

matters arising

Defensive stoning by baboons

COMMENTING that deliberate stone-throwing by baboons had not been previously recorded by professional field observers, Hamilton *et al.*¹ described the behaviour from a colony of Chacma baboons (*Papio ursinus*) in South West Africa. This is not, however, confined to *P. ursinus*; I saw essentially similar behaviour from Anubis baboons (*P. anubis*) when on a short visit to Beldong Forestry Nursery in the Jebel Marra Massif of the Sudan in December 1962. The nursery is in a sparsely populated area, and at the time of the visit, had been in existence several years. As far as I am aware, baboons were not hunted locally and, from their general behaviour, they seemed to be partially habituated to the presence of the local population.

The stone-throwing incidents occurred while I was photographing on a steep hillside at about 1,800 m, some distance from the nursery where the vegetation had been cleared from derelict cultivation terraces. While I had been working across the hillside a troop of baboons, seemingly attracted by my presence, approached cautiously, stopping at intervals, until they were on the second and third terraces directly above me. After a short time, during which the troop showed some agitation, the largest male started dropping stones down the slope towards me, and was later joined by two, sometimes three, of the older baboons. The stones were taken from the broken terrace edge and cast with an underhand shovelling motion, as described by Hamilton *et al.*¹. By repeated trials I found that more stones were rolled down when I was bent over the camera on its tripod than when I stood to one side of it, suggesting that the apparent threat came from the observer-camera-tripod complex. This received some support from the baboon behaviour when I finally tried to photograph them casting stones; when I took up the camera and tripod for a closer shot, the troop fled upslope with much barking, the majority going over the brow of the hill, though some of the largest animals lingered on the skyline when I did not follow.

I took no measurements of the rocks used by the baboons but my notes indicate a size similar to those used by *P. ursinus* (corrected data, see reply) and possibly somewhat larger, though in this case the selection would have been for smaller

ones from the generally large rocks of the terrace wall. The 'aim' was uncomfortably good much of the time, but fortunately the terrace immediately above me caught or deflected most of the stones bouncing down the slope.

There is a difference between this example of stone-throwing and that of *P. ursinus*. In the latter, stones were cast from the rocky walls of the canyon where the baboons slept and retreated to when threatened by predators. In the present example, the behaviour took place well away from the sleeping area and the observer-camera-tripod complex seemed not to be perceived as a threat until the baboons themselves approached. As stressed by Hamilton *et al.*¹, partial habituation to humans was probably an important factor in this behavioural response. Although I have seen other baboons in the Sudan and northern Nigeria on inselbergs where stone-throwing might have been possible, I have seen no other example since. Elsewhere in the Sudan, the baboons were probably well accustomed to the presence of humans. In northern Nigeria generally, baboons are hunted and extremely wary, though in Yankari Game Reserve where, in contrast, they are protected and tame, they do not respond to camera and tripod in this manner.

ANTONY PETTET

23 Cole Park Road,
Twickenham, Middlesex, TW1 1HP, UK

¹ Hamilton, W. J., Buskirk, R. E., and Buskirk, W. H., *Nature*, 256, 488 (1975).

HAMILTON *et al.* wish to draw attention to the following errors which appeared in their letter (*Nature*, 256, 488; 1975): on page 489, line 9 should read 16.5 cm and 10.4 cm and not as printed; and in Table 1, last two lines should read SAM, subadult male and AM, adult male.

IN January 1973, I was conducting geological fieldwork in Baringo District. One afternoon I was approaching the fault scarp west of Lake Baringo, near Kampi-ya-Samaki, Kenya, with the intention of collecting some hyrax skulls which I had observed through binoculars when examining the nest of Verreaux's

Eagle (*Aquila verreauxi*). As I approached the cliff, a troop of about 15 baboons near the cliff started climbing it. My presence had obviously alarmed them, and a few individuals were barking with the typical "wahoo" call. I continued to approach the cliff and was almost at the top of the scree slope when a rock flew past my head and splintered just below me. At first I thought a baboon had dislodged a stone accidentally, but when I looked up to see where the baboons were, I saw another deliberately extend his right arm over the edge of the cliff and release a second stone. This happened several more times, but as I was scrambling down the scree to get away, I neglected to make a note of exactly how many stones were tossed towards me. It was, however, probably no more than ten.

The baboons had been about 50 m from me, parallel to the cliff when I first encountered them, but they deliberately scaled the cliff and then walked along the top so as to be above me when they released the stones.

My experience differs somewhat from that reported by Hamilton *et al.*¹, in that this was the first time I had ever seen this troop of baboons, so the troop was in no way habituated to me. The whole episode, from initial contact to my departure, was over in less than 5 min. In other respects, however, the behaviour was as described by Hamilton *et al.*

This record extends the stoning behaviour to Kenya, and as postulated by Hamilton *et al.*, the behaviour may be quite widespread. My native field assistant assured me that he had seen it several times, and said that baboons will attack goats and kill and eat them. I have never seen the latter, but have been told by many Tugen people that it is a common occurrence there.

I question whether the stoning behaviour should be labelled "defensive". There were definite connotations of "offence" in the behaviour I saw. In particular, I was over 50 m away from the baboons at first contact, and it was they who approached me along the cliff top. When the baboons first saw me they were evidently agitated, but once on top of the cliff were out of danger. Only a couple of baboons tossed stones, and to do this they had to walk over 50 m towards me. The tossing was accompanied by rapid eyebrow raising and a tense alert carriage on the part of the thrower. All other