



EXPEDITION CAMELS
BEING WATERED
IN THE SARI-SU

SAIGA ANTELOPE AND LONG-HAIRED TIGER

The American Museum Sends an Expedition to Asia to Collect Animals for
Two Groups To Be Installed in the New North Asiatic Hall

BY WILLIAM J. MORDEN

Field Associate, Mammal Department, American Museum

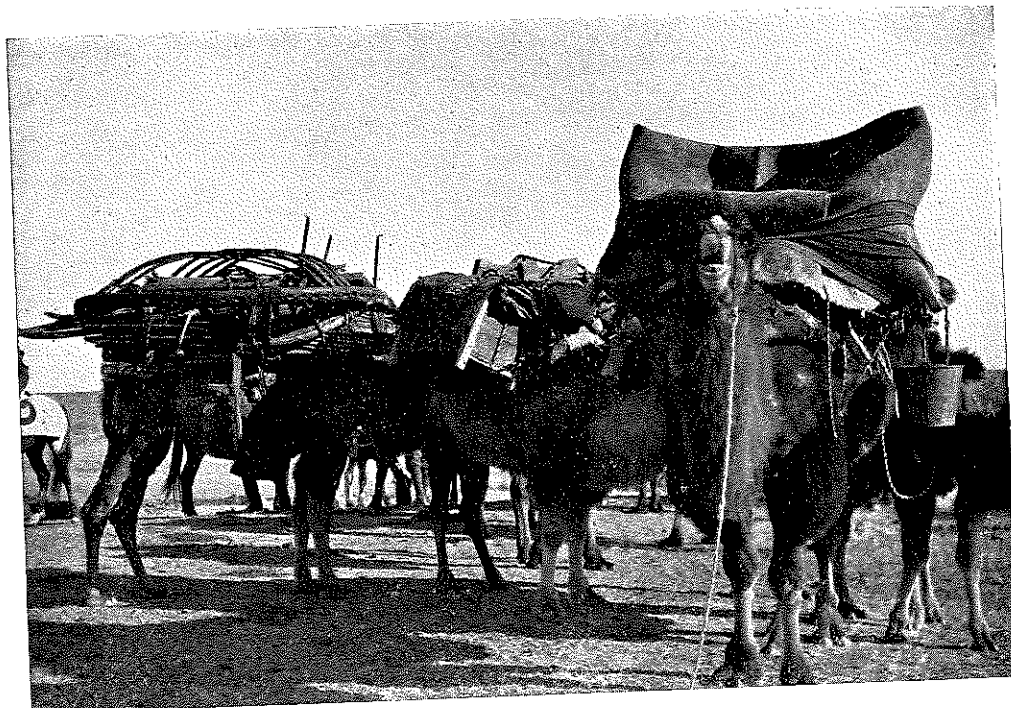
The Morden-Graves North Asiatic Expedition of which Mr. Morden was leader, and George C. Graves, 2d, and George G. Goodwin the other members, arrived in the Soviet Union the twelfth of September, 1929. On a preliminary trip to Russia in 1928, Mr. Morden had made arrangements with governmental authorities and the Russian Academy of Sciences for visas, permits to operate, and letters of introduction, so that on arrival at Leningrad, the expedition baggage, consisting of about a ton of equipment and supplies, was quickly passed through the Custom House, and they themselves through the passport control at the pier. In Leningrad, as everywhere the expedition went in the Soviet Union, its members were treated courteously, and full assistance given them. From Leningrad the party went to Moscow where final arrangements were made for the first part of the expedition's work, the journey into the prohibited territory of Middle Asia, to collect an exhibition group of Saiga tatarica. ("Middle Asia" is the term used by the Russians when referring to Russian Territory. "Central Asia" is applied by them only to Chinese Turkestan.) Their object accomplished, the party moved on to the region of the Amur and Ussuri rivers for specimens of the Siberian long-haired tiger.—THE EDITORS.

