Rowland Ward Ltd.
Specific Instructions for Individual Methods

In this document you will find specific instructions for individual methods of measurement to be included in *Rowland Ward's Records of Big Game*. Before reading these, please refer to the *General Instructions* and *Guiding Principles* as these must be adhered to for each entry.

The **RIGHT** way to measure is shown in **Blue** and the **Wrong** way to measure is shown in **Red**.

Table of Contents

Africa

<u>Method 3:</u> European and Persian Fallow Deer

Rank on the length of the longest antler.

General remarks: All large, mature fallow-deer buck have palmation or a tendency to form such. This is a much-prized quality for hunters. On very rare occasions a (partial) double palm may occur in some individuals. As noted in General Instructions, all out-of-the-ordinary trophies should be noted on the entry form and be well documented, and the same applies here.

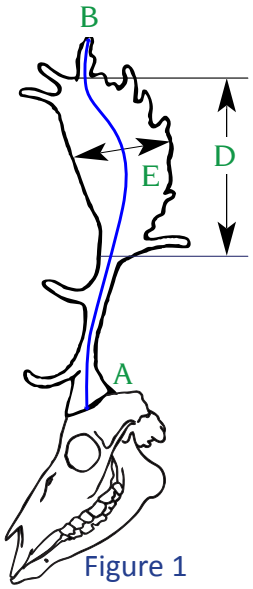


Figure 1

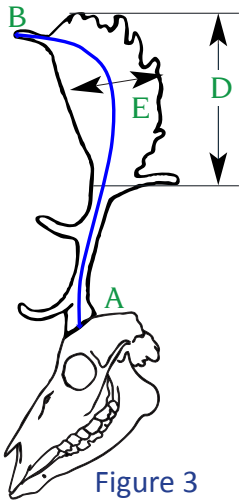


Figure 3

1. Measure the length of each antler on the outside curve from the lower edge of the burr (coronet) to the tip of the main beam. (Figure 1, A–B) Measure on the side of the burr at the lower edge, on the point that lies between the eye socket and the ear canal. In some cases a deer burr will hardly be any more in circumference than the main beam; in others it protrudes significantly like the top part of a cork of a champagne bottle. If the burr protrudes outward from the main beam, the tape measure must not be pressed into the 90-degree corner where the burr meets the beam; rather the tape measure must span this distance. (Figure 2)

Follow the natural curve on the center of the palm. (Figure 1) The center can be found by measuring the width of the palm two or three times from top to bottom and marking the center with a pencil. The tip is that tine that protrudes farthest and, thus, creates the highest score. (Figure 1, A–B) In many cases that tine is the foremost point on the top of the palmation, but sometimes the tip can be a tine toward the front or rear. (Figures 1 & 3, A–B)

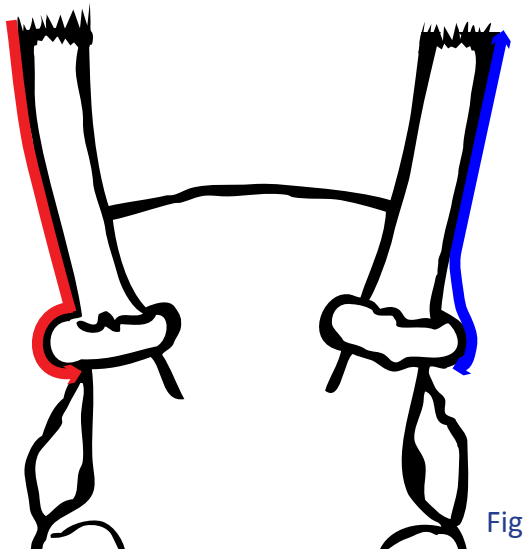


Figure 2

2. Measure the circumference of each antler at the smallest point between the brow tine and the second tine. (Figure 6, C) This can be anywhere between these two tines. In some cases fallow buck may have additional antler growths or protuberances (tines) in this area and several measurements will have to be taken to find the smallest circumference.

3. Measure the height of each palm along the outer curve from the point where the palm broadens to the furthest indentation between protuberances. (Figures 1 & 3, D) The lower point of this measurement should be taken where the first tine on the back of the palm starts. Use a pencil to mark a line from the back to the front of the palm, and then measure from there to the top.

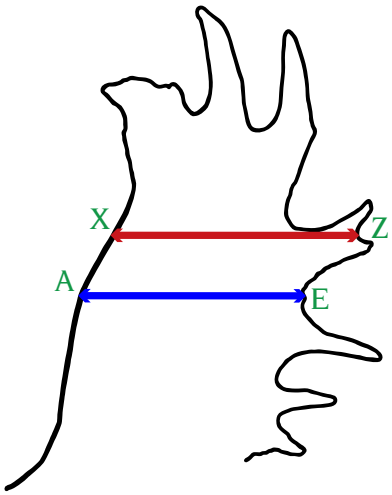


Figure 4

4. Measure the width of each palm along the outer curve at the widest place between protuberances; the measurement must be taken at a 90-degree angle to the axis of the palm. (Figures 1 & 3, E; 4 & 5, A–E) In this case the greatest score is to be sought, so again several measurements must be taken.

Be careful not to measure the width of the palm by measuring to a point between two tines that have a common base. The "bridge" found between such tines is not counted toward the total height or width of the palm. See red line (wrong) and blue line (correct) in Figure 4

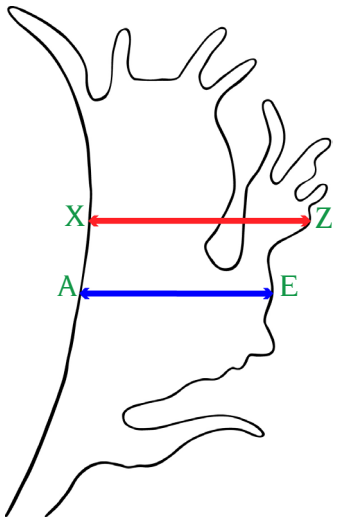


Figure 5

Some fallow deer have very deep splits between two tines in the palmated area that, in fact, make it seem as though the buck has two palms. A measurement of palm width must always be over antler material and must never span any air gaps. The “bridge” found between such tines is not counted toward the total width of the palm. See red line (wrong) and blue line (correct) in Figure 5.

5. Measure the widest inside span of the antler beams at a right angle to the long axis of the skull. (Figure 6, F)

6. Count all tines of 0.5 inch (1.3 cm) or more in length, include the tip of the main antler. To count as a point a tine must have a length that is equal to or greater than its base.

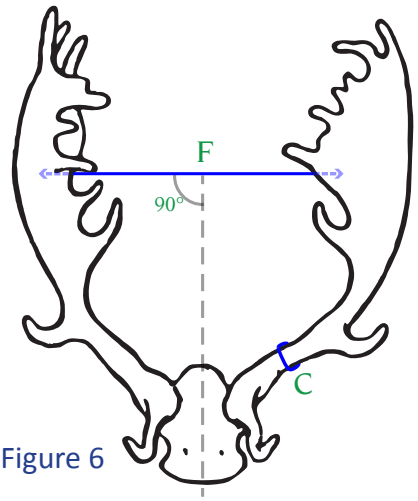


Figure 6

Method 5: **All Pigs and Hippopotami**

Rank on the length of the longest tusk.

General remarks: Note that the tusk needs to be removed from the jaw. (Figure 2) In most cases, this can be done easily once the skull has been boiled and cleaned. An injured tusk or missing tusk can make the opposite tooth grow to extraordinary lengths in swine and hippos because there is nothing to check its growth. Except as noted below, Rowland Ward will only accept swine and hippos that have all their upper and lower teeth in their natural places. All tusks must be uninjured and complete and must show normal wear and positioning in the jaws. If there is anything that enhances the measurement of a tusk, this must be noted on the submission form.

If a natural injury has caused the incisor to no longer grow toward its counterpart and if an extraordinary length occurs as a result, this does not disqualify the animal for the Rowland Ward record book. Such animals must always be noted on the entry form, however, and they will be placed in a subcategory if they materially influence the top listings of the rankings. Any manipulation of the incisors by humans will disqualify the animal from the record book.

Since these cases are very hard to judge once the teeth have been removed from the skull and have been cleaned, the editors advise all hunters to submit very carefully detailed information on any injured pig or hippo that has extraordinary scores. Photos are a must as are contact particulars of the guide. Without this supporting documentation, the editors will be unable to accept such an entry. Rowland Ward reserves the right to contact the people involved in order to make a fair judgment on the eligibility of the submission; consequently, email and phone numbers of the guide should be included on the submission form. All decisions made by RW will be final, and it is up to the hunter and the guide to prove the eligibility of a naturally injured animal.

Note: In the 30th edition, Rowland Ward will have a separate category for hippo tusks that grow to extraordinary lengths because of injury or missing upper incisors.

In rare cases pigs and hippos may have multiple incisors growing from the same cavity in the jaw; if this occurs, only the longest tusk is to be measured. In all cases, the longest tusks will be those of the lower jaw. The babirusa and warthog are the exception.

In case of babirusa pigs, all four tusks shall be measured. (Figure 3)

1. Length. Measure the length of the two longest tusks on the outer curve from the base to the tip. (Figure 1, A–B). Do not card off. (See General Instructions.)

