

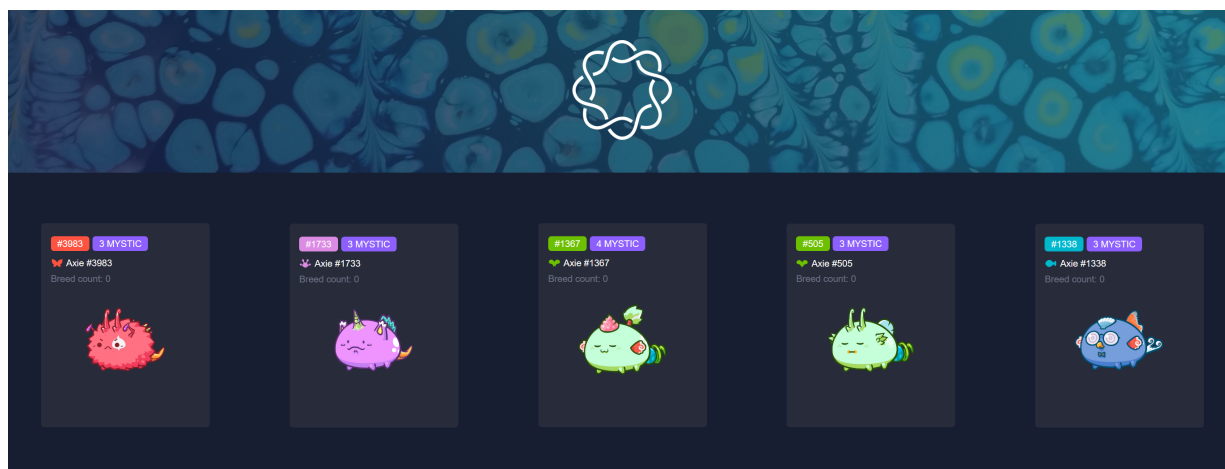
Delphi Digital



Last night our team purchased 5 Axies for 473.5 ETH (worth ~\$159k at the time).
Here's why we're so excited about this investment.

Why We Spent \$159k On Digital Battle Pets

Medio Demarco · Friday, September 25th, 2020



Disclosure: Delphi Ventures has invested in Axie Infinity's upcoming governance token (which we played a big role in designing).

Last night our team purchased 5 Axies for 473.5 ETH worth ~\$159k at that time. Recent market moves may have pushed some to the sidelines but we saw the recent turmoil as an opportunity. An opportunity to spend a lot of money on digital battle pets. While this may appear to be a confusing impulse buy at first glance, spurred on by the recent hype around NFTs, it's actually a purchase we've been patiently waiting to make ever since we started Delphi. Few know this, but our very first job as a company was to research the crypto gaming sector for a high profile fund. Our mandate was simple - play the games, see if they're any fun and scout out opportunities in the sector. One of the projects we came across during our research

was **Axie Infinity**, a game that lets you collect, battle and breed digital pets called Axies. I made 11 test teams, played 47 matches and lost most of them. Even though my poor battle record left me frustrated, I came across a unique opportunity that has been in the back of my head ever since - Mystic Axies. I'll use an excerpt from our very first research report, dated September 7, 2018, to summarize.

Axie Infinity

DELPHI DIGITAL

The ERC-721 AXIE Tokens are the primary digital asset related to the game. While each AXIE is unique, the value it could potentially have will be closely tied to the type of Axie it represents. Since Axies can breed forever this results in an inflationary supply of total AXIEs. However, certain types of Axies do have a finite supply, such as Origin Axies which are similar to 'Gen 0' CryptoKitties. Origin Axies could become rare over time (they aren't currently) as the game proliferates, but there is an even rarer sub-segment referred to as Mystic Axies.

All Mystics are Origins, but not all Origins are Mystics. According to this [medium post](#) from the developer, "if all Axie Origin Coins are redeemed and the hard cap is hit, there should be approximately 1453 Mystic Axies in the game". In comparison, CryptoKitties has almost 1 million total kitties, of which there is a potential max total of 50,000 Gen 0 kitties. 1453 Mystic Axies is far more scarce.



When "Origin Axies" are rolled, each of the 6 body parts has a 1/18 chance of having a mystic part. This means that each "Origin Axie" has ~ 33% chance of possessing a Mystic part. Axies can possess more than one Mystic as well and these double, triple, and quad mystics are even rarer!