THE saiga is a peculiar-looking chap. Perhaps the most striking part of his appearance is his big, floppy nose, which is prolonged into a sort of downwardly bent proboscis, with the nostrils opening downward. In addition to his weird-looking face, the saiga has a characteristic sneaking gait, and whether at a walk, trot, or run always holds his head low. Even when startled, he never raises his head, but peers at the object of his attention as though looking over the tops of spectacles. But though his gait is shambling, and his movements are far

from graceful, the saiga will easily outrun a horse, and can cover several miles at good speed. He is a member of the antelope family, is rather slenderly built, and stands about thirty inches high at the shoulder. His summer coat is dull yellowish, becoming grayish in the fall and almost white in winter. *Saiga tatarica* once ranged over much of the steppe country of Central and Middle Asia and southern Europe as far west as the present borders of Poland. Today, however, they are found only in limited areas in Kazakhstan, part of which used to be Russian

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CAMELS OF A NATIVE CARAVAN

Natives of Kazakstan are nomadic. During the summer they live in yurts, felt tents commonly used in Central Asia. At the approach of winter all their belongings, including the yurts, are packed on camels, and the family moves on to a place where its herds can graze. The camel leading the procession shown in this picture, has on his back the heavy felt of a yurt. Women and children ride surrounded by these stiff folds, which protect them from the wind

Turkestan, and the Soviet government has strict regulations prohibiting their killing. The decimation of the once numerous herds is due largely to the fact that the amber-colored horns of the bucks, when ground into powder, constitute a much-prized ingredient in Chinese medicine. A pair of these horns will sell for from \$100 to \$150 (gold) in the bazaars, so saiga hunting has long been a lucrative business in parts of Middle and Central Asia.

There are few saiga in the museums of the world, and nowhere is there a habitat group of them, showing the animals in a setting that is, as nearly as careful observations and notes can make it, an exact reproduction of the country where the animal lives.

On my 1928 trip to Russia I was unable to learn exactly where I might expect to

locate saiga, nor was I able now to obtain accurate information in Moscow. Some whom I questioned said saiga ranged in the region about the Aral Sea; others, near the Persian border in Turkmenistan; still others, in the Semiretchensk region of the western Altai near the borders of Chinese Turkestan. We were told that we might get more accurate information at the State University in Tashkent, so, having been granted special visas for Middle Asia, we went there, a four-day train ride from Moscow.

In Tashkent we were told that saiga had been seen the previous year on the desert steppes of central Kazakstan, but that it would be necessary to travel several hundred miles by camel caravan in order to reach their range. Our starting point was to be Kizil Orda, a small town on the railway some 250 miles north of

Tashkent, but first it was necessary for us to go to Samarkand and Bokhara, to obtain permits to hunt the animals.

At each of our stops in Middle Asia government officials met us, and motor cars were placed at our disposal during our stays in Tashkent, Samarkand, and Bokhara.

At Samarkand, the ancient capital of Tamerlane, and present capital of the Soviet Republic of Uzbekistan, we were fortunate to find one of the monthly bazaars in progress, to which natives of the surrounding country come for trading. In the bazaar, which is held in the old part of the city, were sections for trade in meats, sheep, donkeys, horses, hay, green alfalfa, rice, flour, peppers, miscellaneous vegetables such as potatoes, beans, peas, and tomatoes; in the fruit "department" I noticed blue Concord and green grapes, melons, pomegranates, raisins, prunes,

and apples. There were sections for rugs and felts, brass and copper-ware, leather and hides, shoes and boots, clothing and caps, harness and saddlery, tinware, ironware, parts for the big-wheeled native carts known as *arbais*, horseshoes, locks and padlocks, and hinges for doors. Horseshoers, wheelwrights, and many other craftsmen each had their separate sections. Barbers shaved and clipped their victims alongside a wall. Hawkers of various small articles passed through the crowds, while camels, carts, Uzbeks on horses and Uzbeks on donkeys jostled with Uzbeks on foot, until it was almost impossible to move. The sun shone through a haze of dust on the gaily colored crowd, and trading went merrily on.

