



# DIVISION: WHY NOT BOTH?

A wild selection of wonderful taxa that have weirdo combinations of adaptations! You may say "Tusks or Antlers? The Muntjac says "Why not both?"

## Three Key Adaptations for Tournament:

### Adaptation 1:

- Weaponry:Tusk strong enough to precise through any prey or predator

### Adaptation 2:

- Defense:Thick skin that keep him warm during the artic and are able stop bites from predator

### Adaptation 3:

- Water:They can swim at 7km/h or 22 mile/ hours

## Biome: Geographic Range & Habitat:

- Most walrus lived in the north pole in the arctic ocean and subarctic seas of the northern hemisphere

## Diet and Trophic Level:

- •Walrus are carnivores, feeding on bottom of the shallow water eating food like clams, and shell self

## Size:

- Most walrus can weight over 1 ton or just over 2,000 pound

## Summary:

- large, Hard, thick skin and a fast swimmer and sharp tusk

# Walrus

(*Odobenus rosmarus*)



Blubber or Fur?

## Three Key Adaptations for Tournament:

### Adaptation 1:

- *The main swimming muscles are located in the center of the body, supplied with a complex blood vessel system, deterring changes in water temperature from slowing down the swordfish's movements as it moves, maintaining its agility in a vast array of environments.*

### Adaptation 2:

- *Has an organ, the countercurrent exchanger, which is a blood vessel structure that warms their eyes and brain, which enables the swordfish to think more quickly and see more clearly, in a large range of oceanic environments.*

### Adaptation 3:

- *Its large flat pointed bill is used as a means to catch prey, swaying its bill within the water to stun its prey, and then consume its prey upon a hit.*

## Biome: Geographic Range & Habitat:

- *FOUND EVERYWHERE (predominantly in the Atlantic, Pacific, and the Indian Ocean but much less in the Arctic Ocean and Antarctic Ocean)*

## Diet and Trophic Level:

- A great variety of fish and some invertebrates such as squids.
- Top consumers (Secondary/tertiary/or even quaternary consumers)

## Size:

- *Ranges variably in size with commercial catches typically being about 47-75 inches in length and about 400 pounds in size.*
- *Maximum sizes of ~455 cm and 1,400 lbs*

## Summary:

- *A predatory fish that lurks in every corner of the tropics and temperate oceanics, the swordfish is a fish not to be underestimated within the whelms of the aquatic animal kingdom, ruling with a sword (bill) in hand and its unusual endothermic nature, unlike other fish...*

# Swordfish

*(Xiphias gladius)*



Endothermic or Ectothermic?  
They are endothermic!

## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Lungfish lie in wait in the "muds" of dried out bodies of water until next rainfall which helps them live in more arid climates*

### Adaptation 2:

- *These fish have lungs so that they can survive out of the water in case it dries up*

### Adaptation 3:

- *Lungfish are diurnal and nest during the day*

## Biome: Geographic Range & Habitat:

- *Australia, South America, Africa*

## Diet and Trophic Level:

- *Fish, insects, plant matter*
- *Secondary consumer*

## Size:

- *150 cm and 95 lbs*

## Summary:

- *Lungfish are freshwater fish that feed on a variety of plants and insects. They belong to the order Dipnoi which is a classification for organisms with short and blunt teeth, a "reduced" endo or exo skeleton, and a diphyccercal tail.*

# Lungfish

(*Neoceratodus forsteri*)



Gills or Lungs?

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## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Tough, sharp scales that cover their bodies and protect them from predators*

### Adaptation 2:

- *Pangolins can curl into a ball when they feel threatened or attacked, leaving their scales exposed.*

### Adaptation 3:

- *Strong front legs and claws used to dig burrows using their tails and rear legs for support and balance*

## Biome: Geographic Range & Habitat:

- *Mostly found in central and southern parts of Africa in forests, grasslands, and savannahs*

## Diet and Trophic Level:

- *Ants, termites, and larvae, secondary consumer*

## Size:

- *Can range from 1 to 4.5 feet and 4 to 72 lbs*

## Summary:

- *Pangolins, also called scaly anteaters. They curl up into balls to protect its face and other body parts not covered in scales when threatened. They can also emit toxic smelling chemicals, similar to a skunk.*

