Photo: Henri Sivonen

Madagascar Periwinkle

Catharanthus roseus

Plant Facts

Many people have relatives of the Madagascar Periwinkle growing in their yards as ground cover. It is a small plant with showy pink and white flowers. The Periwinkles that provide medicinal value grow in Madagascar.

Medical Compound Found in Plant

Vincrisine

Chemical Formula of this Compund

$C_{46}H_{56}N_4O_{10}$

Effect of the Compound on the Human Body

Many people have relatives of the Madagascar Periwinkle growing in their yards as ground cover. It is a small plant with showy pink and white flowers. Madagascar.

Place the correct Medicine Card here!

Photo: Walter Siegmund

Pacific Yew Tree

Taxus brevifolia

Plant Facts

This splendid tree is native to the Pacific Northwest of the U.S. Almost every part of the tree is poisonous. Taxol is an important medical compound discovered in the 1960s.

Medical Compound Found in Plant

Taxol

Chemical Formula of this Compund

$C_{47}H_{51}NO_{14}$

Effect of the Compound on the Human Body

Normal cells have features called microtubules that break down and reassemble during cell division. Taxol interrupts this process so that cells can't grow and divide efficiently.

Place the correct Medicine Card here!

Photo: UBC Botanical Garden & Centre for Plant Research

Deadly Nightshade

Atropa belladonna

Plant Facts

The berries of Deadly Nightshade are indeed deadly! The shiny black berries are sweet to the taste, but just a few of them can prove fatal.

Medical Compound Found in Plant

Atropine

Chemical Formula of this Compund

$C_{17}H_{23}NO_3$

Effect of the Compound on the Human Body

Causes the pupil in eyes to expand.

Place the correct Medicine Card here!

Photo: C. Ford

Yam species

Dioscorea species

Plant Facts

Yam species are found on several continents. They have tubers in the ground (like potatoes), which have medical value. The Mexican yam is the species that provided the medical breakthrough.

Medical Compound Found in Plant

Diosgenin

Chemical Formula of this Compund

$C_{27}H_{42}O_4$

Effect of the Compound on the Human Body

Diosgenin allows the female hormone progesterone to be easily synthesized. Certain levels of progesterone inhibit ovulation, the release of an egg from a woman's ovary.

Place the correct Medicine Card here!

Photo: Lexn Ger, flickr.com

Peppermint/Mint species

Mentha species

Plant Facts

Menthol comes from oil of peppermint, and other mint species. It has been used by people for hundreds of years in a wide variety of ways.

Medical Compound Found in Plant

Menthol

Chemical Formula of this Compound

$C_{10}H_{20}O$

Effect of the Compound on the Human Body

Menthol acts upon certain nerve cells that tell the body when it is cold. Menthol "tricks" these receptors into thinking it is cold when it is not. Thus, it makes the body feel cool.

Place the correct Medicine Card here!

Photo: tsc_traveler, flickr.com

Foxglove

Digitalis lanata

Plant Facts

Foxgloves are tall plants lined with bell-shaped flowers of various colors. You can often see them in people's gardens! The common garden variety (Digitalis purpurea) has been used medically, but Digitalis lanata is most commonly used.

Medical Compound Found in Plant

Digoxin and digitoxin

Chemical Formula of this Compound

$C_{41}H_{64}O_{14}$ and $C_{41}H_{64}O_{13}$

Effect of the Compound on the Human Body

Diosgenin allows the female hormone progesterone to be easily synthesized. Certain levels of progesterone inhibit ovulation, the release of an egg from a woman's ovary.

Place the correct Medicine Card here!

Photo: Scott Bauer, USDA

Wormwood

Artemisia annua

Plant Facts

This sweet-scented, bushy plant has been introduced to the Eastern and Central United States, growing in many waste areas throughout. Most of the plants grown for medicine are from China and East Africa.

Medical Compound Found in Plant

Artemisinin

Chemical Formula of this Compound

$C_{15}H_{22}O_5$

Effect of the Compound on the Human Body

Artemisinin kills certain one-celled creatures called protozoans.

Place the correct Medicine Card here!

