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Gold and green forests

Crafted life stories about Canadian goldenrod and elm trees

ABSTRACT

*Sweden's fauna and flora are constantly changing. Humans have not only deliberately promoted and introduced new species in horticulture, agriculture and forestry, they have also acted as a vector for the introduction of alien species through, for example, transportation and food. When these species spread rapidly and affect biodiversity, they are deemed 'invasive alien species'. This artistic research project explores and articulates how humans, as part of a system where nature and culture meet, affect complex functioning ecosystems through the movement of species. The starting point is the iconic elm tree and how its cultural and natural ecosystems have been wiped out in large parts of Europe by the invasive fungus *Ophiostoma novo ulmi*. With the extinction of the elm come ecological and cultural losses. Those losses are examined and interpreted in this work, in a dialogue with nature and with people. At the same time, another species is explored, the Canadian goldenrod, which, unlike the elm, is expanding rapidly. With these explorations, life stories about the elm will be created not only for our collective memory, but also for speculation about what happens when a new and invasive alien species, such as the Canadian goldenrod, spreads. The form of my narrative is based in materials, crafts and objects. It is primarily the objects and the process that are the carriers of the stories. As a ceramicist, I use clay as a sketching material, binder and a tool for documentation. These species, the elm and the goldenrod, constitute the materiality that are part of the exploration and creation.*

Keywords:

Canadian goldenrod, craft, elm, invasive species, life stories.

BACKGROUND

Sweden's fauna and flora are constantly changing. Humans have not only deliberately promoted and introduced alien species in horticulture, agriculture and forestry, they have also acted as a vector, introducing alien species via transportation and food. When these species spread widely and affect biodiversity, causing economic damage and harming ecosystems or the health of animals and humans, they are deemed 'invasive alien species' (IPBES, n.d.). The term covers animals, plants and fungi.

The aim of this artistic research project is to explore the narratives that are available or which emerge when humans move species and thus affect fragile ecosystems. The starting point is the iconic elm tree and an examination of how its cultural and natural ecosystems have been wiped out across much of Europe by the invasive fungus *Ophiostoma novo ulmi*. The extinction of the elm has resulted in ecological and cultural losses that this project investigates and materialises in dialogue with nature and people. At the same time, the project explores another species, Canadian goldenrod, which, unlike the elm, is rapidly increasing in distribution and thus acts as an ecosystem engineer. With these investigations, the aim of the study is to create narratives for our collective memory of the elm while also speculating on what happens when invasive alien species spread.

METHODS AND COLLECTION OF MATERIALS

Life stories and killer stories

This research method of exploring, telling and communicating is based on Ursula Le Guin's carrier bag theory of fiction (1986). Le Guin argued that individual heroism, hunting and killing have been the norm for what constitutes 'a good story'. Le Guin referred to these types of stories as 'killer stories'. As an alternative, she suggested that stories should be multifaceted. They should describe different perspectives and values, and the narrator should act as a forager or collector, rather than as a hunter looking for prey to kill. Foragers' collected stories do not end, but rather lead to new stories. In this approach, the focus is not on one individual or human, but on many individuals, other species and other things in nature. Le Guin referred to these stories as 'life stories'.

In this project, collecting plays a central role. On the one hand, it is a physical process that consists of the collection of materials linked to elm and Canadian goldenrod (photos 1–6). On the other hand, the collection consists of observations of and experiments with the species, which are documented in the form of notes, images or film sequences (photos 7–10). In addition, the collection consists of the stories that are already available, sometimes told orally and sometimes performed or written down by others (photos 11–14). The collection is allowed to be both organised and intuitive and spans the changing of seasons. Based on the collected materials, stories come alive and are interpreted, reinterpreted, materialised and shaped artistically. The artistic materialisation constitutes the results of the research project and it is in its nature that they are interpretable and can lead to new stories (photos 18–23).



