Early American Pharmacology

Medicinal Properties of Organic Matter including Herbs and Essential Oils

by James A. Marusek

For thousands of years, man has utilized the healing properties of plants to treat the ailments of mankind. But early in the 20th century, America transitioned pharmacology from plant based to chemical based formulations. Our reliance on chemistry for modern medicine ignores not only its basic roots; but also an essential tool in the arsenal to combat illness. The medicinal properties of plants are very complex and multilayered and many cannot be expressed by simple inorganic/organic chemical formulas.

For the past several decades, science has not evolved new antibiotics. Idiotic policy change at the U.S. Food and Drug Administration (FDA) in the 1990's forced most of the pharmaceutical industry out of development of new antibiotics. Present bacterial strains are becoming resistance to known antibiotics leading to the evolution of super strains that are untreatable. We are at the edge of a major global epidemic without the necessary tools to fight it. Many diseases essentially eliminated from modern society by the development of modern antibiotic have reappeared in an evolved antibiotic resistant form. These include antibiotic resistant forms of Tuberculosis and Venereal Diseases. This also includes the emergence of superbugs, such as Carbapenem Resistant Enterobacteriaceae (CRE). In addition, modern medicine has not produced cures for many other dreaded diseases such as SARS, the Ebola virus, hanta virus, AIDS, HIV and influenza like bird and swine flu. Other threats, such as those posed by biological warfare are also present.

The objective of this book is to identify the medicinal properties of plants that were known at the beginning of the 20th century in the United States and provide a summary in table form. This information is contained in *A Manual of Organic Materia Medica and Pharmacognosy* by Lucius E. Sayre, Fourth Edition, published by P. Blakiston's Son & Co., Philadelphia, 1917. My work is only a derived summary. Consult the source document for additional information including: plant morphology, plant origin, botanical characteristics & drawings, key chemical constituents, preparation/extraction techniques, and dosage rates. The source document is available online in "pdf" format at https://books.google.com/books?id=O9IrAQAAMAAJ

Pages 270-271 were missing from the source document. I extracted this missing information from the 1907 edition of the book.

Because this source document is almost a hundred years old, some of the plant classification common names, family names, and other information have changed over the last century. I have attempted to bring this information up-to-date using brackets [ ] which provide my updates and comments.

Many of the medicinal terms used during this time period have become archaic and unfamiliar. For example, a plant with the properties of a *refrigerant* is used to lower a person's temperature and control a fever. So as a beginning, I have provided a definition of medicinal terms used within the table. Within the table, I have highlighted these terms using a bold, italic typeface.

Definition of Medicinal Terms

Adjuvant – an additive that assists in the prevention, amelioration or cure of a disease. A substance that enhances the body's immune response to an antigen. In the modern definition of the term, an adjuvant is applied after initial treatment of cancer, especially to suppress secondary tumor formation.
Alexipharmic – an antidote against poison or infection.
Alterative – to alter favorably the course of an ailment. Alters the course of morbid conditions, modifying the nutritive processes while promoting waste, by stimulating secretion, absorption, and the elimination of morbid deposits; especially used in the chronic diseases of the skin. Employed in the treatment of phthisis, syphilis, gout, neuralgia, and asthma.
Amenorrhoea [Amenorrhea]– an abnormal absence of menstruation.
Analgesic – relief from pain. It acts on the peripheral and central nervous systems.
Anesthetic – used to abolish the sensation of pain, to achieve adequate muscle relaxation during surgery, to calm fear and allay anxiety, and to produce amnesia for the event.
Anodyne – used to lessen pain through reducing the sensitivity of the brain or nervous system.
Antagonize – counteracts.
Anthelmintic – expels parasitic worms and other internal parasites from the alimentary canal (the whole passage along which food passes through the body from mouth to anus).
Antidysenteric – tending to relieve or prevent dysentery (an infection of the intestines that causes diarrhea containing blood or mucus in the feces).
Anti-hysteric – used to treat hysterical neurosis, somatization disorder, and hypochondriacal neurosis.
Antilithic – preventing the formation of calculi (such as kidney stones) or promoting their dissolution.
Antiperiodic – prevents or checks the return of diseases, which recur periodically (for example malaria).
Antipyretic – prevents or eliminates fever.
Antiseptic – prevents the growth of disease-causing microorganisms.
Antiscorbutic – preventing or relieving scurvy.
Antispasmodic – suppresses muscle spasms.
Antisyphilitic – effective against syphilis.
Aperient – a gentle purgative.
Aphrodisiac – an agent used to excite the function of the genital organs when they are morbidly depressed.
Aromatic – having a pleasant and distinctive smell.
Astringent – causes the contraction of body tissues, typically used to protect the skin and to reduce bleeding from minor abrasions.
Calmative – having a sedative effect.
Carminative – prevent formation of gas in the gastrointestinal tract or facilitate the expulsion of said gas, thereby combating flatulence.
Catarrh – inflammation of mucous membrane and restriction of air passages.
Cathartic – purgative.
Cholagogue – a medicinal agent, which promotes the discharge of bile from the system, purging it downward.
Consumptive – a wasting disease, especially pulmonary tuberculosis.
Corrective – a drug that modifies or corrects an undesirable or injurious effect of another drug.
Croup – an infection of the upper airway, generally in children, which obstructs breathing and causes a characteristic barking cough. The cough and other symptoms are the result of inflammation around the vocal cords (larynx), windpipe (trachea) and bronchial tubes (bronchi).
Cutaneous – affecting the skin.
Depressant – lowers neurotransmission levels and depresses or reduces stimulation to the brain.
Demulcent – relieves inflammation or irritation. Relieves irritation of mucous membranes in the mouth by forming a soothing protective film. Used internally to treat acute inflammation of the alimentary canal.
Deobstruent – removing obstructions; having the power to clear or open the natural ducts of the fluids and secretions of the body; aperient.
Depurative – a purifying agent.
Diaphoretic – induces sweating and perspiration.
Discutient – disperses a tumor or any coagulated fluid in the body; sometimes it is equivalent to carminative.
Disinfectant – agents that destroys or prevents the growth of microorganisms that can cause infection.
Diuretic – helps the body get rid of unneeded water and salt through urine.

