



# BASIDIOMYCETES FUNGI OF NANDIGRAM SERVICE CENTRE

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## ABSTRACT

Nandigram Service Centre occupy 25 acres of total land. Nandigram Service Centre is the place which works for Rural People for their Rural development, health Services, cowshed, Farming, Education. Many Basidiomycetes fungi intermingled with other vascular plants. 20 types of Basidiomycetes fungi found in this Nandigram Service Centre. All Basidiomycetes fungi are showed, collected, stored in formaldehyde solution. They are identified by (Laessøe and Peterson, 2019) (Grace et al., 2019) (Kumar and Manimohan, 2009). Their Habitat also described in this. Occurrence of different family, Genus and species chart are also described. Agaricaceae family is dominant than other family found in Nandigram Service Centre and Ganoderma and Lepiota Genus are dominant other Genus available in Nandigram Service Centre. Nandigram Service Centre Most of the Basidiomycete's fungi are showed in Soil.

**Keywords:** Fungi-Basidiomycetes-Nandigram Service Centre-Habitat

## INTRODUCTION:

Nandigram is a place which is situated in Dharampur region at Longitude 73.094317 and Latitude 20.548893. It is established by Gujarati Author Kundanika Kapadia. She was a Indian novelist, story writer and eassyist from Gujarat. This place covers total area 25 acres. This place contains Primary Health Centre. It is called Service centre who works for Rural development. They construct different type of works like health services, Rural development, cowshed, Farming, Education. In health services, they work for campus hospital Child disease camp, far village medical camp, Dermatology, Mental disease camp, Ayurvedic medicine camp, health centre. They help the rural people in distribution of cereals, sandle distribution, discounted rate Notebook distribution to students, distribution of new or old clothes, distribution of blankets, sheets, carpet and every month cereal distribution. For Rural development, they do well-lake construction-repairs, boring-handpump construction, land synthesis, Siege. They give service for formation of Earth warm compost, Insecticide, drug formation, Medicinal Garden, selling of rice, vegetables, fruits, if possible, floriculture. They work for Education, computer classes, School, Journey, Playschool for that rural people. Kaur et al. (2019) described that Mushrooms are quite diverse and cosmopolitan in their distribution as is evident from the information gathered from published literature over a period of time. Singh et al. (2016) wrote that Macrofungi predominantly occur during the rainy as well as spring season when the snow melts. Mushrooms are in fact the 'fruit' of the underground fungal mycelium. Verma at al. (2018) concluded that species commonly grows on soil (frequently on calcareous and humus oil) in deciduous woodland or conifers and rarely in coastal scrub.

## MATERIALS AND METHODS:

The Basidiomycetes fungi are intermingled with Angiosprem, Gymnosperm, Algae, Fungi and Pteridophytes. These plants which are *Terminalia arjuna*, *Saraca asoca*, *Sesbania grandiflora*, *Ficus carica*, *Phyllanthus emblica*, *Polyalthia longifolia*, *Tectona grandis*, *Ficus racemosa*, *Mangifera indica*, *Arica palm*, *Adenium*, *Holarrhena pubescens*, *Averrhoa carambola*, *Millettia pinnata*, *Neolamarckia cadamba*, *Cascabela thevetia*, *Anacardium occidentale*, *Musa*



