

## Ethnobotanical Study of Wild Edible Plants of Bidar District Used to Strengthen the Immune System

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### ABSTRACT

*At the present situation Covid-19 pandemic is very critical disease in worldwide. Coronavirus disease 2019 (Covid-19) is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It leads to an extensive change in the national and international social interactions. India is one of the richest countries in worldwide to supplies of Natural resources. Wild plants used as edible (raw or cooked), medicinal and other purposes. Several field trips were undertaken to different villages of the district. Information's were gathered by the help of questioners and their observations documented. During the survey, it was found that 18 species, from 17 genera belonging to 12 families of wild food plants consumed as vegetable from the local people for strengthen the immune system. So, the present study involves the identification, enumeration and use of indigenous knowledge on wild food plants consumed by rural people in different parts of Bidar district recorded. It reveals that, some plants used as vegetable and few eaten raw as medicine for strengthen the immune system. It serves the traditional knowledge gives the use of wild plants as food and medicine for various diseases.*

**Keywords:** Ethnobotany, Wild edible plants, Bidar district, Immune System, Covid-19.

### INTRODUCTION

The COVID-19 (Corona virus disease, 2019) pandemic originated from RNA based virus named as severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). According to the recent scientist, Covid-19 pandemic attacked in weaker immune body and it causes the death. So, only a highest immune system bodies gives the resistance power to fight with the virus and control the attack of disease

(George Varghese, 2020). India is one of the richest countries in worldwide to supplies of Natural resources. Many wild plants harvested for the uses of ethno medicine in treating of various ailments in indigenous part of the rural divisions of the country (Sujana et al., 2012). Edible wild plants are the precious gift of our nature. The most of ethnic communities are depends on forest resources for their survival purpose (Reyes-Garcia et al., 2005).

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Most of the edible wild plants used as supplements during the starvation, so it's called as famine food (Mahishi et al., 2005; & Tiruneh & Herbert, 2008). Edible wild plants play an important role in build up the strength to immune system. It has high nutritional values when compare to other edible plants. The study shows that, huge use of edible wild plants is available in the study area.

## MATERIALS AND METHODS

**Study area:** The Bidar district situated in North Eastern part of Karnataka in India. The district is covering an area of 5448 sq. km., within 17°35' and 18°25' North latitudes and 76°42' and 77°39' East longitudes (Fig. 1). The agriculture is the main occupation of the district. The local and tribal people are very familiar with the natural resources get from the forest.

### Survey and documentation

Several surveys were undertaken during the December 2018 – February 2020 in villages, and tribal people in the study area. The interviews were under taken by the help of questioner's or standard survey data sheet. Through interviews and discussions, information of wild edible plants used for strengthens the immune system gathered. Plants collected and herbarium specimens prepared then identified with the help of Floras and internet sources (Gamble & Fisher, 1957; Singh, 1988; & Seetharam et al., 2000).

## RESULTS AND DISCUSSION

Several field trips were undertaken in different villages of the district. Information's were gathered by the help of questioners and their observations documented. During the survey it was found that 18 species, from 17 genera belonging to 12 families of wild food plants consumed from the local people for strengthen the immune system. Among the 16 species, 5 plants species used as Young shoots vegetable, each 4 species as leafy vegetables and 3 species fruit vegetable, 2 as whole plant edible

and single sp. of *Senna tora* seeds as well as leaves vegetable, fruit pulp (*Limmonia acidissima*) edible and whole plant vegetable (*Glossocardia bosvallea*).

Total 18 species, 2 species (*Amaranthus viridis* and *Phoenix sylvestris*) are available in local markets and other in cultivated lands, open fields and forests. It reveals that, some plants used as vegetable and few eaten raw as medicine for strengthen the immune system. It serves the traditional knowledge of wild plants as food and medicine for immunity. Amaranthaceae was found to the most common families with 6 and Leguminaceae (Caesalpinioideae and Mimosoideae) with 2 species and rest of the 10 families has single species (Fig. 2). Habit wise distribution of edible wild plants showed the herbs (11) are found to the most used plants followed by trees (03), shrubs (03) and climbers (01) in descending order (Fig. 3). Among the 18 edible wild plant species, 5 young shoots, 4 leaves, 2 fruits, 2 whole plant, 2 tubers and other each single part of fruit pulp, seed and resin/gum used as edible part (Fig. 4).

