



The Transnational Institute



Drug Policy Briefing



Nr. 8 – September 2004

SUPER COCA?

The French news agency AFP recently reported the discovery of a new species of coca plant. According to the report, which was repeated by various media around the world, a coca plant was found in Colombia's Sierra Nevada that had a high cocaine content and a higher level of purity, and which was also resistant to the effects of aerial spraying. We would like to respond to the confusion and false impressions that this report could cause.

The report apparently originated with the Colombian radio station, Radio Caracol, after an interview with medical toxicologist Camilo Uribe, an adviser to the Anti-Drug Police, on August 23. Dr. Uribe will soon join the International Narcotics Control Board (INCB), the U.N. organisation charged with overseeing proper implementation of international conventions on drugs. As a researcher, Dr. Uribe is known for his conclusions that the aerial spraying of illicit crops is harmless to the environment.

According to the researcher, "The quality and percentage of hydrochloride obtained from each leaf is much greater, between 97 and 98 percent, when a normal plant — for example, the one used by the Caucaño Indians — has no more than 25 percent." Drug traffickers supposedly had developed a variety that was resistant to glyphosate spraying. These giant coca plants were allegedly the drug traffickers' response to the intensive campaigns of crop-spraying and manual destruction of illicit crops being carried out by the Colombian government with strong support from the U.S. government.

A few scientific facts provide grounds for questioning the credibility of this report about the cocaine alkaloid content of the coca leaf. In establishing the presence of "toxic" alkaloids in the coca leaf, scientifically proven percentages vary between 0.25 percent and 2.25 percent (1). According to other studies, the alkaloid content is probably between 0.1 percent and 0.8 percent, with some exceptions (2). With Operation Breakthrough, the U.S. Drug Enforcement Agency (DEA) attempted to establish scientific grounds for a reliable calculation of cocaine production. According to the DEA, before the operation such calculations were based only on anecdotal data. Results from the operation, which was launched in Bolivia in 1993 and in Peru and Colombia in the following years, demonstrated an average cocaine alkaloid content of between 0.72 percent and 0.85 percent in Bolivia (3). In Peru and Colombia, estimates of cocaine content were lower than for the Bolivian leaf, at least in studies by the U.S. State Department.

The apparent difference between the percentages mentioned by Dr. Uribe and those indicated here exceeds any acceptable margin of error.

The purity of the cocaine extracted from the coca leaf, which is obtained through a process that uses chemical substances (precursors) to facilitate the isolation of this famous alkaloid, depends largely on the process used. In other words, the preparation of cocaine with leaves containing a high percentage of cocaine does not necessarily guarantee an equally high level of purity. The latter depends on the efficiency of processing in the laboratory. For example, the first DEA Breakthrough investigation found a 45-percent efficiency rate in extraction in the case study in the Bolivian Chapare. This meant that less than half of the cocaine alkaloid present was being used. In February 2001 in Colombia, Breakthrough established a higher efficiency factor of 69 percent (4). Prior to that study, the rate found in Bolivia had been used.

According to several experts, the coca species *Erythroxylon novogranatense*, mentioned in the report, has the same characteristics as the alleged new plant, which is also native to northern Colombia. It is described as:

"A shrub growing from one to three meters tall, with a stem with reddish bark, and with alternating leaves that are elliptical or oval in shape (2 to 10 cm long by 1 to 4 cm wide); they are emerald green when young and olive green when mature, with a lighter reverse side"(5).

Caucana, the variety mentioned in the report as a reference, has not been used for many years, at least not in Colombia's important coca-growing regions, and it never had a 25-percent alkaloid content as claimed.

The report's claim that the plant is resistant to glyphosate is equally ambiguous. The AFP report implies that this is a variety that resulted from efforts to create a plant resistant to Round Up. But this implication is undercut by the statement that "research is being done on this." Rumours have long circulated about cross-breeding of coca varieties in an attempt to increase both resistance to glyphosate and the plant's alkaloid content. So far, however, there has been no scientific proof of the rumours' veracity. Official sources are unaware of such plants. The DEA and U.S. Embassy say they know of no evidence of the existence of genetically modified coca plants (6).

The report is unfounded and riddled with half-truths. Another example is the alleged decrease in the length of the plant's growing season, also as a result of manipulation by drug traffickers, "reducing the growing season from eight to five or six months." Although the plants' growing season could in fact change as a result of exposure to certain chemicals, the way this is stated in the report is misleading. First, the coca plant produces leaves not once, but for three or four harvests a year. And second, its most productive phase is when it is between two and seven years old.

We would like to point out how quickly this news report was picked up by other media, without having been subjected to minimal verification, as should be expected of the press. The content of the report is so absurd that it appears to be a bad joke. Or is there something more behind it? Wouldn't an invention of this sort be an excuse for introducing new crop-control methods using a new chemical or biological agent?

As the principal source of this report, and in his role as a new member of the INCB, Dr. Uribe should back up his claims with scientific arguments, demonstrating that he truly possesses the skills required for international oversight. For now, his credibility is in serious doubt.

Footnotes

1. Messr, Duke, Oulik and Plowman. "Coca leaves may, however, contain 0.25 to 2.25% toxic alkaloids, including benzoylecgonine, benzoylecgonine, cinnamyl-cocaine, cocaine, cuscohygrine, dihydroxy tropane, hygrine, hygroline, methyl cocaine, methyl ecgonidine, nicotine, tropa cocaine, and A- and B-truxilline". Harvard University, 1975.

2. From the executive summary of "Coca Cultivation and Cocaine Processing: an Overview." Drug Enforcement Administration Intelligence Division, Strategic Intelligence Section, September 1993.

3. DEA Intelligence Division. *Operación Breakthrough: La plantación de la coca y la producción de base de cocaína en Bolivia*. Drug Intelligence Report. U.S. Department of Justice, 1994.

4. Drug Availability Steering Committee. *Drug Availability Estimates in the United States*. Washington, December 2002.

5. Description: <http://www.lamolina.edu.pe/cocachasqui/>

6. In *The Miami Herald*, September 2, 2004.