*acuminata, Pinus kesiya, Cupressus, Cordia, Butea monosperma, Peganum harmala, Cordia dichotoma, Delonix regia, Pithecellobium dulce, Magnolia champaca, Santalum album, Manikara zapota, Prunus avium, Adansonia digitata, Psidium guajava, Syzygium cumini, Tabebuia rosea, Tabernaemontana divaricate, Vitax negundo, Cocos nucifera, Eucalyptus globulus, Boerhavia diffusa, Carica papaya, Ficus religiosa, Artocarpus heterophyllus, Prunus dulcis, Mimusops elengi, Azadirachta indica, Melia azedarach, Ziziphus nummularia, Acacia nilotica, Aegle marmelos, Madhuca longifolia, Hevea brasiliensis, Elaeocarpus angustifolius, Manikara hexandra, Samanea saman, Citrus limon, Ficus benghalensis, Casuarina equisetifolia, Peltophorum pterocarpum, Alstonia scholaris, Bombax ceiba, Areca catechu, Salmo ischchan, Gmelina arborea, Terminalia chebula, Moringa oleifera* those are available in this place. 20 Species of Basidiomycetes class are found in this 25-acre area. These Basidiomycetes fungi are collected from different places of this area. They are photographed. They are stored in 0.4% Formaldehyde Solution. These fungi are identified by Morphological characters by (Laessøe and Peterson, 2019) (Grace et al., 2019) (Kumar and Manimohan, 2009). Their Habitat also described in Table 1.

**RESULT AND DISCUSSION:**

It has been recorded 20 types of Basidiomycetes class of fungi in Nandigram Service Centre.

**Table :1 Distribution of Basidiomycetes fungi**

No	Family	Scientific Name	Habitat
1	Lyophyllaceae	<i>Calocybe indica</i> Purkey. & A. Chandra, 1974	Wood
2	Ganodermataceae	<i>Ganoderma carnosum</i> Pat.	Wood
3	Psathyrellaceae	<i>Coprinellus micaceus</i> (Bull.,:Fr.) Vilgalys, Hopple & Jacq. Johnson (2001)	Wood
4	Agaricaceae	<i>Cystoagaricus trisulphuratus</i> (Berk.) Singer	Soil
5	Agaricaceae	<i>Lepiota castaneidisca</i> Murril (1912)	Soil
6	Bolbitiaceae	<i>Bolbitius coprophilus</i> (Pers.) Fr. (1838)	Base of the tree stem
7	Agaricaceae	<i>Cystolepiota heitieri</i> (Boud.) Singer	Soil
8	Agaricaceae	<i>Lepiota lilacea</i> Bres.	Cow dung
9	Lycoperdaceae	<i>Bovista paludosa</i> Lév., 1846	Soil
10	Marasmiaceae	<i>Marasmius paratrichotus</i> C.L. Grace, Desjardin & B. A. Perry <i>sp. nov.</i>	Decomposed leaf, Soil
11	Mycenaceae	<i>Mycena tintinnabulum</i> (Paulet) Qué. (1872)	Soil
12	Agaricaceae	<i>Agaricus langei</i> (F. H. Møller) F. H. Møller (1952)	Decomposed leaf, Soil
13	Tricholomataceae	<i>Tricholoma inamoenum</i> (Fr.) Gillet 1878	Decomposed leaf, Soil
14	Hymenogastraceae	<i>Hebeloma helodes</i> J. Favre	Soil
15	Agaricaceae	<i>Macrolepiota excoriata</i> (Schaeff.) Wasser (1978)	Wood
16	Auriculariaceae	<i>Auricularia auricula-judae</i> (Bull.) J. Schröt	Wood
17	Clavulinaceae	<i>Clavulina cinerea</i> (Bull.) J. Schröt (1888)	Soil
18	Omphalotaceae	<i>Mycetinis querceus</i> (Britzelm.) Antonin & Noordel (2008)	Soil
19	Tricholomataceae	<i>Leucocybe connate</i> (Schumach.) Vizzini, P. Alvarado, G. Moreno & Consiglio	Soil
20	Ganodermataceae	<i>Ganoderma lucidum</i> Karst (1881)	Wood log

**Table:2 Scientific Name, Family, Genus, Species and Habitat of Basidiomycetes**

No	Scientific Name	Family	Genus	Speices	Habitat
1	<i>Agaricus langei</i>	Agaricaceae	Agaricus	langei	Wood
2	<i>Cystoagaricus trisulphuratus</i>	Agaricaceae	Cystoagaricus	trisulphuratus	Wood

