Supplementary material for: Brief increases in corticosterone result in immediate and lasting changes to DNA methylation in a wild bird

Conor C. Taff Sabrina M. McNew Leonardo Campagna
Maren N. Vitousek

Insert alignment figure. adfadsfasdfasdf adfads adfas dfasdf asdf asdf asdf asdf as fasd fa sdf asdf asd fasd f asdf asd fas df asdf asdf asdf asd fas df asdf asdf asd fas df asdf asdf asd f asdf asdf asd fasd fas df asdf asdf as dfas fa sfd asfdas adsfffffffffffffffffffffffffffffffffff adsf adsfadsf

Changes in DNA methylation in response to prior challenges represent one mechanism that could play a role in the calibration of stress response systems. Epigenetic modification by DNA methylation can alter phenotypes by making genes or promoters more or less accessible for transcription [cite]. It is well known that early life experiences can have profound programming effects on DNA methylation patterns that often persist throughout the lifetime [cite]. For example, classic work in lab rodents demonstrates that early life experiences regulate methylation of the gene producing the glucocorticoid receptor, which results in lifelong changes to glucocorticoid secretion in response to challenges [cite]. A growing number of studies also demonstrate early life programming of DNA methylation patterns in wild populations resulting from dominance hierarchies (Laubach et al., 2019), brood size (Jimeno, Hau, Gómez-Díaz, & Verhulst, 2019), temperature [cite], or landscape features [cite].

Jimeno, B., Hau, M., Gómez-Díaz, E., & Verhulst, S. (2019). Developmental conditions modulate DNA methylation at the glucocorticoid receptor gene with cascading effects on expression and corticosterone levels in zebra finches. *Scientific Reports*, *9*(1), 1–11.

Laubach, Z. M., Faulk, C. D., Dolinoy, D. C., Montrose, L., Jones, T. R., Ray, D., … Holekamp, K. E. (2019). Early life social and ecological determinants of global DNA methylation in wild spotted hyenas. *Molecular Ecology*, *28*(16), 3799–3812.