1. Remarks on certain Asiatic Ruminants.—I. Budorcas taxicolor, Hodgson. The Gnu-goat or Takin. By A. O. Hume, C.B., F.Z.S.

[Received May 2, 1887.]

The very peculiarly shaped horns of the adult male *Budorcas taxicolor* (fig. 1, p. 484) are well known. The older the animal grows the longer do the terminal straight portions become. The pair figured measure (taken from the base of the main ridge behind, along this ridge over the front of the horn so far as this ridge is traceable, and thence along the curve of the horn outside to the tip) 22 (right) and 22·5 (left horn) inches in length, and 13 and 13·5 in girth at base; they are 10·75 wide from tip to tip, with a greatest interior width of 11·25 inches. The largest pair that I have met with measured 24·25 inches in length, had a basal girth of 12·75, a tip to tip width of 12·75, and a greatest interior width of 13 inches[1].

My second drawing (fig. 2, p. 484) shows the horns, *according to Blyth* (as named by him in the Calcutta Museum), of the female. They are very similar, it will be observed, to those of the male, but smaller, stumpier (if I may use such a word), the terminal portions less developed. Two pairs of this type measure:—

Length, R. 16, L. 16; basal girth, R. 10, L. 10; spread 8·75; greatest width inside 9·75.

Length, R. 16·25, L. 16; basal girth, R. 9, L. 9·25; spread 7·25; greatest width inside 8·75[2].

Milne-Edwards also, in his 'Recherches des Mammifères,' p. 369, says, "Chez la femelle, les cornes ont à peu près la même forme que chez le mâle, mais elles sont peu courbes et moins robustes." So he, like Blyth, considered the horns of the two sexes to be similar.

But there is a wholly different type of horn in this species, accurately represented in my third drawing (fig. 3, p. 484), and which Blyth (who, however, had only a miserable wreck of a specimen to go by) set down as those of the young. There is here none of that apparent bending down on themselves of the horns near their bases which characterizes the two other forms. The horns in this case have no gnu-like twist, are circular in section throughout, comparatively short, and, beyond the basal bend, straightish, with only a slight sigmoidal flexure, set very wide apart, diverging widely from each other, very thick and more or less ribbed at base, diminishing rapidly in thickness, and their terminal portions more or less smooth, with longitudinal striæ greatly resembling those of the Himalayan Capricorn (or Serow).

Now I venture to submit that by no possible process of growth could horns of this third type develop into horns of either the first or second types.

[1] In some horns of this type the terminal portions incline inwards much more decidedly.

[2] This is the pair figured.

Fig. 1.

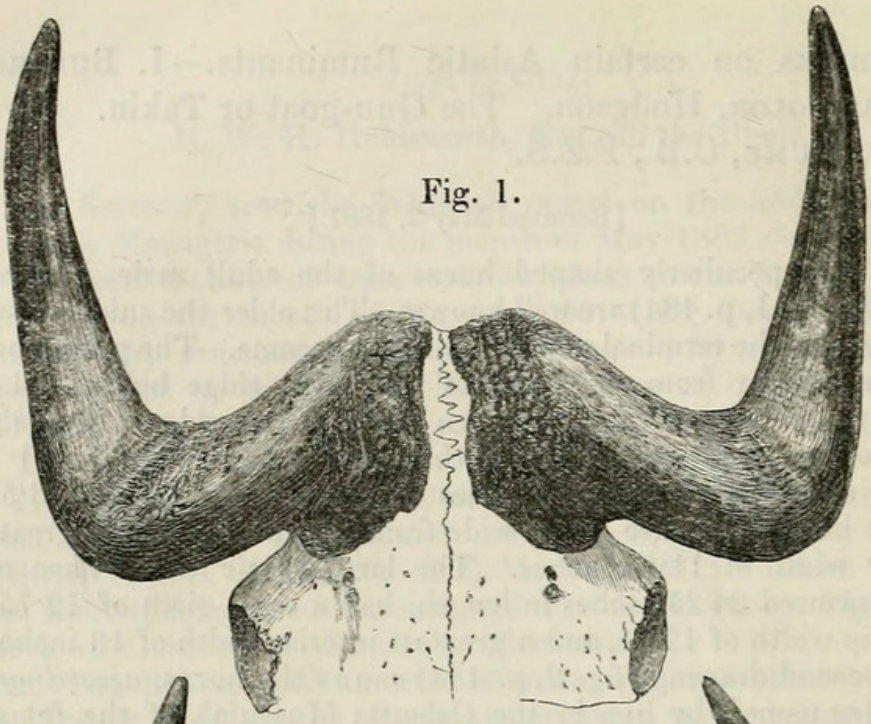


Fig. 2.

