



## THE OCCURRENCE AND ECONOMIC UTILITY OF LAMIACEAE OF SOLAN DISTRICT OF HIMACHAL PRADESH- A CHECK LIST

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### Abstract

*The paper documents the floral wealth of members belonging to the family Lamiaceae of the study area. A total of forty five species belonging to twenty five genera is reported from different localities of the area. Out of twenty five genera, sixteen genera are represented by single species whereas the remaining nine genera are represented by more than one species. Presently, eighteen plant species are reported first time from the study area. A check list of plant species along with their Botanical Names, Common/Local Names, Localities, Diagnostic features and their Economic Utility is presented in an alphabetical order.*

**Keywords:** *flora, lamiaceae, diagnostic features, localities, economic utility*

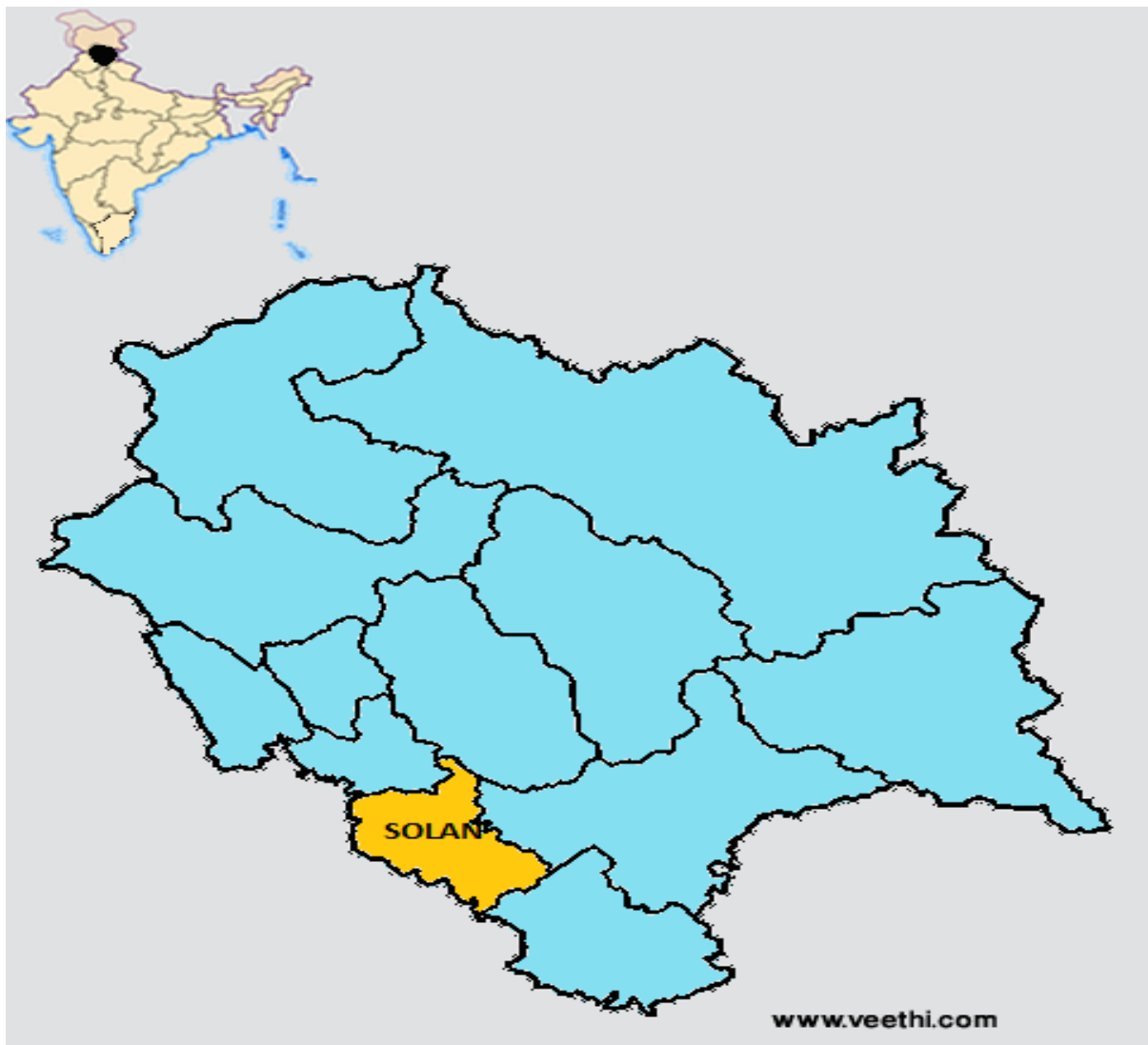
### I. INTRODUCTION

Biodiversity is not evenly distributed, rather it varies greatly across the landmass as well as within regions. Generally, there is an increase in biodiversity from the poles to the tropics. This is often referred to as the latitudinal gradient in species diversity. Several ecological mechanisms may contribute to the gradient, but the main factor behind many of them is the greater mean temperature at the equator compared to that of the poles (Curie *et al.*, 2004, Mora and Robertson, 2005). Phytodiversity is one major component of biodiversity which includes all plants, the habitat in which they are found, their interactions with each other and with their environment and the genetic differences among them. It is represented by about half million species all over the world. The decline in phytodiversity is a serious threat to human existence as it fulfils the need of food, fodder, fuel, fibre, timber, medicines and ornamentation, besides maintaining the ecological balance. It may ultimately lead to the problem of natural disasters (flood, cyclone, drought etc.), land degradation, environmental deterioration and ecological imbalance.

India, with 2.4% of the world's geographical area, has over 8% of the world's total biodiversity, making it one of the 12 megadiversities of the world. This status is based on the species richness and levels of endemism recorded in a wide range of taxa of both plants and animals. This diversity can be attributed to the vast variety of landforms and climates, resulting in habitats ranging from tropical to temperate and from alpine to desert. Adding to this is a very high diversity of human-influenced ecosystems, including agricultural and pasture lands, and a diversity of domesticated plants and animals, one of the world's largest. It is estimated that 32% of Indian species are endemic to this country. Among the plants, the flowering plants have a much higher degree of endemism.

