

Forest odors, also called phytoncides, ~~have provide~~ a relaxing effect on humans and/or show a sterilizing effect on microorganisms, depending on type. ~~In the M~~meanwhile, it is indicated possible there are ~~indications~~ that forest odor substances are also involved in production of atmospheric ozone, and promote global warming. Such forest odors are known to be released from the above-ground part of trees including leaves and trunks, whereas it is little known how much forest odor substances exist in the underground parts ~~of trees~~, including soils. Forest odor information has been barely available from, above all, black spruce forests that are widely distributed in the North American subarctic area and likely to be susceptible to ~~effects~~ ~~of global~~the warming.

Therefore, this study ~~focused in measuring~~observed concentrations of forest odor substances contained in the atmosphere in a black spruce forest and its soil in the inland area of Alaska from spring to autumn. As a result, forest odor concentrations were revealed to be higher in the soil than in the forest by several hundred times, ~~and with the highest concentrations being in the layer of organic matter deposited on the forest floor up to 10–30 cm deep~~ higher in the layer of organic matters deposited as thick as 10–30 cm. The study also showed ~~It was also revealed~~ that the major forest odor substance is α -pinene^{Note)} which is contained in cedar ~~and other trees, etc. as well~~. The organic matter layer ~~on the forest floor consists is composed of forest floor~~ mosses, ~~and lichens, as well as~~ fallen leaves and ~~rootlets~~ of black spruce, ~~which act as underground reserves of forest odor substances.~~ that reserve forest odor substances underground.

Comment [Checker1]: Level 2

[Word Choice]

“have” would be more appropriate at this instance

Comment [Checker2]: Level 2

[Clarity and Readability]

Clarity was greatly lacking in the original sentence. Sentence was rephrased for enhancing clarity.

Comment [Checker3]: Level 2

[Omission]

Omission issue rectified to accurately convey intended meaning of the source

Comment [Checker4]: Level 2

[Mistranslation]

Mistranslation issue rectified

Comment [Checker5]: Level 2

[Technical Word Choice] [SME]

More accurate technical word choice used