

Article XXV.—A NEW SHEEP FROM KAMCHATKA.

By J. A. ALLEN.

The Museum has recently received from Mr. George H. Storck, a well-known fur-dealer and taxidermist of this city, two fine skulls of sheep from Kamchatka, representing two species, one being the *Ovis nivicola* and the other an apparently undescribed species. Both were obtained in that country personally by Mr. Storck, and their history is thus beyond question. The *nivicola* specimen was taken "between Milko and Petropavlovsk in southeastern Kamchatka"; the other "was taken about 110 versts east of Fort Tigil on the west side of Kamchatka." Mr. Storck adds: "I have seen several skulls up there, taken in that section, and they are all the same, that is the horns are thin at the base and have a double curve. . . . Specimens of this sheep are very hard to get, as they are found only in the central range of mountains in the northwestern portion of Kamchatka; and it is the most difficult place to travel in that I have ever faced, both on account of the roughness of the country and the almost constant storms that rage all through the winter, which is practically the only season when one can travel in the interior."

The Fort Tigil specimen is strikingly different from any previously described species, having somewhat the type of horns of *Ovis ammon*, but it is much smaller than any of the known forms of the *O. ammon* group. It may well bear the name of its discoverer and be called

***Ovis storcki*, sp. nov.**

Type, No. 22689, an old male skull, from the mountains about 75 miles east of Fort Tigil, Kamchatka; collected and presented by George H. Storck, for whom the species is named.

Horns a close spiral, forming a circle and a half, curving first outward and downward, and then, at about the end of the first circle, inward, upward, and finally outward again. The frontal surface is finely ribbed transversely to the axis of curvature, with a sharp angle at both edges, continued nearly to the tip; the exterior ('orbital') and interior ('nuchal') surfaces meet so as to form a broadly rounded

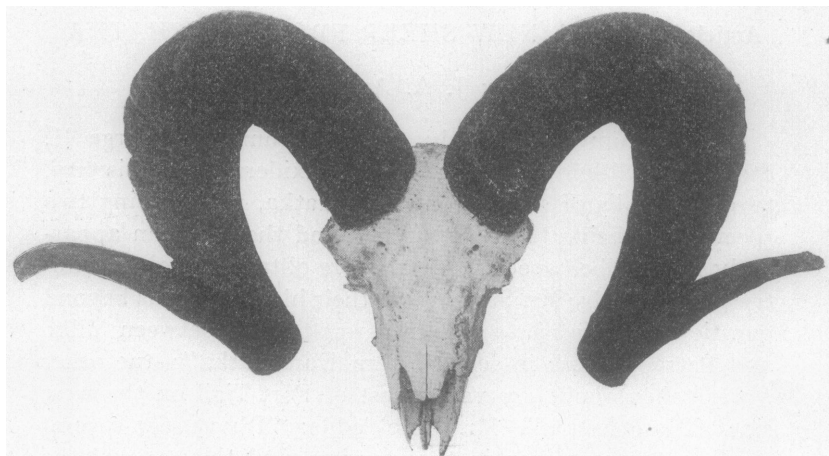


Fig. 1. *Ovis storcki*, No. 22689, old male, from near Fort Tigil, Kamchatka. $\frac{1}{2}$ nat. size.

