

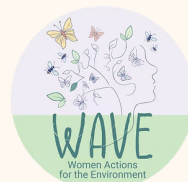
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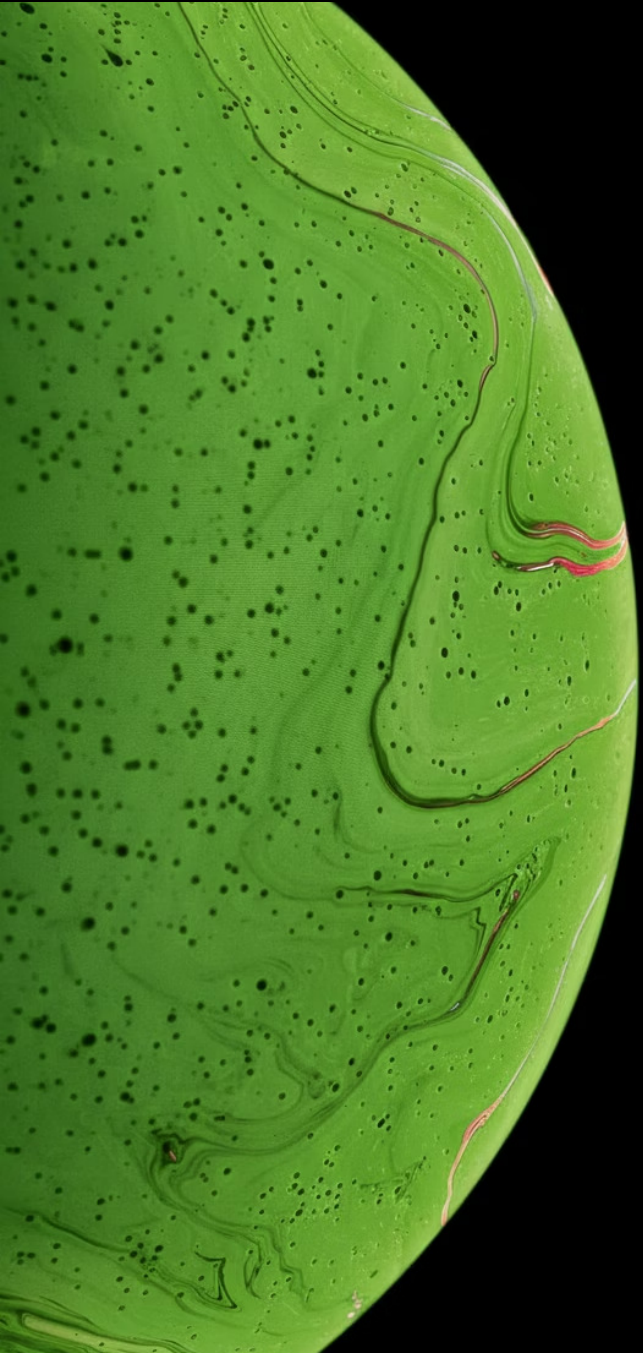


THE IMPORTANCE OF PLANTS

Good morning everyone, I am Nicola Palmieri from the association

Il Pianeta Naturale, partner of the European project WAVE approved by the Erasmus+ KA 210 program.





THE IMPORTANCE OF PLANTS

Today we talk about the fundamental importance of plant organisms for life on Earth. Plants are not just important: they are fundamental for life on Earth.

THE ORIGINS OF LIFE

Their ancestors, the stromatolites -
structures
built by cyanobacteria - began to
produce food and oxygen as early as 3.5–3.7
billion
years ago.





THE ORIGINS OF LIFE

Stromatolites were the pioneers, the founders, the sole primary engine of life on a planet still hostile to life.

The crucial point is this: they, the **organisms autotrophic**, could and can survive perfectly without anyone's help.

THE ORIGINS OF LIFE



Production of Organic Matter 🧬

They convert CO₂ and water into complex organic compounds, essential for life.



Harnessing Solar Energy ☀️

They use sunlight as their only energy source for their vital processes.



Adaptation to a Hostile Environment 🌋

They thrived in an era when Earth was still inhospitable to most forms of life.

These autotrophic organisms not only demonstrated an extraordinary ability to survive, but also laid the foundations for the evolution of more complex ecosystems, gradually transforming an inhospitable planet into the cradle of the biodiversity we know today.



