Animal.

The ancient sponge appeared about 2.5 billion years ago
the first animal.

What is an animal?

It is hard to answer this question exactly. To answer would require to know all the fundamentals and characteristics of animals, thus to determine
all the differences between living beings and non-living matter, between animals and plants. To be able to distinguish the differences between the former, we first have to solve the problem of life, to answer the question, "what is life? We do not have an exact answer to this question yet.

It is something like when a drop of honey slides down a spoon.
As more and more liquid flows into the drop it becomes thicker and thicker, then it stretches out and becomes narrower in one part. At some point the drop can no longer hold the weight of the honey,
the narrow part breaks off and the drop falls down, while the other part becomes rounded again – forming another drop. A cell also divides itself like this.

The plant single cell organisms are algae and also partly fungi (mostly bacteria) and the animal organisms are protozoa.

Marine sponges or poriferans, belonging to the phylum Porifera, are aquatic, filter-feeding of collagen origin.

Sponge cells carry out all the functions that organs carry out in higher animals.

Most sponges work like chimneys: they take in water at the bottom and eject it from the osculum at the top. Sponges can control the water flow by various combinations of wholly or partially closing the osculum and ostia.

Human momentum, the ability to make decisions, and the imperfect body has become the cause of time.

Marine sponges display a structure which mimics the cancellous architecture of bone tissue.

Amoeba is actually nothing more than a cluster of protoplasm with a nucleus. There are not even any cellular membranes so the shape of the organism can vary. The protoplasm flows out in all directions and that is how this organism moves. More semi-solid protoplasm flows into one bulge (a pseudopodia), it swells up and lengthens, while at the same time at the other side the protoplasm lessens, and that is how the amoeba moves a little further. If it finds a plant or an animal particle, the protoplasm surrounds it, digests and dissolves it. The indigestible parts are discharged from one part of the organism during its next move.

The sponges are defined as sessile metazoans,
-multicelled immobile animals.

Protozoa are in some sense
immortal.

When an amoeba divides itself, there is no corpse, the daughter cell
continues immediately in the life of the mother cell and like so it goes on. The divided amoeba is of course a different entity, but we cannot observe a decaying, dying body, like with other organisms.

The nutrition enters the body through a small opening in the membrane. Since it contains green coloring, chlorophyll, it can build up its body directly from water and air. This tiny organism is in-between an animal and a plant; some scholars and researchers attribute it to the former others to the latter. It takes in nourishment like a plant and moves like an animal.

Most sponges are commonly fastened to surfaces.
They take advantage of the movement of the water around them and the water brings food, oxygen, and gametes from other animals.

We cannot think that movement is proper to fauna;
after all how many living organisms do not
move
and how many plants, especially the lower ones are quite agile. A more significant indication is the presence of chlorophyll and the means of nutrition connected to it, because the processing and assimilation of inorganic substances into organic ones is dependent on chlorophyll.

Alternatively man was like a plant, the growth of which can only be observed with the naked eye by a mother with a small child in her arms, as she is likewise motionless and changes only by aging.

Both human and bovine collagen is widely used as dermal fillers for treatment of wrinkles and skin aging.

Mankind pays for the ability to individualize its being and position by aging and death. Prometheus pays by daily suffering.

Sponges in temperate regions live for at most a
few years,
but some tropical species and perhaps some deep-ocean ones may live for
200 years or more.

Some calcified demosponges grow by only 0.2 mm (0.0079 in) per year and,
if that rate is constant, specimens 1 m (3.3 ft) wide must be about
5,000 years old.

Some sponges start sexual reproduction when only a few weeks old, while others wait until they are several years old.

Sponges are either radially symmetrical or
asymmetrical.

A living sponge can change the shape of its body. Most cells in its body can move around; a few cells can even change from one type of cell to another.

Sponges are the only animals that if broken down to the level of their cells, they can reassemble themselves.

Gemmules are "survival pods" which a few marine sponges and many freshwater species produce in large numbers when dying.

The crustaceans Anomura, seek a temporary abode by recycling old shells, to which its body is not attached, just as other crustaceans do, snails, or turtles.

The soul
moves.

