POLLINATOR SMELL WALK

Pollinator Smellwalk

CEALL QUINN

> But smell, unlike air, is a sign of the presence of another, to which we are already responding . . . Might smell, in its confusing mix of elusiveness and certainty, be a useful guide to the indeterminacy of encounter?
>
> —Anna Tsing, *The Mushroom at the End of the World*

LET'S TAKE A WALK

Walking brings us into place. The pace of walking invites observation as bodies and surroundings interface. Noticings become associations as memories attach to presence and absence. Repeatedly walking a route is a way of registering change over time.

The profundity of being here can easily dissolve in the flux of the everyday—hustling to work, paying bills, rushing to appointments. But any geographer worth their salt is quick to opine about the ways place discloses valuable information about how lives are lived, even as broader economic, imaginative, political, and ecological structures impress upon them. Places speak; they are diffuse with meaning. How then does one lear to listen and respond?

Map: Lily Demet

Entering into dialogue with place can be as simple as noticing your surroundings while intentionally expanding perceptual scope beyond solely human references. Ask questions like: What beings are around? What are they doing? How might they experience their share of the world? How do we inform the shape of each other's lives, and what are the stakes of that shaping? To perceive oneself as sensor in a common field co-composed with a multiplicity of others is a step towards nourishing an ecological subjectivity that maintains a respectful balance between the continuity and difference of self and others. Attuning to the co-participants that collectively produce place while walking is a primer to the delight, strangeness, and potential transformations that flow from encounter.

I invite you to slow down together as we hone our arts of attention to participate in the "open-ended gathering" (Tsing 2015, 23) that is the urban everyday. We will do so through engaging our sensorium, and specifically honing into the affordances of olfaction, AKA smell, in relation to pollinators and their floral partners.

Smellscapes in the city are redolent of political ecologies. Urban planning and aesthetics, the management of flora and fauna, and the unruly persistence of lives all bear the signatures of scent. They are organized by certain imaginaries where power relations mark out who and what belongs in place. A whiff indicates presence, indexes relational networks, registers differentially across multispecies sensoria. Attending to the olfactory invites a consideration into the more-than-human relationships that constitute the life of cities.

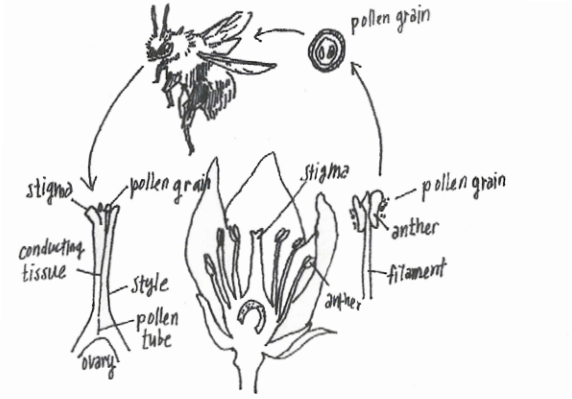
While the urban is often withdrawn from ecological imaginaries, attending to city smellscapes can restore a felt sense of multispecies co-habitation, or, an attunement towards the diverse lifeways that compose the pulse of shared place. The city is an accretion of disiunctive processes. In Vancouver we find a gathering of climate, geology, biology, coloniality, imagination, economy, development, migration, and more—all mixed up in the present and in contested visions of the future. What would it mean to assert a multispecies right to the city? Can olfactory approaches reconfigure the ways ecological imaginaries interface with the urban? How might attentive scent practices invite a conscious registering of the more-than-human everyday? And, what can smellworlds tell us about how pollinator relations unfold in urban ecologies?

CONSIDERATIONS

1. How do you think of your relationship between walking and place?
2. How does walking oblige you to notice embodiment—yours and (Earth) others?
3. What are some of the noticing practices you employ in your everyday navigations?
4. What possibilities are contained in encounter? What might encounters tell us about how the intimate and the enormous rub up against one another?
5. Can you locate the source of a smell you detect?
6. What might this tell us about how desire and planning organize place? How space is shared among many beings?

