

The Different Types of Alkaloids in Coca

Coca contains at least 14 separate alkaloids. An alkaloid is a naturally occurring nitrogen-containing compound, which shows a basic, i.e. an alkaline reaction, resulting in water-soluble salts when added to an acid. It is assumed that alkaloids are produced by the plant as a type of defense against insects and herbivores. They are usually bitter tasting, and often have psychoactive properties. The most important alkaloids of the coca plant are as follows:

1. **Cocaine:** (benzoylmethylecgonine) The principal alkaloid, which can account for between 20% and 90% of the total alkaloidal content of a leaf. The E. Coca or Huanaco (Bolivian) leaf usually contains the highest amount, and is the most prized.
2. **Cocamine:** Found in high concentrations (up to 80%) in E. Novogranatense, especially the var. Truxillense (Trujillo leaf).
3. **Cinnamylcocaine:** Found in E. Novogranatense, especially in the Java variety.
4. **Hygrines:** These are agents with properties similar of an oil and therefore are useful as flavoring agents. Found mostly in E. Novogranatense, they probably account for the value of this leaf as a beverage flavoring.
5. **Benzoylecgonine:** Most likely a decomposition product formed during the breakdown of cocaine.
6. **Tropacocaine:** Found only in significant amounts in E. Novogranatense, a Java variety.
7. **Ecgonine:** Again, probably a decomposition product.

Up to this point, only coca has been discussed. However, it must be considered separately from cocaine due to its being used in its entirety (as the whole leaf) by the indigenous population of the Andes mountains. An attempt to extrapolate data from those who use the whole plant to those who use only the purified principal alkaloid (cocaine) is meaningless. Thus there is a paraphrase which seems perfectly correct: “*When one removes the substance from its protective green envelope, the problems begin*”.