

BP504. PHARMACOLOGY & PHYTOCHEMISTRY-II

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5

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Plant & Synonyms	Biological Source & family	Geographical Source	Active Constituent or Chemical Constituents	Uses
① Vinca Catharanthus Periwinkle Apocynaceae	Dried whole plant Catharanthus roseus Apocynaceae	Madagascar India USA South Africa	Indole alkaloid Vinorelbine Vinblastine	- Antitumour - cytotoxic used in leukaemia - Menorrhagia (heavy & prolonged bleeding) - Diabetes
② Rauwolfia Sarpagandha Serpentina Apocynaceae	Dried root Rauwolfia serpentina Apocynaceae	Asia America Africa India U.P., Bihar	Reserpine Serpentina Ajmalicine Yohimbine	- Hypnotic, Sedative - Antihypertensive - Insanity - Tranquillizer
③ Belladonna R. Herb R. Leaf Atropa belladonna Solanaceae	Dried leaves & flowering tops Atropa belladonna Solanaceae	USA, UK Canada Germany India Sinaloa J&K. H.P	Atropine Hyoscyamine Homatropine Belladonna Hyoscyne	- Peptic ulcers - Diarrhoea - Digestive disorders - Anticholinergic, Narcotic sedative, diuretic - Relieve Spasm G.I.D.R.

① **Opium**
 fern
 ude, Kau
 ium Opium

Dried milky latex
 Papaver somniferum China

Afghanistan
 Turkey
 Russia

Morphine
 Codeine
 Heroin
 Papaverine
 Thebaine

- Narcotic
- Analgesic
- Sedative
- diarrhoea
- dysentery & cough
- Asthmatic
- Antitussive

Alkaloids and Flavonoids :-

⑤ **TEA**
 Camellia
 Thea

Leaf & leaf bud
 Thea Almond
 Theaceae

India
 Sri Lanka
 China
 Japan

Caffeine
 Theobromine
 Theophylline

- Asthmatic
- Diuretic
- Stimulant

⑥ **Ruta**
 Garden
 Rue

Dried herbs of
 Ruta graveolens
 Rutaceae

Southern
 Europe
 Japan
 India

- Rutin
 - Naphthoquinone

- Capillary protaerant
- Antitussive
- Spasmodic

steroid, Caneliae Glycosides & Triterpenoids :-

Ligustice.

Dried, peeled or
Unpeeled, root &
Asteron

Glycyrrhiza

Glycyrrhiza glabra
Turkey, USA

Dioscorea

Dried tubers
Dioscorea deltoidea - Mexico
Rheumatism - D. composita
- India

Yam

Root

Digitalis

Dried leaves
Digitalis purpurea - England
fox glove - Europe
finger flower - USA
lady's glove - India

Senecio

Dried leaflet - India
Senecio leaf - Tamil Nadu
Cassia Senecio - Andhra Pradesh
Indian Senecio - Gujarat
Folia Senecio - Rajasthan

Glycyrrhizin
Glycyrrhetic acid
Carbenoxadone

Diosgenin

Digitoxigenin
Digitoxin

Senecioside A, B, C, D

Expectorant & demulcent
Antigastric effect.
Peptic ulcer.
Anti-inflammatory
Rheumatoid arthritis.
Inflammation, febrifuge agent

Prostate
Contraceptive
Asthma
Asthma

Stimulatory effect.
Heart disease, tonic
Internal haemorrhages
Epilepsy.
Delirium

Luxative
Carmine
Cathartics

Aloes

Musabber,
Kerman

Dried Juice of leaves. Europe
Aloe barbadensis.
- Liliaceae.
India
Himalayas
region

Aloain, Aloetic acid,
Aloesin, Barbaloin,
Resorcin acid, Cholin

- Purgative
- Vermifuge
- Antibacterial.
- Mucous

(12) Bitter

Almond.

Amygdalo
Amra

Ripe seed.
Prunus amygdalus
Rosaceae

- Iran
- Italy
- Spain
- France

Amygdalin

- Sedative
- Perfumery

Tannins.

(13) Catechu

Cutch
Kaatha

Dried aqueous extract of dried
Acacia catechu
- Leguminosae
region M.P.
Bihar, Gujarat
Rayasthan, T.N

- Catechin
- Catechol

- Astringent
- Diarrhoea
- Appetite Stimulant.
- Disease of throat
- dyeing industry

(14) Ptero-

Carpus
Bijadal,
Malabar kino - Leguminosae

Dried Juice

- Catechol
- resin
- gallic acid
- Kinotannic
acid

- Astringent
- Diarrhoea
- Dysentery.
- haemorrhage,
toothache, diabetes
- dyeing, tanning.

Guyat

- M.P.
- U.P.
- Bihar.
- Orissa.
- Kerala.

Volatile oil

Mentha

essential oil

fresh flowering top
Mentha piperita
Labiatae (Lamiaceae)

Europe
Japan
England
India, USA
U.P.