WHAT IS POLLINATION?

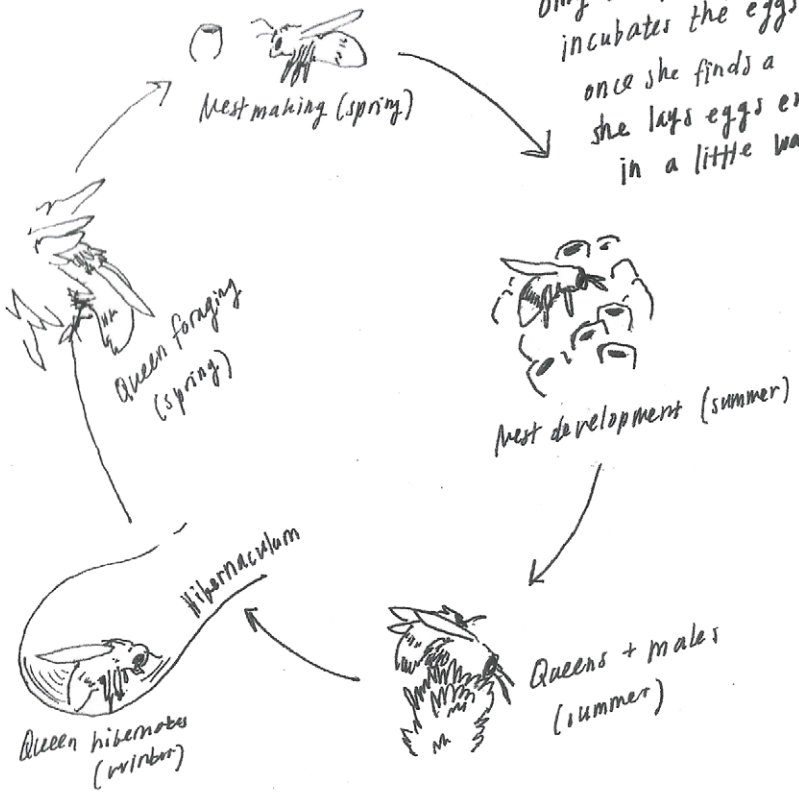
A key process in plant reproduction, pollination is the transfer of a pollen grain from a plant's anther to its receptive stigma. A pollinator is an animal that moves pollen between conspecific plants.



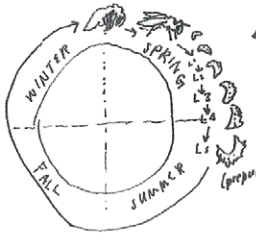
WHAT ARE BEES?

The explosion of flowering plant species in the Cretaceous period (between 125 and 65 million years ago) correlates to the emergence of bees. A carnivorous wasp started collecting pollen for protein, eventually converting to a strictly vegetarian lifestyle, becoming what we know as bees. There are over 20,000 known species of bees globally with nearly 500 described in so-called British Columbia. Bees are foragers, and their physiology and development reflects this. They are fantastic pollinators because the entirety of their life cycle is dependent on the pollination event. Their larva only consume pollen, so adults collect large quantities, moving it from flower to flower in the process. They have evolved specialized morphological structures to aid in the transportation of pollen like pollen-carrying structures and hairs, combs, brushes, specialized mouth-parts and tongues—and a positive charge that draws negatively charged pollen grains to them.

LIFECYCLE: SOCIAL



FROM EGG TO ADULT - growth + dev of S. bees



← life cycle of a typical solitary bee in a calendar yr.
- adults active for short time - emerge, mate, construct + provision nests, die
- 5 larval instars that develop in brood cells
- last instar (prepupa) undergoes diapause
- pupation takes place early in the season when conditions are favorable + adults emerge thereafter

Bee eggs

BROOD-CELL, egg + pollen loaf

1.5 BEE SOCIALITY

SOLITARY - most are solitary in MA! "she is the full package" - worker & queen

AGGREGATIONS - some solitary bees nest in aggregations - many nests found together

COMMUNAL - some species of solitary bee / individuals in a species nest communally - sharing same entrance

or FACULTATIVE SOCIALITY - see pg. 36

SEMISOCIAL - use same nest + cooperatively provide for offspring

EUSOCIAL - all individuals share a nest, mother works alongside daughters, split nest-making + reproductive duties, they comprise mother + daughters (she meets her daughters!)

