

# Behind The Scenes in Pharmacognosy

## The ElSohly Laboratory: To Serve and Advise

by Amy Keller

In April of this year, the article entitled, “Cannabinoid Ester Constituents from High-Potency *Cannabis sativa*” by Safwat A. Ahmed, Samir A. Ross, Desmond Slade, Mohamed M. Radwan, Fazila Zulfiqar, and Mahmoud A. ElSohly, appeared in the *Journal of Natural Products*’ 71<sup>st</sup> volume. The *Newsletter* interviewed corresponding author and ASP member Dr. Mahmoud A. ElSohly, who took time out his busy schedule to give us insight into an interesting study.



### How did you become interested in the medicinal chemistry of *Cannabis*?

I started working on *Cannabis* in 1976, when I took a postdoctoral position with Dr. Carlton Turner, a prominent member of the ASP who became the drug abuse policy advisor to President Reagan in 1980. Dr. Turner was the Director of the Marijuana Project at Ole Miss at the time, and after he assumed his position at the White House, I became the Project Director. Our group has isolated more new compounds from *Cannabis* than any other group in the world. In the last two years, we have reported on the chemical structures of 28 new compounds isolated from a high potency variety of *Cannabis*.

From left to right - Drs. Mohamed Radwan, Mahmoud ElSohly, Samir Ross, Desmond Slade.

### Who in your laboratory carried out the research?

Our team includes Drs. Samir Ross, Desmond Slade, Mohamed Radwan, Safwat Ahmed and Fazila Zulfiqar. I serve as the team mentor.

### Could you provide a brief explanation of the work and results in your own words? In what way are the data in your paper new?

We have been intrigued by the constant and gradual rise in the potency of confiscated *Cannabis* (marijuana) over the years. The tetrahydrocannabinol (THC) content in the 1970s averaged less than 1%, and has risen to approximately 8% currently. Today it is not unusual to find marijuana samples of greater than 15% THC and even over 20%. Since most phytochemical work in the past was carried out using low or medium potency material (2-4% THC), we have developed and cultivated high potency varieties and reexamined the chemistry of these. The aim of our work was to determine if there are other, new constituents in the high potency marijuana and if so, how these constituents contribute to the overall activity of the plant material. The compounds reported in this article, and others already published or in preparation, are new compounds that have not been previously reported in *Cannabis*.

### What impact on the medicinal use of *Cannabis* does this research have?

This research shows the complexity of the chemistry of *Cannabis* and the fact that marijuana is a crude drug containing a wide range of chemicals with different biological activities. Therefore, the plant should be used as a source of many constituents of potential medicinal and therapeutic potential, and not a drug to be “smoked” for medicinal purposes.

### What is a favorite nonscientific activity of your lab?

The laboratory personnel join in holiday celebrations, birthday parties, retreats, and fellowships. The most exotic activity carried out by one of our team members is tree climbing.

### What is your lab’s motto?

Our motto is, “quality comes first.” We also service the law enforcement community, including Drug Enforcement Agency (DEA), as well as state and local narcotic agents, providing potency trend data on the samples submitted by these groups. So, “serve and advise” is another motto.

### What is your greatest extravagance in the lab?

We just built and equipped an indoor growing room and micro propagation laboratory for marijuana propagation and production, obviously with the proper DEA registrations.