From: Lau, Matthew matthewklau@fas.harvard.edu

Subject: Re: Broad Inquiry about Ant Whole Genome Sequencing

Date: September 3, 2015 at 5:50 PM

To: Sarah Young stowey@broadinstitute.org
Cc: Jim Bochicchio jboch@broadinstitute.org



Hi Sarah, thanks! Very nice to meet you and Jim, both.

My recollection is that you said Anopheles' genome is about 250Mb, so from my inexperienced perspective, ~80% of the genome doesn't seem too bad.

Thanks again, Matt

On Sep 3, 2015, at 1:46 PM, Sarah Young <a href="mailto:stowey@broadinstitute.org">stowey@broadinstitute.org</a> wrote:

Hi Matt,

It was a pleasure meeting you yesterday. I wanted to follow up with some stats that we got for the Anopheles genomes. While this is no guarantee that Ant will behave similarly, it does give you a sense for how some insects have behaved previously. Quality of assembly will depend on three things which I mentioned - bias in sequencing (not usually a problem unless extreme GC or amplified DNA), repeats in the genome, and polymorphism. For your genomes I suspect that polymorphisms will be the biggest factor in how well these come together. The anopheles genomes here a really some of the "worse" genomes we've seen as far as high levels of polymorphism.

In a sample of 15 genomes, on average we assembled 193Mb of the genome. We had approximately 6k scaffolds and 14k contigs. There is a very high standard deviation here though: the best samples gave us roughly 3k contigs, and the worst gave us 30k contigs. Scaffold n50s were on average over 4Mb though (indicating that a lot of the genome is contained in big pieces). Contig N50s (meaning stretches without any gaps) on average were 70kb.

Let me know if you have any other questions I can answer!

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~Sarah
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On Wed, Sep 2, 2015 at 12:51 PM, Jim Bochicchio <jboch@broadinstitute.org> wrote:

Hi Jenn

Ok, no problem.

Thanks Jim

On Wed, Sep 2, 2015 at 12:50 PM, Jennifer Wineski < <u>iwineski@broadinstitute.org</u>> wrote:

My apologies Jim- Matt and I had a separate email, and he confirmed for this afternoon. I will meet Matt in the lobby when he arrives and bring him up to the conference room.

Thank you,

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Again, we have and can get lots (tens or hundreds) of ants.

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If they are female, which is what we would like sequenced, they should be diploid.

Is the repeat content and/or structure known? The *Pogonomyrmex* genome is the best indication of the this.

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Subject: Re: Broad Inquiry about Ant Whole Genome Sequencing

Date: September 2, 2015 at 12:51 PM

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Cc: Lau, Matthew matthewklau@fas.harvard.edu, Sarah Young stowey@broadinstitute.org



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Date: September 2, 2015 at 12:49 PM

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Cc: Jennifer Wineski jwineski@broadinstitute.org, Sarah Young stowey@broadinstitute.org



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Thank you!

Jenn

Sent from my iPhone

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Email: jwineski@broadinstitute.org

From: Lau, Matthew matthewklau@fas.harvard.edu

Subject: Re: Broad Inquiry about Ant Whole Genome Sequencing

Date: August 31, 2015 at 11:51 AM

To: Jennifer Wineski jwineski@broadinstitute.org



#### Hi Jenn, that would work for me!

#### Thanks, Matt

On Aug 31, 2015, at 11:19 AM, Jennifer Wineski <a href="mailto:jwineski@broadinstitute.org">jwineski@broadinstitute.org</a>> wrote:

Hi Matt,

Would you be able to meet with Jim and Sarah, on Wednesday, September 2nd from 1pm-1:30pm?

Thank you,

Jenn

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