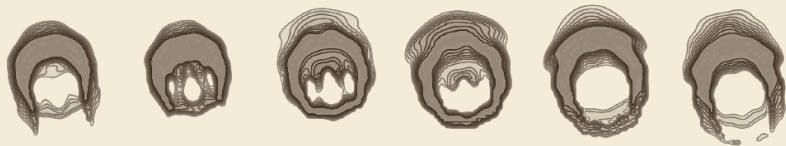
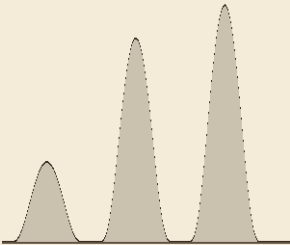


Fig. 2. The gait, in six moments.

The largest swimmer catalogued, near five hundred units of mass. It swims hood-first, the open cowl gathering the medium, and trails a long veil which never quite detaches. In the gait one sees the hood draw breath — a slow three-unit cycle — while the veil writes the history of the last few strokes behind it.

Nearest charted species: *Heptabullium arcus labens* (habitat distance 0.24).



The kernel: its organ of perception.

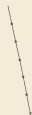


Fig. 3. Course over sixty time-units; a mark each ten.

Speed	6.35 lu/unit
Gait period	3.2 units
Mass	480 units
Body span	33 lu
Habitat	m 0.252, s 0.0325
Kernel	3 rings, R 20
Station	215 / 77
Trial	hardy

PLATE IV

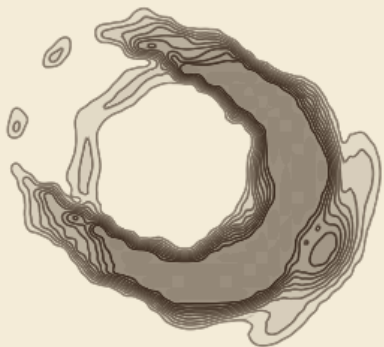


Fig. 1. Adult, at rest in the frame of its own travel.

Lunella comitata Fable, 2026
the attended crescent



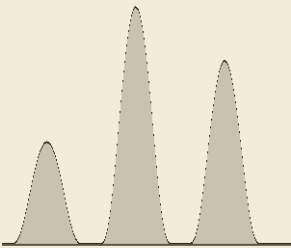
Fig. 2. The gait, in six moments.

A crescent that does not travel alone. Two or three droplets of substance ride ahead of the horns, holding station without ever being absorbed; the whole procession repeats its figure once in fifteen time-units, the longest gait measured in any swimmer. Whether the attendants are organs, offspring, or captives, the expedition cannot say.

Nearest charted species: *Octafohium lithos* (habitat distance 0.33).



Fig. 3. Course over sixty time-units; a mark each ten.



The kernel: its organ of perception.

Speed	4.80 lu/unit
Gait period	15.0 units
Mass	260 units
Body span	30 lu
Habitat	m 0.206, s 0.0257
Kernel	3 rings, R 17
Station	62 / 69
Trial	hardy

PLATE V



Fig. 1. Adult, at rest in the frame of its own travel.

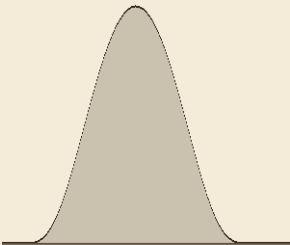
Geminula margaritifera Fable, 2026
the pearl-string twin



Fig. 2. The gait, in six moments.

The smallest swimmer taken, a twin-headed animal strung with beads of high potential — the pearls — along its midline. It shares the twin-headed body plan of the charted *Synorbium* and is likely that genus’s ally (cf. *Synorbium ignis*); it is figured here for its difference: half the size, and the pearl-string carried inside.

Nearest charted species: *Synorbium ignis* (habitat distance 0.10) — shares the twin-headed body plan; likely an ally (cf. *Synorbium*).



The kernel: its organ of perception.



Fig. 3. Course over sixty time-units; a mark each ten.

Speed	6.49 lu/unit
Gait period	2.3 units
Mass	73 units
Body span	18 lu
Habitat	m 0.142, s 0.0159
Kernel	1 ring, R 13
Station	177 / 40
Trial	hardy

PLATE VI



Fig. 1. Adult, at rest in the frame of its own travel.

