

A REVIEW ON AMBERGRIS – FLOATING GOLD**Soumya Ranjan Swaro*, Simanchal Panda¹, Dr. P.K. Kar²**¹Associate Professor, M.D.A.M. (Doctorate Of Alternative Medicine).²Professor, Department of Pharmacology.*^{1,2}Jeypore College Of Pharmacy, Jeypore(K), Odisha.Article Received on
19 March 2018,Revised on 09 April 2018,
Accepted on 30 April 2018,

DOI: 10.20959/wjpr20189-12131

Corresponding Author*Soumya Ranjan Swaro**Associate Professor,
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Pharmacy, Jeypore(K),
Odisha.**ABSTRACT**

In India, ambara or amber as a perfume or an aromatic ingredient is found mentioned in the Sanskrit Lexicons. Among the animal products, ambergris is supposed to be a secretion from the sperm whale, used in perfumery as a fixative or as a tincture in deluxe perfumes, possibly brought to India by the Arabs. The Travels of Marco Polo (c. 1300 AD) provides interesting account about the hunting of whales for ambergris and oil and also the methods adopted by the whale hunters. A narrative on ambergris and its connection to India is well known. In India, Ambergris is used in perfumes and drugs in Ayurveda and Unani system of medicine. Pure ambergris is a wax-like substance insoluble in water, but soluble in alcohol, chloroform, ether and certain volatile and fixed oils. The light grades of ambergris,

white in colour, are usually the best and it is these grades that go to make tincture or the concentrated (absolute). Among the several components isolated from ambergris, the main three are: triterpene alcohol ambrein, epicoprostanol and coprostanone, the first being the principal active ingredient. Ambergris has been mostly known for its use in creating perfume and fragrance much like musk. Perfumes can still be found with ambergris around the world. It is collected from remains found at sea and on beaches, although its precursor originates from the sperm whale, which is a vulnerable species. Ancient Egyptians burned ambergris as incense, while in modern Egypt ambergris is used for scenting cigarettes. The ancient Chinese called the substance "dragon's spittle fragrance". During the Black Death in Europe, people believed that carrying a ball of ambergris could help prevent them from getting the plague. This was because the fragrance covered the smell of the air which was believed to be a cause of plague. This substance has also been used historically as

a flavoring for food and is considered an aphrodisiac in some cultures. During the Middle Ages, Europeans used ambergris as a medication for headaches, colds, epilepsy, and other ailments.

KEYWORDS: Ambergris, Chemical constituents, Composition of Ambergris, Different names, Formation of ambergris, Myth and reality, Odour, Physical properties, Sperm whale, Substitutes, Travelers' account (Arab and European), Uses.

MANUSCRIPT

“Preternaturally hardened whale dung” is not the first image that comes to mind when we think of perfume, otherwise a symbol of glamour and allure. But the key ingredient that makes the sophisticated scent linger on the skin is precisely this bizarre digestive by-product—ambergris. Despite being one of the world's most expensive substances (its value is nearly that of gold and has at times in history been triple it), ambergris is also one of the world's least known.^[1]

History: Ambergris occupies a rather unique or unequalled place in the history of perfumery. ambergris is mentioned differently in Indian and other languages:- Sanskrit – ambara^[2], amber, sugandh; Hindi, Bengali, Marathi, Konkani – amber; Gujarathi – ambara; Tamil – minumbar; Arabic – amber; Persian – musk amber; Singalese– mussumbra; Burmese – payan-anbhat; However, it may be mentioned here that there is no direct word to mean ambergris in Sanskrit lexicons compiled between 700 AD and c. 1676 AD by different scholars. In Latin ambergris is known as ‘ambra grisea’; whereas in French and German languages it is known as ‘ambergris’ and ‘ambra’ respectively. In fact the name of the substance ‘ambergris’ is derived from the French ‘ambre gris’ (gray amber) to distinguish it from the fossilized resin or gum brown amber. “perhaps the word amber is imported directly from Arabic”.^[3] Arabs were directly responsible for the introduction of this substance as anbar into India as one of the important commercial products probably in the 8th or 9th century AD. In India it was used as Sugandhadravaya or Sugandhaka. It was also referred to as matsyika by virtue of the fact that this perfumery product is obtained from the entrails of the whales.^[4]

