

## CARDIOVASCULAR SYSTEM ACTION CATEGORIES & HERBS

**ADAPTOGENIC: Nourishes/protects/modulates/normalizes various metabolic processes, increases the body's resistance to a wide variety of physical, chemical and biological stresses. Treats whole body more than individual systems.**

***Echium vulgare*** (Viper's bugloss, *Boraginaceae*, Borage family)  
Soothing mucilage, good for depleted adrenals, damaged lungs.

***Eleutherococcus senticosus*** (Siberian Ginseng, *Araliaceae*, Ginseng family)  
This one will not raise B.P., can use long term, good for building stamina against stress.

***Ganoderma spp.*** (*Ganoderma spp. Ganodermataceae*)  
Powerful/nourishing immune stimulant, allows lungs to absorb more oxygen, which in turn is positive for cardiovascular system

***Glycyrrhiza glabra*** (Licorice, *Fabaceae*, Pea/Legume Family)  
Having a steroid component, licorice is an all-body anti-inflammatory, has a regulatory action over estrogen activity, enhances immune activity. Only concentrated solid extract will raise blood pressure. Tea or tincture will not.

***Gynostemma pentaphyllum*** (*Gynostemma, Cucurbitaceae*, Gourd Family)  
Contains several ginsenosides (polysaccharides) that are identical to those found in ginseng, good for blood sugar and stress. By maintaining low insulin levels and moderate insulin sensitivity, we can reduce cholesterol buildup.

***Panax quinquefolius*** (North American Ginseng, *Araliaceae*, Ginseng Family)  
From "Panacea" meaning cure-all. Contains **Saponin glycosides**, milder action than asian ginsengs, cooling as opposed to warming. Regulates blood sugar and cholesterol, adrenal glands.

### **Saponin Glycoside (Saponins)/Triterpenes**

- **compounds that have a chemical structure similar to endogenous steroidal compounds**
- **plants containing these compounds provide the body with materials to modulate/regulate hormonal and endocrine/immune system processes**
- **aids the body's own 'government' to adapt or adjust to a variety of biological, physical or chemical stresses**

***Withania somnifera*** (*Withania, Solanaceae*, Nightshade Family)  
Relaxing, adrenal support.

### **ANTI-ARRHYTHMIC: Regulates/normalizes contractions of the myocardium (heart muscles)**

***Cinchona succirubra*** (Jesuit's Bark, *Rubiaceae*, Madder Family)  
Contains the antiarrhythmic quinidine for post febrile cardiac weakness and irregularity, can combine with heart stimulant.

***Leonurus cardiaca*** (Motherwort)  
Linked to emotional states but gently regulates rhythm in the heart regardless of emotional state.  
Functional complaints due to autonomic imbalances and specifically for palpitations from hyperthyroidism.

*Sarothamnus/Cytisus scoparius* (Scotch Broom, *Fabaceae/Leguminosae*, Pea Family)

Contains **Flavonoids**. Specific use for when body is accumulating fluid due to weakness of the heart.

Quinolizidine alkaloids like sparteine antagonize K & Na channels. Normalizes rhythm

**Flavonol Glycosides(Flavonoids):**

- decrease permeability and fragility of vessels in the capillary beds ie. for edema
- **Flavonoids seem to function as “biological response modifiers”for cardiac weakness with hypotension**
- **they modify the body’s response to allergens, viruses and carcinogens**
- **they are anti-inflammatory, anti-allergic, antiviral, and anti-carcinogenic**
- **Flavonoids also are active against a wide range of free radicals, controlling a larger range than most other anti-oxidants**
- **Flavonoids are required for compounds to be exchanged between Phase 1 and Phase 2 liver detox pathways**

*Terminalia arjuna* (Arjuna, *Combretaceae*)

Contains flavonoids and saponins that help nourish and regulate the activities of the heart. Can repair the heart after chemotherapy use.

*Convallaria majalis* (Lily of the Valley, *Asparagaceae*, Asparagus Family)

**Cardiac glycosides**, it normalizes rhythm and BP, specific for congestive heart failure with tachycardia and mitral valve insufficiency. Strong **effector**, does not nourish or repair ie. *Crataegus*

*Rauwolfia serpentina* (Indian Snake Root, *Apocynaceae*, Dogbane Family)

Hypertension with ischemia and for preventing supraventricular arrhythmias.

