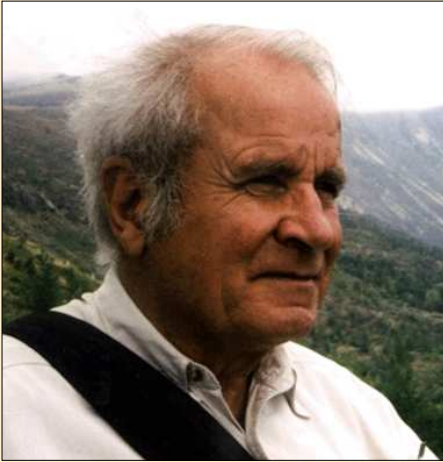# Sasquatch Statistics
# The Fahrenbach Findings

Dr. Henner Fahrenbach, 2003.

Dr. Henner Fahrenbach, formerly with the Oregon Primate Research Center (now retired), continues to be a major authority on the sasquatch issue. His research spans many decades, and he is convinced there is sufficient evidence to support the likelihood of the creature's existence. On the question as to why sasquatch credibility is not recognized by the general scientific community, he states, "It is easy to put off if you don't know anything about it. However, it is generally uncharacteristic for a scientist to respond in that way. That particular response is reserved for sasquatches."

The following is Dr. Fahrenbach's findings on his study of sasquatch footprints and other data.

INTRODUCTION

The data that produces these graphs came predominantly from the records of John Green (Harrison Hot Springs, B.C.), collected over the past nearly 50 years, with additional contributions by J.R. Napier, J.A. Hewkin, P. Byrne, and myself, in addition to some details extracted from the Patterson/Gimlin movie. This material was published in extended form in the journal *Cryptozoology* (W.H. Fahrenbach, *Sasquatch Size, Scaling and Statistics*, Vol. 13, 1997–1998, p. 47–75). The raw numerical material was not edited or selected, but used in its entirety. Thereby, the statistical noise was increased somewhat by some spurious data that were presumably included, but no bias was imposed upon them. The area covered includes 10 western U.S. States plus Alaska, and the western Canadian Provinces.

FOOT LENGTH: This histogram comprises 706 footprints, each one of them representing a short or long trackway, the latter sometimes extending over miles. The distribution is bell-shaped, meaning that it came from a biological population rather than being the result of forgery (an approach that would not have yielded the distribution). It is quite peaked, indicating that the males and females of comparable size/age are no more than about a foot different in height (see height graph, later). The average foot length is 15.6 inches (39.6 cm), the range extends from 4 inches to 27 inches (10.2 to 68.6 cm). The average male human foot is about 10.5 inches (26.7 cm) long.


1

Foot Width Distribution
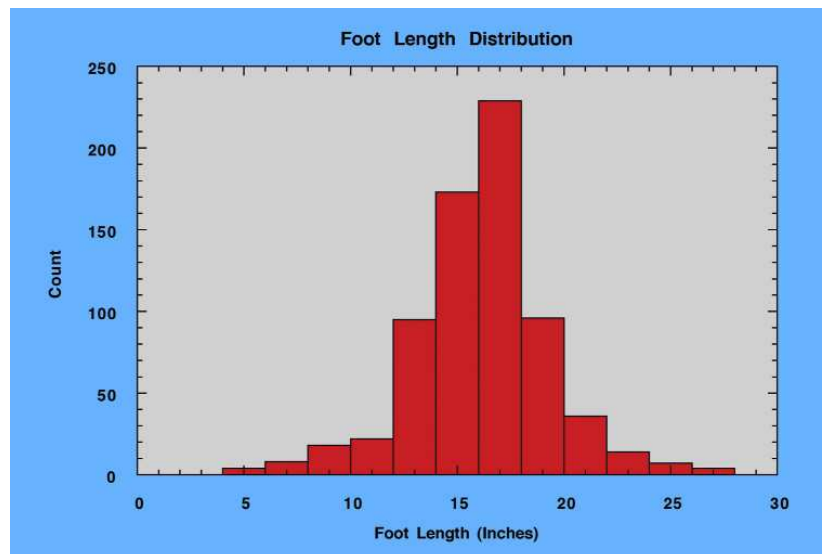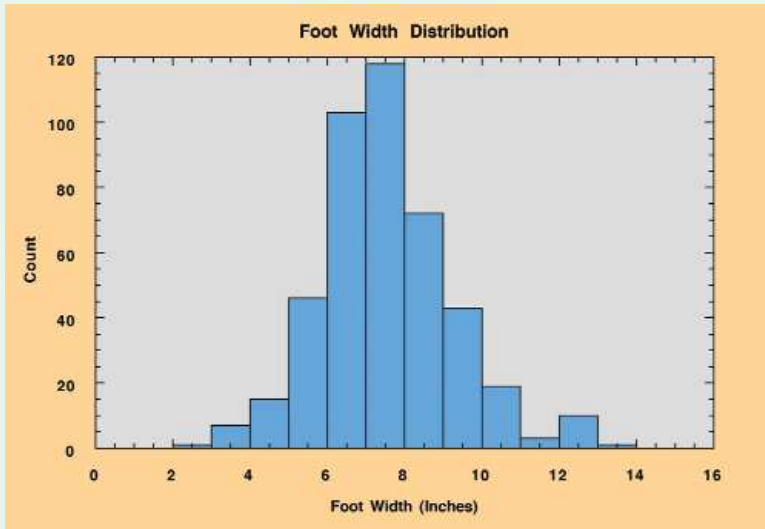
FOOT WIDTH: *This distribution describes the sasquatch foot width at the level of the ball of the foot. The range is 3 inches to 13.5 inches (7.6 to 34.3 cm), and the average width measures 7.2 inches (18.3 cm). Again, the distribution is described by a bell-shaped curve. In this case, 410 footprints were measured for width.*