THE OXYGEN REVOLUTION

Their "waste product" — oxygen — revolutionized the planet, allowing the evolution of all other forms of life, including us and, ironically, the organisms that would later "parasite" them.

The supremacy of plants

PLANTS DOMINATE THE BIOSPHERE

Even today, despite all human devastation, plants dominate the terrestrial biosphere. To understand this supremacy, just look at the numbers of the distribution of biomass on Earth.

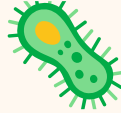


DISTRIBUTION OF BIOMASS

450 

Billion tons

Plants represent 82.6% of
the total living mass

70 

Billion tons

Bacteria represent 12.8% of
the total living mass

12 

Billion tons

Fungi represent 2.2% of the
total living mass

7 

Billion tons

Unicellular organisms
represent 1.3% of the total
living mass

4 

Billion tons

Algae represent 0.7% of the
total living mass

2 

Billion tons

Animals represent 0.4% of
the total living mass

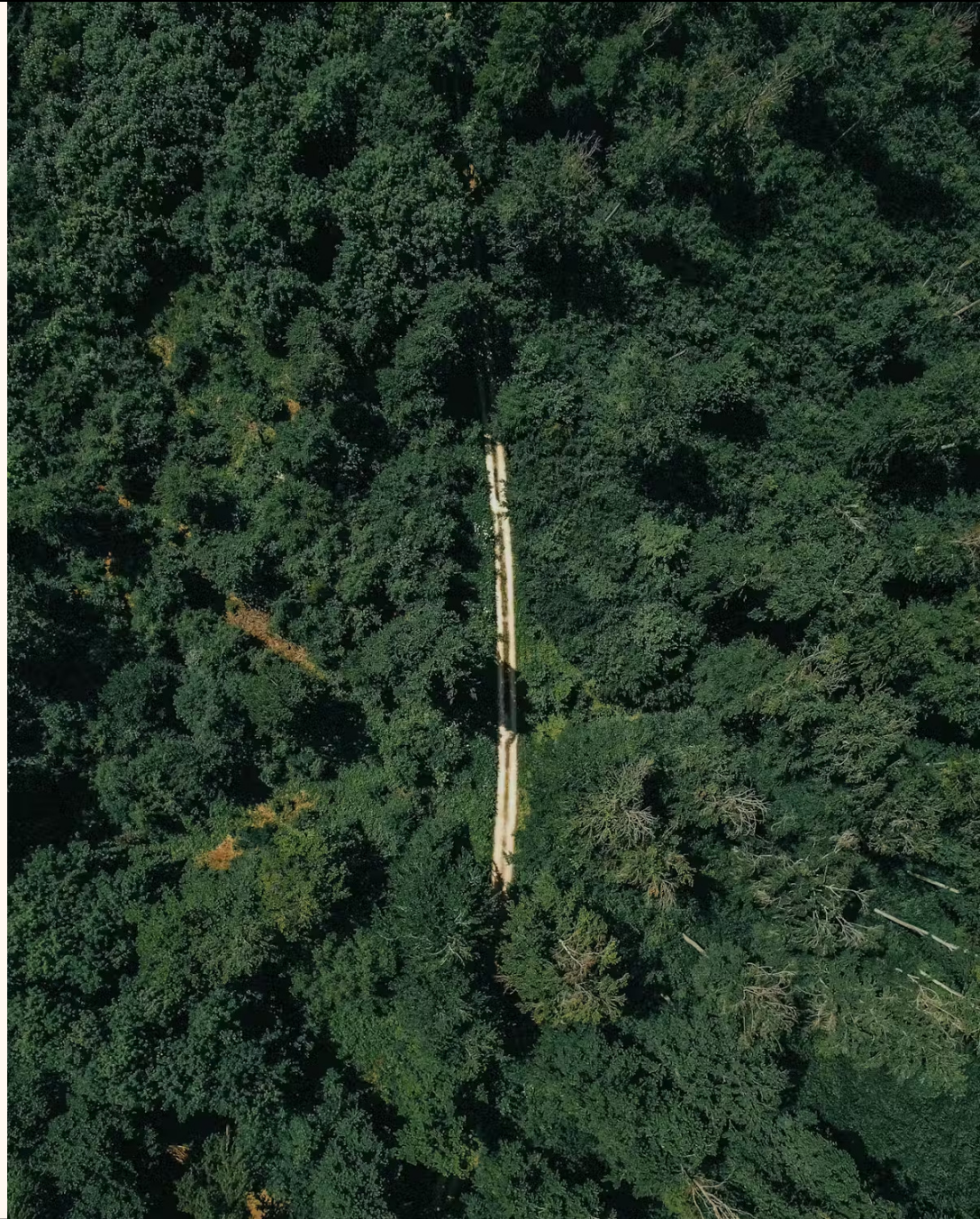
A FACT THAT MAKES US
THINK

83% plants

0,3% animals

0,01% humans

A fact that should make us think
deeply about our role and our
fragility.



