Egtved Girl's Brew

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A&S entry, Atlantia Twelfth Night, January 2025 Tempore Pre-1000 CE

Photo:
https://www.researchgate.net/publication/327629028_Modern_pollen_analysis_and_prehistoric_beer_-_A_lecture_by_Jorgen_Troels-Smith_March_1977

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Introduction

This entry is a braggot, a combination beer-mead beverage. Braggot recipes begin with malted grain starch conversion, like in a beer, but then a sizeable amount of honey is added to the wort, sometimes causing it to taste more like mead. The recipe I have chosen is based on residues found in the birch bark bucket found in the 14th century BCE tomb of the Egtved Girl in Jutland, Denmark.

The Egtved Girl

The Egtved Girl was thought to have been a teenager, aged 16-18 years, when she was buried in an oak log coffin in Jutland, a peninsula in southeastern Denmark.The coffin's rings allowed for dendrochronological dating to 1370 BCE, during the Bronze Age. She wore a wool crop-top and string skirt, bronze bracelets, and at her waist was a bronze belt-disc with a spike on the front. At her head was a birch bark box containing bronze pins, an awl, and a hair net. The cremated bones of a 5 or 6 year old child were wrapped in cloth by her feet, and she was wrapped in a wool blanket and cowhide. Also at her feet was a birch bark bucket containing a beverage.

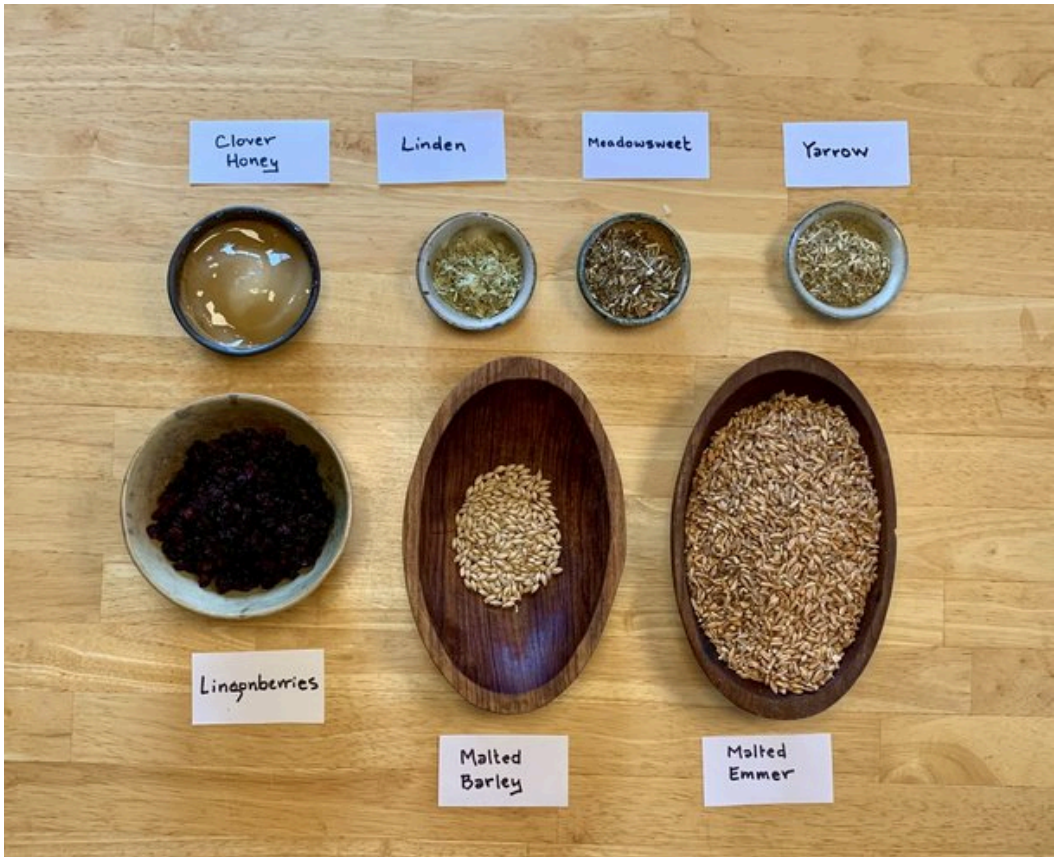
Photo from news website Sjaellandske Nyheder
https://www.sn.dk/art3460013/danmark/egtvedpigen-er-ikke-fra-danmark/

