HIVE – MINDED MICROBES AROUND US

Imagine a large number of people with a unified consciousness, making collective decisions and efforts for the sustenance and betterment of the entire population. This scenario is frequently used in comic book stories and even in some science fiction movies, called as a "HIVE-MINDED" population. It may appear to be purely fictional, yet such populations do exist in nature. Certain insects exhibit swarm intelligence e.g. Honey bees, ants, termites, etc. in their case, population behavior is governed by the priorities and interests of the QUEEN. However, there are many microorganisms who also exhibit such hive-minded collective intelligence.

One such very interesting example is *Volvox,* one of the 7 wonders of the microbial world. *Volvox* is a commonly found freshwater green algae, abundant in eutrophic water. The individual cell is pear-shaped and motile, due to the presence of the 2 flagella. The adjacent cells are connected to each other via the cytoplasmic bridges to form a perfect sphere-shaped colony. Due to the flagella pointing outwards, the sphere is constantly in motion, rotating around a somewhat fixed axis, just like a typical planetary body. The entire sphere moves around in the search of light, as one single organism. Another interesting fact is that for each species, the total number of cells in the sphere is constant, ranging from 500 to 50000.

Another fascinating (commonly found) microorganism is *Dictyostelium,* a type of slime mould . Individually, they are unicellular amoeba-like cells, sliding around in search of moisture, shade and food. When the food material from the environment depletes, the population undergoes rapid changes. Just like a typical hive-mind, all the cells of the population aggregate at one point towards the center. These cells then pile up one above the other, eventually forming a spore dispersing body, the sporangium, which germinates when conditions revert to favourable once again.

Such organisms have been subject to intense study and are still inspiring future researchers.

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