# Pangolin

(*Smutsia gigantea*)



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Long legs: allows it to see over tall grasses; can run up to 50 mph & jump over 6 meters.*

### Adaptation 2:

- *Large ears used to detect prey, including animal burrows.*

### Adaptation 3:

- *Thier spotted fur helps with camouflage.*

## Biome: Geographic Range & Habitat:

- *The savanna in well-watered environments with long grass.*

## Diet and Trophic Level:

- *Specialized for catching rodents but also eats hares, hyraxes, birds, reptiles, insects, fish & frogs.*

## Size:

- *Medium Size: 34 in. long, 21 in. tall, can weigh 20-44 pounds.*

## Summary:

- *Servals are predators that hunt with a high bouncing pounce & are useful for controlling the population of rodents. They may become endangered due to habitat loss & being hunted for their pelts.*

# Serval

*(Leptailurus serval)*



Spots or Stripes?

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## Three Key Adaptations for Tournament:

### Adaptation 1:

- *A barrel-like chest that holds large lungs (made to deal with an environment of stale air due to a burrowing environment). Also has a thick body.*

### Adaptation 2:

- *2 teeth and tusk-like canines to dig up and eat vegetation.*

### Adaptation 3:

- *Short legs, probably to fit in burrows.*

## Biome: Geographic Range & Habitat:

- *Antarctica, India, China, Africa, Mongolia, & European Russia (250 million years ago). Since it was a powerful digger, mostly nested in burrows.*

## Diet and Trophic Level:

- *Primary consumer, mostly ate fibrous plants (however, in the game video game Ark, which is a game that has prehistoric animals like dinosaurs, lystrosaurus ate rare flower, mejoberry, and berries).*

## Size:

- *Lystrosaurus was about the size of a pig, so about 3 feet long and about 200 pounds heavy.*

## Summary:

- *Lystrosaurus is a small but sturdy primary consumer that burrows and nests in those burrows, and it also exists in Ark.*

# Therapsid

*(Lystrosaurus maccaigi)*



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Modified dorsal fin with lure that resembles food for prey*

### Adaptation 2:

- *Flexible jawbone enables it to open its mouth wide enough for prey lured by its lure*

### Adaptation 3:

- *Aggressive mimicry camouflage that enables it to resemble coral*

## Biome: Geographic Range & Habitat:

- *Tropical and subtropical waters of Indonesia and the Lembeh Straits*

## Diet and Trophic Level:

- *Crabs, Shrimps, and Small fish (Secondary Consumers)*

## Size:

- *Can grow to be 22 – 25 cm*

## Summary:

- *Also known as the straited frogfish; Covered in spines that resemble hair and are formidable predators; Have a "rod" that is a modified dorsal fin; Have tiny 5mm palatal teeth but they are ineffective when breaking down food*

# Hairy Frogfish

(*Antennarius striatus*)



Camouflage Ambush or  
Aggressive Mimicry?



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Tusks which can be used for fighting*

### Adaptation 2:

- *Antlers which are used for fighting and to dig through snow to forage*

### Adaptation 3:

- *Large ears so that they can hear predators and stay attentive*

## Biome: Geographic Range & Habitat:

- *They are largely found in Southern Asia's forests and grasslands*

## – Diet and Trophic Level:

- *They eat leaves, nuts, berries, acorns, and fungi. It is an herbivore.*

## Size:

- *They are around 25 inches tall, 45 inches long, and on average way about 15kg, but can be up to 60kg.*

## Summary:

- *The muntjac are a versatile fighters who have many advantages*

# Muntjac

(*Muntiacus muntjak*)



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *The spines on its back, used for protection*

### Adaptation 2:

- *Long snout and tongue used to eat prey*

### Adaptation 3:

- *Long, strong claws that are used to invade prey's nests*

## Biome: Geographic Range & Habitat:

- *Forests and Woodlands of Oceania*

## Diet and Trophic Level:

- *It feeds upon worms, ants, and termites. It is a secondary consumer.*

## Size:

- *35-53 centimeters in length and less than 30 centimeters in height.*

## Summary:

- *Small but fearsome creatures known as the echidna. Uses their long claws, snout, and tongue to discover and eat prey. The spines on the echidna's back are used as protection.*