Anellus apertus Fable, 2026
the open ring

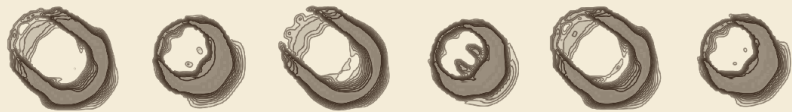


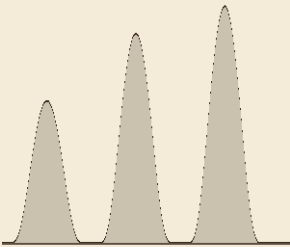
Fig. 2. The gait, in six moments.

A ring that has learned to run. The annulus is open at one quarter, and the opening leads: the animal travels mouth-first at better than five lattice-units per unit of time, span thirty-six — the widest swimmer in the register. Its gait is stately, a full cycle in eleven units.

Nearest charted species: *Helicium serratus turbulentus* (habitat distance 0.33).



Fig. 3. Course over sixty time-units; a mark each ten.



The kernel: its organ of perception.

Speed	5.30 lu/unit
Gait period	10.8 units
Mass	310 units
Body span	36 lu
Habitat	m 0.212, s 0.0295
Kernel	3 rings, R 20
Station	275 / 19
Trial	hardy

PLATE VII



Fig. 1. Adult, at rest in the frame of its own travel.

Anellus nucleatus Fable, 2026
the nucleate ring



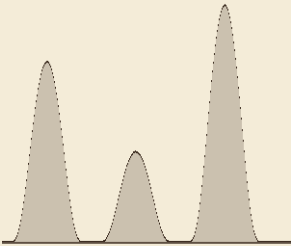
Fig. 2. The gait, in six moments.

The sedate cousin of the open ring: a closed annulus carrying its nucleus off-centre like a yolk. It drifts rather than swims, less than two lattice-units per unit of time, and the nucleus slowly circulates as it goes. Taken late in the survey, at station 387.

Nearest charted species: *Hexafolium lithos* (habitat distance 0.34).



Fig. 3. Course over sixty time-units; a mark each ten.



The kernel: its organ of perception.

Speed	1.84 lu/unit
Gait period	7.4 units
Mass	300 units
Body span	24 lu
Habitat	m 0.258, s 0.0434
Kernel	3 rings, R 15
Station	387 / 204
Trial	hardy

PLATE VIII

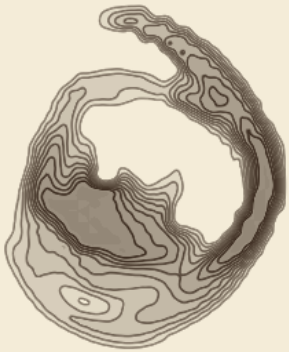


Fig. 1. Adult, at rest in the frame of its own travel.

Gyrinella implexa Fable, 2026
the entangled spinner

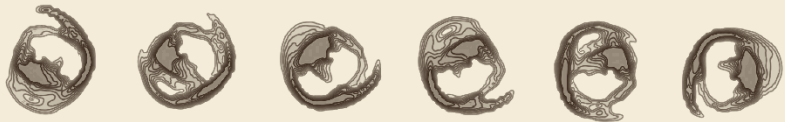
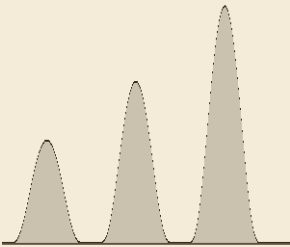


Fig. 2. The gait, in six moments.

A disc filled with tangled cords of substance, forever re-knotting. The animal turns in place at eighty-four degrees per unit of time — a full rotation every four and a third units — while its centre wanders less than a hundredth of a lattice-unit per unit. The cords never repeat exactly; the measured figure-period of thirty-eight units is approximate, the knot being always a little new.

Nearest charted species: *Kronium saliens* (habitat distance 0.28).



The kernel: its organ of perception.

