

## *From the Editor*

# ARE OTHER HOMININS (HOMINOIDS) ALIVE TODAY?

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What are the most pressing issues confronting anthropologists at this juncture? In the March 24, 2012 issue of *New Scientist*, editors compiled their list of the ten biggest puzzles in human evolution:

- Why aren't we more like chimps?
- Why did we become bipedal?
- Why was technological development so slow?
- When did language evolve?
- Why are our brains so big?
- Why did we lose our fur?
- Why did we go global?
- Are some of us hybrids?
- Are other hominins alive today?
- Did we kill off Neanderthals?

That the question of relict hominoid survival into the present would be ranked among this litany of puzzling matters central to current anthropological research is a significant, if implicit, acknowledgement of the role and conceptual framework of this journal and the research and exploration for which it provides a refereed venue (Meldrum, 2012). It signals that the growing awareness of the complexity of hominin phylogeny has raised serious consideration of the possibility that pre-modern hominins, and perhaps some more distant hominoids, may still persist.

In a brief article<sup>1</sup>, addressing this question – *Are other hominins alive today?* – journalist David Robson gets off to a somewhat shaky start. He begins by making a dubious case for one of the most popularized potential relict species – sasquatch. He selectively cites an analysis by Lozier et al. (2009). This paper was motivated from a concern over indiscriminate application of ecological niche modeling (ENM) softwares to predict species distributions. To draw attention to their point, the authors ran a test case using ostensibly ‘suspect’ Bigfoot data. The results showed remarkable overlap with distributions resulting from analysis of coordinate data for black bear. The conclusion was:

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<sup>1</sup><http://www.newscientist.com/article/mg21328572.100-puzzles-of-evolution-are-other-hominins-alive-today.html>

“Thus, the two ‘species’ do not demonstrate significant niche differentiation with respect to the selected bioclimatic variables. Although it is possible that Sasquatch and *U. americanus* share such remarkably similar bioclimatic requirements, we nonetheless suspect that *many* [emphasis added] Bigfoot sightings are, in fact, of black bears.”

Based on this, Robson, and very likely many readers, inferred that *all* sasquatch sightings are “simply a case of mistaken identity.” Although this exercise appeared to have been undertaken rather tongue-in-cheek, in reality all three authors were actually quite interested in the Bigfoot phenomenon, and wanted to run these data through some ecological niche modeling (ENM) in order to see how it would come out.

“The results were actually remarkably consistent, both using the full dataset and just a subset for which footprint observations were available, and with points withheld to be used as check points. In fact, the ENM came out exactly how you would expect an ENM to look for a real animal fitting the description of a Bigfoot. But to get this published in the *Journal of Biogeography*, (and, I’m sure Jeff L. [Lozier] and Bill were thinking, to avoid the negative experiences you (Jeff M. [Meldrum]) have gone through in academia!), the paper had to be framed as “look how great the ENM can look even if you’re using suspect data” (Aniello, pers. comm.).

It is hardly surprising that models of distribution for sasquatch and black bear – two large ‘omnivores’ – should overlap. It must also be borne in mind that omnivory is a rather broad coarse category, and there are different ways for sympatric species to partition that generalized niche – behaviorally, anatomically, and physiologically. For example, the masticatory adaptations (jaw mechanics and tooth morphology) of a black bear are ultimately derived from a carnivore ancestor with carnassial dentition and a relatively short gut for protein digestion. Sasquatch is presumably derived from a frugivore-folivore

primate ancestor. From descriptions it seems likely that its jaws and teeth reflect a durophagous adaptation for processing hard/tough food items prevalent in temperate forest habitats. Its described bulk would suggest a long gut with slow passage-time and abilities to handle plant secondary compounds, common to primates, making a distinct range of food resources available (Meldrum and Mionczynski, 2007). In these ways, two ‘omnivores’ could conceivably partition the niche and experience minimal competition in their overlapping distributions.

Naturally there are bound to be cases of misidentification, when inexperienced or less critical witnesses attribute a flash of dark fur in the bush to a sasquatch. But to imply that *all* sightings can be rationalized and dismissed as encounters with black bears is hardly reasonable (Bindernagel, 2004). In spite of all the caveats about the unreliability of eyewitness testimony, there remains the fact that many qualified and experienced observers have had otherwise inexplicable experiences with a consistent phenomenon that has a remarkably rational ecological context.

Robson next implies that the physical evidence for sasquatch is found wanting based on an identification of an alleged sasquatch hair sample as in fact bison (Coltman and Davis, 2005). This sweeping generalization based on a single case, glosses over the accumulating samples of primate-like hair that indeed defy attribution to recognized species. This can be said of not only samples attributed to sasquatch (Gragg et al., 2011), but has also been the case with hair samples from other corners of the globe, such as samples from Bhutan attributed to the yeti of the high forests of the Himalayas subjected to DNA analysis<sup>2</sup>.