Heel Width Distribution
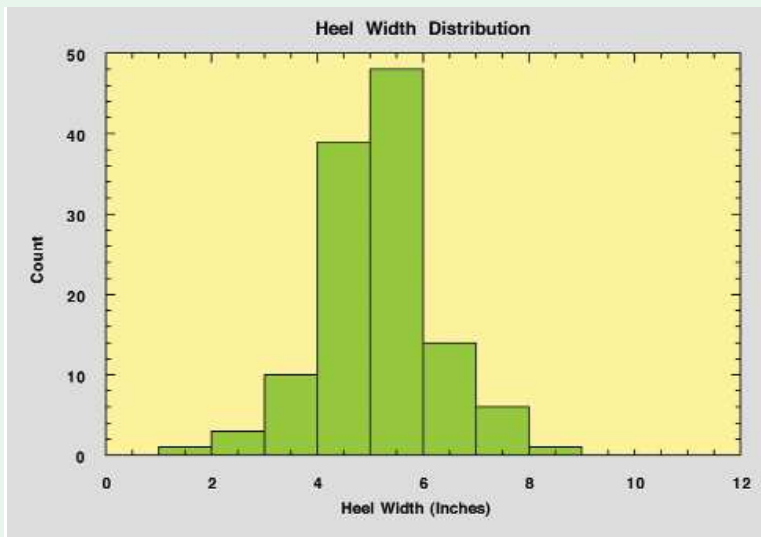
HEEL WIDTH: *Heel width is rarely measured; 117 measurements contributed to this graph. Even this limited sample yields a normal distribution in congruence with foot length and ball width. Heels range from 1.5 inches to 9 inches (3.8 to 22.9 cm) wide, with the average being 4.8 inches (12.2 cm).*


Sasquatch and Human Width Index Comparison
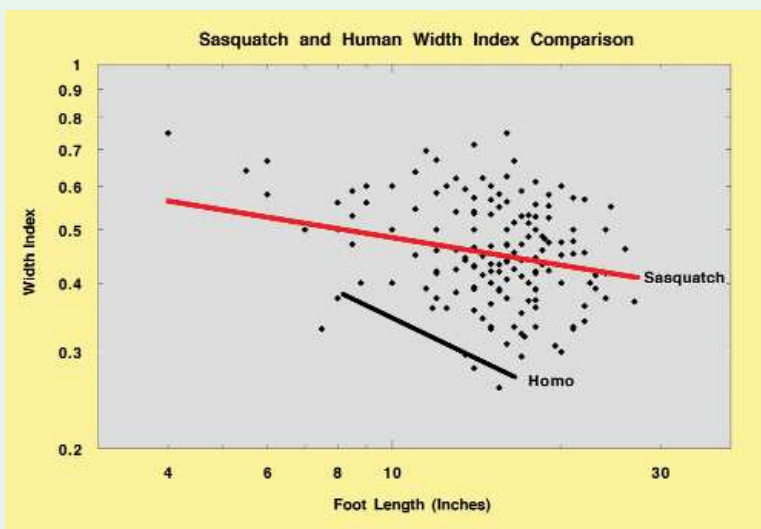
FOOT WIDTH INDEX: *A useful manner of describing the shape of the foot is the width index, meaning the width at the ball divided by the length of the foot. The larger the resulting fraction, the broader the foot is. The upper line, which averages all the data contained in the graph from 410 measurements, hovers about an average slightly under 0.5 with a very slight decrease in relative width with increasing length. By contrast, the lower line indicates the condition in man, in whom the foot gets relatively narrower as its length increases. It appears that sasquatch female feet are narrower than those of males, but insufficient data are at hand.*

