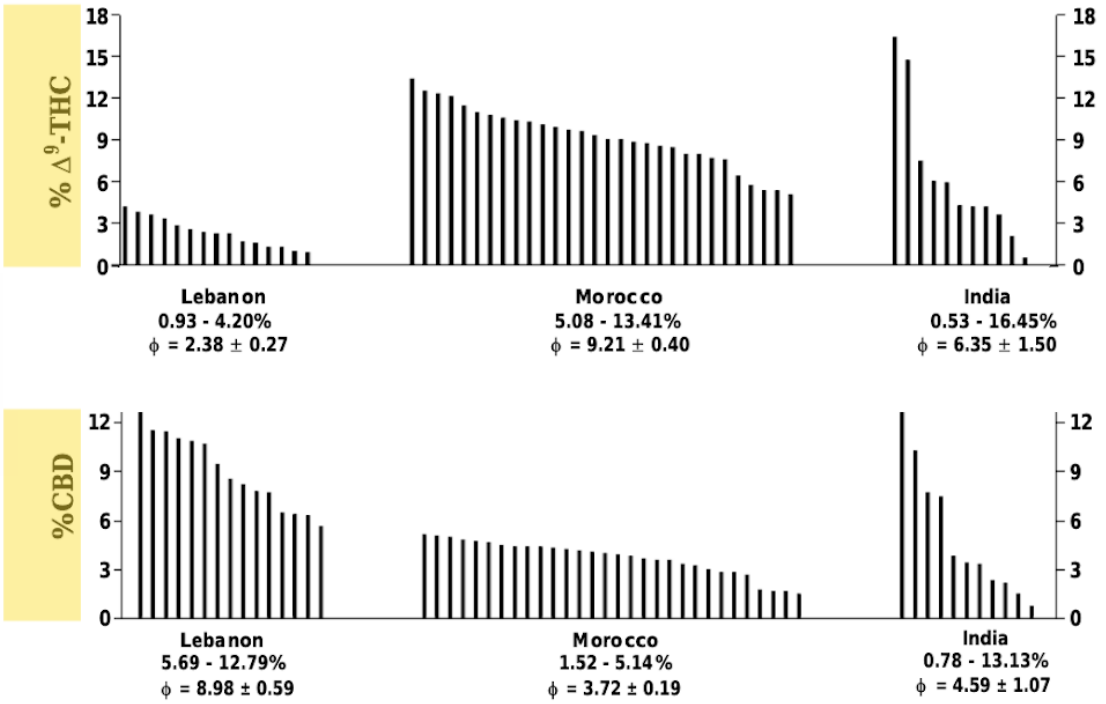
The Study of Chemical Differences of Hashish from Different Sources Seized in Israel

Dr. Lumir Hanus (2014)



A Commentary

By Frenchy Cannoli

I never thought about the composition of the different hashish I smoked in the 70s and 80s. At that time, hashish from producing countries each had a specific flavor and aroma signature and offered a pretty unique psychoactive experience. The difference between the psychoactive effects of Red Lebanese, Afghan, Moroccan or Himalayan hand-rolled resin (charas) was evident when consumed. I never thought about the reasons behind this until I came to California and started studying cannabis science. I had a pretty fair understanding of *terroir* - the capacity of the land and local climate to

shape all organic life and imbue unique, intrinsic characteristics to the plants grown in specific regions, but I had no knowledge of cannabis resin, of cannabinoids, of the endocannabinoid system or the vital role of terpenes at that time and as such could only minimally appreciate the unique heritage nurtured in the producing countries of the world.

I choose to be a vagabond at eighteen. Traveling the world was all I had ever wanted since my early childhood. My first experience smoking hashish at seventeen gave me the stimulus I needed to set myself free, and hashish became a significant incentive in my travel plans. I have collected resin alongside locals Hashishins for months at a time in a few producing regions of the world during my travels, and as such, I had the chance to see and experience a high level of diversity and quality in cannabis resin concentrates. I have experienced the art of pressing resin into hashish for many seasons. I have seen resin transform over time too many times to count, and I have smoked enough aged hashish and charas to respect deeply the traditional knowledge that I received. I have become actively engaged in discovering the science behind these traditions these past years which brought me lately to a three-year study done by Doctor Lumir Hanus on the chemicals difference of hashish from Lebanon, Morocco and India seized by customs agents in Israel from 1995 to 2005[i] that I would like to share.

The study is an evaluation of quality based on the principal cannabinoid content of hashish - CBD (Cannabidiol), Delta 9 THC (Delta 9 Tetrahydrocannabinol) and CBN (Cannabinol). While defining quality based solely on these three cannabinoids is far from being representative, it is nonetheless revelatory.

