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## EFFECT OF SOME MEDICINAL PLANTS AS ANTITUSSIVE POTENTIAL- A REVIEW

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### ABSTRACT

A respiratory disease called cough raises the risk of recidivism. Despite the development of anti-tussive drugs, the condition continues to represent a significant risk to health. The most common anti-tussive medications have side effects that limit the effectiveness of treatment, including increased sputum viscosity, depression of the respiratory centre, decreased bronchial secretion and inhibition of ciliary activity, hypotension, decreased expectoration, and constipation. People now trust herbs since they have fewer adverse effects. This document includes 43 herbs that have anti-tussive properties and are all utilized as traditional medicines. Here, their family is mentioned, and it is also covered below which parts have anti-tussive properties.

**Keywords:** Traditional, Antitussive, Medicinal plants, Respiratory disease, Herbs

### INTRODUCTION:

As a platform for the production of physiologically confirmed medications, natural resources have shown to be very helpful. In reality, a number of review studies shown how nature still contributes significantly as a source of lead compounds that have motivated and formed the basis of

the synthesis of new pharmaceuticals. Coughing is an essential defensive mechanism as well as a typical sign of diseases such lung cancer, COPD, and asthma. The cough reflex can be intentionally provoked and aids in clearing the airways of extra secretions and foreign objects. It serves

as a form of protection, but going beyond can be ineffective and upsetting to patients. In essence, there are two forms of cough: acute cough and chronic cough. An upper respiratory tract infection (URTI) is the most frequent cause of acute cough, which lasts less than three to four weeks. However, chronic cough, which lasts longer than eight weeks, can be caused by a variety of pulmonary problems. Some extra-pulmonary conditions like gastro-esophageal reflux disease, as well as pulmonary conditions like asthma, chronic obstructive pulmonary disease (COPD), and lung cancer [1].

Due to their safety and lack of side effects, herbal medications are increasingly being used around the world for a variety of disorders, including anti-tussive action. Novel bioactive chemicals have been found in medicinal plants, and these compounds have acted as lead molecules for the creation of new medications and continue to do so [2].

The most typical symptom of which people seek medical treatment is an acute cough. In primary care, it accounts for more than 50% of new patient attendance, and it is the main source of advice for chemists. In fact, the chemist is the important player in the treatment of this ailment because symptomatic therapy is the cornerstone of management of this largely benign and self-

limiting sickness. Unfortunately, a large portion of over-the-counter (OTC) therapy that is now recommended in Europe is based on tradition and practice rather than high-quality clinical research that would match the norms of contemporary evidence-based medicine. Here, we examine the diagnostic and treatment options for what is arguably the most widespread illness to affect people [3].

A cough is a multiphasic motor action that involves successively increasing the motor drive to the muscles of inspiration and expiration. There are both spatial and temporal aspects to this cough motor pattern. The degree of motor drive to various muscles is one of the cough's spatial properties. The duration of each cough (the cough cycle) and its individual phases (inspiration, compression, and expulsion) make up the temporal aspects of coughing [4].

#### **Mechanism of action:**

Peripheral anti-tussive medications work outside of the central nervous system (CNS) to prevent coughing by reducing the responsiveness of one or more cough-producing vagal sensory receptors. The primary neuronal circuitry responsible for cough is found at the level of the brain stem, where central anti-tussive medications work. We still don't fully grasp the precise mechanisms and locations where centrally active anti-tussive medications affect this system [4].

