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04/28/2005 10:42 AM

Please respond to
<gwhite@cnr.colostate.edu>

To <Seth_Willey@fws.gov>

cc

bcc

Subject RE: Preble's meadow jumping mouse - Genetics report peer review request

Seth Willey:

I've reviewed the material sent. The Ramey et al. (Dec 2004b) technical report does not provide a convincing scientific document and does not change my conclusion regarding the synonymizing of *Z. h. preblei* and *Z. h. campestris* as proposed in Ramey et al. 2004a.

First, the description of the statistical methods used is incorrect. Ramey et al. did not do 5,000,000 chains for the MCMC estimation procedure. Rather, they drew 5,000,000 samples from the posterior distribution after a burn-in of 500,000 samples. What they term as "simulations" are the chains of MCMC, and the report does not specify the actual number of chains run. Such misstatements and omissions suggest that the investigators do not understand the methods being used, and thus hints that the methods were not applied correctly. In particular, proper application of the MCMC algorithm requires that the investigator provide evidence that the chains properly converged. No such evidence is provided by Ramey et al. 2004b.

Second, Ramey et al. did not correctly define AIC because they left off the sample size portion of the equation. The correct definition is

$$\text{AIC} = -2 \cdot \log(\text{likelihood}) - 2K$$

where K is the number of parameters estimated in the model. I'm unclear on what the effect of this error is in the analysis. However, again the mistake hints that the investigators may not have correctly applied the statistical methods.

Finally, Ramey et al. (2004b) combined the samples of *Z. h. preblei* with *Z. h. intermedius*, thus precluding evaluating the conclusions of Ramey et al. (2004a). Thus, I don't see that this report is pertinent to the issue of synonymizing these two subspecies.

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

From: Seth_Willey@fws.gov [mailto:Seth_Willey@fws.gov]
Sent: Monday, March 28, 2005 12:37 PM
To: Maldonadoj@nzp.si.edu; lwaits@uidaho.edu; ashley@uic.edu; rjbaker@ttu.edu; riddle@ccmail.nevada.edu; Robert.bradley@ttu.edu; Keith_Crandall@byu.edu; Mitton@colorado.edu; dhafner@nmmnh.state.nm.us; soyler@du.edu; gwhite@cnr.colostate.edu; marlis.douglas@colostate.edu
Cc: Mary_E_Jennings@fws.gov; Peter_Plage@fws.gov; Susan_Linner@fws.gov; Jodi_Bush@fws.gov; Jill_Parker@fws.gov; Brian_T_Kelly@fws.gov

Subject: Preble's meadow jumping mouse - Genetics report peer review request
Importance: High

Hello All,

Thanks again for your willingness to participate in the peer review of "Testing the uniqueness of *Z. h. intermedius* relative to *Z. h. campestris*." The official peer review request was mailed today to the address provided. If for some reason you do not receive the package of materials in the next few days, please contact me and I will have another copy sent out immediately. For your convenience, I have also attached electronic copies of the request letter and the above report. The other attachments are available in electronic form upon request.

(See attached file: Peer review request_Mar 05.pdf)(See attached file: Ramey et al. 2004b.pdf)

Additionally, the U.S. Fish and Wildlife Service and the Denver Museum of Nature and Science recently made available the mtDNA sequence and morphometric data. This and other information is available at: <http://mountain-prairie.fws.gov/preble/PEER/PEERindex.htm>

Thanks again for participating in this process. Feel free to contact me at any point for more information, clarification, or any other reason.

Sincerely,
Seth Willey

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How you gonna have any fun in this life if you're
always doing what lawyers tell you to do?
-- Dr. Science
