

Alighieri's *Paradiso*, archeoprimatology, and the 'blue' monkeys of Thera and Crete: a comment on Masseti (2021)

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*La freccia del destino, quando prevista,
viaggia lentamente
[The arrow of destiny, when foreseen,
travels slowly]*

Dante Alighieri (1265–1321)

In a recent correspondence, Marco Masseti discussed current literature on the nature of the 'blue' monkeys of Minoan frescoes. Therein, Masseti (2021) tackles various ideas which have come to the fore in the context of a recent debate on this topic. In the beginning, the author gives a brief summary of this debate, saying that Pareja et al. (2020a,b) identify the monkeys in the Minoan frescoes as Indian langurs, whereas Urbani and Youlatos (2020a,b) variously identify them either as vervets or baboons. In fact, Pareja et al.'s new identification as langurs concerned only the wall painting of Akrotiri's Room 6 of Building Complex Beta (Santorini/Thera, Greece). By contrast, Urbani and Youlatos (2020a,b) identify those same monkeys as vervets in this specific site at Akrotiri, and the monkeys depicted in all the other frescoes from Crete and Thera as baboons (Urbani and Youlatos 2020a). At some points, Masseti (2021 p.1,3) mentions the articles of Pareja and collaborators when referring to the challenges posited to Urbani and Youlatos' ideas, by (a) highlighting that "Pareja et al. (2020b) reply to the criticism of Urbani and Youlatos (2020b), on the basis of arguments which are not fully convincing," and (b) noting "that Pareja et al. (2020b),

while acknowledging the importance of cross-disciplinary collaboration in archaeoprimatology, they do not seem to follow this statement confidently, insisting on justifying their taxonomic attribution of the Minoan 'cultural representation of monkeys' to langurs." We concur with this opinion (see Binnberg et al. 2021). Similarly, Masseti (2021) contested the alleged identification of the 'saffron gatherer' of Knossos as a rhesus macaque by Greenlaw (2011); we also agree. Therefore, we shall comment only on the remarks provided by Masseti (2021) regarding Urbani and Youlatos' interpretations.

First, contrary to what was implied by Masseti (2021 p.1), Urbani and Youlatos (2020b); which is a reply to Pareja et al. 2020a) identified vervets *only* in Room 6-Complex Beta. More precisely, Urbani and Youlatos (2020a p.3) proposed that these *Chlorocebus* monkeys can be described as having "rounded, short dark greyish/black muzzle, rounded face and cheeks, white band on the forehead, white ventral area, as well as elongated arms and limbs, and extended tail, [which] are key characteristics for their generic identification (...) and also shows versatile positional repertoire and non-terrestrial behaviours". However, in all other Minoan sites with primate depictions, the monkeys were identified only as baboons (Urbani and Youlatos 2020a,b, 2022), a conclusion that contradicts Masseti's view that all the primates represented in Minoan frescoes are *Chlorocebus* monkeys. Urbani and Youlatos (2020a p.3) described

