

# Researchers: Champagne's aroma comes from bubbles

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(AP) -- Don Ho was right. It is the tiny bubbles. A team of researchers - in Europe not surprisingly - found that Champagne's bursting bubbles not only tickle the nose, they create a mist that wafts the aroma to the drinker.

"I love the idea that such a wonderful and subtle mechanism acts right under our nose during Champagne tasting. In a single Champagne glass, there is as much food for the mind as pleasure for your senses," said researcher Gerard Liger-Belair of the University of Reims Champagne-Ardenne in France.

In the Hawaiian singer's 1966 hit, Don Ho sings, "Tiny Bubbles, In the wine, Make me happy, Make me feel fine."

Now science is looking at the source of those feelings.

Liger-Belair and his colleagues used high-resolution mass spectrometry to study the chemicals in Champagne and sparkling wines and in the bubbles and the mist they produce.

While the aromas rising from sparkling wines are well known, the study is the most detailed look at how they are get there, the researchers said.

They discovered that some of the chemicals that impart the special toasty, fruity aromas to the beverage are captured by the bubbles and brought to the surface in higher concentrations than in the wine itself,

they report in Tuesday's edition of [Proceedings of the National Academy of Sciences](#).

It's sort of like how the bursting of bubbles at the [sea surface](#) imparts that special oceanic scent to the nearby air, Liger-Belair explained.

"Actually, bubbles trapped by the sea breakers action considerably increase exchange surfaces between the sea bulk and the atmosphere," he said.

The bubbles drag chemicals along their way through the liquid to the sea surface and finally burst and eject [aerosol](#) droplets into the atmosphere.

"Air [bubbles](#) trapped during rough sea conditions were found to increase specific organic concentrations in marine aerosols by several orders of magnitude compared with those found in the liquid," he said.

So if the same thing is happening to sparkling wines, does that mean champagne smells better than it tastes?

Liger-Belair said the scientists were tempted to reach that conclusion, but that he is a physicist and co-lead author Philippe Schmitt-Kopplin of the Institute for Ecological Chemistry and Molecular BioGeochemistry in Neuberberg, Germany, is a chemist; they are not experts in the science of smell and taste, he said.

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Proceedings of the National Academy of Science: <http://www.pnas.org>

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