3	<i>cystolepiota heitieri</i>	Agaricaceae	cystolepiota	heitieri	Wood
4	<i>Lepiota Castaneidisca</i>	Agaricaceae	Lepiota	Castaneidisca	Soil
5	<i>Lepiota lilacea</i>	Agaricaceae	Lepiota	lilacea	Soil
6	<i>Macrolepiota excoriata</i>	Agaricaceae	Macrolepiota	excoriata	Base of tree stem
7	<i>Auricularia auricula-judae</i>	Auriculariaceae	Auricularia	judae	Soil
8	<i>Bolbitius coprophilus</i>	Bolbitiaceae	Bolbitius	coprophilus	Cow dung
9	<i>Clavulina cinerea</i>	Clavulinaceae	Clavulina	cinerea	Soil
10	<i>Ganoderma carnosum</i>	Ganodermataceae	Ganoderma	carnosum	decomposed leaf, Soil
11	<i>Ganoderma lucidum</i>	Ganodermataceae	Ganoderma	lucidum	Soil
12	<i>Hebeloma helodes</i>	Hymenogastraceae	Hebeloma	helodes	decomposed leaf, Soil
13	<i>Bovista paludosa</i>	Lycoperdaceae	Bovista	paludosa	decomposed leaf, Soil
14	<i>Calocybe indica</i>	Lyophyllaceae	Calocybe	indica	Soil
15	<i>Marasmius paratrichotus</i>	Marasmiaceae	Marasmius	paratrichotus	Wood
16	<i>Mycena tintinnabulum</i>	Mycenaceae	Mycena	tintinnabulum	Wood
17	<i>Mycetinis querceus</i>	Omphalotaceae	Mycetinis	querceus	Soil
18	<i>Coprinellus micaceus</i>	Psathyrellaceae	Coprinellus	micaceus	Soil
19	<i>Leucocybe connata</i>	Tricholomataceae	Leucocybe	connata	Soil
20	<i>Tricholoma inamoenum</i>	Tricholomataceae	Tricholoma	inamoenum	Wood

