

## Supplemented Materials

How to classify your dragons: On teaching tree-reading with the use of fantastical creatures

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The material presented in this file is linked to the article published in 'The American Biology Teacher'.

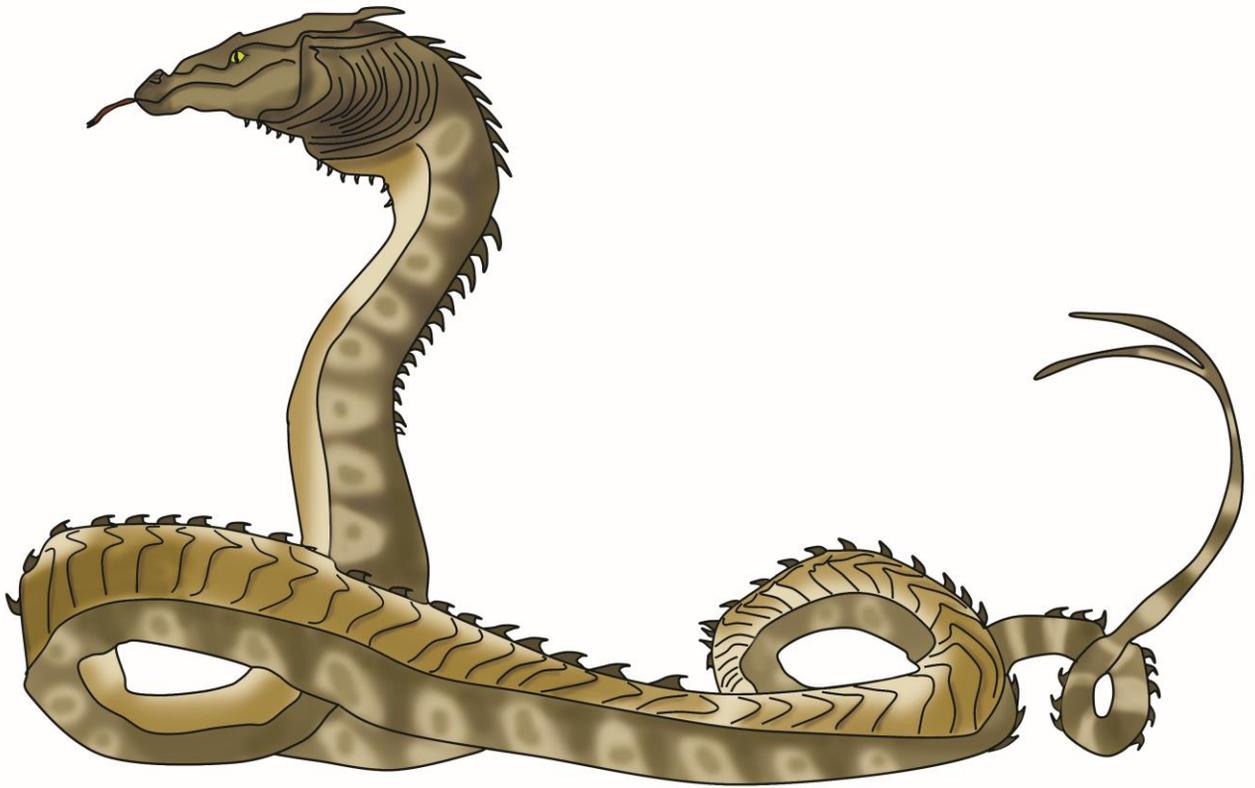
Material A consists of 11 dragon sheets, each showing the name, a picture and the characteristic of a fictitious dragon species. Material B encompasses one simplified genetic code sequence for each dragon species, along with the name and picture for each species. Finally, a phylogenetic tree representing based on the genetic data of the dragon species is appended.

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# American Banyan Wurm

*Ouroboroides americanus*



American Banyan Wyrms are territorial creatures, living in marshes and swamps, typically lying in wait to catch large prey like crocodiles, boars or deer. They can spray noxious fumes at their prey to daze it, allowing the wurm to coil and strangle its prey.

Their body is covered with thick leathery skin and big plates of scale, rendering it almost immune to attacks of potential predators.