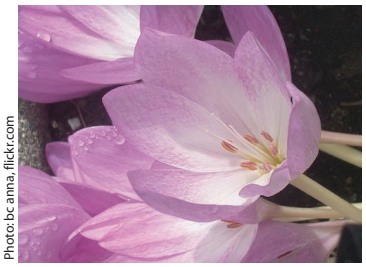

Photo: bc anna, flickr.com

Meadow Saffron

Colchicum autumnale

Plant Facts

This plant looks much like the crocus that blooms in dooryards in early spring throughout the United States.

Medical Compound Found in Plant

Colchicine

Chemical Formula of this Compound

$C_{22}H_{25}NO_6$

Effect of the Compound on the Human Body

Colchicine dissolves uric acid crystals. Uric acid occurs in human blood and is excreted by the kidneys in people's urine. Too much uric acid in the blood can cause tiny needle-shaped crystals to collect on skeletal joints.

Place the correct Medicine Card here!

Photo: Lucy Boynton

Opium Poppy
Papaver somniferum

Plant Facts

The Opium Poppy is the source of several very helpful medical compounds.

Medical Compound Found in Plant

Morphine

Chemical Formula of this Compound

$C_{17}H_{19}NO_3$

Effect of the Compound on the Human Body

Binds to certain nerve cells, preventing them from communicating the feeling of pain.

Place the correct Medicine Card here!

Photo: Peter S. Goltra for the National Tropical Botanical Garden

No English common name
Chondrodendron tomentosum

Plant Facts

Chondrodendron tomentosum is a vine that grows in South American rain forests. Indians have used this plant as a source for arrow poison when they hunt.

Medical Compound Found in Plant

Tubocurarine

Chemical Formula of this Compound

$C_{37}H_{41}N_2O_6$

Effect of the Compound on the Human Body

Tubocurarine blocks motor nerve transmission, causing muscles to relax so much they actually stop contracting. It first affects toes, ears, eyes, neck, and then arms and legs. Too much can relax breathing muscles so that lungs stop working.

Place the correct Medicine Card here!

Photo: Gregg Marr

Mayapple
Podophyllum peltatum

Plant Facts

The mayapple is a lovely woodland plant, found in Eastern North America. Related species in other parts of the world are used for similar medical reasons. The plant's rhizome (an underground stem from which the roots grow) is the source of poisonous, yet medically helpful, compounds.

Medical Compound Found in Plant

Podophyllotoxin

Chemical Formula of this Compound

$C_{22}H_{22}O_8$

Effect of the Compound on the Human Body

Podophyllotoxin is an antimitotic, meaning it prevents cells from dividing.

Place the correct Medicine Card here!

Photo: color line, flickr.com

Snowdrops
Galanthus species

Plant Facts

Snow drops are small bulbs that emerge with lovely flowers in late winter. Many gardeners plant them in the U.S., and they are found on several continents.

Medical Compound Found in Plant

Galathamine

Chemical Formula of this Compound

$C_{17}H_{21}NO_3$

Effect of the Compound on the Human Body

Galanthamine inhibits the loss of special neurons in the brain, called acetylcholine-producing neurons.

Place the correct Medicine Card here!

Photo: Koehler's Medicinal Plants, 1887

Calabar Bean

Physostigma venenosum

Plant Facts

The Calabar bean is a creeping plant that grows in West Africa. Its seeds are VERY poisonous. These seeds are also the source of the medical compound physostigmine.

Medical Compound Found in Plant

Physostigmine

Chemical Formula of this Compund

$C_{15}H_{21}N_3O_2$

Effect of the Compound on the Human Body

Physostigmine constricts the pupil of the eye. It also reduces the pressure in the eye.

Place the correct Medicine Card here!

Photo: US Geological Survey, Photo by Forest & Kim Starr

Cinchona Tree

Cinchona pubescens

Plant Facts

Cinchona trees grow in the Andes mountains of South America. Quinine is obtained from the bark of these trees.

Medical Compound Found in Plant

Quinine

Chemical Formula of this Compund

$C_{20}H_{24}O_2N_2$

Effect of the Compound on the Human Body

Kills certain one-celled creatures called Protozoans.