**Chart: 1 Occurrence of Family available in Nandigram Service centre**

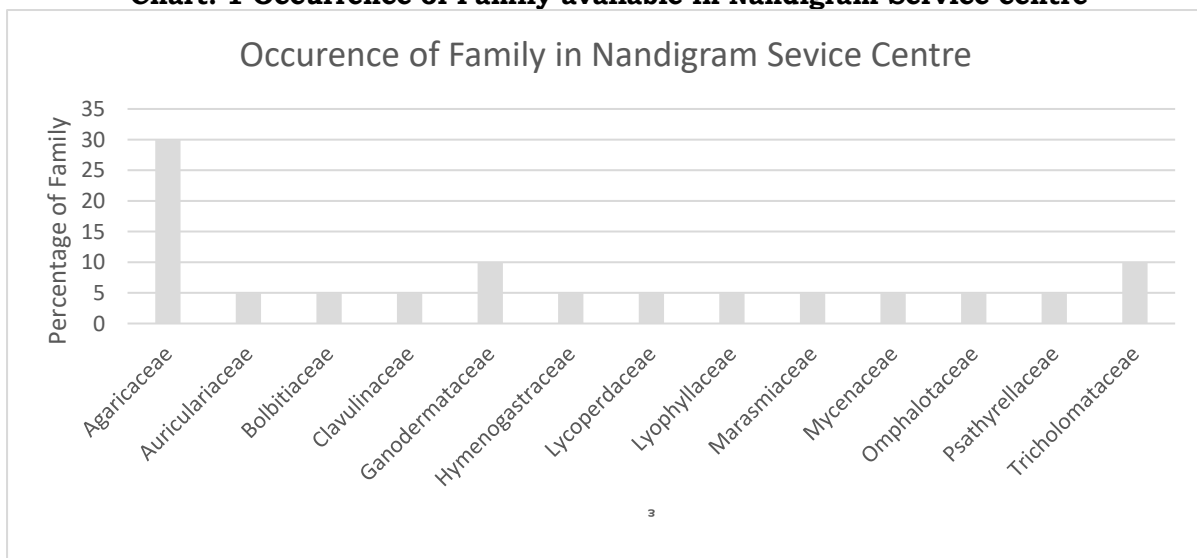
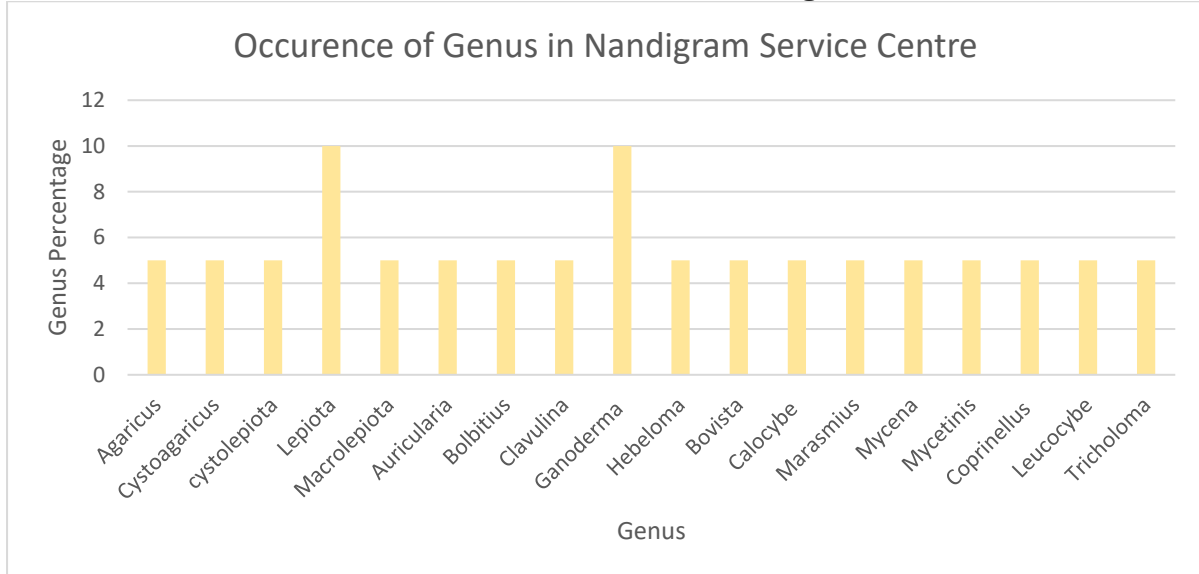


Chart 1 shows Nandigram Service centre is a wide area range for Basidiomycetes fungi 30% of Agaricaceae family available in this wide range 25 acres land. 10% of Ganodermataceae,