## Characteristics:

Legs: none

Size:  $\approx$  50 ft / 15 m

Wings: none

Breath Attack: none

Wingtype: none

Intelligence: Low

Wingspan: none

Others: Noxious Fumes

# American Wyvern

*Wyvernus morcaudus*



Wyverns are seen as the most ferocious hunters of all dragons. With their long legs, spiny tail and the pair of wings, they can run with astounding speed and if needed, fly for short distances, even though they are not able to swiftly change their direction of movement.

They take down their prey using poisonous stingers at the end of their tail, combined with their razor-sharp teeth they are fearsome hunters and can take down prey much larger than themselves.

## Characteristics:

Legs: 2

Size:  $\approx$  50 ft / 15 m

Wings: 2

Breath Attack: none

Wingtype: Batlike

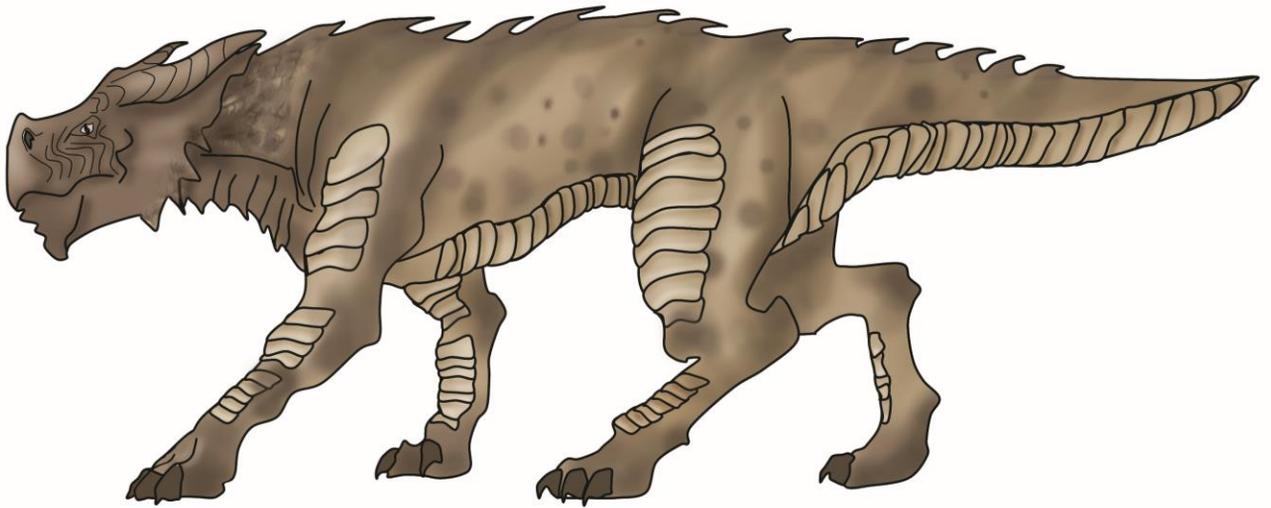
Intelligence: Mediocre

Wingspan:  $\approx$  25 ft / 7.5 m

Other: Poisonous Stinger

## Common (European) Drake

*Drakus plebeius*



Drakes are flightless four-legged dragons that live and hunt in packs. This, their powerful jaws and sharp teeth as well as their swift and persistent running allows them to hunt down prey much larger than themselves. Hunting in tundra or steppes, they are known for coursing their prey to exhaustion, using their endurance to their advantage.

The Drakes body is mostly covered in a thick, leathery skin, but the front of legs, the throat and their dorsal side is covered in thick plates of scales.

### Characteristics:

Legs: 4

Size:  $\approx$  8 ft / 2.5 m

Wings: none

Breath Attack: none

Wingtype: none

Intelligence: Low

Wingspan: none

# European Hydra

*Hydrus rhonus*



The European Hydra is probably best known for its role in Greek mythology, even though the myth that severing a head leads to more heads sprouting rapidly is far exaggerated. Born with two heads, the hydra grows additional heads over the years and can regrow severed heads, even though this takes a long time.

Hunting in deep, murky swamps, hydras do not rely on their poor eyesight but use their ability to detect even small movements in the water many small whiskers like tendrils.