Patrick McGovern, known as the father of chemical residue analysis in Archaeology, calls drinks like this braggot "extreme beverages," or "grogs" –an ancient category of drinks in which sugar sources from the different categories of grains, honey, grapes and other fruit are combined, depending on availability (McGovern, 2017). Josh Driscoll argues in his 2023 dissertation that, while beer and honey were regularly combined in northern Europe, and wine and honey were regularly combined in the Mediterranean, evidence for true "grog" combinations of beer, wine, and honey all at once occur extremely rarely if ever, and are not as ubiquitous as McGovern claims. At any rate, the combination of beer and honey for this time in western central Europe is supported in the archaeological record, and this brew also contained fruit.

Ingredient Justification

Residues from prehistoric vessels can be analyzed in a number of ways to determine what substances the vessels originally held. Fortunately for Archaeologists, funerary beverages in Bronze Age central European graves were frequently left in an unfiltered state. **Macro**botanical remains can therefore sometimes be identified with the naked eye and usually consist of charred grains and seeds. Botanical remains can also be examined under microscopes. **Micro**botanical analyses can identify:

- pollens and yeasts;
- phytoliths/mineral remains such as oxalate or "beer stone[1];" and/or
- structural changes in grains resulting from the starch conversion process.



My ingredients for the Egtved 2 batch; photo is missing birch syrup.

Analysis of the Egtved bucket residues was conducted by Bille Gram in 1929 and mention of it was published in a book edited by Th. Thomsen. According to Merryn Dinely, the Egtved brew is mentioned by Bille Gram on page 184 note 2. I am hopefully close to obtaining a copy of this book but do not have it yet. In 1977 Jørgen Troels-Smith conducted another analysis and spoke about it in a lecture. I could not find any articles published about this analysis; everyone seems

[1] Calcium oxalate, while commonly used to identify beer identification, does not definitively indicate the presence of beer, due to a combination of measurement sensitivity issues and the presence of oxalates in a wide variety of carbon-based plant, animal, and microbial life; see Driscoll, 2023, section beginning p. 102

to cite the transcribed lecture, which was published in a Palaeobotany and Palynology journal in 2018. Other authors, including McGovern, report findings from the two analyses. McGovern indicates in his book that he would very much like to re-analyze the Egtved sample using modern methods of gas chromatography and mass spectrometry, but so far does not appear to have been permitted to do so.

Honey from white clover blossom (trifolium repens)
Lime (or linden), meadowsweet and white clover pollens found in the bucket residue are interpreted by McGovern as all being indicators of honey. There is no clear pollen threshold that can be used to determine whether these or any pollens are from: a) honey, b) contamination from nearby growing plants, or c) intentionally added to a beverage. I chose white clover blossom honey, as there is little evidence for clover being a beverage additive.

Linden (tilia)
Linden pollen identified in the bucket residue is also commonly interpreted as honey, but I decided to include linden as an additive, since there was none in the clover honey. This is probably a mistake because tilia is seen more frequently as an indicator of honey even than clover, according to Driscoll (2023).

Meadowsweet (filipendula ulmaria)
Residue analyses from across the central European Bronze and Iron Ages have identified meadowsweet repeatedly and consistently as a component in suspected alcoholic beverages. Meadowsweet pollen is commonly found in honey itself, like linden and clover. However, there is considerable ethnohistoric evidence for the use of meadowsweet as a traditional additive to both beer and mead. The name meadowsweet comes from the Anglo-Saxon 'meodu-swete', and means 'mead sweetener.' The combination of detected pollen with traditions of use of this herb in brewing support the inclusion of meadowsweet in the braggot. I used dried meadowsweet.