**ANTISPASMODIC: regulates/modulates smooth muscle contractions of the arteries.**

*Ammi visnaga* (Khella, *Apiaceae*, Carrot or Parsley Family)

Relaxes smooth muscle of arteries therefore increasing arterial volume - lowering blood pressure. Also relaxes coronary artery which allows more blood to feed the heart.

*Cimicifuga/Actea racemosa* (Black cohosh, *Ranunculaceae*, Buttercup Family)

Natives used it for arthritis and spasms from working hard, relaxes smooth, striated and cardiac muscle.

*Leonurus cardiaca* (Motherwort, *Lamiaceae, Labiatae*, Mint Family)

Normalizes smooth muscle peristalsis for tachycardia (heat). Helpful for new mothers who have elevated heart rate/arrhythmia. Member of mint family so it cools heat.

*Lobelia inflata* (Lobelia, *Campanulaceae*, Harebell Family)

Relaxes heart and lungs, balances the influence of the parasympathetic and sympathetic nervous systems. Can combine with Ephedra to enhance relaxation of bronchi while mitigating Ephedra’s heart stimulating action.

*Melissa officinalis* (Lemon Balm, *Lamiaceae*, Mint Family)

milder antispasmodic than Leonurus, calming in cases of thyrotoxicosis/hyperthyroid (over stimulated thyroid) which can lead to heart palpitations.

*Valeriana officinalis* (Valerian, *Valerianaceae*, Valerian Family)

Excellent relaxant striated muscles as well as slightly for smooth and cardiac muscles. Sedative.

*Viburnum opulus* (Cramp Bark, *Adoxaceae*, Adoxa Family)

Relaxing to smooth muscle, striated and cardiac.

*Viscum album* (European Mistletoe, *Santalaceae*, Sandalwood Family)  
Relaxes smooth muscle and lowers blood pressure.

**ANTI-INFLAMMATORY: Herbs that mitigate or modulate inflammatory processes**

*Glycyrrhiza glabra* (Chinese Licorice, *Leguminosae*, Pea Family)  
Most effective for most of the body. Stimulates Corticosteroid production/activity.

**CARDIO-ACTIVE: herbs which have powerful effects on the heart, increasing the force of systolic contractions. Positive Inotropic**

*Cereus grandiflorus* (Night-blooming cactus, *Cactaceae*, Cactus Family)  
Nutritive, reduces heart rate as a result of increased contraction force (conservation). More work using less energy. Digitalis like but much safer, for irregular pulse and angina, Bradycardia (heart rate too slow), an active sympathetic stimulant.

*Convallaria majalis* (Lily of the Valley, *Asparagaceae*, Asparagus Family)  
Even safer than *Cereus* and far safer than *Digitalis*.  
Cardiac weakness, arrhythmia and edema, Bradycardia, Congestive heart failure.

*Lycopus virginicus* (Bugleweed, *Lamiaceae*, Mint Family)  
Calms heart, slows down tachycardia by calming/cooling thyroid.

*Sarothamnus/Cytisus scoparius* (Scotch Broom, *Fabaceae*, Pea Family)  
Stimulates thyroid, which in turn stimulates heart, for cardiac weakness with hypotension, angina pectoris.

*Scrophularia nodosa* (Common Figwort, *Scrophulariaceae*, Figwort or Snapdragon Family)  
Stimulates heart mildly. More used for strengthening blood vessels and bringing fluid from tissues to vessels.

**CARDIOTONIC: Herbs that tone and strengthen heart muscles. Works long term. Safe to use.**

*Achillea millefolium* (Yarrow, *Asteraceae*, Composite or Aster Family)  
Peripheral vasodilator (or relaxing diaphoretic), which takes stress off of the heart. 'Moves blood' through barriers in response to physiological demand.

*Alpinia galanga* (Greater Galangal, *Zingiberaceae*, Ginger Family)  
Warm, stimulates circulation, helps heart by helping to move blood.

*Borago officinalis* (Borage, *Boraginaceae*, Borage Family)  
Nutritive, adaptogenic, stress-relieving. Adrenal restorative. Cordial. Parasympathetic  
*Ego borago semper gaudia*: "I borage always bring gladness."

