

The Hypoglossal Canal

An exploration originally written for Bobbie Short, July 2, 2015

by John Morley, Biologist

Aside: This article discusses a possible reason why sasquatch vocalizations are deemed to be beyond the capabilities of modern humans. CLM

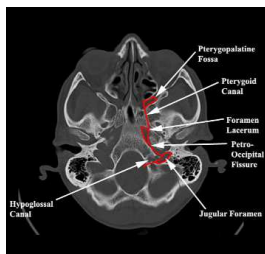
The late sasquatch researcher Bobbie Short had suggested that information regarding the hypoglossal canal [tiny canal in the skull that carries nerves] in sasquatch may be worthy of review and discussion as a part of my ongoing research on sasquatch sounds.

Another researcher had previously made reference to the hypoglossal canal. In response, I thought I'd share with them and a few others my present thoughts on this, as well as on a couple of other factors that affect the vocalizations sasquatch are known to make.

The first material I wrote was based on a hypothesis by Richard Kay of Duke University Medical Center. He postulated that the size of the hypoglossal canal in modern humans and Neanderthals is larger than that in non-human primates. Furthermore, because the canal carries the nerves which supply the tongue, the size of the canal could be considered an indicator of language ability.

I further hypothesized that if the canal in sasquatch was even larger than in modern humans, they could have an even greater innervated tongue than humans, which could likely result in greater tongue control.

I found a later study which tested Kay's hypothesis, proving it to be untrue. This study found that the size of the hypoglossal canal between human and non-human primates was not an indicator of language ability. Of course the latter study did not take into consideration the primates we know as sasquatch. This study did, however, find that the bundles of nerves enclosed by the canal could vary between members of the same species even though the canal size may be the same.



I believe, even in light of the more recent study (and because we are considering creatures the size of sasquatch), it is still possible that the hypoglossal canal in sasquatch may be larger than in any other known primates, including humans, given the significantly larger body size and bone structure of sasquatch.

A study by DeGusta, Gilbert, and Turner notes that the hypoglossal canals of some study cadavers contained more nerves than others, although the reason for this was not explained. In view of this finding, it seems reasonable to anticipate that the more nerves and axons carried by the hypoglossal canal, the more innervated the tongue is likely to be. Therefore, the more innervated the tongue, the more the tongue is able to influence the modulation of sounds produced by the vocal folds.

For example, we know that some people have great singing voices and others do not. We might ask whether people with great singing voices possess more nerves and axons within the hypoglossal canal. While all sounds begin with the vocal folds, the way the tongue, teeth, and mouth modulate and change those utterances determines what we actually hear.

Still, even a greater innervated tongue is only a part of what makes sasquatch vocalizations so special. Studies by Jorge C. Lucero and Laura L. Koenig, 2005, have shown that the vocal folds of the human male are larger than those of the female. Further noted was that the larger folds of the male are more easily oscillated (vibrated) than those of the human female. Thus, if both the male and female sasquatch possess even larger vocal folds than the human male, we can hypothesize (with good reason) that it is easier for them to produce oscillations of the vocal folds than it is for modern humans. Anticipating a significantly greater lung capacity in both genders of sasquatch, we can begin to understand their greater capacity for sound production.

Two other factors should also be

mentioned as relates to sasquatch use of a spoken language. One is bipedality. Bipedality is essential for articulated speech; it frees the lungs for unrestricted and controlled breathing, especially while walking and running. In apes, breathing is limited to intake and outflow in synchrony with their quadrupedal locomotion.

The second is possession of a distinctly human chin which differs from simian species which basically have no chin. Apes have what is called a simian shelf in the lower mandible which thickens the mandible. There is no chin as in humans. This thickening adds strength to the mandible but reduces tongue movement and limits muscle to the tongue. The human chin, lacking a simian shelf, is positioned forward, thus permitting an increase in tongue muscles and tongue movement.

All of these factors may contribute to the amazing vocal repertoire sasquatches are known to have. It is reasonable and likely that their use of speech and their greater prosody of speech (both discovered and identified by Scott Nelson) will find its explanation in these combinations of factors.

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Note: For references and further information on this subject please email John Morley <joro1120@earthlink.net>