

# The Herald Tribune



Volume #22 Issue #6

Newsletter of the Ann Arbor Brewers' Guild

June 2008

## June Meeting

This month's meeting of the AABG is Friday the 13th and will be hosted by **Mark Zadvinskis**. See the map and directions on the next page. The featured style is **Smoke**.

## Bamberg Smoked Beer

Certain breweries, however, maintained the smoked beer tradition by continuing to use malt which had been dried over open flames. Two tavern-breweries in Bamberg, Germany in particular—Schlenkerla and Spezial—became almost the sole source of smoked beer production for nearly two centuries. Both breweries are still in operation today, alongside six other breweries in the same town. Both dry their malt over fires made from beechwood logs, and produce several varieties of *Rauchbier*.

## AABG 2008

January .....	Randy deBeauclair .....	Dark Lager*
February .....	Matt & Rene Greff .....	Belgian & French Ale
March .....	Mike O'Brien .....	Porter*
April .....	Alex Pettit .....	Light Hybrid Beer
May .....	Stephen Krebs .....	Extract*
June .....	Mark Zadvinskis .....	Smoke
July .....		Mead*
August .....	Jeff Renner .....	Light Lager
September .....		Imperial Anything*
October .....	Jason Henning .....	European Amber Lager
November .....	Chris Frey .....	English Brown Ale
December .....	Rolf Wucherer .....	Cider/Specialty

\* Denotes AHA Club Only Competition Style

All meetings are the second Friday of each month beginning at 7:30 p.m., except for the July meeting (BeerBQ) which is the second Saturday.

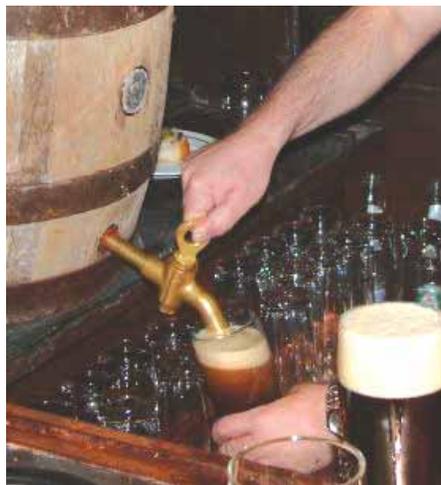
## AABG Pico System

The guardian of the club's pico system is Mike O'Brien. Anyone wishing to use it should contact him at: 734.637.2532 or e-mail: mbrien315221MI@comcast.net

## 22. Smoke-Flavored/Wood-Aged

### 22A. Classic Rauchbier

**Aroma:** Blend of smoke and malt, with a varying balance and intensity. The beechwood smoke character can range from subtle to fairly strong, and can seem smoky, bacon-like, woody, or rarely almost greasy. The malt character can be low to moderate, and be somewhat sweet, toasty, or malty. The malt and smoke



components are often inversely proportional (i.e., when smoke increases, malt decreases, and vice versa). Hop aroma may be very low to none. Clean, lager character with no fruity esters, diacetyl or DMS.

**Appearance:** This should be a very clear beer, with a large, creamy, rich, tan- to cream-colored head. Medium amber/light copper to dark brown color.

**Flavor:** Generally follows the aroma profile, with a blend of smoke and malt in varying balance and intensity, yet always complementary. Märzen-like qualities should be noticeable, particularly a malty, toasty richness, but the beechwood smoke flavor can be low to high. The palate can be somewhat malty and sweet, yet the finish can reflect both malt and smoke. Moderate, balanced, hop bitterness, with a medium-dry to dry finish (the smoke character enhances the dryness of the finish). Noble hop

flavor moderate to none. Clean lager character with no fruity esters, diacetyl or DMS. Harsh, bitter, burnt, charred, rubbery, sulfury or phenolic smoky characteristics are inappropriate.

**Mouthfeel:** Medium body. Medium to medium-high carbonation. Smooth lager character. Significant astringent, phenolic harshness is inappropriate.

**Overall Impression:** Märzen/Oktobefest-style (see 3B) beer with a sweet, smoky aroma and flavor and a somewhat darker color.

