



# Gum : A Promising Traditional Health Supplement

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## INTRODUCTION :

Humans evolved from ancestral apes and our genes are still reflecting of our vegetation and small animal eating past. Evolved in Africa and then Asia, we ate a huge range of leaves, buds, flowers, stems, gums, roots, tubers, fruits and even pollen before we learned agriculture.<sup>1</sup> During agriculture evolution some preferred plants were selected for cultivation, while use of several wild edibles continued even today after thousands of years. During the survey of North Maharashtra for documentation of wild edible food plants; 149 plants were noted to be edible. Different plant parts such as roots (5), tubers (11), tender shoots (5), leaves (65), flowers (35), fruits (48), seeds (16) and gum(6) were found to be exploited as edible. Present paper deals with the documentation of wild edible gum yielding plants of north Maharashtra.

Utilization of gum has a long tradition and it is one of the important health care non-timber forest products for tribal and rural communities. Plants produce gum naturally or when they get wounded by external factors. Gummosis is the process through which gums are formed in plants. Being important commodity humans have not only employed gums for ceremonial, esthetic and therapeutic uses but also in arts and industry, as a result they have been traded as the most sought material between the different cultures around the world from the earliest times<sup>8</sup>.

## MATERIAL AND METHODS :

Documentation of wild edible plants was carried out during January 2007 - November 2009. Total 184 locals were interviewed, of which 10 provided the information about edible gum yielding plants. The area selected for survey includes rural as well as tribal areas. Fortnightly; sometimes, weekly tours were organized for visiting the locals of the region. Field trips were made with the locals to observe the wild edibles

in nature. Locals were interviewed in most formal way. Also market survey was done to know the economic potential of these gums. Information like the name (common/vernacular/ local name) of wild plant and the mode of use was noted down on questioner. Species were identified using standard state floras<sup>12,13</sup>. Herbarium specimens were prepared and deposited in Department of Botany Govt. Vidarbha Institute of Science and Humanities, Amravati. Standard nomenclature was followed from plantlist<sup>15</sup>.

## RESULT AND DISCUSSION :

In the present work wild edible gums reported from North Maharashtra are enumerated in alphabetical order, with botanical names followed by vernacular name, species voucher no., family name and general information about distribution of plants, uses reported from documentation and medicinal uses from literature. People of Northern Maharashtra used gum of Six species either raw or fried.

Gums especially consumed in winter only suppose to give more benefits in this season. Gum is apparently very nutritious and can sustain life for days in the absence of other food. For example, *Acacia karroo*, African *Acacia* was once a very popular summer food for forest dwelling children.

Gums of 6 species were found to be edible. Out of these 06 species belonging to 5 genera are from 5 dicotyledonous families. Mimosaceae was found to be a dominant family with 1 genera and 2 species, followed by Combretaceae, Burseraceae, Sterculiaceae and Rubiaceae with single genera and single species.

Gum of two species was found to be consumed not only as food but as medicine. Like *Acacia ferruginea* gum is used to restore health while for joint pain *Anogeissus latifolia* gum was used.

During the market survey conducted for present study it was observed that frequently



the gums brought to market for sale and are sold at quite good price. Gum is also collected by forest department with the help of local people. Systematic bioprospecting of this gum can surely serve to support the economy of forest dwellers and people living in interior areas, who badly need additional source of income.

During the survey it was also observed that the gum collection practices adapted by the people are providing threats to the population of this important gum yielding plant species and thus destroying the ecosystem. Especially in case of *sterculia arens* the trunk is deeply wounded which many times leads to the death of tree within 2 to 3 years. Sustainable and effective harvesting methods needs to develop of conserve this natural resources.

#### Enumeration of species :

**1. *Acacia nilotica* (L.) Willd.** (V. – Babhul, Teli Babhul), (PPK - 127), Family – Mimosaceae

Gum is known as ‘Indian gum Arabic’. It is indigenous to the Indian Sub-continent as also in Tropical Africa, Burma, Sri Lanka, Saudi Arabia, Egypt and in West and East Sudan. In central Indian forests, plants are common in Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Orissa, Jharkhand and Bihar and to some extent Gujarat and Rajasthan.