Supply of Mystics and chances of multiples

Single Mystic: Supply = 1325 Chance $\rightarrow ((1/18) * 6) = 33.33\%$

Double Mystic: Supply = 205 Chance $\rightarrow (1/18)^2 * 15 = 0.046 = 4.6\%$

Triple Mystic: Supply = 17 Chance $\rightarrow (1/18)^3 * 20 = 0.0034 = 0.34\%$

Quad Mystic: Supply = 3 Chance $\rightarrow (1/18)^4 * 15 = 0.00014 = 0.014\%$

Penta Mystic: Supply = 0 Chance $\rightarrow (1/18)^5 * 6 = \text{almost impossible}$

Hexa Mystic: Supply = 0 Chance $\rightarrow (1/18)^6 * 1 = \text{almost impossible}$

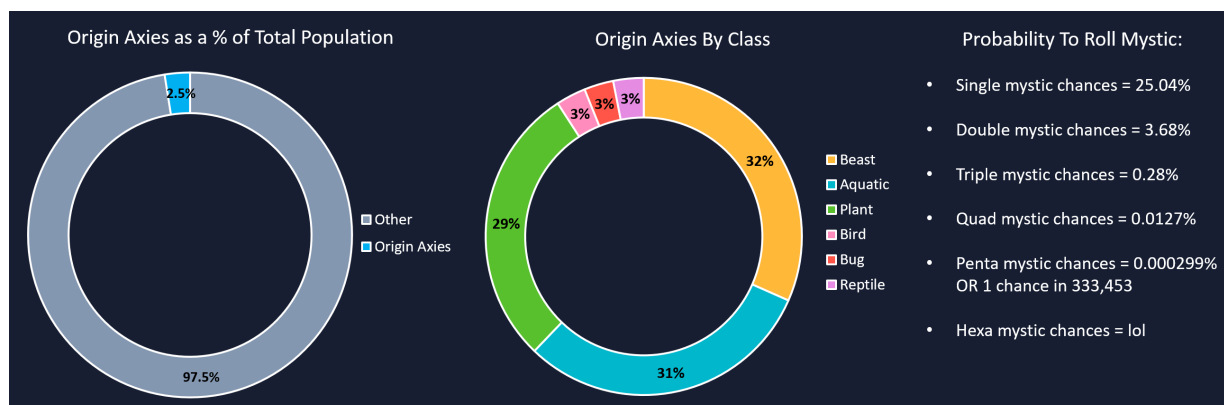
Aside from being rare, and looking great Mystic Parts are the only body parts that can be upgraded to "Legendary Parts". According to the team these parts will have the most powerful battle moves in the game. This causes Mystics to have significant utility, and should further lead to price appreciation over time if the game gains traction.

Mystic Axies were rare, finite NFTs with clear utility for battling. As a kid who grew up collecting and playing Pokémon, the thought of establishing a monopoly over the rarest Mystics piqued my interest. I wanted to own the next Mewtwo, and Articuno, and Moltres, and Zapdos. Many times over the past two years, our team discussed pulling the trigger on a Mystic collection that we could call our own but the timing never felt right, until now. With the upcoming launch of Axie Infinity's new governance token, which we helped design, and momentum for NFTs building, we

realized that we needed to act before these assets were out of our reach for good. Our goal was to assemble a top Axie collection comprised of the rarest Mystics in the game, which we could battle and hold for years to come. Questions that kept coming up after our purchase were - "Why these Axies? How do you know which ones are valuable?". These questions distill how challenging it is to evaluate the NFT market. Because each is unique, nobody knows what to look for. In this post, we'll explain our rationale behind the Axies we purchased to shed some light on how to approach this space.

There are two primary factors we focused on - 1) rarity and 2) utility. I'll start by explaining how we analyzed Axie rarity before handing this off to my co-author Coalie Bee (aka SithLord for you Discord members) who will dive into the secret sauce of game mechanics and the utility of our roster. Let's talk data. The Axie population can be divided into many sub-categories, each with varying levels of scarcity. We'll start from the top and work our way down. At a high level, there are Origin Axies and then there is everything else. In contrast to the general Axie population, which has an inflationary supply, [Origin Axies](#) have a finite supply. They were either purchased during the pre-sale or generated by redeeming Axie Origin Coins ("AOC") in the early days. Since there are 1,375 AOC that remain unused, there are 275 Origins that could still be born today, however, there is a hard cap of 4,088 Origins in total. It will be interesting to see what those AOC tokens are valued at moving forward, and if they continue to be saved as a collectible that doubles as a potential "lottery ticket". There are also 3 unique [Amagogenesis](#) Axies ([Durendal](#), [Almace](#), [Hauteclere](#)) which have a finite supply and are great for battling.

When we did our first research report on Axie 2 years ago, Origins made up 43% of the total population at that time. The game has come a long way since then, with Origins now making up only 2.5% of the total population. We can then divide the Origin population by class - Beast, Aquatic, Plant, Bird, Bug, Reptile. As you can see in the center pie chart below, some classes are much more common than others. With this in mind, we further focused our attention on the Bird, Bug, and Reptile classes given that each only makes up 3% of the Origin population. Now we get to the fun part - Mystics. When Origin Axies were created, there was a chance that they would be born with Mystic body parts. Each Axie has 6 body parts, thus each had 6 opportunities to be born with at least one mystic part (aka Single Mystic or 1x Mystic). Just as there existed a possibility to be born with 1 Mystic body part, there was also a possibility that they would be born with multiple Mystic body parts. However, as seen below, the probability of having an Origin Axie with multiple Mystic body parts becomes increasingly less likely to occur. It becomes so unlikely in fact, that no 5x or 6x Mystics were ever born. To summarize, Origins are rare, especially if they're a bird, bug, or reptile with multiple mystic body parts.



