

Axolotl's Shuffle

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Nineteenth-century recapitulationists were confounded by the axolotl, a Central American amphibian that retained larval features in its clearly adult stages. ...Axolotls never become fully amphibious: they are able to stay in the water and reproduce without having to brave the shoreline environment.

Grossinger (1986: 284 and 292)

A moment after I met Tom, Jr., I decided to keep him as my companion at home. Tom, Jr. was a male axolotl. Since Tom, Jr. died several months after I adopted him, I got another one. He is now at my apartment. His name is also Tom, Jr., commemorating the first Tom, Jr. It looks graceful when he is dancing by inflating or deflating his floatation device in the water column. I am, however, annoyed to see once in a while that he got stuck between the tube and glass of the tank and that he could not get himself out. This wonderful life form was introduced to me by Ann Graveson and Steve Smith when they arrived at Dr. Hall's laboratory.

I have one more companion in my office: Snap or Snappy. Snap was named because she snaps, snaps, snaps — endless efforts to grab food. Her behavior is, however, cute enough to attract many visitors in my office. She responds to my finger movement or hand movement by jumping from the bottom, with gills folded back. It looks as if a dog stood up and showed her/his willingness to play with you. It is just joy and warmhearted feeling. Since I happen to be Japanese and am able to maneuver a pair of chop sticks, Tom, Jr., Snap, and Mama (albino *Xenopus* frog, another companion in my office) have been trained to pick up food from my chop sticks. They are intelligent enough (from their and my point of view), aren't they?

I am not an axolotl embryologist but have been studying the development of fish and mice. A wonder of unfolding life from fertilized eggs, regardless of what organisms you are working on, is a splendid attraction to me.

Scientists seek answers to a wonder of unfolding life. But, can you imagine if you were one of these organisms, enjoying life in the water, or flying in the air, or seeing the human world, as described beautifully in Charles Kingsley's "The Water Babies"? I am not a poet either, so I cannot describe such a wonder in words. There is, however, one thing I can do: create my image of the wonder in my illustrations. I have been practicing scientific illustration for the last many years. Illustrating details of objects, as anatomists used to practice and still do, forces you to observe them carefully and leads you to imagine something you do not see in daily life. Illustrations are not dead images. They are images that illustrators feel and capture from objects. Since I get to know a little about the development of axolotls and have such wonderful companions, I decided to illustrate axolotls.

A model, chosen from many wonderful candidates, was Bossy. He is one of many companions that Mary MacDonald raises and looks after. Bossy was named because he grew much faster and bigger than the rest, giving an impression that "I am the boss for my fellow axolotls." It did not take me long to finish my original sketches. With the putting of ink on the original one, here is Bossy's debut in the world: Bossy's shuffle.

As I worked my illustrations, I discovered several poems about axolotls. I also asked people in Dr. Hall's laboratory if they could contribute their poems to this section. All have passion for animals, especially axolotls (I believe). Here are poems with my illustrations of Bossy.

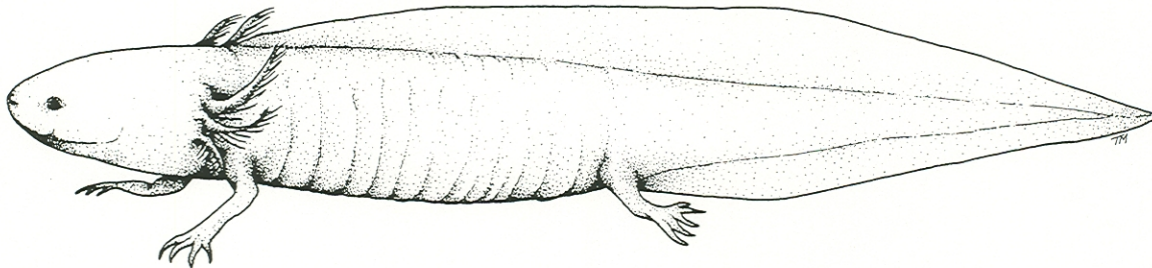
(1)

Ambystoma's a giant newt who rears in swampy waters,
As other newts are wont to do, a lot of fishy daughters:
These *Axolotls*, having gills, pursue a life aquatic,
But, when they should transform to newts, are naughty and erratic.

They change upon compulsion, if the water grows too foul,
For then they have to use their lungs, and go ashore to prowl:
But when a lake's attractive, nicely aired, and full of food,
They cling to youth perpetual, and rear a tadpole brood.

And newts *Perennibranchiate* have gone from bad to worse:
They think aquatic life is bliss, terrestrial a curse.
They do not even contemplate a change to suit the weather,
But live as tadpoles, breed as tadpoles, tadpoles altogether !

