Godfrey et al. Supplementary material

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| **Taxon** | **Traditional ecological knowledge and historic records** |
| *Pachylemur insignis* | Whereas bones of subfossil *Pachylemur* have been collected in abundance in southwest and central Madagascar, this animal is not well represented in the folklore of these regions. In contrast, possible eye-witness encounters have been recently reported in northeastern Madagascar. Descriptions of a large lemur called the ‘kisoala’ (Kiso = knife, Ala = forest) were recorded by Cortni Borgerson on the Masoala Peninsula in 2011 and 2012. In 2011, Borgerson interviewed eight male trappers each of whom was over the age of 60 at the time. Each had heard of the kisoala, but none had seen it. They had heard that it resembles the ruffed lemur (*Varecia*) but is much larger. It dwells in the largest of trees and is too big to use its small peripheral branches. It is called the ‘knife of the forest’ because its calls are as loud as thunder. The trappers noted that there was, still living, an old man who had seen the kisoala, and who lived about a week’s walk from their village. In the following year, Borgerson visited that person, who affirmed an encounter with the kisoala perhaps four decades earlier (Vasey and Godfrey, in press). |
| *Voay robustus* | Until recently, local people in southwestern Madagascar referred to two types of crocodile, one that they called ‘mamba’ and the other ‘voay’ (Vaillant and G. Grandidier, 1910). Voay generally referred to a widespread gracile form (*Crocodylus niloticus*) and mamba to a more robust form (now called *Voay robustus* in the western scientific literature). In the southwest near the Onilahy River and the Bay of St. Augustine, people noted that ‘mamba’ sometimes lived in caves with access to stagnant fresh water and in coastal lagoons to the north of Toliara, while ‘voay’ was more common in the rushing waters of rivers and near the mouths of rivers (Vaillant, 1883). Further south, near Tsimanampesotse, people described mamba as living in subterranean caves near lagoons and stagnant ponds and avoiding salt water; they said it would stash its prey in underground spaces adjacent to semi-stagnant waters. It was also described as larger in size than the more gracile voay. A mamba cranium and a separate mamba skin and whole skeleton were sent to the Paris Museum of Natural History (Vaillant, 1883), but they have since gone missing (Hekkala, pers. obs.).  Descriptions of the ecology and behavior of mamba and voay suggest that people had firsthand knowledge of both of them. Both Flacourt (1995) and Drury (in Vaillant and Grandidier, 1910) discussed the veneration of crocodiles in the southwest and the use of crocodile teeth for charms called ‘ody’ that could be used as sacred containers for small, valued objects. Ellis (1838) specified that ody were made from the teeth of mamba, some as large as 60 mm in circumference. People employed a special technique to capture mamba and remove their teeth before releasing them otherwise unharmed. According to Ellis (1838: 57), ody mamba were used as sacred charms through the early 1800s, and the people of the southwest at that time indicated that mamba were not long beforehand present in the region. More recently, sacred containers made from crocodile teeth were replaced by ody made from the tips of zebu (cattle) horns. |
| *Megaladapis madagascariensis* | When paleontologists from Europe began describing the bones of giant subfossil lemurs recently discovered at sites in southern, western and central Madagascar, it seemed logical to assume that a primate-like beast (the tretretretre) that Etienne de Flacourt had described in the mid-1600s must have been based on one of them. During the late 1800s and into the mid-1900s, *Megaladapis* became a favorite candidate for the identification of the tretretretre (e.g., Forsyth-Major, 1894; Trouessart, 1894). However, *Palaeopropithecus* is a better match (Mahé and Sourdat, 1972; Godfrey and Jungers, 2003). We currently lack historic records or local accounts that can be linked to *Megaladapis.* |
| *Aldabrachelys* sp. | George A. Shaw (1885, p. 264) reported that, in the late 1800s, giant tortoises still lived in the forests of western Madagascar. Perrier de la Bâthie (1934) reported personally observing the head of a “large turtle” surfacing briefly from underwater at Mitoho Cave. He thought this might be one of the last living members of the species *Aldabrachelys grandidieri*. Goodman and Jungers (2014) thought that it might have been, instead, *A. abrupta*. It is worth noting, however, that our expedition did recover a whole jaw of *A. grandidieri* at Mitoho Cave. |
