E-pistle #16/01 - Lavender Lament

Submitted on 01/08/2005 by Dave Broom, UK

The aroma is quite unmistakable.
A light note of lavender, varying in intensity, from toilet water to toilet block.
It isn't the dried lavender note which sometimes drifts into a dram but is pungently artificial.
The phenomenon is often even more noticeable on the palate where it obscures everything else.
People have called it various names, most of them not particulary flattering. I'll stick to perfume.
I've no knowledge as to what fragrance ladies of the night wear in France (or indeed the rest of the world). I suspect that many of them, however, wear something more classy...
Most of the attention on this aroma occurring in whisky has focussed on one Islay distillery for the simple reason that its whiskies are the most widely available. What has been overlooked by many people is that the same note appeared at the same time in that group's Highland distillery. (I've never found it at its other site, though others have) Neither do I count soapiness as being the same as perfume. It's different. Neither, as some seem to believe, is this a problem affecting one distiller. Overtly perfumed notes do also appear in other, non-group, drams. I've recently experienced it in a new whisky from a non-Scottish distiller [see Whisky Mag 49]. However, for simplicity's sake I've concentrated on the best-known examples here.
The issue is to find out what it is and how it is caused, not to apportion blame. That the same note appeared at the same time in the product of two distilleries owned by the same distiller suggests to me that it was the result of a change in distillation practise. What that change could be has resulted in some interesting theories;

Perfumed Soap - A distiller added soap to the wash still to stop foaming.
Instead of using the normal odourless soap he accidentally used perfumed hand soap. Now, while the practise of adding soap to boiling wash used to be widespread (and is still used) this theory is simply absurd. How likely would it be that a distiller, panicking at seeing his wash still on the verge of carryover, would either rush to the chemist and buy the first soap he could get his hands on or pop to the staff toilets and grab the first bar that came to hand? How many distillery workers insist on lavender perfumed soap anyway? Is it likely that the same problem (and bizarre solution) occurred at more than one site at the same time? Maybe head office got a bulk order of perfumed soap at the Barras and no-one thought of questioning using this? No. Soap can be discounted.

Yeast type - It might hold water were all the sites using the same strain. They aren't. The mainland distilleries switched to South African dried, but the Islay plant stayed with the same strain of pressed yeast which is used by the bulk of the industry. There is however a possibility that the way in which yeast is used could have an impact [see below].

Malt - It would only be the case if all the distilleries got their malt from the same supplier, which isn't the case.

Peat - This won't create the aroma [see Malt] but may mask it.

Lively wash (ie when solids mask the surface of the still) - It could cause unwanted aromas and flavours.
However, it won't create perfume.

Switching from direct fire to condensers - On the right lines.
However, the problem could arise by switching from one type of condenser to another [see below].

Cut points - Quite possible... but only if other elements are in place.

Water - Ye-e-e-es. Let's pass on quickly.

Wood - Won't create the aroma but may mask it.

Bad distillery management - This suggestion has spread since one ex-manager left the employ of the company for a rival. It is wrong. What's more, it's potentially libellous. Remember, this note is found at two (some say three) of the same group's distilleries and it appears at the same time. That points to a shift in distilling practise -- a new regime, new equipment.

It made sense to contact distillers who were au fait with the problem and who, given their areas of expertise, would be able to give a less emotional and more analytical interpretation of what had happened. As ever (these are scientists, remember!) there isn't complete agreement. We'll never know entirely what happened. I do think, however, we're closer to a possible answer.

The hypothesis of one of my sources centres around the teething problems which occurred after the installation of energy-saving systems in the mainland and Islay distillery in the 1980s. Both these distilleries installed energy-saving condensers which are separated into two parts. The first condenser is starved of cooling water, which helps to generate high temperature hot water. If, however, there was an insufficient volume of cooling water in the condenser, when the vapour from the still touched very hot surface of the condenser tubes it was scalded. *"Try this at home,"* my source said. *"Heat up a frying pan, pour in a small amount of beer and smell the resulting smoke. You'll be able to detect the same note."*

Another contact felt that the problem first occurred at the start of the process and related to a distiller speeding up the mashing and fermentation process. Too high water temperature at mashing can strip out the character from malt and produce a perfumed note (*), while holding on to the sparge for an extended period of time can cause an unwanted note (caused by bacterial problems). Perfumed notes can also be created should a distiller increase the seeding level of the yeast [ie add more] to speed up fermentation.

Now, none of these actually create the perfumed flavour itself, but will help to create compounds which **could** cause it to appear. They're known as "precursors".

Cutting the boil rate of the stills would increase reflux and allow these lighter perfumed aromas to be concentrated and collected. Tall plain stills will help this. The contact then went on to suggest that the aroma could be produced by triggering these precursors through 'burning' in the still during reflux. Equally, any change in cut points could have an effect. *"It's a long-winded way of saying that I'm not sure!"*

The problem with whisky is that since everything is interconnected it's impossible (and wrong) to isolate one single specific part of the process and point the finger of blame. These pesky precursors only create the aroma under specific conditions. The distilleries in question were only two (or three) of many in Scotland who installed two-part condensers. To check if the condenser theory holds water (if you pardon the pun) you'd have to compare and contrast the whisky from all these distilleries. The closest I could get to a similar fault was a "soapiness" in one of the others which, while not pleasant, is a different fault. So, the condensers may be part of the problem, but not the sole part. They only come into play if a certain mashing/fermenting/distillation regime is in operation.

This points to a composite theory.
The precursors are produced by speeding up the process: scalding the mash, fast ferment etc.
They're then triggered, in this case, not by the surface of the still during reflux, but by a second 'scalding' in the (too) hot condenser, or by both. It might be of interest -- or a red herring -- that in Cognac recently I was allowed to nose a spirit run. After the cut had been made and the heat turned up, the distillate began to take on an overt and artificial note of violet and lavender. This might be coincidence -- violet is a pleasant aroma created in wine and present in many Cognacs -- but I'll leave it with you.

Why then is the note more obvious in some whiskies than in others? It could simply be down to the relative sensitivity of each consumer's nose. Some people get it, some are deeply offended by it, others miss it completely. It can also be masked by two things. Higher phenol levels in the spirit will often tone it down. Wood can have the same effect. Some Maniacs have noticed more overtly perfumed notes from European oak examples. If true, this wouldn't be from paxerete, but might be the result of the lack of char on the inside of the cask. "Sherry" casks aren't charred, while 'bourbon' casks are. This charcoal layer acts as a filter and removes harsh notes from the young spirit. It might also help to remove some (if not all) of the offending note. I don't know, this is just a thought. As we all know, the influence of the cask will have a significant impact on the aroma and flavour of a whisky. No surprise then that single cask and small batch bottlings might show higher or lower levels of perfume.

Over the past months I've done extensive barrel tastings from the Islay distillery, going back to 1967.
The only one which showed overt lavender notes was a American oak barrel (sorry Serge!) from 1984. I'd therefore concur with Maniacal findings which suggest that the problem started in the mid-80s and was fully resolved by the end of that decade. Certainly the stock from the 1990s onwards is clean and is excellent.

Conclusion?
It looks like that there was a change in distillation regime (coinciding with new condensers) at some point in the 1980s which produced a block of perfumed stock which has drifted through the system. The 12yo and 15yo Islay is clean of perfume. The 17yo has some. As far I can tell the problem occurred, it was noticed and the regime changed. Others may disagree. The questions over whether the process of realisation took too long and whether it could have been managed better we'll leave until another time -- and place.

Dave Broom

* b-carotine/aka blackcurrant or b-ionone/violet