Obviously Robson cannot be expected to provide a comprehensive examination of the entire body of evidence, whether physical or trace, in two short paragraphs. Indeed many are surprised to learn of the extent and quality

<sup>2</sup><http://www.newscientist.com/article/dn583-mystery-beast.html>

of the evidence and context for sasquatch, and the various academics that have given it serious consideration (Meldrum, 2006). Robson's selectivity in presenting or spinning only two negative examples to characterize that body of evidence is questionable. In any case, Robson then turns to the more general possibility of relict hominoids globally:

"Nevertheless, a few scientists are willing to contemplate the idea that *Homo sapiens* is not alone. Jeffrey Meldrum at Idaho State University in Pocatello, points out that other hominin species coexisted alongside our ancestors for most of human history. That's not all. Our family tree can still surprise us, as happened with the discovery of *Homo floresiensis*, aka the "hobbit", nine years ago. This pint-sized hominin lived on the Indonesian island of Flores until 18,000 years ago."

That our ancestors coexisted with other hominin species continues to gain scientific recognition. Having multiple species of our genus alive simultaneously in the distant past is now seen as the norm rather than the exception (Forth, 2005b).

The discovery of *Homo floresiensis* threw this notion of coexistence into a new perspective. Not only did this novel species add to the past diversity of the hominin radiation, its fossil date of a mere 13,000 years ago [not 18,000 as reported by Robson] meant that it coexisted quite recently with members of our own species, modern *Homo sapiens*. Perhaps even more profound, it raised the very real possibility that this species might have persisted into the present (Brown et al., 2004).

This was a major acknowledgement to those investigating the puzzle of relict hominoids. Paleoanthropologist Chris Stringer, of the British Museum of Natural History said to Henry Gee, a senior editor of *Nature*, "One of the first things I thought of, on learning about the Flores skeleton, was a possible parallel with the orang pendek." (Gee, 2004).

The *orang pendek* is a possible relict hominoid in Malaysia. On the island of Flores,

the indigenous population, the Nage, refer to a similar diminutive hairy hominoid as the *ebu gogo*. Since hearing accounts of the *ebu gogo*, geochronologist Bert Roberts thinks it possible that *Homo floresiensis* still stalks the mountain forests of Flores (Forth, 2005b). Gregory Forth, who has studied the Nage folklore for over 20 years, agrees. He notes that "the *ebu gogo* may be grounded in some empirical, even hominological reality" (Forth, 2005a). He continued:

"As amazing as it may seem, the speculation that something corresponding to *Homo floresiensis* could still be alive, or at least lived so recently to have made an imprint on local memory, is one that I believe can reasonably be taken as a point of departure for further anthropological, including ethnographic, investigation."

Robson proceeds to point out that just two years ago came another surprise, when genetic analysis revealed a previously unknown species, the Denisovans, living in Siberia around 40,000 years ago (Reich, 2010). These hominins had large teeth and lived contemporary with modern humans and Neanderthals.

To this is added the breaking news of yet another candidate hominin multiplying the litany of recent, if not relict, hominins. This one was discovered in the Red Deer Cave site in China, in sediments with dates spanning 14,500 to only 11,500 years ago (Curnoe et al., 2012). The most complete skull possesses a mosaic of primitive features, modern human-like features, and Neanderthal-like features, combined with some features unique to themselves. Although Curnoe et al. stopped short of diagnosing a new species of *Homo*, they apparently lean heavily toward that interpretation. Others' preliminary opinions on the status of these hominins are varied at present. Colin Groves, a member of the editorial board of the RHI, was quoted saying, "I think it is potentially very important, telling us something about a species close to us but

not quite us” (Sydney Morning Herald).

In discussing his colleagues’ reactions, Curnoe (2012) noted that had the remains been found to be 300,000 years old the reactions might have been quite different. It was the young age that was such a surprise. In this vein, he pointed to the conundrum created by this find – what is an early modern human that looks like those living more than 100,000 years ago in Africa, doing in China a mere 11,500 years ago, and looking very different than its contemporary east Asian neighbors? This quandary highlights the recurring theme of unexpectedly recent persistence of several pre-modern hominin lineages.



Red Deer Cave hominin skull. Credit: Darren Curnoe.

Curnoe et al. point to other enigmatic finds that reflect increasingly complex scenarios of hominin evolution, which may indicate recent occurrences of archaic hominins, such as the Salkhit skull cap from northeast Mongolia, with a preliminary date of ~20,000 years ago (Coppens et al., 2008; Kaifu and Fujita, 2012).



Salkhit skull cap from northeast Mongolia (~20 ka).

A remarkably complete specimen of a pre-modern hominin, displaying archaic features of the skull and skeleton, was recovered from the site of Lishu, just outside Beijing, China, with a preliminary date of ~12,000 – 20,000 years ago (Lu, personal communication). It is on display at the Peking University



Lishu skull (~12 – 20 ka). Credit: Jeff Meldrum

With the growing recognition of the marked diversity of hominins through time, combined with the acknowledgement of regional contemporaneity of species and recent persistency, "Meldrum finds it easy to imagine that small groups of our cousins could be clinging on in remote areas..."

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