**History:** A historical specialty of the city of Bamberg, in the Franconian region of Bavaria in Germany. Beechwood-smoked malt is used to make a Märzen-style amber lager. The smoke character of the malt varies by maltster; some breweries produce their own smoked malt (rauchmalz).

**Comments:** The intensity of smoke character can vary widely; not all examples are highly smoked. Allow for variation in the style when judging. Other examples of smoked beers are available in Germany, such as the Bocks, Hefe-Weizen, Dunkel, Schwarz, and Helles-like beers, including examples such as Spezial Lager. Brewers entering these styles should use Other Smoked Beer (22B) as the entry category.

**Ingredients:** German Rauchmalz (beechwood-smoked Vienna-type malt) typically makes up 20-100% of the grain bill, with the remainder being German malts typically used in a Märzen. Some breweries adjust the color slightly with a bit of roasted malt. German lager yeast. German or Czech hops.

### Vital Statistics

OG . . . .	1.050-1.057
FG . . . .	1.012-1.016
IBUs . . . . .	20-30
ABV . . . . .	4.8-6%
SRM . . . . .	12-22

**Commercial Examples:** Schlenkerla Rauchbier Märzen, Kaiserdom Rauchbier, Eisenbahn Rauchbier, Victory Scarlet Fire Rauchbier, Spezial Rauchbier Märzen, Saranac Rauchbier.

## WHEN AND WHERE

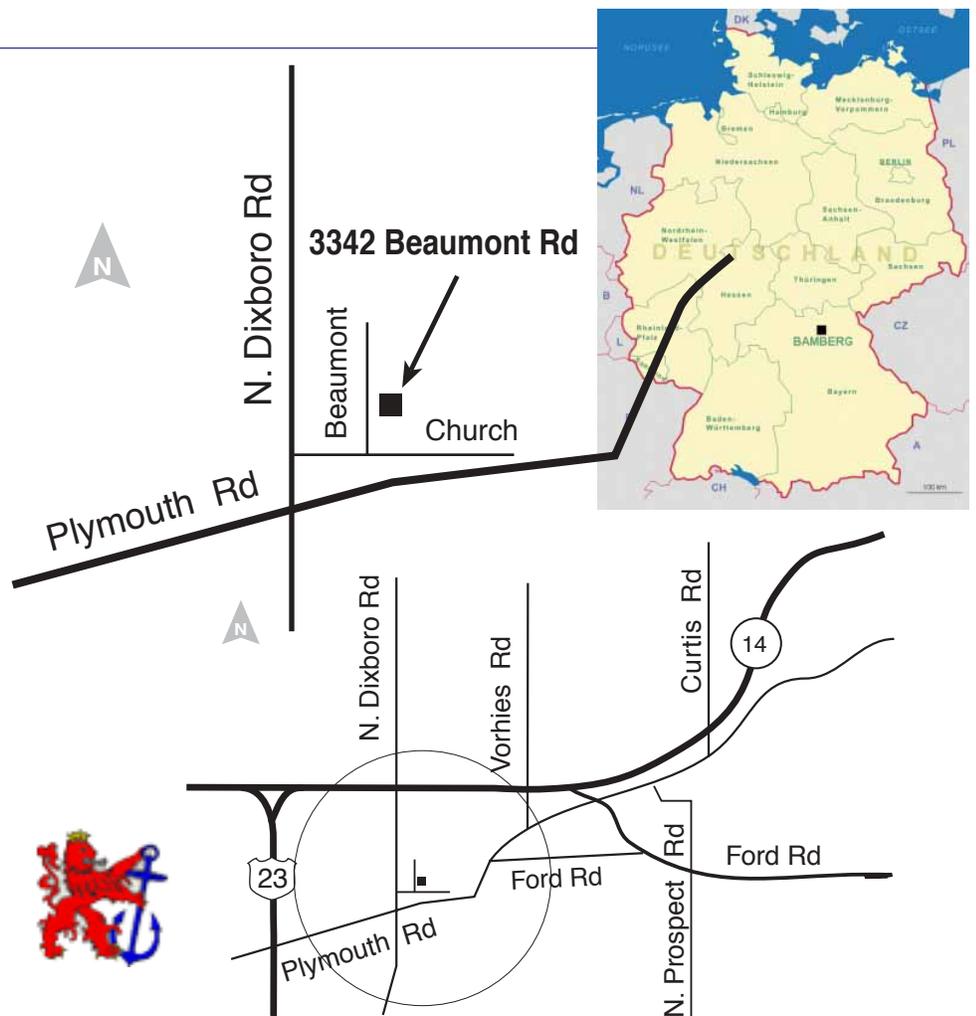
Friday, June, 13 7:30pm  
Mark Zadvinskis  
3342 Beaumont Road  
Ann Arbor, MI  
663-7901

