

PRACTICE

Yellow Glacier Lily, Erythronium Grandiflorum

Kim Trainor

'Yellow glacier lily, Erythronium grandiflorum' is a poem from a long sequence called 'Seeds' that thinks about forms of resistance, survival, and emergence in the context of climate change and the sixth mass extinction. Each numbered section or 'seed' centres on a different organism or human-made object: lentil, snowdrop, chinook salmon, 'the beautiful cell,' codex, lenticel, wasp, honey bee, tiny house, among others. Each 'seed' in this long poem might be thought of as a blueprint, whether simple human-made tool/concept or complex organism driven by its DNA to adapt to and respond to the current existential threat. The poem also considers the idea of attention as a moral act, as observed by the neuroscientist lain McGilchrist: 'without alertness, we are as if asleep, unresponsive to the world around us; without vigilance, we cannot become aware of anything we do not already know.' It attempts to focus attention as a form of respect for the yellow glacier lily, the human, the grizzly bear, as interacting agents in the subalpine region of Cascadia, all as beings in their own right, withdrawn, dark noumena.

Keywords: Yellow glacier lily; Erythronium grandiflorum; ecopoetics; flat ontology; hierarchy of needs; bees

Poet's Statement: 'Seeds' is a sequence from a poetry manuscript in progress called Tell me, where do we go from here? that thinks about forms of resistance, survival, and emergence in the context of climate change and the sixth mass extinction. Each numbered section or 'seed' centres on a different organism or human-made object: lentil, snowdrop, chinook salmon, codex, tardigrade, the order Hymenoptera, tiny house, among others. The vespa orientalis, for example, as noted by Robert Bringhurst in Learning to Die, has evolved a band of the obscure pigment Xanthopterin to draw sunlight out of air and generate a small voltage. The endangered chinook salmon travel thousands of miles to their spawning grounds in the Fraser river and feed the rich coastal ecosystem. Tiny houses, mobile wood frame cabins outfitted with solar panels, are being built by the Tiny House Warriors in unceded Secwepemc Territory in the interior of BC to challenge the construction of the Trans Mountain pipeline. In the following excerpt I have included seeds 6, 10, and 15-'Yellow glacier lily (Erythronium grandiflorum),' 'Siit, tuuxupt, Sitka spruce (Picea sitchensis),' and 'Hymenoptera (honeybee, bumble bee, Vespa orientalis).' 'Seeds' is inspired in part by The Ecologist's 1972 report, A Blueprint for Survival, which was warning almost half a century ago of species loss, pollutants, population demands on food and water, the harmful effects of industrial-scale agriculture, and the global economy's dangerous reliance on fossil fuels. I think of each 'seed' in this long poem as a blueprint, whether simple human-made tool or complex organism driven by its DNA to adapt to and respond to the current existential threat, each showing a different way of being in the world. I'm also interested in the idea of attention as a moral act, as observed by the neuroscientist lain McGilchrist: 'without alertness, we are as if asleep, unresponsive to the world around us; without vigilance, we cannot become aware of anything we do not already know.' I want to focus attention as a form of respect for these organisms, not as resources, but as beings in their own right, withdrawn, dark noumena.

Excerpt from 'Seeds'

Serotiny: requiring the heat of a wildfire to open.

—Wiktionary

4. FURTHER INFORMATION: Organizations wishing to join the Movement for Survival and all others seeking further information should write to the Acting Secretary, *The Movement for Survival*, c/o *The Ecologist*, Kew Green, Richmond, Surrey.

-A Blueprint for Survival, 1972

The blessing is in the seed.

