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Ohio University College of Arts & Sciences

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National Geographic quotes Ohio University's **Ashley Morhardt**, a doctoral student in Biological Sciences, in a story on "How Did Long-Necked Dinosaurs Drink Without Getting Dizzy?"

Morhardt has been studying Dr. Larry Witmer's anatomy lab for five years and will be graduating this summer.

Ashley Morhardt

Many of us have gotten dizzy when we stand up too fast—and we don't even have to go that far. Imagine if you had to lower and raise your head several stories every time you wanted a drink of water.

Our Weird Animal Question of the Week comes to us from Clayton Louis Ferrara, who asked via Facebook: "How did large, long-necked sauropod dinosaurs, such as Brachiosaurus, drink water without consciousness when bending over?"…

nother trick up the giraffe's sleeve is the *rete mirabile*, "a network of blood vessels at the base of the brain that controls blood pressure," he said.

The *rete mirabile* slows blood flow to and from the brain when the giraffe bends to drink and comes back up. It's possible, he added, that sauropods had similar adaptations.

There's no physical evidence of *rete mirabile* in sauropods, but the structure is found in many

> vertebrates, including birds—the descendants of dinosaurs, noted Ashley Morhardt, a paleobiologist at Ohio University, in Athens, Ohio.
>
> "Whether or not it was associated with the brain and/or functioned like the rete mirabile of a giraffe is not known to paleontologists—at least not yet," Morhardt said.

She adds that the *rete mirable* is really a heat exchanger—It kept the brain cool while the body heated up in the sun and from internal metabolic processes—and not really a blood pressure regulator. The idea that giraffes use the rete to control their blood pressure is an old (and soon-to-be outdated) idea. In fact, **Haley O'Brien** and **Jason Bourke**, two other graduate students in Biological Sciences at Ohio University, submitted a paper yesterday that shows that the rete of giraffes plays absolutely no role in pressure regulation. So, 1) the idea that giraffes control their head blood pressure with the rete is false, and 2) imposing the idea on long-necked dinosaurs (they're not mammals and they have different anatomy from mammals) is now unfounded." Also watch for papers from **Ruger Porter,** another student in the WitmerLab who's working on restoring blood vessels in the heads of dinosaurs, Morhardt adds.

Read the story in *National Geographic*.