## Characteristics:

Legs: 4

Size:  $\approx$  30 ft / 9 m

Wings: none

Breath Attack: none

Wingtype: none

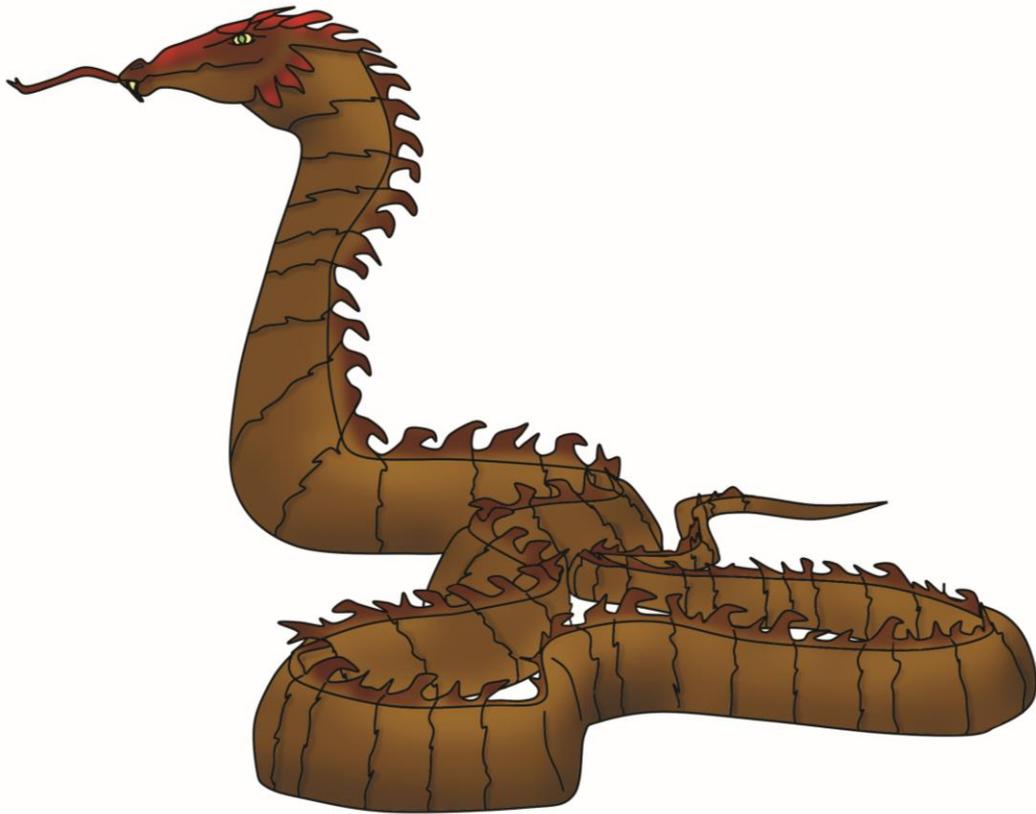
Intelligence: Mediocre

Wingspan: none

Others: Multiple Heads

# European Lindwurm

*Ouroboroides pedeviperus*



Among dragons, the Lindwurm is special, as it lacks both wings and legs, strongly resembling a snake. Typically seen as being similar to old ancestors of all modern dragons, they can reach a length of 25 ft / 8 m.

Lindwurms can open their maws extensively, allowing them to swallow their prey whole. Hunting in swampy terrain, they can move surprisingly. Despite emitting toxic fumes, their sense of smell is excellent, and they use it to detect prey.

## Characteristics:

Legs: none

Size:  $\approx$  25 ft / 8 m

Wings: none

Breath Attack: none

Wingtype: none

Intelligence: Low

Wingspan: none

Others: Noxious Fumes

## Garden Amphiptere

*Amphipterus viperahortus*



The legless amphipteres, basically snakes with leathery wings, can fly for surprisingly long distances, typically gliding most of the time. They feed on small flying animals like insects, bats or birds but have sometimes been seen hunting small rodents.

Living in trees and forests, amphipteres can be seen gliding among the tree crowns, their slender body allowing them to swiftly avoid the trees. While hunting, they can wrap around tree branches to lurk for unsuspecting prey.

### Characteristics:

Legs: none

Size:  $\approx$  1 ft / 30 m

Wings: 2

Breath Attack: none

Wingtype: leathery

Intelligence: Low

Wingspan:  $\approx$  1 ft / 30 cm

# Great Icelandic White Dragon

*Dracorexus reykjavikus*



Great Icelandic White Dragons differ from the typical depiction of dragons by their adaptation to the cold climate they inhabit. The color of their body changes throughout the year, from a blueish whit in winter to a speckled brown in summer. Due to the low availability of prey in their habitat they roam for long distances and fiercely defend their territories against intruders. They are able to unleash a devastating, freezing cold breath used in hunting, defense or in territorial struggles.