In the horse market, a runway of about a hundred yards in length gave opportunity to judge of an animal's gait, though so far as I could see, the horses



A WATER MILL IN SAMARKAND

This device for hulling rice grains is used in Russian Middle Asia, saving the heavy manual labor of pounding rice with a stone. Water from the stream turns the wooden wheel, causing weights fastened to the two heavy beams to fall into pits which are filled with grains of rice



ROASTING A GOAT'S HEAD

En route it was sometimes necessary to augment the food supply with domestic meat. This goat's head was skinned and roasted by a guide and presented to Mr. Morden as a choice morsel

moved only at the usual running walk of the Central Asian and Chinese pony. We were told that after the dickering which always precedes a sale, the buyer takes the seller by the hand if he decides to make the purchase, if not, he pulls his ear. We somehow doubted the latter, although we did see several buyers shaking hands and seeming well satisfied.

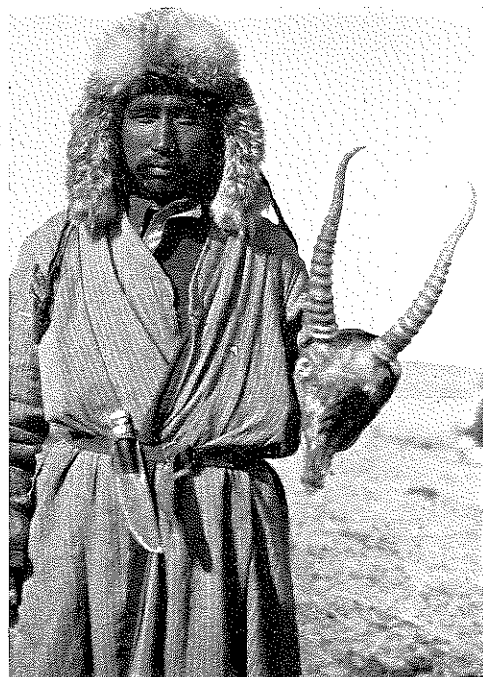
Here and there in the bazaar, as elsewhere in the city, were *chai-khanas* or tea houses, where crowds sat about on mat-covered raised platforms, and drank tea from china bowls. Several of the *chai-khanas* also sold *cheslik*, pieces of mutton skewered on thin, pointed rods, and roasted over a charcoal fire.

The Uzbeks, the inhabitants of Uzbekistan, are more Semitic than Mongoloid in facial characteristics. Their summer dress is of cotton, and many of the *khalats*, or loose outer cloaks worn by the

men, are striped with gay colors. Small, round, skull caps are the usual headgear, although many of the older men wear turbans of either white or blue cloth.

The noise and confusion of the bazaar, where cries of vendors mingled with shouts of cart drivers and riders, the occasional gurgling scream of a camel, the milling crowd of gaily dressed Uzbeks, and the inevitable dust hanging over the scene, made a composite picture of Asiatic activity which in all probability has been little changed through hundreds of years.

During our month's travel in the desert on the trail of the saiga, we lived entirely in Kazak yurts, the domed, felt-covered tents used extensively by the nomad peoples of Central and Middle Asia. The present Kazaks, or more properly, Kirghiz-Kazaks, who inhabit the desert steppes of Kazakstan where our work took us, are of Turkish Mongoloid extraction,



A LOCAL HUNTER

He is holding the head of the prize saiga obtained by the expedition. As saiga horns are used for Chinese medicine and are worth \$150 a pair, this animal is becoming very scarce



A NATIVE GUIDE

This guide had the reputation of being very skilful with a gun, but when he borrowed one of the expedition's rifles, he had to use a hinged, forked rest at the muzzle to steady it

and except where they have settled in comparatively small towns near the railways, are almost entirely nomadic. Many of them own rather large herds of camels and horses, and we saw some tremendous flocks of sheep and goats during our trek through the desert north of Kizil Orda.

It was necessary for us to employ guides who knew the water holes and where encampments of Kazaks could be located, as without local knowledge it would be quite impossible for a traveler to find his way in that trackless area.

The saiga are entirely desert dwellers, and though we were told that there would be little difficulty in locating bands of them in the country to which we went, actually when we arrived there we found that we were on the very edge of their range, and it was with the greatest difficulty that we finally located a band of the animals. When we questioned the local

people we were told that saiga could be found everywhere; but it finally developed that the word *saigak* in Russian is a general term for any antelope or gazelle, and that while *jairon*, or goitered gazelle, were fairly plentiful in that area, saiga were almost unknown.