# Echidna

*(Tachyglossus aculeatus)*



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *The hairy frog has small lungs and the hairlike strands of skin help the frog breathe while mating.*

### Adaptation 2:

- *Hairy Frogs can break the cartilage connection in their toes to reveal a sharp bone spur to use against predators.*

### Adaptation 3:

- *Hairy Frogs are nocturnal, so they are active only at night.*

## Biome: Geographic Range & Habitat:

- *Mostly found in Central Africa near Cameroon and Congo.*

## Diet and Trophic Level:

- *Consume insects and arachnids, secondary consumers.*

## Size:

- *Male Hairy Frogs are normally 4-5 inches.*
- *Female Hairy Frogs are normally 3-4.5 inches.*

## Summary:

- *Also known as the Wolverine Frog since their bone spurs are similar to the Wolverine. They also are commonly cooked and consumed in Cameroon. They are carnivores who mainly feed off of insects.*

# Hairy Frog

(*Trichobatrachus robustus*)



Hops or Claws?

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## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Scansoriopterygidae are very well adapted for climbing*

### Adaptation 2:

- *Has both a skin membrane, like in bats, and feathers, like in birds*

### Adaptation 3:

- *Long and dense body feathers provide armor*

## Biome: Geographic Range & Habitat:

- *Hebei, China*
- *Lives in humid, temperate forest regions*

## Diet and Trophic Level:

- *Insects – secondary consumer*

## Size:

- *Around 16-25 cm long*
- *380 grams*

## Summary:

- *One of the only known dinosaurs with feathers and a membrane*

# Scansoriopterygidae (*Yi qi*)



Feathers or Membranes?



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Description*

### Adaptation 2:

- *Description*

### Adaptation 3:

- *Description*

## Biome: Geographic Range & Habitat:

- *Description*

## Diet and Trophic Level:

- *Description*

## Size:

- *Description*

## Summary:

- *Description*

# Lesser NZ Short-tailed Bat

*(Mystacina tuberculata)*

(ADD YOUR PICTURE HERE)

Run or Fly?

12

## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Description*

### Adaptation 2:

- *Description*

### Adaptation 3:

- *Description*

## Biome: Geographic Range & Habitat:

- *Description*

## Diet and Trophic Level:

- *Description*

## Size:

- *Description*

## Summary:

- *Description*

# Painted Redstart

*(S Name)*

*(ADD YOUR PICTURE HERE)*

Flush or Pursue?

## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Description*

### Adaptation 2:

- *Description*

### Adaptation 3:

- *Description*

## Biome: Geographic Range & Habitat:

- *These organisms are prevalent in deciduous forests from Eastern Canada to Midwestern US*

## Diet and Trophic Level:

- *Spotted Salamanders eat meal worms, maggots, earth worms, and crickets.*

## Size:

- *Spotted Salamanders are about 15-25 cm long*

## Summary:

- *It is the state amphibian of Ohio and South Carolina*

# Spotted Salamander

(*Ambystoma maculatum*)



## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Rhinopores which sense chemicals in the water.*

### Adaptation 2:

- *Can photosynthesize by retaining the chloroplasts in the algae they eat in a process known as "kleptoplasty"*

### Adaptation 3:

- *Leaf-like appendages, also known as serrata, increase surface area to maximize photosynthesis*

## Biome: Geographic Range & Habitat:

- *Sea waters near the coast of Japan, the Philippines, and Indonesia.*

## Diet and Trophic Level:

- *Algae, primary consumers (almost producers)*

## Size:

- *5 millimeters to 1 centimeter*

## Summary:

- *Leaf slugs, the absolute beasts, are small warriors. They're unique in their ability to photosynthesize as an animal and resemble cartoon sheep with their leafy serrata and beady little eyes.*

# Leaf Slug

(*Costasiella kuroshimae*)





## Three Key Adaptations for Tournament:

### Adaptation 1:

- *Description*

### Adaptation 2:

- *Description*

### Adaptation 3:

- *Description*

## Biome: Geographic Range & Habitat:

- *Description*

## Diet and Trophic Level:

- *Description*

## Size:

- *Description*

## Summary:

- *Description*

# Lichen

*(Ascomycete macrolichens)*

(ADD YOUR PICTURE HERE)