Yarrow (achillea millefolium)
Flowering Yarrow was placed in the grave on top of the cow hide covering the Egtved Girl. This suggests it was a summer burial. I have not found any indication that this ingredient was included in the brew; it may have been added to the recipe by Griffith as a nod to the yarrow in the coffin. Future versions I make of this brew will not have yarrow.

Lingonberries/Cowberries

Photo from website of National Museum Denmark

Some sources indicated the brew contained lingonberries OR cranberries. The nearby Bronze Age Juellinge bucket find had both kinds of berries McGovern, 2017). My first version of this brew used fresh cranberries. However, then I learned European cranberries are markedly different from American cranberries, and more sources refer to lingonberries, so my second attempt used those. Due to difficulties sourcing fresh lingonberries in the US, and because the recipe calls for them, I used dried lingonberries.

Birch Syrup
The recipe calls for it, and the beverage container was birch, but no remains of birch syrup are mentioned in the residue analysis, to my knowledge. Birch sap was found in residue from the Kostraaede strainer, dated to 1100-500 BCE, so perhaps this recipe was meant to combine remains from different sites? My future attempts will leave the birch syrup out.

Malted Barley (hordeum vulgare) and Emmer (triticum turgidum)
The recipe calls for Dehydrated Malt Extract (DME), not an ancient ingredient. I substituted raw malt for DME at a ratio of one pound malt for every 0.6 lbs DME. Both emmer and barley were known to have been grown in Bronze Age Denmark. McGovern only reports wheat from the Egtved bucket residue. My first attempt used only storebought wheat malt (Great Western White Wheat), but my second attempt used both barley and emmer, all of which I malted myself. I hoped to lower the risk of another stuck fermentation by adding some barley.

Malting

My process for malting both the barley and the emmer was as follows:

1). Soak grain in a bowl 12 hours
–If the grain is barley, let it rest 8 hours and soak for another 12 hours
2) Drain grain
3) Spread grain out in trays on cheesecloth.
Cover with cookie sheets to keep out light.
4) Twice a day, cover grain with water, stir, drain, and spread out again. Leave covered.
5) after 3-4 days, spread grain on food dehydrator trays, and dry at 95F for 12-18 hours or until grain is completely dry.
6) Turn temperature on dehydrator up to 120 F and run for another 6 hours
7) Transfer to trays in oven and roast at 220 F for 2 hours, stirring grain every 20 minutes
8) shake grain in a sieve to remove acrospires and rootlets
9) Grind (I use a hand-crank mill)

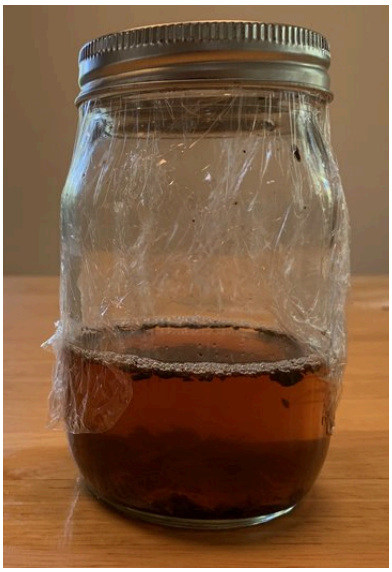
Wild Oak Yeast

The yeast for this brew was obtained from Oak bark. I scraped bark from an oak tree near my house. I put it in water together with sugar in a mason jar. I shook the jar every day.Honey would have been a more period sugar source, but I didn't want to contaminate the sample, as