We were told many stories regarding the saiga and the prowess of local hunters. Some of these tales were rather amusing in the light of actual facts. Once we heard that saiga travelled in herds of a hundred or more; again, that they were never seen in bands of more than two or three; we heard that the natives killed them by driving the animals past a point where other hunters, armed with rifles, lay in concealment and killed them at short range; next day we were told that saiga were never shot at ranges less than several hundred yards. We learned that long and difficult stalks were necessary and were told that a usual method was to



TUNGUS HUNTING CAMP

The tents of these natives on a tributary of Ussuri, Eastern Siberia, are roughly similar to the tipis of the North American Indian

fire beyond the animals, so that they would become confused and stampede toward the concealed hunters. The best story of all, however, concerned the local hunter who was finally engaged as guide.

The story was to the effect that this chap was accustomed to chase saiga on horseback, and that his skill with a rifle was so great that on at least two occasions he had, while riding at a dead run, fired from his saddle and creased the animals, stunning without killing them. When the man arrived at our camp, I lent him my spare rifle. but until he had fitted a hinged rest to the muzzle, he could hit nothing but the broad desert, even when lying prone. Stories of this sort, while amusing, did not greatly assist us in gathering information. Accurate data regarding the animals and their habits were hard to obtain.

In hunting the saiga one rides across the tremendous plains which at a distance

seem entirely flat but which actually are very gently rolling. At each slight elevation the hunter dismounts, and through field glasses scans the country. The work is more difficult because the sun's heat causes a mirage, which makes all objects at a distance seem to waver and float in the air. If any animals are seen, a long and careful stalk is necessary before the hunter can come within range, for the saiga, like most plains animals, keeps as far as possible out on flat areas where no cover for an enemy exists.

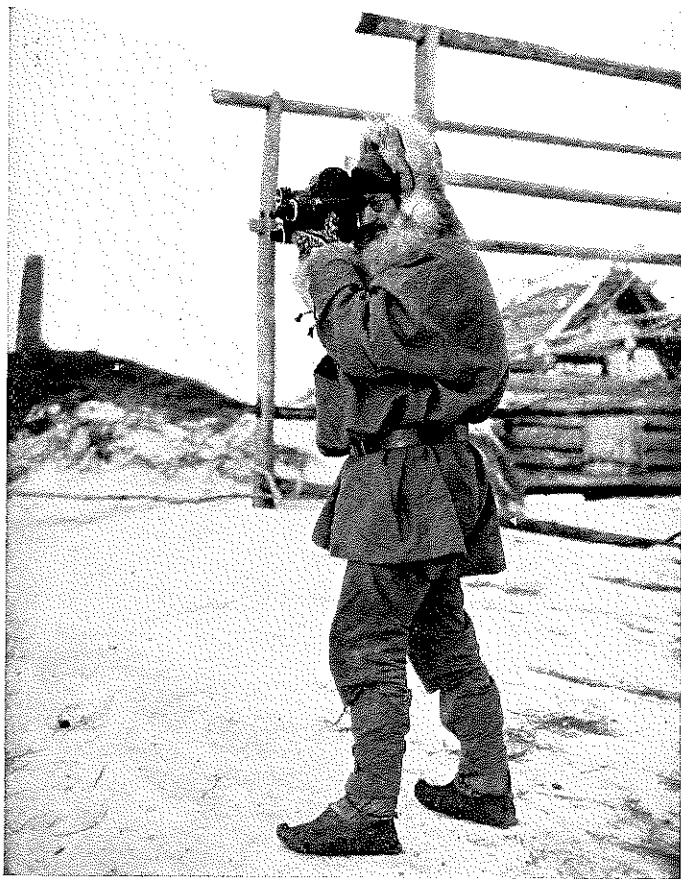
We considered ourselves very fortunate in obtaining one buck, two females, and three young animals for the Museum group. With these specimens, we brought back a sufficient amount of the low sagelike growth and other dried desert plants to make the foreground of the habitat group which will be installed in the North Asiatic Hall of the American Museum.

