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Individual Variation in Morphological, Physiological, and Biochemical Features Associated with Calling in Spring Peepers

Abstract from the article:

In an eastern North American tree frog, the spring peeper (*Pseudacris crucifer*), calling rate has been correlated with reproductive success in the field. To determine the sources of individual variation in calling rate in this species, I analyzed males calling at rates greater than and less than the chorus average throughout one breeding season. Compared to low?rate callers, high?rate callers were relatively larger, heavier, older, and in better body condition, and their muscles used in calling had higher activities of the enzymes citrate synthase and ??hydroxyacyl?CoA dehydrogenase. This muscle profile is functionally matched by cardiovascular correlates, as indicated by the larger ventricles and higher blood hemoglobin concentrations in high?calling rate males. These cardiovascular features are much less developed in females and may result from the fact that females do not engage in vigorous calling behavior. In *P. crucifier*, a male's calling rate may function as an indicator of the presence of a suite of functionally interrelated traits responsible for the maintenance of this sexually selected display behavior.