2. Circumference. Measure the circumference of each of the longest tusks at its largest point and at a right angle to the axis of the tusk. (Figure 1, C) Typically this is somewhere between the gumline and the halfway point on the tooth. If there are any grooves in the teeth, the tape measure must span the grooves; the tape measure must not be pressed into any depressions. (Figure 1)

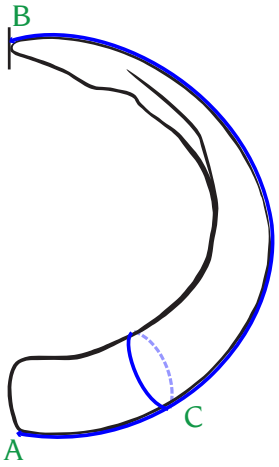


Figure 1 Wild Boar

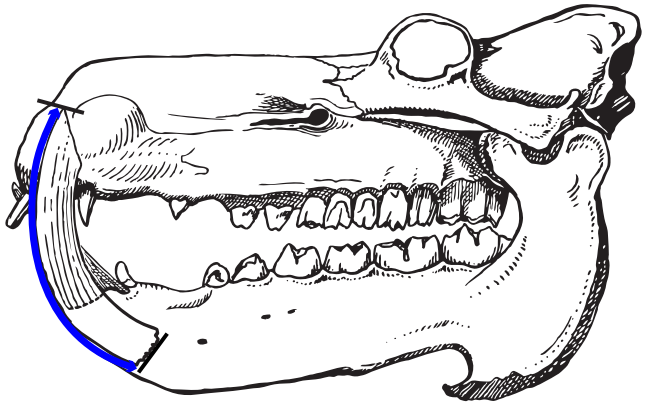


Figure 2 Hippo

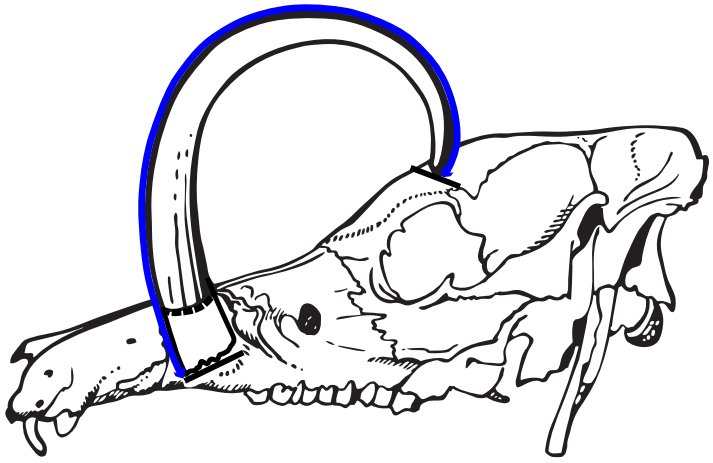


Figure 3 Babirusa*

**For clarity, only one of four tusks is shown.*

Method 7: **Comprises 7A–7C**

Method 7A: All African Antelopes and Gazelles with Simple, Non-spiraled Horns. This includes African Forest and Bush Duikers; Sables and Roans; Kobs; Waterbucks; Lechwes; Reedbucks; All Hartebeests; Impalas; African Gazelles; Dik-Diks, etc. (It does not apply to the addax, which is measured using Method 8.) All Asian antelopes; Saigas; Nilgais; Saolas; Four-horned Antelopes or Chousinghas, etc. (It does not apply to the blackbuck, which is measured using Method 8.) Reedbucks use Method 7-b. Do not measure/record the circumference of the bases. Measure length without including the "green" or soft/pulp material.

Method 7B Serows; Gorals; Chamois; Rocky Mountain Goats; True Ibexes; Spanish Ibexes; Pasangs/Bezoars; Tahrs; Feral Goats; Western and Central Turs

Method 7C: Eastern Turs; Aoudads; Bharal

General remarks. Because Method 7 encompasses the greatest number of species of any Rowland Ward method, the detailed measurement descriptions are necessarily longer than the other methods. For ease of use, we have divided the animals to be measured using Method 7 into sections that correspond to the various classes of animals. Pay attention to the graphics and text for each section, for these will display subtle differences in the measuring process.

In all cases, the grain of the horn should be followed from base to the tip. Any measurement obtained by not following the grain is not allowed. Use a pen or pencil to mark the line of the grain at intervals along the axis of a twisting and/or curving horn. This will aid in producing an accurate measurement. The only accurate way to follow the grain of a twisting horn (Figure 1) is by using a cable. Do Not Use a steel tape measure as it is almost impossible to keep the tape measure on the horn whilst also following the grain of the twisting horns. Even with two people doing the measuring, it is hard to keep the tape measure from shifting and buckling while following the contour of the horn.

Because many horns show knobs and/or ribs, the tape measure must go from the top of one rib/knob to the next and must not be pushed into the "valley." (Figure 4) Use a cable to measure and follow the grain. Start at the base of the horn at the front and end the measurement at the tip. If the tip is broken and the cable does not come to the end of the horn before the break starts, the tip must be carded off. (See carding off in General Instructions.) The blue line in Figure 4 shows the correct way to span the knobs, and the red line demonstrates the incorrect way to measure the length of a horn, which is to press the cable/tape into the ribs.

If you are in the field and have no cable at hand, you can measure a twisting horn with a tape measure by doing the following: Make a mark with a pencil where the horn starts to turn—and the tape measure begins to be difficult to hold onto the surface—and note the measurement of this interval; then take the tape measure and start from the marked point to the next twisting point, and so on. It is possible to get a field measurement this way, and what it will do is indicate the trophy's potential. For an official measurement, a steel cable must be used on twisting and curling horns because it is the only accurate way to measure these trophies. Measuring must take place after the drying period.

Circumferences: Most horns at the base will not resemble a piece of water pipe that has been cut off at a 90-degree angle. To measure the circumference of your trophy, find the lowest point where the tape measure can circumscribe the horn without it stretching over any "air gaps" as it goes around. (Figure 6) In some cases the horns may have valleys or deep grooves along the length of the horn right from the base. The tape measure

must not be pressed into these grooves or valleys but must span from one high point to the next. Circumferences must always be measured in a continuous loop but not necessarily at a 90-degree angle to the axis of the horn or antler. Do not "follow the border" by measuring along the outer edge of a horn and do not weave the tape measure up and down. (Figure 6) The tape measure must circumscribe a continuous, even circle. Tape measures made of soft materials such cloth or plastic rather than steel are better for the smaller horns.

Do not measure any taxidermist materials (in case of a mounted head); likewise, do not measure over hair or in places where you are not sure horn exists. Unusually swollen, diseased, or malformed horns must be noted on the entry form.

No soft horn materials may be measured. Reedbucks especially tend to have a large upside-down "champagne-corklike" protrusion at the base of the horn. Do not measure this soft, "green" material. On all animals, only hard, "mature" horn may be measured. Keep this in mind: If the materials won't last when exposed to normal boiling and cleaning, they should not be measured.

Method 7A: All African Antelopes and Gazelles with Simple, Non-spiraled Horns. This includes African Forest and Bush Duikers; Sables and Roans; Kobs; Waterbucks; Lechwes; All Hartebeests; Impalas; African Gazelles; Asian Gazelles; Saigas; Nilgais; Saolas; Four-horned Antelopes or Chousinghas.

Rank on the length of the longest horn.

In this category, animals such as hartebeests and impalas show twists and turns, and the grain of the horn must be followed along the central axis of the horn. (Figures 1 and 3) The blue line shows the correct way of following the grain with a cable, and the red line demonstrates the incorrect way. Note that the red line does not start on the center front of the horn, but rather on the side and, thus, the line has to cut across the grain to get to the center axis of the horn (Figure 3).

Care must the taken to keep with the grain of the horn for such animals as springbucks, Soemmerrings gazelles, and others with bell-shape horns. When you start at the front center of the horn and then gradually follow the horn, it is easy to gradually slide off to the outer curve of the horn rather than staying on the front. If you do so, you will no longer be following the grain, and this is the wrong way to score your trophy. (Figure 5) This common mistake in measuring, especially for springboks, unfairly increases the score on these horns. Do not do this.

