. Oop's clutches and untraced genetics .

PLEASE READ - originally written by Shoni T.

Due to the amount of "oops clutches" I've seen in ALL the facebook axolotl groups I think it's time to talk about it and how it affects axolotls as a whole.

Oop's clutches are when you end up with an unplanned clutch of axolotl eggs from keeping a male and a female together. 9.5 times out of 10 this happens with sibling/related axolotls.

Axolotls are already EXTREMELY (~35%) inbred and breeding unknown genetics isn't safe for them.
Just because you got your axolotls from 2 different breeders does NOT mean they aren't related. Breeders trade and buy from other breeders all the time.
You could get one from Fleurieu Axolotls and one from Ash's Axolotls and you would never know they were related unless you reached out. If you can not reach out and ask the breeder for genetics, then do not breed that axolotl.

Breeding unknown genetics just weakens them that much more. Breeding with unknown genetics leads to a large amount of the clutch being wild types. Wilds are harder to rehome. Another outcome is when someone figures out they bit off more than they can chew, they expect ethical breeders to take them all in which isn't fair on the animals or the breeders.
It's not fair for people to just expect rescues + ethical breeders to take them in because they choose not to cull at the appropriate time due to thinking they'll be able to handle them all.
Ethical breeders spend months and months picking pairs and raising out their own clutches and they don't always have the extra money, time or space to take on another 100-500+ axolotls.

If you wanna try your hand in raising eggs, get them from an ethical breeder with known genetics, please.

Please don't take this the wrong way, if you can't afford to feed 50-500+ axolotls LIVE FOOD for 3+ months, DO NOT BREED. BBS can be hard to hatch and live blackworms are expensive.
If you can't provide the proper food for them to grow 3 cm or more a month DO NOT BREED. Axolotls grow 3 or more centimetres a month with proper food, no 6+ month axolotls will be 7cm, if it is then the axolotl has become stunted due to the lack of nutrients. It could grow to normal size once it's given the correct food or it can stay a mini.

I know I sound like a broken record when I say all this within the fb groups, but people need to put their pride aside and do what's best for axolotls in the pet trade and mass breeding and breeding unknown genetics isn't it.'

Another thing many folks don't realise is the time it takes to care for the bubs. For example, brine shrimp are marine (saltwater) creatures so they need to be rinsed with freshwater prior to feeding them to the axolotls. The bubs will need to be raised in separate containers / tubs to ensure they don't get their limbs bitten off by their siblings, to help prevent the spread of illness (better to treat one than a whole clutch) and so you can ensure each one is getting adequate food without competing with their siblings for it.
They will all need at least 1 water change every day till sold, ideally 1 water change every 12 hours (am+pm). It takes me 1 ½ hours to do 53 tubs including adding food.

- End of Shoni.T's post.

What happens if my lotls breed and they are genetically unknown / related?

I've seen axolotls with 2 heads, ones with 3 eyes, ones with external hearts, ones with severe scoliosis, kyphosis, lordosis, ones with legs coming out of their chests + stomach sides, ones with fused gill stalks (forked is due to injury regrowth), ones with shortened bodies (dwarfs) and ones that end up with severe neurological defects to the point it can't balance itself correctly - much like spider morph ball pythons and some morelia jungle pythons.

Another thing that commonly occurs is a highly weakened immune system which makes the axolotl expensive to keep alive due to near consistent illness or dietary pickiness.
Inbred axolotls also run high chances of the sudden activation of lethal genes that will cause the body's already weakened immune system to start attacking itself causing sudden death even when given the correct environment and care.

These all occur from breeding axolotls with unknown genetics and inbreeding and the best way to prevent these issues is to keep track of genetics and not breed ones that have genetically ill siblings or pair related animals.

Continued below

What do I need to know when asking about an axolotl's genetic history?

The more information you get, the better.
Key points to get are;

- What are the morphs of the parents and grandparents?
- How have they been medically, what issues have they presented?
- Who produced the grandparents + parents of this axolotl?
- How picky are the parents to feed?
- How old are the parents?
- What age did the parents have their first clutch?
- Has any axolotl in this bloodline morphed?

Why are these questions important?
They are important to ask if you're wanting an ethically bred, healthy axolotl or after your own pair to breed. Asking these questions will allow you to know what you can expect out of your amphibian.
9.9/10 aquarium stores will not have this information. 8/10 of these stores won't be willing to give you the suppliers/breeders name as they either wont know who the breeder is or their supplier is a warehouse group such as aquarium industries.

Morphs

The word morph is used to mean colour - there are currently at least 28 variations, 2 of these leave the axolotl infertile.

These 2 infertile morphs are NAG and Melanoid NAG.

NAG = **N**on **A**lbino **G**olden.

