

Efficacy of phytochemical evaluation of *Viscum articulatum* Burm. used for animal health care

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Abstract

Viscum articulatum Burm. Is found throughout India as stem parasite. It is widely used in various traditional system of Ethnoveterinary medicine. In the present work morphological and phytochemical studies were performed. Phytochemical analysis recorded positive results for alkaloids, flavonoids, phenols, tannins, steroids, saponins, glycosides and terpenoids. The results of these studies revealed most valuable information and also support the continued sustainable use of plants in traditional systems of medicine.

Keywords: *Viscum articulatum* Burm, phytochemical analysis

1. Introduction

For a long period of time, plants have been a valuable source of natural products for maintaining human health and Animal health. The use of plant compounds for pharmaceutical purposes has gradually increased in India. According to World Health Organization, medicinal plants would be the best source to obtain a variety of drugs. About 80% of individuals from developed countries use traditional medicine, which has compounds derived from medicinal plants. Therefore, such plants should be investigated to better understand their properties, safety and efficiency. *Viscum articulatum* (Loranthaceae) used in treatment of Bone fracture. This study will also hopefully express new frontiers by improving the current applications of this plant and provides a scientific basis for the traditional claims of their medicinal plants.

2. Material and Methods

2.1 Plant Collection and Authentication: The Stem of *Viscum articulatum* were collected from the local area of Buldana district in the month of November and authenticated by Dr. Bhuscute, Amgaon, Dist. Bhandhara. The Voucher specimen was deposited in department of Botany. The Stem

washed thoroughly with tap water, shade dried, homogenized to course powder and stored in air tight Bottle.

2.2 Macroscopic Characters: A leafless, shrubby. Stem parasite. Branches contracted at nodes, striate, pale – green. Flowers greenish yellow, minute sessile; in few – flowered fascicles at the nodes. Perianth lobes 4, deciduous. Berries globose, yellowish – white, 1 – seeded.



2.3 Veterinary Uses: Grind the stem branches to prepare Powder and feed orally with water to cure bone fracture. Grind 50gm stem branches and mix it in fodder of animals against bone fracture.

2.4 Extraction of Plant Material: Various organic solvents were used for the extraction of bioactive compounds. The (20 gm) whole plant powder first extracted with petroleum ether for deflating in a soxhlet apparatus.

2.5 Qualitative Analysis of *Viscum articulatum* Burm
The concentrated extracts were subjected to Qualitative test for the identification of various phytochemical constituents.

Table 5: Qualitative chemical examination of various extracts. (Obtained by successive solvent extraction of plant material) Loranthaceae-*Viscum articulatum* Burm. F.

Plant parts	Test	Reagent used	Petroleum ether extract (60 to 80°) p	Benzene extract B	Chloroform Extract C	Acetone extract A	Ethanol Extract E	Water Extract W
Whole Plant	Alkaloids	Mayer's Dragendorff's Hager's Wagener's	+ Ve	+ Ve	+ Ve	- Ve	+ Ve	+ Ve
	Glycosides	Liebermann Burchard's Test/ Antheroquin test	- Ve	- Ve	- Ve	- Ve	- Ve	- Ve
	Phytosterols	Liebermann's test	+ Ve	- Ve	- Ve	- Ve	- Ve	- Ve
	Saponins	Foam test	- Ve	- Ve	- Ve	- Ve	+ Ve	+ Ve
	Phenolic compounds/ Tannins	Ferric chloride solution	- Ve	- Ve	- Ve	+ Ve	+ Ve	+ Ve
	Proteins	Biuret test/ Ninhydrin test	- Ve	- Ve	- Ve	- Ve	+ Ve	+ Ve

Present: + Ve, Absent: - Ve

2.6 Chemical analysis: The medicinally significant part is whole plant. Dried powder of the plant was subjected to extraction by successive solvent extraction method for preliminary phytochemical screening.

2.7 Alkaloids: It is found that concentration of Alkaloids have been extracted in Petroleum ether, Benzene, Chloroform, Ethanol and Water extracts and this is evident from the positive test with Dragendorff's reagent. Acetone extract has shown -ve test for Alkaloids.

2.8 Glycosides: All extracts have shown -ve test for Glycosides with Anthraquinone test.

2.9 Phytosterols: Phytosterols have been extracted in Petroleum ether with Salkowaski test. Other extracts have shown -ve test for phytosterols.

2.10 Saponins: Saponins have been extracted in ethanol extract. All other extracts have shown -ve test.

2.11 Phenolic compounds/Tannins: Phenolic compounds have been extracted in Water, Ethanol and Acetone extracts. Petroleum ether, Benzene and Chloroform extracts showed -ve test.

2.12 Proteins: Petroleum ether, Benzene, Chloroform and Acetone extracts gave -ve test for proteins. Ethanol and Water extracts have shown positive test.

As far as medicinal part is concerned, whole plant is significant. The chemical analysis exhibited the presence of Alkaloids, Phytosterols, Phenolic compounds and proteins. Glycosides are absent.

3. Conclusions

The significant part stem is used for healing bones in bone fracture. Therefore, it is exploited by the local practitioners.

3.1 Remark: - The greenish watery sap of the plant is poisonous. It is used as a substitute for nux vomica in homeopathy.

4. References

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