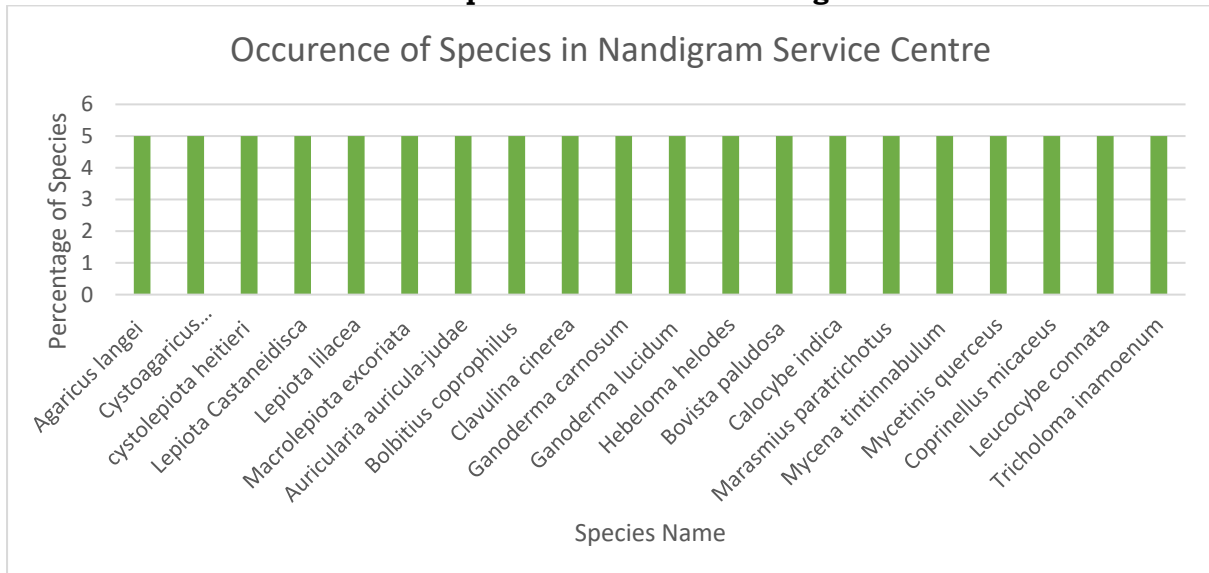
Tricholomataceae family and 5% of Auriculariaceae, Bolbitiaceae, Clavulinaceae, Hymenogastraceae, Lycoperdaceae, Lyophyllaceae, Marasmiaceae, Mycenaceae, Omphalotaceae, Psathyrellaceae are present. Agaricaceae Family dominant in this place. Ganodermataceae and Tricholomataceae family is lesser dominant in this area and other family are too lesser.

**Chart: 2 Occurrence of Genus available in Nandigram Service Centre**



**Chart: 2** shows 10% of *Ganoderma* and *Lepiota* present in Nandigram and other Genus like *Agaricus*, *Cystoagaricus*, *Cystolepiota*, *Macrolepiota*, *Auricularia*, *Bolbitius*, *Clavulina*, *Hebeloma*, *Bovista*, *Calocybe*, *Marasmius*, *Mycena*, *Mycetinis*, *Coprinellus*, *Leucocybe*, *Tricholoma* genus are of 5% in this area. *Ganoderma* and *Lepiota* are more dominant than *Agaricus*, *Macrolepiota*, *Auricularia*, *Cystoagaricus*, *Cystolepiota*, *Bolbitius*, *Clavulina*, *Hebeloma*, *Bovista*, *Calocybe*, *Marasmius*, *Mycena*, *Mycetinis*, *Coprinellus*, *Leucocybe* and *Tricholoma* genus.

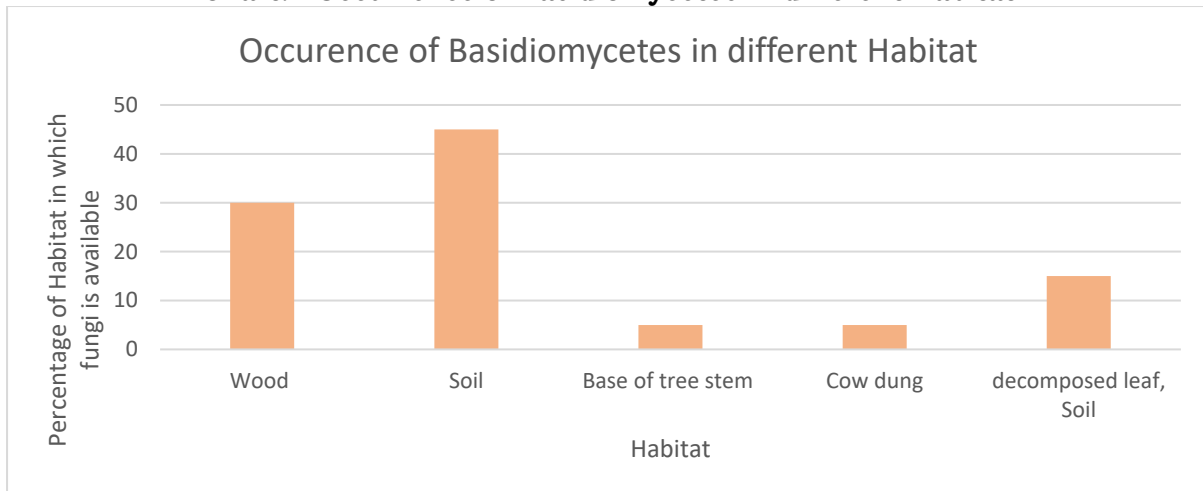
**Chart: 3 Occurrence of Species Available in Nandigram Service Centre**