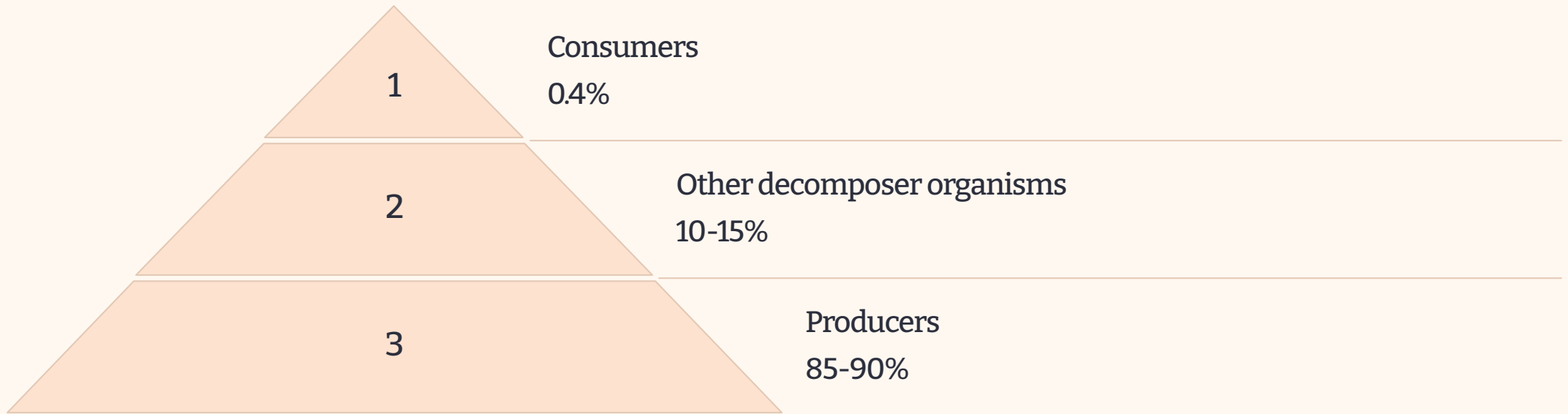


THE ECOLOGICAL PYRAMID

But what did this balance look like before human intervention on a massive scale?

In today's Earth ecosystem, relationships follow a precise ecological pyramid.

THE ECOLOGICAL PYRAMID



The autotrophic organisms - the **producers** - represent about 85-90% of the total biomass, while the animals - the **consumers** - stop at 0.4%. This produces a ratio of about **200:1**.

THE IMPACT OF DEFORESTATION

Considering the massive deforestation of the last 10,000 years - **we are talking about three trillion trees lost** - it is plausible that in a completely natural, pre-anthropogenic terrestrial ecosystem the ratio was even higher: 300:1 or even more.



THE IMPACT OF DEFORESTATION

After the last ice age

At that time, after the end of the last ice age, global forest cover was not significantly more extensive than today

Higher density

But the density of plants and biomass was significantly higher



CLIMATE STABILITY

Natural habitats were not fragmented and had a much greater specific weight and effectiveness in **climate stability**.

The reduction of this relationship represents a dangerous alteration of the **fundamental ecological balances** of the planet.



CONCLUSION

What is the consequence of all this?

Climate change that we are experiencing today.

FINAL REFLECTION



83% Plants

Represent 450 billion tons of biomass, the foundation of every terrestrial ecosystem



0.01% Human

Only 60 million tons, yet responsible for the destruction of entire ecosystems



3000 Billion Trees Lost

Three thousand billion trees cut down in the last 10,000 years of human activity



Altered Ecological Balances

Plant-animal ratio reduced to 200:1, fragmentation and destruction of ecosystems, climate stability crisis

THANK YOU

WAVE Project - Erasmus+ KA 210

Natural Planet Association

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