Kimboza Forest Reserve, Tanzania: an important cold season refugium for altitudinal migrating birds

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Abstract

Altitudinal migration of birds is defined as movements of individuals from higher to lower altitudes and *vice versa* due to different causes such as variations in food availability (Chaves-Campos, Arévalo & Araya, 2003; Boyle, 2010), changes in weather (Boyle, Norris & Guglielmo, 2010) or trade-offs between predation and survival (Boyle, 2008). Altitudinal migrations of birds have been reported to exist for most major mountain ranges of the world (Mcguire & Boyle, 2013). In Africa, altitudinal migration of birds has been documented by several authors (e.g. West Africa: Stuart, 1986; south-central Africa: Dowsett-Lemaire, 1989; Southern Africa: Oatley, 1982; Johnson & Maclean,1994; East Africa: Stuart, 1983; Stuart *et al*., 1993; Burgess & Mlingwa, 2000; Werema, 2015a).

Several studies have discussed the aspect of altitudinal migration of birds in the Eastern Arc Mountains (Stuart, 1983; Stuart *et al*., 1993; Burgess & Mlingwa, 2000; Werema, 2015a). However, relatively little is known for some areas, particularly in the isolated forest fragments that are found at the lower altitudes. This note presents findings on the effects of season on understorey bird assemblages in Kimboza Forest Reserve, an isolated forest fragment located about 12 km from Uluguru Mountains. The main emphasis is on the aspect of altitudinal migration because no quantitative studies on altitudinal migratory birds covering different seasons are available in this forest reserve.