*Crataegus spp.* (Hawthorn, *Rosaceae*, Rose Family)  
Flavonoids, provides nutritive sugars for heart activities, warming, tonifies heart chi, stabilizing and normalizing heart chi, dilates coronary artery, allows more work for less oxygen intake, 'by increasing blood supply to the coronary vessels, improving heart muscle contraction, eliminating rhythm disturbances and inhibiting angiotensin converting enzyme (ACE), hawthorn is effective in reducing blood pressure, angina attacks and serum cholesterol while preventing deposits of cholesterol' (Willard)  
Parasympathetic.

<p><b><i>Ginkgo biloba</i></b> (Ginkgo, <i>Ginkgoaceae</i>, Ginkgo Family) Contains flavonoids, nutritive to heart, vasodilating.</p>
<p><b><i>Leonurus cardiaca</i></b> (Motherwort, <i>Lamiaceae</i>, Mint Family) Contains rutin(flavonoid), one of the best heart tonics, calms the heart and nerves and can be given in large doses, especially strengthening in cases of heart palpitations, Stabilizes heart chi, Cooling and reduces mood swings from thyrotoxicosis(hyperthyroidism) Parasympathetic.</p>
<p><b><i>Polygonum multiflorum</i></b> (Chinese Knotweed/ He Shou Wu, <i>Polygonaceae</i>, Buckwheat Family) Tonic, astringent, Use in combos as it is toxic in large doses.</p>
<p><b><i>Terminalia arjuna</i></b> (Arjuna, <i>Combretaceae</i>) Highly astringent, for 'leaky valves', flavonoids, trophorestorative. Has been shown to repair heart valves.</p>
<p><b><i>Tilia europaea</i></b> (Linden Tree/American Basswood, <i>Malvaceae</i>, Mallow Family) Relaxing, antispasmodic, anti-inflammatory. Parasympathetic.</p>
<p><b>CIRCULATORY STIMULANTS: Increases flow of blood from core to periphery, can be considered as stimulating diaphoretics</b></p>
<p><b><i>Alpinia galanga</i></b> (Greater Galanga, <i>Zingiberaceae</i>, Ginger Family) Irritating compounds promote peripheral circulation. Warmer and drier than wild ginger.</p>
<p><b><i>Capsicum annuum</i></b> (Cayenne Pepper, <i>Solanaceae</i>, Nightshade Family) Contains irritating oils, promotes circulation.</p>
<p><b><i>Zanthoxylum clava-herculis</i></b> (Prickly Ash, <i>Rutaceae</i>, Rue or Citrus Family) Encourages peripheral circulation. Isobutylamides create tingling sensation on the tongue similar to Echinacea. For depressive states of the nervous system, with capillary congestion and sluggish circulation.</p>
<p><b><i>Zingiber officinalis</i></b> (Ginger, <i>Zingiberaceae</i>, Ginger Family) Irritating compounds promote local circulation.</p>
<p><b>CIRCULATORY STIMULANTS (CENTRAL):</b></p>
<p><b><i>Armoracia rusticana</i></b> (Horse Radish, <i>Cruciferae</i>, Mustard Family) Mustard oils, <b>allyl isothiocyanate</b>; irritative antimicrobial compounds that promote circulation.</p>
<p><b><i>Capsicum annuum</i></b> (Cayenne Pepper, <i>Solanaceae</i>, Nightshade Family) Dilates arteries, lowering blood pressure.</p>
<p><b><i>Marsdenia condurango</i></b> (Condurango, <i>Apocynaceae</i>, Dogbane Family) Stimulates circulation centrally, increases BP.</p>
<p><b><i>Myrica cerifera</i></b> (Bayberry tree, <i>Myricaceae</i>, under Beech Family or <i>Fagales</i>) Stimulates circulation, promotes liver and glandular activity.</p>
<p><b><i>Panax ginseng</i></b> (Korean Ginseng, <i>Araliaceae</i>, Ginseng Family) Nutritive, contains saponins, increases metabolism.</p>
<p><b><i>Panax quinquefolius</i></b> (North American Ginseng, <i>Araliaceae</i>, Ginseng Family) Contains saponins, Panaxin has been shown to stimulate the midbrain, heart and blood vessels, Panax acid is a stimulant to the heart and to general metabolism.</p>

***Zingiber officinalis*** (Ginger, *Zingiberaceae*, Ginger Family)  
Starts by increasing central circulation and then moves it toward the periphery.

**CIRCULATORY STIMULANTS (CEREBRAL): Promotes flow of blood to the brain**

***Centella asiatica*** (Gotu Kola, *Apiaceae* or *Umbelliferae*, Carrot or Parsley Family)  
Improves blood flow to head, sharpens mind.

