

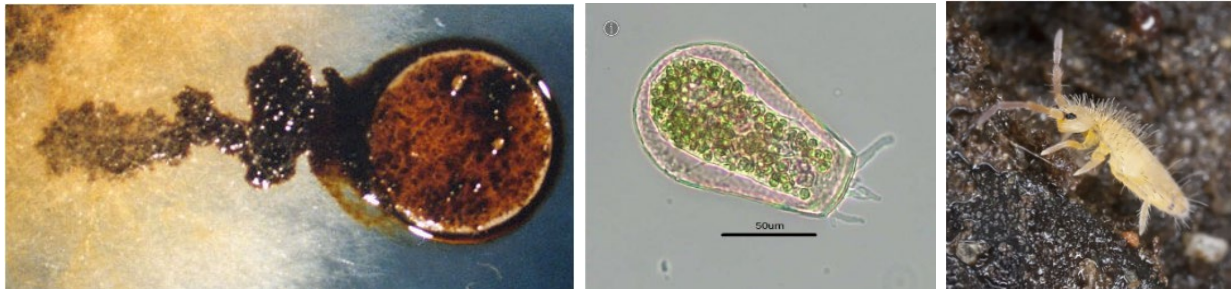
Foraging for Urban Reforestation



Example of post disturbance succession seedlings grasses and duff

The goal of foraging for an urban reforestation project is to collect vital elements to create a forest environment, specifically those that can't be bought, propagated, produced, and are regional to the area.

These include the fungi, protozoa, and macroinvertebrates (tiny soil building animals) that live in the organic leaf litter or Duff of the forest floor. These creatures are vital for building soil structure. They break down stone minerals, fallen leaves, and wood, to form soil. This Duff Layer has more diverse species compared to the airspace above the ground where insects, birds, and other animals live.



Through foraging, we will transplant multiple small samples of these organisms into our newly established urban forest to help it develop and function similarly to a naturally existing forest.

We will collect handful size pockets of duff, leaves, and spongy compost in the first 4" of soil surface. To do this, we will take a double handful from a clean area, bag it, scatter leaves over the spot we disturbed, then collect another sample at a short distance of 5-10 paces. We will also look for fallen trees, as the soil around their stumps has lots of these soil builders.



Stump Soil



Forest Duff

We also want to perform this transplant respectfully and safely. That means taking small, dispersed samples and covering any disturbances we create to prevent depleting an area or exposing the soil to invasive weed seed, erosion, or other stress.

When searching for logs, we will look for ones that have fallen to the ground and show signs of our preferred mushrooms/fungi. We want pieces that are moderately sized, and sturdy enough to be moved. The presence of mushrooms is a sign that the fungi were planning to spread, so by moving these logs we will be expanding their habitat.

We will be selecting saprophytic fungi, which feed on dead wood as opposed to parasites that grow on live wood. Of value are the *Trametes* family, a group of small woody mushrooms who are better at digesting heavy metals and help clean and stabilize soil in a tough environment like the city. We will provide examples and review of mushroom logs.



Trametes (Turkey tail mushroom)



Aricularia a saprophyte vs *Fomitopsis* a parasite

We are looking to collect seeds, some species hold their seeds on the stem to keep them out of the soil until spring, others like walnut and hickory nuts often need over winter before they are ready to grow.



We are also looking for clusters of seedlings and small trees up to 1" caliper. Where these have seeded together (within a few inches, not feet apart), only the strongest will survive, while others may serve as food for animals or wither due to competition. While these are still dormant, we can selectively take one or two from each patch without significantly limiting the forest. By replanting these selected seedlings, we add to the species overall diversity and increase the potential of the individual trees reaching maturity.

While dormant these can be gently dug to loosen and pulled out by lifting and shaking the soil off the roots. We will quickly move these into an antiseptic root hormone solution (willowbark and cinnamon tea thickened with hydrogel). It is essential that the roots do not dry during transplant. We will store these in a cool dark place in a straw peat compost. This gives us locally adapted genetic stock to diversify our urban forest for breeding.



Clustered birch seedlings acceptable for harvest



Pine seedlings too close to survive each other. Blueberry, here gets mowed and can't mature.

Learning What to Avoid

While the material we collect is important, education and understanding are even more important. It would be far less engaging to explain what a forest is and how it works while standing over a prepared bed or out in a parking lot.

During our sessions, we will go over sensitive elements of the forest and highlight aspects that we don't want to disturb for their protection. Additionally, we will discuss pests and parasites we don't want to inadvertently transport.



Princess pine rare plant not to be disturbed



Hemlock with adelgid parasite