SOME THOUGHTS ON YEAST - 3

By Mike Retzlaff

Ale yeast is *Saccharomyces cerevisiae*. Lager yeast is *Saccharomyces pastorianus.* Each of these yeast species has an abundance of strains. *Saccharomyces eubayanus* has only recently been discovered in Patagonia (ca.2011).

Subsequent discoveries in Western Australia and Tasmania were made. This species seems to be the "other" parent of lager yeast. Lager yeast is the result of a hybridization of these *S. cerevisiae* and *S. eubayanus*. Genetic mapping has been done and *S. eubayanus* along with *S. cerevisiae* seem to constitute slightly better than 99.5% of the DNA of the combined hybrid *S. pastorianus*.

The Nuremberg Statute book of the 14th century indicates the existence of bottom fermenting beer and therefore bottom fermenting yeast. The first European explorer to reach Patagonia was Magellan in 1520. How then would a yeast species from 16th century Patagonia make it to 14th century Nuremberg?

Marco Polo travelled to China and Mongolia in the late 13th century. *S. eubayanus* has also been discovered in China, Tibet, and Mongolia. The time period seems right but did he bring it back with him (knowingly or not) after his 24-year odyssey in Asia?

Another working theory is that *S. eubayanus* existed in Europe and made its way to these other areas of the world before going extinct in Europe. This theory seems to be a bit of a stretch.

Scientists state that the two yeast species are as genetically different as birds and mammals. Yet, evidence suggests, that over a period of time, two separate hybridizations of these yeasts occurred.

My knowledge of yeast falls somewhere between inadequate and abysmal. I keep trying to learn more but it's going very slowly. I am thankful that a smack pack is not as complicated as what comes out of it!

Patagonian Beech Tree Gall containing S. Eubayanus

Marco Polo (with or without S. Eubayanus)