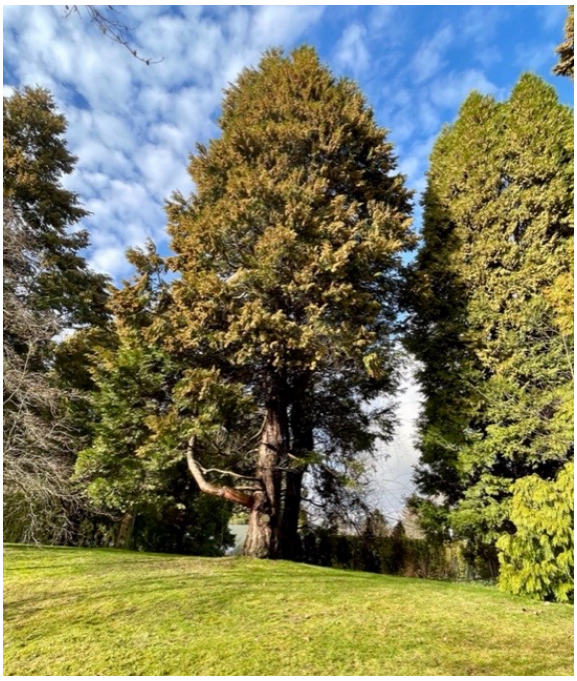
Hughie Jones - February 2022

Incense-cedar
Calocedrus decurrens
Plants with non floral scent



Incense-cedar (*Calocedrus decurrens*) is an aromatic evergreen conifer. You can find it growing from Oregon all the way down to Baja California. In the wild incense-cedar can reach a height of 50 m/150 ft and live to one thousand years or more. This tree grows under many different conditions. Within its range from Oregon to Baja California, it is most often found in hot and dry sites with poor soils. But the tallest individuals occur in sunny well-watered sites such as riparian areas in canyons or near subalpine lakeshore. It has a range of soil types and water conditions but also a wide range of temperatures and snow cover. Yet it is extremely rare to find forests where incense-cedar is the sole conifer or a dominant species.

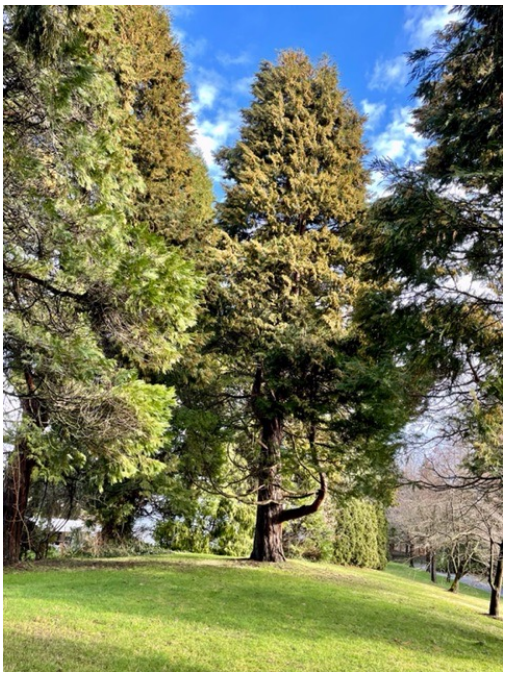
And so far nobody has been able to figure out why that is. In the wild incense-cedar is found with a number of other highly aromatic summer-drought adapted plants, including sugar pine (*Pinus lambertiana),* Douglas fir (*Pseudotsuga menziesii*), California red fir (*Abies magnifica*) and giant sequoia (*Sequoiadendron giganteum*). Such habitats are remarkable - the sheer size and magnificence of each of these species with the layering and mixing of different fragrances emanating from every part of them.

The importance of fragrance in keeping a mixed conifer grove healthy could have something to do with incense-cedar favouring these groves. Very little is known about fragrance exchange in mixed conifer groves. The benefits of the underground mycorrhizal network between trees has been studied more.

The compounds that make up the complex fragrance of incense cedar are mostly chemical compounds known as terpenes. These aromatic compounds are common in conifers and serve multiple functions in the tissues. They act as animal-feeding deterrents, insecticides and antimicrobial agents. Conifer resin is primarily composed of terpenes - turpentine gets its distinctive smell from these terpenes. Incense cedar chips and even entire chests have been used to discourage moths around clothing.

Carvacrol, which smells of oregano and is an effective larvicide, is one of the terpenes abundant in incense-cedar. Extract of these trees have been shown to have anti-fungal and antibiotic properties. The number of actual compounds involved in producing the particular aroma of incense cedar is probably considerable. Even characterizing the smell is difficult as the aroma shift with temperature and tissue breakdown. Also, fragrance descriptions are subjective. The fresh foliage can smell like both over-ripe or under-ripe banana, candied fruit, and parsley.

If you grew up in 'the pencil age', you might describe the smell of incense-cedar as pencil shavings. But really it is the shavings that smell of incense-cedar. The majority of pencils were once made from its wood. Most pencils sold today are imported from China and made from tropical hardwoods.



Male cones in January and incense-cedar pictures are from bed 60T beside the giant sequoia grove

Incense-cedar has a link with a living fossil from the Age of Conifers, 200 million years ago. The incense-cedar wood wasp (*Syntexis libocedrii*) is the only living species in the wood wasp family. It lays its eggs in recently burnt incense-cedar. The wood is often still smouldering. Incense-cedar wood wasp is rarely seen - except by firefighters. This living fossil could probably answer all your questions on incense-cedar.

incense-cedar wood wasp
(image 102357 Morphbank)

Mature female cones look like brown duck bills.
(image from Mount Pisgah Arboretum)

https://botanyphoto.botanicalgarden.ubc.ca/2019/01/calocedrus-decurrens/
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