Due to bad water, I had a severe attack of dysentery, and this, combined with a rather seriously infected hand, and the necessity for constant hunting and long marches, wore me down pretty badly. Upon our return to Moscow in November, I was told that if I went to Siberia with the expedition at that time, I would, in all probability, stay in Siberia permanently. Doctors in Moscow advised me to go to Paris for examination and treatment, and this I did, sending Mr. Goodwin east via the Trans-Siberian Railway to meet Mr. Graves, who was due in Vladivostok in December. I was able to rejoin the expedition in January, however, and to continue with it until the finish of the work.

When I rejoined them, Graves and Goodwin were working in the Amur river district where we planned to collect an exhibition group of the tiger, (popularly known as the "long-haired tiger") which is found there and in parts of Manchuria.

Tigers are usually associated with India and other regions of Southern Asia, as it is in these lands that they are most frequently met and hunted. But there are reasons for the belief that the tiger is comparatively a newcomer to South Asia and that the genus originally inhabited much cooler areas. All tigers, wherever found, belong to the same genus, though they are subject to considerable variations in size, coloration, and length of coat.

It is a nine-day ride on the Trans-Siberian Railway from Moscow to Khabarovsk, the point from which we traveled by sleighs about 150 miles down the Amur River to the country where tiger were reported. Although it was midwinter when I reached Khabarovsk, the weather, while cold, was not as bitter as we had expected. Minimum temperatures ran to 40° below zero Fahrenheit, but there was little wind in the forests and the air was very dry, so these temperatures were not particularly uncomfortable. Working with unprotected hands for more than a moment or two was out of the question, but we used the tents with which the expedi-



MR. MORDEN USING AN EYEMO MOTION PICTURE CAMERA
Recording scenes in a native village on the Amur River. Mr. Morden is wearing native-made fishskin shoes that are stuffed with grass for warmth



TRANSPORTATION IN THE SNOW

Dog sledges were used for carrying equipment and supplies when the expedition entered the forest of the Amur River section. From four to seven dogs were the usual number for each sledge. The driver is also in harness and can help the dogs to pull over difficult places

tion was provided, and at night our reindeer-skin sleeping bags kept us comfortable. We had brought with us reindeer-skin double parkas and fur trousers, but these were found too heavy when we were traveling on foot. They were useful, however, when we were riding in sleighs.

Our transportation, when moving from place to place along the Amur River or its larger tributaries, was horse-drawn sleighs, but when we went farther into the interior and took the frozen surface of the smaller streams, dog sledges were necessary. At these times we ourselves traveled on foot.

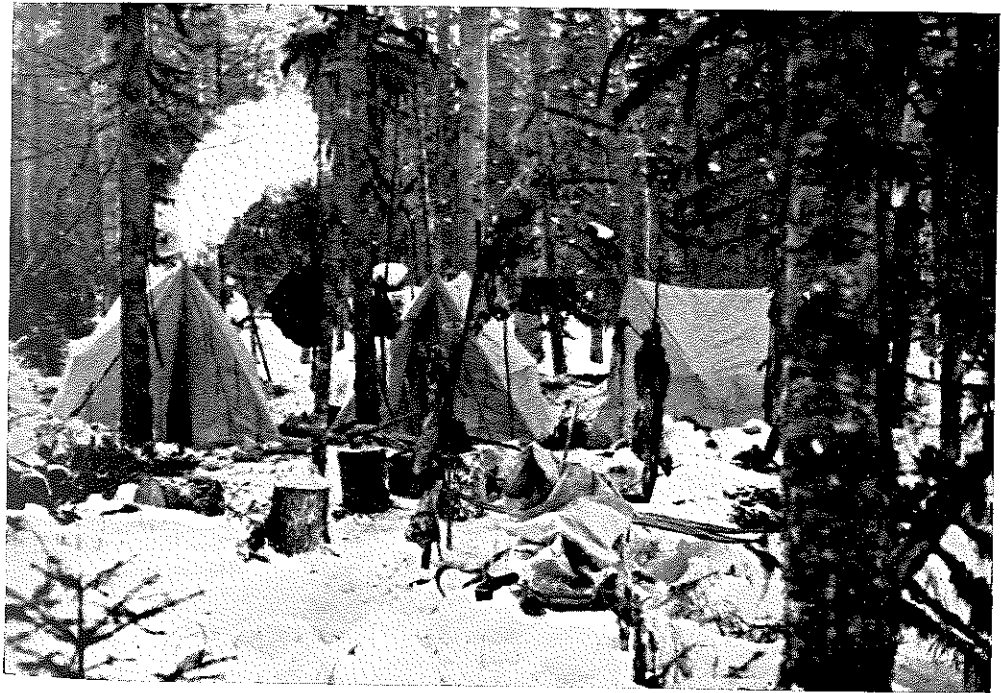
We found the snow from two to three-and-a-half feet deep, and when it was necessary to travel anywhere but on the ice of the rivers, we needed skis. We had brought along Norwegian skis and Yukon snow-shoes, for before arriving in the country it was impossible to learn what conditions we might find. Upon arrival, however, we discovered that the Nor-