Now that you have this base understanding, let's dive into the current population distribution across these categories. As seen in the table below, out of a total population of 151,309 Axies, there are, and will only ever be, three 4x Mystics and nineteen 3x Mystics, unless someone gets extremely lucky with the remaining unused AOC tokens. Plant is the only class that has 4x Mystics, which makes sense given how common that class is overall. Remember how we said Birds, Bugs and Reptiles were already rare? Bug and Reptile only have one 3x Mystic each, with Bird having none at all. The purple highlighted cells in the table below show the Mystics we just purchased. **Delphi now holds the only Bug and Reptile 3x Mystics, as well as 1/3 of all 4x Mystics in existence.** As a collection of ultra scarce Axies overall, only Coco_Bear, an Axie OG and counterparty to one batch of our purchases last night, owns a comparable level of rare assets. We can also evaluate scarcity at the body part level as well.

Class	Axie Count	Origin	1x Mystic	2x Mystic	3x Mystic	4x Mystic	5x Mystic	6x Mystic
Beast	33,947	1,202	365	73	5	-	-	-
Aquatic	35,188	1,161	382	63	6	-	-	-
Plant	42,220	1,091	305	60	6	3	-	-
Bird	14,124	116	22	3	-	-	-	-
Bug	10,513	114	33	3	1	-	-	-
Reptile	9,374	118	34	11	1	-	-	-
Mech	2,015	-	-	-	-	-	-	-
Dusk	2,465	-	-	-	-	-	-	-
Dawn	1,463	-	-	-	-	-	-	-
Total	151,309	3,802	1,141	213	19	3	-	-


Owners	3x Mystic	%
Coco_Bear	6	32%
delphi_digital	4	21%
DANNY	1	5%
freak	1	5%
onedayplay	1	5%
Good night	1	5%
Pickle	1	5%
BinaryAssets	1	5%
Aur	1	5%
Unknown	1	5%
Unknown	1	5%
Total	19	100%


Owners	4x Mystic	%
delphi_digital	1	33%
SmallBrownDoge	1	33%
OhhShiny	1	33%
Total	3	100%


Below, we've listed out all of the Mystic body parts an Origin Axie could have been born with. Pay particular attention to the "count" column because that reflects how many times an Axie was born with that specific body part. The rarity rank column summarizes this metric further. Unsurprisingly, the rarest body parts are from the Bug, Reptile and Bird classes. In the table to the bottom right, we show our new squad and the Mystic body parts that they're comprised of. These Mystic body parts imbue their Axies with unique abilities and will one day evolve into "Legendary" body parts,


which will be the most powerful in the game.


Name	Source	Type	Class	Count	Rarity Rank	% of Total Mystic Parts
Vector	Origin	ears	bug	22	1	1.35%
Feasting Mosquito	Origin	mouth	bug	23	2	1.41%
Rugged Sail	Origin	back	reptile	24	3	1.47%
Snowy Swallow	Origin	tail	bird	24	3	1.47%
Fire Ant	Origin	tail	bug	27	4	1.65%
Crimson Gecko	Origin	eyes	reptile	27	4	1.65%
Escaped Gecko	Origin	tail	reptile	27	4	1.65%
Venom Bite	Origin	mouth	reptile	28	5	1.71%
Starry Balloon	Origin	back	bird	30	6	1.84%
Mr. Doubletalk	Origin	mouth	bird	34	7	2.08%
Sky Mavis	Origin	eyes	bird	34	7	2.08%
Laggingggggg	Origin	horn	bug	35	8	2.14%
Broken Bookworm	Origin	eyes	bug	37	9	2.26%
Heart Cheek	Origin	ears	bird	38	10	2.33%
Golden Shell	Origin	horn	bird	40	11	2.45%
Deadly Pogona	Origin	ears	reptile	40	11	2.45%
Starry Shell	Origin	back	bug	41	12	2.51%
Pinku Unko	Origin	horn	reptile	41	12	2.51%
Pink Turnip	Origin	back	plant	45	13	2.75%
The Last Leaf	Origin	ears	plant	47	14	2.88%
Humorless	Origin	mouth	plant	51	15	3.12%
Skull Cracker	Origin	mouth	beast	51	15	3.12%
Golden Bamboo Shoo	Origin	horn	plant	54	16	3.30%
Lam Handsome	Origin	mouth	aquatic	55	17	3.37%
Insomnia	Origin	eyes	aquatic	57	18	3.49%
Hasagi	Origin	back	beast	58	19	3.55%
Candy Babylon	Origin	horn	aquatic	59	20	3.61%
Sakura Cottontail	Origin	tail	beast	59	20	3.61%
Red Nimo	Origin	ears	aquatic	60	21	3.67%
Calico Zeal	Origin	eyes	beast	61	22	3.73%
Pointy Nyan	Origin	ears	beast	62	23	3.79%
Dreamy Papi	Origin	eyes	plant	63	24	3.86%
Kuro Koi	Origin	tail	aquatic	65	25	3.98%
Namek Carrot	Origin	tail	plant	67	26	4.10%
Winter Branch	Origin	horn	beast	70	27	4.28%
Crystal Hermit	Origin	back	aquatic	78	28	4.77%
1,634						

