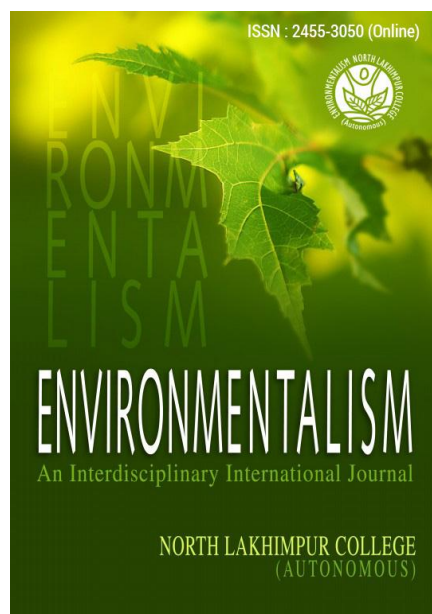


**ENVIRONMENTALISM**  
**An Interdisciplinary International Journal**



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Journal	<i>Environmentalism</i>
Manuscript ID	Env.nlc.8.16
Manuscript Type	Full Paper
Date Submitted by the Author	13 November, 2016, Accepted: 30 December, 2016
Complete List of Authors	Dharitri Borgohain
Keywords	Apiaceae, spice, condiments, medicines.

To cite this article: Dharitri Borgohain. 2016. Study of the available species of the family Apiaceae (Umbelliferae) in Lakhimpur district, Assam. Environmentalism 2(2): 107-114.



Received: 13 November, 2016

Revised: 15 December, 2016

Accepted: 30 December, 2016

## STUDY OF THE AVAILABLE SPECIES OF THE FAMILY APIACEAE (UMBELLIFERAE) IN LAKHIMPUR DISTRICT, ASSAM

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### Abstract

The present study deals with the exploration, identification, documentation and uses of the family Apiaceae in Lakhimpur district of Assam. The informations have been gathered from the frequent trips to different places during the study period from the local inhabitants, village medicine men and identified by consulting relevant scientific literatures. In this paper, a total of 12 species were reported along with their scientific names, common name, local name and uses. Majority of the plants belonging to this family possess high economic value and are extensively used as sources of food, medicines, spices and condiments.

**Keywords:** Apiaceae, spice, condiments, medicines.

### 1 Introduction

The family Apiaceae (Umbelliferae) encompasses approximately 200 genera and a large number of species. The plants of this family are ubiquitous in distribution, mostly found in the Northern temperate regions with no occurrence in Arctic regions. In India, the family includes several important species and 14 taxa have been reported from Assam. Majority of the plants belonging to this family are annual, biennial or perennial herbs but sometimes, shrubs and undershrubs are also found. Usually, root system is tap root and branched. The stem is generally erect and herbaceous, rarely climbing, with distinct nodes and internodes. The colour of the stem is green and gradually becomes pinkish when matured. The leaves are of variable size, pinnately compound, alternate, exstipulate, rarely opposite leaves are found. However, in *Hydrocotyle*, simple leaves are found. Species of *Eryngium* possess leaves with parallel venation and sheathing bases as like monocots. The inflorescence is umbel which may be either simple or compound. In *Coriandrum* and *Foeniculum*, compound umbel is found. Simple umbel is found in *Hydrocotyle*.

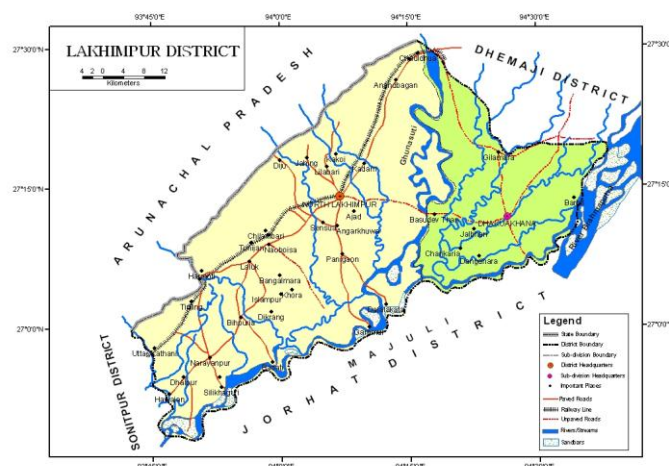
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Flowers are usually hermaphrodite but in some cases, unisexual flowers are also found. Flowers are bracteates, pedicellate, complete and epigynous. The fruit is cremocarp. Seeds are endospermic with a minute embryo and pollination is usually entomophilous (Pandey 2012). This family is of considerable importance from economic point of view because the plants yield essential oil from which medicines or condiments are prepared (Saxena and Saxena 2009).

