



e-ISSN: 2319-8753 | p-ISSN: 2347-6710

# IJRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 12, Issue 4, April 2023

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

Impact Factor: 8.423

 9940 572 462

 6381 907 438

 [ijirset@gmail.com](mailto:ijirset@gmail.com)

 [www.ijirset.com](http://www.ijirset.com)

# Exploration and Documentation of Wild Edible Plants of Muniya Conservation Reserve (MCR) of Nagpur District, Maharashtra state

N. G. Chandewar<sup>1</sup> and Dr. Rupali Chandewar<sup>2</sup>

Assistant Conservator of Forest, Forest Department, Government of Maharashtra, India<sup>1</sup>

Associate Professor, BMAM, Nanadanvan, Nagpur, India<sup>2</sup>

---

**ABSTRACT:** MCR is a conservation reserve area declared by the State Government on 11/5/2021. The Muniya Conservation reserve area is spread over an area of 93.01 square meters and is rich in biodiversity. MCR is formed from the reserve forest and protected forest area of Butibori and North Umred territorial ranges. The present study carried out in MCR to study exploration, identification, documentation, ethnobotanical importance and to know the forest food biodiversity with respect to food value of wild edible plants used by the local peoples of fringed villages around MCR. This study helps to the forest department for preparation of management plan and execution of plan for management of conservation reserve.

---

**KEYWORDS:** Muniya Conservation Reserve, Wild edible, Ethnobotany, Nagpur

---

## I. INTRODUCTION

Maharashtra State Government declared Muniya Conservation Reserve(MCR) by notification dated 11 may 2021.(Notification no. WLP.0321/CR-67/F-1) Situation, limit and area of muniya conservation reserve(MCR) is in Butibori and North Umred ranges of Nagpur forest division of Nagpur forest circle having area is 9601.43 Ha.( 96.01sq. km).The forests are widely spread and mainly situated on hilly slopes surrounded by cultivated plains. The majority of forest areas in the district are plain, undulating, and hilly area contain heterogeneous landscape like grassland, Zudapi Jungle, dense forest, wetlands, undulating and hilly rocky forest having clear eco-tone. Soil types in the division are strongly influenced by dominant metamorphic rocks and the Deccan trap. Soil is mostly sandy-loam, which is eminently suited to the tree growth. Nagpur has hot and dry climate with distinct three seasons. Very hot summer adversely affects vegetation growth more so because of highly radiating exposed quartzite and basalt in the tract. The rainy season generally starts from the second week of June and continuous up to the end of September every year. The forests of Nagpur Division belong to the *Sub Group 5A – Southern Tropical Dry Deciduous Forests* as per ‘Revised classification of Champion and Seth’. Teak is predominantly found as pure crop in ranges of Nagpur division. Some of the villagers, living nearby the forests, collect various NTFPs such as moha, charoli, gum, honey, roots, bark, leaves etc and sell them locally. Collection of NTFPs constitutes a substantial part of the income of tribal populations and other inhabitants living in and around in the vicinity of the forest areas. (*Working Plan of Nagpur Forest Division, Volume I, Period 2015-16 to 2024-25 by P. Kalyankumar and T.K. Choubey*).

The direct and indirect effects and contribution of the forest derived pharmaceuticals, herbs, fruits, fungi, organic certified products, and other wood and non-wood forest products on human health and well-being, economical and social development, alternative medicine and industry. Their preventive, nutraceutical, therapeutic and healing values and benefits in relation to forest environment also will be addressed. (Kjell Nilsson et al; 2005)

## II. STUDY AREA

Situation and limits of “ Muniya Conservation Reserve” located in Butibori and North Umred forest ranges of Nagpur forest division of Nagpur district and lies between 79.00 East and 79.15 East longitude and 20.40 North and 21.00 North latitude, covered with heterogeneous landscape and beautiful forest with some hilly area. Butibori Range-compartment no. 310, 319, 320, 761, 762, 333, 334, 336, 335, 769, 337, 338, 339, 344, 385, 388, 389, 392, 394, 395, 396, 397, 398 ( Total 23). North Umred Range- compartment no. 340, 341, 391,390, 387, 386, 372, 366, 367,368, 369,

371, 375, 370, 384 (Total 15). For study of wild edible plants covered all 38 compartment of reserve forest and protected forest having total area of MCR is 9601.43 Ha. (96.01sq. km).