Western Himalaya extends along the mountain chain from Jammu and Kashmir, Himachal Pradesh to Uttarakhand. The region shows a high degree of endemism harbouring 967 (31.8 % ) endemic angiosperm taxa, out of 3054 angiosperm species (Behra *et al.*, 2002).

Himachal Pradesh is a hilly state of India located in Western Himalaya. The state lies between 30°22' to 33°12'N latitude and 75°45' to 79°04'E longitude and endows with a high diversity of floral wealth. It is bordered by Jammu and Kashmir on the north, Punjab on the west, Haryana on the south-west, Uttarakhand state on the south-east and by the Tibet on the north east, covering an area of 55,673 square kilometers. Due to variation in elevation, the great variation occurs in the climatic conditions of Himachal Himalaya. The climate varies from hot/ subhumid tropical in the southern tracts to, with more elevation, cold, alpine, and glacial in the northern and eastern mountain ranges. The vegetation of Himachal Pradesh has been studied by Hooker (1872-1897), Atkinson (1882), Collett (1902), Chowdhery and Wadhwa (1984), Verma and Kapoor (2010) and Jain and Sharma (2016 and 2017) with special emphasis on taxonomy and floristic enumeration. The present study is conducted to assess the floral wealth of the taxa belonging to family Lamiaceae of Solan district of Himachal Pradesh, of which the many species are economically important.



**Fig-1: Map of the Study Area**

## **II. MATERIAL AND METHODS**

The Solan district of H.P is located between 30°05' to 31°15' N Latitude and 76°42' - 77°20' E Longitude. The district is situated in the Southeast region of the state with an area of about 1,936 km<sup>2</sup>. The region is a good source of phytodiversity. The field surveys are conducted in different selected locations of Solan district of Himachal Pradesh in order to record the floral diversity of members belonging to family Lamiaceae. The selected localities were Nalagarh (400m), Parwanoo (800m), Kunihar (1000m), Arki (1045m), Ramshehar (1100m), Subathu (1265m), Nauni (1275m), Shilli (1290m), Oachghat (1300m), Sanwara (1350m) and moving upto higher elevation at Waknaghat (1500m), Barog (1600m), Darlaghat (1800m), Kasauli (1927m) and Chail (2200m). The figure within parenthesis are the altitudes of that locality.