***Coleus forskohlii*** (Forskohlii, *Lamiaceae*, Mint Family)  
Relaxes smooth muscles in arteries of neck.

***Ginkgo biloba*** (Ginkgo, *Ginkgoaceae*, Ginkgo Family)  
Flavonoids, helps to relax venous structure of brain, which increases blood flow. Ideal for Alzheimer's, forgetfulness.

***Rosmarinus officinalis*** (Rosemary, *Lamiaceae*, Mint Family)  
Volatile oils promote circulation, Romans/Greeks used to wear crowns of rosemary to think, good for memory.

***Vinca minor*** (Lesser Periwinkle, *Apocynaceae*, Dogbane Family)  
Increases arterial blood flow to brain.

**CORONARY ARTERY DILATORS: Herbs that help dilate the coronary artery, providing the heart with increased oxygen. Vagal / Parasympathetic**

***Ammi visnaga*** (Khella, *Apiaceae*, Carrot or Parsley Family)  
Also a bronchodilator, slow to take effect, but the effect persists, arteries remain dilated for some time.

***Crataegus spp.*** (Hawthorn, *Rosaceae*, Rose Family)  
Feeds heart. Specifically opens coronary artery but not other arteries as much. Mild and consistent .

***Panax notoginseng*** (Notoginseng or Tian Qi, *Araliaceae*, Ginseng Family)  
As a tea it will dilate the coronary artery. As part of the product 'Yunnan Baiyao', will stop internal bleeding.

***Salvia miltiorrhiza*** (Red Sage, Dan Shen - *Lamiaceae*, Mint Family)  
Useful for ischemia, lack of blood flow to heart. PROTECTS the heart from ischemia, stroke and myocardial infarction.

**DIURETICS: Promotes uresis, balancing fluid levels, reducing the volume of the blood.**

***Achillea millefolium*** (Yarrow, *Asteraceae*, Composite or Aster Family)  
Helps move fluid through kidneys.

***Apium graveolens*** (Celery, *Apiaceae*, Carrot or Parsley Family)  
Promotes elimination of uric acid buildup from exercise, metabolism and urate crystals.

***Levisticum off.*** (Lovage, *Apiaceae*, Carrot or Parsley Family)  
Similar to celery seed, but contains bergaptene psorolen which increases photosensitivity.  
Good for people needing UV treatment.

***Sarothamnus/Cytisus scoparius*** (Scotch Broom, *Fabaceae*, Pea Family)  
Changes conductivity of heart. **Dromotropic.**  
Helpful for arrhythmia and extra systoles (heartbeats).