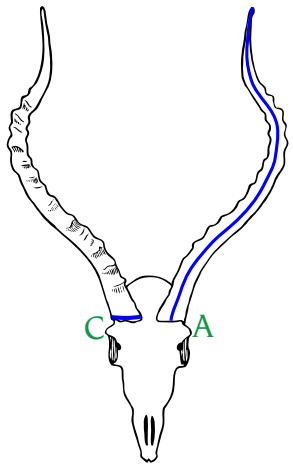


Figure 1 Impala

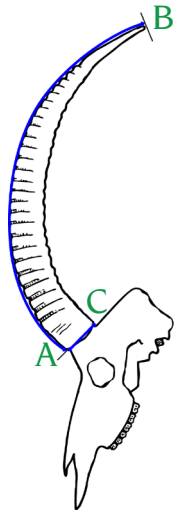


Figure 2 Roan

Some antelopes and gazelles have relatively smooth horns, but many more are deeply ribbed; these include Grant's gazelles, sables, hartebeests, and others. In all cases care must be taken to not only follow the grain but to "span the ribs" with a steel tape measure or cable from one high point to the next. Make sure not to press the tape measure/cable down in between the ribs. (Figure 4)

1. Length. Measure the length of the each horn on the front curve (in the center of the horn) from the lowest edge of the base to the tip. (Figures 1 to 5, 7, & 8, A–B)

2. Circumference. Measure the circumference of the base of each horn in a continuous loop. (Figures 1, 2, 5, & 7, C)

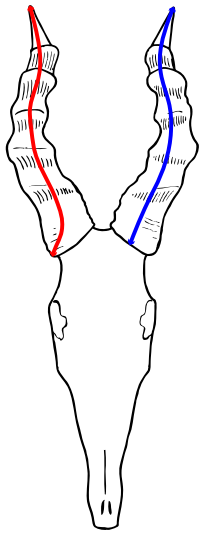


Figure 3 Hartebeest

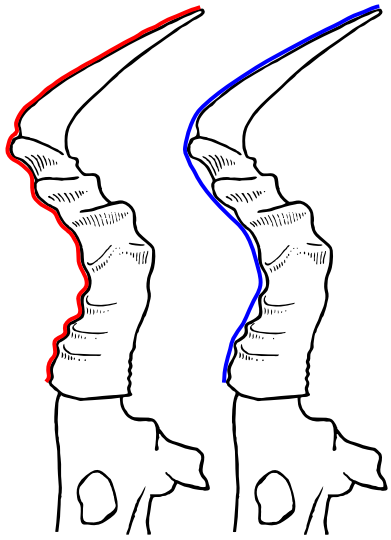


Figure 4 Hartebeest

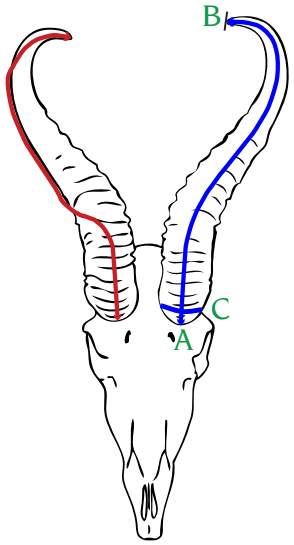


Figure 5 Springbuck

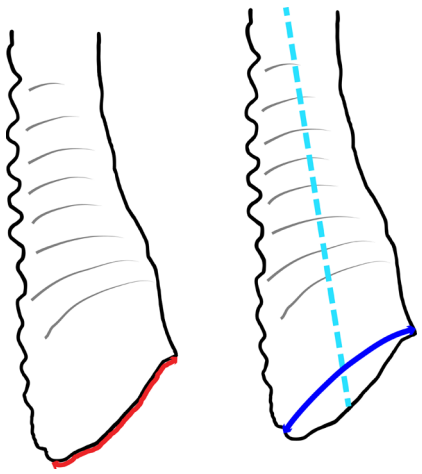


Figure 6

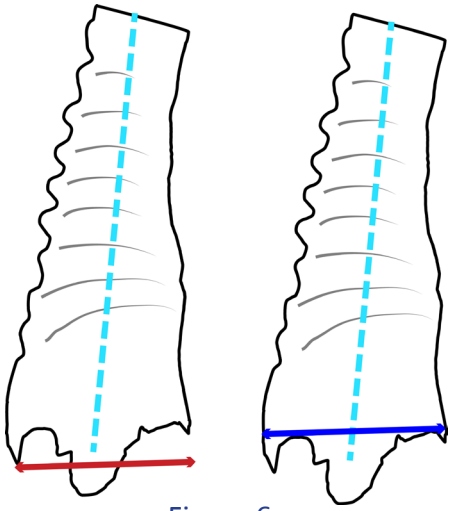


Figure 6

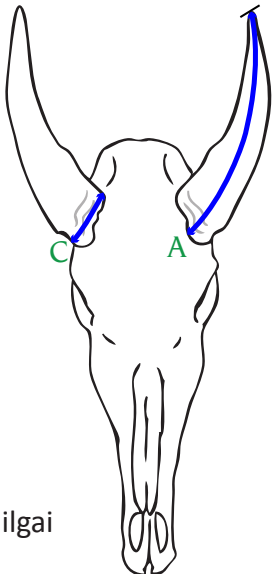


Figure 7 Nilgai

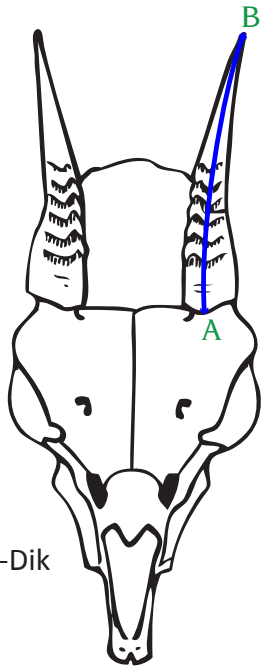


Figure 8 Dik-Dik

<u>Method 7A (Continued):</u> Four-horned Antelopes or Chousinghas

Rank on the length of the longest horn.

In the case of the chousingha or four-horned antelope, measurements should be recorded as follows: length and circumferences of all four horns. In addition, both the tip-to-tip spreads of the front and rear horns should be noted. Four-horned antelopes are ranked on their longest horn.

1. Length. Measure the length of the each horn on the front curve (in the center of the horn) from the lowest edge of the base to the tip. (Figure 9, A–B)

2. Circumference. Measure the circumference of the base of each horn. (Figure 9, C)

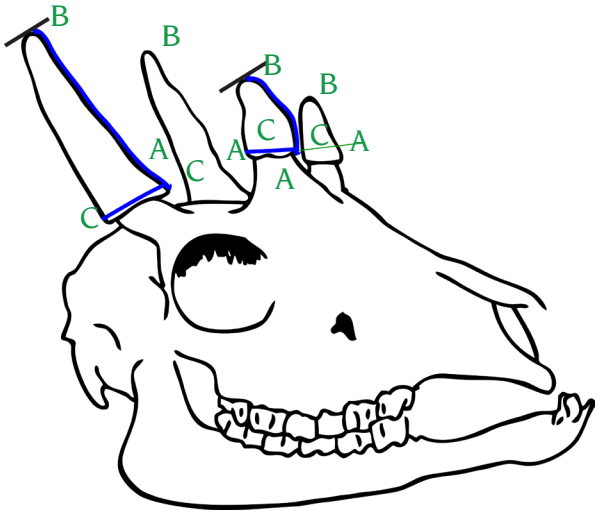


Figure 9 Four Horned Antelope

<u>Method 7B:</u> Reedbucks

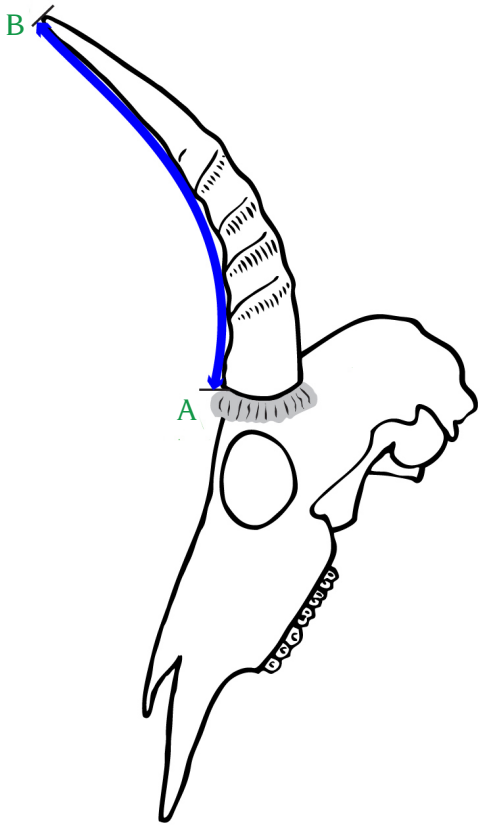
Rank on the length of the longest horn.

All species of reedbuck, but especially the common reedbuck, form a pulpy section at the base of the horn. This soft material can easily be penetrated with the point of a pen or a knife. This is horn in formation, and it must never be measured. Probe the horn for soft material with a sharp metal object; the demarcation between soft and hard horn will be the point where you start your measurement. (Figure 2) Most of the soft, green material will be removed or shrunk during the cleaning process, but sometimes a leatherlike residue will remain, and this should not be measured, so be careful where you place the tape measure at the start. With mounted reedbuck heads, you will often find the taxidermist has used materials to build up an artificial pulpy section—this artificial material must not be measured. With a mounted head, remember just because the material is hard, this does not mean it is horn.

Under the Rowland Ward system, the circumference of a reedbuck horn is not measured.

