
From: [REDACTED]
Sent: Monday, November 14, 2016 5:35 AM
To: jeffrey E.
Subject: Fw: Nathan's Latest Paper - Metabolism and Growth Rate

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Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.
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=td colspan="2" style="font-size: initial; text-align: initial; background-color: rgb(255, 255, 255);">
From: Nathan Myhrvold <nathnm@intven.com>
Sent: Monday, November 14, 2016 11:59 AM
To: Nathan Myhrvold
Subject: Fw: Nathan's Latest Paper - Metabolism and Growth Rate

Sent from my smartphone.
From: Dhileep Sivam [REDACTED]
Sent: Monday, November 14, 2016 09:50
To: h [REDACTED] Steven Orzack; Gregory P Wilson; Mark B. GOODWIN; [REDACTED]
[REDACTED] Savannah Lake; [REDACTED]
Cc: Nathan Myhrvold; Wayt Gibbs
Subject: Nathan's Latest Paper - Metabolism and Growth Rate

Hi Everyone -

Nathan has asked me to share a link to his latest paleontology paper, which just published in PLoS this week. Please forward on to anyone else who you think might be interested.

Best,
Dhileep

<http://journals.plos.org/plosone/article/asset?id=10.1371/journal.pone.0163205.PDF>
<<http://journals.plos.org/plosone/article/asset?id=10.1371/journal.pone.0163205.PDF>>

ABSTRACT:

The allometry of maximum somatic growth rate has been used in prior studies to classify the metabolic state of both extant vertebrates and dinosaurs. The most recent such studies are reviewed, and their data is reanalyzed. The results of allometric regressions on growth rate are shown to depend on the choice of independent variable; the typical choice

use= in prior studies introduces a geometric shear transformation that exagger=tes the statistical power of the regressions. The maximum growth rates of extant groups are found to have a=great deal of overlap, including between groups with endothermic and ectot=ermic metabolism. Dinosaur growth rates show similar overlap, matching the=rates found for mammals, reptiles and fish. The allometric scaling of growth rate with mass is found to have=curvature (on a log-log scale) for many groups, contradicting the prevaili=g view that growth rate allometry follows a simple power law. Reanalysis s=ows that no correlation between growth rate and basal metabolic rate (BMR) has been demonstrated. These fi=dings drive a conclusion that growth rate allometry studies to date cannot=be used to determine dinosaur metabolism as has been previously argued.&nb=p;

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