Fruit-feeding butterflies are among the best studied insects in tropical forests, largely due to the ease with which they can be captured using fermented fruit baits (Bonebrake et al. 2010; Freitas et al. 2014). Hanging-traps baited with fermented banana (Rydon 1964; De Vries 1988) permit simultaneous sampling in the canopy and understory, and therefore provide insights in the vertical stratification of fruit-feeding butterflies across the tropics (De Vries 1988; DeVries Murray & Lande 1997; DeVries & Walla 2001; Schulze et al. 2001; Fermon et al. 2003; Molleman et al. 2006; Barlow et al. 2007; Aduse-Poku et al. 2012). A noteworthy pattern in the vertical distribution of forest butterflies is that species richness and abundance is lower in the canopy than understorey for multiple tropical sites. For example, in both Borneo and the Brazilian Amazon, higher species richness and abundance of fruit-feeding butterflies were found in the understorey as compared to the canopy (Schulze et al. 2001; Barlow et al. 2007). Studies of forests of the Ivory Coast (Fermon et al. 2003), Uganda (Molleman et al. 2006) and Ghana (Aduse-Poku et al. 2012) detected considerably fewer species in the canopy than in the understorey, many of which were restricted entirely to this latter stratum.

Another common pattern among studies on vertical stratification of fruit-feeding butterflies is that certain subfamilies dominate either the understorey or canopy of forests (DeVries et al. 1997; DeVries & Walla 2001; Schulze et al. 2001; Fermon et al. 2003; Molleman et al. 2006). In some cases, there are even consistent stratum preferences by species at very local geographical scales, such as between the forests of Garza Cocha and Jatun Sacha in Ecuador (DeVries et al. 1997). This report presents the first evidence of consistent forest stratum preferences of tropical fruit-feeding butterfly species occurring between distant and biogeographically different African forests.

The study was conducted between 12 July and 12 August, 1990, in Mtai Forest Reserve (4.853883S 38.768292E), East Usambara Mountains, Tanzania (Cordeiro 1992; Roche et al. 2015). The East Usambara Mountains are a northern extension of the biogeographically distinctive Eastern Arc Mountains of Tanzania and Kenya (Lovett 1998) (Fig. 1). The area of Mtai Forest Reserve is approximately 3107 ha and comprises lowland to submontane forest (120 m to 1020 m a.s.l.) (Hamilton & Bensted-Smith 1989). The understorey is quite dense with undergrowth whereas the forest canopy is thinner, and ranges to about 20–30 m tall. The results from the present study are compared to Kibale National Park in western Uganda (Fig. 1), which is part of the biogeographically