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First Observations of Termite Insectivory in the Bateleur (*Terathopius ecaudatus*)

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ABSTRACT.—Bateleurs (*Terathopius ecaudatus*), Steppe Eagles (*Aquila nipalensis*), and Tawny Eagles (*Aquila rapax*) were observed consuming termites during a termite emergence on 30 December 2012 in Mkomazi National Park and on 20 May 2013 in Tarangire National Park, Tanzania. This behavior is well known in Steppe and Tawny eagles, but these are the first records of Bateleurs using termites as a food source. Received 27 September 2013. Accepted 19 March 2014.

Key words: *Aquila nipalensis*, *Aquila rapax*, Bateleur, insectivory, Steppe Eagle, Tawny Eagle, *Terathopius ecaudatus*, termite.

During the African rainy season, reproductive-stage termites emerge from their nests *en masse* as winged adults, called alates (Robertson 1999). Termite alates are a well-documented food source for a wide range of vertebrate taxa, including mammals (Redford and Dorea 1984, Dial and Vaughan 1987, Redford 1987, Kok and Louw 2000, Fleming and Loveridge 2003), reptiles and amphibians (Abensperg-Traun 1994, Hardy and Crnkovic 2006), and birds (Rowan 1969, Jensen 1972, Dial and Vaughan 1987, Kok and Louw

2000). Many species have been documented using termites opportunistically as a food source, often during the emergence of the reproductive alates (Jensen 1972, Dial and Vaughan 1987, Redford 1987, Kok and Louw 2000).

The Bateleur (*Terathopius ecaudatus*) is a predator which has not been documented consuming termite alates but is known to occasionally consume arthropod prey (Watson 1986, Simmons 2005). As such, it would be unusual if Bateleurs did not use termite alates as a food source when available. Here, we present observations to demonstrate termite insectivory in Bateleurs.

OBSERVATIONS

In the early afternoon of 30 December 2012, during the short rains, or “vuli,” in Mkomazi National Park in Tanzania (4.2994° S, 38.3894° E), we noted several circling eagles and drove towards the area to investigate. Upon approach, a number of raptors took to the air. The flock was composed of ~15 Steppe and Tawny eagles (*Aquila nipalensis* and *A. rapax*) and three adult Bateleurs (*Terathopius ecaudatus*). Several of the *Aquila* eagles and one of the Bateleurs had distinct, full crops, and none of the eagles displayed any apparent aggression towards each other.

Though most of the eagles took to the air, two *Aquila* eagles and one Bateleur remained on the

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ground, where they were observed chasing and consuming insects emerging from the ground. In this area, both termites and ants will emerge as winged adults or alates (Robertson 1999). However, as the insects were emerging from mounded soil, we were able to identify them as a species of the mound-building termite subfamily Termitinae, as there are no mound-building ants found in Mkomazi State Park (Robertson 1999). Unfortunately, we were unable to obtain samples or photographs of the termites in order to further identify them.

In the early afternoon of 20 May 2013, during the long rains, or “masika,” MLB observed Termitinae hatch and emerge in Tarangire National Park in Tanzania (3.8333° S, 36.0000° E). A mixed flock of Steppe Eagles and Bateleurs were observed eating the alates.

DISCUSSION

Bateleurs have not been recorded consuming termites as part of their diet. The majority of the diet of Bateleurs generally consists of reptile prey (Pitman 1935, Steyn 1965, Fitzsimons 1962, Brown and Amadon 1968, Brown 1970, Broadley 1974, Smeenk 1974, Steyn 1974) and of carrion (Stevenson-Hamilton 1947, Brown and Amadon 1968, Snelling 1969, Houston 1971, Steyn 1980). Bateleurs are also known to be kleptoparasitic (Brown 1970). The diet of Bateleurs as a whole is varied, including mammals, birds, reptiles, and amphibians; fish and arthropods compose less than 2% of all prey (Watson 1986, Simmons 2005). The closely related snake eagles (*Circaetus* spp.) (Lerner and Mindell 2005) all exhibit similar patterns, feeding primarily on snakes, lizards, and other reptiles (Steyn 1964, 1966, 1972; Broadley 1974; Steyn 1974; Thiollay 1994). Snake eagles may also consume carrion as an alternate food (Janzen 1976).

By comparison, the Steppe Eagle is a well-known generalist in both its winter and summer range, with a diet including small- to medium-sized mammals, birds, reptiles, fish, carrion, and insects (Brown and Amadon 1968; Brown 1970; Jensen 1972; Steyn 1973, 1974; Ferguson-Lees and Christie 2001; Tingay et al. 2008; Weiss and Yosef 2010). The Tawny Eagle’s diet is similarly broad, including mammals, birds, reptiles, insects, and occasionally fish and amphibians; it also regularly consumes carrion and is kleptoparasitic (Ferguson-Lees and Christie 2001). The Steppe Eagle has previously been observed consuming

emerging termites in mixed-raptor flocks with Yellow-billed Kites (*Milvus aegyptius*), Black Kites (*M. migrans migrans*), Lanner Falcons (*Falco biarmicus*), and Lesser Spotted Eagles (*Clanga pomarina*) (Jensen 1972). Tawny Eagles have been observed consuming emerging termites in mixed flocks with Marabou Storks (*Leptoptilos crumenifer*) and Von der Decken’s Hornbills (*Tockus deckeni*) (Dial and Vaughan 1987). Thus, it would seem that both the use of termites as a food source and the association with conspecifics during termite emergences are normal behaviors for these eagles.

Overall, termite alates provide a rich, though ephemeral, food source. Eagles may consume hundreds of alates in a matter of hours (Jensen 1972, Dial and Vaughan 1987). Termites are high in protein and water content; the alates also contain large fat reserves, making alates a particularly excellent food source when available (Dial and Vaughan 1987).

As Bateleurs were observed consuming termite alates during both the short rains and long rains and at two locations ~250 km apart, it seems unlikely that this behavior is restricted to a single population of Bateleurs or to either breeding or migratory individuals.

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