A BILL FOR AN ACT

RELATING TO THE STATE MICROBE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that there are sixteen adopted, designated, and established official symbols of the State of Hawaii. This number increases to thirty-one when designated flowers and colors of the individual islands are also included. From the state motto, "ua mau ke ea o ka aina i ka pono," which, translated, means "the life of the land is perpetuated in righteousness," to the state plant, kalo (Colocasia esculenta (L.) Schott), these designated symbols are representative of all things unique to Hawaii and its individual islands. Missing from this group of symbols is an official state microbe.

Vibrio fischeri is deserving of being Hawaii's official state microbe because of its broad reputation as among the best-studied beneficial microbes. These bacteria live in a symbiotic relationship with the Hawaiian bobtail squid, giving the animal the power to produce bioluminescence, or light from a living organism. The squid is endemic to Hawaii. This tiny creature is only two inches long and hunts at night on reef flats.
However, moonlight casts a shadow onto the sea floor, which alerts predators to the squid's presence. To counter this effect, the Hawaiian bobtail squid cultures luminescent Vibrio fischeri in a special light-emitting organ, which allows it to become stealthy by projecting light that minimizes the dark shadow of its body.

Researchers have found that Vibrio fischeri make chemical signals to communicate with each other in a process known as "quorum sensing". Quorum sensing allows the bacterium to monitor how many cells are present in the light organ and adjust its bioluminescence accordingly. The study of this chemical reaction has numerous medical and practical applications, such as testing for toxic compounds in water.

Therefore, the purpose of this Act is to designate Vibrio fischeri as the official microbe of the State.

SECTION 2. Chapter 5, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"§5—State microbe. The Vibrio fischeri, a bacterium that commonly creates bioluminescence in a symbiotic relationship with the Hawaiian bobtail squid, is established and designated as the official microbe for the State."
SECTION 3. New statutory material is underscored.

SECTION 4. This Act shall take effect upon its approval.

INTRODUCED BY:  

[Signatures]

Martin R.
Report Title: State Microbe

Description: Establishes and designates *Vibrio fischeri* as the official microbe of the State.

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