On the Stoned, Swimming, Clothed Ape

The topic of humankind's ascent from our apelike ancestors is of hot debate, and there are currently several theories tangential to this matter floating around in anthropological circles. In order to understand these theories, and my own personal evaluation of them, we must first assess what concrete evidence we have.

It is now well known (source) that our earliest ancestors came out of the African savannah. The environment in which an animal first speciates usually tells us a great deal. While we like to pretend otherwise, at the end of the day humans are just another animals. As a result, a great deal of what makes us human can be traced back to action in that bygone savannah. Everything from our upright stature to our color vision evolved for a reason; whether it evolved on the savannah (or our trip out of it, for that matter) is less important. All that matters on this subject is that things evolve for a reason.

Let us first discuss bipedalism in humans. Our upright stature influences a great deal of our life histories, and so the evolutionary triggers (and the selective advantage of bipedalism) must have been very strong. The advantages of this strategy are self evident. Taller, upright postures allowed our early ancestors to see above the tall grasses of the savannah, a vital ability when it comes to spotting the predators (source). Upright postures also afforded us better climbing ability (or perhaps just different ability), and with that comes access to tree-borne food (source). I mention 'different ability' in regards to climbing to differentiate climbing ability between taxa. Cheetahs and lions are adept climbers themselves (source), so it is not so much that we became 'better' climbers than our predators. Different physiologies lend themselves to different climbing techniques, and different climbing techniques means that each individual is going to be better at climbing a different type of tree. Rather than beating them at their own game, we could instead start practicing a different game which we know a quadruped can't play. Our ancestors, lighter and smaller than their predators, could climb more slender trees and ascend higher into the canopy (source).

In tandem with this climbing ability, we also evolved a suite of mental abilities regarding pattern recognition. This is one of many chief human characters; one that informs our work as much as our play. The first pattern to recognize on the prehistoric African savannah was movement in the tall grass, and maybe an erect tail poking out (source). Predator avoidance also included tree recognition, and with that recognition comes swift decision making; should I climb this or that tree, take this or that route, etc. Of course, color vision and foraging acumen come next. It is important to note that these evolutionary milestones are not sequential, and indeed are more often simultaneous than not (source). We can see how tree climbing can inform color vision; if you happen to be in a fruit tree on the run from a big cat, you might as well grab a bite. Color vision also enhances decision making. Being able to differentiate between ripe and unripe fruit is a major foraging boon, and any work which requires brain power enhances the computing power of the brain.

The fight or flight response is not the only way which we make use of bipedalism. Important also to the story of human evolution is our presence as hunters. Evidence for ancestral hunting practices date to [date], but before this we more most often foragers and frugivores (source). There are several factors which shot us up the food chain, the foremost of which I have briefly discussed already. Human physiology allows us to hunt in ways that are not observed among other animals. Historically, we practiced what is known as 'persistence hunting'

(source). What this means is that we spend the bulk of the hunt running after our prey, waiting until it gets tired. Human endurance is among the best among vertebrates (https://doi.org/10.1038/nature03052), and a major reason for this is due to our upright stature (https://pubmed.ncbi.nlm.nih.gov/6849136/). All running mammals exhibit some form of stride/breath coupling, although it is distinctly different in humans. Running quadrupeds are constrained to 1:1 breathing (stride:breath), while humans are known to rotate through several different ratios. Bramble & Carrier list the following coupling ratios for humans: 4:1, 3:1, 2:1, 1:1, 5:2, and 3:2. They note that a 2:1 ratio is most common at stride, while slower gaits often take larger ratios. Interesting to note is that experienced runners were able to fall into a phase-locked stride withing the first few steps of the run, while inexperienced (although still physically fit) runners took a little longer to establish a consistent rhythm. What this tells us is human running behavior is 1. Intricate and likely refined over millennia of evolution, and 2. Purposefully different from quadrupeds.