

# Testosterone levels and evoked vocal responses in a natural population of the frog *Batrachyla taeniata*

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Relationships between testosterone plasma levels and evoked vocal responses of males of the leptodactylid frog *Batrachyla taeniata* from southern Chile were studied. Evoked vocal responses were elicited in the field with playbacks of a synthetic imitation of the conspecific advertisement call and variants of this signal for which different temporal parameters were modified. Testosterone plasma levels were measured with radioimmunoassay in blood samples obtained from the experimental subjects immediately after the playback experiments and from nonstimulated males. Testosterone levels between groups did not differ significantly. A significant correlation between testosterone concentration and number of calls given in response to the synthetic advertisement call was found. Testosterone levels were also significantly correlated with the total number of calls given by the experimental subjects in response to the complete series of stimuli. Other measures of evoked vocal responses, i.e., numb