

# Dinosaurs Could Submerge Themselves and Breathe While Walking in Shallow Lakes, Their Long Necks Really Did Function as Snorkels

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Abstract: It was claimed that a brachiosaurus would suffocate while walking in a shallow body of water because of the pressure of the water. People in the early 1900's painted dinosaurs walking in shallow bodies of water, as the artist Zdenek Burian did, using its neck as a snorkel. Fast forward, paleontologists claimed that this would not be possible because the pressure in the water would collapse the dino's lungs, so then they placed dinos above and out of the water. Now we are going back to dinos easily navigating the shallow seas underwater, because of the ancient atmosphere being much denser during the existence of dinosaurs, of 3-5 bar. Brachiosaurus could snorkel because he/she would only be at ~102- 112% ambient atmospheric pressure. Humans can breath at 109%. Some screen shots and pictures are presented to explain.



Painting by Zdenek Burian of Brachiosaurus in 1941. Notice the nostrils being at the very top of their heads.

Air sacs which are claimed to exist in Brachiosaurus are also simply used for buoyancy as are modern turtles. Inflating them would help them to get back out of the water, and deflating them would allow them to sink, as BCs (buoyancy compensators) are in scuba diving. Further the total pressure on the lungs would be at most 112% normal atmospheric pressure, because their atmosphere was much thicker as outlined by Octave Levenspiel found here:

<http://pubsapp.acs.org/subscribe/archive/ci/30/i12/html/12learn.html>? And the general theory found here: <https://vixra.org/pdf/1711.0206v5.pdf>

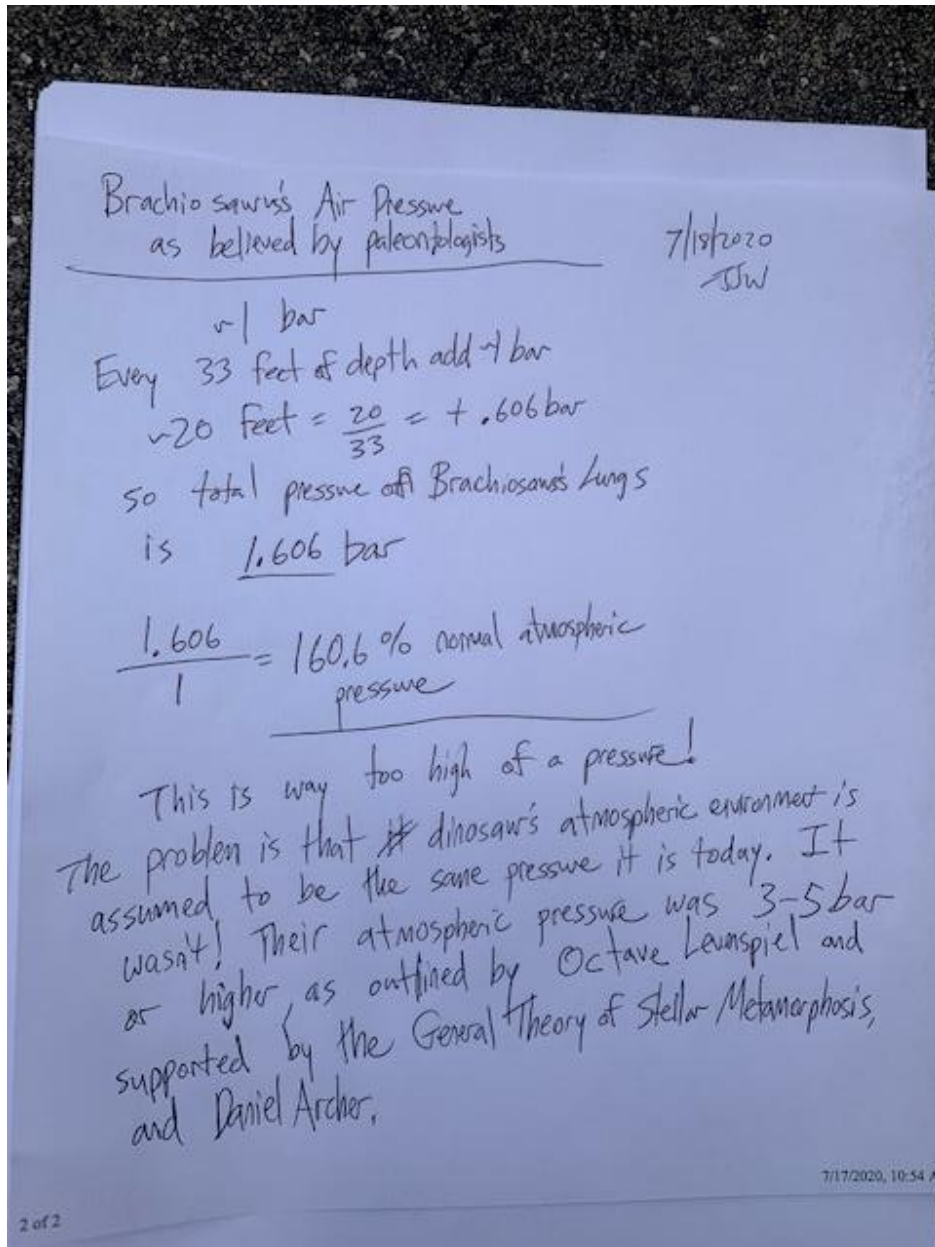
Here is where the calculations are done to show that paleontologists are assuming the atmosphere of dinosaurs as being 1 atm, which is not true, as evidenced by the physical characteristics of Brachiosaurus.

Deepest human can breathe with long snorkel underwater  
~3 feet

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Brachiosaurus lungs 20 feet underwater...

Current Air Pressure at Surface	Brachiosaurus's Air Pressure
~1 Bar	~5 bar
Every 33 feet of depth add ~1 bar	Every 33 feet of depth add ~1 bar
~3 feet = $\frac{3}{33} = +.09$ bar	~20 feet = $\frac{20}{33} = +.606$ bar
So total pressure on human lungs at ~3 feet is 1.09 bar	So total pressure on Brachiosaurus's lung lungs is ~5.606 bar
$\frac{1.09 \text{ bar}}{1 \text{ bar}} = 109\%$ normal Atmospheric pressure	$\frac{5.606}{5} = \sim 1.1212$ 112.12% normal atmospheric pressure
About the same given completely submerged! 9-12% normal atmospheric pressure	



As you will notice, of course the pressure underwater would be too high for Brachiosaurus to walk in, but if you raise the base atmospheric pressure significantly which is evidenced by younger stars, it is possible. The difference becomes much less significant because the total pressure exerted on the dino's lungs at 14.85 feet and ~5.45 bar would be equivalent increase in differential pressure exerted on a human being at ~3 feet at 1.09 bar. I did 20 feet to show if he was completely submerged up to his nose, which he could manage, but would not sustain for extended periods of time.

References:

Levenspiels' papers:

<http://pubsapp.acs.org/subscribe/archive/ci/30/i12/html/12learn.html?>

<http://levenspiel.com/wp-content/uploads/2016/02/DinosaurW.pdf>

Daniel Archer's paper:

<https://vixra.org/pdf/2007.0072v2.pdf>

The General Theory

<https://vixra.org/pdf/1711.0206v5.pdf>