Three ethnic groups viz., Tripuri, Molsom and Rupini of Tripura documented the total 41 wild edible plants species of 36 genera and 22 families through semi-structured interviews and preference ranking methods (Dipankar Deb et al., 2013). Edible wild plants collected from the forests by local people for their consumption and selling in the markets (Singh, 1997; Majumdar et al., 2006; Majumdar et al., 2007; Majumdar et al., 2009; Das et al., 2009; Shil & Dutta Choudhury, 2009; Das & Dutta Choudhury, 2010; & Roy et al., 2010). Tribals' people of North – East Chhattisgarh documented diversity of indigenous uses and availability status of wild edible plants. A total of 80 species belonging to 65 genera and 40 families documented from the study area (Ekka & Ekka, 2016). So I the present paper tried to survey and documented the wild edible plants available in the study area.

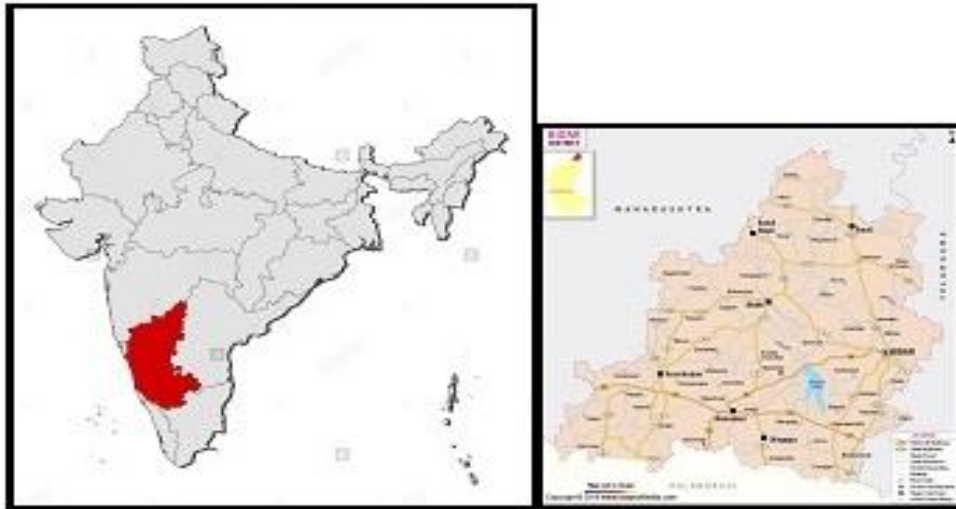


Fig. 1 Study Area

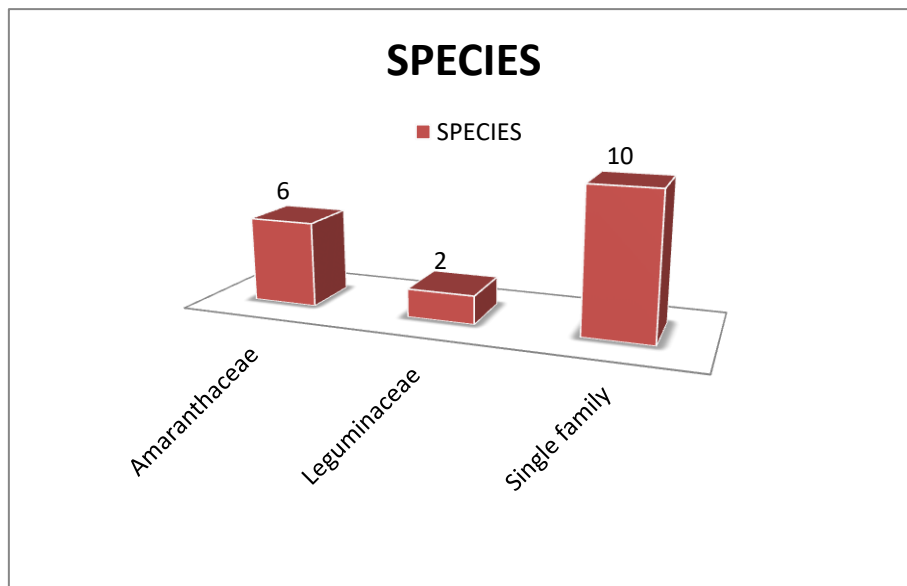


Fig. 2 Family wise distribution of edible wild plants

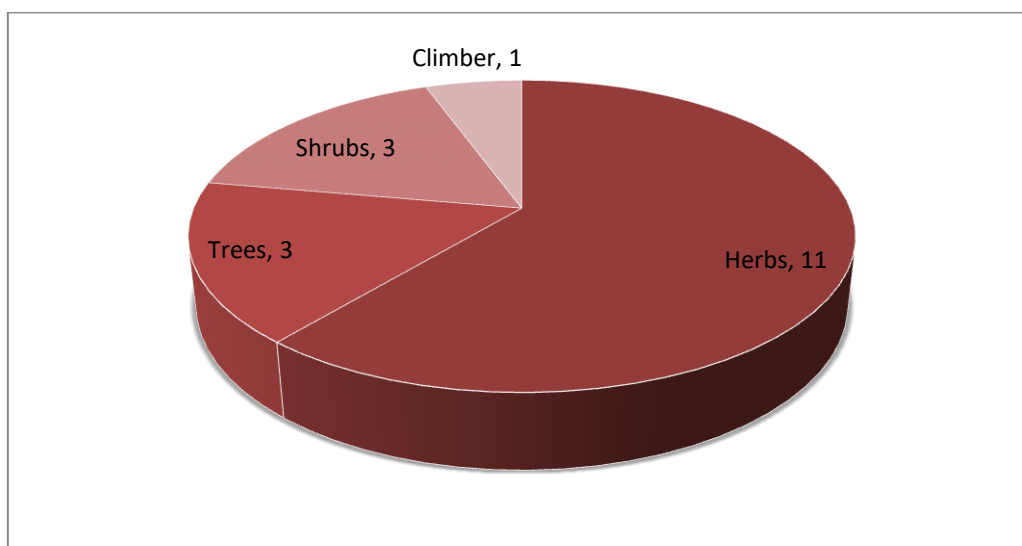


Fig.3. Habit wise distribution of edible wild plants

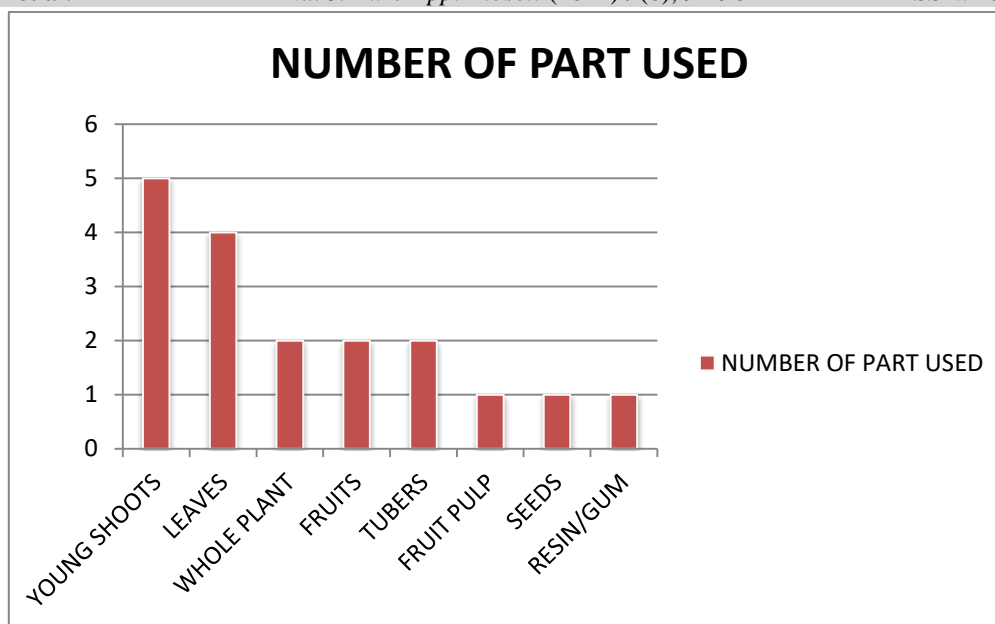


Fig.4. Distribution of edible wild plants as Part used

Table1. List of wild edible plants of Bidar district used to build the Immune system