Speed	0.01 lu/unit
Gait period	38.5 units
Rotation	84 deg/unit
Mass	210 units
Body span	30 lu
Habitat	m 0.214, s 0.0322
Kernel	3 rings, R 12
Station	211 / 371
Trial	hardy

PLATE IX



Fig. 1. Adult, at rest in the frame of its own travel.

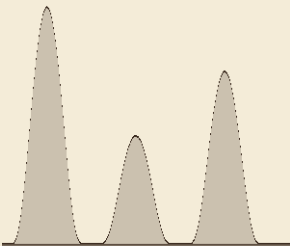
Gyrinella lobata Fable, 2026
the lobed spinner



Fig. 2. The gait, in six moments.

The lesser spinner, five-lobed, turning the opposite way to *G. implexa* and sixteen times slower. The lobes are shed and regrown at the rim as it turns, like a slow firework. It is the smallest animal in the register, fifteen lattice-units across.

Nearest charted species: *Asterium metamorpha currens* (habitat distance 0.24).



The kernel: its organ of perception.

Speed	0.18 lu/unit
Rotation	-5 deg/unit
Mass	93 units
Body span	15 lu
Habitat	m 0.217, s 0.0209
Kernel	3 rings, R 11
Station	226 / 326
Trial	hardy

PLATE X



Fig. 1. Adult, at rest in the frame of its own travel.

Pulsella chelata Fable, 2026
the clawed pulse



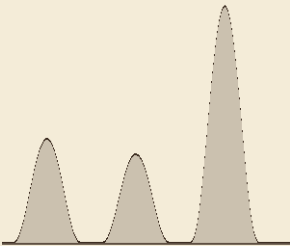
Fig. 2. The gait, in six moments.

The heaviest animal catalogued, at five hundred and thirty-nine units of mass. It does not travel; it breathes. Once in thirteen time-units the whole disc draws in and throws out again, and the claw-shaped core turns over. In a quiet world one could set a clock by it.

Nearest charted species: *Asterium reversus* (habitat distance 0.32).



Fig. 3. Course over sixty time-units; a mark each ten.



The kernel: its organ of perception.

Speed	0.35 lu/unit
Gait period	12.9 units
Mass	539 units
Body span	34 lu
Habitat	m 0.290, s 0.0516
Kernel	3 rings, R 20
Station	248 / 21
Trial	hardy

PLATE XI



Fig. 1. Adult, at rest in the frame of its own travel.

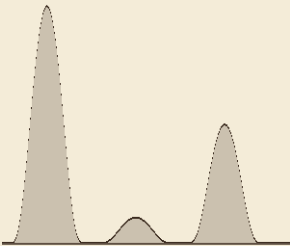
Pulsella sigmoidea Fable, 2026
the S-cored pulse



Fig. 2. The gait, in six moments.

A dense disc with a bright sigmoid bar for a core, found in the very first batch of the survey, in the warm thick end of the sea where flora also grow. It shimmers rather than pulses — the surface flickers through its figure in under a time-unit — and it withstood the agitation trial without complaint.

Nearest charted species: *Pentascutium solidus* (habitat distance 0.52).



The kernel: its organ of perception.

Speed	0.00 lu/unit
Gait period	0.7 units
Mass	368 units
Body span	22 lu
Habitat	m 0.420, s 0.0853
Kernel	3 rings, R 14
Station	0 / 307
Trial	hardy

PLATE XII



Fig. 1. Adult, at rest in the frame of its own travel.

Trochiscus spinifer Fable, 2026
the walking cog

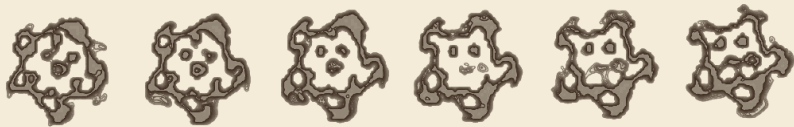


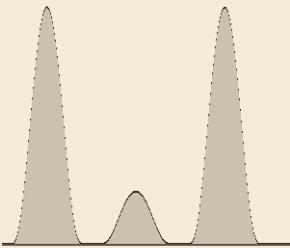
Fig. 2. The gait, in six moments.

