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Research Article

Pharmacognostic studies of *Anisochilus carnosus* (L.F) Wall. Lamiaceae

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Abstract

Anisochilus carnosus (L.F) Wall is a medicinal & aromatic herb of family Lamiaceae. found in high altitude region it is known to be muscle relaxtant, diaphoretic Antipasmodic also used in Cough and Cold, in liver diseases. To determine the Pharmacognostic and anatomical diagnostic features, qualitative analysis of metabolites measures & epidermal features in vegetative organs was studied. Alkaloids, Flavonoids,Carbohydrates, Saponins, Tannins & Aromatic oil detected in whole plant.

INTRODUCTION

Anisochilus carnosus (L.F.)Wall is anannual herb found in the various high altitude regions of Maharashtra. belongs to Family Lamiaceae. plant is used to treat Respiratory disorders, in skin diseases.it is hepato protective and ulcer protective actiivity.The role of anatomical & phytochemical analysis is very much important for identification & diagnostic feature of drug.the present study has been carried out to standardize the anatomical features & phytochemical analysis to serve as a possible tool for identification of ***Anisochilus carnosus***

MATERIAL AND METHODS

Plant material of ***Anisochilus carnosus*** were collected in September – October 2019 from Mukundraj temple area Ambejogai Dist-Beed.Fresh plant material were used for Anatomical study and shade dried material for Pharmacognostic investigations. The macroscopic and microscopic characters of the plant were carried out (Brain and Turner, 1975) procedure. Powder microscopy of shade dried powder was carried out using Olympus microscope(Khanndelwal, 2004). Microscopic characters like Stomatal number, Stomatal index,vein islet number, vein termination number were carried out as per standard Techniques (Evans,2003) Physico- chemical constants of shade dried powder such as total ash,water soluble ash and acid insoluble ash, moisture content was determined as per standard techniques. (IndianPharmacopedia,1996;WHO,1992,/PHARM/92.559/rev.1) Phytochemical tests were carried out to detect the phytochemical present in *Anisochilus carnosus* (Harborne, 1998).

RESULTS AND DISCUSSION

Anisochilus carnosus is an aromatic annual herb found in high altitude regions of Maharashtra. Stems are 30-60 cm tall and branched. Petioles were found 1.3-5.0cm long dense white in colourLeaves are ovate-oblong to circular heart shaped to rounded margins crenulated tip blunt flowers are in spikes and purplish in colour. Transverse section of leaf through mid rib revaled the presence of dorsiventral nature of the leaf leaves are amphistomatic stomata are more on lower epidermis,Trichomes are commonon both the surfaces the mesophyll consists of one to two layers of palisade tissue & loosely arranged spongy tissue bundle sheath present & is of thin walled parenchymatous cells.

In mid rib region epidermis is followed by one layered collenchymatous hypodermis on both the surfaces which is followed by parenchymatous cortex midrib vascular bundle is solitary. Stomata are Diacytic present more on lower epidermis. See figure 1.2. powder microscopy shows presence of numerous trichomes, stomata oil globules,palisade cells vascular strands.leaf constants like stomatal frequency,stomatal index,vein islet number,vein termination number has shown in Table -1

Phytochemical analysis which is showed the presence of Glycosides,tannins,saponins,and volatile oil Macroscopic, Microscopic, Pharmacognostic evaluation helps in confirmation of its identity and determination of its quality, Phytochemical studies shows presence of various phytoconstituents and their nature The present study taken up with a view to lay down standards which could be useful to detect the authenticity of ***Anisochilus carnosus*** a medicinally important plant

Table-1: Leaf constants of *Anisochilus carnosu*

Name of the plant	Upper epidermis				Lower epidermis	
	V.T.N	V.I.N	SI	SF	SI	SF
Anisochilus carnosus	6	30	28.62	31.6	37.17	53.2

Table-2: Ash value of *Anisochilus carnosu*

Physico-chemical Parameters	**%W/W of Powder**
Total ash	89.02
Acid insoluble ash	1.39
Water soluble ash	73.30

Table-3: Extractive value & Moisture content of *Anisochilus carnosu*

Physico-chemical Parameters	%W/W of Powder
Water soluble Extract	6.19
Alcohol soluble Extract	7.17
Moisture content	15.89

Table-4: Phytochemical Analysis of *Anisochilus carnosu*

	Leaf	**Stem**	**Root**
Alkaloids	-	-	-
Glycosides	-	+	-
Fats	-	-	-
Phenolics	-	+	+
Tannins	-	+	+
Protein	-	-	-
Volatile oil	+	+	-
Saponin	+	+	+

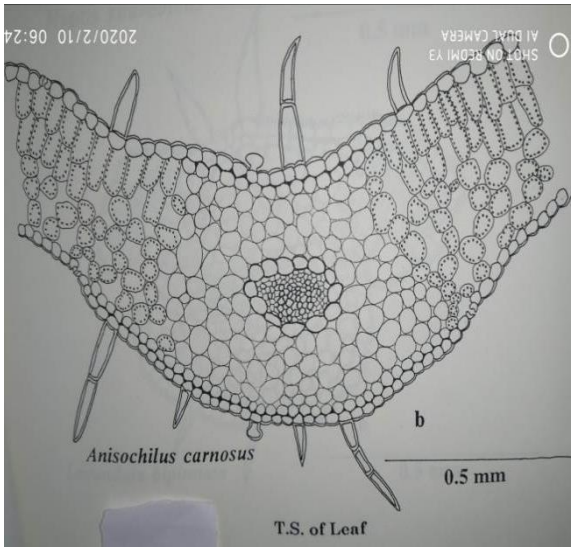

Fig.1. T.S. of Leaf

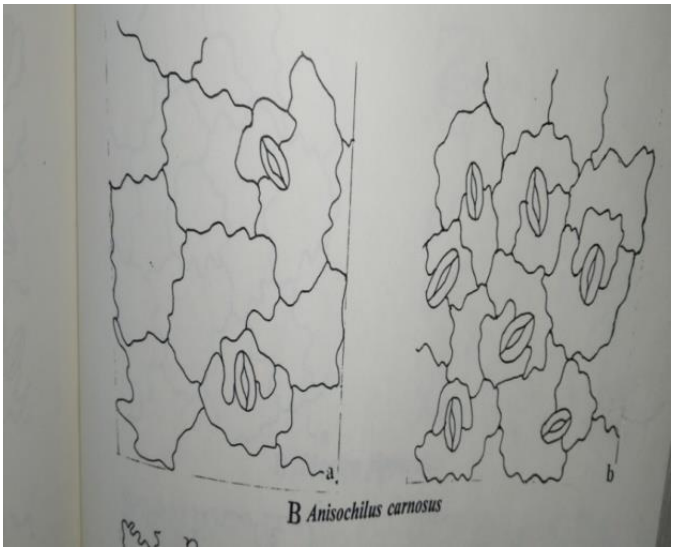

Fig.2. Stomata on U.E & L.E.

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