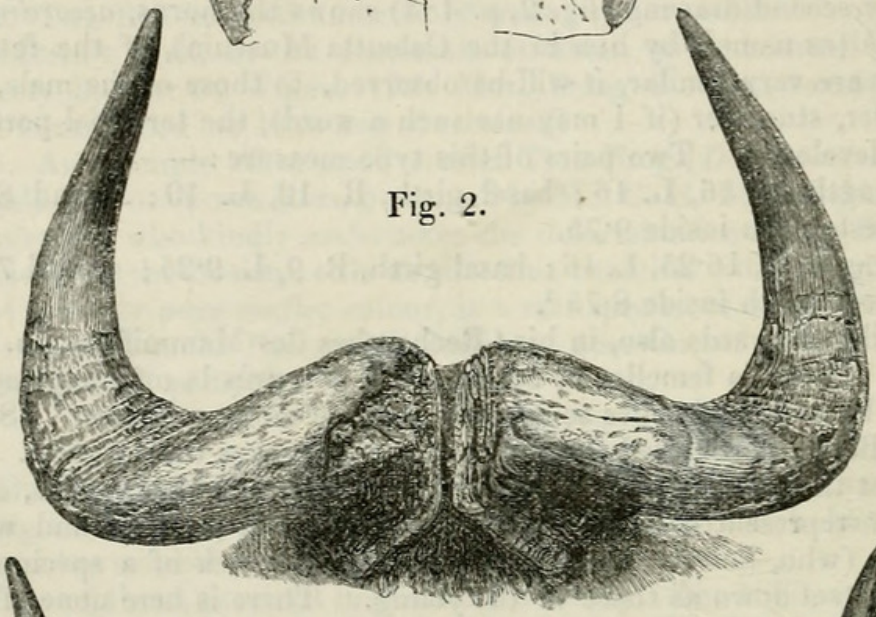
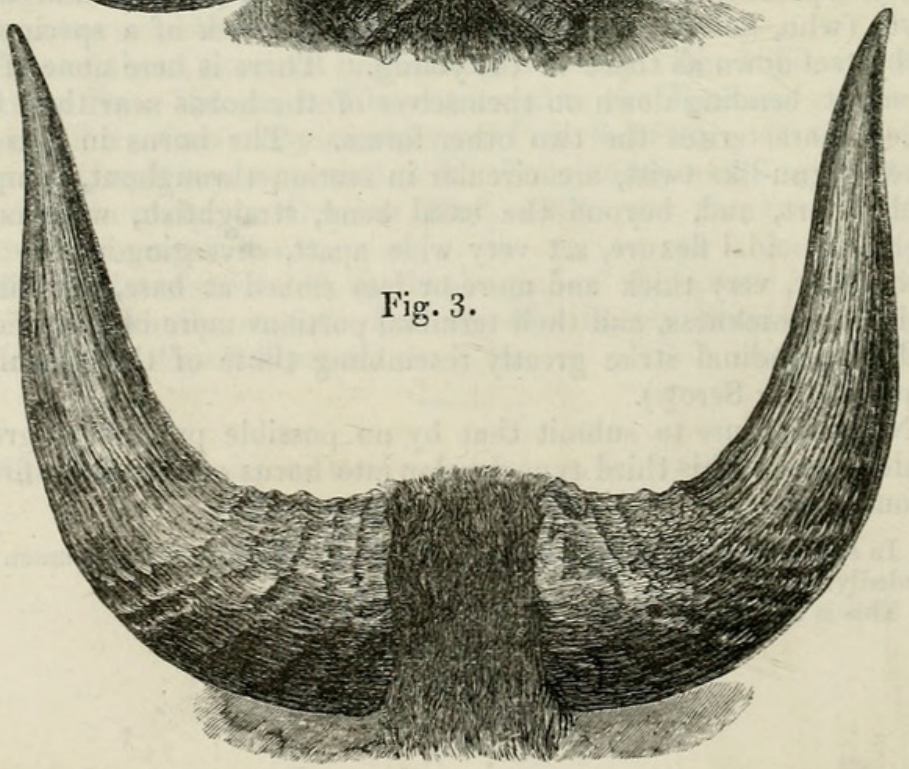


Fig. 3.



Horns of *Budorcas taxicolor*.

The pair figured (and I have seen one larger) measure (along the curve outside from base to tip) :—Length 12·5 ; basal girth 9·25 ; spread 12 ; and have their bases 2 inches apart. They are actually larger horns than some of the other (supposed adult) form.