wegian skis were almost useless, due to the fact that in the forests the underbrush was so dense that these otherwise very useful articles could not be handled. We might have used our Yukon snow-shoes, but found that the native skis were faster and more easily handled in the thick timber. The native skis are made of ash or other hard woods and are about six inches wide by about six feet long. The bottoms are covered with moose hide with the hair pointing toward the rear, so that the wearer is able to travel uphill with ease, an item of importance when much of the travel is over rough country.

When using the skis, we wore native-made shoes of fishskin, so designed that the toes are pointed and turned sharply upward. This shape allows the toe of the shoe to be hooked under the cross piece of the lashing, and helps to hold the ski on the foot. Inside the shoes we wore

two pairs of heavy wool stockings, and in addition, the shoes were packed with a dry grass which grows in that country. This grass, called by the natives *naukhta*, is a very efficient insulator, and except when wet, keeps the feet quite warm even in the coldest weather. Watching a native pack his fishskin shoes with *naukhta*, one has the feeling that he will never be able to get the mass of loose grass into the shoes and still have room left for his feet. He very cleverly works it in, however, and packs it down, and I did not see a single one make a miscalculation in the amount of grass needed. The fishskin from which this rather crude-looking footgear is made, is taken from the salmon which abound in the Amur River. The natives of the region are largely fish eaters, and fishing is the principal activity of the Goldi tribe which lives along that section of the Amur and for some distance up its tributaries.

The Goldis are a branch of the Tungus and are related to the Manchus, the people of Manchuria, whom they resemble in facial characteristics. Their religion is Shamanism, and the Shaman or "medicine man," as we would term him, plays an important part in the life of the villages. Their small houses are usually constructed of logs, plastered over with clay. A visit to the interior of one of these houses is interesting, particularly after the visitor has become accustomed to the violent odor of fish, which at first is almost over-powering. The houses usually have two rooms, one of which is used as a kitchen and the other for sleeping and general living purposes. Two small open fireplaces, one on each side of the door leading from the kitchen into the sleeping compartment, serve the double purpose of cooking, and of warming the sleeping room, as flues from them pass under sleeping platforms in the larger



CAMP IN THE "TAIGA"

The expedition spent three months in the "taiga" or "the Siberian forest," where the temperature sometimes dropped to thirty and forty degrees below zero

room. The platforms, which are covered with straw matting, are raised about two feet from the mud floor of the building, and the smoke and heat from the fires, passing through the flues, keep them quite warm even in the depth of winter. On these platforms the whole family and any guests sleep side by side. Guests are not, presumably, supposed to look too closely at what is under the matting. We did on one occasion, and found it rather densely populated, with the result that our night's rest was not as peaceful as it might otherwise have been. After passing under the sleeping platforms, the smoke from the fireplaces is led underground to a tall stack, which rises some ten feet beyond the end of the house. These detached chimneys are characteristic of all Goldi villages.

To the Goldis, as to other tribes of the region, the tiger is a deity, and we sometimes had difficulty in finding natives who

would agree to lead us to the country where tigers were known to be. For a consideration we were able to obtain guides and dog drivers, but all of them went without any great enthusiasm. In one instance the Shaman of the village danced for hours to propitiate the tiger deity, so that no misfortune might befall the village because one of its members had engaged himself to a party which might possibly encompass the destruction of one of these holy animals.