Alien	Rarity Rank	Mystic Part	Count	% of Total Mystic Parts
	1	Vector	22	1.35%
	8	Laggingggggg	35	2.14%
	22	Calico Zeal	61	3.73%

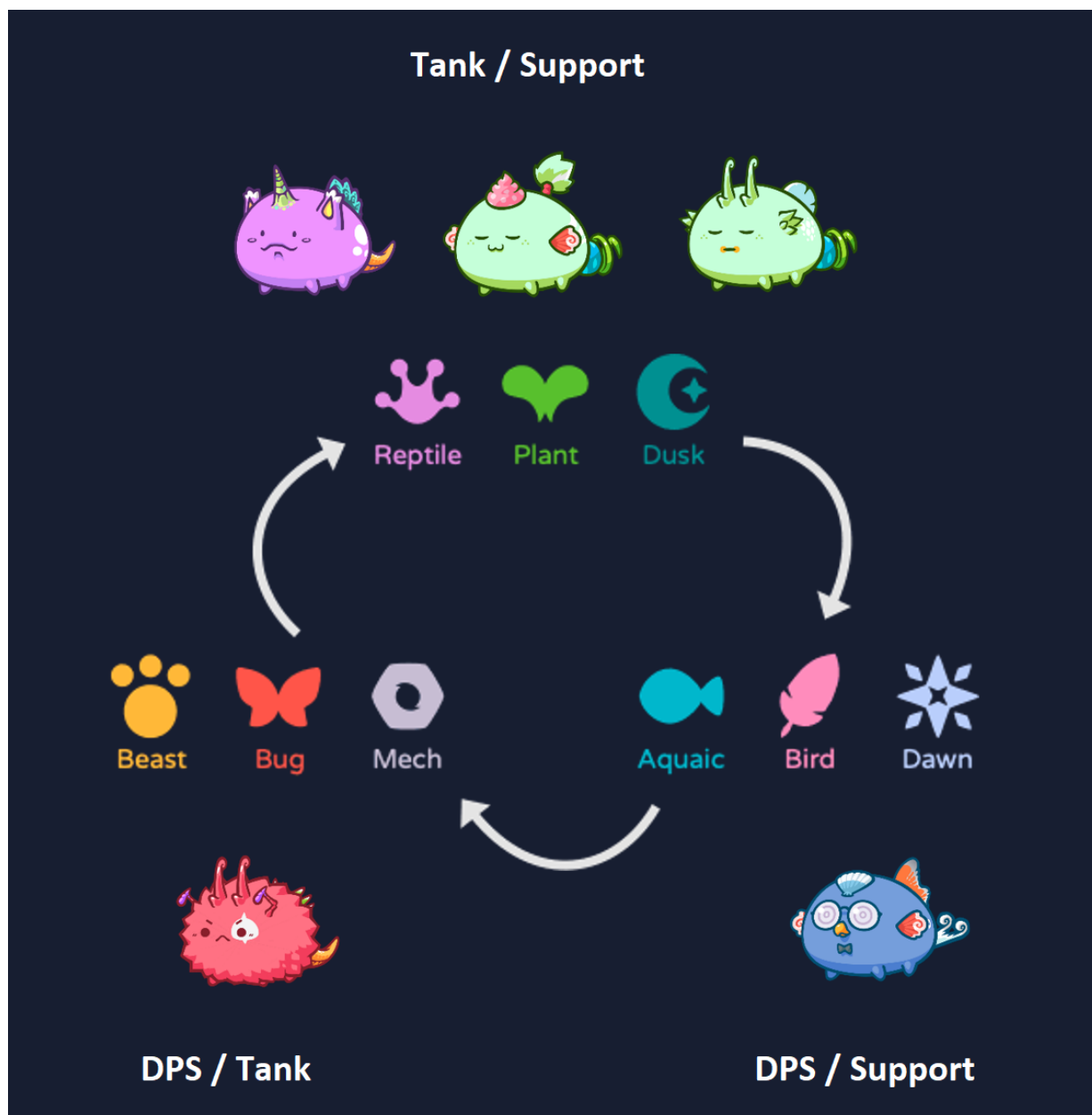
Venom	Rarity Rank	Mystic Part	Count	% of Total Mystic Parts
	3	Rugged Sail	24	1.47%
	5	Venom Bite	28	1.71%
	23	Pointy Nyan	62	3.79%

