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From: **George Balazs - NOAA Federal** <[george.balazs@noaa.gov](mailto:george.balazs@noaa.gov)>

Date: Sun, Nov 2, 2014 at 5:25 PM

Subject: Parsimony Prevails? Re: Plasma for arginine

To: Thierry Work <[thierry\\_work@usgs.gov](mailto:thierry_work@usgs.gov)>

Cc: Jennifer Lynch <[jennifer.lynch@noaa.gov](mailto:jennifer.lynch@noaa.gov)>, Tracey Schock - NOAA Affiliate <[tracey.schock@noaa.gov](mailto:tracey.schock@noaa.gov)>, Marc Rice <[mrice@hpa.edu](mailto:mrice@hpa.edu)>

If Bemast as the time, personnel, money, and approvals from NIST on high, then there's nothing to lose, since the samples are already collected :) Who sets the priorities for something like this?

Question: Does not parsimony still prevail? That is, 1) More algae (invasive or otherwise) + 2) more turtles aggregating and more in the population to eat that algae + 3) social behavior of sea turtles well-known they feed, rest, and just like to 'hang out' in bunches + 4) ~50 hours survival in sea water of the virus + 5) a few tumored sick turtles in the crowded "feedlot" super-shedding virus = \*\*high rates of transmission giving an Outbreak.

I'm not sure why arginine or any amino acid needs to be in this story, unless it's a story written by Rube Goldberg (please Google).

The above scenario was written as a well-conceived nicely readable essay by Peter and Ursula Bennett in .... 1995, posted on their web site. It's still there.

Thank you, George

On Sun, Nov 2, 2014 at 2:47 PM, Thierry Work <[thierry\\_work@usgs.gov](mailto:thierry_work@usgs.gov)> wrote:

Well, in light of the fact that Brian Stacy found 2 recent articles pointing out that arginine actually inhibits herpesvirus, I can't get too excited about this personally.

TMW

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-----Original Message-----

From: Jennifer Lynch [mailto:[jennifer.lynch@noaa.gov](mailto:jennifer.lynch@noaa.gov)]

Sent: Sunday, November 02, 2014 2:59 AM

To: Tracey Schock - NOAA Affiliate; George Balazs - NOAA Federal; Marc Rice; Thierry Work

Subject: Plasma for arginine

Hi Tracey, George and Marc,

After reading the news article in the Miami Herald yesterday, I was thinking..

Should someone measure arginine levels in the plasma of green turtles archived by BEMAST for arginine? We have the four groups that we measured for POPs: Kiholo (no FP), Kailua (low FP), Kapoho (moderate FP), and euthanized (all FP). Tracey is analyzing algae that was growing from those 3 sites by NMR. This is a semi-quantitative method, but it captures all small molecules, not just one amino acid, and not just amino acids.

I think we should approach her study with a stronger sample size and experimental design. We could add to the reef algae, the plasma and algae found in the mouths.

Any comments, concerns, logistical issues?

Pros: It would be easy to transfer the samples to her.

The samples were all collected and processed in the same way across groups, so we won't have as many confounding variables as we did in her first study. She could have a 3 faceted study: reef algae (we collected species we know green turtles eat based on Arthur and Balazs), mouth algae (what's definitely going into the turtles), and plasma (what is in their tissues).

Cons: To my understanding, there are better quantitative methods to measure amino acids than NMR. We'd have to identify and approach a new collaborator for that method.

The mouth algae samples might be too small for Tracey's needs.

The plasma samples were collected in different months (Kiholo May, Kailua Mar, Kapoho Nov, EU over 2 years). We know algae produce compounds in a variable way across time. So this could confound the results.

Curious what you all think?

Jenn