W. Garstang (1985: 62)



(2)

Dear frog and fish, or newt and **axolotl** and shark,
You needn't worry when it's dark;
You'll escape or dive just fine,
Svenning with your lateral line.

Platt, Popper and Fay (1989)
(Bold face: added here)

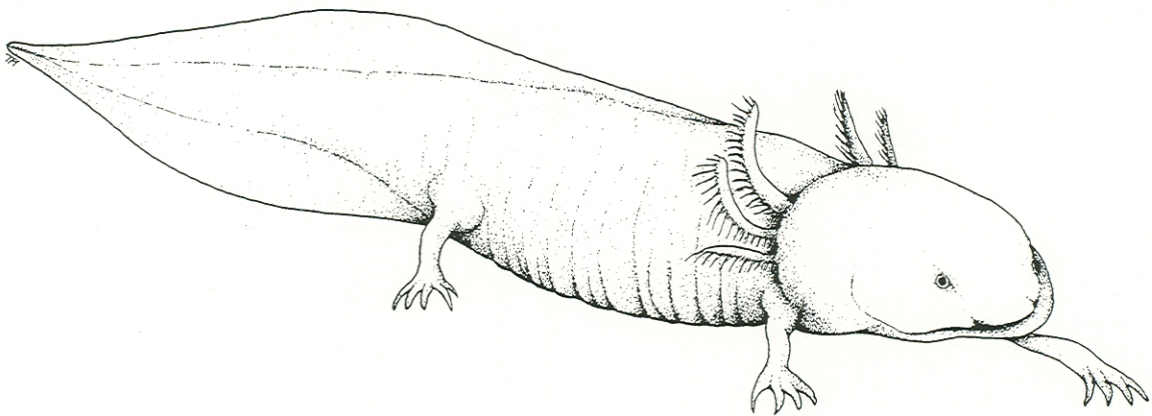
(3)

An Axolotl's life is aquatic,
which may seem to some quite exotic.
It swims and it dives on alternate tries;
its lifestyle is really quixotic.

If you live all your life in the water,
you don't evolve things you don't oughter,
like four legs and lungs, and teeth in your gums,
or a nice set of biceps and buns.

If terra firma for you's incognita,
and a wet, dank aquarium much sweeter,
and you can't hold your nose, or even touch toes,
or wear the last fashion in clothes:
don't fret you've been so long aquatic,
or that you're just weird, not exotic.
Be thankful that you, by good fortune of birth,
live under, not over, the earth.

Brian K. Hall

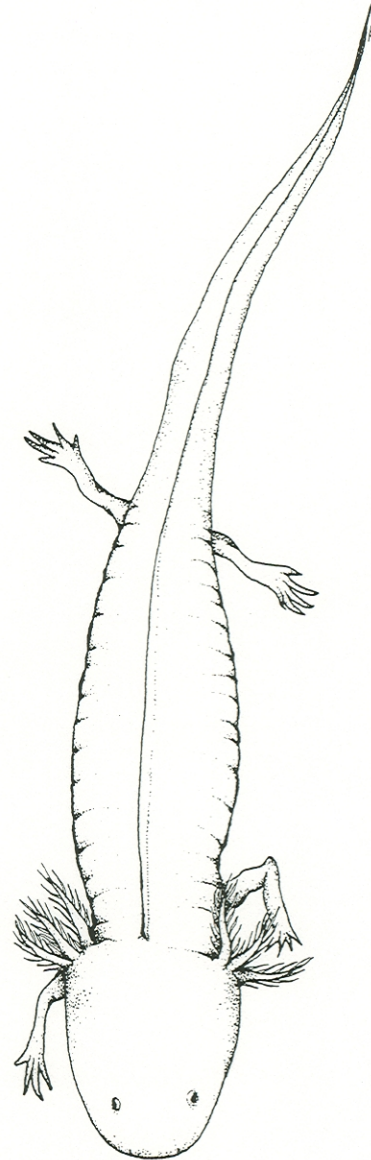


(4)

Behold my child within this bottle
 A specimen of axolotl -
 Fixed, picked, and no longer free
 To walk the land, or swim the sea
 When far away and long ago
 It lived in sunny Mexico.
 Notice his fierce Churchillian jowl
 Unhappy mien and baleful scowl.
 Of worries what an awful lot'll
 Dog the aspiring axolotl
 Who has a trait he must deplore
 To reproduce while immature
 Yet full of hope and firm resolve
 An ambystoma will evolve
 One happy day, and set him free
 To climb the biologic tree.
 But even so his every tot'll
 Still always be an axolotl.