| Elephant bird | Etienne de Flacourt (1995) recorded local accounts of a huge bird living in southern Madagascar in the late 1600s, although he never saw one. The Antandroy people called it the ‘vouron patra’ (from vorona, the Malagasy word for bird, and Ampatres, the land of the people of the local semidesert). They said it still lived in the southern half of the island during the mid-seventeenth century. Flacourt reported that the Malagasy used remains of their eggs as vessels to carry different types of liquids.  Hébert (1998) described a possible eye-witness encounter by a European in the late 1600s. A merchant stationed at Fort Dauphin called ‘Monsieur Ruelle’ and his hunting partner slaughtered what they called a ‘dragon’ in the land of the Antandroy (near Tolagnaro, or Fort Dauphin), and sent its skin to Louis XIV. While there are no records tracking the skin’s final destination in Europe, it is listed on the ship’s archives as belonging to a dragon. Ruelle’s description of the animal’s size, physical features and behavior match, albeit imperfectly, reconstructions of the anatomy and behavior of elephant birds.  In 1866, Alfred Grandidier found eggshell of these birds at the Cap Sainte-Marie. He presented this information at the French Académie des Sciences, noting that the eggshell belonged to a bird known to the local people (A. Grandidier, 1867).  Giant birds continued to appear in Malagasy (including Sakalava and Antandroy) folklore into the 1900s, although the stories became fantastic and allegorical. For example, Rabearivelo (1935) recorded the tale of ‘Imaitsoanala, fille d'oiseau’ (Imaitsoanala, daughter of a bird). Imaitsoanala was not an ordinary girl; instead, she hatched from an egg of an enormous bird whose eggs were sufficiently large to accommodate a newborn human. Her mother (‘Ivorombe,’ literally ‘big bird’) was strong, jealous, and capable ofkilling a man as powerful as a king. |
| *Archaeolemur majori* | During his interview with Burney and Ramilisonina (1998) at Belo-sur-mer, Jean Pascou described a large, quadrupedal lemur he called the ‘kidoky.’ Pascou likened this animal in size to a seven-year-old child and said that it habitually locomoted on the ground. He also said it had been last seen in the mid-1900s.  A few years after Burney and Ramilisonina interviewed Jean Pascou at Belo-sur-mer, primatologist Natalie Vasey set out to interview more people from the general region. She found people who remembered an animal that they called the ‘kindoky’; they claimed that this animal was fond of foraging for crabs in the coastal mangroves (Vasey et al., 2013).  Both Burney and Ramilisonina (1998) and Vasey et al. (2013) surmised that their descriptions of the kidoky or kindoky may be based on *Archaeolemur*, a semiterrestrial lemur that, like the New World robust capuchin monkeys (*Sapajus*), probably ate fruit, seeds, leaves, small vertebrates, and crustaceans (see Godfrey et al., 2005, 2012). |
| *Hippopotamus lemerlei* | When Etienne de Flacourt (1995, reproduced from 1661) was stationed at Fort Dauphin (Tolagnaro) in the mid-1600s, he recorded local accounts of a large animal called the ‘mangarsahoc’ (= ‘mangarysoaka,’ literally, ‘the beast whose ears hide its chin’). The local people described it as large, dangerous, capable of emitting terrible roars, and having long ears. Flacourt thought it might be a wild donkey. The French named a mountain not far from Tolagnaro ‘Mangarsahoc’ after the animal whose roar had been heard there.  French explorer Alfred Grandidier (1971) was fascinated by the possible existence of this animal, also called the ‘tsy-aomby-aomby’ = ‘cow that is not quite a cow,’ ‘omby bory’ = ‘cow without horns,’ ‘omby rano’ = ‘water cow,’ or ‘song-aomby’ = ‘not cow.’ Whenever he deemed it appropriate, he would ask local people about the animal. The village headman at Ambolisatra in southwestern Madagascar recognized the name of the creature and led Grandidier to a muddy pond where he said its bones could be found. This was the subfossil site known in the literature as Ambolisatra (later Andolonomby), where Grandidier found bones of Malagasy pygmy hippopotamuses and other extinct animals. Over a century later, at Belo-sur-Mer (= Ankilibehandry), another subfossil site on the west coast of Madagascar, but further north (near Morondava), Burney and Ramilisonina (1998) asked an elderly man named Jean Pascou to describe the local vertebrate fauna. Their technique was to share some animal photographs and record the man’s reaction to each. The photos included one of an African hippopotamus which Jean Pascou recognized as similar to an animal that used to live in this region. Other villagers became equally excited when summoned to see the photo, and everyone called the animal in the photo by its local Malagasy name, the ‘kilopilopitsofy’ (animal with floppy ears). The elderly man delivered an accurate portrayal of the distinctive sound that hippopotamuses make. According to Jean Pascou, hippopotamuses were last seen in the region of Belo-sur-Mer in 1976. His wife described an encounter in 1946. Another person from a different but nearby location, Antsira, recognized the photo of an African hippopotamus as similar to an animal that he called the “tsungaomby” that had been seen or heard at several nearby locations. |

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