## Guide for New Members

Bring 1–2 bottles per batch of your beer that you'd like to share, or an interesting commercial beer. Bring tasty munchies to cleanse the palate and sop up the alcohol. Feel free to share and sample with other members and make and accept constructive comments. Please use good judgment while imbibing and don't drive while intoxicated.

## AABG Policy

AABG encourages responsible, legal consumption of homebrewed and craft beers. You must be at least 21 years old to attend AABG meetings.



## Smoked beers outside of Germany

In **Austria**, the Upper Austrian brewery Braucommune Freistadt produces smoked beer.

In **Italy**, *Birificio Lambrate* in Milan produces “Ghisa”, a smoked beer with typical Bamberg’s beer features.

In **Japan**, Honsh brewery Moku Moku produce a smoked ale, the brewery’s name being a reference to the use of smoke screens by ninja warriors. The brewery is part of a cooperative that also smokes ham and makes sausages.

Geoff Larson, founder and brewmaster of the **Alaskan Brewing Company** made a smoked beer, Alaskan Smoked Porter, in 1988 influenced by the rauchbiers of Bamberg. The brewery was located directly across the street from a salmon smokery in Juneau, Alaska, so he made arrangements to have them smoke his malt with alder wood. Other American breweries, such as Rogue Ales and



Stone Brewing Company, also produce smoked beers.

In **Brazil**, Eisenbahn produces a smoked beer called *Eisenbahn Rauchbier*, using malts imported from Bamberg.

In **Sweden**, Närke Kulturbryggeri produces a smoked beer called Anders Göranssons Bästa Rököl.

In **Australia**, Redoak Boutique Beer Café (est.2004) produces an award winning smoked beer called Redoak Rauch Bier.

## The Bamberg Rider

Attached to a pier in the Bamberg Cathedral in Germany, the *Bamberg Rider* stands as a notable achievement of German Gothic sculpture. Made in 1240, the *Bamberg Rider* is one of the first examples of freestanding, independent sculpture in Europe—until then most sculptures were dependent on their specific architectural setting. Many historians believe the sculpture’s horseman represents Conrad III, king of Germany from 1138 to 1152.



## Smoke Beer of Bamberg, Germany

I spent the first two days of a European beer trip in Bamberg Germany, sampling the sights by day and the beer after dark, then retiring to a guest room atop a nearly 400-year-old brewpub. I can't imagine a better way to be introduced to German beer and culture.

Bamberg is a city of 70,000 located in northern Bavaria. Residents brag that their city is built on seven hills like Rome, has a network of waterways like Venice, and that its *Altstadt* is as beautiful as Prague's Old Town. Their pride is understandable: this well-preserved medieval and Baroque gem of a city has been declared a World Cultural Heritage Site by the United Nations.

There are plenty of reasons to visit. *The Bamberg Rider*, the nation's most famous sculpture from the Middle Ages, is inside the city's Gothic cathedral. Germany's strangest town hall sits on an island in the middle of the River Regnitz. Romantic author E.T.A. Hoffman, whose stories inspired the ballets *Coppelia* and *The Nutcracker*, called this city home. And, most importantly for beer lovers, Bamberg is the home of *Rauchbier*, the smoky dark lager its residents have enjoyed for centuries.