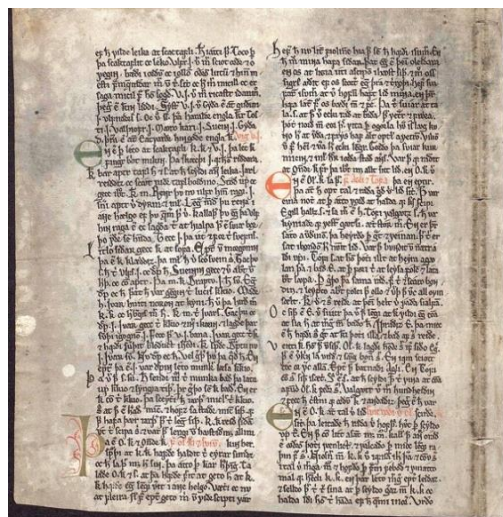
PHOTOS 1–6. Collection of materials from elm and Canadian goldenrod. The top row shows materials collected from elms, such as chips, seeds, wood, twigs and so on. The bottom row shows materials collected from Canadian goldenrods, such as stems and flowers. The materials were collected during different parts of the year (Arvidsson, 2022–2023).



PHOTOS 7–8. Collecting stories by studying other species related to elm and Canadian goldenrod. The photo to the left shows Different kinds of lichens and epiphytes. The photo on the right shows a hover fly, *Helophilus*, sipping nectar (Arvidsson, 2022–2023).



PHOTOS 9–10. Collecting stories by experimenting. The picture to the left shows how yellow ink is made from Canadian goldenrod flowers. After extracting the yellow ink from the goldenrod, the flower clusters are cast in clay. Plant parts from invasive species require care and careful management if they are not to be spread. The picture to the right shows the fungus *Ohlostoma ulmi novo*, which is hidden inside the bark of infected elms. The fungus, which is microscopically small, has been cultivated in a petri dish to make it visible. The collection was both systematic and intuitive (Arvidsson, 2022–2023).



PHOTOS 11–14. Collecting available stories. Top left, a chainsaw operator explains how the felling of a diseased elm is done. Above right, a biologist talks about tree inventory and reporting to the species database. Bottom left - two furniture makers discuss the possibilities of converting elm wood into furniture. Bottom right- an excerpt from *The Poetic Edda*, which contains the story of the first woman, Embla, who was created from an elm tree according to Nordic mythology (Photos 11–13, Arvidsson, 2022–2023, photo 14, https://www.wikiwand.com/sv/Poetiska_Eddan#Media/Fil:Lbs_fragm_82,_0001v_-_1.jpg).

The elm tree and the Canadian goldenrod

Until 8 March 2023, an elm tree stood outside my studio. The studio is located in a parkland dating to the mid-19th century. There are many old trees in the park, including many elms. The elms had been attacked by Dutch elm disease and were beyond saving, so they were cut down. The tree outside my window had been my companion for 20 years, ever since I moved into the studio. When I saw the first signs of the disease, and eventually the red and white plastic ribbon marking its felling, I decided to use this particular tree as a starting point for my artistic research project. I followed the tree during its period of illness to felling and beyond. For this reason, I have taken care of a lot of the material that, less than two years ago, was part of a viable tree.



PHOTOS 15–17. Process pictures from the inventory of felling and the collection of life stories from the elm tree outside my studio window (Arvidsson, 2022).

Investigations in this project were done in the vicinity of my studio in Växjö, in southern Sweden. The area is close to the city centre, bordering a lake, an industrial area, a hospital area and residential areas. In recent years, there has been a lot of construction work in the area, which has changed the soil conditions, the vegetation and the infrastructure. The change has favoured a species that can be classified as invasive, the Canadian goldenrod. “Invasive” is not a characteristic, but rather a sequence of events that is made possible precisely because the species ends up in a new environment. Or, more correctly, because an environment is invaded by an alien species’. Lind (2023, pp. 62–63) describes this as follows: “Invasiveness” is thus not primarily dependent on what the invasive species is capable of, but rather on what its environment is not capable of - namely, controlling it’. Canadian goldenrod has the ability to spread quickly and to establish itself on land that has been left unmanaged, such as roadsides, industrial land and construction sites. In the area I investigated, the species is widespread and flowers abundantly, like yellow rapeseed fields in August. There is no direct link between the disappearance of elm trees and the spread of Canadian goldenrod; however, these are concrete examples of how rapid biological changes have occurred in a small geographical area in the vicinity of the research project. Proximity to the species is a prerequisite for the methods used in the project.

