Thermoregulation in a basking frog inhabiting the Espinhaço mountain range in eastern Brazil.

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Basking behavior is rare among anurans probably due to their highly permeable skin, which poses a considerable risk of uncontrollable water loss. Basking, however, is an important route for heat gain in ectothermic vertebrates, particularly in habitats characterized by colder and heterogeneous temperature profiles, as such mountainous areas. Herein, we report on the basking behavior and associated color and body temperature changes in *Bokermannohyla alvarengai*, a South American frog inhabiting the Espinhaço mountain range in eastern Brazil. This frog is known to bask fully exposed over rock surfaces at relatively high temperatures. During basking, these frogs exhibit a physiological change in skin coloration that alters their usual grayish-cryptic coloration to an almost immaculate white. A combination of laboratory and field measurements of skin surface temperature (by infrared imaging), skin color and reflectivity, and behavioral analysis has revealed that *B. alvarengai* yield important thermoregulatory benefits from their basking behavior. Body temperatures of basking frogs can be rapid and significantly elevated above ambient temperature, while changes in skin coloration helps to modulate heat exchange. Postural adjustments and selection of basking sites allow for body temperatures to remain at or above ambient temperature, rather than the alternative that would result from uncontrolled evaporation.

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