→ many bees fall between social + solitary & there are species that fall between the two depending on factors like environmental conditions. those bees are called facultatively social + sweat bees are particularly known for this

ex. an original reproductive female establishes colony (original queen) + produces offspring.

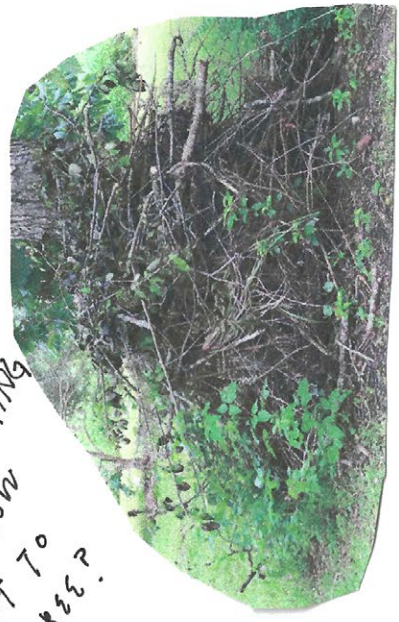
some things that can happen... → offspring stay in her colony + function as her workers. colonies w/ workers will build + become larger overtime, mb over year to year. when original queen dies, daughter might become new repro for colony

→ another thing that can happen is that offspring, they may leave + go join another colony nearby

→ lastly, offspring may leave nest + start nest elsewhere, acting as solitary females

NESTING

Most bees (around 70%) nest in holes in the ground. Those that don't nest in the ground choose pre-existing holes (hollowed out twigs, pock-marks in rocks, tiny holes in bricks). Some bees use a waxy / cellophane substance to line walls to keep out bacteria + moisture. Other bees line their nests with pieces of leaves, flower petals, and the hairs that coat leaves.



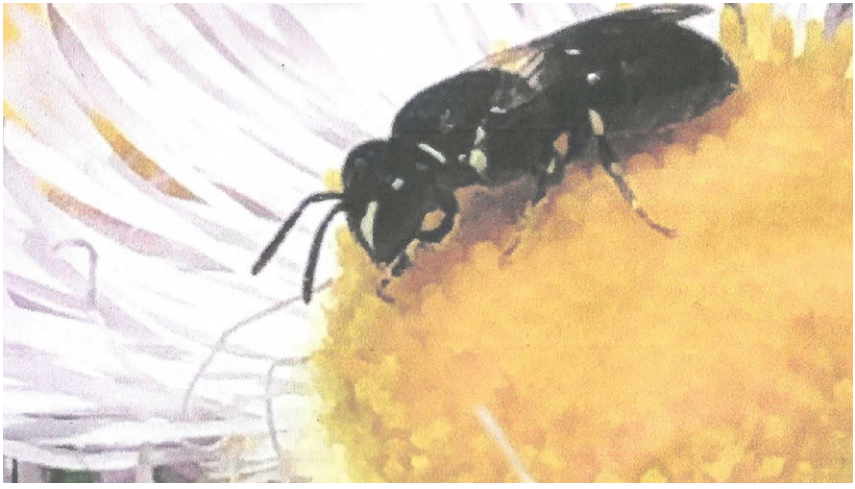
- Osmia covered in mites from unmaintained bee hotel :(

WHICH HOUSING LOOKS MORE INVITING TO YOU? HOW ABOUT TO A BEE?

bees need social distancing too!

Olfaction is the sensation of smell that results from the detection of odorous substances aerosolized in the environment. In bees these chemical compounds bind to receptors located inside thin hairs—sensilla—on the antennae. Bees utilize scent as cues to distinguish their nests from others. In eusocial species, scent plays a role in kin recognition between nestmates.

