Genome

Oblivion Genetics

Nereus

Project Cyclone

Cycloarchon opterus

“Destructive Lord of the Cyclone”

"Violence has always plagued the surface. They will destroy themselves.” -King Nereus

""The depths of Nereus do not care how loudly you scream. They only care how much water you displace.” -Nereus

"Throwing away their shields, armor, and bloody spears... they are happy to witness its triumph.” -Saint Nereus

Successor to Maelstrom and Onyx.

1. Prognathodon curii:

- Base template
- Ramming stuff

2. Kronosaurus queenslandicus:

- Bite force boost
- Trihedral teeth
- Proportionally larger skull
- Hind flippers equal to front flippers.
- Olfactory chambers for “underwater sniffing”.
- Compact Jowls (like a tegu but more compact because… hydrodynamics)
- Larger pectoral and pelvic girdles.
- Absolute cranial akinensis.
- Direct interlocking mandibular symphysis
- Barrel shaped rigid torso
- Streamlining
- Extra extended pterygoid flanges.
- Pachyosteosclerotic ribcage which negates the positive buoyancy of the lungs and makes the hybrid neutrally buoyant.
- Interlocking teeth.

3. Malabar Tree Toad:

- Tubercles on both front limbs and hind limbs. (Localized to the leading edge)
- Na+/K+-ATPase gene that helps with bufotoxins resistance
- Highly adaptable pupil structure.

4. Razanandrongobe:

- Jaw robustness boost (still streamlined but just taller and wider)
- Osteoderms (modified by number 5)
- Four chambered heart.
- Regulatable metabolism
- Crocodilian jaw muscle boost.
- More powerful longissimus and iliocostalis muscles
- Larger external nares with a structure similar to a gothic flying buttress (yes) which helps with stress dissipation.
- Slight heterodonty.
- Massive supratemporal fenestrae.
- False ziphodont dentition.
- Overlapping bony scutes covering its belly (put deep into its skin by number 6 and skin thickened by number 7 and 14)
- Changes the breathing system using a hepatic piston which helps against crushing water forces.
- High density alkaline stomach acid.
- Sensitive mechanoreceptors.
- Makes the tooth replacement faster.
- Alpha and beta keratin in the skin.
- Bone crushing serrations.

5. Plotosaurus:

- Modifies the osteoderms to become keeled drag reducing structures.
- Larger eyes
- High aspect symmetrical hypocercal tail fin.
- Streamlined fusiform body shape.
- Rigid anterior spine with flexible posterior hinges.
- Narial counter current heat exchangers.
- Single axis scombrid tail propulsion
- Lightens and thins the osteoderms to be better for drag reduction.
- Raised neural spines.

6. Komodo Dragon:

- Buries the osteoderms deep into the dermis (only the central ones since the dorsal ones are used for streamlining.

- Hemotoxins
- Immunity to Komodo hemotoxins.
- Iron infused teeth (like the shrew)
- Makes the Jacobson's organ more advanced.
- Strengthens the neck and shoulder muscles.
- Chainmail-like osteoderms covering where the purussaurus cannot. (Also buried deep into the skin)

7. Whale Shark:

- Thickens the skin drastically, completely covering the osteoderms (only the ones not for drag reduction)
- Rhodopsin eye pigment for better night vision.
- Longitudinal stabilizing hull ridges.
- Squalene-rich liver. (No!!! Orca will eat)
- Intervertebral cartilaginous discs.
- High efficiency coronary ventricle myocardium

8. Bluefin Tuna:

- Insanely efficient rete mirabile.
- Better cold tolerance
- Reverse temperature hemoglobin
- Finlets.

9. Skipjack Tuna:

- Significantly more red muscle.
- Malate-aspartate shuttle.
- Regional endothermy.

10. Orcinus orca:

- Cetacean neurological filtering
- Basic intelligence
- Periodontal tooth anchors
- Mammalian enamel strength.
- Deep alveolar bone sockets
- Much space where the temporal is muscle can attach
- Mandibular symphysis elasticity that helps with shock absorption from thrashing prey etc.
- Gingival padding shields
- Extremely powerful chest muscles.
- Hyper vascularized lungs.
- Tracheal cartilage rings.

- Forced exhalation blast to prevent choking and stuff
- Makes the rete Mirabile go to the head too.