1. Length. Measure the length of the each horn on the front curve (in the center of the horn) from the lowest edge of the base to the tip. (Figures 1 & 2, A –B)

2. *No circumferences are measured for reedbucks.*



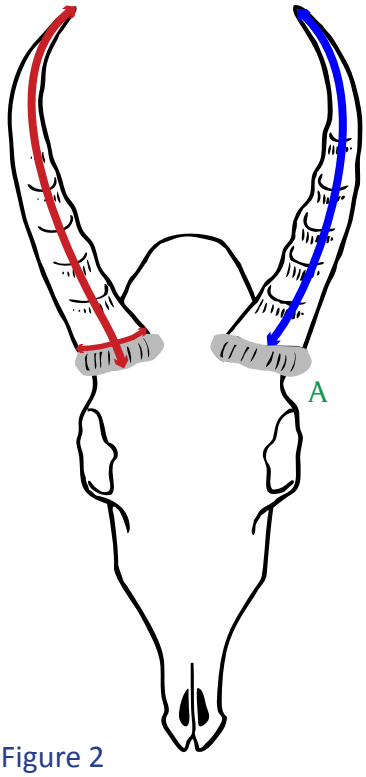


Figure 2

Method 7B (Continued): **Serows; Gorals; Chamois; Rocky Mountain Goats; True Ibexes; Spanish Ibexes; Pasangs/Bezoars; Tahrs; Feral Goats, Western and Central Turs.**

Rank on the sum of both horns and bases.

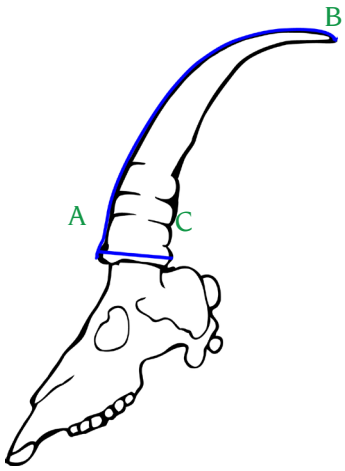


Figure 1 Rocky Mountain Goat

This very large subsection of Method 7 contains many rather straightforward-to-measure animals such as chamois, goral, tahr, and more. None should be overly complex to measure, but close attention needs to be paid to animals with twisting horns such as the Spanish ibex and feral goat.

To measure the length of the horn, follow the grain of the horn. If the horn twists or spirals, keep following the same surface where you started; see red and blue lines on Figure 7. Some ibex have relatively smooth horns, but many more are deeply knobbed. In all cases, care must be taken not only to follow the grain but also to "span the knobs" from one high point to the next with a steel tape measure or cable. Make sure not to press the tape measure/cable down in between the ribs. (Figures 5, 6, 8, & 9) Use a cable for horns that twist.

To measure the circumference, keep in mind that some Ibex may have a knob right at the base of the horn on one or both horns. Sometimes this knob, however, may be right above the base. (Nubian and certain Asian ibex strongly exhibit this characteristic.) In that case, the base measurement should be taken at the growth knob closest to the base. This will most likely result in a higher score. (Figure 5)

1. Length. Measure the length of the each horn on the front curve (in the center of the horn) from the lowest edge of the base to the tip. Follow the grain. (Figures 1 thru 9, A–B)

2. Circumference. Measure the circumference of the base of each horn parallel to the base of the horn. (Figures 1, 2, 3, & 5, C)

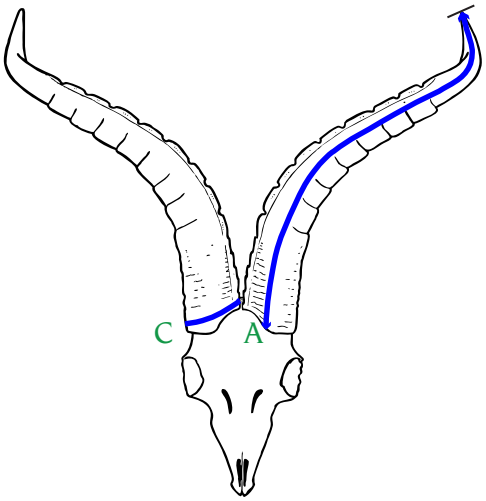
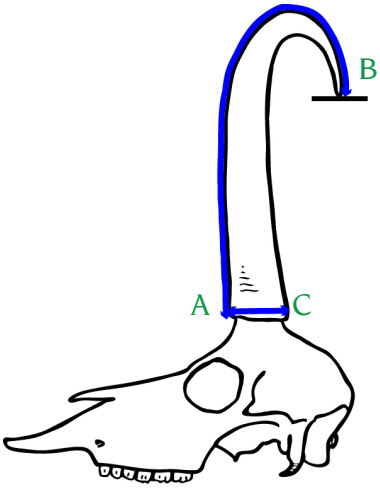


Figure 2 Spanish Ibex



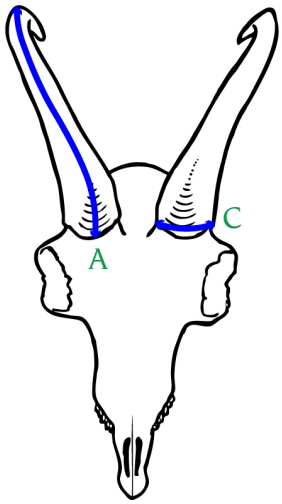


Figure 3 Chamois

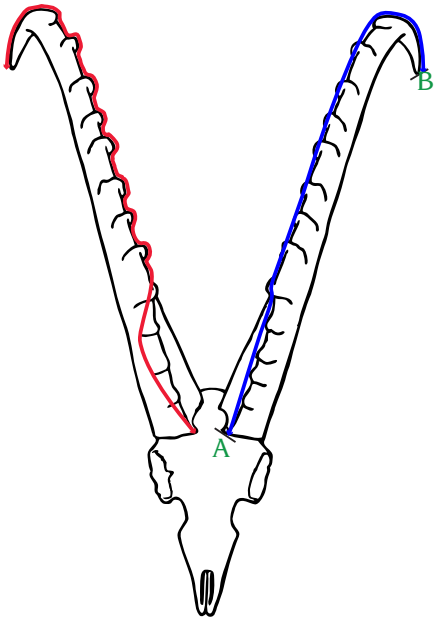


Figure 4 True Ibex

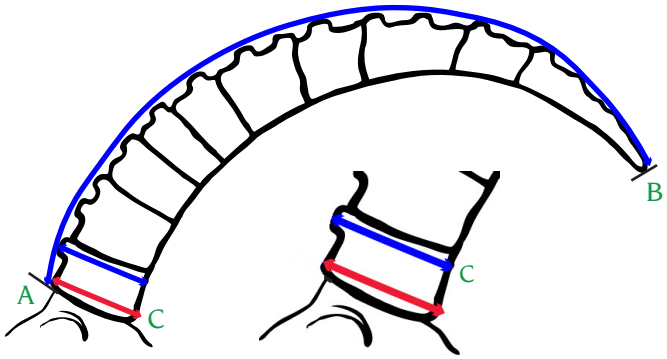


Figure 5 True Ibex

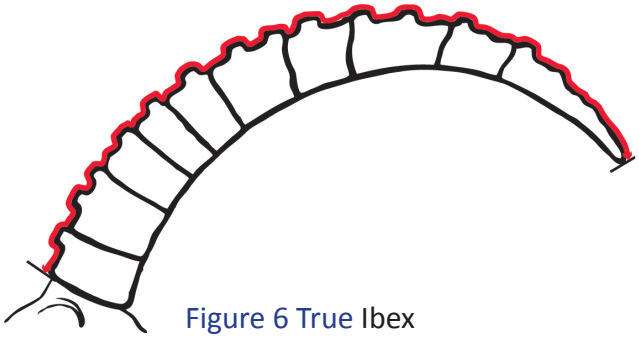


Figure 6 True Ibex

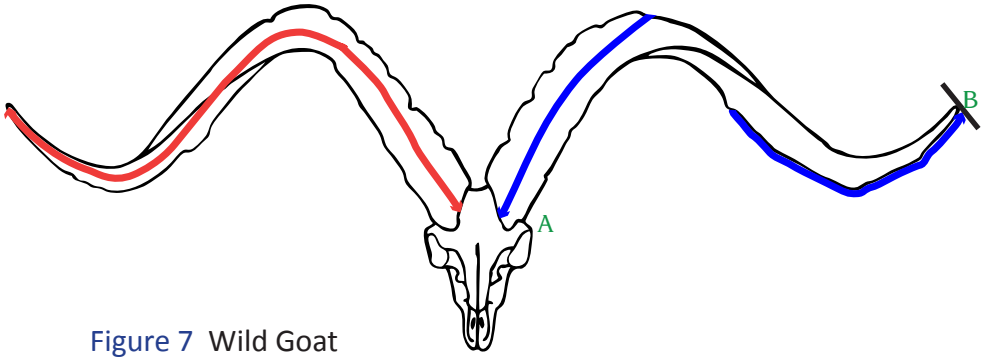


Figure 7 Wild Goat

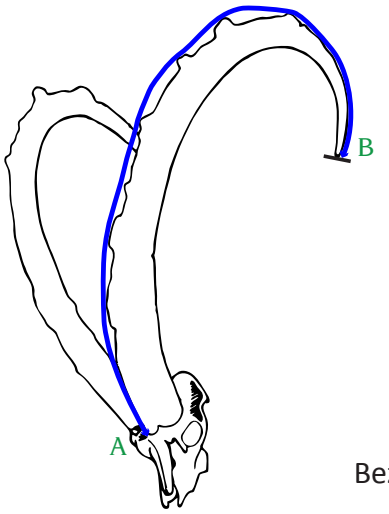


Figure 8

Bezoar/Pasang

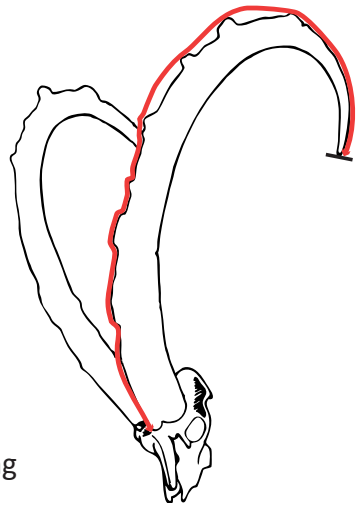


Figure 9

<u>Method 7C:</u> Eastern Turs; Aoudads; Bharal (blue sheep)

Rank on the sum of both horns and bases.