## 2 Area of study

Geographically, Lakhimpur district is bounded by latitude 27°20' N and longitude 94°15' E. The total area of the district is approximately 2,277 square kilometers. It is bounded by Papumpare district of Arunachal Pradesh to the North, Dhemaji district to the East, Jorhat district to the South and Sonitpur district to the West. It has a unique climatic pattern and the rich evergreen vegetation with dense forest areas makes it suitable for growth of a large number of plant species. Lakhimpur is located at the foot-hills of Arunachal Pradesh and it receives rainfall of 263.3 mm on average annually with 68% humidity almost throughout the year (<http://lakhimpur.nic.in/html>).



**Fig.1.** Map showing the study area.

## 3 Materials and methods

Frequent field trips to different places and villages situated in remote areas were made during the study period (2015-2016). The informations were collected on the basis of interviews of the local inhabitants and village medicine men. Photographs of economically valued plants of the family have been collected during the field trips and identified using relevant literatures of Hooker (1872 -1897); Kanjilal *et al.*, (1934-1940); Dutta (1975); Jain (2010) and Baruah (2016).

## 4 Results and discussion

In the present investigation, a total of 12 species belonging to the family Apiaceae has been reported from Lakhimpur district of Assam along with their scientific name, common name, local name and uses (Table-1). The plants were found to grow extensively throughout the district. The available species include: *Centella asiatica*, *Coriandrum sativum*, *Cuminum cyminum*, *Daucus carota*, *Foeniculum vulgare*, *Trachyspermum ammi*, *Apium*

**Table-1.** List of species of the family Apiaceae found in Lakhimpur district, Assam

Sl. No.	Scientific Name	Common Name	Local Name	Uses
1.	<i>Centella asiatica</i>	Indian pennywort	Bor Manimuni	The whole plant is used in dysentery, nerve disorder, stomach and liver trouble and also as a blood purifier. It is a remedy for skin diseases, like chronic eczema, chronic ulcers, and enlargement of glands, chronic rheumatism, madness, cholera, piles and amenorrhoea. An ointment made of leaf juice and lanoline is effective in elephantiasis. The fresh juice of leaves mixed with milk is given as an alternative in jaundice, fevers and gonorrhoea.
2.	<i>Coriandrum sativum</i>	Coriander	Dhania	Leaves are richest sources of vitamin A and vitamin C. Fruits are used in the preparation of curry powder, pickles, soups, sauces, flavouring cakes, tobacco products etc. Fruits and leaves are used as condiment and spice and as flavouring materials. A decoction of dried fruits is given in flatulent colic, rheumatism and neuralgia. The watery paste of seeds is used in the cure of mouth and throat ulcers. Coriander oil is used in medicine and for flavouring beverages.
3.	<i>Cuminum cyminum</i>	Cumin	Jira	The aromatic fruits are a good source of thymol and are used as spice and condiments. It is prescribed in diarrhoea, dyspepsia and during hoarseness of voice. The fruit is given with lime juice to pregnant women for checking nausea and for promoting milk secretion. The fruits are used in soup, curries, cake, bread, cheese, pickles and for flavouring purposes. Both fruit and oil possess carminative properties.
4.	<i>Daucus carota</i>	Carrot	Gajor	The roots are rich source of carotene and used as vegetable. Aromatic oil extracted from the seeds is used in flavouring and perfume industry. The seeds are useful in diseases of kidney and uterine pain. Consumption of carrots also improves vision and healthier skin. The yellow colouring matter extracted from the roots is used for colouring butter.
5.	<i>Foeniculum vulgare</i>	Fennel	Sofgutti/ guamuri	Fruits are used as spice and condiments, promote female monthly regularity and improve eyesight. A decoction of fruit is given in dysentery and fever along with sugar. Oil extracted from seed is an antihelmintic against hookworms. Leaves are useful in colic, thirst, cough and flatulence.