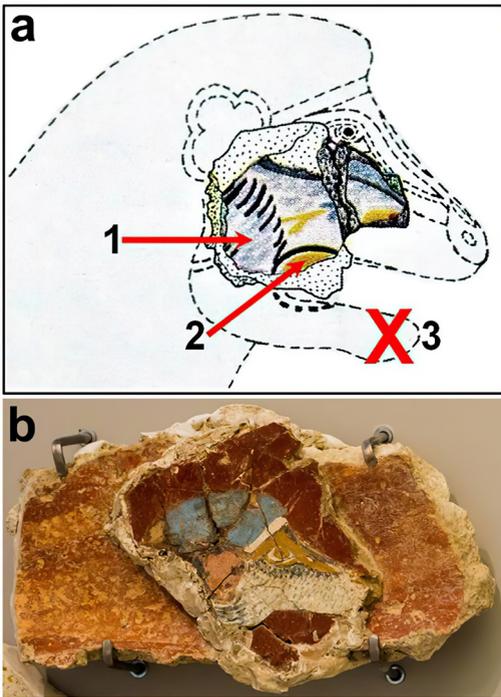


Fig. 1 – Fragments from the scene of the House of the Frescoes at Knossos, Crete: (a) two fragments on which Cameron's hypothetical reconstruction of the fresco with an 'egg-eating monkey' was based. If they are indeed part of the same –or actually– a monkey's head, as suggested by the possible whiskers (1), then, the purported yellow 'egg' (2) seems to be part of the background. Consequently, there is no reason to reconstruct the hypothetical monkey with an open mouth (3) (from Cameron 1968 Plate A2#3. Courtesy of and with permission from the British School at Athens [thanks to Amalia G. Kakissis]); (b) head of a baboon seen in profile (see Cameron 1968 Plate A1#1. Heraklion Archaeological Museum. Photograph by ArchaiOptix, 2019, Wikimedia Commons-CC BY).

the rendered baboons as having various diagnostic "physical traits such as short hair in the inguinal part, narrow waist, dorsal position of the tail base, elevated limb configuration, long muzzle and prognathic face, expanded thorax in relation to the whole torso, and hairless nasal dorsum [that] are characteristics of papionins. Furthermore, baboons are represented as terrestrial..." These descriptors are unambiguous and can be witnessed in Aegean

primatomorphic frescoes as appear in publications on this civilization. In fact, some of these papionin characteristics were already noticed by other researchers (e.g., Phillips 2008; Greenlaw 2011).

Masetti (2021 p.1) does not accept the view that there are two different kinds of monkeys represented in the wall-paintings and goes on to indicate that "the error of... Urbani and Youlatos (2012, 2020a) is perhaps to be found in the pictorial rendering of some of the monkeys that, at times, may have been portrayed with a slightly more pronounced profile of the head." However, this statement overlooks the existence of several morphological differences between the two iconographic types of monkeys, as one can clearly distinguish the papionin-like prognathic face with elliptically shaped eyes versus the flatter face with rounded eyes in vervet-like monkeys. Thus, Urbani and Youlatos (2012, 2020a,b) did not rely on a single phenotypic attribute, such as the facial profile, for identifying the monkeys, but on a set of attributes for vervets and baboons. Relying on a single trait would be committing a similar methodological error as Pareja et al. (2020a) who based their identification on a single character: the posture of the tail. In addition, Masetti correctly states that Groves (2008) agreed with his identification of the Minoan monkeys as *Chlorocebus*. Yet, it remains unclear whether Groves himself undertook a closer examination of all the available primatomorphic evidence; reading between the lines, it seems that he primarily had the monkeys depicted in Room 6-Complex Beta in mind. In fact, the single illustration of Minoan primates in his book only shows the *Chlorocebus* monkeys depicted in this Thera fresco (Groves 2008 p.19).

Second, Masetti (2021) corrects Urbani and Youlatos (2020a) in their assertion that he did suggest that the primates were observed in Africa before being depicted in Minoan art. However, Masetti (1980, 2003) had indeed suggested that Minoans observed (exotic) fauna in their native lands, probably Africa, or in Minoan enclosures. Masetti (2021 p.1) also states "that Urbani and Youlatos (2012, 2020a) believe that they are the first to notice that the Minoan blue monkeys are



Fig. 2 – Theran vervets beyond Akrotiri's Room 6-Complex Beta: (a) a real-size replica as sold in large studios of Santorini; (b) Greek stamp issued on March 30th 1973, Scott catalogue #1068-A323; (c) artistic reproduction made by local artists like C. Karmiris (photograph by B. Urbani. Objects [b, c] in B. Urbani collection).

portrayed from living examples, ... this observation had already been made by Masseti as far back as 1980..." This is not only a misinterpretation by Masseti, but also it would be an act of lack of academic modesty from our side. It seems irrelevant to us to assert that we are the first proposing any idea whatsoever; moreover, as in this case, it was already suggested much earlier by other scholars (e.g., Marinatos 1972).