The collection of specimens are done during the flowering/fruiting stage. The specimens collected are identified and preserved after drying in blotting sheets. While collecting the plant specimens, field numbers are allotted and relevant field data about the plant is recorded in the field book. The specimens are carried to the laboratory in the bags, ruck-sacks and in plant presser. The plants collected are pressed in the presser places in blotters and after drying are mounted on the herbarium sheets. Labels are pasted and the relevant data is entered on the sheet.

## **III. RESULTS**

The present study is conducted to know the members of family Lamiaceae from Solan district of Himachal Pradesh. Lamiaceae is also known as the Mint or Deadnettle family. Many of the plants are aromatic and include widely used herbs. Roots are either tap roots or adventitious. Stems aerial; erect or suberect and herbaceous. The members of the family possess simple; exstipulate, opposite and decussate, serrate or pinnatifid, reticulate venation and aromatic leaves. The members possess special type of inflorescence known as Verticillaster inflorescence. At each node, there is pair of opposite bracts. In the axil of each bract arises a biparous cyme which further becomes uniparous. The condensed cymose head is formed by the union of the inflorescence in the axils of the two opposite leaves.

Flowers bracteate or ebracteate, pedicillate or sessile or sub-sessile, complete, zygomorphic, bisexual, hypogynous and aromatic. Calyx 5, gamosepalous, bilabiate and inferior. Corolla 5, gamopetalous, bilabiate and inferior. Androecium 4, polyandrous, epipetalous, didynamous and inferior. Gynoecium bicarpellary, syncarpous, ovary superior, bilocular or becoming tetralocular by false septum, axile placentation, a disc below the ovary, style gynobasic and ovule anatropous. Fruit schizocarpic carcerulus. Seeds non-endospermic.

The complete check list of the plant species with their Botanical name, Common/Local name, Locality, Diagnostic features and Economic Utility is given in Table-1.

**Table-1: List of the species of family Lamiaceae along with Botanical Name, Common/ Local Name, Locality, Diagnostic Features and Economic Utility**

S. No	Botanical Name	Common/Local Name	Locality	Diagnostic Features	Economic Utility
1.	<i>Ajuga bracteosa</i> Wall.	Neelkanthi	Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-October Flower colour: Pale bluish	Plant is aromatic, astringent and tonic. The juice of the leaves is used as a blood purifier and also for fevers. The plant exhibited anticancer activity.
2.	<i>A. parviflora</i> Benth.	Small-Flowered Bugleweed	Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: March-October Flower colour: Bluish	It has been used as astringent and for the treatment of swollen wounds, diarrhea, rheumatic fever, eye diseases and diseases of bladder.
3.	<i>Anisomeles ovata</i> R. Br.	Indian Catmint, Kala bhangra	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog	Habit: Herbaceous Flowering period: August-September Flower colour: Whitish	An infusion is useful in infections of the stomach and bowels, intermittent fever and that the juice of the leaves is administered to children for colic, dyspepsia and fever.
4.	<i>Calamintha clinopodium</i> Benth.	Wild Basil	Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-September Flower colour: Bright pinkish	Edible leaves - used fresh or dried as a flavouring in cooked foods or fresh as a flavouring in salads. The plant is aromatic, astringent, cardiotonic, carminative, diaphoretic and expectorant.

5.	<i>C.umbrosa</i> (M.Bieb.) Rchb	Shady Calamint, Birchee	Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-September Flower colour: Purplish pink	Juice of the leaves is applied to cuts and wounds.
6.	<i>Colebrokkea oppositifolia</i> Smith	Indian Squirrel Tail	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat	Habit: Shrubaceous Flowering period: December-April Flower colour: Whitish	The leaves are used to treat mouth ulcers and are also applied on wounds and bruises.
7.	<i>Coleus barbatus</i> Benth.	Indian Coleus	Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-October Flower colour: Pale bluish	Species have been used to treat heart disease, convulsions, spasmodic pain and painful urination.
8.	<i>Elsholtzia cristata</i> Willd.	Vietnamese Balm	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Purplish	The plant is antibacterial, antipyretic, antiviral, astringent, carminative, diaphoretic, diuretic and stomachic.
9.	<i>Lamium album</i> Linn.	White Dead Nettle, Blind Nettle	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-July Flower colour: Pinkish white	White dead nettle is an astringent and demulcent herb that is chiefly used as a uterine tonic, to arrest bleeding and to reduce excessive menstrual flow.
10.	<i>L. amplexicaule</i> Linn.	Henbit Dead-Nettle	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-October Flower colour: Purplish red	The leaves, stem, and flowers of the plant are edible and have a slightly sweet and peppery flavor, similar to celery. Henbit can be eaten raw or cooked.