Aoudads, bharals and turs have curved and/or cylindrical horns. The frontal surface of their horns tends to be somewhat rounded where they meet the forehead; their horns do not have a ridge or hardly have a ridge; and they have no protruding "low point" on their horns like sheep and most ibexes. Given these factors, it is hard to know where to start the length measurement. This is solved by using the eye socket as a bearing for that measurement. See below. (For western tur and tur from the Central Caucasus, see 7C.)

1. Length. Measure the length of each horn on the front curve (in the center of the horn) to the tip. (Figure 1, A–B) Start the length measurement on the front of the base at the point of the horn closest to a line drawn from the center of the eye socket on the <u>opposite side</u> of the skull. (Figure 2). Do not measure from the lowest point of the horn near the eye socket on the same side of the skull. (Figure 2). Keep following the grain till you reach the end. With an aoudad (and many tur) the arc of the length measurement will more or less form a half-moon shape. However, with a truly magnificent tur trophy, the horn tips will point upward. To measure the length of the horn of such a tur, start the tape on the front center of the horn in line with the eye socket on the opposite side of the skull, curve over the horn, arrive under the horn, and eventually point straight up. If the tip is broken, card off. (See general instructions.)

2. Circumference. Measure the base of each horn. (Figure 1, C) The tape must form a continuous loop and be parallel to the base of the horn itself, albeit not necessarily at a 90-degree angle to axis to the horn. Do not measure anything but horn material—no hair, taxidermist filler, etc.—and do not press the tape into depressions.

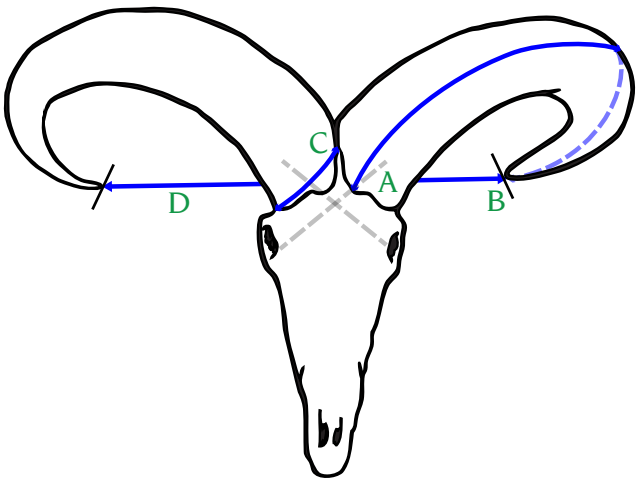


Figure 1 Aoudad

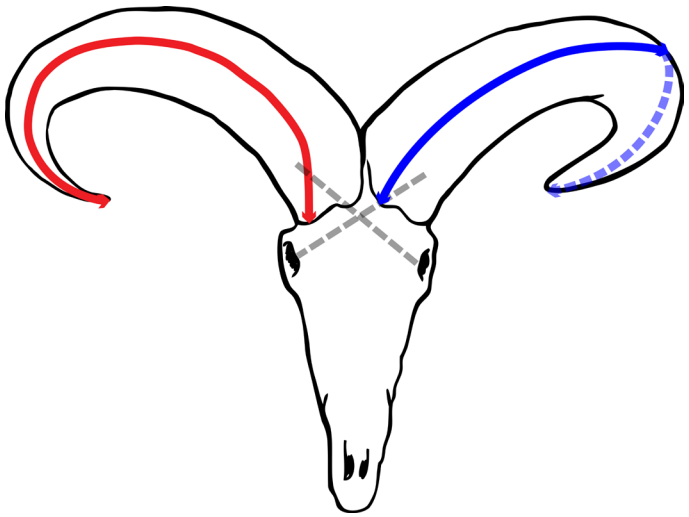


Figure 2 Aoudad

Method 8: **Spiral-horned Antelopes; Giant and Common Elands; Bongos; Mountain and Common Nyalas; Sitatungas; Bushbucks; Greater and Lesser Kudus. (Separate instructions are given at the end of this section for the Addax and Blackbuck.)**

Rank on the length of the longest horn.

General remarks: With all true spiral-horned antelopes, the measurement starts on the front keel (Figure 1, A) and follows the horn around to the tip. (Figure 1 B) In most cases the keel completely disappears before the tip is reached; when that happens, a straight line must be followed to the tip. With some species there will be little of a keel at the base of the horn—bongos and bushbucks come to mind. In such cases start the measurement on the front of the horn (at the lowest part) and follow the grain. With true spiral horns, use a tape measure only—not a cable—because cables tend to roll off the keel. Have a pencil handy and first mark the horn with way points to lay out the path you will use in measuring the horn. Sometimes the grain will barely be discernable at certain points because of wear, but if you look carefully the grain will appear again above or below such points.

1. Length. Measure the length of each horn around the spiral, keeping the tape measure on top of the spiral ridge. Start at the lowest point at the front ridge of the base and proceed to the tip (Figure 1 A–B). Where the spiral ridge ends near the tip, proceed in a straight line to the tip and do not continue to spiral.

2. Circumference. Measure the circumference of the base of each horn parallel to the base of the horn. This will likely not be at a right angle to the axis of the horn. (Figures 1 & 4, C) Especially elands and greater kudus have hard-to-measure bases, so care must be taken a) to ensure a continuous loop with the tape and b) to not depress the tape into valleys or deep grooves. These grooves run parallel to the spirals found along the lower part of the horns and right at the horn bases of these species. (Figure 4, note "Air Gap") The tape must span from one high point to the next; thus, there will be "air bridges" created by the tape while measuring. Do not weave the tape along the edge of the base. It is an advantage to have two people to measure the bases of the more challenging spiral horns. If possible, remove the horns from the skull and place the horns at such an angle so that the tape measure can be held parallel to the bases with the greatest accuracy.

The bases of spiral horns will not resemble a piece of water pipe that has been cut off at a 90-degree angle; thus, the temptation is to follow the uneven edges along the horn base and press the tape into valleys. The result will be a very much higher score for the circumference. This is wrong. (Figure 3) Do not follow the uneven edge of the horn, but instead form a tight circle parallel to the end of the horn. Find the lowest point where the tape measure can encircle the horn and measure there. (Figure 2)

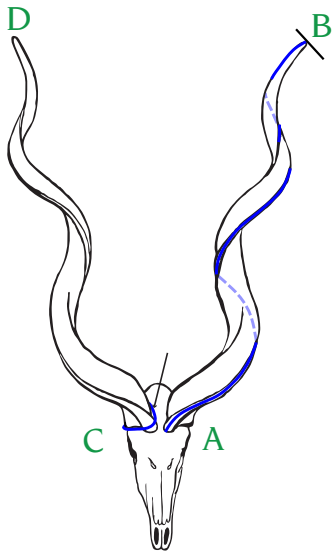


Figure 1

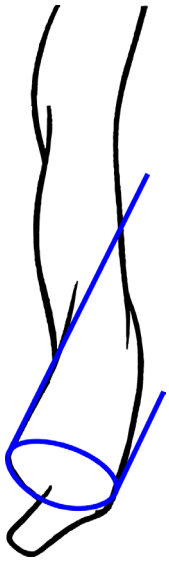


Figure 2


Figure 3

Addaxes and **blackbucks** are not true spiral-horned antelopes, albeit their horns do spiral. They are measured under Method 8.

Start the length measurement at the bases of the horn on the forehead on a point in line with the center of the eye socket on the opposite side of the skull. In most cases with the addax, a clear grain can be seen. Follow the grain around the spiral of the horn. With the blackbuck, this is harder because the density of the ribs distorts the grain, making it hard to see in some sections of the horn.

For both species, once the spiral runs out, follow a straight line to the tip. Unlike with the true spiral-horned antelopes, for these animals use a cable only and mark the path to be measured with a pencil or marker. Having another person to hold the cable down as it twists around the horn is of great help. In most cases, the horns of the addax and blackbuck have ridges that are so close together that it is very hard to push a cable into them. Nonetheless, do not press the cable into the ridges of the horns, but rather have it go from ridge to ridge like a bridge. The addax and blackbuck have relatively even and smooth bases, and, unlike their horn lengths, these are not hard to measure.