Sl. No.	Botanical name	Family/Subfamily	Common name/s	Part/s used	Mode of usage
01.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Uttarani	Young shoots	Young shoots are used as vegetable
02.	<i>Aerva lanata</i> (L.) Jussieu ex Schults	Amaranthaceae	Bilihindi soppu	Young shoots	Whole plant used as vegetable
03.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Kirgasale palya	Young shoots	Young shoots are used as vegetable
04.	<i>Amaranthus viridis</i> L.	Amaranthaceae	Sanna rajgiri playa, kantha bhaji	Young shoots	Young shoots are used as vegetable
05.	<i>Celosia argentea</i> L.	Amaranthaceae	Kukken gida, Anne soppu, Karada	Leaves	Leaves are used as vegetable
06.	<i>Digera muricata</i> (L.) Mart.	Amaranthaceae	Goraje palya	Young shoots	Young shoots used as vegetable
07.	<i>Curculigo orchoides</i> Gaertn.	Amaryllidaceae	Kali musli	Tubers	Tubers are eaten raw
08.	<i>Phoenix sylvestris</i> (L.) Roxb.	Aracaceae	Shindi kai, Khajur	Fruits	Fruits eaten raw
09.	<i>Glossocardia bosvallea</i> (L. f.) DC.	Asteraceae	Adi sabski, Pattar suva	Whole Plant	Whole plant used as vegetable
10.	<i>Momordica cymbalaria</i> Hook. f.	Cucurbitaceae	Karchi kai	Fruits	Fruits are used as vegetable
11.	<i>Senna tora</i> (L.) Roxb.	Leguminaceae / Caesalpinioideae	Chagachi	Seeds, Leaves	Seeds eaten raw and Leaves used as vegetable