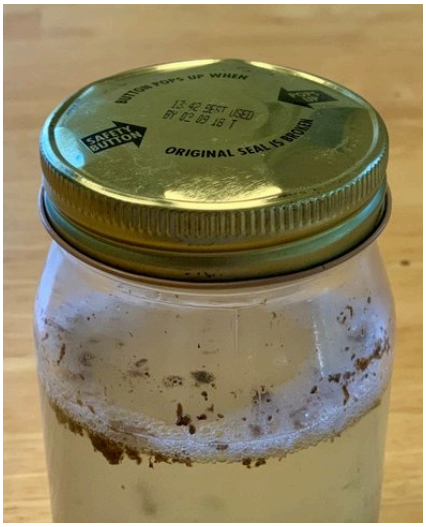
some raw honey has its own yeast, and I didn't have pasteurized honey at hand. I wanted to be sure the yeast was from the oak bark, not the honey.

The oak bark darkened the solution but I was unsure if it was making any yeast. After War of the Wings I added more water and some Dehydrated Malt Extract, and placed the jar on a warming mat. Then it began to produce gas, as can be seen by the popped-out lid on the right. I have since learned that this oak yeast seems to be more hungry for nutrients than elderberry yeast – in elderberries, sufficient nutrients are already present in the berries. But with other oak yeast brews, I have found it necessary to add yeast nutrients, as well as sugar, to keep the yeast active. It is likely the DME had the nutrients the yeast needed. I strained out the bark and kept the solution refrigerated, and the day before I brewed this braggot, I removed the jar from the fridge, added some sugar and put it on a warming mat to wake it up. I am still trying to find the right procedures to make oak yeast work well for brewing. After this experience getting yeast from bark, I learned about research showing that more yeast tends to be available from oak leaf litter beneath the tree, rather than from the bark of the tree. So I am trying to obtain yeast from leaf litter now. Hopefully future projects will report on how that goes.

Oct 9



Oct 10



Oct 22

The Original Recipe by Griffith
Homebrew Interpretation of Kvasir, by Doug Griffith, based on McGovern, 2009/2010

Ingredients

5 gallons	cool water
¾ pound	Briess special roast malt, crushed
6 pounds	Bavarian wheat dry malt extract
1 ounce	Tettnang hop pellets
1 Tablespoon	meadowsweet
1 Tablespoon	yarrow

8 ounces	birch syrup – OR 1 T ground birch bark and ½ lb corn sugar
3 pounds	honey
8 ounces	cranberry concentrate
2 packet	Wyeast 1728
½ pound	dried lingonberry
1 teaspoon	pectic enzyme

Process

1. Fill a brewpot with 5 gallons of cool water.
2. Fill the grain bag with the Briess malt. Tie off the top and place the bag in the brewpot.
3. Heat the pot and stir the water and grain bag every 5 minutes
4. As the water reaches 170 F, pull out the grain bag using a large stirring spoon. Hold the bag above the brewpot for a minute, allowing most of the liquid to drain into the pot. Do not squeeze the grain bag. Continue heating the water.
5. As the water is beginning to boil, remove the pot from the heat.
6. Add the dry malt extract. Stir to prevent clumping and scorching on the bottom of the pot. Return the pot to the head.
7. Allow the wort to come to a boil
8. After boiling for 5 minutes, att eht Tettnang hop pellets and stir.
9. Start timing and 1-our boil at the point the the hops addition. If using a defoamer to help prevent boilovers, add per instructions.
10. Put the lingonberries in a blender, cover with liquid from the brewpot, puree, cool, and add the pectic enzyme. Refrigerate for 1 day.
11. At 30 minutes before the end of the 1-our boil, in a separate small pot, remove 2 cups of the wort from the brewpot. Heat to just keep hot, not boiling. Add the meadowsweet, yarrow, and one of the birch options.
    Option 1: Add the corn sugar and birch bark.
    Option 2: Add the birch syrup
    Stir well to make sure all is wet. Steep until the end of the boil.
12. At the 60-minute mark, turn off the heat. Add the honey, cranberry concentrate, and strained liquid from the steeping pot. Stir the wort for 2 minutes to build up a whirlpool effect and dissolve the honey. Stop stirring and allow the wort to sit for 10 minutes.
13. Chill the wort with a wort chiller or in a cold-water bath until is is under 75 F.
14. Transfer the wort into a fermenter; aerate (rock the baby) for 1 minute.
15. Pitch the yeast into the fermenter.
16. Top up the fermenter to the 5-gallon mark with cool water.
17. On the second day of fermentation, add the pureed lingonberries.
18. In about 14 days, the beer should be ready to bottle. The beer can be siphoned to a carboy for further clearing, if desired, for about 7 days.
19. Before bottling, clean and sanitize the bottles and caps and create a priming solution of 1 cup boiling water and the priming sugar.
20. Siphon the beer into a sterilized bottling bucket, add the water-diluted priming solution, and gently stir. Bottle and cap the beer.