<p><b><i>Taraxacum officinalis fol.</i></b> (Dandelion leaf, <i>Asteraceae</i>, Composite or Aster Family) Leaf is diuretic which is potassium sparing. It replaces potassium as it increases urine output.</p>
<p><b><i>Urtica fol. &amp; sem.</i></b> (Nettle leaf and seed, <i>Urticaceae</i>, Nettle Family) Nutritive, high mineral content, helps remove creatinine from blood into urine. “Kidney food”.</p>
<p><b>HYPERTENSIVES: Helps to increase blood pressure, *use caution*</b> <b>Sympathetic</b></p>
<p><b><i>Cola vera</i></b> (Cola, <i>Malvaceae</i>, Mallow Family) The nut contains caffeine, theobromine.</p>
<p><b><i>Corynanthe yohimbe</i></b> (Yohimbe, <i>Rubiaceae</i>, Madder Family) Dilates specific arteries by way of central nervous system stimulation to help with erectile dysfunction, mitigate with relaxants.</p>
<p><b><i>Ephedra sinica</i></b> (Ephedra or Ma Huang, <i>Ephedraceae</i>, Ephedra Family) Contains ephedrine, acts on smooth muscle, bronchodilator, combine/mitigate with relaxants.</p>
<p><b><i>Glycyrrhiza glabra</i></b> (Licorice, <i>Fabaceae</i>, Pea Family) Nourishes adrenals, which is related to fluid/kidneys. Only concentrated solid extract will cause unfavourable hypertensive response. Tea or tincture will not.</p>
<p><b><i>Lycopus virginicus</i></b> (Bugleweed, <i>Lamiaceae</i>, Mint Family) Stimulates heart by stimulating the thyroid gland.</p>
<p><b><i>Panax ginseng</i></b> (Korean Ginseng, <i>Araliaceae</i>, Ginseng Family) Increases metabolism and cardiac action, higher demand on heart.</p>
<p><b><i>Paullina cupana</i></b> (Guarana, <i>Sapindaceae</i>, Soapberry Family) Contains 2.6-7% guaranine (caffeine), and other <b>xanthine alkaloids</b> that are cardiac stimulants (theophylline, theobromine, caffeine).</p>
<p><b><i>Sarothamnus/Cytisus scoparius</i></b> (Scotch Broom, <i>Fabaceae</i>, Pea Family) Raises blood pressure.</p>
<p><b>HYPOTENSIVES: Herbs that help reduce blood pressure</b> <b>Parasympathetic (ACE inhibitors)</b></p>
<p><b><i>Achillea millefolium</i></b> (Yarrow, <i>Asteraceae</i>, Composite or Aster Family) Diaphoretic. Moves blood from core to periphery, taking pressure off of the heart. Dilates all capillaries, then helps sweat out fluids.</p>
<p><b><i>Crataegus species</i></b> (Hawthorn, <i>Rosaceae</i>, Rose Family) Dilates arteries, particularly coronary artery. Nourishes heart, strengthens contractions but makes them less frequent.</p>
<p><b><i>Epimedium grandiflorum</i></b> (Horny Goatweed, <i>Berberidaceae</i>, Barberry Family) Reduces blood pressure, also used for lowered libido and erectile dysfunction.</p>
<p><b><i>Leonurus cardiaca</i></b> (Motherwort, <i>Lamiaceae</i>, Mint Family) Calms thyroid which calms heart, dilates arteries, veins. Cools.</p>

<p><b><i>Passiflora incarnata</i></b> (Passion Flower, <i>Passifloraceae</i>, Passion Flower Family) Calming, relaxing to nervous systems, lowers BP by relaxing venous structure, allowing blood to flow more easily.</p>
<p><b><i>Rauwolfia serpentina</i></b> (Indian Snakeroot, <i>Apocynaceae</i>, Dogbane Family) Strongest of herbal hypotensives. Contains a variety of <b>indole alkaloids</b>(effectors) including reserpine, which exhibits noted antipsychotic and antihypertensive properties. As a tea, is very relaxing. As an extract or tincture, it is very powerful. Will drop blood pressure in one dose, good for acute situations to get people out of danger. Will not train tissue to respond, simply drops blood pressure until lifestyle or other herbs can take effect. No more than 20% of a formula. Overdose demonstrated by drooping eyelids.</p>
<p><b><i>Scutellaria lateriflora</i></b> (Skullcap, <i>Lamiaceae</i>, Mint Family) Mild. Also analgesic. High in potassium.</p>
<p><b><i>Tilia europaea</i></b> (Linden Tree, <i>Malvaceae</i>, Mallow Family) Nervine relaxant, relaxes smooth muscle, aids sleep.</p>
<p><b><i>Valeriana officinalis</i></b> (Valerian, <i>Valerianaceae</i>, Valerian Family) Relaxes all muscle tissues.</p>
<p><b><i>Viburnum opulus</i></b> (Cramp Bark, <i>Adoxaceae</i>, Adoxa Family) Relaxes all muscles, antispasmodic. Also helpful for muscle spasms.</p>
<p><b><i>Viscum album</i></b> (European Mistletoe, <i>Santalaceae</i>, Sandalwood Family) Relaxes smooth muscles, arterial muscle.</p>
<p><b>NERVINES: Calming, relaxing herbs</b></p>
<p><b><i>Aster nova-angliae</i></b> (also known as <i>Symphotrichum</i>) (Purple Aster, New England Aster, <i>Asteraceae</i>, Composite or Aster Family) Relaxing nervine, sedative, hypnotic. Natives would use it to alleviate stress in caregivers ie. new mothers (and their babies). Can use tea, tincture or smudge (smoke). Mucilaginous.</p>
<p><b><i>Hypericum perforatum</i></b> (St. John's Wort, <i>Hypericaceae</i>, St. John's Wort Family) Calms nerves, alleviates depression associated with liver heat, German pharmacies prescribe it for depression five times more than pharmaceutical antidepressants.</p>
<p><b><i>Leonurus cardiaca</i></b> (Motherwort, <i>Lamiaceae</i>, Mint Family) Calms thyroid gland, relaxes venous structure.</p>
<p><b><i>Melissa officinalis</i></b> (Lemon Balm, <i>Lamiaceae</i>, Mint Family) Down-regulates thyroid function.</p>
<p><b><i>Piper methysticum</i></b> (Kava Kava, <i>Piperaceae</i>, Kava Family) Favourite anti-anxiety herb. Does not cause hangovers. Traditionally made with coconut milk - fat is good for extraction. Anesthetic, relaxing to skeletal muscle.</p>
<p><b><i>Rosmarinus officinalis</i></b> (Rosemary, <i>Lamiaceae</i>, Mint Family) Mild nervine for head pressure, increases cerebral blood flow.</p>
<p><b><i>Scutellaria lateriflora</i></b> (Skullcap, <i>Lamiaceae</i>, Mint Family) Parasympathetic, trophorestorative.</p>