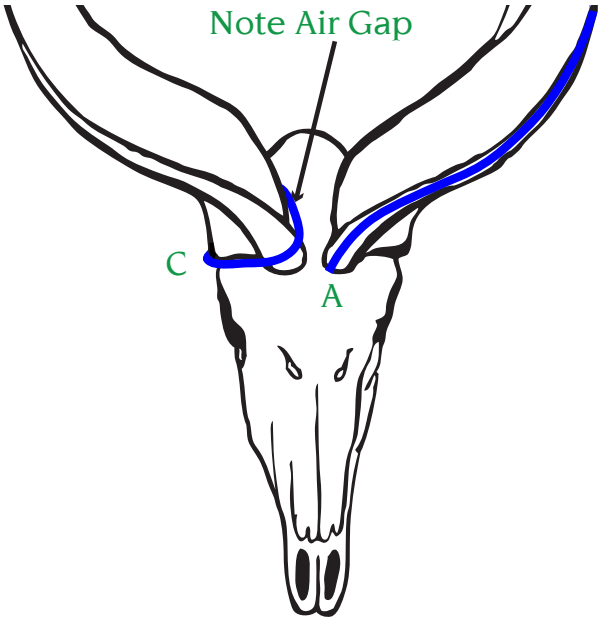


Figure 4

<u>Method 12A:</u> Cape, Nile, and Central African Buffaloes.

Rank on the sum of the measurements of the widest spread and the width of bosses.

General remarks: The best scoring heads of these three varieties of buffalo that fall under this method all have spread and boss development as their most desirable attributes. Rowland Ward emphasizes this.

If the buffalo trophy is a skull and horns, the preferred time to measure them is after they have been cleaned and dried but before they are mounted. It is much easier to see where actual horn starts and soft materials stop (which must not be measured). Measuring a mounted head is also acceptable but more difficult for a couple of reasons. First of all, it is large and unwieldy, and, second, sometimes the boss has been reconstructed by a taxidermist. If the boss(es) of a buffalo have been enhanced or accentuated or otherwise been altered by taxidermist materials, the head CANNOT BE MEASURED under the RW system. Practical experience has shown that it is impossible to know where the actual horn starts and human-applied taxidermy materials ends as actual horn may or may not be underneath artificial materials. Note that manmade materials cover part of the actual horn may be very difficult to see unless exposed to direct sunlight or a strong flash light. Do not assume that because you have a skull and horns only that the bosses have not been augmented, many such heads are. When in doubt about a head being enhanced, it likely is and in such cases do not measure it. Send detailed photos to the editor and ask for guidance.

Several measurements of a buffalo are needed, and none is particularly hard to obtain. Close attention must be paid, however, to making sure that a right angle is used in obtaining the spread measurement. The easiest way we have found is to lay the buffalo horns and skull on a smooth, flat surface such as a concrete floor, and then press one side against a wall or other surface that is at a 90-degree angle from the concrete floor. Place a carpenter's square (an L-shaped device made of hard plastic or metal) or a large carpenter's triangle on the floor and slide the other side toward the horn.

Make sure the axis of the skull is parallel to the wall. It is now easy to get a measurement. Hold the carpenter's square in place and carefully push the horns away. Now measure the distance between the wall and the edge of the carpenter's square by laying the tape on the floor. This method is much preferred over the method of measuring from the wall over the horns and skull to the carpenter's square because an air measurement may

easily lead to a tape measure sagging, and this will increase the score. However an alternative is to take a long piece of thin, straight wood and lay it over the skull and horns and rest the tape measure on it. In this case, make sure the wood is at a 90-degree angle to the axis of the skull.

1. Widest Spread. Establish the outer limits of the horns using two right-angle forms. Measure the greatest spread in a straight line and at a right angle to the axis of the horns. (Figure 1, A–B)

2. Width of boss. This measurement should be taken with a tape; however, a caliper will help establish the widest point of the boss and make measuring easier. Using a tape measure, measure the boss of each horn at its greatest width. (Figure 2, C) The angle for this measurement must be parallel to the axis of the skull. Establish the widest point with the caliper and mark it with chalk. Now take the tape and start at the forehead and curve the tape over the boss to the back. Do not press the tape into any depressions; span it over uneven points. Some bosses have a very thin front and other have a thick "lip." Do not measure the skull under the boss; measure the horn only; do not measure green horn and do not measure skull bone. In very pronounced bosses, there will be "overhang," and you will have the start the tape quite low near the forehead of the animal. The same situation may occur in the back.

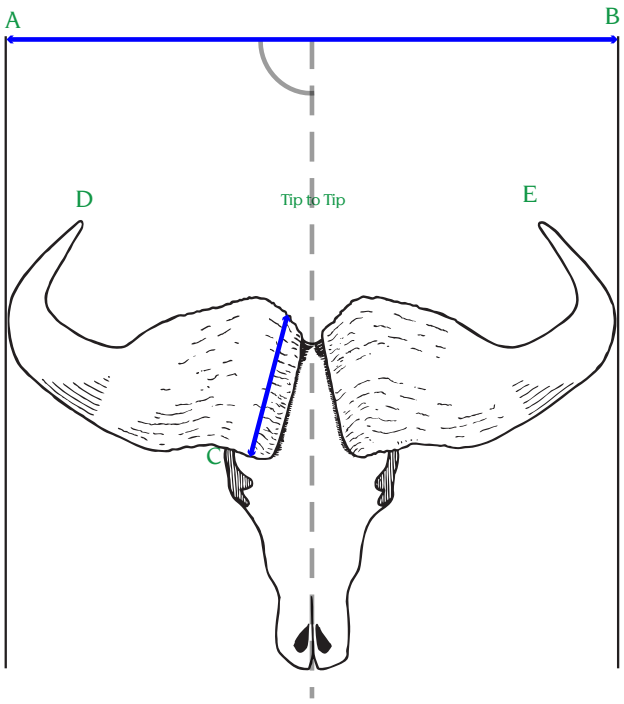


Figure 1 Cape Buffalo

3. Tip to tip Spread. Measure the spread, tip to tip. (Figure 2, D–E) This can be done with a steel tape, a steel cable, or a caliper, assuming the distance is not too great. In extraordinary cases, a buffalo may have genital injury (or is a hermaphrodite), and in such cases malformed horns may occur and the tip-to-tip measurement can be very large. Anytime a tip-to-tip measurement is greater than the widest spread, a photo must be submitted to the editors.

Method 12B: **West African Buffaloes and Dwarf Buffaloes**

Rank on the sum of the length of the horns and the width of the bosses.

General remarks: The dwarf buffalo and the West African buffalo have a separate method of measurement from other buffaloes. The spread is seldom very large, especially in the dwarf variety. The length of the quarter-moon-shaped horns and the bosses are the most distinguishing features of these smaller bovines. The dividing line between dwarf and West African buffalo is often unclear. The same holds true for the borders of the dwarf buffalo and other buffalo varieties.

Because of these factors, all dwarf buffalo submissions must be accompanied with good, clear frontal-face photos.

1. Length. Measure the length of each horn on the outside curve. Start at the lowest point in front and measure along the front edge, keeping to the outside surface and continuing to the tip. (Figure 1, A–B)

2. Width of boss. Measure the boss of each horn at the greatest width with a caliper. (Figure 1, C) You must use a caliper to take this measurement and not a tape measure. Make sure the adjustment wing screw of the caliper is tight so that once a measurement is taken the caliper does not move before you are able to take the distance measurement. Care must be taken not to measure any parts of a soft or "green" boss, as they are also called.

Often a taxidermist will enhance a soft boss with putty and other materials; this makes a soft boss seem like a hard boss once the head is mounted. In all cases a measurer must ascertain that he is measuring horn and not a soft or enhanced boss. Measurement must start where the natural horn is visible. Since it is sometimes almost impossible to see where putty stops and horn starts, measuring a head with an enhanced boss often results in smaller measurements than when taken from cleaned horns and skull.

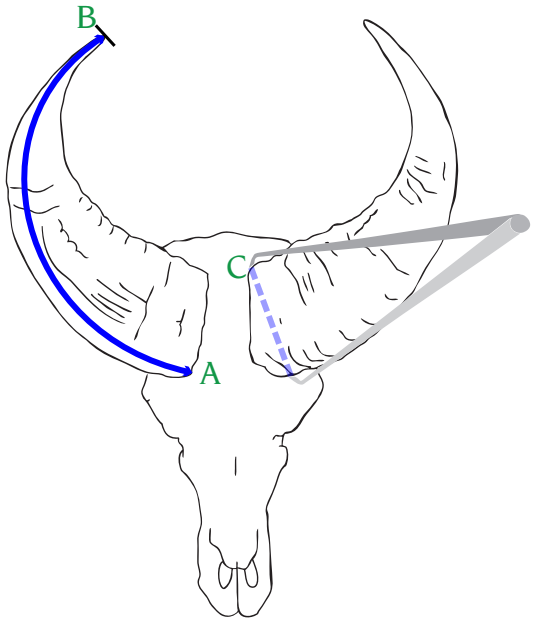


Figure 1

Method 13a: For All Brindled, Nyasaland, White-bearded Gnus / Blue, Cookson's, Nyasaland, White-bearded Wildebeests; All Takins

Rank on the widest spread.

General remarks: Rowland Ward used to place all wildebeests and most buffaloes under the same measurement method. They have a lot in common, but because a wildebeest has bases of which a circumference can be taken with good accuracy, something that is not possible with a buffalo, the editors decided to create a separate method for recording wildebeests.

Takins have many similarities with wildebeests and are also covered under this method.