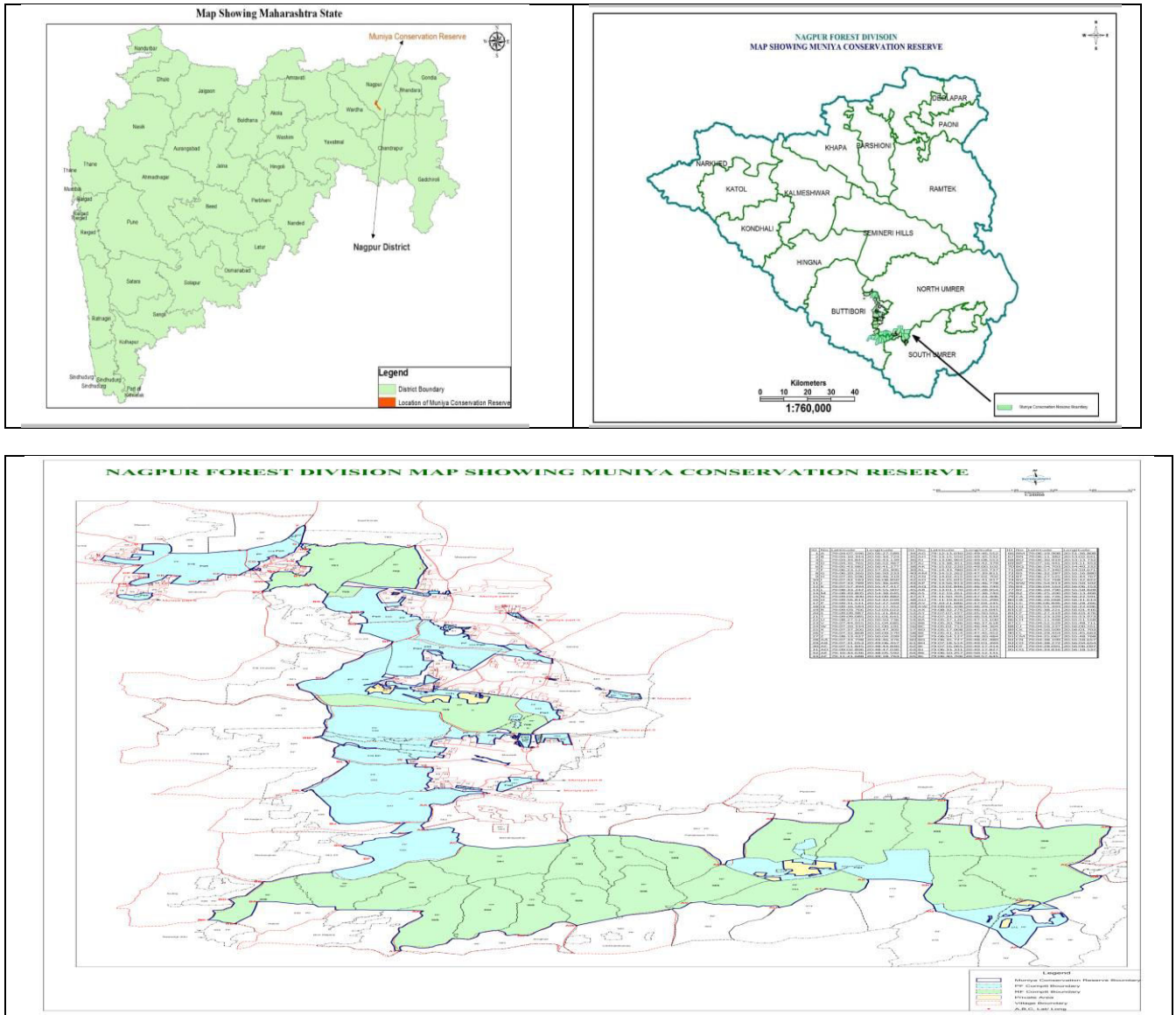


Figure 1: Map showing MCR (study area)