Some sponges (boring sponges) excavate the surface of corals and molluscs, sometimes causing significant degradation of reefs and death of the mollusc.

The sponge is seeking protection for itself by sinking into the hard structures it erodes.
Even this process has some beneficial effects, however, it is an important part of the process by which
calcium is recycled.

Symbiotic relationships with bacteria and algae have been reported, in which
the sponge provides its symbiont with support and protection
and the symbiont provides the sponge with food.

Sponges are an ancient and efficient design which will probably continue to populate the world's oceans longer than people will populate the Earth.

Sponges have no nervous system.

Comb jellies and their relatives are complex animals - unlike sponges and placozoans, ctenophores possess muscles and a nervous system.

If ctenophores diverged first, these organ systems likely have been present in the common ancestor of all animals -- and sponges and placozoans must subsequently have lost them.

In the beginning was the word.
The word is the result of thoughts about life.
This idea needed a mass.
That mass is unstable, or sporadically unstable.

Using elaborate calculation procedures, we were then able to demonstrate that the placement of Ctenophora at the base of the evolutionary tree of animals is artefactual.
When the more powerful models are applied to these datasets, one finds that the
sponges are indeed
the earliest diverging animal group.

On the topic of the origin of the animal kingdom among biologists, the biogenetic hypothesis is the most accepted one. It states that every, even the smallest animal, came into being by the natural procreation of the maternal and paternal animal. William Harvey's Omne vivum ex ovo. Louse hatched from a nit (an egg), which was laid by the mother and fixed onto hair or clothes of its host; a leech, a worm hatched from an egg or mature detached segments, fungal and vesicular clusters by
gemmating new beings from old ones. The hypothesis of biogenesis supposes a continual array of animals,
but does not explain
the origin ofthe first member.

There are many hypothesis to explain
the origin of the first animals,
out of which we will introduce the hypothesis of self-fertilization, cosmozoic hypothesis and one on the context of life. Aristotle was a proponent of the first hypothesis, arguing that animals originate from non-living matter
(abiogenetically): worms from rotting substances, eels from mud, lice from dirt etc. This hypothesis was valid until the Pouchet vs. Pasteur argument. Pasteur contradicted the hypothesis with beautiful, demonstrative proof. It was about whether microbes (tiny animals and plants) originate from water, as postulated by Pouchet, or get into water in the form of a gemmule by wind, as argued by Pasteur. After boiling water and closing bottles perfectly Pasteur proved that microbes did not appear. The founder of the cosmozoic (panspermozoic) hypothesis is Richter, who assumed that there are organic gemmules floating in the universe and those came to Earth and started life. Helmholtz preached that these gemmules came here with meteors. Today also this hypothesis has no followers.The hypothesis about the context of life, the originator of which is Preyer, who postulates that life – living matter – is the primary phenomenon and
non-living matter
is the secondary phenomenon. Neither of these hypotheses solve the problem of the origin of life, which transcendents the boundaries of the study of animals and skirts philosophy and religion.

Sponges are noted for their wide range of collaborations with other organisms.

Genus.

Universally it was believed that a genus is constant.
The inability of fertilization of two animals of various genuses was mentioned as a criterion.
The context of genus has to be understood in the sense that the creator did not create at random, but rather that a plan was being carried out – individual genuses are parts of this unified plan. The true founder of the doctrine (teaching) on evolution of animals is Lamarck.
According to him animals can adapt
to another environment, to different living conditions, which more or less changes their organs.
Organs grow and develop or stunt according to whether the animals in the changed living conditions use them or not. These organ changes are hereditary.

Darwin brought in a zoology an understanding of
temporality,
and with that a new direction of exploration, a historic direction.
Before him the Englishman, Bateson, and the Russian Korzhinsky studied and argued against Darwin's teachings on fluid evolution – they argued that new species happen suddenly. Korzhinsky calls this occurrence hetero-genesis and demonstrated it with several examples e.g. the origination of silky Merino sheep and hornless bulls. De Vries states that causes of development are in the organism itself, they are internal. After shorter-longer periods of not changing there appear shapes, which differ from the original, sometimes with very significant hereditary features. De Vries calls these changes mutations.

