

A white outline of a house is centered on a background of dense green ivy leaves. A small black mosquito is perched on the left side of the roofline. The text "NSP mosquito repellent" is written in white, sans-serif font in the center of the house outline.

NSP
mosquito
repellent

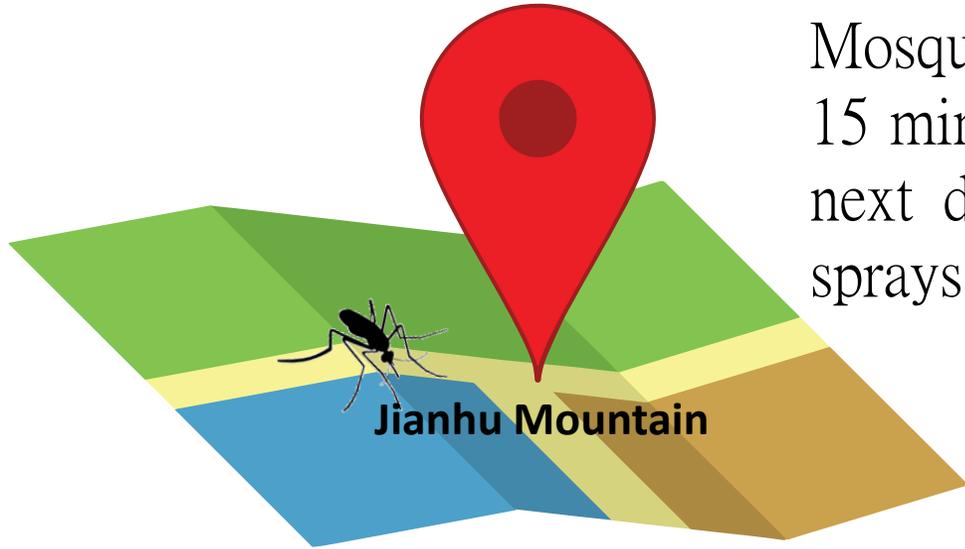


A big deal to me –
My breakfast in backyard !

In summer, mosquitoes are rampant in Austin, Texas. I never like the chemical spraying in environment, so I invented NSP, a nontoxic silicate modified clay. Only a single water spray of NSP at 1000 ppm, next day morning, I can calmly enjoy my breakfast in my backyard then. So, one small step for mosquito, one giant leap for my retirement life. Interestingly, the working principle is simple, NSP adsorbing odor in air and interfering mosquito's quorum sensing, oosing their 'Radar' to human. 2021-6 (<https://www.ja-nsp.com/>)



2021-6-30 Experiment on Repelling Mosquitoes in Jianhu Mountain



Mosquitoes raged on Jianhu Mountain. By spraying NSP and, after 15 minutes, the mosquito threats are lowered significantly. On the next day, only a few mosquitoes found, and after a few more sprays, The environment is free for human to enter.



[Natural Clay Nanoplatelets] physically adsorbing gaseous odor mechanism

References: Shell's Patents

Method for the control of aquatic breeding insect populations, US Patent

01

Insecticide composition for controlling insects which have an aquatic breeding site, US Patent

02

Detergent range ethoxylated alcohols to control black flies, US Patent 5635194A (1993-2020-04-06)

04

Method for the control of mosquitos by the use of film-forming materials, US Patent

03

- ◆ NSP high surface area for adsorption of gaseous odors
- ◆ Formulated with environmentally friendly surfactants for stopping mosquito threats

The teachings from old patents --:

- In 1990s, Shell filed several patents revealing the common surfactant is effective for controlling mosquito reproduction. The story was told that, the surfactant plant's workers "observed" the phenomenon of less mosquito found nearby their factory of manufacturing the non-ionic surfactants which are commonly known for laundry detergents and while none of toxicity to the environment...
- In 2010s, NSP has been invented and formulated with non-ionic surfactants for anti-mosquito and anti-dengue.

Other evidences for anti-mosquito bites



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***Aedes aegypti* mosquitoes detect acidic volatiles found in human odor using the IR8a pathway**

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Summary

Mosquitoes use olfaction as a primary means of detecting their hosts. Previously, the functional ablation of a family of *Aedes aegypti* olfactory receptors, the Odorant Receptors (ORs), was not sufficient to reduce host-seeking in the presence of carbon dioxide (CO₂). This suggests the olfactory receptors that remain, such as the Ionotropic Receptors (IRs), could play a significant role in host detection. To test this, we disrupted the *Ir8a* co-receptor in *Ae. aegypti* using CRISPR/Cas9. We found that *Ir8a* mutant female mosquitoes are not attracted to lactic acid, a behaviorally active component of human sweat, and lack odor-evoked responses to acidic volatiles. The loss of *Ir8a* reduces mosquito attraction to humans and their odor. We show that the CO₂-detection pathway is necessary but not sufficient for IR8a to detect human odor. Our study reveals that the IR8a pathway is crucial for an anthropophilic vector mosquito to effectively seek hosts.

immediacy

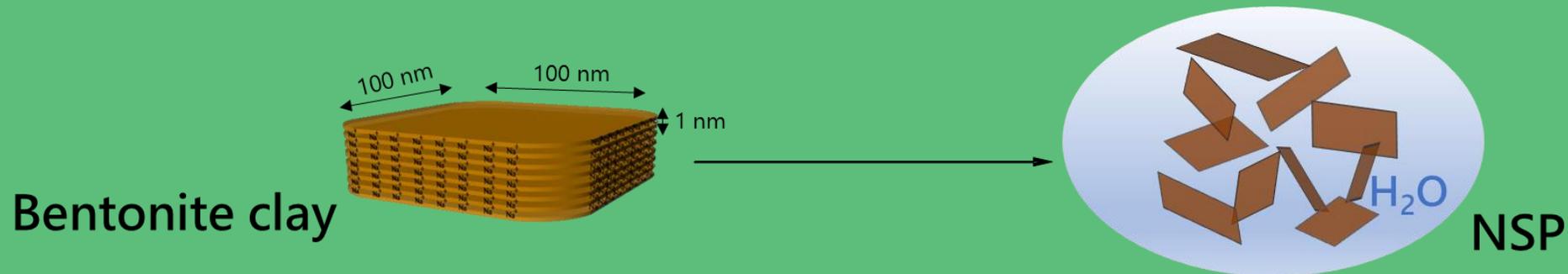
Mosquitoes must look for blood and water to reproduce; however, they have poor eyesight and use smell to find their next meal. "Smell" is the vital for mosquitoes finding their hosts.

NSP is able of adsorbing odors and disrupting mosquitoes to recognize their targets.

Permanently

NSP may also alter the interfacial tension of water surface, and form a thin film on the surface, that disfavors the waters for mosquito laying eggs and larva breeding..

「NSP」 can be diluted and used as spray of de-odorants



NSP (gel-like product)



NSP (after dilution)



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