### III. METHODOLOGY

For exploration and documentation of wild edible plants of study area i. e. MCR, the ethnobotanical investigations were undertaken in both the ranges of muniya conservation reserve with objectives to study the wild edible plants and to explore and documentation of wild edible plants. Survey of wild edible plants stated from rainy season of 2021 and completed in winter season of 2022. The survey of wild edible plants were taken in all 38 compartment of both the ranges (MCR) and was carried out generally at early morning with the help knowledgeable people in the region, forest labour and forest guard. The survey method adopted according to standard technical method and data was collected using semi-structured questionnaire, interviews and discussions based on the standard procedures suggested by Jain (1989). The detailed information on indigenous knowledge, local name, plant part eaten, various preparation method and medicinal properties was listed and noted down for further confirmation and data analysis. Plants were identified by using different relevant technical books and scientific literature. (Ref.-2, 4, 10, 11, 12, 13, 14, 17).



**Observation:**

The data collected from field was identified, listed out and arranged in a tabulated manner. The wild edible plants reported during the study period have been enumerated and shown in table 1 with their botanical name arranged along with family, local name, parts used, mode of uses, season of availability and market availability.

**IV. RESULT AND DISCUSSION**

The wild edible plants recorded during baseline data collection have been presented in table 1 with their vernacular name, botanical name with family, habit, part used, method of consumption, season of availability and market availability. The recorded 64 plants species, belonging to 45 families. Out of 45 families, 40 families belong to dicotyledons and 5 families belong to monocotyledons.

Out of 64 plants recorded, mode of utilization represented with leaves of 17 plants, fruits of 25 plants, shoots of 3 plants, flower and inflorescence of 3 plants, prickles of 1 plant, corm and rhizomes of 2 plants, bulb of 1 plant, seeds of 6 plants, roots of 2 plants, thalamus of 1 plant, tendrils of 1 plant. There are some plant species whose various plant parts used for food.

The findings suggest further investigation on nutritional aspects, medicinal properties, mode of utilization, nursery techniques, harvesting techniques and conservational strategies of the reported wild edible plant species.

**Table 1:** Observation on wild edible plants found in Muniya Conservation Reserve.

**Observation on wild edible plants found in Muniya Conservation Reserve.**

S.N	Vernacular Name (Marathi, Hindi)	Scientific Name and Family	Habit	Edible Plant Part	Consumption Method	Season of Availability	Availability in Market
1	Dhan Bhaji	<i>Allmania nodiflora</i> (L.) R. Br. ex Wight Amaranthaceae	Herb	Leaf	Leaves are cooked and consumed.	Rainy	Y
2	Patur Bhaji	<i>Alternanthera paronychioides</i> St.Hil Voy. Amaranthaceae	Herb	Leaf	Leaves are cooked and consumed	Rainy	Y
3	Suran kand	<i>Amorphophalus paeonifolius</i> Dernt Araceae	Herb	Corm	The corm is boiled and then cooked as the vegetable and eaten as food.	Winter	N
4	Widhara, Samudra ashok	<i>Argyreia nervosa</i> (Burm.f) Bojer Convolvulaceae	Climber	Leaf	Fried with required ingredient and consumed as food.	Throughout the year	N
5	Bamboo Vaaste, bamboo shoots	<i>Bambusa arundinacea</i> (Ritz) willd Poaceae	Culms	Shoot	Cooked and consume/pickle	Rainy	N
6	Kanchan	<i>Bauhinia purpurea</i> L. Caesalpinaceae	Tree	Seed	Tender pods are cooked as a vegetable.	Rainy	N