Rare Orphan	Rarity Rank	Mystic Part	Count	% of Total Mystic Parts
	12	Pinku Unko	41	2.51%
	19	Hasagi	58	3.55%
	21	Red Nimo	60	3.67%
	26	Namek Carrot	67	4.10%










Flash	Rarity Rank	Mystic Part	Count	% of Total Mystic Parts
	3	Snowy Swallow	24	1.47%
	7	Mr. Doubletalk	34	2.08%
	21	Red Nimo	60	3.67%







505	Rarity Rank	Mystic Part	Count	% of Total Mystic Parts
	8	Laggingggggg	35	2.14%
	15	Humorless	51	3.12%
	26	Namek Carrot	67	4.10%

As we mentioned earlier, rarity isn't the only factor at play here. We also care about utility, especially since we can use our Axie team to compete in tournaments and generate yield. If our goal is to battle these Axies as one cohesive unit, then we needed to make sure each could play a complimentary role to one another. This is where I'll tag in my co-author SithLord who will provide added color around battle mechanics.



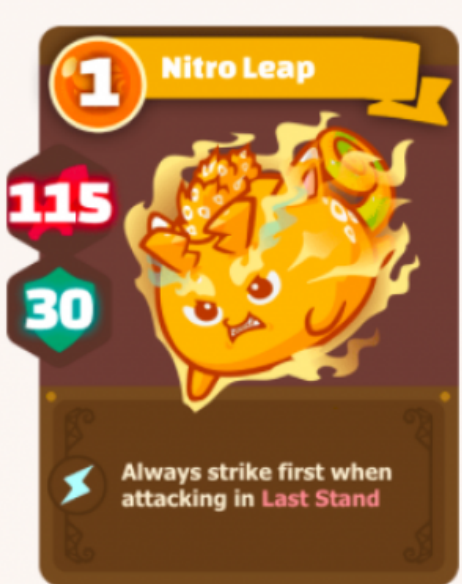
Battling Axies revolves around a few main mechanics, these include an Axie's stats, abilities and 2 primary resources; energy and card draw. An Axie's base stats are dictated by its class, with each having a specialization. There are 4 stats that contribute to your Axies overall strength in different ways, HP, Speed, Skill and Morale. HP decides what your Axies max health is, helping it survive for longer and is the preferred stat for tanks. Speed decides which Axie acts first in the battle queue, with high priority being favorable in most cases, although there are some parts/cards which synergize well with low speed Axies. This is desirable for both support and DPS Axies. Skill gives bonus damage when an Axie plays multiple cards in the same round. Morale gives an added chance to inflict a critical hit, dealing 100% bonus damage, and to enter "last stand", which gives your Axie a chance to act again after it reaches 0 HP. This is a desirable stat for DPS Axies. An Axie's base stats are decided first by its class, and then its combination of 6 parts, each contributing +3 of a primary stat and +1 of a secondary stat depending on their type as seen here:

Class	HP	Speed	Skill	Morale
 Aquatic	39	39	35	27
 Beast	31	35	31	43
 Bird	27	43	35	35
 Bug	35	31	35	39
 Plant	43	31	31	35
 Reptile	39	35	31	35
 Dawn	35	35	39	31
 Dusk	35	35	39	31
 Mech	31	39	43	27

Class	HP	Speed	Skill	Morale
 Aquatic	+1	+3		
 Beast		+1		+3
 Bird		+3		+1
 Bug	+1			+3
 Plant	+3			+1
 Reptile	+3	+1		

Source: [Axie.zone/stats](https://axie.zone/stats)

Axie's come with 4 active parts (Horns, Mouth, Back, Tail) and 2 passive parts (Eyes, Ears). Each active part comes with a corresponding card which is added to your battle deck, which look like this:



1 Nitro Leap

115

30

Always strike first when attacking in **Last Stand**

Ability Card

1 **Energy:** Each card has an energy cost. Each player starts with **3 energy** and receives **2 energy** each turn.

115 **Attack:** This is the amount of damage a card does when used to attack.

30 **Shield:** This is the amount of damage reduction applied when an Axie defends using this card.

Effect: Some card has an effect that distinguishes it from other abilities.