1. Spread. Establish the outer limits of the horns using two right-angle forms. Measure the greatest spread in a straight line and at a right angle to the axis of the skull. (Figure 1, A–B). The easiest way we have found is to lay the horns and skull on a smooth, flat surface such as a concrete floor, and then press one side against a wall or other surface that is at a 90-degree angle from the concrete floor. Place a carpenter's square (an L-shaped device made of hard plastic or metal) or a large carpenter's triangle on the floor and slide the other side toward the horn.

Make sure the axis of the skull is parallel to the wall. Hold the carpenter's square in place and carefully push the horns away. Now measure the distance between the wall and the edge of the carpenter's square by laying the tape on the floor. This method is much preferred over the method of measuring from the wall over the horns and skull to the carpenter's square because an air measurement may easily lead to a tape measure sagging, and this will increase the score. However an alternative is to take a long piece of thin, straight wood and lay it over the skull and horns and rest the tape measure on it. In this case, make sure the wood is at a 90-degree angle to the axis of the skull.

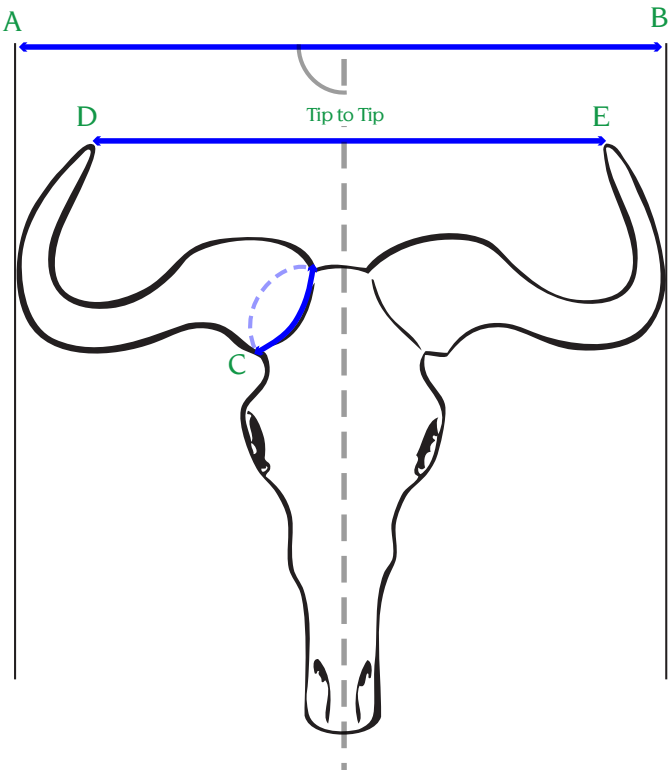


Figure 1 **Blue, Cookson's, Nyasaland, or White-bearded** Wildebeest

2. Circumference of the boss. This measurement should be taken with a tape, and it is somewhat akin to the measurement of a burr of a large deer but smoother. Measure the circumference at its largest circle with a tape in a tight loop. In general the bases of a wildebeest are quite smooth; nevertheless, do not press the tape into any depressions or cracks.

3. Spread. Measure the spread, tip to tip. (Figure 1, D–E) N.B. The tip-to-tip measurement must be 5% less than the greatest spread. If not, the animal falls into the nontypical category.

For All Subspecies of Takins
Rank on the sum of 1 and 2 for takins.

1. Spread. Establish the outer limits of the horns using two right-angle forms. Measure the greatest spread in a straight line and at a right angle to the axis of the skull.

2. Circumference of the boss. This measurement should be taken with a tape. Note that the boss of a takin is often not rounded like that of a wildebeest and that with some individuals the horns bulge and enlarge one to two inches above the base in other words do not measure the bases higher up the horns. Do not wave the tape around but stay at the base of the horn right above the hairline. The takin is easiest and best measured before the trophy is mounted.

<u>Method 13b:</u> White-tailed Gnus / Black Wildebeests

Rank on the length of the longest horn.

General remarks: This is the only animal in Africa under the Rowland Ward system that has a method of its own. It is not hard to measure, but establishing the starting point for the horn length takes a bit of extra work in order to be done accurately.

To determine the starting point, use a carpenter's square to determine a right angle along the boss (Figure 1, CDE). The line (CD) is parallel to the center line of the skull and will touch the boss where it is vertical. The line (DE) is at a right angle to the axis of the skull and will touch the lowest point of the boss where it is horizontal. Bisect (CDE) at a 45-degree angle in the direction of (F). The point where this line meets the boss (A) is the starting point for measuring the length of each horn. Mark this with a pencil or piece of chalk.

1. Length. Mark the lowest points on the "elbow" of the horns before it curves up. Start at point A and follow the grain of the horn over the ridge of the boss to the front of the horn, go over the lowest point, and then move up the front to the tip. (Figure 2, A–B)

2. Width. Measure the width of each boss at its widest point from top to bottom. To determine where to measure the width, it's best to use a caliper. Mark the widest points with chalk, <u>but do not measure with the caliper</u>. Place the tape where the horn meets the skull in front and go over the highest point of the boss to the back end where the horn ends and the skull appears at the back (Figure 2, H). This is NOT a circumference measurement. Do not measure hair or taxidermist materials.

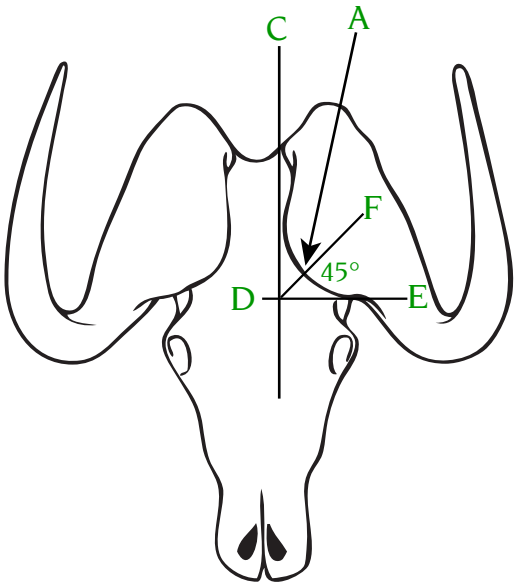


Figure 1

Black Wildebeest

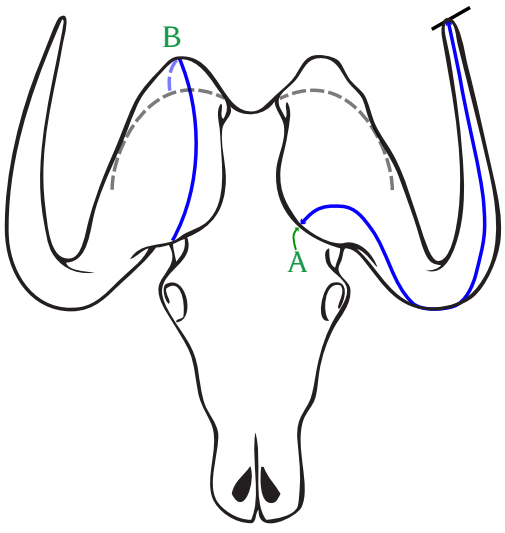


Figure 2

<u>Method 15:</u> All Five Rhino Species (Worldwide)

Rank on the length of the longest horn.

General remarks: All rhino horns are subject to shrinkage; consequently, the drying out process is particularly critical to obtaining an accurate measurement. The rhino is the only animal in the Rowland Ward measuring system that requires a sixty-day drying-out period. Hunters should note that green measurements taken in the field are invariably much greater than the eventually "dried-out" measurement that follows two months later.

Many rhinos have broken horn tips, and they must be carded off at the tip in order to get a measurement of horn length. (Figure 1) (See General Instructions for carding off.) Make sure the tape measure is not pressed into the broken area or indentations, grooves or holes, which would increase the length score. The front of the horn (outer curve) must be measured.

When measuring the length and circumference, great care must the taken to not measure the hide or artificial taxidermy materials. The horns must be measured in a place where there is excellent light—daylight is preferred—so that the measurer can ascertain the difference between the actual horn and the skin.

Many mounted rhino horns have been enhanced with taxidermy materials where the base of the horn and skin meet, and this must not be measured. Measurers should be aware that many mounted rhinos today have horns made of artificial materials because of the extreme value of real horn and because of safety concerns of having real horn in one's home. Artificial horns obviously cannot be measured.

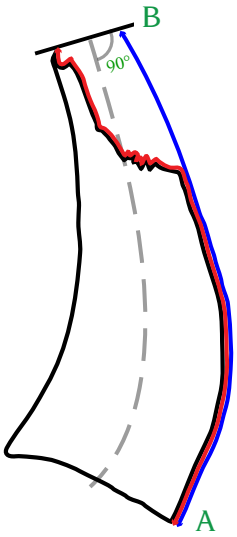


Figure 1

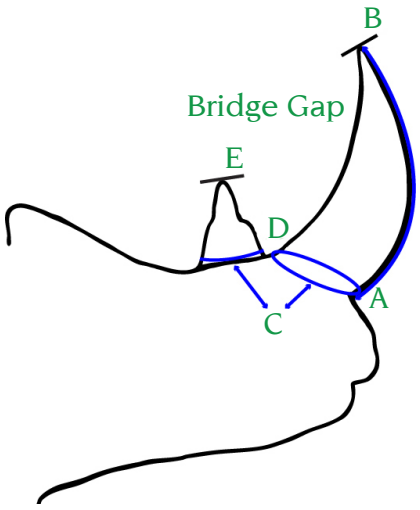


Figure 2

1. Length. Measure the length on the front curve of each horn from the base to the tip. (Figure 2, A–B & D–E) In case the horn has an injury or a piece missing, the tape measure must bridge such gaps and must not be pushed into the depressions. (See Figure 2, rear horn, D–E) Rhinos often have broken horn tips, and they must be carded off at the tip. (Figure 1). Do not follow the uneven broken area with the tape to get a length that would be longer than if a line of measurement was followed as though the horn were intact.

