

Microbiology

The Unseen World

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IN REALMS unseen by naked eyes,
Beneath the scope where shadow lies,
There thrive a world, a hidden sea—
The dance of life's complexity.

A universe in drops of rain,
In soil, in breath, in blood's domain,
Where microbes dwell and quietly spin,
The threads of life that weave within.

Invisible architects of fate,
They build and break, create, abate.
From ancient depths to modern age,
Their story fills each science page.

Behold the bacteria's form,
From rods to spheres, shapes that swarm.
Some armed with flagella's beat,
They swim in liquid realms discrete.

They cluster tight in biofilms' hold,
Communities of stories told.
A fortress made of secret glue,
Defying drugs we once thought true.

The archaeans from fiery springs,
In vents where molten nature sings,
They thrive where few dare cast a glance,
Extremophiles in fiery dance.

Yeasts and molds, the fungi's clan,
With spores that drift and hyphae span,
They rot the wood, they ferment wine,
A kingdom neither plant nor line.

Viruses, the ghosts that slip between,
Neither living nor fully seen,
They hijack cells with subtle art,
Invading deep the human heart.

The DNA, the RNA,
Blueprints in their coded sway.
A double helix tightly wound,
Where secrets of the cell are found.

Microbes form the nitrogen chain,
Fixing air to soil and grain,
The silent farmers of the land,
Sustaining life by unseen hand.

In guts of beasts and human frame,
A teeming world no two the same.
The microbiome's vast array,
Dictates health in complex way.

Some microbes heal, some bring disease,
A balance struck with delicate ease.
Pathogens with stealthy guile,
Invade the host, disrupt, defile.

Tuberculosis, plague, and flu,
Malaria's sting and dengue's hue.
Each microbe bears a tale of woe,
A warning light that science knows.

Yet in the lab with petri's dish,
A tiny world we coax and wish.
Agar beds and staining dyes,
Revealing life in cultured guise.

Gram positive, Gram negative,
Classified by purple, pink set.
Microscopes that pierce the dark,
Unveil the secrets, mark by mark.

The microscope's lens, a magic gate,
To see the small, the intricate.
Electron beams that sharply trace
A viral shell, a cell's embrace.

Antibiotics, nature's strike,
Derived from soil's microbial hike.
Penicillin's gift from mold,
A battle cry for lives retold.

Resistance grows, a rising tide,
Mutations in the genes reside.
Superbugs armed with defenses tough,
Challenge science, call for rough.

Vaccines made from weakened foes,
Prepare the body to oppose.

Polio's scourge brought to its knees,
By science wielded with expertise.

The lab coats hum with fervent quest,
To understand and to arrest
The spread of illness, sickness' thrall,
A tiny war that threatens all.

Bacteriophages that hunt with grace,
Viruses preying on microbe's space.
An ancient struggle, cycle grand,
Nature's balance in its hand.

Quorum sensing, whispered calls,
When microbes gather in their halls,
A language coded in small bits,
That shifts the way the colony fits.

Endospores hide in times of stress,
A dormant shield, a cloaked fortress.
Waiting patient, death defied,
Until the world's warmth is supplied.

Bioengineering now takes hold,
Microbes rewired, stories told.
Producing drugs and fuels anew,
A future shaped by what they do.

Microbes in oceans, vast and deep,
Cycles of carbon, secrets keep.
Photosynthesizers small but grand,
Regulate the planet's stand.

In hospitals, their presence looms,
Pathogens in sterile rooms.
Hand hygiene, isolation signs,
Battles waged in these confines.

The microscope, the petri plate,
Tools of science to navigate.
Cultures grown in labs confined,
To fight diseases intertwined.

From Koch's postulates, rules of proof,
To genetic maps that trace aloof,
Microbiology stands as bridge,
Between the small and human ridge.

A billion microbes in a breath,
Invisible agents, life and death.
Yet each cell, each spore, each strand,
Holds a universe unplanned.

So when you look into the night,
Remember worlds beyond your sight.
A microcosm, vast and true,
The smallest life connects with you.

They shaped the earth, the sky, the seas,
From ancient times to modern ease.
Microbiology, study deep,
Of life unseen that never sleeps.

In every soil and every breeze,
A billion lives perform with ease.
Invisible, yet ever near,
Microbes shape the world we steer. ■

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