Third, Masseti (2021 p.2) states that "Urbani and Youlatos (2012, 2020a) also seem to forget that... Masseti (2003) had already noted that

all the scenes in which the Minoan blue monkeys are depicted may reflect controlled environments..." Once again, we never claimed novelty on this issue either, even less so as it was already proposed very long before 2003 (e.g., Platon 1947). In this context, Masseti (2020) turns to a particular fresco and restates that at "Knossos, the [*Chlorocebus* monkeys] are depicted in the course of a raid on a nesting area of rock doves, *Columba livia* [Masseti 2006 p.297, 2021 p.2]" [that] "might explain why most of the 'blue birds' were depicted in flight" (Masseti 2000 p.90, 2003

p.275, 2019 p.29-30, Masseti and Bruner 2009 p.62). This scene in the House of the Frescoes at Knossos was indeed reconstructed as such by Cameron (1968) and his drawing is found in other articles on Minoan iconography (see Masseti 2000 Fig.2, 2003 Fig.30.3). Cameron also presented a hypothetical illustration of a monkey feeding on a dove's egg, frequently reproduced by Masseti (2000 Fig. 3, 2003 Fig. 30.4, 2019 Fig. 9) and Masseti and Bruner (2009 Fig.12). Masseti takes this behavior to signify that the Minoans observed a predatory habit that can be exhibited by *Chlorocebus* monkeys; nevertheless, egg predation is also part of baboon diet. In addition, the drawing of a monkey eating an egg is based on two small fragments of a possible head of a monkey (Cameron 1968 Plate A2#3) that should be treated with caution (Fig. 1a). Available photographic evidence is virtually lacking from this section of the scene (but see Fig. 1b) (Urbani and Youlatos 2022), and as can be seen in Figure 1a, this reconstruction by Cameron is likely incorrect.

Fourth, Masseti (2021 p.2-3) goes on to elaborate on the way the ancient Egyptians distinguished baboons and *Chlorocebus* monkeys. Yet, the fact that ancient Egyptians depicted these primates in a particular way does not mean that Minoans followed the same pictorial canons; there are stylistic and formal differences, expected if the representations were inspired by observations *ad vivum*. At the same time, there are Minoan artistic elements that might have been influenced by the circulation of iconographies, most likely from Egypt, and the current data support the connection between the Aegean and Egypt (Binnberg et al. 2021; Urbani and Youlatos 2022). Egyptian influence on Minoan primate imageries is well-known since the early years of the exploration of Knossos, has been expanded on primatomorphic artefacts from various art historical perspectives (Phillips 2008; Greenlaw 2011; Pareja 2017), and is currently re-explored in Urbani and Youlatos (2012, 2020a,b, 2022) and Binnberg et al. (2021).

In his correspondence, Masseti (2021) frequently refers to a chapter he recently published

(“Masseti 2019, and references therein”) as the prime publication regarding the ‘blue’ monkeys. Nevertheless, there are only brief mentions of these primates in three out of the total 25 paragraphs of the chapter (Masseti 2019 p.28-30, p.34-35). Even more so, out of a total of 105 references, the author lists only a dozen (mostly secondary sources) related to the Minoan civilization and has omitted many specific studies on the topic (e.g., Canciani 1973; Papageorgiou and Birtacha 2008; Phillips 2008; Greenlaw 2011; Pareja 2017), as well as fundamental works on Minoan culture which discussed primate depictions (Platon 1947; Marinatos 1972). In fact, this chapter reproduced Masseti's previous citations.

To finish, on the one hand, it seems interesting to observe that research on the identification of Minoan monkeys has attracted the attention of the media, as it happens with the general public that visit Aegean archaeological sites. The latter is actually reflected in the prosperous touristic market related to Minoan primatomorphic material (Fig. 2). On the other hand, we look forward to new interpretations and discoveries on Minoan archeoprimatology, stepping on the paths of pioneering scholars, such as Marco Masseti, and following new routes with recent methodological and theoretical perspectives on old inquiries (e.g., Pareja 2017).

References

- Binnberg J, Urbani B, Youlatos D (2021) Langurs in the Aegean Bronze Age? A review of a recent debate on archaeoprimatology and animal identification in ancient iconography. *J Greek Archaeol* 6:100-127.
- Cameron MAS (1968) Unpublished paintings from the ‘House of Frescoes’ at Knossos. *Ann Br Sch Athens* 63:1-31.
- Canciani F (1973) Scimmie a Creta. *Chron Archeol, Riv Ann Univ Catania* 12:107-110.
- Greenlaw C (2011) The representation of monkeys in the art and thought of Mediterranean cultures: A new perspective on ancient primates, *British Archaeological Reports*, Oxford.