11.	<i>Leonurus cardiaca</i> Linn.	Motherwort	Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July–August Flower colour: Pinkish	All of the above ground parts of the plant are utilized as herbal medicine. Herb is used to increase blood circulation and is also used to treat heart diseases, blood pressure and other vascular diseases.
12.	<i>Leucas aspera</i> Spreng.	Common Leucas, Chhota Halkusa	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat	Habit: Herbaceous Flowering period: November-February Flower colour: Whitish	It is a herb used in food to provide fragrance to food. It is reported to have antifungal, prostaglandin inhibitory, antioxidant, antimicrobial and cytotoxic activities.
13.	<i>L. cephalotes</i> Spreng.	Head Leucas, Dronapushp i	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat	Habit: Herbaceous Flowering period: July–October Flower colour: Whitish	It is used as a treatment for snakebite, skin diseases, asthma, cough and cold, enorrhoea and oligomenorrhoea.
14.	<i>L. lanata</i> Benth.	Woolly Leucas	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: June–October Flower colour: Whitish	The crushed leaves are applied to wounds, sores, especially those of the eyes and nose, chronic skin diseases, such as psoriasis and scabies, mild fevers, colds, rheumatism and snake bites.
15.	<i>Lycopus europaeus</i> Linn.	Bugleweed	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July–August Flower colour: Whitish	This herb is used to cure coughs and respiratory disorders, sleeplessness, anxiety, tuberculosis and hyperthyroidism.

16.	<i>Mentha arvensis</i> Linn.	Field mint, Wild mint, Pudina	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: May-September Flower colour: Pale purplish	It is considered as appetizer and useful in gastric troubles, digestive problems, gall bladder problems and coughs.
17.	<i>M. longifolia</i> Linn.	Horse mint, Jangli Pudina	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: May-September Flower colour: Whitish Pink	It is often used as a domestic herbal remedy, being valued especially for its antiseptic properties and its beneficial effect on the digestion. The leaves and flowering stems are antiasthmatic, stimulant and antispasmodic
18.	<i>M. sylvestris</i> Linn.	Pudina	Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Whitish	Plant is used in the treatment of fevers, headaches, digestive disorders etc.
19.	<i>Meriandra strobilifera</i> Benth.	Cone-Bearing Sage, Murta	Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat	Habit: Shrubaceous Flowering period: April-October Flower colour: Whitish	Leaves paste is used on wounds, injuries. Leaves are spread under the cattle to get rid of fleas.
20.	<i>Micromeria biflora</i> Benth.	English lavender, Ban ajwain	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-October Flower colour: Pinkish white	A powder of the dried flowers and leaves is used as a flavouring in lentil soups and curries. A paste of the root is pressed between the jaws to treat toothache. The plant is rubbed and the aroma inhaled to treat nose bleeds.

21.	<i>Nepeta elliptica</i> Royle	Elliptic-Leaved Catmint	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Pale bluish	Plant is used in headaches, digestive disorders, cough and fevers.
22.	<i>N. erecta</i> Benth.	Erect Catmint	Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: June-September Flower colour: Bluish	It is one of the herbal medicines that offer varieties of health benefits especially for digestive disorders and to relieve fevers due to colds and flu.
23.	<i>N. graciliflora</i> Benth.	Billitotan	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni	Habit: Herbaceous Flowering period: July-October Flower colour: Pinkish	The plant is astringent, cardiogenic, carminative, diaphoretic and expectorant.
24.	<i>N. ruderalis</i> Buch.-Ham.	Badranj, Boya	Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Purplish blue	It is used in the treatment of common cold, fevers, headache and diarrhea.
25.	<i>N. spicata</i> Benth.	Smooth Catmint	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Purple blue	The leaves and flowering stems are antiasthmatic, antispasmodic, carminative and stimulant.
26.	<i>Ocimum canum</i> Sims.	Pabhari	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: August-September Flower colour: Whitish blue	It was used specially for treating diabetes, colds, fevers, parasitic infestations on the body and inflammation of joints and headache. The herb has known antibacterial, anti fungal, and antiviral properties.