7	Pavur/vel bhaji	<i>Bauhinia vahlii</i> Wight & Arm. Caesalpiniaceae	Climber	Seed	Roasted seed and consumed	Summer	N
8	Khaparfuti	<i>Boerhavia diffusa</i> (L) Hook. Nyctaginaceae	Herb	Leaf	Leaves are cooked as a vegetable	Rainy	N
9	Taad, maad	<i>Borassus flabellifer</i> L. Arecaceae	Tree	Fruit	Fruits –inner part, toddy	Summer Winter	Y
10	Kassai	<i>Bridelia retusa</i> (L) Spreng Euphorbiaceae	Tree	Fruit	Ripened fruits are consumed.	Rainy	Y
11	Charoli, charbiya	<i>Buchanania cochinchinensis</i> (Lour.) Almeida Anacardiaceae	Tree	Fruit	Ripened fruits are eaten. Dried seed cotyledon used in dishes.	Summer	Y
12	Rui	<i>Calotropis procera</i> (Ait.) R. Br. Asclepiadaceae	Shrub	Fruit	Raw fruits cooked as a vegetable	Winter	N
13	Tarota	<i>Cassia tora</i> Sensu Baker. Caesalpiniaceae	Herb	Leaf	Tender leaves Cooked and consumed.	Rainy	N
14	Pimpalacha cha baar	<i>Celastrus paniculatus</i> Willd. Celastraceae	Climber	Flower	Flowers are cooked as a vegetable	Summer	Y
15	Batwa, baat bhaji	<i>Chenopodium album</i> L. Chenopodiaceae	Herb	Leaf	Leaves are cooked and consumed.	Winter	N
16	Musal bhaji	<i>Chlorophytum borivillianum</i> Liliaceae	Herb	Leaf, Root	Leaves used to make Dalbhaji, Root tubers are eaten raw.	Rainy	N
17	Tupkati bhaji	<i>Corchorus capsularis</i> L. Tiliaceae	Herb	Leaf	Young and Tender Leaves are cooked and consumed.	Rainy	N
18	Paat bhaji	<i>Corchorus olitorius</i> L. Tiliaceae	Herb	Leaf	Young and Tender Leaves are cooked and consumed.	Rainy	N
19	Shelvat	<i>Cordia dichotoma</i> Forst Boraginaceae	Tree	Fruit	Raw fruits used to cook as a vegetable. Used to make	Summer	N

					as a pickle. Ripened fruits used as a raw eaten.		
20	Bamboo Vaaste	<i>Dendrocalamus strictus</i> (Roxb) Nees Poaceae	Culms	Shoot	Cooked and consume/pickle	Rainy	N
21	Mataru	<i>Dioscorea bulbifera</i> L.. Dioscoreaceae	Climber	Bulb	Bulb are boiled and consumed.	Rainy and Winter	N
22	Tembhru	<i>Diospyros melanoxylon</i> Roxb. Ebenaceae	Tree	Fruit	Ripened fruits are eaten.	Summer	Y
23	Umber	<i>Ficus racemosa</i> Linn. Moraceae	Tree	Fruit	Ripened fruits are eaten	Throughout the year	N
24	Kakai	<i>Flacourtia indica</i> (Burm. f) Merr. Flacourtiaceae	Tree	Fruit	Ripened fruits are eaten	Summer	N
25	Kadubhaji	<i>Glinus oppositifolius</i> (L.) A. DC Molluginaceae	Herb	Leaf	Leaves are cooked and consumed.	Rainy	N
26	Phalsa	<i>Grewia asiatica</i> L.. Tiliaceae	Shrub	Fruit	Ripened fruits are eaten	Winter	N
27	Wavala, Yensadada	<i>Holoptelea integrifolia</i> (Roxb.) Planch. Ulmaceae	Tree	Seed	Seeds are roasted and then consumed.	Summer	N
28	Madhumalti	<i>Lantana camara</i> L.. Verbenaceae	Shrub	Fruit	Ripened fruits used as a raw consumed.	Throughout the year.	N
29	Lakholi	<i>Lathyrus sativus</i> L. Fabaceae	Herb	Leaf, Fruit	Tender leaves cooked and consumed. Pods are consumed after roasted.	Winter	N
30	Mahua	<i>Madhuca longifolia</i> (Koen.) Mac. Bride. Sapotaceae	Tree	Flower, Fruit	Fleshy flower and dried flower used for consumption. Fruits used for recover oil.	Summer	N