**Mode of use :** Gum of the plant eaten raw or fried.

**Medicinal Uses :** Astringent, styptic; used on sore throat, asthma, diabetes, bleeding piles, burns, leucorrhoea, urinary and vaginal discharges and to stop bleeding<sup>1,7</sup>.

Gum Price in Market: Rs.1600/- per kg in India

**2. *Acacia catechu* (L.f.) Willd.** (V. - Khair), (PPK - 24), Family – Mimosaceae

Gum is also known as ‘khayer gum or cutch’. It is widely distributed throughout India and China except humid and cold regions. It is also found in Eastern slopes of Western Ghats, sub - Himalayan tract and outer Himalaya from Jammu to Assam.

**Mode of use:** Gum of the plant is fried in ghee and mixed with light baked wheat flour and dry fruits and ‘*ladooos*’ are made; these are especially

given to women after delivery to check joint pains, gum is supposed to restore the tightness of abdominal muscles. Ladooos are also given to old age people to restore the strength.

**Medicinal Uses:** Demulcent, emollient and tonic<sup>3</sup>.

Gum Price in Market:Rs.800/- per kg in India

**3. *Anogeissu slatifolia* (Roxb. Ex D.C.) Wall.** (V. Dhavda, Dhamoda), (PPK - 20), Family – Combretaceae

Gum of the plant is known as ‘Ghatti Gum. *Anogeissus latifolia* is native to India, Myanmar, Nepal and Sri Lanka, and found throughout tropical Asia. Approximately, 1200 tons per annum of gum from is harvested in India.

**Mode of use :** Fried gum eaten. Especially given to the women after delivery to check the joint pains.

**Medicinal Uses :** Astringent, postnatal tonic and rheumatism<sup>2,5</sup>

Gum Price in Market:Rs.150/- per kg in India

**4. *Boswellia serrata* Roxb.** (V. Salai), (PPK - 87), Family – Burseraceae

The gum is called the ‘Indian Frankincense’. Tree grows in tropical parts of Asia and Africa.

**Mode of use:** Gum is eaten raw or fried. Considered as tonic.

**Medicinal Uses :** Diaphoretic, diuretic, astringent, emmenollient, stimulant, antiseptic and antitumor. Useful in rheumatism, joint pain, diarrhea, dysentery, piles, cough, bronchitis, mouth sores, asthma, jaundice, ointment for syphilis, nocturnal emission, menstrual disorder, nervous disorders, convulsions, trouble of testis, urinary disorders and skin diseases<sup>3,6,14</sup>

Gum Price in Market:Rs. 1300 – 1700/- per kg in India

**5. *Gardenia resinifera* Roth.** (V. - Dikemali), (PPK - 45), Family – Rubiaceae

Gum is also known as gum ‘Cumbi or Dikemali’. The plant grows well in India, Bangladesh, and Myanmar.

**Mode of use:** Fried gum is eaten.

**Medicinal Uses :** Antispasmodic, anthelmintic, expectorant, diaphoretic, carminative. In Ayurveda gum of *Gardenia* used



to increase appetite, astringent to bowels, relieves pain of bronchitis, vomiting and constipation<sup>9</sup>

Gum Price in Market: Rs.400/- per kg in India

**6. *Sterculia urens* Roxb.** (V. - Kadhai), (PPK - 21), Family – Sterculiaceae

Gum is commonly known as 'Karaya' gum. It mostly found in eastern and Western Ghats, Himalaya forest and west and central part of the India such as in Andhra Pradesh, Bihar, Gujarat, Maharashtra, Rajasthan etc. It is also available in Australia, Pakistan, Indonesia, Sudan, Vietnam, etc. A mature tree may yield 1 to 5 kg of gum per season.

**Mode of Use :** Gum eaten raw by children. Fried gum used to prepare a '*Ldoos*' mixed with dry fruits. This is supposed to be a best tonic usually given in winter season.

**Medicinal Uses :** Laxative, tonic, cooling; given on throat affections, blisters, dysentery, stomach disorders, joint pain. Prescribed for women especially for contraction of uterus after childbirth<sup>3,4,5,10,11</sup>.

Gum Price in Market : Rs.500 - 600/- per kg in India.

## CONCLUSION :

Documentation of traditional knowledge about wild edibles is an important concern, as it can be the source of innovation in different fields of biology like medicine and agriculture. This is an attempt to enrich the knowledge about wild edible gum yielding plants.

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