PHARMACEUTICAL BOTANY PRACTICE
LAB NUMBER 13

-MICROSCOPIC WORK: Psychoactive Plants/Drugs
-MORPHOLOGIC WORK: Flower

MICROSCOPIC WORK: Psychoactive Plants

PSYCHOACTIVE COMPOUNDS

1)Stimulants:

-They speed up the body, awaken the mind, give strength or energy to someone without changing the perception.

***Plants containing such compounds:** Coffee, Tea, Guarana, Mate, Ephedra, Coca/koka (*Erythroxylon coca*)..

2)Sedatives, Hypnotics, Narcotics:

-They have calming, sleeping, anxiety-reducing, anesthetic effects.

***Plants/Drugs containing such compounds:** Opium poppy/haşhaş (Papaver somniferum), Opium, Valerian/kediotu, (Valeriana sp.), Hops/Şerbetçiotu (Humulus lupulus)..

3)Hallucinogens:

-They alters the mood, thoughts, and sense of perceptions; they overload the brain with sensory information, causing a distorted sense of reality

***Plants containing such compounds:** Peyote (*Lophophora williamsii*), Marijuana/esrar (Cannabis sativa)..

Erythroxylon coca

The coca plant (Erythroxylum coca), or "coca," is native to the Andean region in western South America.

Coca leaves have been used widely by native South American tribes for thousands of years.

It has been suggested that the use of the coca plant was originally reserved for priests and royalty in ancient South America and was used for religious purposes.

Traditionally, coca plant products have been used for reducing pain, decreasing hunger, and for their stimulating effects.

--Cocaine, a compound taken from the coca plant, is a highly addictive stimulant.

--In the late 19th century, the use of cocaine for local anesthesia was popularized.

--Cocaine found its way into many different products including prescription drugs, medicine, and popular soda drinks (including the original Coca-Cola®).

--In modern times, cocaine's use in anesthesia is limited, due to the negative effects of cocaine and risk for addiction and death.

MICROSCOBIC WORK I: COCA LEAF POWDER

1. P.N: *Erythroxylon coca* (Coca, Koka ağacı)

D.N.: Folia Cocae

I.M.: Sartur

M.M.: 10x40

- **Schlerenchyma bundle and cristals**
- **Palisade parenchyma and upper epiderm**
- **Lower epiderm and papils**

Cannabis sativa (Marijuana, hemp, cannabis)

Marijuana, hemp, and cannabis are common names for plants of the genus Cannabis.

Cannabis sativa is widely used for recreation. It has been inhaled or taken by mouth to produce a feeling of relaxation or well-being.

Delta-9-tetrahydrocannabinol (THC) is the active ingredient of marijuana.

CANNABIS IS USED IN THREE MAIN FORMS: MARIJUANA, HASHISH AND HASH OIL.

MARIJUANA is made from dried flowers and leaves of the cannabis plant. It is the least potent of all the cannabis products and is usually smoked or made into edible products like cookies or brownies.

HASHISH is made from the resin (a secreted gum) of the cannabis plant. It is dried and pressed into small blocks and smoked. It can also be added to food and eaten.

HASH OIL, the most potent cannabis product, is a thick oil obtained from hashish. It is also smoked.

Cannabis is the most widely used illicit drug in the World.

MICROSCOBIC WORK II: CANNABIS SATIVA POWDER

1. P.N: ***Cannabis sativa*** **(Hemp, kenevir)**

D.N.: Herba Cannabis

I.M.: Sartur

M.M.: 10x40

- **Cystolith* containing hair**
- **Simple hair at bractea**

MORPHOLOGIC WORK: Flower

FLOWER MORPHOLOGY

1.COMPOSITAE (ASTERACEAE) FLOWER

HEAD, CAPITULUM: **A short, dense inflorescence of sessile flowers attached to a common receptacle.**

Heads are the primary inflorescence type characteristic of Compositae.

INVOLUCRE

-A set of bracts* forms an **involucre** surrounding the base of the capitulum.
-Bracts that appear in a whorl under an inflorescence are called an involucre.

Bract, modified, usually small, leaflike structure often positioned beneath a flower or inflorescence.*

2. CRUCIFERAE (BRASSICACEAE) FLOWER