Dropsy – swelling of soft tissues due to the accumulation of excess water. This would be typical of an individual that has edema due to congestive heart failure.
Dyspepsia – painful, difficult or disturbed indigestion, which may be accompanied by symptoms such as nausea and vomiting, heartburn, bloating, and stomach discomfort.
Dyspeptic – suffers from indigestion or consequent irritability or depression.
Ecbolic – inducing contractions of the uterus leading to expulsion of a fetus.
Emetic – to cause vomiting.
Emmenagogue – to stimulate menstrual flow, when menstruation is absent for reasons other than pregnancy, such as hormonal disorders.
Emollient – to sooth and soften irritated and abraded skin.
Errhine – causing an increase of mucus within the nose, and hence causing one to sneeze.
Escharotic – a substance that causes tissue to die and slough off; produces a thick dry scab.
Expectorant – dissolves thick mucus and is usually used to help relieve respiratory difficulties. A medication that helps bring up mucus and other material from the lungs, bronchi, and trachea. Used especially to treat coughs.
Febrifuge – to reduce fevers.
Galactagogue – promotes or increases the flow of a mother's milk.
Gravel – small concretions, usually of uric acid, calcium oxalate, or phosphates, formed in the kidney and passed through the ureter, bladder, and urethra. [Kidney stones]
Hemostatic [Haemostatic] – causes bleeding to stop.
Hydragogue – causing a copious water discharge from the bowels.
Hypnotic – agents, which induces sleep and will often abolish pain and cause neither deliriant nor narcotic effects.
Insecticide – used to kill or control the growth of insects.
Intoxicant – causes people to become excited or confused and less able to control what they say or do.
Irritant – agents, which are applied locally to the skin to produce certain effects, as rubefacients (simple reddening of the skin), epispastics (blistering), pustulants (causing blebs in which is found pus); escharotics or caustics (actually destroying the tissue).
Laxative – substances that loosen stools and increase bowel movements. They are used to treat and prevent constipation.
Lenitive – laxative
Lithontriptic – dissolving or destroying stones in the bladder or kidneys.
Masticatory – affecting the muscles used in chewing.
Mucilaginous – secreting mucilage – moist and sticky viscous secretion or bodily fluid.
Mydriatic – dilating the pupils.
Narcotic – lessens the sensibility to pain and causes sleep.
Nervine – used to calm the nerves.
Nutritive – providing nutrition.
Ophthalmia [Ophthalmitis] – inflammation of the eye.
Oxytocic – hastening or facilitating childbirth, especially by stimulating contractions of the uterus.
Palliative – relieve pain.
Paralyzant – causes paralysis.
Parturient – in giving birth, a woman in labor.
Pectoral – used in relieving disorders of the chest or respiratory tract.
Poison, Poisonous – a substance that is capable of causing the illness or death of a living organism.
Pungent – causing a sharp or irritating sensation to taste or smell.
Purgative – purging or cleansing, especially by causing evacuation of the bowels.
Refrigerant – an agent that gives a sensation of coolness or relieves feverishness.
Resolvent – a remedy that causes resolution of a swelling or inflammation.
Rubefacient – a substance for topical application that produces redness of the skin e.g. by causing dilation of the capillaries and an increase in blood circulation.
Sedative – a substance that induces sedation by reducing irritability or excitement.
Scarlatina – Scarlet Fever.
Scrofulous – affecting the tuberculosis of the lymph nodes especially in the neck.
Sialagogue – increases the flow of saliva. Used to treat xerostomia (dry mouth).
Somnifacient – producing or causing slumber.

Soporific – induce drowsiness or sleep or to dull the sense of awareness or alertness.
Spinal Nervine – treat the spine and nervous system.
Stimulant – an agent that induces a temporary increase of the functional activity or efficiency of any organ or system within the body. For example a cardiac stimulant increases the heart's action; the force and frequency of the pulse. A vascular stimulant dilates the peripheral vessels and increases the peripheral circulation. A cerebral stimulant increases the functional activity of the brain functions.
Sternutatory – causes sneezing.
Stomachic – promotes the appetite or assists digestion.
Styptic – capable of stopping bleeding when applied to a wound.
Sudorific – used to induce sweating.
Synergist – an agent that acts with or enhances the action of another.
Taenifuge [Taeniafuge, Teniafuge, Tenifuge]- a medicine to expel tapeworms from a body.
Tonic – restore, tone and invigorate systems in the body or to promote general health and well-being.
Vermifuge – an agent that destroys or expels parasitic worms.
Vesicant – a blistering agent, causes severe skin, eye and mucosal pain and irritation.
Vulnerary – healing of wounds.
Wasting – process by which a debilitating disease causes muscle and fat tissue to "waste" away.

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The Food and Drug Administration (FDA) has not evaluated the statements contained in this book. But the original source document did comply with the National Formulary as mentioned in the statute, known as the U.S. Food and Drug Law which existed at the time the original source document was published in 1917. The information and materials are not meant to diagnose, prescribe, or treat any disease, condition, illness, or injury.

This paper has been broken into two parts. The second part is available at www.breadandbutterscience.com/EAP2.pdf