21. Allow the beer to bottle-condition for another 10 days at 70-75F. It should then be ready to drink.
    Target ABV 8.5%

My complaints about the Griffith recipe

This recipe is described as being inspired by the Egtved Brew, but it is not a precise recreation, using ingredients and methods likely from Bronze Age Denmark. It includes modern shortcuts and technology in ways that can easily be improved upon.

Failure to Mash
The treatment of grains in this recipe does not make sense to me. It's like the author wanted to play with grain but didn't trust it, or himself, to be able to actually get the sugar out. He has us bring the malt to the point at which it will start the starch conversion process, but then he immediately stops it before any diastatic action can take place. To really get the sugar from the malt, it would make more sense to keep the water-malt mixture between 150-170 F for a full hour. Instead, he drains the malt as soon as it reaches 170, and immediately adds Dried Malt Extract to replace the sugars lost from lack of a proper mash time. This is a big waste of grain.DME was not available in the Bronze Age and it's really not that hard to keep a pot covered and warm for an hour. I replaced modern DME with a more period hour-long mash.

Extra Ingredients
Hops, birch syrup, yarrow, and pectic enzymes were not found in the Egtved Brew. I think he added:

- hops because he didn't feel safe without an antimicrobial,
- yarrow because yarrow flowers were placed on the top of the cow hide in the coffin,
- birch syrup or bark because the brew was placed in a birch bark bucket, and
- pectic enzymes to clarify.

If he hadn't pureed the lingonberries, less clarification would be necessary (see below for more on the puree issue). In addition, glass drinking vessels were not used in Bronze Age Denmark, so clarity is less of an issue. I don't think any of these four ingredients are necessary. I left out the hops and enzymes from both my attempts but I included the yarrow and birch syrup because I had them and I was giving him the benefit of the doubt. As I continued to read about this archaeological find, I became increasingly skeptical of the need for the yarrow and birch. In future attempts I will leave out all four of these ingredients.

Lingonberries/Cranberries and pureeing
Griffith includes cranberry concentrate and dried lingonberries. Most reports I have read describe the brew as containing either of these berries, not both. Griffith advises using cranberry concentrate, which feels like another unappealing shortcut to me. In my first attempt I used cranberries because I could source them fresh. I boiled them the night before and left them overnight on the stove before adding them during the next day's brewing. However, then I learned that American cranberries are different from European cranberries, with European cranberries being much more tart. In my second attempt, I used lingonberries.

After making this recipe, I think the amount of dried lingonberries called for by Griffith is excessive, as the brew is extremely tart. In addition, I believe the acidity of the berry puree interfered with fermentation in my brew, which was fermenting fine until I added the puree. Griffith also called for these berries to be pureed prior to adding them to the brew–but doing so caused there to be a large amount of sediment and wasted brew. Food processors were not available in the Bronze Age, and the identification of lingonberries in the bucket residue was possible because there were whole seeds present. Pureeing the berries pulverizes the seeds and destroys these remains, so keeping true to the original means I should not puree. Instead, in future versions I will steep a smaller quantity of berries without pureeing them, and I will add them after primary fermentation is complete.