There are many stories about how elms have played an important cultural role.

These tree species have always played an important cultural role, being part of the traditional rural landscape as a tree of multiple purposes, such as working and firewood, fodder supplier, living grapevine support and more recently as an ornamental and roadside tree. (Caudullo & de Rigo, 2021, pp. 186–187)

Man's relationship with elms, as mentioned earlier, can be referred to as life stories (Le Guin, 1986). Often, the stories go far back in time or are multi-faceted with intricate solutions to marvel at.

In Norse mythology, the first woman was created from an elm tree. Other life stories associated with the elm are not human-centred but are based on the 258 species for which elm is an important host; 62 of these are elm specialists (Sundberg et al., 2020).

Canadian goldenrod carries a different kind of story, a story of loss of biodiversity, but also of the human desire to create order and produce efficiency. The stories of goldenrod are not as widely told as those of the elm, despite the fact that the first wild find in Sweden was made in 1865 (Swedish Species Information Centre, n.d.). Canadian goldenrod has been planted to meet the pollen needs of honeybees, but it is also a popular and easily cultivated garden plant. As the species spreads, the stories associated with it will also increase. In this project, I am interested in and speculate on what they might look like.

Through both species, it is also possible to tell killer stories (Le Guin, 1986). That is, there is a prey and a hunter who succeeds in killing the prey, but the hero is missing, as is the end of the story. The extinction of the elm and the invasion of the goldenrod are clear indicators of the problems we are currently facing. The situation is complex and cannot be solved. Instead, I choose to start from what

Haraway (2016) calls 'staying with the trouble', a way of taking moral responsibility by working in the present, with all the people and things affected, knowing that things are imperfect and difficult.

Staying with the trouble does not require such a relationship to the times called the future. In fact, staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as moral critters entwined in myriad unfinished configurations of place, times, matters, and meanings. (Haraway, 2016)