11. Physeter macrocephalus:

- Elevated hematocrit level.
- Extreme hypercapnia tolerance
- Nitrogen absorbing blood plasma
- Bradycardia reflex.
- Thick protective sclera
- Tapetum lucidum
- Giant ganglion cells
- Sleep disruption resistance which helps with rest
- Fibrous blubber for shock absorption and insulation.
- Tough, fibrous anterior blubber functioning as a shock absorber from rams

12. Himalayasaurus:

- Chondroderms on flippers.
- Size increase
- Pushes the braincase rearward.
- Streamlining
- Reinforced mandibular symphysis.
- Secondary bony palate
- Heterocercal tail fluke.
- Bioluminescent photophores
- Flipper tucking
- Dual propulsion system
- Ampullary organs for electroreception.
- Binocular vision.
- Hyperphalangia
- Polydactyly
- Longer flippers.

13. Ptychodus:

- Teeth are more robust and stout.
- Palatal teeth.
- Denticles.
- Osteodentin core in the teeth.

14. Leatherback Sea Turtle:

- W shaped beak

- More rubbery skin
- MORE KEELED OSTE— *cough cough cough cough* osteoderms
- Lactic acid buffering
- ~~Fih~~
- Larger, more hydrodynamic front flippers.
- Papillae (modified to be more flattened and reduced.
- Flipper tucking.

Stats

Energy

When the muscles burn through energy, lactic acid builds up, the bloodstream carries lactic acid to the Squalene-rich liver, where an enzyme called lactate dehydrogenase turns the lactic acid back into pyruvate. Inside the liver, the pyruvate enters a process called gluconeogenesis. That turns the pyruvate into glucose or stores it as glycogen. This glucose goes back into the bloodstream. The mitochondria breaks it down and turns it into ATP.

When burning through ATP very fast, the muscles eventually down-regulate to Adenosine Monophosphate which is essentially energy garbage. The tuna gene lets us efficiently use AMPD to strip an amino group from the useless AMP, turning it into Inosene monophosphate and liberating ammonia. Instead of IMP becoming waste, a secondary set of enzymes (Adenylosuccinate Synthetase and Adenylosuccinate Lyase) processes it back into the loop, throwing off a by-product called fumarate. Fumarate is a high-octane fuel component that feeds directly into the Krebs cycle inside the muscle cell's mitochondria. This generates a massive, localized surge of ATP completely bypassing the need for oxygen, glucose, or the liver. The frog removes the ammonia.

The Tuna and cetacean amino shuttle. When muscles go anaerobic and generate ammonia, they can instantly bond that ammonia to pyruvate to form Alanine, which is a harmless type of amino acid. Alanine will travel through the bloodstream, to the liver. The liver absorbs the Alanine, strips the ammonia to turn it into urea which will be safely excreted and converts the remaining carbon skeleton back into Pyruvate, the pyruvate is turned directly into glucose with gluconeogenesis. Glucose is turned into energy.

The massive density of mitochondria are used to express high levels of mitochondrial G3P dehydrogenase; then this creates a biochemical vacuum. The Tuna provides the dense mesh of veins and regional endothermy. (The G3P shuttle relies heavily on elevated core temperatures to keep enzyme velocity as high as possible and the tuna’s heat containment keeps this shuttle running at maximum efficiency). Orca provides high-density mammalian cell structures. G3P works with the fat breakdown and oxygen delivery pathways of cetaceans, so that it can switch between burning glucose and burning blubber-derived fats without any metabolic lag.

In the cell fluid, electrons from standard energy breakdown are loaded onto a molecule called Oxaloacetate, transforming it into Malate. So well what's special about Malate is that it can cross straight into the inner mitochondrial engine. Once inside, the Malate drops off the electrons to fuel your ATP engine, changing back into Oxaloacetate. To get back out and repeat the process, it swaps an amino group to become Aspartate, travels back into the cell fluid, and converts right back into Oxaloacetate.

There's a liver enzyme to instantly capture the free Glycerol and phosphorylate it into Glycerol-3-Phosphate. This is fed straight into the glycolysis pathway to create more glucose.

Any excess ATP generated during lower-intensity cruise phases automatically repackages the leftover fatty acids back into the blubber matrix. Yeah so basically a completely self-contained, reversible fuel tank that maintains structural buoyancy while providing ATP.

The Krebs cycle causes Citrate to build up inside the mitochondria. If it gets too concentrated, it acts as a molecular brake, shutting down energy production entirely to avoid burning out. So what's used is the Orca/Tuna cellular transport proteins vacuum the excess Citrate out of the mitochondria into the cell fluid so that an enzyme called Citrate Lyase splits it into Acetyl-CoA then transforms it into Malonyl-CoA which temporarily blocks fat burning and is then systematically fed right back into the mitochondria via the carnitine shuttle to be burned as ATP.

Bite force: 90k newtons to 110k newtons.

Weight: 18 METRIC tons

Length: 12 to 13 meters

Speed: 50 km/h burst, 9 km/h cruise