2. Circumference. Measure the circumference around the base of each horn. (Figure 2, C) Most rhino horns will not have an even end like a piece of water pipe cut off at a 90-degree angle. Thus, the temptation is to follow the uneven edges of the horn along (wave the tape measure), which will result in a very much higher score for the circumference. This is wrong. As with the measurements of antelope horns, the circumference must only measure horn, not skin. The tape measure must form one continuous circle. Do not follow the uneven edge of the horn.

Method 16: **African and Asian Elephants and Mammoths**

Rank on the weight of both tusks.

General remarks: As a point of interest, it should be noted that virtually no elephant shoulder mounts have actual ivory tusks; most have reconstructed fiberglass tusks. Some of these look remarkably like real ivory. Rowland Ward has a number of recorded historical mammoth tusks listed in the book for comparison purposes and general interest. Please note that the length of a tusk and its circumference are worthwhile measurements that are of interest to naturalists, biologists, and hunters. Rowland Ward has listed lengths of tusks since the late 1800s. Please do not forget to record these additional measurements. Mounted elephant heads cannot be measured unless the tusks are removed.

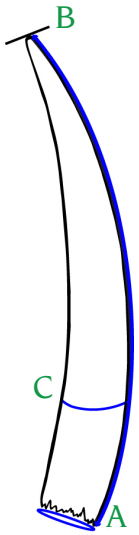


Figure 1

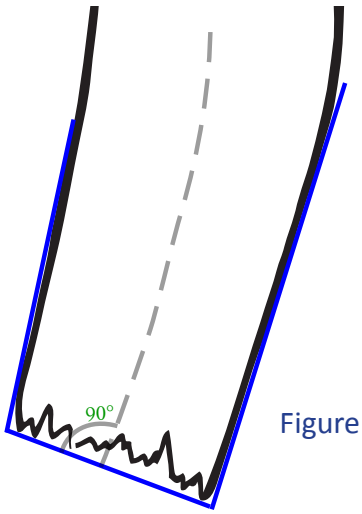


Figure 2

1. Weight. Weigh both tusks. When ivory is weighed in pounds (454 metric grams), it should be recorded to the nearest pound. Weights falling at or above the half-pound mark are to be recorded at the next highest pound; weights falling below the half-pound mark are to be recorded at the next lowest pound.

When weighing the tusk in kilograms, weigh each tusk to the nearest half kilogram (500 metric grams). Weights falling at or above the quarter-kilo mark will be recorded at the next highest half kilo; weights falling below the quarter-kilo will be recorded at the next lowest kilo. Weights falling on or above the three-quarter-kilo mark will be recorded at the next highest kilo; weights falling below the three-quarter-kilo will be recorded at the next lowest half kilo.

Do Not weigh tusks with pedestals, taxidermy materials, or wooden plugs placed in the hollows where the nerve used to be. All such entries will be rejected.

2. Length. Record the length on the outside curve of each tusk to the nearest quarter inch or centimeter. (Figure 1, A–B) This measurement should be taken at the outer curve. The measurer may find small chips at the base of an elephant's tusk because the ivory is very thin there. (Figure 2) To determine the end point of a length measurement, make a circle at a 90-degree angle to the axis of the tusk and along the furthest points of the end of the tusk. (Air gaps are allowed here as long as the circle is at a 90-degree angle to the axis of the tusk.) Measure from this circle on the outside of the tusk to the tip. Do not card off. (Figure 2)

3. Circumference. Record the greatest circumference of each tusk to the nearest quarter-inch or centimeter. (Figure 1, C) It should be noted that the greatest circumference often is not at the base of the tusk but approximately where the end of the lip occurred. At all times the circumference should be measured at a right angle to the axis of the tusk.

<u>Method 17:</u> Skulls of Lions; Leopards; Cheetahs; African Civets; Caracals; Servals; African Wild Cats; Black-backed Jackals; Golden Jackals; Side-striped Jackals; All Hyenas; Bears; Javelinas (Peccaries)

Rank on the sum of measurements 1 and 2.

General remarks: For the skulls of carnivores, measure to one-sixteenth (1/16) of an inch. Note that only the upper skull must be measured; no lower jaw may be included. The skull must be entirely cleaned, and all hide, flesh, and cartilage must be removed and then dried for 30 days. The skull must be entirely dried AND cleaned, and all hide, flesh, and cartilage must be removed. The measurements are taken along the length of the axis of the skull (length) and at a right angle (width). Measurers must note all malformations that will increase the score. Injuries to the jaws that can make teeth stick out and thus increase the score must not be measured. In some cases a skull may come apart either when overly cooked during the cleaning process or because of the age of the animal. In such cases, a reassembled skull may be measured, but the measurer must be certain such reconstruction does not add to the score.

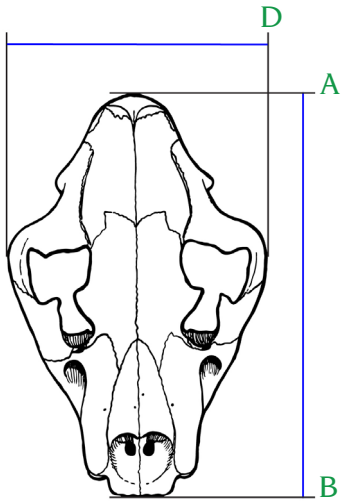


Figure 1

1. Length. Establish the outer limits of the length of the skull. Measure with a caliper along the skull length-wise axis. Measure the distance between the caliper. (Figure 1, A–B)

2. Width. Establish the outer limits of the width of the skull at a 90-degree angle of the skull axis using a caliper. Measure the distance between points of the caliper. (Figure 1, C–D)

Add measurements 1 and 2 above to establish the total sum.

Method 18: **Crocodilians—Nile, Salt Water, Mugger (Marsh) Crocodiles; American Alligator.**

Rank on length.

General remarks: This is a field measurement and is taken before skinning; it is a measurement of the total body length, including the length of the tail. Do not measure a skinned crocodile as fresh, green skin stretches considerably. It is generally accepted that the length of a crocodilian is its most desirable attribute. Hunters consider the "between-the-pegs" technique to be the most accurate measurement of length; it is the method Rowland Ward has used since the late 1800s.

Rowland Ward measures crocodilians in a straight line as the scales and depression over the spine add considerably to the measurement. Also some specimens are considerably more bulky in the middle, depending on two factors: a) the size of recent meals, and b) the amount of time elapsed after death. The latter is an issue because crocodilians bloat after dying and that will increase its measurement.

This measurement can be taken by the professional hunter or witness if an official Rowland Ward measurer is not available. In that case, it must then later be certified by a measurer. It should be noted that the editors will accept measurements of fully mounted specimens using the below system as it has been established that there is very little, if any, longitudinal stretching of the skin involved in such cases. However, not many crocodiles are mounted in a straight-line position, yet the length can only be taken in a straight line between the tip of the nose and the tip of the tail. Length of fresh or raw skins, dried, cured, or tanned skins will not be accepted.

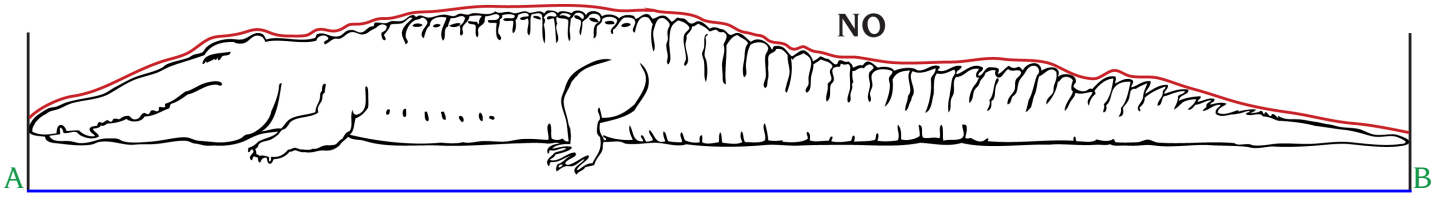


Figure 1

1. Length. Lay the crocodile on a flat piece of terrain. This is important in order to get a proper measurement. Pull the nose and tail of the reptile into a straight line, and then drive in pegs at each end. Make sure the pegs are at a 90-degree angle to the ground. Remove the crocodile. Take the measurements between pegs. Do not measure over the contours of the body of the animal. See red line in Figure 1.

Care should be taken to measure from where the peg is entered in the ground in a straight line to where the second peg touches the ground. The terrain must be flat and the tape measure must not be pushed into depressions. Measurements should be taken to the nearest quarter-inch (or centimeter).