Terpenes were not studied, and quite a few of the cannabinoids identified were interestingly not considered either given that they are vital to the psychoactive power of the cannabis resin. The quality of the hashish smuggled and seized in Israel is also an element that we should take into consideration, the assumption being that there is little dissimilarity with what is found in Europe.

The Red Lebanese is to this day one of the best Hashish I have smoked; I have no real memory of the potency of the resin, to be frank, but the flavor was so intense and unique that I still lust for the experience over forty years later, a perfect balance of sweet, spicy and earthy that is impossible to describe or forget. I was not totally surprised to learn that the confiscated Lebanese Hashish analyzed for this research had high levels of CBD (5.69% to 12.79%) knowing a breeder from the Humboldt Seed Company, Willy G, in Northern California, who found a Lebanese cultivar phenotype with a 28-to-1 CBD/THC ratio while germinating only two hundred seeds. The low amount of THC, on the other hand, was flabbergasting, 0.93% to 4.20% is ridiculously insignificant. The amount of THC may not define potency, but I have a hard time believing that terpenes can compensate for such a low level of THC despite my very positive personal experiences of Lebanese Hashish. I may not be able to remember accurately Lebanese Hashish potency but potent it was! Could the unforgettable

terpene profiles of Red and Blond Lebanese hashish play such a dominant role in the overall potency of the resin? The CBN level was between 0.72% and 2.20% which is minimal, but logical since Lebanese hashish is hardly ever pressed with a source of heat for export.

Moroccan Hashish has been the main staple for hash smokers in Europe since the late 60s, early 70s and the quality can vary from poor to good depending on the source. Moroccan Hashish is very different today than it was in the 70s. Feminized seeds have been steadily replacing local genetics since their introduction approximately ten years ago. However, the study is based on seizures made in 2005 and prior and as such should offer a relevant perspective to the Hashish I made in the Riff mountains and was smoking in Europe in the mid-to-late 70s. The level of CBD varies from 1.52% to 5.14%, and the THC ranges from 5.08% to 13.41% which again is so low that I cannot accept these numbers as factual, to be frank, even for flowers where 14% would be average at best. The CBN level was between 0.65% and 2.94%, surprisingly low for Moroccan hashish which was too soporific for my taste to the point where I smoked Kief (chopped cannabis flower mixed with black tobacco) solely during the day.

The highest level of CBD was found in resin from India, 0.78% to 13.13% as well as the highest level of THC, 0.53% to 13.45% and surprisingly charas also has the highest level of CBN, 2.15% to 5.86%. I am what could be considered a connoisseur of cannabis resin in its birthplace in the Kullu, Parvati and Malana valleys in the Himachal Pradesh. The above-listed numbers do not compute at all with my personal experience. The Charas I made and smoked in India was most certainly not a basic one-on-one CBD/THC ratio resin, and the smoke was way too energetic to have had 6% CBD. The resin in provenance from India is impossible to generalize as can more easily be done with Lebanese and Moroccan hashish. Hand-rolled resin quality differs from hand-to-hand and person-to-person. Furthermore, there is so much diversity in the genetics and the environments that quantifying charas attributes would be problematic even if the study was undertaken in the Himalayas.

As a conclusion, I must confess to being utterly confused by the results of this three years of research; I have a lot of amazing memories smoking Lebanese and Moroccan hashish. They are old mind you, a little hazy and most certainly a little biased but they are personal references that I cannot deny either. My recollection of Charas potency is on the other hand very vivid. Smoking charas is an uplifting, extraordinarily invigorating and powerful experience that has no equal in my mind even compared to the hashish I have been making in California these past years with 60% to 80% cannabinoid content, mostly THC. It is hard to fathom how a resin with not even 14% THC could impress me that much, the 1-to-1 THC to CBD ratio with the CBD reducing the effects of the already low level of THC, and a high level of CBN to boot just adds layers of confusion to the mystery.

The only logical answer for such a difference between the experience and actual cannabinoid content would be that the “entourage effect” has a profound impact on

the overall psychoactive and medicinal aspects of cannabis resin, the concept of the "entourage effect" was introduced in 1998 by S. Ben-Shabbat, and by Raphael Mechoulam, to represent a novel endogenous cannabinoid molecular regulation route.[ii]

http://www.en.m.wikipedia.org/wiki/Entourage_effect

"The scientifically studied synergetic relationship between THC and other cannabinoids like cannabidiol (CBD), tetrahydrocannabivarin (THCV), cannabigerol (CBG) and cannabichromene (CBN) as well as the phytocannabinoid-terpenoid synergy that has been recently discovered must have a powerful influence on the potential of absorption and assimilation of cannabinoids through our endocannabinoid system receptors for my experiences to be so mind-bogglingly far from these scientific data."

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[i] https://www.researchgate.net/publication/291355863_The_study_of_chemical_differences_of_hashish_from_different_sources_seized_in_Israel

[ii] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3165946/