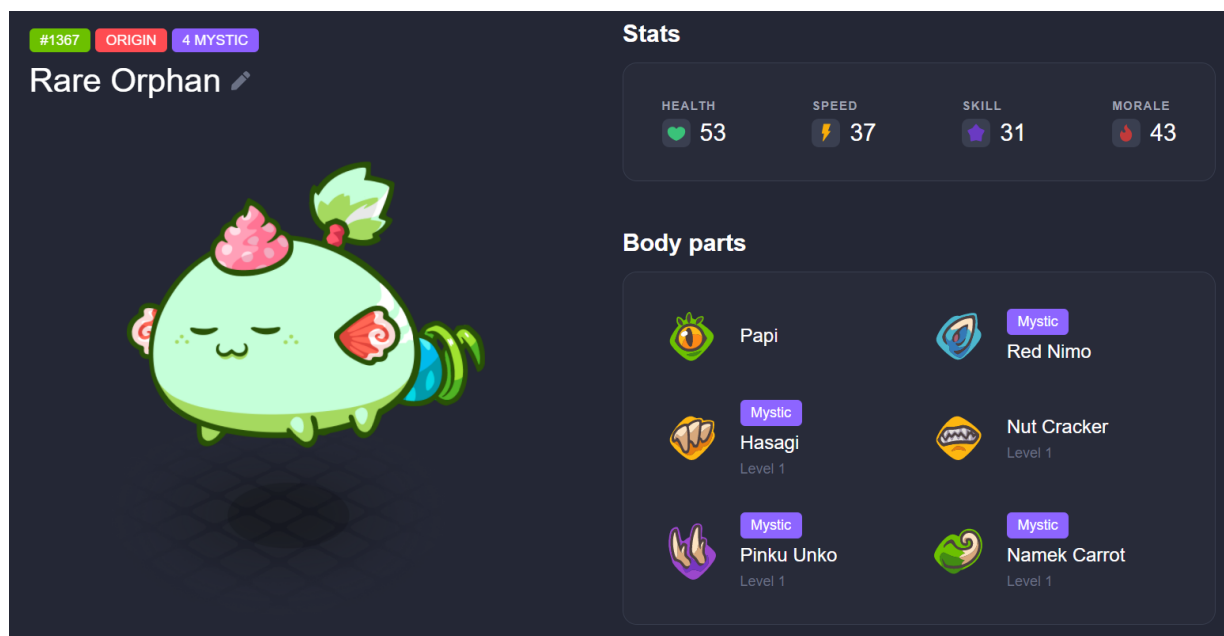
As for the resources, it's relatively simple. One requires energy to play cards, and 'card draw' to ensure they have cards to play. Balancing energy generation and card draw of your team is key to success and usually having a little too much of either is beneficial as enemies can use their cards to disrupt your resource economy by stealing your energy, making some cards unplayable and other possibilities. You start

the game with 6 cards in hand and 3 energy. Each player gains 3 cards and 2 energy per turn by default, meaning you definitely want some reliable energy generation or zero cost cards in your deck, or you risk running out of resources fast. The attack and shield attributes on cards are fairly self explanatory as well, in this case, an Axie which uses “Nitro Leap” would shield itself for 30 at the start of its turn, preventing damage from incoming attacks and attacking the front Axie on the enemy team for 115 damage. Tank Axies are more concerned about shield and defensive/healing effects, support Axies are mostly concerned about effects in general, and DPS Axies are more concerned about the Attack numbers and effects which enhance them.

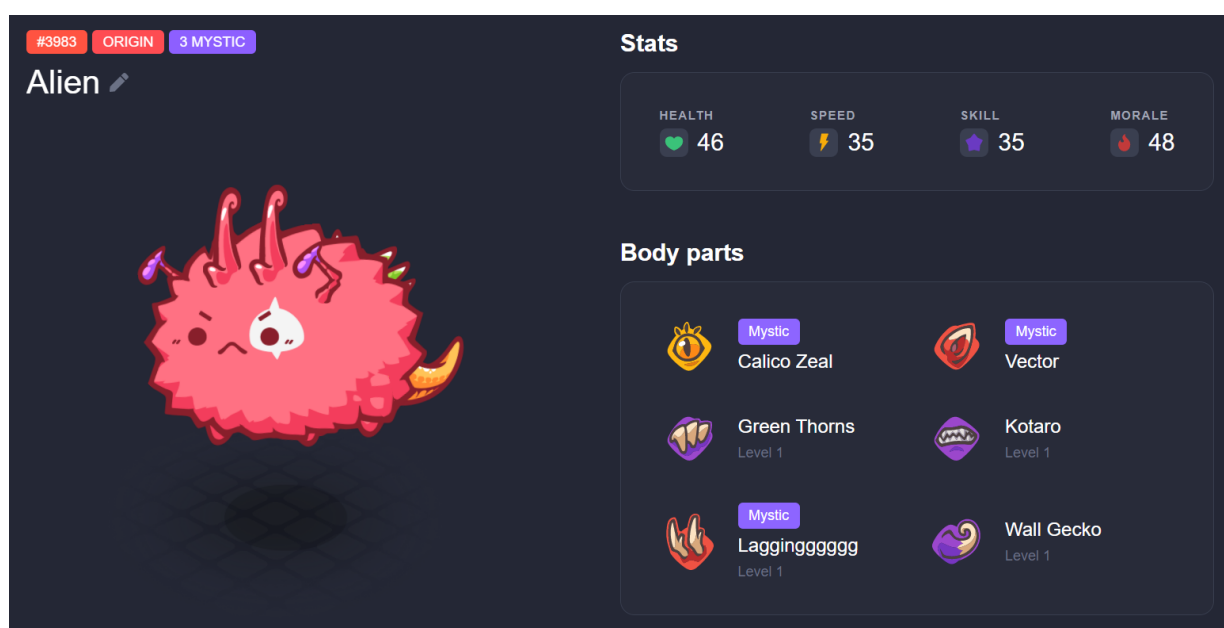
The effects are where things get more complex and where most of the synergies between cards arise. They are the spice of life in the Axie battling world. In this case, “Always strike first when in Last stand” allows this Axie to bypass any speed requirements when in Last Stand and using this card to move itself to the front of the battle queue, a fairly useful effect for a slow DPS Axie with high morale, who has a high chance to enter last stand and be at the back of the action queue. Finding a combination of 3 Axies, with parts and effects that all compliment each other well, while maintaining a good resource economy, dishing out a lot of damage and ensuring your team survives is the main goal of Axie breeding and battling systems. There is no singular path to victory and a variety of strategies can be used to achieve glory in the Arena.