Menthof
Menthone
Menthofuran
Pulegone

Clove

low flower
low bud.

dried flower bud
Eugenia caryophyllus
Myrtaceae

Madagascar
Sri Lanka
India
Kenya

Eugenol
Eugenol acetate
Caryophyllene

Fennel

Fennel fruit

dried ripe fruits
Foeniculum vulgare
Umbelliferae

Russia
Germany
France
India
Japan

Fenchone
Anethol
Limonene
Phellandrene

Cinnamon

Solomon

dried inner bark
Cinnamomum Zuluicium
Lauraceae

Sri Lanka
India

Eugenol
Cinnamaldehyde
Benzaldehyde
Cinnamaldehyde
Phellandrene
Pinene, cymene

Uses

- Carminative
- Stimulant
- Flavouring agent
- Antiseptic
- Analgesic
- Carminative
- Stimulant
- Flavouring agent
- Antiseptic
- Carminative
- Stimulant
- Expectorant
- Flavouring agent
- Carminative
- Mild astringent
- Flavouring agent
- Antiseptic
- Stimulant
- Condiment
- Astringent

Flavonoids

Carthagen
two fruits

Dried ripe fruit - Europe
Coriandrum sativum
Umbelliferae
- Russia
- Africa
- India

Linalool, Borneol
p-cyanine, camphor,
geraniol, limonene

- Anesthetic, Antispasmodic
- Carminative, diuretic
- Diaphoretic, nausea
- Stimulant, vomiting

ANETHUM → RESINS

~~Chenopodium~~ Incised stem
~~Stachys~~ Styrax benzoin
Vietnam

- Coniferyl benzoate
- Cinnamic acid
Phenylethylene
Cinnamyl cinnamate

- Expectorant
- Carminative
- Diuretic
- Antiseptic & protective

Bonzoim Styracaceae

Sharon
Sumatra benzoin
Incision of bark
Judea

⇒ guggulsteroids to VI
- 13-Acetoxy
- Cholesterol
- 22E-guggulsterone

- Astringent, Aphrodisiac
- Antirheumatic, demulcent
- Antiseptic, teeth disorder
- Expectorant, tonsillitis

Guggul
Sumatra benzoin
Incision of bark
Judea

Commifera
Bursaraceae

- West India ⇒ Zingiber, Gingerol,
Shogaols, bisabolene
farnesene

⇒ Antiemetic, carminative
⇒ Spasmodic, stimulant,
Condiment, flavouring agent

Zingiber
Zingiber officinale
Zingiberaceae

- India, Africa

- Diaphoretic, vomiting
- Diaporesis, vomiting
- Diaporesis, vomiting

Asafoetida
Ferula foetida
Ferula foetida
Ferula foetida

- Iran
- Afghanistan

- Umbelliferous acid

⇒ Carminative, expectorant
⇒ Antispasmodic
- Laxative

Food of the
god

Apiaecae (Umbelliferae)

myrrh

Arabic myrrh
Commiphora myrrha

Colophony
Yellow resin

Isolation of cut bark
Commiphora molmol
Burseraceae.

Arabic pendula, Ethiopia, Nubia

Carminative (2)
- Perfume
- Antiseptic, Astringent.
Anti-inflammatory powder

Solid residue left after distilling off the volatile oil.
Pinus palestina
Pinus pinaster
Pinaceae

- US, France
- Italy
- Spain
- Greece
- China
- India

Perperoid & Naphthacquinones

Gentian
Gentian root

dried unfermented rhizome & root
Gentiana lutea
Gentianeae.

mountain region Europe. France. Switzerland

Gentopicrocin
Gentianin.

- Diuretic
- Anticancerous, Antitumor
Manufacturing of ink, cement, soap, paper, plastic, wax

Artemisia
Santonica.

Unexpanded flower head of
Artemisia benedicta
Artemisia inodora
Compositae.

Pakistan
Turkey
U.S., Punjab

Artemisinin
- Camphor
- B. Camphor
- B. pinene
- Santonin

- Digestive disorders
- Antihelminthic
- Anti-inflammatory
- Antiseptic
- Cholegogue
- Emmenagogue
- febrifuge.
Antihelminthic
Antimalarial effect

Taxus.

Yucca

Hemlock yucca

Dried leaves, bark & wood
Taxus baccata
T. canadensis
T. baccata

India
Canada
America

Taxol
Taxotene

- Narcotic

Analgesic, Anticancer (8)
Antipyretic, Anticonvulsant
Anti-inflammatory

Citral

Monoterpene oil of

Cymbopogon

martini

Gramineae

Podophyllum

- Root & Rhizome

Podophyllum hexandrum

Barberridaceae

Podophylotoxin

- Cathartic, Antiviral
- Purgative, Antitumor
- Anthelmintic

Curcuma

Curcumin

Dried rhizome of

Curcuma longa

Zingiberaceae

Curcumin

- Curcuminoid.
- Antiproliferation.

- Anti-inflammatory agent
- Antiarthritic, Anticancer
- Antimicrobial
- Peptic ulcer, wound healing