27.	<i>Origanum vulgare</i> Linn.	Wild Marjoram, Jakhmi-buti	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-September Flower colour: Pinkish	It is commonly used to flavor food or brew tea. It contains: iron, vitamin E, vitaminC, copper, magnesium, calcium, vitamin B <sub>6</sub> , niacin, thiamine and riboflavin. Herb is used in stomachache, digestive problems and injuries.
28.	<i>Phlomis bracteosa</i> Royle	Purple Jerusalem Sage	Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: June-August Flower colour: Blue purplish	Powdered leaves are mixed in tea and used against cough and cold. Flowers are crushed and used against toothache.
29.	<i>Plectranthus incanus</i> Link	Chhichhdi	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog and Darlaghat	Habit: Shrub Flowering period: August-September Flower colour: Bluish	Crushed leaves are used to apply on wounds and cuts.
30.	<i>P. rugosus</i> Wall.	Chhichhri	Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Under-shrub Flowering period: March-October Flower colour: Whitish	The plant is used to treat malarial fever, hepatopathy, renal and vesical calculi, cough, chronic asthma, bronchitis, helminthiasis, colic, convulsions, epilepsy etc.
31.	<i>P. striatus</i> Benth.	Crested Flower Isodon	Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: August-October Flower colour: Whitish	Herb is used to treat cough, fever and stomach problems.

32.	<i>Pogostemon plectranthoides</i> Desf.	Pangla, Lujra	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat	Habit: Shrubaceous Flowering period: April-October Flower colour: Pinkish white	The leaves are antiasthmatic, carminative, diuretic and stomachic. They are used in the treatment of stomach and skin diseases, to treat coughs and asthma, cancer etc.
33.	<i>Rabdosia rugosa</i> Wall.	Jharu, Chhichhri	Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Shrubaceous Flowering period: March-October Flower colour: Whitish	It is applied on wounds and are used as brooms.
34.	<i>Roylea elegans</i> Wall.	Ashy Roylea, Patkarru, Titpatti	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat	Habit: Shrubaceous Flowering period: May-October Flower colour: Whitish Pink	Leaves part of this plant (decoction) is traditionally used as a bitter tonic and also as a febrifuge. It is also used as a tonic in contusions. Leaves are used in skin disease and fever.
35.	<i>Salvia coccinia</i> Linn.	Tropical Sage, Mausami Salvia	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Reddish	Plant is used in renal troubles, cough etc.
36.	<i>S. glutinosa</i> Linn.	Glutinous Sage	Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: July-October Flower colour: Yellowish	A poultice of the leaves is used as a dressing for wounds and is also applied to itchy skin. It is used in the treatment of diarrhoea, gonorrhoea, menorrhagia and haemorrhoids.

37.	<i>S. lanata</i> Roxb.	Thunth, Jhuth	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-July Flower colour: Blue greyish	It is used in the treatment of cold, coughs, dysentery, haemorrhoids and colic infections.
38.	<i>S. mooreroftiana</i> Wall.	Kashmir Salvia, Thuth	Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: May-July Flower colour: Pale bluish	The roots are used in the treatment of colds and coughs. The seed is emetic. It is used in the treatment of dysentery, haemorrhoids, colic and externally, boils.
39.	<i>S. plebeia</i> R.Br.	Sage Weed, Kamrkash	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat	Habit: Herbaceous Flowering period: April-July Flower colour: Whitish	The seeds are used in the treatment of diarrhoea, gonorrhoea, menorrhagia and haemorrhoids.
40.	<i>Scutellaria angulosa</i> Benth.	Climbing Skullcap	Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-July Flower colour: Yellowish white tinged with pink	Plant is used to treat cancer, chronic fatigue syndrome, anxiety, stress, influenza and pneumonia
41.	<i>S. grossa</i> Wall.	Thick Skullcap	Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: June-October Flower colour: Dark bluish	It is used in pneumonia, hypertension, jaundice, dysentery, intestinal and pyogenic infection.
42.	<i>S. linearis</i> Benth.	Narrow- Leaved Skullcap	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Herbaceous Flowering period: April-June Flower colour: Pale purple	Plant is used to relieve heart attack, hypertension, high cholesterol, headache and hangover.