2

STEP LENGTH: *Step length is a much less definable feature in that it ranges from aimless shuffling to full-out running. Usually steps are only measured when they represent a trackway, although even in this context it is often not stated whether the measuring was done from heel to heel or toe to toe rather than just from toe to the next heel. Even if the latter was applied (the wrong way), the result provides a step length that is <u>shorter</u> by the length of the foot. Thus, this graph represents a conservative minimum. Running steps are inherently hard to recover in the usual uneven and duff-covered terrain of the forest.*
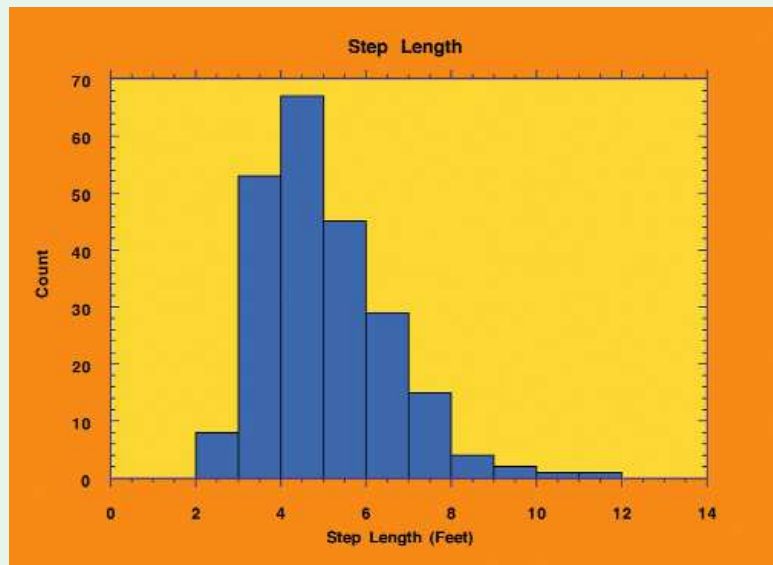

GROWTH: *The growth curve is based on fewer data than any of the preceding graphs, but nonetheless holds some instructive value. Anchor points were provided by the smallest recorded, barely walking feet of infants, arbitrarily designated to be one year old, and at the other extreme, those of a few identified female footprints. Three sets of footprints, thought by the respective collectors to belong each to one animal, all collected over a period of years, were fitted between the extremes. Since foot growth, seen here, is different from general bodily growth, the latter would describe a slightly different curve.*
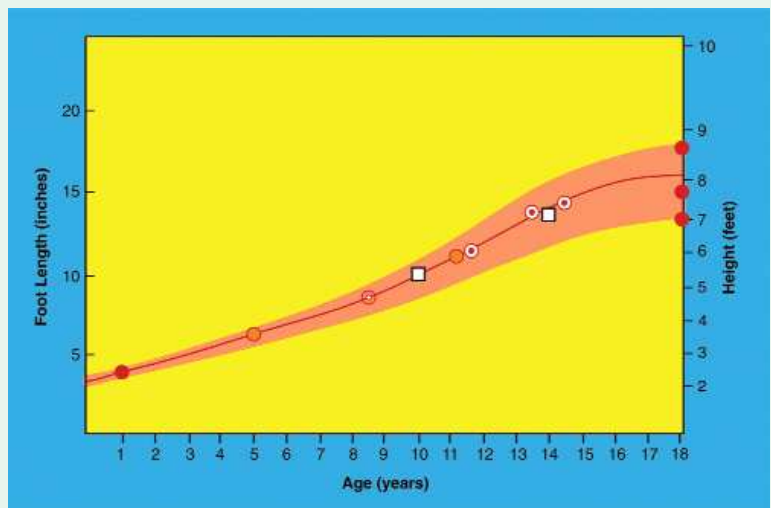

