



# Play Behavior by a Yellow Monitor, *Varanus flavescens* (Hardwicke and Gray 1827)

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Photographs by the senior author.

Play is defined as an activity in which an animal engages for pleasure or enjoyment rather than for any serious or practical purpose. Initially, play was thought to be limited to mammals and birds, but efforts to define it more objectively have led to the identification of play in a variety of other taxa (Burghardt 2014) as diverse as reptiles, including monitor lizards (Hill 1946; Kane et al. 2019), turtles (Burghardt et al. 1996; Kramer and Burghardt 1998), and crocodylians (Lazell and Spitzer 1977; Dinets 2015). Herein, we describe presumptive play behavior of a Yellow Monitor (*Varanus flavescens*) in Bangladesh.

At 1033 h on 8 March 2019, we noticed a Yellow Monitor swimming in a wetland at Mirpara in Dhaka, Bangladesh (23.72735°N, 90.48620°E). The monitor was swimming in a vertical position, alternately moving forward and backward, between periods during which it floated motionless on the surface. We observed five repetitions of this apparent play behavior in a 30-minute period. These lasted 149, 178, 94, 164, and 130 seconds, respectively (mean = 143 sec) and the gaps between each bout lasted 40, 65, 32, and 23 seconds, respectively (mean = 40 sec).

Within animal groups, a propensity for play appears to be correlated with brain size (Iwaniuk 2001). Primates display the most play behavior among mammals (Burghardt 2014). This has been linked to their relatively high energy efficiency in dealing with the costs of maintenance and growth (Burghardt 2014; Pontzer et al. 2014), which could provide the excess energy required to facilitate both increased cognitive capacity and play. Monitor lizards, with their high cognitive capacity and problem-solving abilities, energy efficiency, dexterous appendages, and acute vision (Dryden et al. 1990; Cooper et al. 2000; Manrod et al. 2008; Gaalema 2011; Mendyk and Horn 2011), may be regarded in some ways as the squamate equivalent of primates.

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**Fig. 1.** Presumptive play behavior by a Yellow Monitor (*Varanus flavescens*) swimming in a vertical position while alternately moving forward and backward.



**Fig. 2.** A Yellow Monitor (*Varanus flavescens*) floating motionless on the surface between bouts of actively swimming in a vertical position.

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