Table 1: Plants having anti-tussive potential

S. No.	Scientific name	Family	Common name	Part used	Extract	Ref.no.
1.	<i>Abies webbiana</i>	pinaceae	Himalayan Yew, Talisapatram, Talisa patri	leaves	methanolic extract	5
2.	<i>Adhatoda vasica</i>	acanthaceae	Malabar nut, adulsa, adhatoda, vasa, vasaka	fruits	water-ethanol mixture	6
3.	<i>Adhatoda schimperiana</i>	acanthaceae	sensel	leaves	methanol extract	7
4.	<i>Andrographis paniculata</i>	acanthaceae	Bitterweed, King of Bitters, Creat, Green Chireta, Indian Echinachea	leaves	Water extract	8
5.	<i>Blepharocalyx salicifolius</i>	myrtaceae	Palo barroso	leaves	Essential oil	9
6.	<i>Bryophyllum pinnatum</i>	crassulaceae	air plant, cathedral bells, life plant, miracle leaf, and Goethe plant	leaves	Aqueous extracts	10
7.	<i>Crossopteryx febrifuga</i>	rubiaceae	African bark, ordeal tree	fruits	Water extract	11
8.	<i>Coccinia grandis</i>	cucurbitaceae	Ivy gourd, scarlet gourd.	fruits	methanol extracts	12
9.	<i>Chrysophyllum welwitschii</i>	Sapotaceae	Cainito	leaves	aqueous and ethanolic extracts	13
10.	<i>Chimonanthus nitens oliv.</i>	Calycanthaceae	Meratia nitens	leaves	Ethyl acetate extract	14
11.	<i>Cassia fistula</i>	Leguminosae	Golden shower tree, Indian laburnum, pudding pipe tree.	leaves	methanol extracts	15
12.	<i>Cressa cretica linn.</i>	Convolvulaceae	Rudravanti, littoral bind weed	The whole plant	methanol extracts	16
13.	<i>Drymaria cordata</i>	Caryophyllaceae	Chickweed, whitesnow	The whole plant	methanol extracts	17
14.	<i>Emblica officinalis gaertn</i>	Euphorbiaceae	Indian gooseberry, amla	Fruits	ethanolic extracts	18
15.	<i>Echinacea purpurea</i>	asteraceae	Purple coneflower	Roots	ethanolic extracts	19
16.	<i>Elaeagnus pungens</i>	elaegnaceae	Thorny elaeagnus, silverthorn	Leaves	ethanolic extract	20
17.	<i>Eriobotrya japonica</i>	rosaceae	Loquat, Japanese medlar, Japanese palm	Leaves	aqueous and ethanolic extracts	21
18.	<i>Fallopian sachalinensis</i>	Polygonaceae	Sakhalin knotweed, Japanese bamboo	leaves	water extracts	22
19.	<i>Glycyrrhiza glabra</i>	fabaceae	Liquorice, sweet wood	Root	Ethanolic extract	23
20.	<i>Guiera senegalensis</i>	combretaceae	Moshi medicine	Leaves	water extracts	24
21.	<i>Juglans regia L.</i>	juglandaceae	Walnut, Persian walnut	Walnut septum	Water-acetone	25
22.	<i>Leucas lavanduloefolia</i>	lamiaceae	Leucas, lavender-leaved leucas, halkusa, guma	flowering plants	Methanol extract	26
23.	<i>Lycopus europaeus</i>	lamiaceae	Gypsywort, bugleweed, water horehound	Whole plant	aqueous-methanol	27
24.	<i>Menthe piperita</i>	lamiaceae	peppermint	Leaves	water-ethanol mixture	28

25.	<i>Malva parviflora</i>	malvaceae	Cheesweed mallow, mallow, little mallow	leaves and fruit	mucilage	29
26.	<i>Marsilea minuta</i>	marsileaceae	Water clover, shushni shak	The whole plant	Methanol extract	30
27.	<i>Napoleona vogelii</i>	lecythidaceae	Wallia	Leaves	Methanol extract	31
28.	<i>Nyctanthes arbor tristis</i>	oleaceae	Night blooming jasmine, tree of sorrow,	Leaves	Aqueous extract	32
29.	<i>Nigella sativa</i>	ranunculaceae	Black seed, black caraway, kalonji	seeds	Methanol and n-hexane extract	33
30.	<i>Opilia celtidifolia</i>	opiliaceae	-	Leaves	ethanolic extract	15
31.	<i>Ocimum santum</i>	lamiaceae	Tulsi	Whole plant	Aqueous and methanolic extract	34
32.	<i>Piper longum</i>	piperaceae	Long pepper	fruit	water-ethanol mixture	27
33.	<i>Paederia foetida</i>	rubiaceae	Stinkvine, skunk vine	whole plant without roots	Ethanolic extract	35
34.	<i>Psidium guajava</i>	myrtaceae	Common guava, apple guava, lemon guava	Leaves	water extract	36
35.	<i>Pseudostellaria heterophylla</i>	Caryophyllaceae	False starwort,	Root	ethyl acetate extract	37
36.	<i>Solanum torvum</i>	solanaceae	Turkey berry, devil fig,	Leaves	Methanol	38
37.	<i>Solanum virginianum L.</i>	solanaceae	Surattense nightshade, yellow fruit nightshade, thai green eggplant	Leaves	aqueous extract	39
38.	<i>Stemona tuberosa</i>	stemonaceae	Wild asparagus	Root	Ethanol or methanol	40
39.	<i>Terminalia chebula</i>	combretaceae	Black or chebulic myrobalan,haritaki	Fruit	water-extract	41
40.	<i>Trichilia emetica</i>	Meliaceae	Natal mahogany	Leaves	ethanolic extract	15
41.	<i>Tussilago farfara</i>	Asteraceae	coltsfoot	The flower bud	ethyl acetate extract	42
42.	<i>Withania somnifera</i>	solanaceae	Ashwagandha or winter cherry, Indian ginseng	Root	water-ethanol mixture	28
43.	<i>Zingiber officinale</i>	zingiberaceae	Ginger	Rhizomes	water-ethanol mixture	28

## CONCLUSION:

As previously indicated, there are some medicinal plants with antitussive properties comparable to those of highly potent synthetic antitussive drugs. As a result, plant-based formulations can effectively cure mild to moderate episodes of cough while having less negative adverse effects than traditional

medications. Researchers from several sectors are looking for new plants that have antitussive properties.

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