Sponges contain genes very similar to those that contain the "recipe" for the post-synaptic density, an important signal-receiving structure in the neurons of all other animals. However, in sponges these genes are only activated in "flask cells" that appear only in larvae and may provide some sensory capability while the larvae are swimming. This raises questions about whether flask cells represent the predecessors of true neurons or are evidence that sponges' ancestors had true neurons but lost them as they adapted to a sessile lifestyle.

Life was created in the amount of many, in the amount that is a part of many /
a variety.

Man was made of stone once, he was also endurable, but also still, motionless. It was not until crying,
which prevented its stability.

The body of a sponge consists of jelly-like material (mesohyl) made mainly of collagen and reinforced by a dense network of fibres also made of collagen.

The shapes of their bodies are adapted for maximal efficiency of water flow.

Movement is an act of changing physical location or position or of having this changed.

Sponges cannot move from place to place the way most other animals can.

Movement is a very important characteristic in animals and humans. Movement is important as without it animals would not be able to find, hunt food or escape from predators. Movement is also needed to adapt in the environment.

Many species contain toxic substances, probably to discourage predators.

Other animals take advantage of this by placing adult sponges on their bodies, where the sponges attach and grow.

A few sponges can change their position, they can move at speeds of between 1 mm and 4 mm a day. (0.039–0.157 in) per day A few species can contract their whole bodies. Many can close their openings/holes.

The shark's skeleton is made entirely of cartilage, which makes them lighter than other fish. Sharks use their fins to steer and use forward momentum to adjust their depth. Sharks move or swim by using their caudal fin to propel the rest of their body.

Free-standing sponges have more inner volume compared with their outside surface area and sometimes
grow into strange shapes,
often reaching gigantic proportions.

Barrel sponge, a large tropical sponge sometimes grows large enough to fit a whole person inside.
Equally well known are the tube sponges of the tropics, coming in nearly every color of the rainbow.

Man finally got indeed a very dynamic, fast, but also a very vulnerable and aging body, which, although capable of a
few important things,
has no time
for the most important ones.

The skeletons of Poriferans appear to have unique properties that make them appealing as a potential bioscaffolds for cell-based
bone tissue engineering.
These properties include the fibrous skeleton, the collagenous composition, the ability to hydrate to a high degree, and the possession of open interconnected channels created by a porous structured network.

Collagen is the dominant component of the skeletal matrix of the sea sponge and is the major protein constituent of the extracellular matrix of bone.

The use of collagen-based sponges as scaffolds in tissue engineering has a number of advantages.

Sponges model systems to study the shift from immortal to senescent somatic cells: the telomerase activity in somatic cells.
Sponges represent the lowest metazoan phylum, characterized by a pronounced plasticity in the determination of cell lineages. In a first approach to elucidate the molecular mechanisms controlling the switch from the cell lineage with a putative indefinite growth capacity to senescent, somatic cells, the activity of the telomerase as an indicator for immortality has been determined. The studies were performed with the marine demosponges Suberites domuncula and Geodia cydonium.

Stimulation of protein synthesis in sponge cells by a cardiac myotrophin-related molecule from Suberites domuncula.
The body wall of sponges (Porifera), the lowest metazoan phylum, is formed by two epithelial cell layers of exopinacocytes and endopinacocytes, both of which are associated with
collagen fibrils.
Here we show that a myotrophin-like polypeptide from the sponge Suberites domuncula causes the expression of collagen in cells from the same sponge
in vitro.

Sponge-derived substances span a wide range of chemistry (e.g., alkaloid, peptide, terpenoid and polyketides) with an equally variety of biotechnological properties (e.g., Antibacterial, antifungal, antiviral, immunosuppressive, cardiovascular and anti-parasitic) (Ang et al., 2001; Torres et al., 2002). The relationship between the chemistry of the secondary metabolites originated from marine sponges and their mode of action on disease in vivo is mostly not obvious (interaction with DNA to combat tumors, or inhibition of α/β receptors to provide muscle relaxation). Moreover, in drug discovery, it is frequently observed that a certain series of compounds that exhibited the most potent inhibitors in vitro turned out not to be the drug of choice
in vivo.