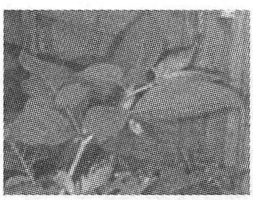
poison. The name '*bella donna*' in Italian literally means a 'beautiful lady' or 'beautiful woman', and it is thought that the name may have been given to the plant because of the practice of the Italian, Egyptian and Babylonian women to use a drop of the tincture to their eyes to dilate the pupils so that they appear more appealing to their suitors, as large pupils were thought at that time to be a sign of feminine beauty. The genus *Atropa* is thought to be derived from the name of a Greek goddess, *Atropos*, one of the three Fates (destinies) in Greek mythology (the one who would determine the course of a man's life by weaving of the threads that symbolized the birth, the events in the life and finally the death with Atropos cutting the thread of life to mark the death), reflecting its deadly poisonous nature. The name *atropa bella donna* has been derived from an admonition in Italian and Greek meaning - '*do not betray a beautiful lady*'.

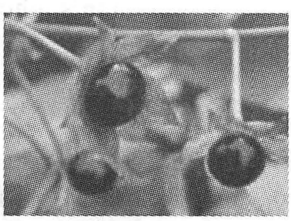
Atropa belladonna – habit



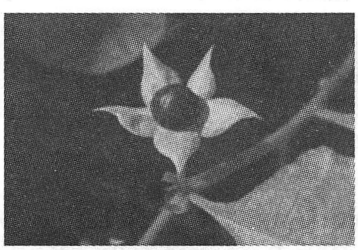
Leafy branch

Flowering branch

Flower - closeup



Mature fruits



Fruit – closeup

war, for a victory in the battle. For centuries, belladonna has been traditionally used for conditions like head aches, menstrual symptoms, peptic ulcer, inflammation and motion sickness. The early men used it in the preparation of poison arrows. The juice of the berries was also used to stain the skin a dark purplish colour.

Medicinal Uses

Belladonna is the second deadliest plant in the world. All parts of the plant contain alkaloids but the highest content occurs in the ripe fruit and the green leaves. Belladonna alkaloids are classical anticholinergic deleriants, as they block the action of acetylcholine, and at higher doses, their effects include incoherent speech, disorientation, delusion, hallucinations followed by depression and amnesia. The drug is used in sleep and cold remedies, and against ulcers and gastric problems. The drug from the leaves brings about a decrease in secretion of sweat and salivary and gastric glands. It acts as strong antispasmodic in intestinal colic and other spasmodic indications. It is also useful in asthma and whooping cough. The drug (and also the root) is used as a local anaesthetic and an anodyne externally to relieve pain. When given internally, it checks sweating in phthisis, acts as a sedative to the nerves of the respiratory organs and relieves spasmodic cough. Atropine is used to dilate the pupils of eyes to facilitate eye examination. The plant contains apoatropine which in higher doses may cause many side effects like: dry mouth, hot skin, blurred vision, fear, restlessness, confusion, convulsions, permanent eye damage and brain damage and also death due to heart failure.

Non-medicinal Uses

The plant is rarely used in gardens as an ornamental.

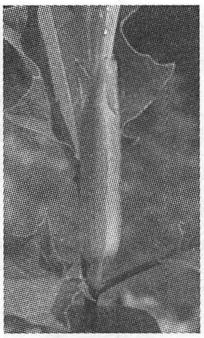
Adulteration

The root is often adulterated with the rhizomes of *Scopolia carniolica* and the roots of *Phytolacca decandra*. The leaves of belladonna are often adulterated with the leaves of *Phytolacca decandra* (the poke weed), leaflets of *Ailanthus glandulosa* (the tree of heaven), the leaves of *Scopolia carniolica* and the leaves of *Datura stramonium* and *Solanum nigrum*.

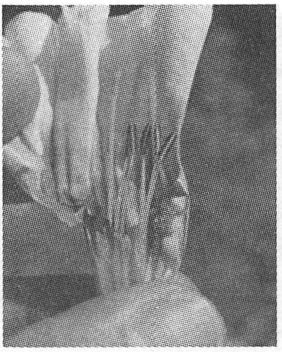
HYOSCYAMUS

Common Names

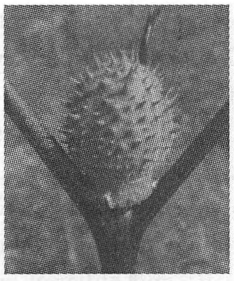
Folia Hyoscyami, Hyoscyamus leaf, Hyoscyamus herb, Stinking nightshade,



Calyx tube

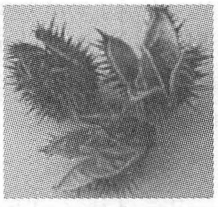


Flower – cut open

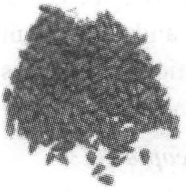


Septifragal capsule

Split open capsule with seeds



Dry fruits



Dry seeds

Geographical Source

The plant is a native to Mexico and grows in tropical and warm temperate regions of the world and common throughout Europe, Asia and America growing as a weed. It is mainly cultivated and obtained from Germany, France and Hungary. It is grown in India in temperate Himalayas, and from Kashmir to Kerala.

of rice flour) secured by a bandage or as fomentation over the seat of pain. The seed liniment (in a pint of *Sesamum* oil or any other bland oil) is used in the relief of pain associated with menstruation, affections of the uterus, when applied on the lower part of the abdomen. The liniment also relieves facial neuralgia if it is rubbed over the seat of pain and the narrow space between the ear and the lower jaw. The poultice is also useful in relieving the pain and hastening the expulsion of the guinea worm. The application of the roasted leaf gives relief in ophthalmia, enlarged testicles and boils. The fresh juice of the leaf is a popular household remedy to relieve pain and inflammation in glandular swellings like mumps, ophthalmia, ear ache, tooth ache, gout, rheumatism and inflamed breasts. The oil is an effective remedy in rheumatic pains and in pediculi and lice.

Non-medicinal Uses

The larvae of some Lepidopteran insects like butterflies and moths (*Hypercompe indecisa*) eat the leaves as food.

Adulteration

The common adulterants and the substitutes are the leaves of *Xanthium strumarium, X. macrocarpum, Carthamus helenoides, Solanum nigrum, Chenopodium hybridum* and *Hyoscyamus niger.*

COCA

Common Names

Coca (Brazil, France), Coca shrub (England), Cuca (Peru), Epadu, Ipadu, Ypadu (Brazil), Huaunuco coca (Bolivia), Spadic (Colombia), Hayo (Brazil, Venezuela and Andean tribes), Ko-ka-ping, Ko-king, Ko-ka (Myanmar), Coca leaf, Folia Cocae, the Coca plant, Cocaine, Cuca (English).

Biological Source

These are the dried leaves of the South American shrub, *Erythroxylon coca* Lamarck, and *E. truxillense* Rusby (Syn: *Erythroxylum peruvianum* or *E. coca* - Family: Erythroxylaceae – earlier listed in Linaceae). Commercially *E. coca* is known as Bolivian or Huanuco coca while *E. truxillense* is known as Peruvian or Truxillo coca. The genus has 12 main species and varieties. As per the earliest known legends by the aged Indians, on the origin of coca in the '*Informacion*' of Inca history (recorded by the investigators of the Viceroy Toledo – 1571), coca was a beautiful woman before it was a shrub. Upon discovery that she was an adultress, she was executed; the body was