

'BROKEN WING DISPLAY' IN AN UNFLEDGED INDIAN EAGLE OWL *BUBO BENGALENSIS*

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Deception is a well known phenomenon in the animal kingdom and feigning death or injury occurs in invertebrates (e.g., Ebermann 1991; Fabre 1900; Miyatake et al. 2008), fish (e.g., Howe 1991), amphibians (e.g., Escobar-Lasso & Gonzalez-Duran 2012), reptiles (e.g., Santos et al. 2010; Vogel & Han-Yuen 2010), birds (e.g., Sargeant & Eberhardt 1975) and mammals (e.g., Francq 1969). Injury feigning or paratrepsis has been well documented in birds defending nests/young (Armstrong 2008; Gochfeld 1984; Yosef 1994) and in Strigiformes (Bent 1980; Fischer et al. 2004). The 'broken wing display' (BWD) has been documented in adult Indian Eagle Owl *Bubo bengalensis* (Dharmakumarsinhji 1964; Madras Ramblings 2008; Mikkola 2012) but no records exist of young owls indulging in this behavior.

In this short communication I show that BWD is exhibited by young *B. bengalensis* and present photographic evidence.

We came across a nidicolous and semi-altricial young (protoptile) *B. bengalensis* in a ravine in Merveille (11°58'N & 79°46'E) near Ousteri Lake in the vicinity of Puducherry in southern India on 28 February 2001. This was a single offspring since the other egg found at the nest did not hatch. This subject was monitored for a period of >6 months. It was the same specimen with which we conducted some basic experiments (Ramanujam 2003) and was accustomed to our presence. However,

on 07 April 2001, when at ca. 40 days old (beginning of prebasic moult obvious in photographs), it exhibited BWD.

Description of behavior: We first came upon this owlet after it had left its nest on 1 April 2001. On 7 April we found it well concealed in scrub (Image 1). When we approached, it got up and scurried away in an awkward and unsteady manner with its left wing trailing limply and dragging on the ground (Image 2). Bill clicking, hissing and low intensity squealing was audible. So realistic was the display that we thought the bird had injured itself. On gaining the edge of the ravine it made a fast dash for freedom on foot and used both its wings to balance itself [In spite of flight feathers being developed it could not fly - true flight is possible only around 58 days in this species (Pande & Dahanukar 2011)]. We encountered this subject regularly after that and it made no attempt to replicate this behavior.

Discussion: Dharnakumarsinhji (1964) and Ramanan's online report in Madras Ramblings (2008) describe BWD. But one fundamental difference seems to stand out, not only between our observation and the previous two, but also between the aforementioned ones. While Dharnakumarsinhji states "..... she began flapping her wings from side to side" the online report by Ramanan mentions "..... acts as if the wing is broken". Our single observation of this phenomenon was that the wing was limp and dragging, there was little or no movement of the wing and there was definitely no flapping motion. Photographic evidence from both the online report and Mikkola (2012) suggests both wings are involved, but in this case only the left wing was involved. All this shows that there could indeed be



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Image 1. The subject was well camouflaged before being disturbed



Images 2 & 3. The 'broken wing display' (BWD)

more than one unrecognized facet of behavior—just like the spread winged agnostic displays of *Bubo bengalensis* (Ramanujam 2010)—and until these have been recorded in detail and sorted out keeping in mind the morphology, causation and function, there will always be ambiguity and a sense of unfulfillment to any exercise that aims to address the issue of paratrepsis in any life form.

Both paratrepsis and thanatosis (death feigning), which are both anti-predator behavioral devices using deception, have for long been the subject of intense debate. The BWD has generally been classed as a nest protection behavior (Caro & Girling 2005) but here we present a case where it was used in a young bird that was unable to protect itself by flying away from the potential threat.

In conclusion, I present my observation that the BWD occurs in young *Bubo bengalensis*. Furthermore, I cannot draw parallels with the BWD exhibited by adult *Bubo bengalensis* and have to rely on published accounts for the simple reason that I have not observed this behavior at the nest in spite of studying the taxon for close to 15 years. In conclusion, I can only state that 'deception' has obvious survival value, and is innate.

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