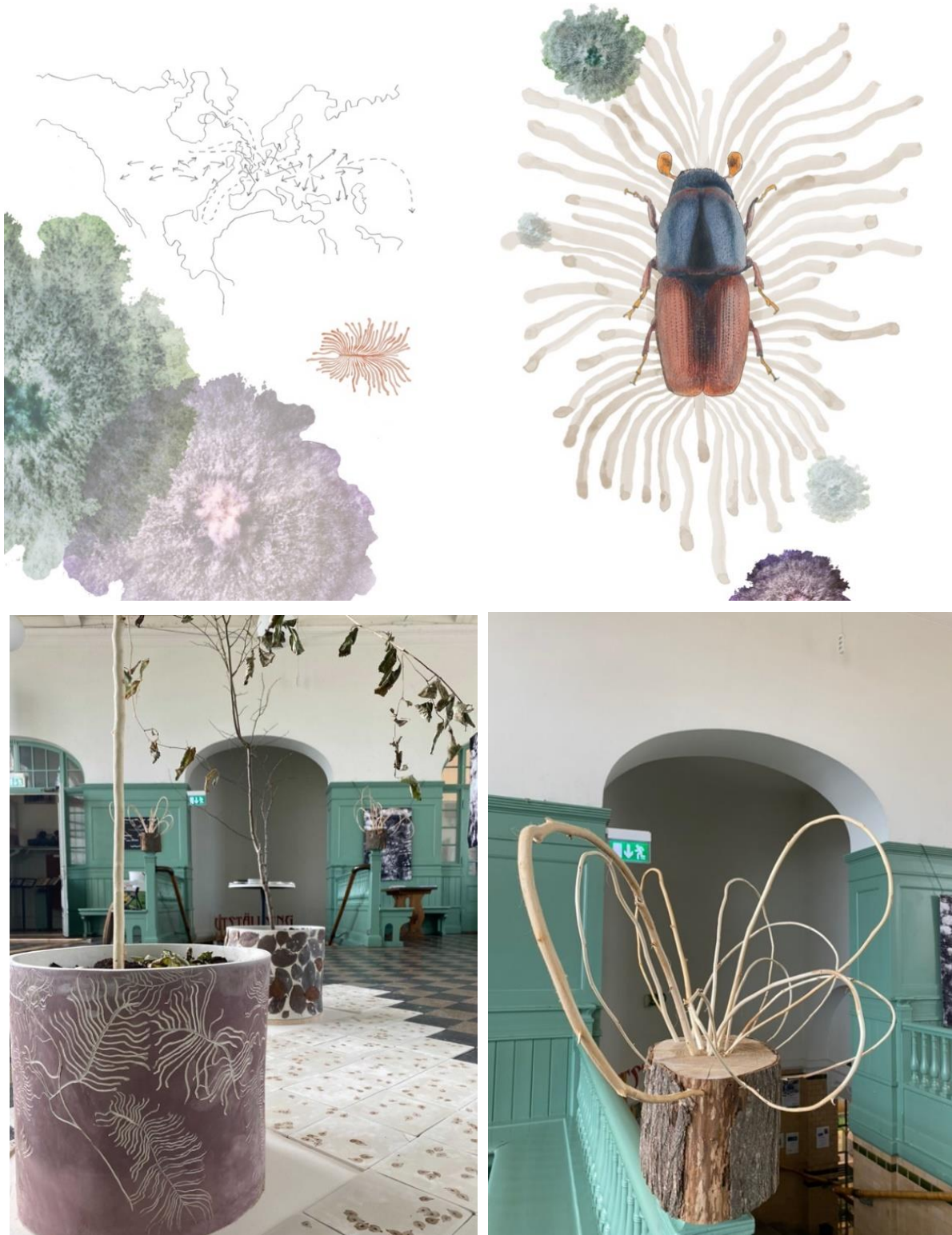
Forager and craftsman

Through the elm and goldenrod, I stay with the problem to tell life stories from a variety of perspectives. By following the two species with the seasons, acting as a forager, I make my own observations and explorations. I follow the changes in nature and collect materials from both species throughout their growth cycles. I process the materials with different craft techniques that, in their expression, help me to tell the life stories I want to communicate. The form of my narrative is through materials, crafts and objects. It is, above all, the objects and the process that carry the stories.

My project is process-oriented and lies in the borderlands among design, art and craft. As a ceramist, I use clay as a sketch material, a cohesive material and a tool for documentation. The species, elm and goldenrod, are the materiality that is part of the exploration and creation.

RESULTS

As this text is being written, the stories have begun to take shape and materialise. Examples of the process and objects are included as reference images, together with explanatory texts to illustrate how the results could look (photos 18–23). However, as described above, there is no desire to reach a final result, but rather to let the stories grow, develop and multiply over time. Therefore, the collection and the methods can also be seen as part of not only the results, but also the artistic interpretations to which the collected materials have led.



PHOTOS 18–21 Results. The artistic materialising can be seen as a result of the collected materials being interpreted, reinterpreted and materialised. At the top are two illustrations of the elm splinter beetle and the microscopic fungus that causes elm disease. This is an attempt to turn a micro perspective into a macro perspective. At the bottom left, a cylinder has been built from clay. The relief visible on the surface mimics the one dug by the larvae of the elm splinter borer beneath the bark of the elm tree. On the floor are tiles with elm seeds embedded in clay. As the elms disappear, so do the seeds. Sweeping elm seeds from a terrace or a floor is an act that is lost. At the bottom right is a piece of an elm log. On the log, branches have been inserted and bent. Pollarded elm trees were important as foliage and food for livestock. The elm's ability to bend easily without breaking has meant that it was often used to construct bows and arrows (Arvidsson, 2022–2023).



PHOTOS 22–23 Results. The artistic materialisations are the results of the research project, and it is in their nature that they are interpretable and can lead to new stories and questions. The image to the left depicts a glade of goldenrod built from clay and dried goldenrod. What is the experience of a meadow/forest of Canadian goldenrod? What sounds can we hear? What scents can we smell? What losses are associated with it? The image on the right is a print made by boiling the flowers of the goldenrod, shaping them and making an impression on a paper using the colour produced by boiling them. What uses can we find for Canadian goldenrod? What associations will we have with Canadian goldenrod in the future? (Arvidsson, 2022).

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