31	Khirmi	<i>Manilkara hexandra</i> (Roxb.) Dub. Sapotaceae	Tree	Fruit	Ripened fruits.	Winter	N
32	Bharati	<i>Maytenus senegalensis</i> (Lam.) Excell. Celastraceae	Shrub	Flower	Young flowers and buds are boiled and then cooked.	Winter	N
33	Kurta	<i>Macrotyloma uniflorum</i> Fabaceae	Herb	Seed	Seeds used for making dal.	winter	Y
34	Kamal, bhishi	<i>Nilumbo nucifera</i> Gaertn. Nelumbonaceae	Herb	Seed	Seeds roasted and then consumed.	Winter	Y
35	Aaratfari	<i>Oxalis psittacorum</i> (Willd.) Vahl. Olacaceae	Climber	Leaf	Tender leaves and shoots cooked as a vegetable.	Rainy	Y
36	Tattu	<i>Oroxylum indicum</i> (L.) Vent. Bignoniaceae	Tree	Fruit, Flower	Flowers cooked as a vegetable. Fruits used to make pickle.	Rainy	Y
37	Amboti	<i>Oxalis corniculata</i> L. Oxalidaceae	Herb	Leaf	Leaves are cooked as a vegetable	Throughout the year	N
38	Utaran	<i>Pergularia doemia</i> (Forssk.) Choiv. Asclepiadaceae	Climber	Fruit	Raw fruits cooked as a veritable.	Winter	N
39	Bhui Shindi	<i>Phoenix acaulis</i> Roxb.. Arecaceae	Shrub	Underground Petiole	Underground petiole (Finger-length) is scaled and eaten	Throughout the year	N
40	Shindi	<i>Phoenix sylvestris</i> (L.) Roxb. Arecaceae	Tree	Fruit	Ripened fruits are eaten	Summer	N
41	Kusum, Kojaba	<i>Schleichera oleosa</i> (Lour.) oken. Sapindaceae	Tree	Fruit	Ripened fruits are eaten	Summer	N
42	Kacharkaanda	<i>Scripus grossus</i> (L.f) Palla. Cyperceae	Herb	Root	Rootstocks are boiled and eaten as food.	Winter	Y

43	Biba	<i>Semecarpus anacardium</i> L. f. Anacardiaceae	Tree	Thalamus	Ripened thalamus is eaten.	Winter	N
44	Sherdire	<i>Smilax zeylanica</i> L. Smilacaceae	Climber	Tendril	Young tendril and shoots cooked as vegetable.	Rainy	Y
45	Behada	<i>Terminalia bellirica</i> (Gaertn.) Roxb. Combretaceae	Tree	Seed	Testa is removed and cotyledons are eaten as food.	Throughout the year	N
46	Kochai	<i>Theriophonum dalzellii</i> Schott Araceae	Herb	Leaf	Leaves are used to make Dalbhaji.	Rainy and Winter	N
47	Surya	<i>Xylia xylocarpa</i> (Roxb.) Taub. Mimosaceae	Tree	Seed	Seeds are roasted and consumed.	Summer	N
48	Katwal	<i>Momordica dioica</i> Roxb. Ex. Wild. Cucurbitaceae	Climber	Fruit	Cooked and consumed.	Winter	Y
49	Aola	<i>Embica officinales</i> Gaertn. Phyllanthaceae	Tree	Fruit	Raw fruit used for consumption.	Summer	Y
50	Mungna	<i>Moringa oleifera</i> Lam. Moringaceae	Tree	Fruit	Pods cooked and consumed.	Throughout the year	Y
51	Kawath	<i>Feronia limonia</i> Linn. Rutaceae	Tree	Fruit	Ripened fruit used for consumption.	Summer	Y
52	Chichbilai	<i>Pithocellabium dulce</i> (Roxb.) Benth Fabaceae	Tree	Fruit	Ripened fruit used for consumption.	Summer	Y
53	Jambhul	<i>Syzigium cumini</i> L. Myrtaaceae	Tree	Fruit	Ripened fruit used for consumption.	Rainy	Y
54	Kapalphodi	<i>Physalis pubescens</i> L. Solanaceae	Shrub	Fruit	Ripened berry used for consumption.	Winter	N
55	Mek , khaja	<i>Cucumis setosus</i> Cogn. Cucurbitaceae	Climber	Fruit	Ripened fruit used for consumption.	Summer	N