Michael Jackson's *New World Guide to Beer* compares Rauchbier to single-malt Scotch whisky. Scotch acquires its smoky taste from the drying, or *kilning*, of barley malt over a fire made from peat. Rauchbier's smokiness comes from kilning barley malt over the wood of beech trees that grow in the area's peat-rich soil. When burned, the beechwood gives off a harsh, aromatic smoke.

Rauchbier is dark brown in color, with an intensely smoky aroma and flavor. Most Rauchbiers are brewed in the Märzen style: on the malty side with medium strength, about five percent alcohol by volume. It's also customary for breweries to serve Rauchbier in the stronger Bock style during the late fall and winter.

If you've had a bottle of Rauchbier, chances are good that its label reads *Aecht Schlenkerla Rauchbier*, which means "Original Schlenkerla Smoke Beer." *Schlenkerla*, by the way, comes from an old German expression meaning "not walking straight." It was used to describe one of the former brewers. What isn't known is whether his crooked walking was the result of a physical disability—or too many half-liters of beer.

The brewpub, *Brauereiausschank Schlenkerla*, is located at Dommanikanerstrasse 6, in the heart of Bamberg's Old Town. One of its indoor

beer halls was originally built as a monastery in the 14th century. The other room is smaller, and has white-topped wooden tables and a low, dark ceiling. During the warm months, you can also drink in the inner court, where a 500-liter keg is on display. At Schlenkerla, beer is drawn the old-fashioned way, from oaken kegs. In addition to the Märzen and Bock styles, a curious wheat version of Rauchbier is served here; it's top-fermented, making it an ale.

Schlenkerla makes the claim that its beer helps guests loosen their tongues and overcome social barriers. Good thing. In most of Germany, bar patrons sit at tables designed for four or more guests. Eventually, you end up sharing your table with others; the polite thing to do is *exchange* pleasantries, then go back to your business. The brewery also admits that not everyone will like this style of beer at first. Its coasters bear a German inscription which, translated into English, is a plea not to stop after the first swallow, even if the beer tastes strange...soon you'll begin to like it!

There are other places in Bamberg to sample Rauchbier. Two brewpubs date back to the 16th century and face each other across the street. They are *Gasthof Specizale* (Obere Königstrasse 19), which has a traditional German beer-hall atmosphere; and *Gasthof Fässla* (Obere Königstrasse 10), where you can enjoy your beer in brighter, more modern surroundings. Both offer accommodation as well as food and drink.

Since Rauchbier is an acquired taste, few brewers in North America have attempted the style. One brand that might be available in your vicinity is Rogue Smoke Ale from Rouge Ales of Newport, Oregon. If anything, it has an even stronger smokiness than Rauchbiers from Bamberg.

It goes without saying that German food pairs well with Rauchbier. Schlenkerla's menu offers some suggestions: goulash, beef on a roll with horseradish, pork with sauerkraut and potatoes, sausages, and ham with pickles and bread. More adventurous souls might try pig's knuckles, sour tripe, or liver dumpling soup.

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## All About Steinbier by John Adams

Brewing a Steinbier is a fun way to take brewing in a more advanced (and backward) direction. Attempting to use hot rocks to furnish the heat for the boil and/or mash makes a traditional recipe more challenging and unique.

### The History

Steinbier, contrary to popular belief, is not a style as much as it is an ancient procedure for heating the wort. Before brewers had metal pots, they used wooden pots to cook in. Since they could not directly heat the wood, they added the heat source, hot rocks, into the pot.

Once the brewer was accustomed to the heating potential of each individual rock, hitting the proper temperature was easy.

### The Style

While not truly a style, there are certain stylistic profiles that this technique lends. The two predominant ones are a caramelized malt and smoky flavors.

While the amount of heat energy in each rock is small and it takes a fair number of rocks to raise the temperature of the wort, the heat of the rock does scorch the wort that comes in direct contact. This caramelizes the sugars leaving a camel sweetness behind.

When the rocks are taken from an open fire and added to the wort, the soot and burnt-wood flavors from the rocks are washed into the liquid giving the beer a slightly smoky character.

### What You Need

In order to produce a steinbier you need a few extra items: rocks, a high-temperature heat source, and a method to safely move the heated rocks from the fire into the brew pot.