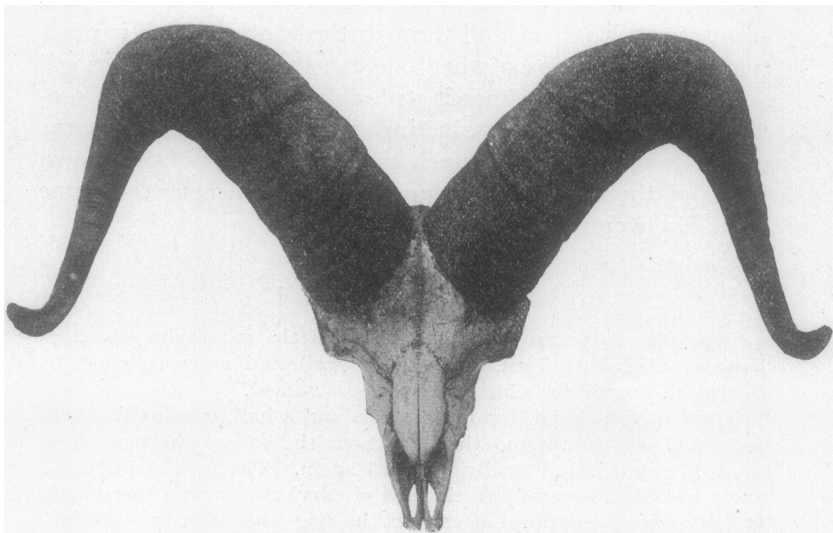


Fig. 2. *Ovis nivicola*, No. 22690, old male, Southern Kamchatka. $\frac{1}{2}$ nat. size.

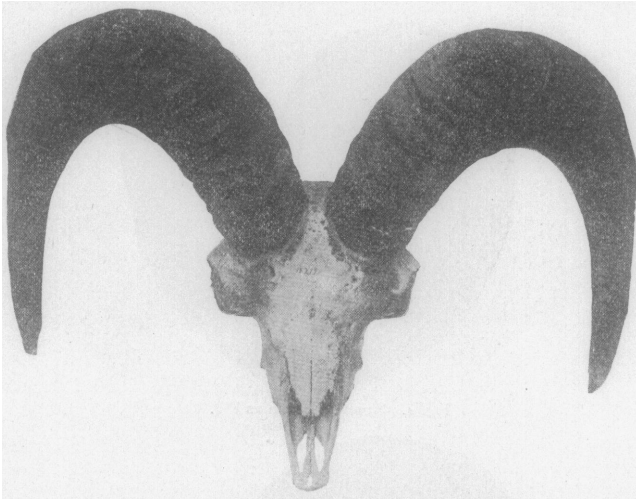


Fig. 3. *Ovis borealis* (?), No. 18212, old male, Taiganose Peninsula, N. E. Siberia.
 $\frac{1}{8}$ nat. size.

'nuchal edge,' very broad basally, but becoming thinner and sharper apically. As shown by the figures (Figs. 1 and 4), the spiral is very close; at the end of the first circle the horns approach the face just in front of the orbits so nearly as to be distant from the facial portion of the skull by only a space equal to the anteorbital breadth of the skull, and then sweep abruptly outward. The form of the spiral is thus similar to that seen in *O. ammon*.

Length of horn, measured along the frontal surface, 1015 mm. (40 in.); circumference at base, 295 (11 $\frac{1}{2}$ in.); distance between tips, 605 (23 $\frac{3}{4}$ in.); distance apart at point of greatest inward curvature (opposite molars), 225 (8 $\frac{1}{2}$ in.); breadth of frontal surface at base, 80.

Skull, total length (front of premaxillæ to occipital crest), 280; basal length (premax. to posterior border of occip. condyles), 255; greatest breadth at posterior border of orbits, 168; palatal length, 125; post-palatal length (to basion), 110; palatal breadth at m^a, 47; mastoid breadth, 110; facial breadth above, m^a, 79; length of upper toothrow, 69; last upper molar, 20.3 x 12.5.

In the length and general character of the curvature of the horns there is a close resemblance between *O. storckii* and the skull of the Siberian Argali (*Ovis ammon*) from the Altai, figured by Mr. Rowland Ward in his 'Records of Big Game' (4th ed., 1903, p. 383), but the dimensions of the horns are

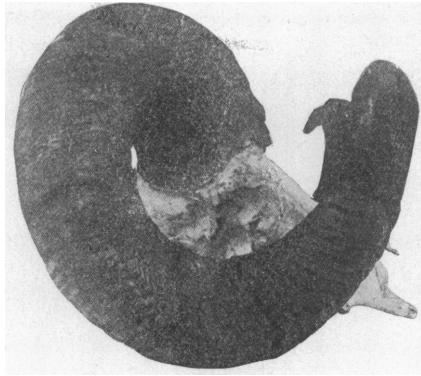


Fig. 4. Same specimen as Fig. 1.