**Chart 3** shows 5% of each *Agaricus langei*, *Cystoagaricus trisulphuratus*, *Cystolepiota heitieri*, *Lepiota castaneidisca*, *Lepiota lilacea*, *Macrolepiota excoriata*, *Auricularia auricular-judae*, *Bolbitius coprophilus*, *Clavulina cinerea*, *Ganoderma carnosum*, *Ganoderma lucidum*, *Hebeloma helodes*, *Bovista paludosa*, *Calocybe indica*, *Marasmius paratrichotus*, *Mycena tintinnabulum*, *Mycetinis querceus*, *Coprinellus micaceus*, *Leucocybe connata*, *Tricholoma*

*inamoenum* species reported. Total 20 Basidiomycetes species available in this Nandigram Service Centre.

**Chart:4 Occurrence of Basidiomycetes in different Habitat**



30% of Basidiomycetes fungi grows on wood. However, 45% of fungi are grows from the soil itself. Some 5% are from Base of tree stem and cow dung. 15% are from discomposed leaf or on soil. It is described that most of fungi grows from soil. Some others from wood, Base of tree stem, cow dung, decomposed leaf or soil.

### CONCLUSION:

Total 20 number of species has been recorded in this Nandigram Service Centre. From this, Agaricaceae family is more dominant than Ganodermataceae and Tricholomataceae family and lesser of Auriculariaceae, Bolbitiaceae, Clavulinaceae, Hymenogastraceae, Lycoperdaceae, Lyophyllaceae, Marasmiaceae, Mycenaceae, Omphalotaceae, Psathyrellaceae. *Ganoderma* and *Lepiota* are more dominant Genus than *Agricus*, *Macrolepiota*, *Auricularia*, *Cystoagaricus*, *Cystolepiota*, *Bolbitius*, *Clavulina*, *Hebeloma*, *Bovista*, *Calocybe*, *Marasmius*, *Mycena*, *Mycetinis*, *Coprinellus*, *Leucocybe*, and *Tricholoma*. From all of the fungi, most of fungi grows on the soil while others grows on Wood, Base of tree stem, Cow dung, Decomposed leaf.

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Photo plate:



*Calocybe indica*



*Ganoderma carnosum*



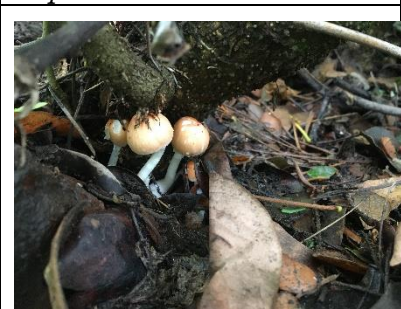
*Copronellus micaceus*



*Cystoagaricus trisulphuratus*



*Lepiota castaneidisca*



*Bolbitius coprophilus*



*Cystlepiota heitieri*



*Lepiota lilacea*



*Bovista paludosa*



*Marasmius paratrichotus*



*Mycena tintinnabulum*



*Agaricus langei*



*Tricholoma inamoenum*



*Hebeloma helodes*



*Macrolepiota excoriata*





*Auricularia auricula-judae*



*Macrolepiota excoriata*



*Clavulina cinerea*



*Mycetinis querceus*



*Leucocybe connata*