His dental structure being unique
 His teeth the dentists keenly seek
 And place him in a glass-bound tank
 Where life is cold, and gray and dank.
 So on the altar of research
 He has to take his slippery perch
 For which he cares no tit or jottle
 Sad, sacrificial axolotl.
 Remote from hot and tropic skies
 His eager spirit slowly dies
 Finding alone some consolation
 By relishing a cold collation
 Of weaning rats or baby mice
 Which now his earthly needs suffice
 As with a gesture savage, glottal
 He bolts them down - poor axolotl.
 Anonymous

(Sent to Ann Graveson by Moya Smith)



(5)

Biologists love us
But how could they not
We're easy to handle
And we don't smell a lot

They call some strains mutants
But that term kind of hurts
Axolotls have feelings, too, you know
We'd rather call ourselves diverse

Since we are so varied
Scientists get a chance to play
They can even color coordinate us -
We come in brown, white or grey

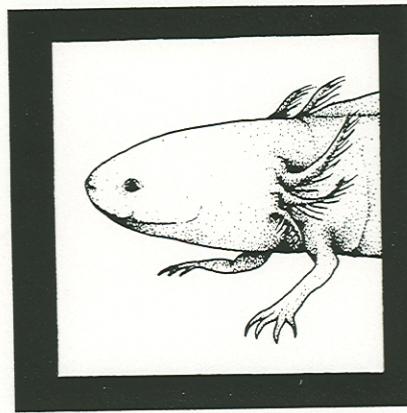
When we are really young
You can cut and you can peel
You can even take important parts out
But if we like you, we'll heal

I'm sure that you've heard
Some can live without functional hearts
We won't tell how we do it
Figure it out, if you're so smart

You really should envy us
Being neotenic brings such luck
Just like Peter Pan
We never have to grow up

After the experiment, we make great pets
We are incredibly easy to please
We're small, we're quiet
And we won't give you fleas

Jo-Ann Mellish



(6)

I've had cats and I've had dogs
And turtles, birds and fish
I get along quite well with pets
For better I couldn't wish

My only real problem
Was that when I went away,
I had to make arrangements
To feed them every day

But now I need not worry
About my new pet's meal
When going on vacation
An axolotl's ideal !

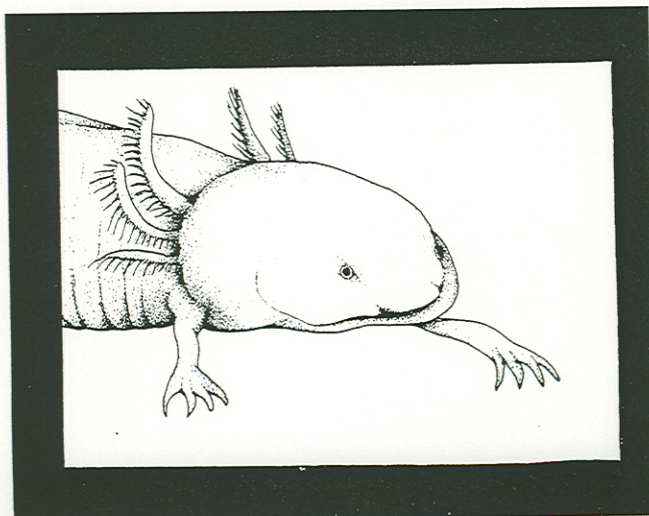
When going for a long trip
And coming back weeks later
I just stick axolotl
In the refrigerator

Back in among the veggies
The temperature's lower
Ensuring axolotl's
Metabolism slower

And when I do return home
After running all about
I open up the fridge
And throw my 'ltol out

I have but one concern that
The janitor or cleaner
Will eat poor axy thinking
That he's some kind of weiner

Steve M. Kolodziejczyk



Acknowledgments

I thank Ann Graveson and Steve Smith for introducing me to my wonderful companions. I am very grateful to Mary MacDonald for kindly letting me adopt Snap from her and illustrate her Bossy. Brian K. Hall, Jo-Ann Mellish, Steve M. Kolodziejczyk, and Moya Smith are greatly acknowledged for their contribution of poems. I acknowledge Brian K. Hall for letting me have my Snap and Mama in my office: my office is Rm # 7080 in the Life Sciences Building, Dalhousie University, occupied by distinguished residents, Snap, Mama and Zebra and low-life but lovely tenant myself. I admit that having such companions enhances my self-esteem to carry out scientific research.

References

- Garstang, W. 1985. *Larval forms and other zoological verses*. The University of Chicago Press, Chicago, Illinois. 98 pp. Verses first published in 1951 by Basil Blackwell.
- Grossinger, R. 1986. *Embryogenesis. From cosmos to creature: the origins of human biology*. North Atlantic Books, Berkeley, California. 416 pp.
- Platt, C., Popper, A.N., and Fay, R.R. 1989. The ear as part of the octavolateralis system. In *The mechanosensory lateral line: neurobiology and evolution*. Coombs, S., Görner, P., and Münz, H., eds. Springer Verlag, New York, pp. 633-651.