RESULT AND DISCUSSION

Due to great ethnomedical importance and high economical value of *Blumea oxyodonta* DC. *Erigeron bonoriensis* Linn, *Launaea asplenifolia* DC. *Glossocardia bosvallea* (Linn. F.) DC. and *Sonchus arvensis* Linn. were selected for phytochemical studies. These plants were observed to be used against many chronic and dangerous diseases by rural and local inhabitant of considered sites. During survey and information collected from rural people of considered area *Blumea oxyodonta* was found to be used against Eczema, Leucoderma, diaphoretic confusion and antidandruff and for lice Killing reported by Rajgond, Rottail, Korku, Sohariya, Kowar and Bhil people. *Erigeron bonoriensis* is used in curing skin diseases, lumbago, rheumatism pyrrhoea throat ailments, blood purifier, haematuria by Bharia, Sahariya, Baiga and Soori people. *Launaea asplenifolia* is highly effective galactagogue and scrofula used by baiga and Kol tribes. During the survey some interesting folk uses of *Glossocardia bosvallea* have come to light. Some of these are not mentioned or published in medicinal literature. *Glossocardia* is found to be used as female tonic among all tribes of Surguja and some tribes of Sagar district. Gond, Lodhi, Baiga Bhil, Korba, Oran and Sahariya people were observed to use this plant in menstrual complaints, parturition, oxicotis drug, urethritis, syphilis.
pain and bleeding of miscarriage, in pre and post natal problems, as contraceptive and anti-inflammatory drugs. *Sonchus arvensis* was found to be used against cuts, injuries, Abscess, carbuncle, Boils, Antiseptic, asstringent, cirrhosis, Jaundice, Calculus and in liver complaints by Korba, Halba, Kol and Gond tribes of considered areas.

On account of above ethnomedicinal importance five species i.e. *Blumea oxydonta*, *Erigeron bonoriensis*, *Launaea Asplenifolia*, *Glossocardia bosvallea* and *Sonchus arvensis* were selected for phytochemical studies. Qualitative analysis was carried out on five species. Plant material of these species were extracted in ethanol (90%) in soxhelet extractor. Then qualitative analysis of these species was carried out to know the components of different chemical nature present in these plants.

Persual of Table-1 showed that carbohydrates, amino acids, glycosides were found to be present in ethanolic extract of all the considered five species. The extract of *Blumea oxydonta* gave positive tests for saponins, tannis, flavonoids, Alkaolids and negative test for phenols and steroids compounds. The ethanolic extract of *Erigeron bonoriensis* showed the presence of phenolic compounds and Alkaloids while gave negative
test for saponins, Tannins, Flavonoids and steroids compounds. *Launaea asplenifolia* gave positive results for phenols, steroids and saponins hence, negative results for Tannins, Flavonoids and Alkaloids. Carbohydrates, amino acids, glycosides, phenols, steroids, saponins, Tannins and Flavonoids showed wide distribution and gave positive results when *Glossocardia bosvallea* was analysed chemically. Alkaloids was not recorded in *Glossocardia bosvallea*.

The sample of *Sonchus arvensis* gave positive tests for steroids, saponins, Tannins and alkaloids compounds; phenolic compounds and Flavaonoids were found to be absent in *Sanchus arvensis*.

Study of results in Table-1 revealed that qualitative analysis, showed variation in their chemical constituents but aminoacids carbohydrates and glycosides were found to be present in all the considered plants. *Glossocardia bosvallea* stand first among all five species due to the presence of all the chemical compounds except alkaloids. *Blumea oxyodonta* and *Sonchus arvensis* showed the absence of phenols and steroids. *Erigeron bonoriensis* gave negative tests for four compounds i.e. steroids, saponins, Tannins and Flavonoids. Phenols were observed to be absent from two species i.e. *Blumea oxyodonta* and *Sonchus arvensis*. 
Steroids were not recorded in *Blumea oxyodenta* and *Erigeron bonoriensis*. *Launaea asplenifolia* and *Glossocardia bosvallea* showed the absence of alkaloids only. The samples of *Erigeron bonoriensis* and *Launaea asplenifolia* gave negative tests for flavonoids and Tannins.

Carbohydrates, amino acids, glycosides, Alkaloids and phenols showed wide distribution and gave positive results in all the considered species. Chromatographic studies of all the considered species were carried out by using Thin layer chromatography techniques to know the number of carbohydrates, amino acids, glycosides, alkaloids and phenols present in these species by qualitative analysis.

Result in Table No.2 revealed that maximum number of aminoacids were found in *Blumea oxyodonta* and *Glossocardia bosvallea*. Histidine, Isoleucine, Alanine, phenyl alanine, Methionine, Arginine, Glycine, Hydroxyproline, Tryptophan, Lysine, \( \alpha \)-Alanine were the aminoacids of common occurrence in *Blumea* and *Glossocardia*. *Erigeron bonoriensis* showed the presence of all common aminoacids except serine, Aspartic and Hydroxy proline and cystine.

*Launaea asplenifolia* and *Sonchus arvensis* shared common presence of alanine, serine, Tyrosine.
methionine, glycine, valine, Tryptophan, Histidine, Leucine, phenylalanine, Threonine, Glutamic acid Arginine, Aspartic acid, Cystine and Alanine were observed to be absent in Launaea and Sonchus.

Leucine and proline were recorded absent in Erigeron bonoriensis, Launaea asplenifolia and Glossocardia bosvallea. Alanine, methionine and Glycine were commonly present in all five considered species. Isoleucine, Hydroxyproline were found to be present in Blumea oxyodonta, Launaea asplenifolia, Glossocardia bosvallea and Sonchus arvensis.