GAIT: *This graph depicts 297 cases in which both foot length and step length were measured. The red line averages all the steps and shows a steady increase in step length with foot length, approximately 5 feet (1.5 m) for the average-sized sasquatch. The black line is extrapolated (from human walking) to indicate at which level the gait changes from walking to running. Long running steps, though inherently rare in this species, are undoubtedly under-represented due to the difficulty of finding and following them. The approximate speed, based on cadence of 85 steps per minute, is indicated in the right Y-axis. The majority of the steps collected here probably came from animals walking at their normal, unhurried pace and were produced in the absence of man.*

Observed Foot to Height Relationship
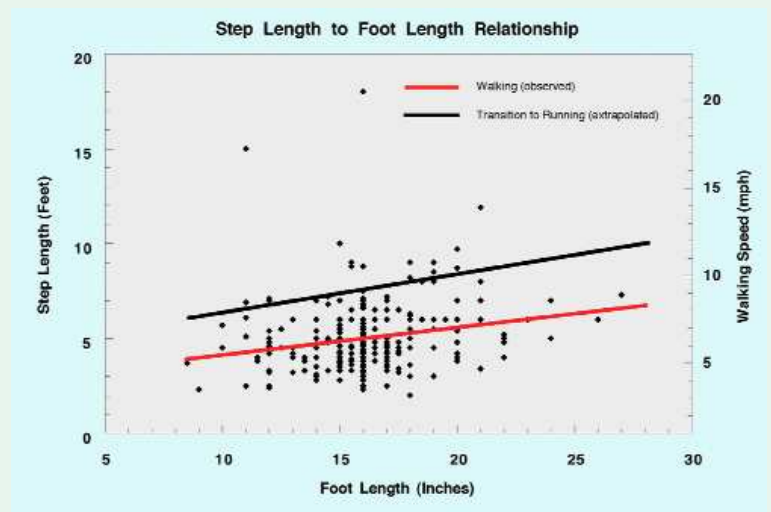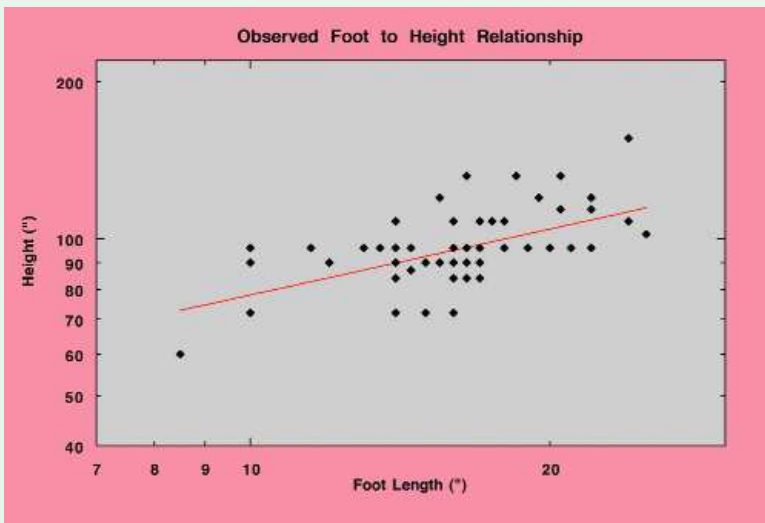
FOOT-TO-HEIGHT RELATIONSHIP: *In a number of visual encounters, the foot length was measured subsequently and is here plotted against the estimated height. Inspection of the regression line (the average of all data points) shows the surprising detail that for a 20% linear growth of the animal the foot grows 60%, lending the name "Bigfoot" some statistical credence. The biological reason is to be found in the fact that the weight of the animal rises with the approximate cube of its linear dimensions, thus outstripping the bearing weight of the sole unless the foot grows in excess of the rest of the body. As a consequence, in small animals the foot length has to be multiplied by about 7 to give the height, in average feet by 6, and in large feet by 5.*

