

# THE AYURVEDIC PHARMACOPOEIA OF INDIA

## PART- I VOLUME – I



**GOVERNMENT OF INDIA**  
**MINISTRY OF HEALTH AND FAMILY WELFARE**  
**DEPARTMENT OF AYUSH**

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## 47. Kiratatikta (W.P)

### KIRĀTATIḲṬA

Kirātatikta consists of whole plant of *Swertia chirata* Buch.Ham, (Fam, Gentianaceae), a small, erect, annual, herbaceous plant, 0.6-1. 25 m high, found in temperate Himalayas at an altitude between 1200-3000 m from Kashmir to Bhutan and Khasia Hills in Meghalaya, drug collected when flowering (July-October) and dried.

### SYNONYMS

Sanskrit	:	Kirāta, Kirātaḱa, Bhūnimba, Kirātatiktaka
Assamese	:	Chirta
Bengali	:	Chirata
English	:	Chireta
Gujrati	:	Kariyatu, Kariyatun
Hindi	:	Chirayata
Kannada	:	Nalebevu, Chirata Kaddi, Chirayat
Kashmiri	:	Lose, Chiraita
Malayalam	:	Nelaveppu, Kirayathu, Nilamakanjiram
Marathi	:	Kiraita, Kaduchiraita
Oriya	:	Chireita
Punjabi	:	Chiretta, Chiraita
Tamil	:	Nilavembu
Telugu	:	Nelavemu.
Urdu	:	Chiraita

### DESCRIPTION

#### a) Macroscopic

Drug consists of whole plant, a peculiar shining yellowish tinge all over the herb in fresh sample, stem upto 1 m long and 6 mm in diameter, glabrous, yellowish-brown to purplish, slightly quadrangular above and cylindrical below, large, continuous, easily separable yellow pith, leaf, opposite, cauline, broad at base, ovate or lanceolate, entire, acuminate, glabrous, usually with 5-7 prominent lateral veins, branching from the axils of the leaves which ramify further into paniculate inflorescence, flower, tetramerous, 2-3 mm wide, ovoid, with two glandular depressions near the base of each of corolla lobes, ovary, superior, bicarpellary, unilocular, ovoid and pointed, fruit. a capsule with numerous, minute reticulated seed, 0.25-0.55 mm long, 0.16-0.45 mm broad irregularly ovoid.

#### b) Microscopic

**Root**-transverse section of root shows, 2-4 layers of cork, secondary cortex representee by 4-12 layers of thick-walled, parenchymataous cells, some showing radial

wall formation, tangentially elongated with sinuous walls, secondary phloem composed of thin-walled strands of sieve tubes, companion cells and phloem parenchyma, secondary xylem composed of vessels, tracheids parenchyma and xylem fibres, all elements lignified and thick-walled, in older roots, centre of wood more or less spongy and hollow in most cases, outer woody ring remaining strongly lignified, vessels show scalariform thickening and also simple and bordered pits, tracheids similar in thickening as the vessels, fibres have simple pits, mucilage present in secondary cortical cells, minute acicular crystals present in abundance in secondary cortex and phloem region, resin also present as dark brown mass in secondary cortex cells.

**Stem**-transverse section of stem shows single layered epidermis, externally covered with a thick striated cuticle present in young stem, in older epidermis remains intact but cells flattened and tangentially elongated, four ribs also consists of an epidermis and parenchymatous cortical cells, endodermis distinct, showing anticlinal or periclinal walls, followed by single layered pericycle consisting of thin walled cells, stem possesses an amphiphloic siphonostele, external phloem represented by usual elements, cambium between external phloem and xylem composed of a thin strip of tangentially elongated cells, internal phloem similar in structure as that of external phloem excepting that sieve tube strand is more widely separated, xylem continuous and composed mostly of tracheids, a few xylem vessels present singly or rarely in groups of two while tracheids and fibres present in abundance, vessels and fibre tracheids have mostly simple and bordered pits and fibres with simple pits on the walls, medullary rays absent, central part of the stem occupied by a pith consisting of rounded and isodiametric cells with prominent intercellular spaces mucilage present in cortical cells, minute acicular crystals also present in abundance, cortical cells, in resin present as dark brown mass in some cortical cells along with oil droplets.

**Leaf**-transverse section of leaf shows very little differentiation of mesophyll tissues, epidermis single layered covered with a thick, striated cuticle, more strongly developed on the upper surface than the lower, stomata of anisocytic type, palisade tissue single layered, cells at places become wider and less elongated particularly in bigger veins, spongy mesophyll represented by 4-7 layers of somewhat loosely arranged, tangentially elongated cells, some epidermal cells prominently arched outside at the margin, mucilage present in epidermal and mesophyll cell while minute acicular crystal also present in abundance in mesophyll cells, in leaf parenchymas oil droplets also present.

#### **IDENTITY, PURITY AND STRENGTH**

Foreign matter	Not more than	2	per cent, Appendix	2.2.2.
Total Ash	Not more than	6	per cent, Appendix	2.2.3.
Acid-insoluble ash	Not more than	1	per cent, Appendix	2.2.4.
Alcohol soluble extractive (60 per cent)	Not less than	10	per cent, Appendix	2.2.6.
Water-soluble extractive	Not less than	10	per cent, Appendix	2.2.7.

**Absence of tannin**-On addition of *Ferric Chloride* to aqueous or alcoholic extract no blue black colour develops.

**Assay** -Contains not less than 1.3 per cent, of the bitter principle as determined by the following method:-

Mix 20 g in powder (No. 60 sieve) with boiling water containing 0.5 g of *Calcium Carbonate* and extract with boiling water till the last portion of the extract is devoid of bitterness, concentrate in vacuum and dissolve the residue in hot *Alcohol*. Filter while hot and wash the residue thrice on the filter with 10 ml portions of hot *Alcohol*, remove the alcohol from the filtrate and take up the residue repeatedly with 25, 15, 15, 15, and 15 ml of hot water. Shake the aqueous extract repeatedly with 25, 20, 15, 15 and 10 ml of *Ethyl Acetate*, collect the *Ethyl Acetate* extracts, evaporate, dry and weigh.

**CONSTITUENTS** - Xanthenes, xanthone glycoside and mangiferine (Flavonoid).

#### **PROPERTIES AND ACTION**

<b>Rasa</b>	:	Tikta
<b>Guna</b>	:	Laghu, Rūkṣa
<b>Virya</b>	:	Śīta
<b>Vipaka</b>	:	Kaṭu
<b>Karma</b>	:	Jvaraghna, Kaphapittahara, Raktaśodhaka, Vraṇaśodhana, Sāraka, Tṛṣṇāpaha

**IMPORTANT FORMULATIONS** - Sudarśana Cūrṇa, Chinnodbhavādi Kvātha Cūrṇa

**THERAPEUTIC USES** - Śoṭha, Dāha, Jvara, Kṛmiroga, Kaṇḍū, Kuṣṭha, Meha, Tṛṣṇā, Vraṇa

**DOSE** - 1-3 g of the drug in powder form.  
20-30 g of the drug for decoction.