56	Mokha	<i>Screbera swietenioides</i> Roxb. Oleaceae	Tree	Leaves	Tender leaves cooked as vegetable.	Summer	N
57	Ghol bhaji	<i>Portulaca oleraceae</i> L. Portulacaceae	Herb	Leaves	Leaves are cooked as vegetable.	Winter	N
58	Pathari	<i>Launaea procumbens</i> Roxb. Asteraceae	Herb	Leaves	Leaves are cooked as vegetable.	Winter	N
59	Alu	<i>Colocasia asculenta</i> L. Schott. Araceae	Herb	Leaves	Leaves are cooked as vegetable.	Throughout the year	Y
60	Kuda	<i>Holarrhena pubescens</i> Wall. Ex. Don Apocynaceae	Tree	Flowers	Flowers cooked as vegetable.	Winter	Y
61	katesawar	<i>Bombax ceiba</i> L. Malvaceae	Tree	Prickles	Raw prickles consumed.	Throughout the year	N
62	Harandodi, haranvel	<i>Wakataka volubilis</i> (L.f). Stapf Apocynaceae	Climber	Fruit	Fruits cooked and consumed.	Winter	N
63	Keokanda	<i>Costus speciosus</i> (J.Koenig) SM Costaceae	Herb	Rhizome, Tender shoots	Tender shoots are eaten as vegetables	Winter	N
64	Jivanti	<i>Leptadenia reticulata</i> Retz. Wight and Arn. Apocynaceae	Climber	Fruit	Fruits cooked and consumed.	Winter	N

Fig.2- Plant parts used by locals of recorded plant species.