12.	<i>Acacia arabica</i> (Lam.) Willd.	Leguminaceae / Mimosoideae	Babli gida, Kari jaali	Resin/gum	Resin or gum is eaten raw or cooked.
13.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Halavu makkal taayi, Shatavari	Tubers	Tubers are used as vegetable
14.	<i>Abelmoschus moschatus</i> Medik.	Malvaceae	Advibendekai	Fruits	Fruits used as vegetable
15.	<i>Limonia acidissima</i> L.	Rutaceae	Kaute kai, Yelka, Naibela	Fruit pulp	Fruit pulp used as chutney
16.	<i>Bacopa monnieri</i> (L.) Wettst.	Scrophulariaceae	Neeru bhrmi, Timare	Leaves	Leaves used as vegetable
17.	<i>Physalis minima</i> L.	Solanaceae	Gudde hannu, Sannaguppate gida	Leaves	Leaves are used as vegetable
18.	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Neggi Palya	Whole plant	Young plant used as vegetable

## CONCLUSION

The present investigation has brought out the ethnobotanical and agro-ecological significance of wild edible plants of Bidar district used to strengthen the Immune system in human beings. Some of the plants are shifting towards cultivation for their more utility in the form of edible food and medicine.

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## Conflict of Interest

The author declares no conflict of interest.

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