Visually Estimated Height of Sasquatch
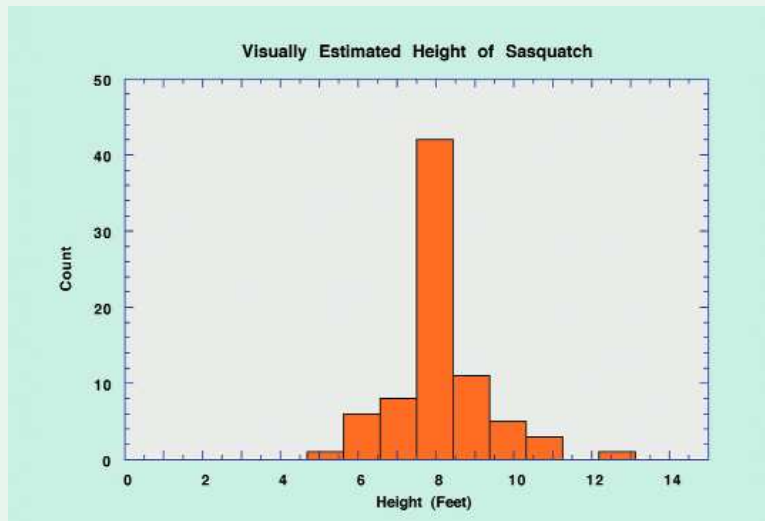
HEIGHT: *Eyewitnesses, notoriously inaccurate under the usual circumstances of surprise or fear, account for these records of height estimates. Nonetheless, the distribution is rather evenly centered about an 8 feet (2.4 m) height.*

Chest / Weight Ratios in Primates
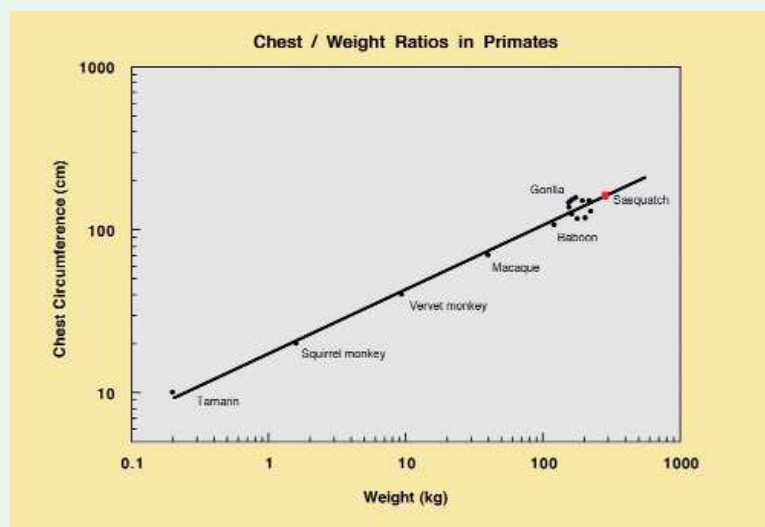
WEIGHT: *Estimates of weight are highly inaccurate, ranging in the case of the Patterson/Gimlin sasquatch through almost a full order of magnitude (280 to 1,957 pounds or 127 to 887 kg). There exists, however, in primates a tight relationship between chest circumference and body weight, ranging from tiny arboreal primates to gorillas. (The gorilla data points represent the weight of individuals, both wild and zoo–held, whereas data for other primates are averaged.) The chest circumference of the Patterson sasquatch can be derived by geometric means from a picture that includes the full 14.5-inch (36.8-cm) sole as a yardstick and amounts to 60 inches (152.4 cm). That figure entered into the graph yields a weight of 542 lbs (245.5 kg). Just like gorillas, sasquatch come in all ranges, from skinny to rotund.*

4

Dan Murphy (left) and Dr. Fahrenbach at the 1995 Sasquatch Symposium in Harrison Hot Springs. Dan is holding the Freeman sasquatch hand cast, which Dr. Fahrenbach has diligently studied. There is no doubt in his mind that the cast is from the hand print of an actual sasquatch..

Dr. Fahrenbach talking to reporters at the Willow Creek Bigfoot Symposium, September 2003.

Part of the speakers' line-up at Willow Creek, (left to right) John Green, Bob Gimlin, Jimmy Chilcutt, and Dr. Henner Fahrenbach.