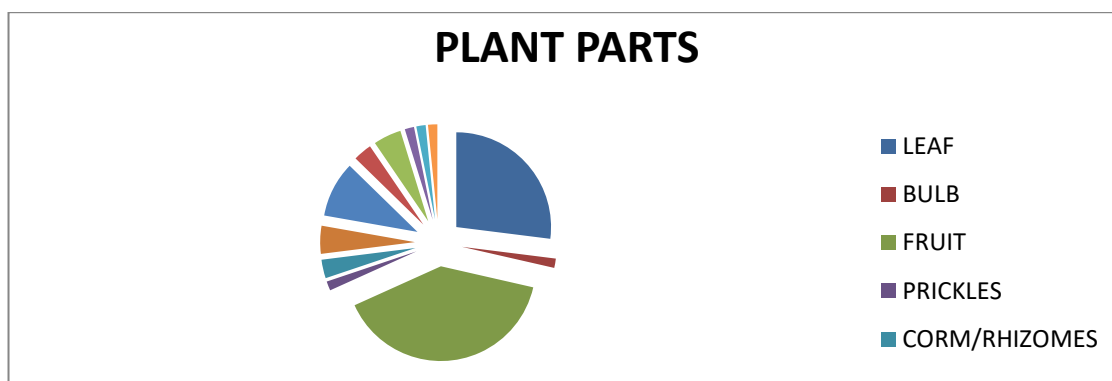


Fig. 3- Habit of plants recorded in MCR

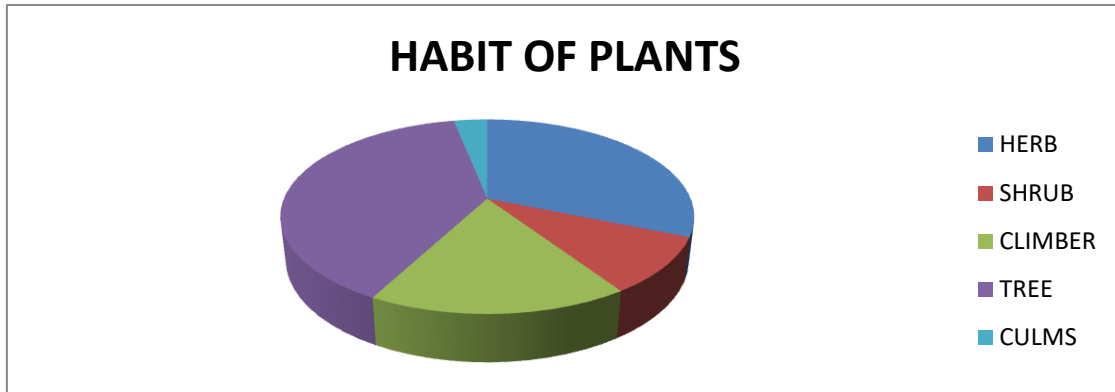
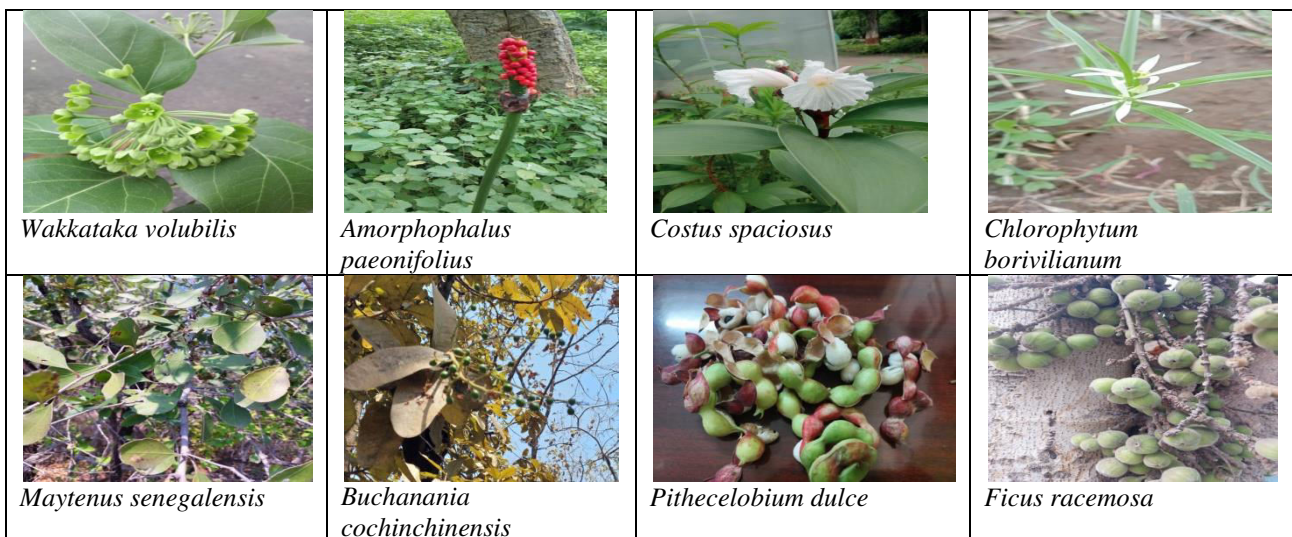


Figure 4:- Photos of some of the collected wild edibles from MCR.



## V. CONCLUSION

The ethnic and local people use different wild edible plants which are available in their vicinity of various geographical region of the world (Monoranjan Chowdhary et al; 2012). Muniya conservation reserve (MCR) having excellent biodiversity in wild edible plant. This is the first of its kind of attempt in the study area as the area declared as conservation reserve by the state government. The present study helps to the forest department for preparation of management plan and execution of plan for management of conservation reserve. This study also used as a raw data for the creation of cottage industry for the people of fringed villages of MCR.