6. YELLOW GLACIER LILY (Erythronium grandiflorum)



Grizzly bears cultivate yellow glacier lily meadows above the tree line. The bears dig up the nutritious bulbs for food. Soil in the grizzly digs has higher levels of ammonium and nitrate nitrogen than surrounding meadow soil and glacier lilies establish and grow better, as well as produce more seeds...—'Yellow Glacier-lily, Yellow Avalanche-lily, Erythronium grandiflorum'

I am walking the Heather trail from Kicking Horse camp through alpine meadows towards First Brother, retracing the route Y. and I took yesterday, Y. with his book of wildflowers, slow ambling sweet seduction of taxonomy. Thistle and pussytoes. The western pasqueflower gone to seed—this morning's drenched moptops, mountain avens. He said, as you climb higher in the alpine you go back in time. I'm looking for the patch of yellow glacier lilies we found yesterday while N. and his new girlfriend S. hiked on to Nicomen lake and back. They're all somewhere far behind me now. Dark Sunday morning. Mist pours down the meadows. Pack heavy on me. Wet and cold. Alone. Yesterday we trailed in sunlight, slowly patched words to shapes and colours, sepal, stipule, umbel. Y.'s better at this than me. Little white flowers like stars in grass? Fescue sandwort, Arenaria capillaris. I see. I think I spotted one first, in a gully, then more all around, suddenly everywhere these delicate pale yellow blooms like fanged angel wings. Erythronium grandiflorum. Glacier lily. Yellow avalanche lily. Dogtooth fawn lily. Sk'éməth. Sxwixw. Hwikwi. Máxa. Moist to mesic meadows, shrublands and forest openings; montane to alpine zones. The bulbs were sweetest after long, slow cooking, the seedpods were said to taste like string beans. So I'm scouring the meadows for torn scraps of sunlit yellow. Looking back for Y. and N. and S. who have disappeared.

Mist pours and darkens down the meadows. Little white stars. Primordial blue-drenched eye of the world. A raven calls, quork, quork. A dark-eyed junco.
I'm singing to the bears. 2000 metres above sea level. O!
here, and here—the glacier lilies, not densely packed
like the moptops higher up—sparse, edging
bare clods of soil, scattered around the gully's sunken
runnel. I'm damp and getting colder. (As we left Kicking Horse,
N. hectored, where's your rainjacket? You've forgotten the 10 essentials!
Always bring the 10 essentials!!) Ease off my pack. Drink hot tea.
I wanted Y. to be here but he isn't. There are white petalled flowers
with yellow centres. Thick wine-red stems. Caltha leptusepala—
a sort of buttercup. Mountain marsh-marigold, elkslip. Still colder.
Some kind of moss? Why are there no glacier lilies in the lower meadow,
only above? Did something happen? Y. said only that he would stop
to take off his sweater, and never caught up.

Now I see them, far off, single-file, N. is talking-always. What if, he gestures up the meadow stitched with lilies and moptops what if I decided to stomp all over these wildflowers so I could climb to the top of this gully? Y. takes the bait, argues, *You would create a path for others* who would follow, off the main trail—there's no need. N., provocative, stomping on theoretical flowers. But there's my need man, to pick a wildflower! To bag that peak! And they are off, Y. outlining a hierarchy of needs, a continuum of rights along a spectrum of levels of consciousness, the ability to feel pleasure and pain, this continuum of rights intersecting with a spectrum of need—the need for survival, food, pleasure, to climb a mountain. A being lower on this continuum can fulfill a higher level of need. But I need that wildflower! You can kill for survival, but not for pleasure. S. puts down her pack. Y. and I have argued this before. I am thinking of the lilies. What of inherent worth and being, regardless of consciousness, a flat ontology. We cannot know what purpose means, what being, and how it exists and intends in the world. The bear digs lilies, this particular delicate bloom, this yellow. The bear fixes nitrates otherwise washed away by snow melt, grows richer bulbs. They have moved on to the Musqueam development of Block F— Unceded land. Protests against development. N. shouts, A bourgeois desire to set aside land around the university. The whole forest should be cut down! Build high density units for the workers! I'm so cold. I stop listening, try to signal to Y.