Possible missing ingredients
McGovern reports that the Egtved bucket had filaments of bog myrtle *(myrica gale)*. This herb is reported in the initial analysis by Gram, but Troels-Smith did not find any when he re-analyzed the same residue, despite looking at thousands of pollen grains in the Egtved residue. He did find bog myrtle in the Juellinge bucket residue.

Juniper and birch sap were discovered by McGovern in residue from a strainer dated to 1100-500 BCE from Kostraede not far from Copenhagen. Griffith's recipe does include Birch but does not include juniper. I mention the juniper only because I think my Egtved 2 brew is good mixed with another, sweeter mead I made from meadowsweet and juniper.

Changes in procedure to help fermentation
Griffith's recipe gives instructions to make a wort tea of yarrow, meadowsweet, and birch, keep it warm while the rest of the brew is boiling, and add it back at the end of the boil with the cranberry concentrate. His recipe calls for the addition of lingonberry puree on the second day of fermentation.

For my first attempt I boiled fresh cranberries the night before the brew, and on the day of the brew I made a wort tea of yarrow, meadowsweet, birch syrup, and linden while the rest of the brew was boiling. I strained the cranberries, and added both the strained berry liquid and tea to the brew at the end of the boil. This brew had many difficulties with stuck fermentation after the 2nd day. After consulting with Atlantia's Royal Brewster and herbalist Eva Nethyrwode, I learned that the yarrow and linden were potentially antimicrobial enough to interfere with fermentation. Eva suggested waiting to add the botanicals until the end of primary fermentation. I also concluded the acidity of the berries might be adding to the problem of stuck fermentation.

For my second attempt, I made the wort tea with yarrow, meadowsweet, and linden in a mesh bag, and I added to this dried lingonberries. I kept this hot during the boil, then removed the mesh bag of herbs, pureed the berries and liquid, and kept it in the fridge overnight in a sterile covered jar. I added the syrup with the honey at the end of the boil. I waited until the third day to add the botanical-berry slurry, in the interests of allowing the brew to ferment longer. Fermentation stopped within 24 hours of the slurry addition; I could have waited longer.

My version - Egtved 1 (please don't use this recipe! Stuck fermentation)

Ingredients

3 cups	fresh cranberries
3 cups	water
2 ¼ gallons	filtered water
5 pounds	Great Western White wheat malt
1 Tablespoon	Meadowsweet
1 Tablespoon	Yarrow
1 Tablespoon	Linden flowers/leaves
4 ounces	Birch syrup
1.5 pounds	Clover Honey
2 cups	Oak Yeast solution (see notes above for preparation)

Day before brewing: Boil 3 cups fresh cranberries in 3 cups water for 10 minutes. Leave overnight on the counter. Strain.

Brew day:

1. Bring 1.5 gallons water to 170F
2. Add 5 lbs wheat malt in a bag
3. Mash for 1 hour in oven preheated to 170F
4. Rinse with 1 ¾ gallons water at 170F, drain all the wort into a big pot
5. Bring the wort to boil.
6. When the wort is boiling, remove 2 cups to a saucepan
7. Add yarrow, meadowsweet, linden (in a mesh bag) and birch syrup
8. Keep infusion hot but not boiling, while wort boils 30 minutes
9. At flame-out add honey, strained cranberry fluid, and herbal wort infusion
10. Cool to 95F, pitch yeast
11. Pour in jar with cheesecloth on top (open ferment)

I had problems with stuck fermentation after day 3, when gravity was still up at 1.043. I tried adding yeast nutrients, which helped when my first oak yeast brew got stuck. That didn't work. I tried warming it up. That didn't work. Then, because the brew was warm, I tried pitching kveik yeast, which does better at high temperatures. Nothing. I let it cool and pitched elderberry yeast, which has never failed me. Nope. I pitched some storebought ale yeast. I aerated. Nothing was working. Finally, I took a pint jar of leftover wort from a previous brew that I had squirelled away in the freezer, thawed it and added some of the original oak yeast to it. I got it fermenting nice and foamy, and then dumped that into my big Egtved batch. That finally caused a secondary ferment, giving me a few more percentage points on the ABV. I revised procedures for batch 2 to eliminate this problem.