### The Rocks

It is very important to use a rock that (1) can take the thermal shock of being heated and cooled and (2) will not interact chemically with the wort itself. It must stand up to the acidity of the wort and the temperature changes of rapid heating and cooling while not altering the pH of the wort.

Rauchenfels, the original Steinbier producer, uses graywacke. Graywacke's chief advantage is its ability to bloom, or expand, when heated. This creates additional surface area for sugars to become trapped and caramelize within.

Graywacke is a dark-colored, strongly-bonded sandstone containing feldspar and quartz. Graywacke can be found in the Pacific Coast

See [Steinbier](#) continued on next page...



*Steinbier continued...*

ranges of the northwest US, the Alpine flysch of Switzerland and France, and the Italian Apennines.

If you are unable to obtain graywacke, Chuck Skyeck of Bosco's suggests pink granite, an igneous rock. While it does not bloom as graywacke does, it is easier to find and can be used for several batches before it cracks apart into smaller pieces.

Whatever rock you choose, it is very important to make sure the rock itself does not have any trapped water within (i.e., a river rock). If the rock has trapped water, it will pop like corn when heated (but far more violently).

### The Heat Source

The ideal heat source for steinbier is a fire in which you can place the rocks in the coals. In order to get the fire hot enough you should use good dry, hot burning hardwood (oak, cherry, or beechwood) as the fuel.

You will also need an oxygen source to keep the fire hot. An electric fan will do the job of a bellows. I suggest purchasing a cheap fan and expecting it to melt or at the very least get soot in it. Depending upon the air flow and how close it is to the fire (not too close as to catch fire), it may not survive to see the second batch.

If you have a tank of compressed O2 (welding, not hospital grade) this would also do the trick. This is possibly a more expensive alternative to using a fan, and one should be more careful when attempting it as to avoid placing the tank too close to the fire.

Instead of building a fire, I have also used my propane burner to heat the rocks. The advantage of this method should be obvious; the amount of effort required is far less. However you will lose the sooty/smoky flavors contributed by the open fire. Depending upon your burner, heating the rocks will take far less time.

### Handling the Rocks

While brewing this kind of beer is fun, being safe is the single biggest concern. Keep in mind that you will be stoking a fire and keeping it cherry red for a long time. You will be placing rocks into it which may crack (or even explode). You will be transporting the rocks from the fire into the brew pot in which they will go through a very rapid cooling period creating a highly agitated and vigorous boil.

One must be careful when carrying the rocks from the fire to pot. The uneven surface of the rocks and their size makes them difficult to grab hold of with a tool. While it may seem straight

forward to grab them with a tool (e.g., a log turner or tongs), it is easier said than done.

There are three good methods I suggest to move the rocks. The first is to heat the rocks and then to place them in some sort of carrier (depending upon your carrier, you may heat it too). When the rocks need to be moved you simply move both the carrier and the rocks. For carriers, I have seen brewers use empty kegs (for very large batches); a stainless-steel colander or fry basket would also work.

The second method is the tea-bag approach. I have taken thick, high-quality, stainless-steel wire and wrapped each rock repeatedly to make a tea-bag out of each rock.

This has a few advantages: (1) it keeps the amount of non-rock material that will be immersed to a minimum; (2) when wound, the wire helps to hold together large fragments that may crack off; and (3) splashing is minimized when adding the rocks to the wort.

Be sure to use lots of wire thoroughly (it too may fatigue and break) and to wear gloves when handling the wire it will get very hot even when four feet long and out of the fire!

The third method is to use a shovel to extract the rocks from the fire when ready. Be careful when adding the rocks into the pot to minimize splashing. The shovel keeps you at arms length from the heat and will not become hot as the wire does. Its chief disadvantage is the difficulty of removing the rock from the pot when all finished (I don't recommend putting the shovel into your brew pot).

### The Procedure

Preparation – Before you begin your batch you should remove as much dirt as possible from each rock. A good low-soap washing with a scrub brush is in order. If you plan to keep the rocks in a secondary fermenter you might consider an acid wash as well to remove or kill any lichens, mosses, or other organisms living in the rock.