At last we go. Y. and I quarrel. Where were you? I was waiting so long. *I didn't think*. I'm so cold. *My sweater*—The lilies—*I'm sorry.* You said you wouldn't leave me alone.

9th August. Semaphore Lakes

You are opaque to me as the lilies, as this moth just landed on the page of my open notebook, soot-colored, furred, white slashed, curled proboscis dipped in yellow pollen. I sit at the base of Locomotive mountain, writing here, while you climb the trail marked with small stone cairns, driven by a need I can't understand and can't follow. You are opaque to me as the lilies, even in your tent last night, as you came into me, as I opened to you, your cells in my blood, your flesh in my flesh. There are misunderstandings. I hurt you, you hurt me. We try in all the little ways, signs, touch, song, breath. It is so hard. What is carried within the seed, what stored in the bulb that waits in dark soil?

10. SIIT, TUUXUPT, SITKA SPRUCE (*Picea sitchensis*)

Even when philosophers turn their attention to understanding life processes, they largely ignore trees or relegate them to the periphery. In his *Critique* of the Power of Judgment (1790), Immanuel Kant regards trees as 'self-organising' but not as 'alive' — because they lack an essential characteristic of life: desire (which animals possess). In *The Phenomenon of Life* (1966), Hans Jonas argues that plants don't possess a 'world' because they can't be contrasted with their environments. Thus, while the animal-environment relation is one between a sensing, directed subject and a 'world', the plant-environment relation is between a nonsubject and nonobjects, or as Jonas puts it: 'consists of adjacent matter and impinging forces'.

—Dalia Nassar and Margaret M Barbour, 'Rooted: The Embodied Knowledge of Trees' Aeon https://aeon.co/essays/what-can-an-embodied-historyof-trees-teach-us-about-life

Strange as it might sound at first hearing, there doesn't seem to be a candidate for being the intrinsic nature of matter other than consciousness...

—Philip Goff, Galileo's Error: Foundations for a New Science of Consciousness, 2019

I. Memory

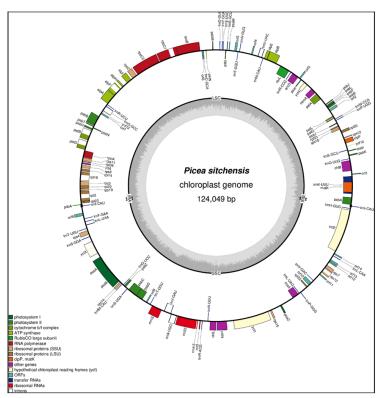
The first time I really saw black bears up close was in the back country along the Juan de Fuca trail, in the unceded land of the Pacheedaht— Children of the Sea Foam. We arrived at West Sombrio in the dark of shoulder season and pitched our tent in a high nook surrounded by Sitka spruce, hemlock, suck and hush of the Pacific, woodsmoke from surfers who tended their bonfire day and night and never seemed to sleep. Bobbing up and down in the surf like strange seabirds the next morning, all facing the shoreline in their black wetsuits when I woke and looked out to sea, as if they'd been waiting for me. There was only just enough room for the tent and a small clearing to set down our packs and stake the fly. It had rained through the night but the trees sheltered us. Y. showed me how to tell the tree from the bark—hemlock's thin grooves, not as deep or pronounced as Douglas fir, although younger trees might look similar. Sitka spruce like the scales of a fish, smoother, purplish-grey. Indigenous to the coastal fog belt. I didn't know then its traditional usesits shallow roots plaited into watertight hats and baskets, ropes, fishing lines, twine for sewing the baskets and boxes, its softened pitch to caulk boats and harpoons and soothe burns, its wood carved into canoes—just that it kept us dry all night. Dark glaucous blue-green glint of magnesium drawn from the ectomycorrhizal threads of *Thelephora* terrestris entwined in its shallow roots, as if when I pressed my ear to the tent's floor that night I could hear the tamped crackling, or trace streaks of phosphorescence through the nylon with my fingertips. Y. cooked oatmeal. I made tea. Holed up in the tent with a book and papers until sunlight broke through at noon and we headed west from Sombrio towards Little Kuitshe. It was on the way back, just a hundred metres from camp that I felt her presence as she flipped over clumps of seaweed and kelp bulbs at the hightide line. Turned her head to look our way, then resumed her work. Two cubs playing on the driftwood behind her. What should we do? I asked Y. He said, Just wait. So we did-thirty or forty minutes, until she gathered the cubs and they returned to the forest.