OG 1.070
FG 1.023
ABV 7.88%

My version - Egtved 2

Ingredients

2 ¼ gallons	filtered water
6 ounces	home-malted barley
5 pounds	emmer malt (I malted it at home)
1 Tablespoon	meadowsweet
1 Tablespoon	yarrow
1 Tablespoon	linden flowers/leaves
4 ounces	birch syrup
1.5 pounds	clover Honey
½ pound	dried lingonberries
½ pound	Dried lingonberries
½ teaspoon	Yeast nutrient
2 cups	Oak Yeast solution (see notes above for preparation)

1. Bring 1.5 gallons water to 170F
2. Add malted barley and emmer in a bag
3. Mash for 1 hour in oven preheated to 170F
4. Rinse with 1 ¾ gallons water at 170F, drain all the wort into a big pot
5. Bring the wort to boil.
6. To a saucepan add yarrow, meadowsweet, linden (in a mesh bag) and lingonberries
7. Cover berries and herbs with boiling wort
8. Keep the berry botanical infusion hot but not boiling while the wort boils 30 minutes
9. At flame-out pull the mesh bag from the lingonberries and puree the berries
10. Place the puree in the fridge in a covered, sterile jar
11. Add honey and birch syrup to the wort
12. Bring to a boil again and cool (I put it outside covered in December)
13. Add yeast nutrient and yeast solution in a plastic fermenter with an airlock
14. 3 days later, when gravity was 1.02, add the puree to the fermenter and stir
    OG 1.071,
    Day 4 1.020, after adding puree 1.026
    FG 1.022
    ABV estimated around 8%

Because I had so many problems with fermentation on the first round, and because I am still new at using oak yeast, I chose to do a closed ferment in a plastic bucket with an airlock, instead of an open ferment. This time the ferment went strong until day 5, a day after the addition of the puree. It's a hair shy of the 8.5% Griffith's recipe sets as a goal but it went much better with these changes in procedure.

For my next attempt, as described above, I will use fewer berries, no yarrow or birch syrup, and less or no linden (linden is bitter). I will strain the berries instead of pureeing them, and I will wait until primary fermentation appears to be largely complete before adding the botanical-berry tea.

References I ought to have

Two references I want but don't have yet:
(the daughter of a friend of an acquaintance says she found them and will send them to me, let's hope that pans out)

Thomsen, T. (1929) Egekistfundelt fra Egtved fra den Aeldere bronze Alder. Nordiske fortidsminder / Utgivne af det Kgl. Nordiske oldskriftselskab 2:165-214.

Christensen, K. and J. Jensen (1991) Egtvedpigens Alder. Nationalmuseets Arbejdsmark 1991:11-19.

References I do have

Driscoll, Joshua (2023) Strategic Drinking: The Archaeology of alcohol in Early Iron Age West Central Europe. Dissertation at University of Milwaukee, obtained by personal correspondence, set to become publicly available 2025.

Comprehensive review of beer and mead in Prehistoric Age Europe. Topping out at over 1000 pages, this dissertation presents experiments proving shelf-life viability of beer-like beverages using mugwort as a preservative and prehistoric bottling techniques–but the experiments are honestly secondary in usefulness to the massive amount of work he did compiling exhaustive, detailed archaeological evidence related to prehistoric beers in a single location.

Jaswa, Kyle and Jazwa-van den Berg, Kimberley (2017?) Meadowsweet in Archaeology. Website https://brewingclassical.wordpress.com/2017/10/30/meadowsweet-in-archaeology/

Website written by a couple who are both archaeologists and brewers.