You should also consider testing the rock to see if it can withstand the thermal stresses of heating and cooling. Afterwards leave your rocks in the pot and boil them for one hour to remove any remaining residues and more fully sanitize the rocks.

This is also a good time to get the feel for the thermal characteristics of each rock. To do this, heat the rock using a propane burner and then immerse it into 6.5 gallons of water. Measure the temperature change before and after you added the rock allowing enough time for the water to absorb the heat.

### Mashing

Using hot rocks to control the temperature is probably reserved for the more experienced Hot Rocker since it takes more effort and patience. Once you have gotten the hang of heating the rocks and getting the wort to boil without a flame, then you can begin using the rocks to help the mash temperature.

This procedure is no different than boiling the wort with the expectation that using the rocks to hit a specific mash temperature is obviously more difficult. This first time you attempt it, just use the rocks to facilitate a decoction and get the mash to boil. After you get the hang of it and understand the thermal properties of your rocks, try to do the entire mash with rocks.

One of the advantages of this method is that you get more sugars (and grains) coated on each rock. After you're finished with the mash, put the rocks back into the fire. This will burn the sugars and give the beer a smokier/burnt character.

### Boiling

In order to understand how much rock is required to raise the temperature of the wort a little physics is handy (there will be a test at the end of this article). The specific heat of wort is close to water, we'll say 1.05 (J/kg°K) and the specific heat of granite is 0.19. The equation for calculating heat capacity is:

$$\text{Mass} * \text{Temperature change} * \text{Specific Heat.}$$

Here is the breakdown of thermal masses for 6.5 gallons of wort at various temperatures:

Wort (6.5g)		Rock	
Temp °F	Temp °F	Weight lb@600°F	Weight lb@700°F
130	212	63.4	50.4
150	212	47.9	38.1
170	212	32.4	25.8

I have found a melon-sized piece of granite weights approximately 5 pounds. In order to raise the temperature from 150 to boil we need 38.1 pounds of 700°F rock or roughly 8 rocks!

Do your best to try and get the wort to boil, keeping in mind that the important thing is to get the rocks to boil/bake the wort's sugars until caramelized. It is this caramelization that gives steinbier its unique character.

When you add the rocks to the wort they will split, rubble, and growl. After a minute, remove them allowing the sugars from the wort to bake onto

See *Steinbier continued on next page...*

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*Steinbier continued...*

their surface before immersing them again. Do this repeatedly until a dark glossy appearance is formed.

### **Rinsing**

The sugars that coat each rock give the beer its unique character and need to be reintroduced into the beer. There are three methods to choose from to accomplish this: keeping the rocks in the boil; placing the rocks into the secondary fermenter; and rinsing the rocks before bottling.

The first method is to leave a few rocks in the boil. The caramelized sugars will have plenty of time to rinse off in the boiling wort. This method works best when you mash with the rocks and the rocks have plenty of caramelized and burnt sugars.

The second method requires placing the rocks into the secondary for a few days. This requires careful handling and storage of the rocks to avoid having any air-borne yeast from getting a foothold. The last thing you want to do is to contaminate your beer after all of your hard work.

The final method is a simpler version of the former. Fill a small container with your beer just prior to bottling. Place the rocks in the container for a short time allowing the beer to gently wash away the sugars. You will want to refill the container a few times while keeping the contact time relatively short.

### **In Conclusion**

This is a very fun beer to brew and with a little patience and experimentation you can be very successful. Brewing steinbier is more of an art form than a science so don't expect each batch to taste like its predecessor.

This is also an excellent opportunity for your entire homebrew club to participate and enjoy in, what I believe is, the funnest brewing procedure. Make sure that you have lots of good food, good beer, and good friends on hand and a great time will be had by all!

### **Commercial examples**

Rauchenfels Steinbier Privatbrauerei Franz Joseph Sailer Marktoberdorf, Germany

Bosco's Famous Flaming Stone Beer Bosco's Brewery and Pizzeria Memphis and Nashville, Tennessee

Brimstone Stone Beer Brimstone Brewery Baltimore, Maryland

Stone Fired Ale Maritime Beer Company Inc. Halifax, Nova Scotia

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