II. Archive

Anthropogenic activity is now recognised as having profoundly and permanently altered the Earth system, suggesting we have entered a human-dominated geological epoch, the 'Anthropocene'. To formally define the onset of the Anthropocene, a synchronous global signature within geological-forming materials is required. Here we report a series of preciselydated tree-ring records from Campbell Island (Southern Ocean) that capture peak atmospheric radiocarbon (14C) resulting from Northern Hemispheredominated thermonuclear bomb tests during the 1950s and 1960s. The only alien tree on the island, a Sitka spruce (Picea sitchensis), allows us to seasonally-resolve Southern Hemisphere atmospheric 14C, demonstrating the 'bomb peak' in this remote and pristine location occurred in the lastquarter of 1965 (October–December), coincident with the broader changes associated with the post-World War II 'Great Acceleration' in industrial capacity and consumption. Our findings provide a precisely-resolved potential Global Stratotype Section and Point (GSSP) or 'golden spike', marking the onset of the Anthropocene Epoch.

> Abstract, 'Global Peak in Atmospheric Radiocarbon Provides a Potential Definition for the Onset of the Anthropocene Epoch in 1965,' Nature, 19 February 2018

III. Sequence



IV. []

blue blued bluuuue resonant resin res tympan tam tam tam tamp tamp suck whoosh hushhh husshhhhhhhh

salt siit siit siiiiiit tuuxupt pitch tok tok
o o o tam tam tamp tamp
suck whooosh hussssshhhhhh hussshhhhhh
siit siiiiiit siit sit ka ka ka

15. HYMENOPTERA

(honeybee, bumble bee, Vespa orientalis)

I

N. texts me—the poet moves towards the impenetrable, the sweet honey of darkness where it simply must be that meaning lies (others just use lights). Animalia | Arthropoda | Insecta | Hymenoptera | Apidae and Vespidae. Dark fuzzed body, orange-belted, opaque. The impenetrable, the sweet. The packet of seeds sent me by the Wilderness Committee—fleabane daisy, dwarf godetin, prairie coneflower, lewis flax—instructs, Plant seeds in a sunny location after all danger of frost has passed. Cover with 1/8th soil. Some need the dark form of phytochrome to germinate. The queens are emerging from their long winter and search out a new hollow underground. I saw one yesterday at Mountainview Cemetery, where I met Lucie as we used to do. Humming. Buzz buzz. Zigzagging, intent, a recce, as she prowled the grass in bare feet over ribbons of sunken concrete that mark deaths a century ago. Look, look, I'm social distancing with the dead! Can I borrow a pen? No. Because then you'd have to disinfect it? Yes—I only brought one pen. Your laptop? No. You can disinfect it. No I can't. I'm an essential worker. She steps over her notebook, flung open on the grass to a page scrawled in Sharpie or black crayon. But the libraries are closed? They called me back to Insite but we can only have six people at a time, instead of 12. It's easier. It's all a scam. No it isn't. To control the population! Also, there was no moon landing. Obviously. A sign at the entrance reads,

THIS SPACE SHOULD NOT BE USED FOR LEISURE ACTIVITIES DURING THESE EXCEPTIONAL TIMES.