6.	<i>Trachyspermum ammi</i>	Ajwain seeds	Joni-gutti	Fruits are used as spice and condiment. They are given in colic, flatulence, hysteria, dyspepsia, indigestion, diarrhoea and cholera.
7.	<i>Apium graveolens</i>	Celery	Celery	The fleshy leaf stalk is consumed as vegetable. The leaves and stalks are used in flavouring soups and curries. The seed (fruit) is eaten as spice. The roots and seeds are used medicinally in colic and dropsy. Seeds are also given in asthma, liver, spleen disease, bronchitis, rheumatism, vomiting, urinary discharges and flatulence.
8.	<i>Ferula asafoetida</i>	Asafoetida	Hing	The gum-resin obtained from the roots is used in perfumery and for flavouring food products, curries, sauces and pickles. Seeds are used in medicines, in the treatment of cough, indigestion, asthma, hysteria, cholera, chronic constipation, chronic bronchitis and whooping cough. It is also used in ayurvedic and veterinary medicines.
9.	<i>Levisticum officinale</i>	Lovage		Leaves and stems are eaten as salad. Sometimes, the seeds are used for flavouring confectionery. A volatile oil known as 'lovage oil' is obtained from dried roots. Roots and oil are used for flavouring foods.
10.	<i>Hydrocotyle javanica</i>	Java pennywort	Horu manimuni	The whole plant is used as a blood purifier, in dysentery, liver trouble, indigestion, nerve disorder and stomach ache. It induces appetite; the powder of leaves is given with milk in small doses during mental weakness and to improve memory. It is also used as remedy for skin diseases and certain forms of leprosy and as an antidote against cholera.
11.	<i>Petroselinum crispum</i>	Parsley	Joni xaak	Leaves are taken as salads and ingredient of soups, stews and sauces. Fresh leaves are a good source of iron, calcium, carotene, ascorbic acid and commonly used for garnishing and seasoning. The dried leaves and roots are used as condiments. Seeds are used to decrease flatulence and colic pain. Root extracts are used to treat kidney ailments.



12.	<i>Eryngium foetidum</i>	Fitweed	Mandhanja/ kata mochola/ Jongholi- memedhu	Leaves serve valuable in alleviating pain and reducing inflammatory process. It possess medicinal properties and used during snake bites, malaria, hypertension, all sorts of pain, asthma and infertility complications.
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Fig:- *Centella asiatica*Fig:- *Cuminum cyminum*Fig:- *Coriandrum sativum*Fig:- *Apium graveolens*





Fig:- *Eryngium foetidum*



Fig:- *Daucus carota*



Fig:- *Ferula asafoetida*



Fig:- *Hydrocotyle javanica*



Fig:- *Petroselinum crispum*



Fig:- *Foeniculum vulgare*



Fig:- *Trachyspermum ammi*



Fig:- *Levisticum officinale*

Figure 1: Different types of species belonging to the family Apiaceae



*graveolens*, *Ferula asafoetida*, *Levisticum officinale*, *Hydrocotyle javanica*, *Petroselinum crispum* and *Eryngium foetidum* (Figure 1).

### 5 Conclusion

Altogether, a total of 12 species belonging to the family Apiaceae was reported from the study area which has tremendous utility as medicines, foods, spices and condiments. Furthermore, the present basic information of these available species would form an important tool for further study of this family in the region.

### References

- Baruah A. 2016. A text book of plant resource utilization. Assam Book Depot, Panbazar, Guwahati, Assam.
- Dutta AC. 1975. Dictionary of Economic and Medicinal Plants. Khelmati, Jorhat, Assam.
- Hooker JD. 1872-1897. The flora of British India, Vol. I – VII. Reeve & Co. London.
- Jain SK. 2010. Medicinal plants. National Book Trust, India.
- Kanjilal UN. Kanjilal, P. C., Bor, N. L. and Das, A. (1934-40). Flora of Assam, Vol. I- V. Avon Book Co., Delhi.
- Pandey PB. 2012. Economic botany. S. Chand and Company Ltd, New Delhi, pp. 238.
- Saxena BN, Saxena S. 2009. Plant taxonomy. Pragati Prakashan, Meerut, pp. 340-344.