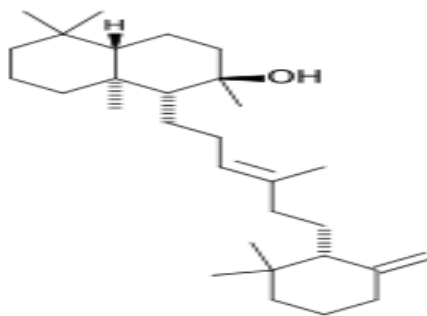
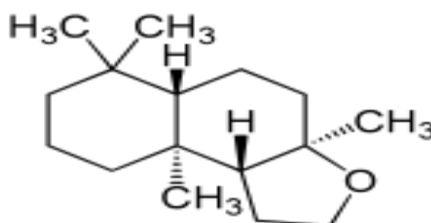
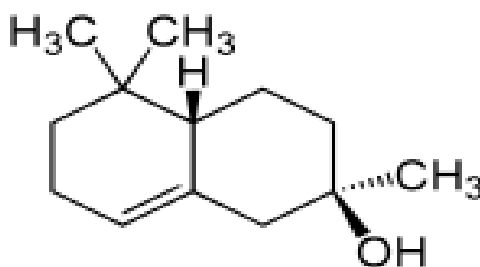
Biological source: *Physeter macrocephalus*

Kingdom:	<u>Animalia</u>
Phylum:	<u>Chordata</u>
Class:	<u>Mammalia</u>
Order:	<u>Artiodactyla</u>
Infraorder:	<u>Cetacea</u>
Family:	<u>Physeteridae</u>
Genus:	<i>Physeter</i> <u>Linnaeus, 1758</u>
Species:	<i>P. macrocephalus</i>

Ambergris is formed from a secretion of the bile duct in the intestines of the sperm whale (*Physeter macrocephalus*), and can be found floating on the sea or washed up on the coast. It is also sometimes found in the abdomens of dead sperm whales. Ambergris is a solid, waxy, flammable substance of a dull grey or blackish colour produced in the intestines of sperm whales. It's produced by the whale to protect its gut from the very sharp beaks of squid that it feeds on deep down in the ocean. Although called 'whale vomit', it is probably pooped rather than vomited. It is excreted hundreds of miles away from land. It can float on the ocean for years before washing ashore. Years of exposure to the sun and salt water transform the waste into a smooth, grey, lump of compact rock which has a waxy feel to it. Freshly produced ambergris has a marine, fecal odor and as it ages, it acquires a sweet, earthy scent [8]. It got its name because it looks like the amber washed up on beaches in the Baltic. Gris comes from the Latin word for grey. It is used in the production of perfume and as a result is extremely valuable. Scientists refer to ambergris as "floating gold" because of this. [5]

Chemical constituents

Ambergris is relatively nonreactive to acid. White crystals of a terpene known as ambrein can be separated from ambergris by heating raw ambergris in alcohol, then allowing the resulting solution to cool. Breakdown of the relatively scentless ambrein through oxidation produces ambroxan and ambrinol, the main odor components of ambergris.

**Ambrein****Ambroxan****Ambrinol**

Ambroxan is now produced synthetically and used extensively in the perfume industry.^[6] Ambergris is found in lumps of various shapes and sizes, usually weighing from 15 g (~½ oz) to 50 kg (110 pounds), sometimes more.⁷ When initially expelled by or removed from the whale, the fatty precursor of ambergris is pale white in colour (sometimes streaked with black), soft, with a strong fecal smell. Following months to years of photodegradation and oxidation in the ocean, this precursor gradually hardens, developing a dark grey or black colour, a crusty and waxy texture, and a peculiar odour that is at once sweet, earthy, marine, and animalic. Its smell has been generally described as a vastly richer and smoother version of isopropanol without its stinging harshness. In this developed condition, ambergris has a specific gravity ranging from 0.780 to 0.926. It melts at about 62 °C to a fatty, yellow resinous liquid; and at 100 °C (212 °F) it is volatilized into a white vapour. It is soluble in ether, and in volatile and fixed oils.^[7]

Use

Today we can discount some of the mythological uses of whale vomit such as its ability to prevent the plague, however in the past it provided many people with many physical, mental and/or psychological uses for improving their lives. The most common and popular use for whale vomit has been its use in perfumes and cologne. In recent times (as well as ancient) whale vomit has been used to improve the scent of certain perfumes which could be purchased at local stores. Those who purchased some of these products containing whale vomit have characterized it as having an amazingly sweet, musky scent that is very difficult to describe by words. In addition to perfumes whale vomit has also been used as an ingredient in certain make up cosmetics. Ambergris is a rare material that is considered highly desirable by companies often related to the cosmetics and perfume industry. In fact a single gram of ambergris can be worth several thousand dollars. While Ambergris can still be found sold around the world it is considered illegal to hunt and/or track sperm whales for the purpose of collecting Ambergris. Sperm whales are an endangered and protected species so hunting them is considered illegal in most countries and if found illegally hunting and/or tracking sperm whales individuals could be faced with steep fines or worse legal action. Because of the high price individuals and companies are willing to pay for ambergris it is commonly referred to as liquid gold, because those who acquire this material have figuratively on a financial level struck gold.^[8,9]

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