

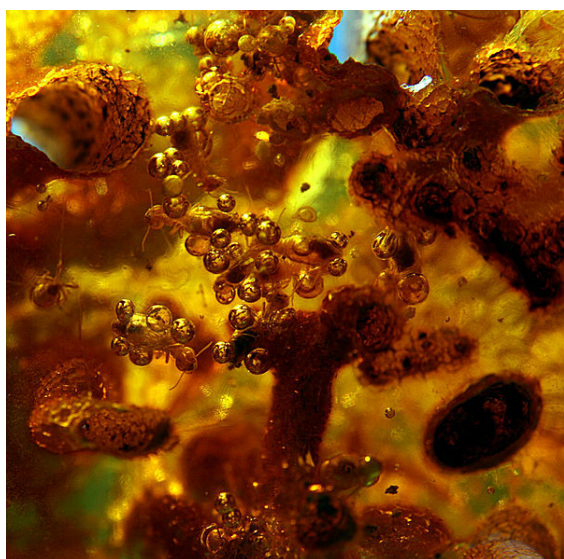
# Copal

For other uses, see Copal (disambiguation).

**Copal** is a name given to tree resin from the copal tree



*Copal from Madagascar with spiders, termites, ants, elateridae, hymenoptera, cockroach and a flower*



*A sample of copal containing a few termites*

*Protium copal* (Burseraceae) that is particularly identified with the aromatic resins used by the cultures of pre-Columbian Mesoamerica as ceremonially burned incense and other purposes.<sup>[1]</sup> More generally, the term *copal* describes resinous substances in an intermediate stage of polymerization and hardening between “gummier” resins and amber.<sup>[2]</sup> The word *copal* is derived from the Nahuatl

language word *copalli*, meaning “incense”.<sup>[3][4][5][6][7]</sup>

To the pre-Columbian Maya and contemporary Maya peoples it is known in the various Mayan languages as *pom* (or a close variation thereof),<sup>[3][8]</sup> although the word itself has been demonstrated to be a loanword to Mayan from Mixe–Zoquean languages.

Copal is still used by a number of indigenous peoples of Mexico and Central America as an incense, during sweat lodge ceremonies and Sacred Mushroom ceremonies.<sup>[9]</sup> It is available in different forms. The hard, amber-like yellow copal is a less expensive version. The white copal, a hard, milky, sticky substance, is a more expensive version of the same resin.

Copal resin from *Hymenaea verrucosa* is also found in East Africa and is used in incense. By the 18th century, Europeans found it to be a valuable ingredient in making a good wood varnish. It became widely used in the manufacture of furniture and carriages. It was also sometimes used as a picture varnish.<sup>[10]</sup> By the late 19th and early 20th century varnish manufacturers in England and America were using it on train carriages, greatly swelling its demand.

In 1859 Americans consumed 68 percent of the East African trade, which was controlled through the Sultan of Zanzibar, with Germany receiving 24 percent. The American Civil War and the creation of the Suez Canal led to Germany, India and Hong Kong taking the majority by the end of that century.<sup>[11]</sup>

East Africa apparently had a higher amount of subfossil copal, which is found one or two meters below living copal trees from roots of trees that may have lived thousands of years earlier. This subfossil copal produces a harder varnish. Subfossil copal is also well-known from New Zealand (Kauri gum), Japan, the Dominican Republic, Colombia and Madagascar. It often has inclusions and is sometimes sold as “young amber”. Copal can be easily distinguished from genuine amber by its lighter citrine colour and its surface getting tacky with a drop of acetone or chloroform.<sup>[12]</sup>

## 1 References

- [1] Stross (1997).
- [2] Platt (1998).
- [3] “The word ‘copal’ first appeared in the English language in 1577. John Frampton wrote in his ‘Englished’ edition of

Nicolas Monardes' *Dos libros, el veno que trata de todas las cosas que traen de nuestras Indias Occidentales*, originally published in 1596 (Monardes 1577): 'They doe bring from the Newe Spaine [Mexico] twoo kindes of Rosine... the one is called Copall.' "Over three centuries later, Walter Hough (1912) wrote: 'There is a great confusion as to the identity of copal, the name, according to some writers, being used to cover a number of gums. It is possible that the confusion has arisen from post conquest times when errors multiplied rapidly as Mexican culture slipped swiftly into the background, for the earliest reliable chroniclers are clear as to the commonest use of the gum which we know as copal, and whose characteristic odor would place it distinctly in the first rank of incense materials.'

"[...] This agrees with the etymology of the word 'copal' from the Nahuatl *copalli*, literally 'with the help of this path' or 'thanks to this path' (Corzo 1978).

"*Pom* is derived from the Mayan *po-*, a root word meaning 'in harmony with the action of fire,' and *-om*, a suffix which denotes 'activity,' literally 'that that which is to be burnt' (Barrera Marín, Barrera [Vásquez] Vásquez, and López Franco 1976)."

