

Isolation of Phytoconstituents From Some Weeds Buldana District (Maharashtra), India



Science

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ABSTRACT

Traditional knowledge has assumed great importance in enhancing our knowledge about the plants which are used by the people since time immemorial. Now days the herbal drugs are play most important role in our life. To solve the our many problem about heath, medicinal plants used .but some unwanted plants we called it " weed" also have medicinal properties so, to know there value there is need to isolate the chemical constituent from them .so present paper focused on phytochemical analysis of some weed and there medicinal uses from Buldana district needed. For the studied of the selected weeds are *Achyranthes Aspera*, *Cardiospermum halicacabum L.*, *Cephalandra indica*, *Cichorium intybus* *Euphorbia Species*, *Basella alba*, *Portulaca oleracea* , *Crotalaria retusa* L etc.

Introduction:

In India many unwanted plants so called weeds are very common dominant and wide spread in the various crop fields. They also occupy almost all open spaces. Plant resources have made substantial contribution to human welfare. According to Anderson (1954), "history of weeds is the history of man". The plants, which we call today as a weed, are persistent since time immemorial but during the ancient periods the prevailing forest conditions were not suitable for the growth of weedy species, and yet these plants were apparently present in certain places and were thus able to colonize as soon . Under modern conditions weeds and plants with weedy characteristics are frequently the pioneers of secondary y successions caused by man-made or natural disturbances phytochemicals from these plants were investigated for various preparations of novel natural remedies against many chronic diseases. There is ample evidence that many weed species were also used for food by early man, though this practice is by no means confined to the past. Many of our present-day weeds thus have a long history in India, but a great many others were introduced from other parts of the world much later by successive groups of colonizers. As the medicinal plants contained the phytoconstituent like that some weeds which are unwanted also used as medicinally various part of the Maharashtra. These have potential of medicinal properties and used on various diseases. They contained various type of phytoconstituent such as alkaloids, tannin, phenols, steroids, saponins. So regional exploration of weeds plants is therefore need of the day. Considering this aspect, we select the Buldana district (Maharashtra) for studied of some weed which grown in field area for study and find out there chemical for further investigation I medicinal field

MATERIAL AND METHOD:

The plant material collected from crop yielding area of Buldana district. Plant was identified by taxonomically by local taxonomist and with help of flora of Marathwada (Naik, 1986), flora of Maharashtra (Singh & Kartikeyan, 2000) and flora of Akola district (Kamble & Pradhan, 1988),(Naik 1998 and cook 1985)

Extraction: The plant materials were washed thoroughly and dried in shade. The shade dried material are then powered and the powder used for photochemical analysis. The powder was then subjected to soxhlet extraction with different solvent (petroleum ether, benzene, acetone, chloroform, methanol and water) according to their increasing polarity. Each time before extracting with the new solvent the powder material was dried in air oven below 50c.The final extract of each solvent was use to analyze for the presence of different phytochemical constituents. Kokate, 2005, Harborne, 1998 and Wallis, 1990) The method employed for the quantification of various phytochemicals are described below.

Test for carbohydrate:

1) Fehling's Test: 1ml of Fehling's A solution and 1 ml of Fe-

hling's B solution were mixed and boiled for one minute. Now the equal volume of test solution was added to the above mixture. The solution was heated in boiling water bath for 5-10 minutes. First a yellow, then bricks red precipitated was observed.

2) Benedict's test: equal volume of Benedict's reagent and test solution were mixed in the test tube. The mixture was heated in boiling water bath fir 5 minutes. Solution appeared green showing the presence of reducing sugar.

Test for Alkaloids:

Mayer's reagent: To the 2-3 ml of filtrate, 1 ml of dil HCL and Mayer's reagent was added and shake well. Formation of yellow precipitate showed the presence of alkaloids

Dragendroff's test: To the 2-3 ml of filtrate 1ml of dil HCL and Dragendroff's reagent was added and shake well. Formation of orange brown precipitate showed the presence of alkaloids.

Test for tannins:

Lead acetate: on addition of lead acetate solution to the extract white precipitate appeared. Test for Flavonoids With lead acetate: To the small quantity of extract lead acetate solution was added. Formation of yellow precipitate showed the presence of Flavonoids.

Test for saponins: foam test: To the 1ml extract 20ml distilled water was added and shakes in measuring cylinder for 15 min. then 1cm layer of foam was formed.

Test for Coumarine: To the 2 ml of extract 10% NaOH was added and shake well for 5 min show yellow colure

❖ Ethno medicinal uses of selected weeds as follows

S.N	Plants name	Part used	Medicinal properties
1	<i>Achyranthes Aspera</i>	leaves	Delivery, boils, bronchitis, cold,cough, colic, debility, dropsy, dog bite, dysentery, ear complications, headache leucoderma, pneumonia, renal complications, scorpion bite, snake bite and skin diseases etc.
2	<i>Cardiospermum halicacabum L.</i>	Stem, leaves	Joint pain. The tender, diuretic, stomachic and rube facient. rheumatism, lumbago, nervous diseases and as a demulcent
3	<i>Cephalandra indica</i>	leaves	The leaves of the plants posses ant diabetic, anti-inflammatory, antipyretic, analgesic, antispasmodic, antimicrobial,
4	<i>Cichorium intybus</i>	stem	Gallstones, gastro-enteritis, sinus Problems, cuts, bruises. Insulin, the dietary ingredient in treating diabetes and constipation jaundice and spleen problems

5	Euphorbia Species	Stem, leaves	Abdominal edema, cure hepatitis diarrhea, dysentery, intestinal parasitoids, anxiolytic, analgesic, antipyretic
6	Basella alba	Stem, leaves, root	Irritant, bruise, ringworm and laboring mild laxative, diuretic, antipyretic antipruritis, burn acne, freckle treatment. Leaves and stem for anticancer such as melanoma, leukemia and oral cancer.
7	Portulaca oleracea L	leaves	Insect or snake bites on the skin, boils, sores, pain from bee stings, bacillary dysentery, diarrhea, hemorrhoids, postpartum bleeding, and intestinal bleeding.
8	Crotalaria retusa L.	leaves	Against coughing up blood against fever, scabies, lung diseases and impet

❖ Phytochemical analysis of selected medicinal weeds by using (water as solvent)

S.N	Plants name	Alkaloids	Steroids	Tannin	Flavonoids	Saponins
1	Achyranthes Aspera (leaves)	+	+	+	+	+
2	Cardiospermum halicacabumL. (stem)	-	-	-	+	+
3	Cephalandra indicia (leaves)	+	-	+	-	-
4	Cichorium intybus (leaves)	+	+	+	+	+
5	Euphorbia Species	-	+	+	+	-
6	Basella alba	-	+	+	+	-
7	Portulaca oleracea L	+	+	+	+	+
8	Crotalaria retusa L.	+	+	+	+	+

Result and discussion:

From above study of the ,it clear that the weeds are also im-
 poratnat medicinal plants. Selected medicinal plants contained
 the various type of the phytoconstituents such as
 alkaloids,Flavonoids,tannin ,alkaloids ,steroids ,carbohydrates
 etc. these plants are collected as unwanted but used as medici-
 nally. For further study are used for medicinal fields.

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