By every instrument a still form, and yet it creeps. The toothed wheel gains a third of a lattice-unit per unit of time, less than a tooth per gait, always in the same direction — some slight imbalance among the spines drives it like a ratchet. The expedition calls it the walking cog and confesses it does not know why it walks.

Nearest charted species: *Cumulocircium lithos limus* (habitat distance 0.29).



Fig. 3. Course over sixty time-units; a mark each ten.



The kernel: its organ of perception.

Speed	0.36 lu/unit
Mass	379 units
Body span	33 lu
Habitat	m 0.185, s 0.0222
Kernel	3 rings, R 20
Station	399 / 9
Trial	hardy

PLATE XIII

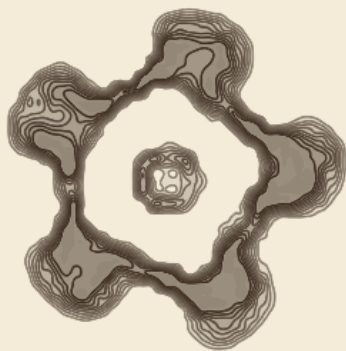


Fig. 1. Adult, at rest in the frame of its own travel.

Floscula sexpetala Fable, 2026
the six-petal floret

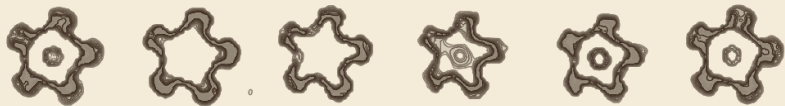
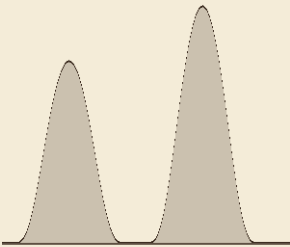


Fig. 2. The gait, in six moments.

Six petals about a cored centre, as regular as a drawn rosette. It holds its ground to within a twelfth of a lattice-unit per unit of time and its figure does not cycle: what the plate shows is what it is, indefinitely. The prettiest thing the survey took, and the least eventful.

Nearest charted species: *Hexadentium scintillans* (habitat distance 0.42).



The kernel: its organ of perception.

Speed	0.08 lu/unit
Mass	173 units
Body span	29 lu
Habitat	m 0.156, s 0.0178
Kernel	2 rings, R 18
Station	9 / 70
Trial	hardy

PLATE XIV



Fig. 1. Adult, at rest in the frame of its own travel.

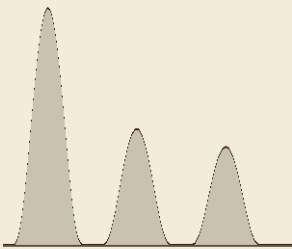
Cochleola solitaria Fable, 2026
the lone whorl



Fig. 2. The gait, in six moments.

A single whorl of substance wound about itself, like a shell in section. Only one was ever taken, at station 183, and none of the neighbouring worlds held another. It neither swims nor turns nor pulses; it simply persists, which in these waters is achievement enough.

Nearest charted species: *Hexabullium solidus* (habitat distance 0.23).



The kernel: its organ of perception.

Speed	0.02 lu/unit
Mass	246 units
Body span	22 lu
Habitat	m 0.255, s 0.0269
Kernel	3 rings, R 19
Station	183 / 202
Trial	hardy

PLATE XV



Fig. 1. The colony at its catalogued breadth.

Circinaria saecularis Fable, 2026
the year-ring coral

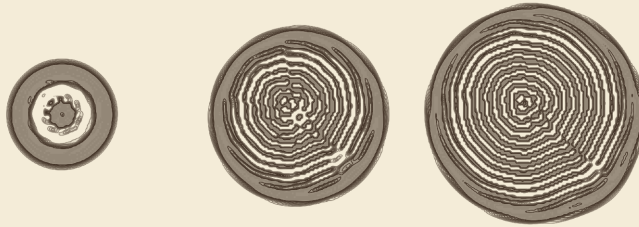
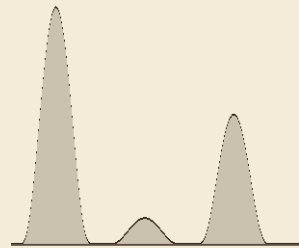


Fig. 2. Growth, at 4, 10, 14 units of time.