—Case, Ryan J.; Tucker, Arthur O.; Maciarello, Michael J.; Wheeler, Kraig A. (15 March 2003), "Chemistry and ethnobotany of commercial incense copals: copal blanco, copal oro, and copal negro, of North America" (PDF), *Economic Botany* (New York: Springer, published June 2003) **57** (2): 189–202, doi:10.1663/0013-0001(2003)057[0189:CAEOCI]2.0.CO;2, ISSN 1874-9364, retrieved 16 April 2010

- [4] "They doe bring from the Newe Spaine [Mexico] twoo kindes of Rosine... the one is called Copall." (*Historia medicinal de las cosas que se traen de nuestras Indias Occidentales*)

—Monardes, Nicolás Bautista; Frampton, John (1577), *Joyfull newes out of the newe founde worlde, wherein is declared the rare and singular virtues of diverse ... herbes. Engliſhed by John Frampton*, London: "Imprinted at London at the three Cranes [Queen Street as of year 2010] in the Vintree by Thomas Dawson [fl. 1568–1620], for William Norton" / "Imprinted at London : in Paules Churchyard [St. Paul's Church Yard] at the ſigne of the Quenes Armes [Queens Arms tavern], by [Thomas Dawson for] William Norton, 1580" (published 1596), ISBN 90-221-0251-3

- [5] "There is a great confusion as to the identity of copal, the name, according to some writers, being used to cover a number of gums. It is possible that the confusion has arisen from post conquest times when errors multiplied rapidly as Mexican culture slipped swiftly into the background, for the earliest reliable chroniclers are clear as to the commonest use of the gum which we know as copal, and whose characteristic odor would place it distinctly in the first rank of incense materials."

—Hough, Walter (1912), "Censers and incense of Mexico and Central America",

*Proceedings of the United States National Museum* (Washington: Smithsonian Institution Press (etc.), published 7 April 1912) **42**, p. 133 (pl. 3–14), ISSN 0096-3801, retrieved 16 April 2010

- [6] "Molina dice: 'Copalli, goma de árbol, o incienso';<sup>[7]</sup> [...]"

—Corzo Espinosa, César (1978), *Palabras de origen Indígena en el Español de Chiapas* (in Spanish), México: Costa-Amic Editores, pp. 57–59, ISBN 968-400-114-2, LCCN 80142784, retrieved 16 April 2010

- [7] "Copalli. incienso." (*Vocabulario en lengua castellana y mexicana*)

—Molina, Alonso de (d. 1585); Platzmann, [Karl] Julius (1832–1902) (1571), *Vocabulario de la lengua mexicana* (in Spanish and Nahuatl), Leipzig (b): B. G. Teubner (b), p. 319, LCCN 42048907, OCLC 11400907, retrieved 16 April 2010, publication-date: 1571 (a), 1880 (b)

- [8] Barrera Marín, Alfredo; Barrera Vásquez, Alfredo; López Franco, Rosa María (1976), *Nomenclatura etnobotánica Maya: una interpretación taxonómica*, Colección científica: Etnología (in Spanish) **36**, Córdoba, México: Instituto Nacional de Antropología e Historia

- [9] "Mesoamerican Copal Resins".

- [10] Mayer, Ralph (1976). *The Artist's Handbook of Materials and Techniques*. New York: Viking. pp. 194–196

- [11] Thaddeus Sunseri, *Wielding the Ax: State Forestry and Social Conflict in Tanzania, 1820-2000*, 2009, p 10-12

- [12] David Grimaldi, *Amber: Window to the Past*, 1996, p 16-20, American Museum of Natural History

## 2 External links

## 3 Text and image sources, contributors, and licenses

### 3.1 Text

- **Copal** *Source:* <https://en.wikipedia.org/wiki/Copal?oldid=707999680> *Contributors:* Sjc, Nate Silva, Infrogmation, 6birc, Choster, Robertbdc, Morven, Mattflaschen, DocWatson42, Quadell, Kaldari, Vsmith, Bender235, Kwamikagami, Remuel, Melaen, Clubmarx, Xhin, Margosbot~enwiki, TeaDrinker, LeCire~enwiki, CJLL Wright, Bjwebb, Bgwhite, YurikBot, Butsuri, Shaddack, Zwobot, Gadget850, Asarelah, LeonardoRob0t, SmackBot, EncycloPetey, Kintetsubuffalo, Francisco Valverde, Just plain Bill, TPO-bot, Ergative rlt, SilkTork, Kevmin, A. Parrot, BillFlis, Abhand01, Ewulp, 850 C, TheBluePhoenix, Plantsurfer, SNP, Faizhaider, Acalamari, Mccajor, KylieTastic, Tobyone, Idioma-bot, VolkovBot, TXiKiBoT, Dclees, Enviroboy, Alcmaeonid, Mbz1, Mywood, Vbond, Ufinne, Nergaal, Lessogg, DragonBot, Addbot, Imeriki al-Shimoni, Wkrocek, Luckas-bot, Yobot, Dr. Günter Bechly, Materialschemist, Citation bot, ArthurBot, Quebec99, MauritsBot, Transit, Citation bot 1, Bryancpark, EmausBot, TherasTaneel, Chemist82, AvicAWB, Wingman417, ChuispastonBot, ClueBot NG, Gareth Griffith-Jones, Marechal Ney, Helpful Pixie Bot, BG19bot, KasparBot and Anonymous: 38

### 3.2 Images

- **File:Commons-logo.svg** *Source:* <https://upload.wikimedia.org/wikipedia/en/4/4a/Commons-logo.svg> *License:* CC-BY-SA-3.0 *Contributors:* ? *Original artist:* ?
- **File:Copal\_Madagascar.jpg** *Source:* [https://upload.wikimedia.org/wikipedia/commons/f/f5/Copal\\_Madagascar.jpg](https://upload.wikimedia.org/wikipedia/commons/f/f5/Copal_Madagascar.jpg) *License:* CC BY-SA 4.0 *Contributors:* Own work *Original artist:* Didier Descouens
- **File:Copal\_with\_insects\_close-up.jpg** *Source:* [https://upload.wikimedia.org/wikipedia/commons/f/f2/Copal\\_with\\_insects\\_close-up.jpg](https://upload.wikimedia.org/wikipedia/commons/f/f2/Copal_with_insects_close-up.jpg) *License:* GFDL *Contributors:* Own work *Original artist:* Brocken Inaglory

### 3.3 Content license

- Creative Commons Attribution-Share Alike 3.0