## Characteristics:

Legs: 4

Size:  $\approx$  75 ft / 23 m

Wings: 2

Breath Attack: Frost Breath

Wingtype: Batlike

Intelligence: High

Wingspan:  $\approx$  65 ft / 20 m

# Great Welch Red Dragon

*Dracorexus idraigoxus*



Of the many species of dragons, probably the most famous one is the Great Welch Red Dragon, famously depicted on the Welsh flag. Its depiction in myths range from terrifying beast to wise counsellor, pointing to two very important traits: the devastating fire breath and the high intelligence of the creature.

The appearance and abilities hold true to most myths, allowing these creatures to roam freely across the countryside without need for fear of predators.

## Characteristics:

Legs: 4

Size:  $\approx$  100 ft / 31 m

Wings: 2

Breath Attack: Fire Breath

Wingtype: Batlike

Intelligence: High

Wingspan:  $\approx$  92 ft / 28 m

## Jabberwocky / Fairy Dragon

*Dracomexus pennifolium*



Despite many misconceptions, the Jabberwocky is not an insect but belongs to the dragons. Its forearms developed into a second set of wings allowing it to fly in way similar to insects or hummingbirds, and even hover midair. Like most other dragons, they build nests in rocky crevices or trees to lay their eggs. As the eggs are regularly preyed upon by birds and mammals, they are known to build multiple nests and lay up to a hundred eggs per year.

### Characteristics:

Legs: 2

Size:  $\approx$  11 in / 28 cm

Wings: 4

Breath Attack:

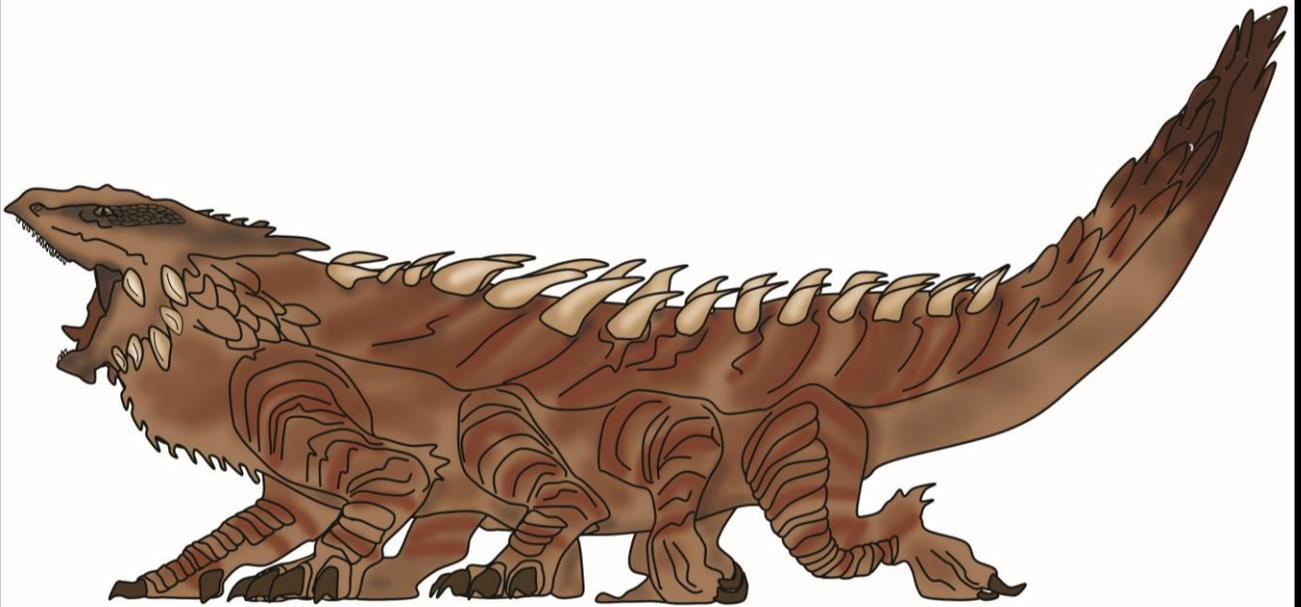
Wingtype: Insectlike

Intelligence: High

Wingspan:  $\approx$  10 in / 25 cm

# Sonora Basilisk

*Lapisoculidus incustambulus*



Basilisks are flightless, multi-limbed dragons, reaching a size of about 12 ft or 4 m. Like the north American horned toad, it can spout a neurotoxin from a gland near its eyes, paralyzing its prey. This ability led to the myth of the basilisks petrifying gaze. The same neurotoxin is applied by poisonous fangs, making the basilisk a highly successful predator, besides its inability to run fast. The Basilisk uses its eight legs foremost for burrowing underground lairs and ambush hiding places.

## Characteristics:

Legs: 8

Size:  $\approx$  12 ft / 4 m

Wings: none

Breath Attack: none

Wingtype: none

Intelligence: Low

Wingspan: none

Other: Neurotoxin Glands

## South American Coatyl

*Quetzalcoatylus aztecus*



The coatyl is a feathered, winged snakelike dragon nesting in cracks and crevices of ancient Aztec and Inca ruins. These cultures revered coatyles as godlike creatures, linked to the gods Quetzalcoatl, Kukulcan and Gukumatz.

The species shows a strong sexual dimorphism, while female coatyles show a brownish plumage, males are colored brightly. The males' head shows long plumes and a long fleshy wattle used to attract females' attention

### Characteristics:

Legs: none

Size:  $\approx$  8 ft / 250 cm

Wings: 2

Breath Attack: none

Wingtype: Birdlike

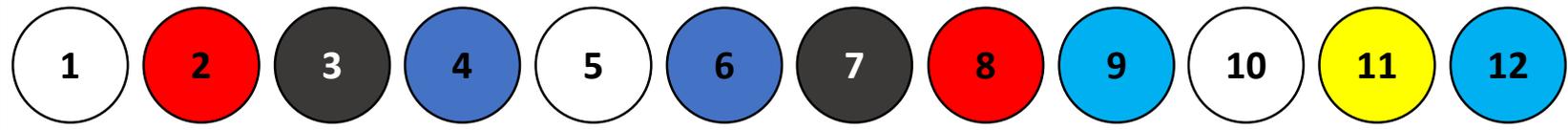
Intelligence: Low

Wingspan:  $\approx$  6 ft / 180 cm

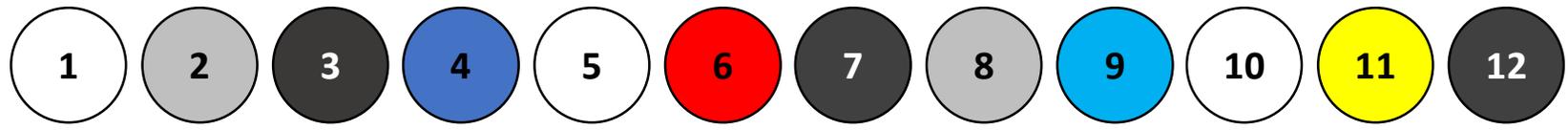
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Ouroboroidus americanus	

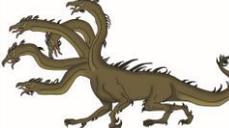


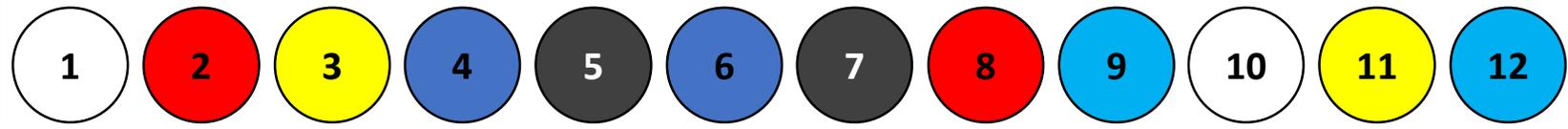
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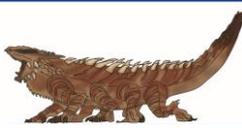
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Common European Drake		1	2	3	4	5	6	7	8	9	10	11	12
Dracus plebeius													

Great Welsh Red Dragon		1	2	3	4	5	6	7	8	9	10	11	12
Dracorex idraigoxus													

South American Coatl			2	3	4	5	6	7	8	9	10	11	12
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