Not an animal. Planted from a pinch of living matter, it lays down substance in closed concentric rings, one ring after another, and reached its catalogued breadth — a hundred and fourteen lattice-units — in fourteen units of time, multiplying its mass more than sevenfold. Cut it where you will: the section always shows its years.



The kernel.

Growth	x7.5 in mass
Time to size	14 units
Breadth	114 lu
Mass	6678 units
Habitat	m 0.413, s 0.1009, R 14
Station	1 / 26

PLATE XVI

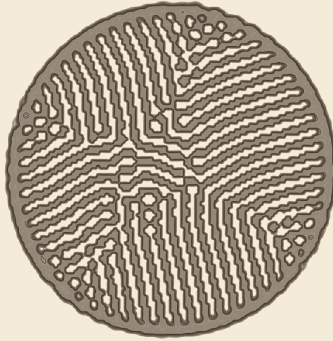


Fig. 1. The colony at its catalogued breadth.

Maeandrella cerebrina Fable, 2026
the brain weave

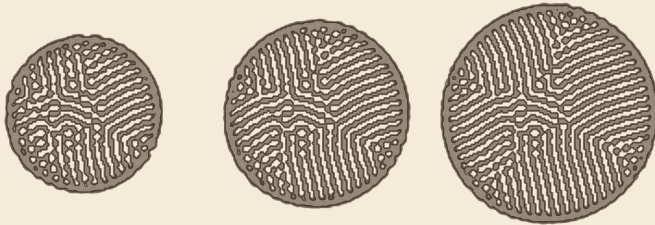
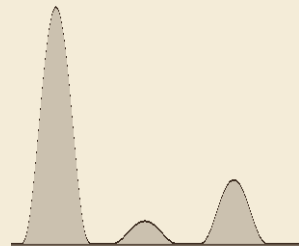


Fig. 2. Growth, at 12, 22, 32 units of time.

The other great colonial form: a disc of folded lanes, no lane ever crossing another, the whole maze extending itself at the rim while the interior holds fast. Slower than the year-ring coral — thirty-two time-units to catalogued size — and denser, at near seven thousand units of mass. The two flora divide the warm end of the sea between them.



The kernel.

Growth	x3.0 in mass
Time to size	32 units
Breadth	118 lu
Mass	6908 units
Habitat	m 0.421, s 0.0847, R 16
Station	1 / 168

APPENDIX A

Of 13,507 banked finds, 420 diverse candidates were tried alone; 385 were confirmed as bounded organisms, 37 set aside as colonial flora, and the rest died or dissolved in open water. The confirmed register divides so:

Class	Confirmed	of which hardy
Swimmers (Natantia)	236	234
Spinners (Gyrantia)	7	7
Pulsers (Pulsantia)	39	39
Sedentary forms (Sedentia)	103	101

Duplicate constitutions were folded before trial, so these are distinct parameter-forms, not a census of individuals; the sea does not sit for a head-count. The full register — constitutions, founding cells, and every measurement — accompanies the digital edition as `species.jsonl`.

APPENDIX B

A survey is worth nothing if the instrument lies. Before the first batch, the solver was made to pass four gates. *Determinism*: two runs from one seed agree bit for bit after 120 steps. *The uniform world*: a featureless world must obey the exact scalar law of its own growth curve; it does, to the last floating point. *The kernel*: the ring-kernel construction matches Chan's reference implementation to within one part in a million. And *Orbium*: the canonical animal of this country, placed from Chan's published cells into our worlds, must live and swim — it survived 1,200 steps, held its mass, and travelled 713 lattice-units in a line straight to within measurement, at 5.94 lattice-units per unit of time. An animal that fragile does not survive wrong physics.

COLOPHON

Simulated, searched, measured, figured, written and set on one machine (an RTX 4090 doing the swimming) on 31 August 2026, day 35 of a daily practice. Physics after B. W.-C. Chan, *Lenia — Biology of Artificial Life* (2019); reference implementation and atlas at github.com/Chakazul/Lenia. Type: Libertinus Serif. Figures rendered from the fields themselves; nothing is drawn by hand, and nothing is drawn by any hand but the equation's.