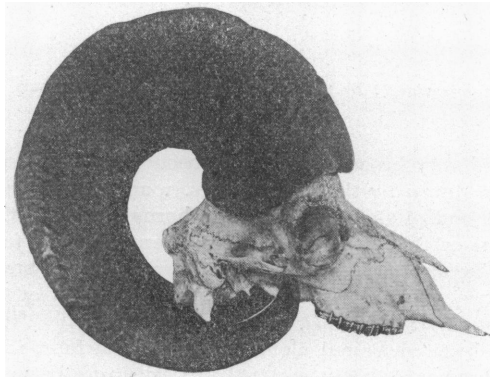


Fig. 5. Same specimen as Fig. 2.

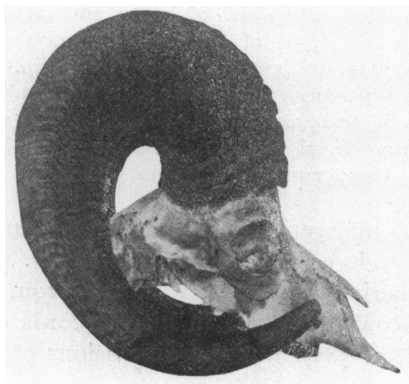


Fig. 6. Same specimen as Fig. 3.

very much less, and they differ markedly also in the character of the basal portion, to say nothing of the wide geographical separation of the two species. In regard to the difference in size, while the skull of *O. storcki* is that of a very old animal, its measurements are fully one third less than those given for old Altai skulls of *O. ammon*.

While this species differs widely from any other hitherto recognized, it may be of interest to compare the general size of the skull with the skull of *O. nivicola* collected by Mr. Storck, the species which is the nearest geographical neighbor of *O. storcki*. In linear measurements there is very little difference, aside from the horns, between the two, but *O. nivicola* has the facial portion of the skull broader, with a broader and more arched palate, and the tooththrows are curved instead of straight, as in *O. storcki*. The horns of *nivicola* are of course much shorter (740 against 1015), much heavier at the base (circumference 645 against 605, width of base of frontal surface, 100 against 80), and curve continuously outward instead of recurving inward, upward, and then outward again.

As of interest in this connection figures are given of a skull of *O. nivicola* (Figs. 2 and 5), and of one of the skulls (Figs. 3 and 6) obtained by Mr. Buxton on the Taiganose Peninsula (at the head of the Okhotsk Sea), referred by me first (this Bulletin, XIX, 1903, p. 130) to *O. nivicola* and later (*ibid.*, p. 196) to *O. borealis* Severtzoff (*O. canadensis borealis* Lydekker, P. Z. S., 1902, Vol. II, p. 85), but which is probably separable from true *borealis* of the Yana River region, a thousand miles to the northwestward of the Taiganose Peninsula. However this may be, these specimens show that three very distinct species of sheep occur in close proximity within the territorial limits of Kamchatka.

In answer to my inquiries about the occurrence of *white* bighorns in Kamchatka, Mr. Storck's reply is of interest, as he has traversed the whole interior of the peninsula, from north to south, on commercial expeditions for the purchase of sable and other furs. He says: "In reference to *white* mountain sheep, I do not believe that any exist in Kamchatka. I have

never seen or heard of any, or seen any fragments of skins. If there is such a sheep it must come from north of latitude 59°. That part of the country is never hunted; it is inhabited by wandering Koraks who live entirely on the reindeer, and never kill anything except wolves, and then only to protect their herds."