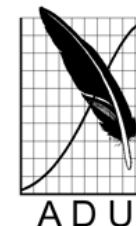


# Ornithological Observations



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Ornithological Observations accepts papers containing faunistic information about birds. This includes descriptions of distribution, behaviour, breeding, foraging, food, movement, measurements, habitat and plumage. It will also consider for publication a variety of other interesting or relevant ornithological material: reports of projects and conferences, annotated checklists for a site or region, specialist bibliographies, and any other interesting or relevant material.

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## OBJECT PLAY OF AN IMMATURE MARTIAL EAGLE *POLEMAETUS BELLICOSUS*

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## OBJECT PLAY OF AN IMMATURE MARTIAL EAGLE *POLEMAETUS BELLICOSUS*

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Play is an important behaviour in especially the young of higher vertebrates. It can broadly be defined as “all motor activity performed post-natally that appears to be purposeless, in which motor patterns from other contexts may often be used in modified forms and temporal sequencing” (Ortega and Bekoff 1987 and references therein). Play serves a variety of functions: i) it enhances muscular development and improves coordination in young animals, ii) it can contribute to very important “acquired” learning processes, and iii) in social animals play is an important way of adjusting social relationships that are important in later life (Ficken 1977). There are essentially three types of play, namely i) locomotor play, e.g. acrobatic flight of raptors, ii) object play, e.g. an activity directed toward an inanimate object, and iii) social play, e.g. an activity directed toward another living object. Although playing with objects is arguably the most common type of play in the Falconiformes, both locomotor and social play has also been recorded. Unfortunately, most reports of play are based on anecdotal reports and are therefore subject to interpretation of the observer. There is rarely photographic evidence to support observations.

On 15 July 2008 at 08:10 I observed an immature Martial Eagle *Polemaetus bellicosus* exhibiting object play in the Letaba River near Letaba Rest Camp in the Kruger National Park, South Africa. The bird was standing in the river bed for a while, appearing to stare at an object not too far away from it. It even bobbed its head to get a better

view. The bird then took off and flew about 20 m before extending its legs and talons and “striking” a bolus of elephant dung (Figure 1).



**Figure 1** - The immature Martial Eagle about to capture its play object – a bolus of elephant dung.

It remained perched on the dung bolus for a brief period (Figure 2), then took off with it and landed about 10 m away (Figure 3). It then proceeded to rip pieces off the bolus as if pretending to be feeding (Figure 4). The bird remained perched on the bolus for a short while and then took off with the bolus, but dropped it shortly thereafter (Figure 5). It landed a short distance away and repeated the “game” four times with different dung boluses before it finally flew off and perched in a nearby tree.



The total duration of the play was approximately 13 minutes. In one of the attempts, the bird also performed a “mantling-display” after catching the dung bolus by spreading its wings over it. At no stage was an adult bird observed in the vicinity of the immature bird. The behaviour observed was clearly an example of object play aimed at improving various motor skills associated with catching and manipulating prey.



**Figure 2** – It remained perched on its “prey” for a few seconds.

Playing with inanimate objects has an adaptive character in young raptors as there is a close relationship between the size of play objects and the size of the typical prey of a particular raptor species (Negro *et al.* 1996; Kitowski 2005). The size of an elephant dung bolus can easily reach 20 cm or more in mature individuals and falls within the size range of the main body of some of common prey

items of Martial Eagles, e.g. hares (Leporidae), Helmeted Guinea-fowl (Numididae), francolins and spurfowls (Phasianidae).



**Figure 3** – Taking off with its play object.

The observations also showed that play is important for developing skills such as striking with accuracy, keeping the prey under control while flying, perching on the prey and eating it. It appeared that the bird had the greatest difficulty keeping the dung bolus under control when it took off with it. Whether this was due to the particular characteristics of the dung bolus or whether it is indeed a difficult action to master is difficult to say.

True playing activities of birds are not often recorded, or recognized as play, but it undoubtedly occurs especially in young birds as observed in this instance. People witnessing play should take special



note of the age of the bird, the type of play (e.g. object, locomotory or social) the bird engages in, the time of the day, the age of the bird, the presence of other individuals of the same species, the duration of play (or the duration of the observation) and the size and type of the object involved in play.



**Figure 4** – It proceeded to rip pieces off from the dung bolus as if pretending to eat it.



**Figure 5** – The bird repeatedly took off with its “prey” but dropping it shortly thereafter.

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