43.	<i>S. repens</i> Buch.-Ham	Creeping Skullcap, Prostrate Skullcap	Nalagarh, Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat	Habit: Herbaceous Flowering period: April-July Flower colour: Dull yellow	Used as a traditional Chinese medicine and herbal medicine to treat various diseases in human and veterinary ailments.
44.	<i>Teucrium royleanum</i> Wall.	Royle's Germander	Parwanoo, Kunihar, Arki, Ramshehar, Subathu, Nauni, Shilli, Oachghat, Sanwara, Waknaghat	Habit: Herbaceous Flowering period: May-September Flower colour: Yellowish white	It is used as an antispasmodic, astringent, antipyretic and for skin rashes.
45.	<i>Thymus serpyllum</i> Linn.	Wild Thyme	Waknaghat, Barog, Darlaghat, Kasauli and Chail	Habit: Shrubaceous Flowering period: May-October Flower colour: Purplish	Wild thyme is a commonly used domestic remedy, being employed especially for its antiseptic properties and its beneficial effect on the digestive system. The whole plant is anthelmintic, antiseptic, carminative, deodorant, diaphoretic, disinfectant, expectorant, sedative and tonic.

#### **IV. DISCUSSION**

Plants are one of the most important element of biodiversity and plays a vital role in human welfare and economic development. The accurate and precise information of the known plant species from a given area is essential as it allows us to prevent or avoid the potential chances of biodiversity loss and to plan future policy for the protection of our environment. Earlier, Sindhi (1996) studied 16 species belonging to 12 genera of family Lamiaceae from Nauni area of the Solan district of Himachal Pradesh. Verma (2000) studied the flora of Kunihar Forest Division, District Solan (HP) and recorded 15 species belonging to 13 genera of family Lamiaceae. Meenakshi (2002) reported 16 species belonging to 13 genera of family Lamiaceae from Shilli wildlife sanctuary situated in Solan district of Himachal Pradesh.

The present study revealed the presence of 45 species belonging to 25 genera from the study area. The checklist of each plant species is presented in alphabetical order in Table 1. The genera represented by single species are *Anisomeles*, *Colebrokkea*, *Coleus*, *Elsholtzia*, *Leonurus*, *Lycopus*, *Meriandra*, *Micromeria*, *Ocimum*, *Origanum*, *Phlomis*, *Pogostemon*, *Rabdosia*, *Roylea*, *Teucrium* and *Thymus*. On the other hand, the genera represented by more than single species are *Ajuga*, *Calamintha*, *Lamium*, *Leucas*, *Mentha*, *Nepeta*, *Plectranthus*, *Salvia* and *Scutellaria*.

Most dominant genera are *Nepeta* (5 spp.) and *Salvia* (5 spp.) followed by *Scutellaria* (4 spp.), *Plectranthus* (3 spp.), *Leucas* (3 spp.), *Mentha* (3 spp.), *Ajuga* (2 spp.), *Calamintha* (2 spp.) and *Lamium* (2 spp.).

The study reports that there are 18 plant species, namely *Calamintha clinopodium*, *C. umbrosa*, *Coleus barbatus*, *Elsholtzia cristata*, *Lamium amplexicaule*, *Leonurus cardiaca*, *Lycopus europaeus*, *Nepeta elliptica*, *N. erecta*, *N. ruderalis*, *Phlomis bracteosa*, *Salvia glutinosa*, *S. plebeian*, *Scutellaria grossa*, *S. linearis*, *S. repens*, *Teucrium royleanum* and *Thymus serpyllum* which are reported first time from the study area.

#### **V. CONCLUSION**

Taxonomy information is a great tool for identification of the different plant species and is crucial to meet the challenges of phytodiversity conservation. The present study provides the basic information about the floral wealth belonging to family Lamiaceae, which are found in the Solan district of Himachal Pradesh. A total of 45 species belonging to 25 genera are reported from the study area, out of which, 18 species are reported first time from the study area. The study shows that 16 genera are represented by single species whereas 9 genera are represented by more than single species.

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