*Mc*Govern, P.E. (2017) Ancient Brews Rediscovered & Re-created. W. W. Norton & Company, New York.

McGovern describes nine extreme fermented beverages of our ancestors, including the Midas Touch from Turkey and the 9000-year-old Chateau Jiahu from Neolithic China, the earliest chemically identified alcoholic drink yet discovered. For the adventuresome, homebrew interpretations of the ancient drinks are provided, with matching meal recipes.

National Museum Denmark. The Egtved Girl's Beer. Website https://en.natmus.dk/historical-knowledge/denmark/prehistoric-period-until-1050-ad/the-bronze-age/the-egtved-girl/the-egtved-girls-beer/

Museum website; picture-heavy and light on text.

Regan, Holly (2022) Drinking With the Dead — The Complexities of Bringing Ancient Beer Back to Life in the Modern World. From Good Beer Hunting blog: https://www.goodbeerhunting.com/blog/2022/3/9/drinking-with-the-dead-the-complexities-of-bringing-ancient-beer-back-to-life-in-the-modern-world?fbclid=IwY2xjawFsGsBleHRuA2Flb

QIxMAABHWLJQhcf9F81WXF_lbJKykzg0m1fttZAWdVfiFH4IANFhIOPYkQ5qPRQ8w_aem_G6muV7ubMuD229VLr6qpqw

This is the best accessible description I have found summarizing the analysis of prehistoric beers. It introduces the reader to the most well-known names in the field, describes the different approaches to understanding prehistoric beers through classical texts, archaeology, and chemical residue analysis. It offers an excellent starting point for further research.

Dineley, Merryn (2014). Beakers were for Beer! part two: a birch bark bucket with residues. Blog post

https://merryn.dineley.com/2014/04/beakers-were-for-beer-part-two-birch.html
Blog written by an archaeologist and her brewer husband.

Troels-Smith, Jørgen (2018) Modern pollen analysis and prehistoric beer - A lecture by Jørgen Troels-Smith, March 1977. Review of Palaeobotany and Palynology 259 (II)
https://www.researchgate.net/publication/327629028_Modern_pollen_analysis_and_prehistoric_beer_-_A_lecture_by_Jorgen_Troels-Smith_March_1977

Lecture given after re-analyzing the Egtved Girl bucket residue.

Appendix A: Egtved Ingredient comparison chart

	Griffith Recipe	Anubh's Egtved 1	Anubh's Egtved 2	Actual Egtved Analysis
Wheat Malt	✔️	Great Western	Emmer	✔️
Barley	❌	❌	✔️	❌
DME	✔️	❌	❌	❌
Hops	✔️	❌	❌	❌
Honey	✔️	✔️	✔️	✔️
Birch	✔️	✔️	✔️	❌
Lingonberry	✔️	❌	✔️	✔️
Cranberry	✔️	✔️	❌	?
Linden	❌	✔️	✔️	pollen
Meadowsweet	✔️	✔️	✔️	pollen
Yarrow	✔️	✔️	✔️	❌

Appendix B: Egtved Brew Process

	Day Before	Grain Treatment	During Boil	At Flameout add:	During Fermentation
Griffith		Warm malt & pull; add DME	Make tea: Meadowsweet, Yarrow Birch Make Lingonberry puree	Tea, Honey, cranberry concentrate,	Day 2: Add lingonberry puree
Anubh's Egtved 1	Boil Cranberries; strain	Mash storebought Wheat Malt	Make tea: Meadowsweet Yarrow Linden Birch syrup	Tea, Honey, strained cranberries	
Anubh's Egtved 2		Mash home-malted barley & emmer malt	Make tea: Meadowsweet Yarrow Linden Lingonberry. Pull herbs, puree berries	Honey Birch syrup	Day 4: Add botanical lingonberry puree