Plants emit volatile organic compounds (VOCs) to dialogue with organisms in their environments. They communicate a variety of messages, ranging from defensive to alluring. In pollination "highly specific associations between flowers and insects are typically mediated by chemical signals, that act as floral filters together with visual signals, floral morphology and specific types of reward" (Bowmeester 2019, 895).



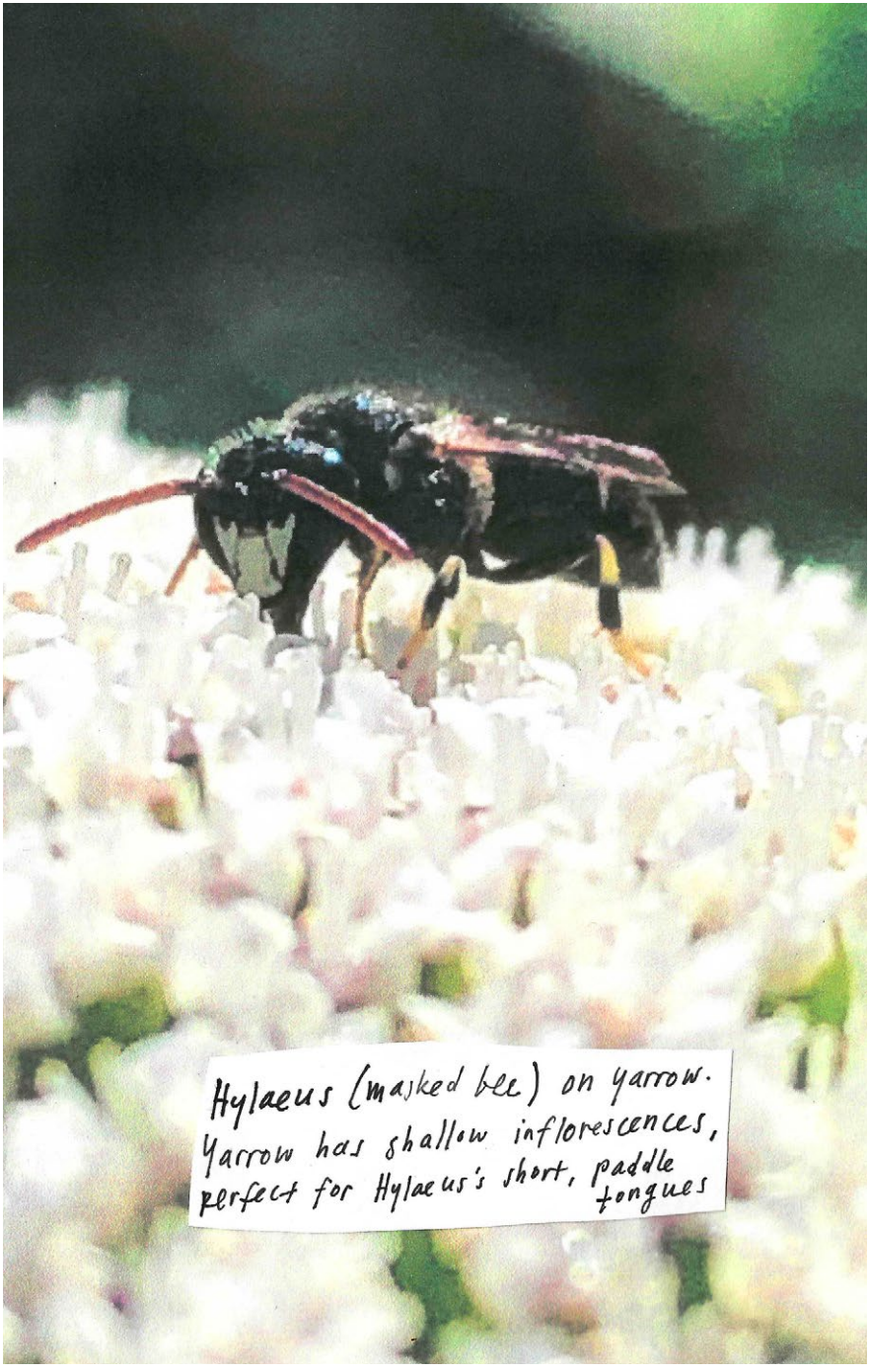
Studies have shown that specialists use a highly attuned sense of smell to locate their hosts. For example, *Andrena vaga* shows a strong response to 4-Oxoisophorone, a common constituent ni the scent of its host, *Salix spp.* Honeybees do not respond to this compound (Ramirez et al. 2023).