Is Blyth likely to have been mistaken ? At the time he wrote no one knew anything of the beast ; to this day no European, in this part of the world at any rate, has shot it. All he had to go on were the rough skins brought down by the Mishmees. I have examined over a dozen such, and not one has left on it any trace of the sex of the animal to which it belonged. Either he guessed, judging by the analogy of the Serow, in which the horns of both sexes *are* very similar, or he was misinformed by those who sent the skin down.

But about Mr. Milne Edwards ? He figures as an *adult male* of this species an animal with horns of our No. 3 type, and which, if the species he deals with be really the same as ours, must belong to the young, if Blyth is right, or to a female, if I am correct. But I attach less weight to this, because, on plate 68 of the same volume, he figures also as a *male* what, judging from the horns, must, I think, be an old *female* of the Bharal (*Ovis nahoor* [1]).

But is his species of Gnu-goat the same as ours ? Certainly *not*, *if* his plate be reliable. I have examined 13 skins of animals of different ages, and exhibiting all three types of horns, and in not one was the head coloured as he figured it. In his figure the entire face and cheeks and sides of the head are a light yellow dun, only on the nose is a strongly contrasting black patch. In our Mishmee Hills Gnu-goat, the entire face, cheeks, sides of head, chin, and throat are black or blackish, only just at the base of the horns is a little brownish hair intermingled, or in one or two cases a *small* dark brownish patch appears. I have found many horns intermediate between 1 and 2, but not one in any degree intermediate between 2 and 3.

I believe that there is no doubt, despite anything previously written anywhere to the contrary, that my first figure represents the horns of an adult, but not *very* large, male, my second those of a younger, but not very young, male, and my third those of a fine old female.

It is worthy of note that, to judge from the skins, this latter was a *very much* smaller animal than others with horns (of certainly, I should say, no greater cubic contents) of the other type, and this is exactly what we should expect in the case of females and males of this group. Of course the *animal* might grow ; but it is physically impossible, it seems to me, for horns of the No. 3 type to *grow* into smaller and wholly different-shaped horns of the No. 2 type.

Whether at an earlier stage the horns of the male and female resemble each other more closely, and what the horns of the male in its earliest stages are like, my present materials do not enable me to decide, but I soon hope to have a complete series. The smallest

[1] That is, if the animal figured really be *O. nahoor* ; but it must be admitted that I have never seen any male horns of this species at *all* like the plate, and no female horns so thick and large.

horn of the Nos. 1 & 2 types that I have seen measured 14 inches in length, measured in the manner (already explained) that we measure this type, and this means a smaller horn than a 12·5 horn of the No. 3 type measured as we measure these.

However large the horn of the No. 3 type, it can be readily taken off its core, which is of the shape figured by Milne-Edwards; however small the horns of a No. 2 type, it is always impossible, owing to the twist in the cores, to get the horns off them.

The peculiar shape of what I suppose to be the male horns is just what one would expect to be developed in males butting together; the females do not require to fight, and hence the total absence of that great thickening to the front and close approach which the horns of the male show at that precise point where the shock of battle has to be sustained.

As to the pelage, I cannot yet be certain; the black or blackish heads are constant, from kids to the largest males, and (*selon moi*) females; but the body in some is a yellow dun, much as in Milne-Edwards's plate, while in others it is a deep dusky reddish brown, with a great deal of black intermingled, and some intermediate shades occur. These differences are not, I think, due either to age or sex, but are, I believe, seasonal.

2. Notes on some Species of South-African Snakes. By Edmond Symonds, of Kroonstad, Orange Free State. (Communicated by J. H. Gurney.)

[Received April 30, 1887.]

[The following notes were accompanied by specimens of the Snakes referred to, which have been kindly identified for me by Dr. Günther. With one exception, they were all collected in the vicinity of Kroonstad, where Mr. Symonds resides.—J. H. G.]

1. Coronella cana.

Length from head to end of tail 4 feet 6 inches; from vent to tail 8 inches.

Tail rather short and stumpy.

Iris brown; pupil circular.

Teeth.—Lower jaw a single row on each side, about 12; upper jaw a double row on each side, about 8; no fangs posterior or anterior.

Colour very dark brown, on the back almost black, sides rather lighter, belly a glossy slaty black.

Habits.—As a rule rather sluggish until thoroughly roused and irritated, when it strikes rapidly, but will always get away if possible; does not dilate the neck. Common near Kroonstad, but not so common as the copper-coloured variety; one I had in a cage for some time ate frogs.

Hume, Allan Octavian. 1887. "1. Remarks on certain Asiatic Ruminants.-I. Budorcas Taxicolor, Hodgson. The Gnu-goat or Takin." *Proceedings of the Zoological Society of London* 1887, 483–486. https://doi.org/10.1111/j.1096-3642.1887.tb02993.x.

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