But there are no mourners here. Just the two of us, and the dead, at rest. Sleeping. Humming. Buzz, buzz. The impenetrable, the sweet sun on my back. Lucie is a pale ginger and burns like me. Settles in the shade, wrapped in her black fur-lined coat. We are working on her manuscript—

On Keats Island there's no reception / and a few fields cleared for my waiting. / Once it gets dark, there will be owls / everywhere.

A bumblebee hovers at my wrist, then moves sideways, zigzagging methodically over the uneven grass, driven. I have read that they live for only one season. Now she has withdrawn into herself. Blue scatters over the graves.

II.

The bees and the wasps are making the world. The bees, the honey bees, the bumblebees, search out voids and hollows, underground, in straw, in hay, in pots, the dark hollows of trees, crevices in stone. The wasps, the hornets, the yellow jackets search out voids and hollows, underground, in trees, under eaves, in abandoned cars and shipping containers, garages and crawl spaces and sheds. The honeybees collect resin from tree buds and mix it with chewed wax and saliva to coat the nest with propolis which has antimicrobial properties. The hornets strip wood fibres in thin white lines from cedar planks and weathered porches, from oak twigs and the branches and bark of spruce and chestnut and apple and cherry. They chew the wood in their mouths and mix it with saliva and wax to build their papery cells. The queen did this first, to build a petiole, then a single cell, then six, joined to the narrow stalk. The bumblebees

are gathering nectar from the wildflowers, the dandelions, salvia, Russian sage, lavender, chives, all the blue flowering ones. They mix the nectar with enzymes and as the water evaporates honey is formed and transformed into wax they chew up to make the cells. The wasps are intuitive architects. They are building complex papery nests, woven with strips of colour, the colours of the materials they chew, the red cedar, the mint green porch, threads of a faded pink deck chair. The bees possess a certain geometrical forethought. They are using their bodies as measuring tools to build their hexagonal cells. The oriental wasps are harvesting light with their bright yellow-banded abdomens. With the obscure pigment xanthopterin they generate chemical energy to dig in the heat of the day. The honey bees are gathering pollen and nectar. Trembling. The bumblebees are reading the colours and shapes and patterns of the flowers, the faint pulse of the floral electrical fields, to pollinate the flowers, to gather the pollen and nectar. The bees are making the honey, the royal jelly, the propolis, bee bread, bee brood, and venom. The bees and the wasps are making the world.

Acknowledgements

6. 'Young Fruit' is a photograph of *Erythronium grandiflorum* taken at Leavenworth Ski Hill, Chelan County Washington, 47° 36' 57.08" N, 120° 39' 54.12" W. by Thayne Tuason. https://commons.wikimedia.org/wiki/File:Erythronium_grandiflorum_ssp._grandiflorum_green_fruit_pod_just_after_flower_with_pistil_still_attached.jpg.

10. Image of the Sitka spruce chloroplast genome sequence is by Lauren Coombe et al. "Assembly of the Complete Sitka Spruce Chloroplast Genome Using 10X Genomics' GemCode Sequencing Data.' *PloS ONE*. September 15, 2016. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0163059.

Competing Interests

The author has no competing interests to declare.

Author Information

Kim Trainor is the granddaughter of an Irish banjo player and a Polish faller who worked in the logging camps around Port Alberni in the 1930s. Her second book, Ledi, a finalist for the 2019 Raymond Souster Award, describes the excavation of an Iron Age horsewoman's grave in the steppes of Siberia. Her next book, *Bluegrass*, will appear with Icehouse Press (Gooselane Editions) in 2022. Her poetry has won the Gustafson Prize, the Malahat Review Long Poem Prize, and the Great Blue Heron Prize. In addition to working with the musician Hazel Fairbairn on a poetry film of Ledi, she is also working on an art song of her poem 'Blackmud', with the composer Yi Ning for Art Song 2020. She teaches in the English Department at Douglas College and lives in Vancouver, unceded homelands of the xwməθkwəýəm, Skwxwú7mesh, and Tsleil-Waututh Nations.

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