In analyzing the potential of Mystic Axies it’s important to keep in mind that parts and their effects will change as they evolve. While the team will try and keep synergies which exist at level 1 intact for legendary parts, there is no guarantee. Also worth noting that there may be 8 or more possible legendary parts corresponding to each mystic part, as there are branching paths at each evolution level, where the player chooses between 2 or more parts with varying effects. This means 2 for rare, 4 for epic and 8 choices for legendary parts. This may further drive mystic part scarcity and uniqueness, although it is not confirmed. It’s also important to mention that the battle system and game is still in Alpha and is subject to tweaks. We expect it to change a lot in the coming months/years, although Mystics are expected to remain on top of the food chain.

With only 3 Quad Mystics in existence, these were an obvious target. We set our sights on #1367 as it was the most reasonably priced and is the only quad mystic with 3 active parts. Eyes and ears represent passive parts, which currently have no utility in game, but will in the future, though we expect the trend will continue that active mystic parts are more sought after than passives. The main drawback of this Axie is that it’s got a single nutcracker part, which requires other nutcracker parts in order to maximize its utility in battles and generally lacks great synergy between its mystic parts as well. There is likely a winning combination of evolutions here when you consider all of the branching paths. The pros here far outweigh the cons though and we decided to make it a cornerstone of our collection.