*Tilia europaea* (Linden Tree, *Malvaceae*, Mallow Family)  
Parasympathetic, cardiogenic.

*Valeriana officinalis* (Valerian, *Valerianaceae*, Valerian Family)  
Relaxing

**PERIPHERAL VASODILATORS: Herbs that dilate blood vessels near the perimeter of the body, allowing core blood to flow more freely to the peripheries.**

*Achillea millefolium* (Yarrow, *Asteraceae*, Composite or Aster Family)  
Induces diaphoresis.

*Ammi visnaga* (Khella, *Apiaceae*, Carrot or Parsley Family)  
Relaxes and opens arteries.

*Capsicum annuum* (Cayenne Pepper, *Solanaceae*, Nightshade Family)  
Opens all arteries and veins. Too powerful (hot, stimulant) to be used at therapeutic dosage. Tincture usually less than 3% of total formula. We use to induce sweating, improve peripheral circulation temporarily, for weak peripheral circulation.

*Ginkgo biloba* (Ginkgo, *Ginkgoaceae*, Ginkgo Family)  
Used mostly to increase cerebral blood flow.

*Mentha piperita* (Peppermint, *Lamiaceae*, Mint Family)  
Oils gather in capillaries in the skin, opens pores to increase diaphoresis.

*Zanthoxylum clava-herculis* (Prickly Ash, *Rutaceae*, Rue or Citrus Family)  
Pushes blood out of core, diffusible stimulant

*Zingiber officinalis* (Ginger, *Zingiberaceae*, Ginger Family)  
Warms blood in core, then moves it to periphery.

**VASCULAR TONICS: Herbs that tonify and nourish the cardiovascular system. Repair vascular tissue.**

*Achillea millefolium* (Yarrow, *Asteraceae*, Composite or Aster Family)  
Repairs tissue as well as exercises it, improves capillary integrity

*Aesculus hippocastanum* (Horse chestnut, *Apocynaceae*, Dogbane Family)  
Decreases vascular permeability. Has the ability to close venous endothelial gaps (saponin glycoside). Can absorb right through the skin. It is specific for chronic venous insufficiency (CVI), decreases permeability of capillaries, contains saponins, flavonoids, vitamin C (necessary for repairing vascular endothelium).

*Centella asiatica* (Gotu Kola, *Apiaceae* or *Umbelliferae*, Carrot or Parsley Family)  
Also vulnerary (repairs skin). Skin and epithelium of vascular tissue are very similar. Useful for varicose veins and CVI. Antithrombotic and fibrinolytic (helps break up blood clots).

*Collinsonia canadensis* (Stoneroot, *Lamiaceae*, Mint Family)  
Improves capillary circulation, excellent for clearing congestion associated with defective circulation. Similar to Centella.

*Crataegus spp.* (Hawthorn, *Rosaceae*, Rose Family)  
Repairs tissue, may reduce atherosclerotic depositions.