Axanthic can be a hit and miss, depending on the gene that the animal carries as there is one axanthic gene out there that messes with their immune system that results in death from bacterial infections prior to reaching 2 years of age. These axanthics have more of a silver matte look as adults therefore they are sometimes called Silvers.
As of 2014 a new gene producing axanthics was found, this one is much more stable health wise and lacks the greyish tint.

Medical History

If an axolotl has been struggling to keep healthy, including frequent food strikes (refusal to eat) then under no circumstances should you breed that lotl.
Constant illness is a sign of immunity issues that shouldn't be passed on as it's not fair for both animal and owner.
8 times out of 10, immunity issues within an axolotl are genetically caused.

Who Produced the Axolotl?
Knowing who produced your axolotl is important to know if you're intending to breed them yourself.
Breeders swap eggs, juveniles and adults all the time so, for example, you may think Fleurieu Axolotls produced a clutch because they hatched in their care but in reality the eggs are from Seaside axolotls and Fleurieu is just raising them to sell.

Unfortunately there are also plenty of mass producers out there who don't really care about genetics and the quality. Only quantity, profit and getting a heap of rare expensive morph types such as mosaic in a single clutch.

Examples of mass producers are Ivy Axolotls and Fantaxies - both fabricate genetic backgrounds, spread detrimental information and become aggressive when lightly questioned. Both have also sent different lotls to what was advertised only for the new owners to receive a sick animal.
Fantaxies has published a highly incorrect and high risk article stating rocks are ideal for lotls and that rocks are part of their diet, this has led to many preventable axolotl deaths and vet trip surgeries for many people.

Goulburn Valley Axolotls Australia has admitted to not using genetically known animals for their breeding program, I've personally bought eggs from them in the past after being given genetic histories, this was before becoming Fleurieu Axolotls. It wasn't until the clutch I hatched out from them had a low hatch rate with high deformity rate that I was more firm and asked for the history of the apparent father again, this time being told the history is unknown as he was bought from a pet store.

Take the time to research the breeder, ask others in axolotl community groups what their experiences were with the breeder/s you're looking at buying from. Facebook groups such as All About Axolotls and Axolotl Advice are two of a few groups you can ask in. Another place to check credibility is Axolotl Positive Breeder Experience and Axolotl Buyer & Seller Beware, both those groups also are on facebook.

How easy are the parents to feed?
There can be underlying neurologic or digestive deformities if you're struggling to get your axolotl to eat all the time.
Food strikes are common however it's a cause of concern if your lotl is striking for several days / weeks after every 2 - 5 feeds.

Due to this, I personally don't recommend breeding lotls with feeding issues.

How old are the parents?
Age plays a big part in the health of the offspring. The sweet spot, as many breeders call it, is between 2 - 6 years old.

Females;
Female axolotls must be at least 20 months old however waiting another 4 months does improve the health of both the offspring and the female.
If she is bred prior to 20 months then you risk giving her lifelong defects as egg producing + laying takes a lot out of their bodies, this will then affect all of her future clutches health wise.

It's recommended to only allow a female to have a max of 10 clutches in her lifetime. They do require at **LEAST** 8 months recovery time after laying - it is taxing on them after all.

Remember - females can lay close to 2,000 eggs in one clutch

Males;
Can breed from 18 months however waiting till 20 months improves his fertility.
Like other species, breeding isn't nearly as taxing on males as it is on females. I personally recommend at least 3 months between clutches but no more than 3 clutches per year.
After 6 years they do start to lose their fertility however they can still breed. I personally retire my males once they either reach 7 years old or have produced 5 clutches (whichever comes first).

Males and females should **NEVER** be housed together as the males will breed her to the point she'll die as they can lay every 2 weeks..

Has any axolotl in this bloodline morphed?
Not talking about colour but instead a natural amphibian behaviour where they go from aquatic to semi-aquatic.

There are axolotls who can leave their well-known larval stage and become salamanders - these lotls have been referred to as 'Terrestrial Axolotls'.

Axolotls don't morph due to poor conditions like originally thought but instead due to a malfunction with their thyroid. When they are very small and still growing, the thyroid sends out hormones that tell their bodies and bones to grow. As the axolotl nears the end of their growth, the thyroid stops sending these hormones. In the case of a rare morphing axolotl, the thyroid does not stop sending out hormones. As their larval growth slows, they receive the signs to finish their "growth" and metamorphose into terrestrial salamanders. This is why a morphing axolotl often changes at 5-10 months. This is when their growth is slowing down and preparing to leave the larval stage of life.

More information about terrestrial axolotls can be found here

Morphed Axolotls.com (This file was made by Benjamin (Benji) Godden @Fleurieu Axolotls - South Australia)