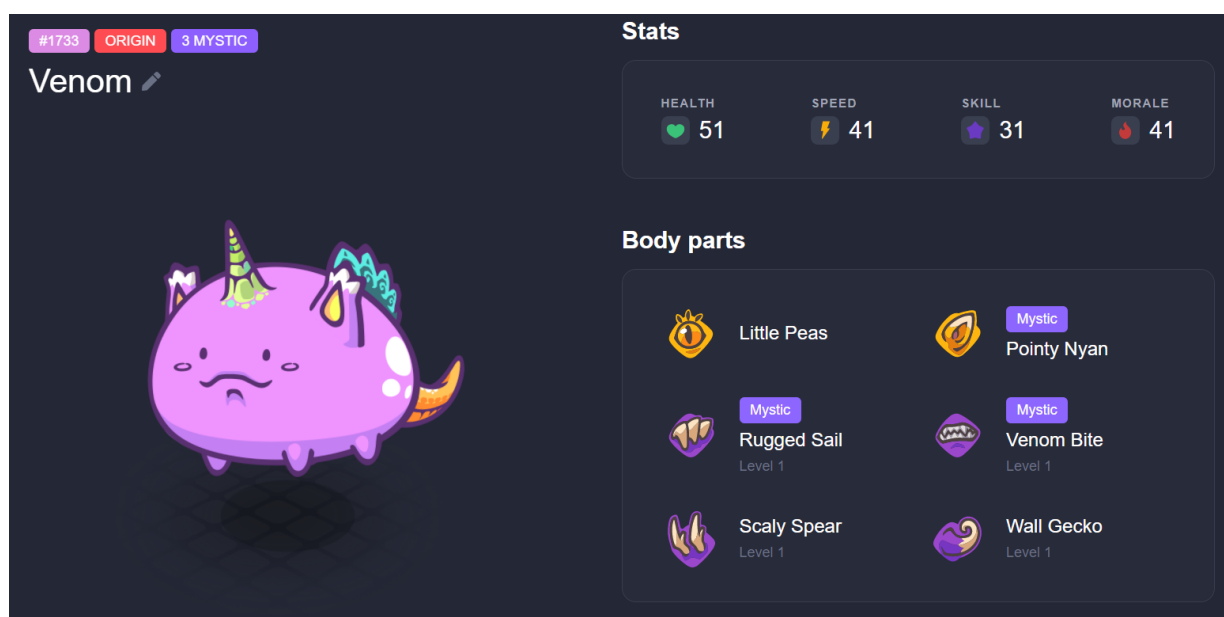


Next on the menu were Axies #1733 and #3983. These constitute the only tier 2 class triple mystic Axies in the game, and owning both was a super appealing proposition. There is an argument to be made that these are as rare, or even rarer than the quad mystic above. #3983 has the most rare of all mystic parts, Vector, the Fluffy body type which is exceedingly rare on mystic Axies and a great aesthetic in general, maintaining the “Alien” look of its namesake. It lacks a plant part to synergize with Green Thorns but this may be remedied at higher evolution levels. This Axie’s low speed also works in its favor as the Kotaro part gives you energy when the target is slower than the attacking Axie. It’s a very low resource requirement Axie, as it has 2 cards which cost zero energy and 1 energy generating card. This allows you to be extra greedy with the rest of your team’s energy demands. Considering the rest of its stats are relatively high, this is an all around winner.



Complimenting this we just had to have #1733. Similar to Alien, not only is this one of only 2 triple mystics in its class tier, but 2 of its parts are among the rarest of all mystic parts, Rugged Sail (#3), Venom Bite (#5) and to a lesser degree, Laggingggggg

(#8) again. All of these are rarer than any of the parts on our beloved quad mystic, which makes a solid case that these Axies are actually more valuable. Being only a set of 2, rather than the 3 quads, and having combinations of the rarest parts in the game. Best suited to a team specialized in bypassing the enemies frontline tanks, Venom bite may become one of the “cheesiest” parts in the game. With the right team being able to one shot enemy backliners who have relatively low defense. While the part is currently lackluster at a meager 20 attack, we predict at legendary level, this will pack quite the punch. Having scaly spear chain with other axie’s “lunge” attacks, giving bonus damage of 20%, a chain of successive lunges should be enough to rattle even the strongest of frontlines. Pair this with the card draw of Rugged Sails legendary parts and the high attack and defense of Wall Gecko, this might just be one of the most versatile Axies in the entire game.




Possibly the best battler of the bunch is Axie #1338, Flash. It's difficult to find any drawbacks to this Axie, with its great damage potential and one of the best support parts in the game in, Mr. Doubletalk, which may evolve into an effect like an AoE (Area of Effect) sleep ability. It's quite simply a savage in the Arena. Able to make full use of Snowy Swallow, which requires high speed to optimize, its combination of Bird and Aqua parts contribute to this beautifully. It deals 20% bonus damage on top of an already impressive 110, if the target is slower than this Axie. Snowy Swallow is also one of the rarest mystic parts coming in tied at rank 3 with Rugged Sail and Mr Doubletalk coming in rank 7. Goldfish and Clamshell are high DPS cards which provide buffs to this Axies Speed and Attack respectively, adding to this guys already impressive stat lines and damage cards. It's hard to imagine an Axie future where this guy doesn't evolve into one of the best battlers in the game and take home some trophies.

#1338

ORIGIN

3 MYSTIC

Flash



Stats

HEALTH	SPEED	SKILL	MORALE
43	54	35	32

Body parts

Bookworm	<div>Mystic</div> Red Nimo
Goldfish Level 1	<div>Mystic</div> Mr. Doubletalk Level 1
Clamshell Level 1	<div>Mystic</div> Snowy Swallow Level 1


Last up, we have the so far unnamed Axie #505. Although he has 3 active mystic parts, this fellow lacks the highly scarce parts of the others, which is why he's coming in here at last place. He's still nothing to frown at though. He's a resource generating monster with 2 energy generating abilities and 1 for card draw, which enables you to keep spamming out cards during battles in which you would otherwise exhaust your resources. Humorless and Namek Carrot are 2 of the best resource generating cards in the game with Humorless actually stealing energy from your opponent which can really deprive them of much needed resources to continue the fight. This makes him a competent support and secondary tank with his high HP stat and decent defenses.

#505

ORIGIN

3 MYSTIC

Axie #505



Stats

HEALTH	SPEED	SKILL	MORALE
57	35	31	41

Body parts

Papi	Pogona
Blue Moon Level 1	<div>Mystic</div> Humorless Level 1
<div>Mystic</div> Laggingggggg Level 1	<div>Mystic</div> Namek Carrot Level 1

While these Axies do not currently have perfectly synergized parts, Axies of this high rarity simply do not exist with perfect synergies as of right now. Between all of the choices in evolution up to legendary, there are bound to be new possibilities that emerge, which we are excited to explore. We can't wait to see what the team has planned for legendary parts and the wider Axie universe as a whole!

The best part is that this purchase is part of a much bigger plan our team will be unveiling later this year. Stay tuned for more!