Place the correct Medicine Card here!

Photo: James Manhart, Texas A&M University

Happy Tree

Camptotheca accuminata

Plant Facts

This medium-sized tree is native to Central China. There, it is known as the "happy tree."

Medical Compound Found in Plant

Camptothecin

Chemical Formula of this Compund

$C_{20}H_{16}N_2O_4$

Effect of the Compound on the Human Body

Camptothecin inhibits a basic enzyme that is needed in the process of DNA replication. The chromosomes can't unwind, and the transcription of the DNA information cannot occur. Ultimately, the cells die.

Place the correct Medicine Card here!

Photo: nchenga, flickr.com

Tea Plant

Camellia sinensis

Plant Facts

This evergreen shrub or small tree is native to mainland South and Southeast Asia. It is now cultivated in tropical and subtropical areas around the world.

Medical Compound Found in Plant

Theophylline

Chemical Formula of this Compund

$C_7H_8N_4O_2$

Effect of the Compound on the Human Body

Theophylline is a bronchodilator. This means that it works to relax the bronchial smooth muscles, thereby opening the air passages of the lungs, increasing air flow through them.

Place the correct Medicine Card here!

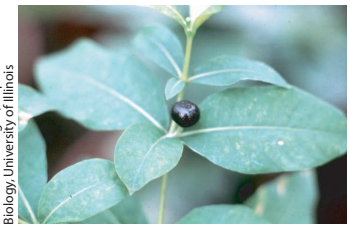

Photo: David Seigler, Dept. of Plant Biology, University of Illinois

Indian Snakeroot

Rauvolfia serpentina

Plant Facts

This perennial shrub grows in Southeast Asia. Other members of its genus supply other important medical compounds.

Medical Compound Found in Plant

Reserpine

Chemical Formula of this Compund

$C_{33}H_{40}N_2O_9$

Effect of the Compound on the Human Body

Reserpine decreases heart rate and relaxes blood vessels so that blood flows more easily through the body.

Place the correct Medicine Card here!

Sweet Clover

Melilotus alba

Plant Facts

Originally from Europe, it is now widespread in North America.

Medical Compound Found in Plant

Dicumarol

Chemical Formula of this Compund

$C_{19}H_{12}O_6$

Effect of the Compound on the Human Body

Dicumarol prevents the blood from making prothrombin, which is essential for blood clotting.

Place the correct Medicine Card here!

Photo: Ben Ostrowsky

Cassia

Cassia angustifolia

Plant Facts

Southern Europe, North Africa, Middle East

Medical Compound Found in Plant

A group of chemicals called Sennoids

Chemical Formula of this Compund

$C_{42}H_{38}O_{20}$

Effect of the Compound on the Human Body

Causes large intestine to increase contractions.

Place the correct Medicine Card here!

Photo: Robert H. Mohlenbrock, USDA-NRCS PLANTS Database

Common Ragweed

Ambrosia artemisiifolia

Plant Facts

Common North American herb, found in yards, fields, and other open places. The chief cause of hay fever in the United States.

Medical Compound Found in Plant

Thiarubrine

Chemical Formula of this Compund

$H_5C_2S_2$

Effect of the Compound on the Human Body

Found to kill a variety of fungi and bacteria.

Place the correct Medicine Card here!

A powerful cancer remedy

Used to relax muscles during surgery

Used to treat heart problems

Used to treat an eye disease called glaucoma

Used as a laxative to relieve constipation

Used in birth control pills

Used to open patients' pupils during eye exams

Considered the most effective pain reliever of all

Used to treat high blood pressure

Used as a local anesthetic and to treat sore throats

A powerful cancer remedy

Used to treat malaria, which is caused by protozoan parasites infesting human blood

A powerful cancer remedy

Used to treat Alzheimer's disease, a brain disorder that mainly affects older people

Used to remove blood clots

Used to treat a painful type of arthritis (joint disease) known as gout

A promising treatment for bacterial and fungal infections

Used to treat warts and some cancers

Used to treat asthma and emphysema, diseases of the respiratory system that affect how people breathe

Used to treat malaria, which is caused by protozoan parasites infesting human blood