- Groves CP (2008) Extended family, long lost cousins: A personal look at the history of primatology, Conservation International, Arlington.
- Marinatos Sp (1972) Treasures of Thera, Commercial Bank of Greece, Athens.
- Masseti M (1980) Le scimmie azzurre. La fauna etiopica degli affreschi minoici di Santorino (Thera). *Mondo Archeol* 51:32–37.
- Masseti M (2000) Did the study of ethology begin in Crete 4000 years ago? *Ethol Ecol Evol* 12:89–96. <https://doi.org/10.1080/03949370.2000.9728326>
- Masseti M (2003) Taxonomic and behavioural aspects of the representation of mammals in Aegean Bronze Age art. In: Kotjabopoulou E, Hamilakis Y, Halstead P et al (eds) *Zooarchaeology in Greece, Recent advances*, British School at Athens Studies, Athens, p. 267–275.
- Masseti M (2019) Monkeys in the Ancient Greek World (2000–500 B.C.). In: Veracini C, Casanova C., Scafari F (eds) *History of Primatology: Yesterday and today*, The Western-Mediterranean tradition, Aracne Editrice, Canterano, p. 21–51.
- Masseti M (2021) An analysis of recent literature regarding the Minoan “blue monkeys” represented in Aegean Bronze Age art. *J Anthropol Sci* 99:1–4. <https://doi.org/10.4436/jass.99002>
- Masseti M, Bruner E (2009) The primates of the western Palaearctic: a biogeographical, historical, and archaeozoological review. *J Anthropol Sci* 87:33–91.
- Papageorgiou I, Birtacha K (2008) Η εικονογραφία του πιθήκου στην Εποχή του Χαλκού. Η περίπτωση των τοιχογραφιών από το Ακρωτήριο Θήρας. In: Doumas C (ed.) *Ακρωτήριο Θήρας: Τριάντα χρόνια έρευνας 1967-1997. Επιστημονική συνάντηση 19-20 Δεκεμβρίου 1997*, The Archaeological Society at Athens, Athens, p. 287–316. [in Greek]
- Pareja MN (2017) *Monkey and ape iconography in Aegean art*, Astrom Editions, Uppsala.
- Pareja MN, McKinney T, Mayhew JA, et al (2020a) A new identification of the monkeys depicted in a Bronze Age wall painting from Akrotiri, Thera. *Primates* 61:159–168. <https://doi.org/10.1007/s10329-019-00778-1>
- Pareja MN, McKinney T, Setchell JM (2020b) Aegean monkeys and the importance of crossdisciplinary collaboration in archaeoprimatology: a reply to Urbani and Youlatos. *Primates* 61:767–774. <https://doi.org/10.1007/s10329-020-00855-w>
- Phillips JP (2008) *Aegyptiaca on the island of Crete in their chronological context: A critical review*, Vol. 2, Verlag der Österreichischen Akademie der Wissenschaften, Vienna.
- Platon N (1947) Συμβολή εις την σπουδὴν της μινωικής τοιχογραφίας. Ο κροκοσυλλέκτης πίθηκος. *Κρητικά Χρονικά* 1:505–524 [in Greek].
- Urbani B, Youlatos D (2012) Aegean monkeys: from a comprehensive review to a re-interpretation. In: Legakis, A, Georgiadis C, Pafilis P (eds) *Abstracts of the International Congress on the Zoogeography, Ecology and Evolution of Southeastern Europe and the Eastern Mediterranean*, Hellenic Zoological Society, Athens, p. 160.
- Urbani B, Youlatos D (2020a) A new look at the Minoan ‘blue’ monkeys. *Antiquity* 94:e9, 1–5. <https://doi.org/10.15184/aqy.2020.29>
- Urbani B, Youlatos D (2020b) Occam's razor, archeoprimatology, and the ‘blue’ monkeys of Thera: a reply to Pareja et al. (2020). *Primates* 61:159–161. <https://doi.org/10.1007/s10329-020-00825-2>
- Urbani B, Youlatos D (2022) Minoan monkeys: Re-examining the archaeoprimatological evidence. In: Urbani B, Youlatos D, Antczak AT (eds) *World archaeoprimatology: Interconnections of humans and nonhuman primates in the past*, Cambridge University Press, Cambridge, in press.

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