

University of Montana

ScholarWorks at University of Montana

UM Graduate Student Research Conference (GradCon)

Apr 18th, 2:30 PM - 3:50 PM

Investigating Sex-Differential Migration of the Lapita Peoples of the Pacific Islands Using Craniometric Data

Brittney A. Eubank

Follow this and additional works at: <https://scholarworks.umt.edu/gsrc>

Let us know how access to this document benefits you.

Eubank, Brittney A., "Investigating Sex-Differential Migration of the Lapita Peoples of the Pacific Islands Using Craniometric Data" (2015). *UM Graduate Student Research Conference (GradCon)*. 6.
<https://scholarworks.umt.edu/gsrc/2015/posters/6>

This Poster Presentation is brought to you for free and open access by ScholarWorks at University of Montana. It has been accepted for inclusion in UM Graduate Student Research Conference (GradCon) by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

Brittney A. Eubank
M.A. – Anthropology Student

University of Montana
Department of Anthropology
Social Science 203
Missoula, MT 59812

(406) 672-4315
brittney.eubank@umontana.edu

Poster Abstract Submitted for University of Montana Graduate Student Research Conference
April 18, 2015 – Missoula, MT

***Investigating Sex-Differential Migration of the Lapita Peoples of the Pacific Islands Using
Cranio-metric Data***

Genetic analyses of mitochondrial DNA from females and Y chromosome sequences from males have yielded different pictures of the movement of peoples into the Pacific Islands, with mtDNA suggesting rapid migration and a lack of admixture with indigenous Melanesian populations, and the Y-chromosome data maintaining a higher level of admixture due to a slower rate of migration. A possible explanation for this discrepancy is the matrilineal residency pattern practiced by Lapita peoples, in which Melanesian men were brought into Lapita communities to intermarry and reside with local women. If matrilineal residency was practiced, Pacific Island male populations will exhibit higher within-groups variance and lower between-group variance than female populations. This occurs when males are immigrating to, rather than being born into their subpopulation, and are therefore less likely to be related to other males, while females remain in the group of their birth and are more likely to be related to other females in their subpopulation. Eighty-two cranial measurements of males and females from ten Pacific Island populations were analyzed using F_{ST} values, Relethford-Blangero residuals, principal coordinates plots, k-means clustering, canonical variates analysis, and cluster analysis. F_{ST} values were 0.24 for males and 0.33 for females, which, along with mean within-groups phenotypic variances of 0.758 and 0.803, indicate higher gene flow between male groups than females. K-means clustering, canonical variates analysis, and UPGMA cluster analysis were nearly identical for both sexes, while neighbor-joining clustering and principal coordinates plots were very similar with slightly more distance exhibited in females. Together, these results indicate higher within-groups variance and lower between-groups variance in males than females. This supports the hypothesis of matrilineal residency in the Pacific Islands to explain previously observed differences by sex in mtDNA and Y chromosome sequence analyses. Additionally, the results give a picture of a similar direction of movement through time for both sexes from Southeast Asia, across Melanesia and into Polynesia. This study adds a phenotypic line of evidence

to the investigation of patterns of migration into the recently populated Pacific Island region, looking at the sexes individually in order to explain differences in their respective DNA sequence data.