## ACKNOWLEDGEMENTS

Authors are thankful to government of Maharashtra, forest department for support and giving opportunity for this research work. Also thankful to the informers who open heartedly shared their knowledge with us and also grateful to my staff for co-operating during entire study and field works and discussion.

## REFERENCES

1. Behera KK, Mishra NM, Dhal NK, Rout NC, Wild edible plants of Mayurbhanj District, Orissa, India, J. Econ. Taxon. Bot. Vol.32 (2008), 305-314.
2. Bhogaonkar PY, Marathe VR & Kshirsagar PP, Documentation of wild edible plants of Melghat forest, dist.



- Amravati, Maharashtra State, India, Ethnobotanical Leaflet, (14) (2010) 751-758.
3. Jain SK, Methods and approaches in Ethnobotany, Society of Ethnobotanists, Luknow, (1989)
  4. Jain SK, Wild Plants-Foods of the Tribals of Bastar (Madhya Pradesh), (1963) 1-25.
  5. Jain SK and Sinha BK, Ethnobotanical aspect of life support species- some emergency and supplementary foods among aboriginals in India. Life support species: Diversity and Conservation, (Paroda RS, Kapoor P, Arora RK and Mal Bhag. National Bureau of Plant Genetic Resources, New Delhi), (1988) 173-180.
  6. Jadhav VD, Mahadkar SD & Valvi SR, Documentation and ethnobotanical survey of wild edible plants from Kolhapur District, Recent Research in Science and Technology, 3(12) (2011) 58-63.
  7. Kjell Nilsson, Marcus Sangster & Christos Gallis, COST E39: Forest trees and human health and well being. <https://www.researchgate.net/publication/239847465>.
  8. Monojanjan Chowdhury, Rajrupa Mukherjee, Wild edible plants consumed by local communities of Maldah District of West Bengal, India, Indian Journal Sci. Res. 3(2)(2012), 163-170.
  9. P. Kalyankumar, Choubey TK, Working plan of Nagpur Forest Division, Volume I, Period 2015-16 to 2024-25.
  10. Reddy MB, Wild edible plants of Chandrapur District Maharashtra, India, Indian Journal of Natural Product and Resources, 3(1) (2012) 110-117
  11. Satpute SV, Documentation Of Wild Vegetables: A Study Based on Warud Tehsil – Maharashtra, International Journal of Informative & Futuristic Research, 2(8) (2015) 2663 – 2670.
  12. Sharma BD, Karthikeyan S & Singh NP, Flora of Maharashtra State, Monocotyledons, (Botanical Survey of India, Calcutta, India.) 1996
  13. Singh NP & Karthikeyan S, Flora of Maharashtra State: Dicotyledons Vol.-I. (Botanical Survey of India, Calcutta, India.), 2000
  14. Singh NP & Karthikeyan S, Flora of Maharashtra State: Dicotyledons Vol.- II (Botanical Survey of India, Calcutta, India), 2001
  15. Sethiya AV, Narkhede SD, Dongarwar NM, Exploration and documentation of some wild edible plants used by the aboriginals from Gadchiroli District (M.S.) India, International Advanced Research Journal in Science, Engineering and Technology, 3(7) (2016) 24-35.
  16. Sethiya AV, Narkhede SD, Dongarwar NM, Exploration and documentation of some scarcity food plants used by the aboriginals from Gadchiroli District (M.S.) India, International Advanced Research Journal in Science, Engineering and Technology, 3(5) (2016) 69-73.
  17. Ugemuge NR, Flora of Nagpur District, (Shree Prakashan, Nagpur.), 1986.



SJIF Scientific Journal Impact Factor

Impact Factor: 8.423



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

 9940 572 462  6381 907 438  [ijirset@gmail.com](mailto:ijirset@gmail.com)



[www.ijirset.com](http://www.ijirset.com)

Scan to save the contact details