Chromatographic studies of aminoacids clearly indicated that maximum number of aminoacids were found to be present in Blumea oxyodonta and Glossocardia bosvallea. Common constituents of these species were alanine and methionine, other aminoacids were very irregular and varied in their distribution.

Results in Table-3 clearly indicated that glucose and sucrose were found to be present in all species five considered i.e. Blumea oxyodonta, Erigeron bonoriensis, Launaea asplenifolia, Glossocardia bosvallea and Sonchus arvensis. Saccharose was found to be present only in Blumea oxyodonta, Erigeron bonorriensis and Glossocardia bosvallea shows the presence of galactose, Arabinose and maltose. Fructose was observed to be present
only in *Erigeron bonoriensis* Mannose, galactose, sucrose, maltose were also distributed frequently in *Erigeron bonoriensis* Saccharose Arabinose, Fructose and Maltose were shown their presence in *Blumea oxyodontas*.

In comparison to other considered species *Launaea asplenifolia* showed less carbohydrates only sibose, fructose, Rhamnose and sorbose were recorded.

Study of observations in Table-4 clearly revealed that qualitative phytochemical analysis of glycosides were given the positive results of their presence in all considered species of Asteraceae. Glycosides showed wider distribution and gave positive results in all the considered species.

Tentative identification of Glycosides was done. *Glossocardia bosvallea* and *Sonchus arvensis* were gave positive results for methyl-α-D-lyxopyranoside and methyl-α-D-xylopyranoside and negative tests for methyl-α-D-glucopyranoside. *Launaea asplenifolia* and *Glossocardia bosvallea* were gave positive results for methyl-β-D-galactopyranoside and negative results for methyl-α-D-galactopyranoside and methyl-β-D-arabinopyranoside. Methyl-α-D-galactopyranoside was found to be present in *Blumea oxyodontas*. *Erigeron bonoriensis* and *launaeas asplenifolia* showed the presence of methyl-α-D-glucopyranoside and methyl-α-D-gluconopyranoside. *Methyl-α-D-Lyxopyranoside,*
methyl-\(\beta\)-D-galactofuranoside, methyl-\(\alpha\)-D-galactopyranoside, and methyl-\(\alpha\)-D-galactopyranoside and methyl-l-\(\beta\)-cellobioside were not recorded in *Erigeron bonoriensis* and *Launaea asplonifolia*. Methyl-\(\beta\)-cellobioside was showed its distribution only in *Glossocardia bosvallea*. Except *Glossocardia bosvallea* in all other considered species less glycosides were found to be present. Five type of the methyl glycosides were recorded in *Glossocardia bosvallea*. Distribution of methyl glycoside was also very irregular and varied in all analysed species.

Results given in Table-5 clearly indicated that Alkaloids were present in ethanolic extract of *Blumea oxyodonta*, *Erigeron bonoriensis* and *Sonchus arvensis*. Qualitative analysis of the *Launaea asplinifolia* and *Glossocardia bosvallea* gave negative test for alkaloids. Maximum number of alkaloids were recorded in *Erigeron bonoriensis*. *Erigeron bonoriensis* showed the presence of Thebaine, strychnine, Aconitine, Tryopine, Novocaine, procaine, Arecoline, Dionine, pethidine and Gelseminine. Thebaine, procaine and Arecoline were shared their common presence in *Blumea oxyodonta*. Aconitine, Tryopine, Dionine were shared their common presence in *Sonchus arvensis*. *Blumea oxyodonta* showed the presence of six Alkaloids.

Table-5 in which Narceine and strychnine were not common. *Sonchus arvensis* was contend six alkaloids.
Presence of Berberine and coramine were recorded only in *Sonchus arvensis*.

These above results indicated that alkaloids, pharmacologically active components were widely distributed in *Blumea oxyodonta, Erigeron bonoriensis* and *Sonchus arvensis*.

Results given in Table-6 revealed that phenols were detected only in *Erigeron bonoriensis, Launaea asplenifolia* and *Glossocardia bosvallea*. Phenols were found to be absent in *Blumea oxyodonta* and *Sonchus arvensis*.

Tentative identification of these phenolic compounds were based on simultaneously running of standard phenolic derivatives. Phenol, O-cresol and 2-6-Dimethyl phenol were represented their wide range of distribution in *Erigeron bonoriensis* and *Glossocardia bosvallea* not detected in *Launaea asplenifolia*. 2-3-Dimethyl phenol and 2-5-Dimethyl phenol were found to be present in *Erigeron bonoriensis, Launaea asplenifolia* and *Glossocardia bosvallea*. The m-cresol and 3-4-Dimethyl phenol were shown their presence only in *Glossocardia bosvallea*. 2-4-Dimethylphenol and 3-5-Dimethylphenol were found to be present only in *Launaea asplenifolia*.

Persual of the Table-6 proved that eight phenolic derivatives were present in *Glossocardia bosvallea*. Five,
phenolic components were detected in *Erigeron* bonoriensis and *Launaea asphlenifolia*. None of the phenolic compounds could be detected in *Blumea oxyodonta* and *Sonchus arvensis*.

Persual of the Table 1-6 clearly revealed that *Blumea oxyodonta*, *Erigeren bonoriensis*, *Launaea asphlenifolia*, *Glossocardia bosvallea* and *Sonchus arvensis* were proved to be rich in aminoacids, carbohydrates, Glycosides, Alkaloids and phenolic constituents. So these considered species have got nutritive as well as medicinal value.