The Russians in that section are, almost to a man, afraid of tigers. We hired one Russian who had a local reputation as a hunter, but he finally refused to go into the forest until we had hired another Russian hunter as a companion. Both of these men, we learned later, were squirrel hunters by profession, and from the beginning it was quite apparent that neither of them had, as we would say, "lost any tigers." We decided that both



A SIBERIAN TIGER

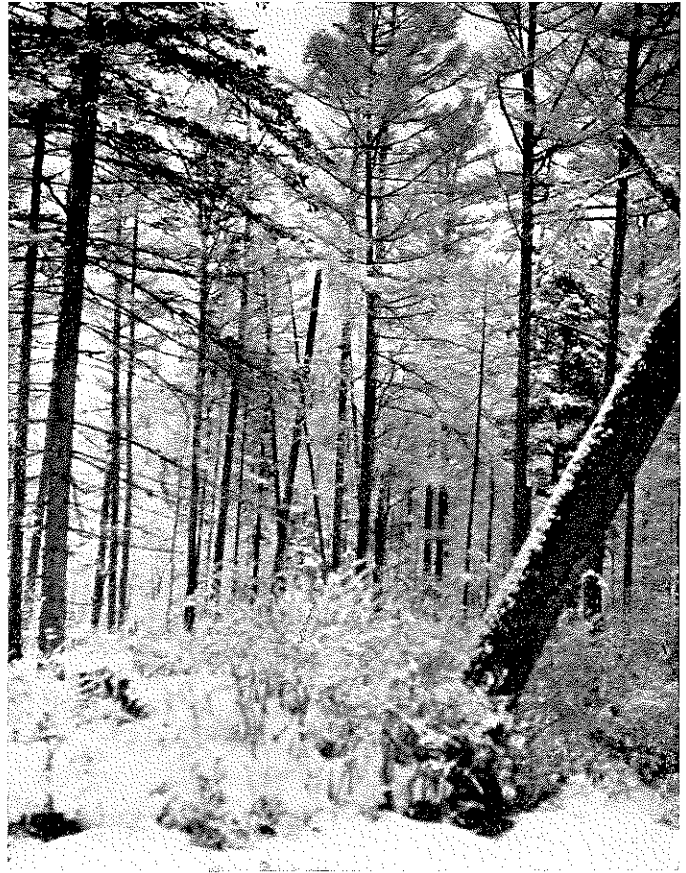
This tiger, photographed in the Moscow Zoo, was in its summer coat. In the winter the hair on some parts of the body of this species is three inches long

were much more afraid of meeting a tiger than of not finding one.

When we first arrived in the country, we heard the usual tales. Many of them were to the effect that the Siberian tigers were often man-eaters, and most were unanimous that a tiger, when followed, would invariably circle and lie in wait near its trail to ambush the tracker. These last stories cheered us greatly, for if they were true, it seemed to us that we might have a first-class chance of meeting and killing a tiger which was waiting to bite us. As a matter of fact, we found that while tigers sometimes do circle, and may for a time watch their own back trails, ordinarily the tiger, when he finds himself followed, will clear out. One non-Russian whom we met, a trapper who had been

in that country for several years, told us that he had trailed tigers on numerous occasions, but had never been able to come up with one. He said that at one time he was evidently not more than an hour behind a tiger which had passed near one of his trap lines, but though he followed this animal on skis all day, he was unable to catch up with it. So far as he could see, he said, the tiger had never tried to ambush him.

Although doubtless the Siberian tiger is responsible for a few deaths, as nearly as we could learn, many of the stories of man-eating tigers are fabrications. Some of these tales apparently have been told



DEEP FOREST NEAR EXPEDITION CAMP

The trees at this point along one of the tributaries of the Amur River are larch. Deeper in the "taiga" pine and spruce, which grow to considerably larger diameters than larch, are more abundant

to cover up murders. In one or two stories that came to us, murders had been committed and the deaths of the victims had been laid to attacks by tigers. It seemed probable to us that while the Siberian tiger, if starving, or if wounded or cornered, would be very savage, under ordinary circumstances when game was plentiful, he would be no more likely to turn man-eater than would be his relative, the tiger of South Asia.