SCARLET GILIA - CHECK OUT THOSE COROLLAS!

WHITE SHOULDERED BUMBLEBEE

HONEYSUCKLE

FLORAL SHAPES INVITE DIFFERENT BEES. BUMBLEBEES HAVE LONG TONGUES & CAN ACCESS NECTAR IN A DEEP TUBE (THOUGH SOME HAVE SHORTER TONGUES & RESORT TO THIEVERY THROUGH BITING A HOLE IN PETALS CLOSE TO THE NECTARY)


Hylaeus (masked bee) on yarrow.
Yarrow has shallow inflorescences,
perfect for Hylaeus's short, paddle
tongues


SMELLWORDS
PUNGENT
YEASTY
FLORAL
SULFUR
MOULDY
BURNT
NUTTY
CARAMEL
GREEN
SOUR
FISHY
STALE
DANK
LEATHERY
FRAGRANT
MEDICINAL
SAVORY
MUSKY
SPICY
BERRY
CITRUS
PETROLEUM
EARTHY
RESIN
SWEET
HERBACEOUS
SWEET
OAK
GRASSY
ROTTEN
RAINY
PINEY
ACRID
BITTER
MINTY
FRESH

TINCTURES

Tincturing archives place through scent. Through covering organic materials in grain alcohol, sugars and starches "act as a fixative, trapping scent molecules and slowing evaporation" (Arthur 2023, 7). Collecting smells over a season and letting them extract and saturate alcohol over time is one way the ephemerality of smell might be isolated, preserved, and transformed. Returing to tinctures as they age enables a kind of return, evoking place, the organic entity, and seasonality all mixed together with a practice derived from portable acts of attention. This capture and conversion can then be shared.

See Smellworlds for a DIY tincturing guide.

QUESTIONS

1. How does the practice of tincturing invite arts of attention?
2. What is condensed in the scent archive of tinctures?
3. Might considering sensoria across difference aid in place-making that aims towards multispecies flourishing?
4. What do scent politics tell us about inclusion/exclusion? How do these demarcations cut across species lines?

INVOLUTIONARY MOMENTUM

Hustak and Myers (2012) offer the concept of involution as a companion and departure from hierarchical, reductionist, and functionalist tendencies in theories of natural selection and strands of chemical ecology. Rather than the vast timespans that inhere in genetic, evolutionary time that sees populations as vehicles of gene transfer but misses everyday interactions, the authors turn to present encounters and reconstrue flowers and insects as practitioners that express desire, play, experimentation, and improvisation in their relations with one another. Involution asks how species are drawn towards one another, how lives are folded inwards.

Critiques of anthropomorphism (making 'human like') might guard against human projections of subjectivity onto the lives of earth others, but are there ways that this perspective performs a stripping of agency, creativity, and understanding of the more-than-human? How might formalized rhetorics constrain narratives and imagination of interspecies relating?

COMPANION READINGS

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LAB 2

DOING STS

POLLINATOR SMELLWALK

How can we develop an ecological self in urban settings? What forms of attention can we deploy to cultivate nonhuman kinships? Approaching pollinator worlds, we'll ask these questions from the perspective of the amateur: "one who loves."

Participants are invited to dabble and pause in a space of non-instrumental bee noticing. With scraps of more-than-human ethnography, urban political ecology, and the science of bee and floral perception as guides, we'll gather for a bee smellwalk.

Free public event
Led by Ceall Quinn

1–4pm, August 27th, 2023

Pollinator Park
West 5th and Pine

Poster: Mathew Arthur


MV AURORA EXPLORER
MARINE LINK TOURS


'23
MOV
LILAC
2023