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Posted: 8:40 a.m. Friday, Oct. 18, 2013

Georgia Tech physicists visit Zoo Atlanta, walk out with 'Law of Urination'



By Jim Galloway

Because it's Friday, and because we know you're a science-starved lot: Discover magazine has posted an article on a group of Georgia Tech physicists who went to Zoo Atlanta, examined creatures great and small, then walked out with something called the "Law of Urination," which posits that the bladders of all mammals empty at about the same rate.

Even sippy cup-totin' toddlers whose mothers describe them as fountains of joy.

Here's a partial, high-road explanation from the North Avenue scientists:

Using high-speed fluid dynamics videos and flow-rate measurement at Zoo Atlanta, we discover the "Law of Urination", which states animals empty their bladders over nearly constant duration of average 21 seconds (standard deviation 13 seconds), despite a difference in bladder volume from 100 mL to 100 L. This feat is made possible by the increasing urethra length of large animals which amplifies gravitational force and flow rate.

We also demonstrate the challenges faced by the urinary system for rodents and other small mammals for which urine flow is limited to single drops. Our findings reveal the urethra evolved as a flow-enhancing device, enabling the urinary system to be scaled up without compromising its function.

This study may help in the diagnosis of urinary problems in animals and in inspiring the design of scalable hydrodynamic systems based on those in nature."

Like Todd Rehm, who pointed us to this article, we note that there is video. But we don't necessarily feel the need to watch it.



Comments

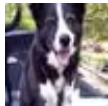
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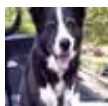
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- Posted by Bernie31 at 8:50 a.m. Oct. 18, 2013
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Who knew all it was to take was a visit to the ZOO! A GENIUS! of a Discovery!

who knows what would happen if a LAB was used with Human Beings.....Geez!



- Posted by Bernie31 at 8:51 a.m. Oct. 18, 2013
- Report Abuse

God Forbid if the Gold Dome was ever visited by this Genius.....LOL!



- Posted by EastAtlanta at 9:13 a.m. Oct. 18, 2013
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HAHA!



- Posted by someonesdad at 9:38 a.m. Oct. 18, 2013
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