We found a great many tiger trails, and the freshest ones of these we followed, but the forest was so thick and the snow was so deep that we could never cover more than a few miles a day. Further-



A "DEADFALL" TRAP

Used by the local Russian trappers for small mammals. Yellow mink is the most frequent catch, and the pelts are taken to near-by villages for sale

more, it was quite impossible to travel silently, and a tiger could very easily hear us and could, of course, move much faster than we. With a pack of trained dogs, it might be possible to come up with one of the animals, for well-trained dogs would follow a fresh trail much faster than we could, and upon coming up to a tiger, would keep it occupied until the party arrived. This method, we heard, had been used, but there were no dogs available in the sections in which we worked.

The three specimens (two large males and one female) that we finally obtained for the North Asiatic Hall in the Museum, were killed with trap guns, or more properly, gun traps. These are smooth-bore, single-barreled shot guns, set up on stakes a few feet from a trail where animals are known to pass occasionally. The gun is lashed on the stakes and is so aimed that the bullet will cross the trail about eighteen inches above the snow level. A piece of wood, pivoted to the stock of the gun, has a bit of string extending from its upper end to the trigger. From the lower end another

piece of string or fine wire is stretched across the trail about a foot above the snow and fastened to a tree. The action of this gun trap is simple. When a large animal, following the trail, strikes the string, the pull is transmitted through the pivoted piece of wood to the trigger and the gun is discharged. The alignment is carefully worked out so that the slug will strike the animal at the shoulder or just behind it. These trap guns are set up mainly for wild pig, roe-deer, stag, and other forest animals, although a few tigers are killed by them.

When a tiger is killed, the hunter is fortunate, for a tiger will bring the lucky trapper as much as \$400 and this amount he can take out in supplies at the Soviet trading store, if he wishes. Inasmuch as food supplies and manufactured articles are very scarce, and comparatively little can be bought on a ration card, a credit of several hundred dollars which can be applied directly to the purchase of food and manufactured articles is of even more value than the same amount would otherwise be.

We had heard reports of the tremendous size of the tigers of the Amur River region. The two big males which we obtained were nine feet seven inches, and ten feet in length, respectively, measured from nose to tip of tail, and these lengths are no longer than those of big Bengali specimens. Our Siberian tigers, however, were heavier and more powerfully built than any Indian tiger that I have seen. One of our big fellows weighed 480 pounds and the other 550 pounds. Both of them were slightly less than three feet high at the shoulder. The heavy coat of hair that this animal grows in winter, which gives the Siberian its popular name of "long-haired tiger," makes him considerably more bulky in appearance than the smooth-coated tiger of more southern countries.

I have seen it stated that the tigers of the Amur River are lighter in color than those found in South Asia. Our experience and information show, however, that these northern tigers are subject to rather wide variation in the ground color of their coats. One of our big specimens was a rich dark yellow, while the other, which came from exactly the same region, was quite light. Inquiries at the trading company's office indicated that there are as many of one as of the other. The Si-

berian, however, often has considerably more white on face, sides, and underbody, than has its relative from South Asia.

Ordinarily the favorite food of the tiger is wild pig, of which there are many in the forests where it ranges. These pigs, in turn, feed upon the small cones of the stone-pine, which form a considerable part of the forest. We were told that some winters, when there is a poor crop of pine cones, the pigs will leave a particular section, and that that year almost no tiger tracks are seen there. Tigers also kill a number of other animals. We found one freshly-killed carcass of a stag, which a tiger had pulled down and partly eaten, and one of the specimens which our expedition obtained had a piece of horse meat and hide in its stomach. We were told that once in a while a tiger becomes a cattle killer and makes such a great nuisance of itself that the whole neighborhood has to combine forces to kill it.

At the end of April we left the Soviet Union with our original program accomplished. We had obtained two groups, the saiga and the Siberian tiger, together with about three hundred specimens of small animals and birds. Some of the latter were quite rare and many of them were new to the collections of the Museum.



The skis, which are six feet long and six inches wide, are made of ash. The bottoms are covered

with moose hide, with the hair extending toward the rear, thus enabling the wearer to travel uphill

GUIDE AND DOG DRIVER WITH SKIS