<p><b><i>Ginkgo biloba</i></b> (Ginkgo, <i>Ginkgoaceae</i>, Ginkgo Family)          Contains flavonoids, inhibits vasospasm, antithrombotic, antioxidant, decreases vascular permeability(notably in the brain).</p>
<p><b><i>Hydrastis canadensis</i></b> (Goldenseal, <i>Ranunculaceae</i>, Buttercup Family)          Berberine has antihypertensive and antiarrhythmic properties, clinical research shows that berberine can reduce arrhythmias and improve left ventricular function in patients with heart failure, research also shows that berberine can lower blood glucose and low-density lipoprotein (LDL) cholesterol. Cardiovascular properties are secondary or tertiary. This should not be considered a primary cardiovascular herb.</p>
<p><b><i>Ruscus aculeatus</i></b> (Butcher's Broom, <i>Asparagaceae</i>, Asparagus Family)          Vasoconstrictive effects and reduces vascular permeability.</p>
<p><b><i>Tilia europaea</i></b> (Linden Tree, <i>Malvaceae</i>, Mallow Family)          Reduces stress on vascular tissues.</p>
<p><b><i>Vaccinium myrtillus fol. &amp; fruc.</i></b> (Bilberry, <i>Ericaceae</i>, Heath Family)          Nutritive, astringent, good for peripheral vascular disorders, varicose veins, decreases vascular permeability, aids in the redistribution of microvascular blood(varicosities), promotes healing of vascular endothelium.</p>

## SUMMARY OF ACTIONS

### ADAPTOGENIC

*Echium vulgare*, *Eleutherococcus senticosus*, *Ganoderma spp.*, *Glycyrrhiza glabra*, *Gynostemma pentaphyllum*, *Panax quinquefolius*, *Withania somnifera*

### ANTI-ARRHYTHMIC

*Cinchona succiruba*, *Sarothamnus scoparius*, *Terminalia arjuna*

### ANTISPASMODIC

*Ammi visnaga*, *Cimicifuga racemosa*, *Leonurus cardiaca*, *Lobelia inflata*, *Melissa off.*, *Valeriana off.*, *Viburnum opulus*, *Viscum album*

### ANTI-INFLAMMATORY

*Glycyrrhiza glabra*

### CARDIO-ACTIVE

*Cereus grandiflorus*, *Convallaria majalis*, *Lycopus virginicus*, *Sarothamnus scoparius*, *Scrophularia nodosa*

### CARDIOTONIC

*Achillea millefolium*, *Alpinia galanga*, *Borago off.*, *Crataegus spp.*, *Ginkgo biloba*, *Leonurus cardiaca*, *Polygonum multi orum*, *Terminalia arjuna*, *Tilia europa*

### CIRCULATORY STIMULANTS

*Alpinia galangal*, *Capsicum spp.*, *Zanthoxylum clava-herculus*, *Zingiber off.*

### **CIRCULATORY STIMULANTS (CENTRAL)**

*Armoracia rusticana, Capsicum spp., Marsdenia condurango, Myrica cerifera, Panax ginseng, P. quinquefolius, Zingiber off.*

### **CIRCULATORY STIMULANTS (CEREBRAL)**

*Centella asiatica, Coleus forskohlii, Ginkgo biloba, Rosmarinus off., Vinca minor*

### **CORONARY ARTERY DILATION**

*Ammi visnaga, Crataegus spp., Panax notoginseng, Salvia miltiorrhiza*

### **DIURETIC**

*Achillea millefolium, Apium graveolens, Levisticum off., Sarothamnus scoparius, Taraxacum off. fol., Urtica fol. & semen*

### **HYPERTENSIVE**

*Cola vera, Corynanthe yohimbe, Ephedra sinica, Glycyrrhiza glabra, Lycopus virginicus, Panax ginseng, Paullinia cupana, Sarothamnus scoparius*

### **HYPOTENSIVE**

*Achillea millefolium, Crataegus spp., Cryptolepis sanguinolenta, Epimedium grandiflorum, Leonurus cardiaca, Passiflora incarnata, Rauwolfia serpentina, Scutellaria lateri ora, Tilia europa, Valeriana off., Viburnum opulus, Viscum alba*

### **NERVINE**

*Aster novae-angliae, Hypericum perforatum, Leonurus cardiaca, Melissa off., Piper methysticum, Rosmarinus off., Tilia europa, Valeriana off.*

### **PERIPHERAL VASODILATOR**

*Achillea millefolium, Ammi visnaga, Capsicum spp., Ginkgo biloba, Mentha piperita, Zanthoxylum clava-herculis, Zingiber off.*

### **VASCULAR TONIC**

*Achillea millefolium, Aesculus hippocastanum, Centella asiatica, Collinsonia canadensis, Crataegus spp., Ginkgo biloba, Hydrastis canadensis, Ruscus aculeatus, Tilia europa*